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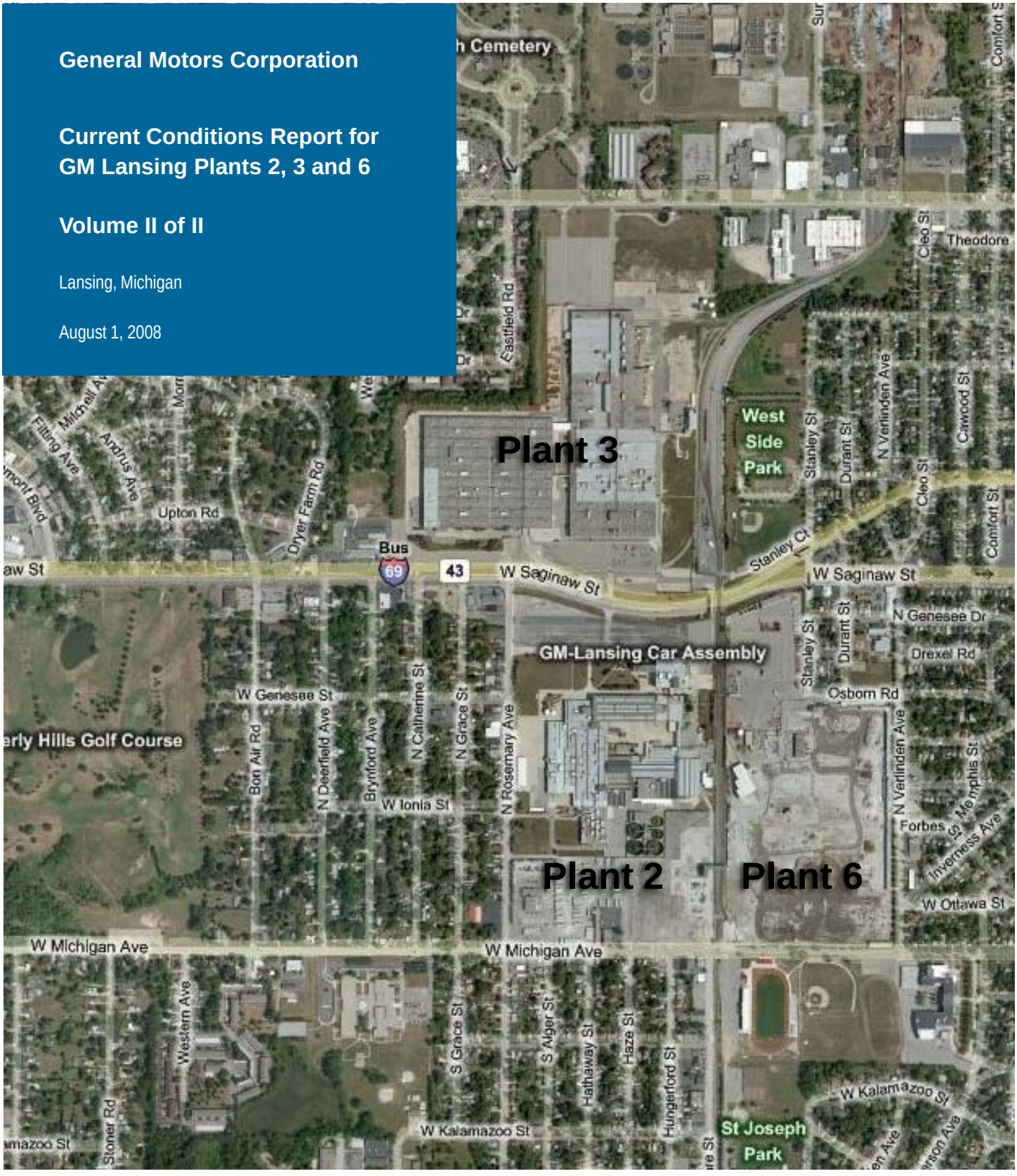
General Motors Corporation

Current Conditions Report for GM Lansing Plants 2, 3 and 6

Volume II of II

Lansing, Michigan

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Appendix A

Scenarios for Potential Human Exposure, GM Lansing Plants 2, 3 and 6

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Data Evaluation Methodology

Appendix A
Data Evaluation and Databox Figure Development Methodology

Purpose and Scope

This appendix summarizes the process and screening levels used to evaluate soil and groundwater data collected at the General Motors Corporation (GM) Lansing Plants 2, 3, and 6, located at 2801 West Saginaw Street, 2800 West Saginaw Street, and 401 North Verlinden Street, respectively, in Lansing, Michigan (the "Facilities"). The evaluation process follows the general approach presented in GM's 2003 *Health-Based Evaluation of Data to Streamline RCRA Facility Investigations (RFIs) at General Motors Facilities* ("Streamlining Document"), which has been implemented previously for RCRA corrective action programs at other GM facilities in USEPA Region 5, including at facilities in Michigan. The same general process will be used to evaluate data from Lansing Plant 1, located at 920 Townsend Street, Lansing, Michigan.

The results of the data evaluation will be used, in conjunction with other information and considerations, to guide decisions regarding the need for and objectives and scope of further sampling to be conducted during the Remedial Investigation/RCRA Facility Investigation (RI/RFI) at the Facilities, which GM intends to conduct voluntarily.

Overview of Data Evaluation Process and Databox Figure Development

The data evaluation process entails a comparison of soil and groundwater data against human health risk-based screening levels to segregate the characterization data that indicate a higher potential for health significance under current and reasonably expected future land use from those that indicate a low potential. The screening levels are used in two successively focused levels of data segregation. The first level of data segregation identifies for review a sub-set of the chemicals with detected concentrations above conservative risk-based levels while the second level of segregation highlights the concentrations that have the highest potential for health significance among this sub-set of chemicals.

The screening levels for the evaluation presented in this Current Conditions Report (CCR) are based on the Michigan Part 201 Generic Cleanup Criteria as well as supplemental risk-based criteria developed by GM. They were selected based on exposure scenarios for the Facility, summarized on the preliminary Conceptual Site Model (CSM) (Table B-1).

The results of the data screening are summarized on tables and are presented on databox figures. The tables present ratios of the highest Facility-related[1] concentrations at an area

[1] Facility-related concentrations are those in excess of background levels. Background levels may be based upon facility-specific background data collected during the field investigations, if any, or background data obtained from public sources appropriate to the region in which the Facility is located (e.g., statewide default background levels published with Part 201 Generic Cleanup Criteria and Screening Levels). Common earth metals (e.g., calcium, iron, magnesium, potassium, sodium) are not considered Facility-related.

to each of the screening levels. The databox figures show the site-wide spatial distribution of chemicals with concentrations that exceed screening levels used in the first level of data segregation. They further focus the data review by highlighting concentrations that exceed screening levels used in the second level of segregation and by identifying the specific screening levels exceeded.

As discussed in the Streamlining Document, the presence of concentrations higher than the screening levels does not necessarily mean that additional investigation is warranted. Similarly, the absence of concentrations higher than the screening levels does not necessarily mean that additional investigation is unnecessary. Decisions regarding the need for and scope and objectives of further investigation should be made based on professional judgment, the screening results, the magnitude of the concentrations, the spatial distribution of chemicals present, reasonably expected future land and groundwater use, and other factors (ENVIRON 2003).

Evaluation of Data

Soil

The chemical list presented on databox figures for soil at each Facility is based on a comparison of the highest Facility-related soil concentrations against the following conservative screening levels:

- Part 201 Residential Volatile Soil Inhalation Criteria[2];
- Part 201 Residential Particulate Soil Inhalation Criteria;
- Part 201 Residential Direct Contact Criteria;
- Part 201 Residential Soil Volatilization to Indoor Air Inhalation Criteria;
- Risk-based screening levels developed by GM for protection of facility construction workers, assuming worker exposure to soil via direct contact and inhalation during excavation activities associated with a one-year site redevelopment scenario (calculated at a target cancer risk level (TCRL) of 10^{-5} and a target hazard quotient (HQ) of 1).[3]

Additional chemicals are added to the soil chemical list based on and the following conservative screening levels for water protection:

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[2] Based on the assumption of an infinite source.

[3] The Michigan Part 201 Criteria do not include risk-based screening levels for protection of workers engaged in large-scale decommissioning, demolition, or redevelopment ("facility construction workers"). Since this exposure scenario is reasonably expected at Plants 2, 3, and 6, as indicated in the preliminary CSM, screening levels for this scenario were developed by GM. These screening levels were calculated using the same methodologies used by GM for developing screening levels for this scenario in other GM RFIs and RIs.

- Part 201 Residential Drinking Water Protection (DWP) Criteria[4];
- Part 201 Groundwater Surface Water Interface Protection (GSIP) Criteria[5];

All chemicals with Facility-related concentrations exceeding one or more these screening levels are presented on the databox figures.

Because either residential and/or commercial/industrial development is reasonably expected in the future at each Facility, soil concentrations are highlighted on the databox figures when the Facility-related concentrations are higher than the following conservative risk-based screening levels:

- Part 201 Residential Soil Volatilization to Indoor Air Inhalation Criteria;
- Part 201 Residential Volatile Soil Inhalation Criteria[6];
- Part 201 Residential Particulate Soil Inhalation Criteria;
- Part 201 Residential Direct Contact Criteria;
- Part 201 Industrial Soil Volatilization to Indoor Air Inhalation Criteria;
- Part 201 Industrial Volatile Soil Inhalation Criteria[7];
- Part 201 Industrial Particulate Soil Inhalation Criteria;
- Part 201 Industrial Direct Contact Criteria;
- Risk-based screening levels developed by GM for protection of redevelopment workers, as described above.

Additional concentrations in the deepest samples collected above groundwater from each sampling location are highlighted on the databox figures when the Facility-related concentrations are higher than the following conservative risk based screening levels:

- Part 201 Residential Drinking Water Protection Criteria;
- Part 201 GSIP Criteria.

Additional soil concentrations are highlighted on the databox figures for Plant 3 when the Facility-related concentrations are higher than the Part 201 GSIP and the sample is the deepest soil sample located above a zone of perched water.

"Codes" are assigned to the concentrations in the databox figures identifying the specific screening levels exceeded.

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4 DWP Criteria are used to identify soil with constituent concentrations that may adversely affect a drinking water aquifer if a pathway for such migration exists. The presence or absence of such migration pathways will be determined during the RFI/RI.

5 GSIP Criteria are used to identify soil with constituent concentrations that may adversely affect surface water if a pathway for such migration exists. The presence or absence of such migration pathways will be determined during the RFI/RI.

6 Based on the assumption of an infinite source.

7 Based on the assumption of an infinite source.

Groundwater

The chemical list presented on databox figures for groundwater at each Facility is based on a comparison of the highest Facility-wide groundwater concentrations against the following conservative screening levels:

- Part 201 Residential Drinking Water Criteria[8];

Additional chemicals are added to the groundwater chemical list at each Facility based on a comparison of the highest Facility-wide shallow[9] groundwater concentrations against the following conservative screening levels:

- Part 201 Groundwater Surface Water Interface (GSI) Criteria[10];

All chemicals with any detected concentration exceeding either of these screening levels are presented on the databox figures for each Facility.

Shallow groundwater concentrations are then highlighted on the databox figures when they are higher than the following conservative risk-based screening levels:

- Part 201 Residential Drinking Water Criteria;
- Part 201 Residential Groundwater Volatilization to Indoor Air Inhalation Criteria;
- Part 201 Groundwater Contact Criteria;
- Part 201 GSI Criteria;

Deep ("bedrock") groundwater concentrations are then highlighted on the databox figures when they are higher than the Part 201 Residential Drinking Water Criteria. In addition, intermediate ("overburden") groundwater concentrations at Plant 3[11] are highlighted on

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[8] Residential Drinking Water Criteria are used to identify groundwater with constituent concentrations that may adversely affect a drinking water aquifer if a pathway for migration to such an aquifer exists. The presence or absence of such migration pathways will be determined during the RFI/RI.

[9] At Plant 2, only "overburden" groundwater (which is estimated to be present at approximately 7-8 ft bgs) is considered shallow.

At Plant 3, only "perched" groundwater (which is estimated to be present at approximately 6-7 ft bgs) is considered shallow.

At Plant 6, only "overburden" groundwater (which is believed to be present at approximately 20 ft bgs) is considered shallow.

[10] GSI Criteria are used to identify groundwater with constituent concentrations that may adversely affect surface water if a pathway for migration to surface water exists. The presence or absence of such migration pathways will be determined during the RFI/RI. The selected Part 201 GSI Criteria included values based upon protection of the Grand River as a non-drinking water supply. In addition, Part 201 GSI Criteria that are hardness- or pH-dependent were calculated based on a hardness of 267 mg/L $CaCO_3$ and a pH of 7.9.

[11] At Plant 3, "overburden" groundwater is estimated to be present at approximately 40 ft bgs.

the databox figures when they are higher than the Part 201 Residential Drinking Water Criteria or Part 201 Residential Groundwater Volatilization to Indoor Air Inhalation Criteria.

For each Facility, “codes” are assigned to the concentrations in the databox figures identifying the specific screening levels exceeded.

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Plants 2, 3 and 6 Data Screening Tables

Table A-2a: Summary of Soil Screening against Residential and Water Protection Criteria
GM: Lansing Plant 2, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Max Detect to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Residential Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Max Detect to GSI Protection Criteria
15	VOC	Benzene	71-43-2	A	54	13	1.10E-03	2.50E+00		1.0E-01	**2.5E+01**	1.6E+00	**1.6E+00**	1.3E+01	1.9E-01	3.8E+05	6.6E-06	1.8E+02	1.4E-02	4.0E+00	6.3E-01
15	VOC	Chlorobenzene	108-90-7	D	54	3	2.00E-02	8.00E-02		2.0E+00	4.0E-02	1.2E+02	6.7E-04	7.7E+02	1.0E-04	4.7E+06	1.7E-08	2.6E+02	3.1E-04	9.4E-01	8.5E-02
15	VOC	Chloroethane	75-00-3	LC	54	3	6.70E-02	4.30E-01		8.6E+00	5.0E-02	9.5E+02	4.5E-04	3.0E+04	1.4E-05	6.7E+08	6.4E-10	9.5E+02	4.5E-04		
15	VOC	1,2-Dichlorobenzene	95-50-1	D	54	4	3.20E-02	7.50E-01		1.4E+01	5.4E-02	2.1E+02	3.6E-03	3.9E+04	1.9E-05	1.0E+08	7.5E-09	2.1E+02	3.6E-03	3.6E-01	**2.1E+00**
15	VOC	1,3-Dichlorobenzene	541-73-1	D	54	4	1.40E-02	1.60E-01		1.7E-01	9.4E-01							1.7E+02	9.4E-04	1.1E+00	1.5E-01
15	VOC	1,4-Dichlorobenzene	106-46-7	C	54	4	7.40E-02	5.00E-01		1.7E+00	2.9E-01	1.9E+01	2.6E-02	7.7E+01	6.5E-03	4.5E+05	1.1E-06	4.0E+02	1.3E-03	2.9E-01	**1.7E+00**
15	VOC	1,1-Dichloroethane	75-34-3	SC	54	30	1.10E-03	3.90E+00		1.8E+01	2.2E-01	2.3E+02	1.7E-02	2.1E+03	1.9E-03	3.3E+07	1.2E-07	8.9E+02	4.4E-03	1.5E+01	2.6E-01
15	VOC	1,1-Dichloroethene	75-35-4	C	54	17	1.10E-03	1.60E+01		1.4E-01	**1.1E+02**	6.2E-02	**2.6E+02**	1.1E+00	**1.5E+01**	6.2E+04	2.6E-04	2.0E+02	8.0E-02	1.3E+00	**1.2E+01**
15	VOC	1,2-Dichloropropane	78-87-5	B2	54	1	2.30E-02	2.30E-02		1.0E-01	2.3E-01	4.0E+00	5.8E-03	2.5E+01	9.2E-04	2.7E+05	8.5E-08	1.4E+02	1.6E-04	5.8E+00	4.0E-03
15	VOC	Ethyl Benzene	100-41-4	D	54	3	1.20E-01	1.30E+00		1.5E+00	8.7E-01	8.7E+01	1.5E-02	7.2E+02	1.8E-03	1.0E+07	1.3E-07	1.4E+02	9.3E-03	3.6E-01	**3.6E+00**
15	VOC	Methylene Chloride	75-09-2	B2	54	5	1.20E-03	5.70E-03		1.0E-01	5.7E-02	4.5E+01	1.3E-04	2.1E+02	2.7E-05	6.6E+06	8.6E-10	1.3E+03	4.4E-06	1.9E+01	3.0E-04
15	VOC	Tetrachloroethene	127-18-4	C-B2	54	4	3.10E-02	1.50E+00		1.0E-01	**1.5E+01**	1.1E+01	1.4E-01	1.8E+02	8.3E-03	5.4E+06	2.8E-07	8.8E+01	1.7E-02	9.0E-01	**1.7E+00**
15	VOC	Toluene	108-88-3	ID	54	37	1.20E-03	3.90E+00		1.6E+01	2.4E-01	2.5E+02	1.6E-02	2.8E+03	1.4E-03	2.7E+07	1.4E-07	2.5E+02	1.6E-02	2.8E+00	**1.4E+00**
15	VOC	1,1,1-Trichloroethane	71-55-6	ID	54	46	1.30E-03	3.10E+02		4.0E+00	**7.8E+01**	2.5E+02	**1.2E+00**	3.8E+03	8.2E-02	6.7E+07	4.6E-06	4.6E+02	6.7E-01	4.0E+00	**7.8E+01**
15	VOC	Trichloroethene	79-01-6	C-B2	54	1	1.40E-01	1.40E-01		1.0E-01	**1.4E+00**	7.1E+00	2.0E-02	7.8E+01	1.8E-03	1.8E+06	7.8E-08	5.0E+02	2.8E-04	4.0E+00	3.5E-02
15	VOC	Vinyl Chloride	75-01-4	A	54	1	1.00E-03	1.00E-03		4.0E-02	2.5E-02	2.7E-01	3.7E-03	4.2E+00	2.4E-04	3.5E+05	2.9E-09	3.8E+00	2.6E-04	3.0E-01	3.3E-03
15	VOC	Xylenes (total)	1330-20-7	ID	54	11	3.80E-03	4.90E+00		5.6E+00	8.8E-01	1.5E+02	3.3E-02	4.6E+04	1.1E-04	2.9E+08	1.7E-08	1.5E+02	3.3E-02	7.0E-01	**7.0E+00**
16	VOC	Benzene	71-43-2	A	38	1	2.30E-02	2.30E-02		1.0E-01	2.3E-01	1.6E+00	1.4E-02	1.3E+01	1.8E-03	3.8E+05	6.1E-08	1.8E+02	1.3E-04	4.0E+00	5.8E-03
16	VOC	Ethyl Benzene	100-41-4	D	38	7	1.60E-03	1.40E+00		1.5E+00	9.3E-01	8.7E+01	1.6E-02	7.2E+02	1.9E-03	1.0E+07	1.4E-07	1.4E+02	1.0E-02	3.6E-01	**3.9E+00**
16	VOC	Toluene	108-88-3	ID	38	4	1.00E-03	7.80E-01		1.6E+01	4.9E-02	2.5E+02	3.1E-03	2.8E+03	2.8E-04	2.7E+07	2.9E-08	2.5E+02	3.1E-03	2.8E+00	2.8E-01
16	VOC	Xylenes (total)	1330-20-7	ID	38	5	1.40E-02	8.00E+00		5.6E+00	**1.4E+00**	1.5E+02	5.3E-02	4.6E+04	1.7E-04	2.9E+08	2.8E-08	1.5E+02	5.3E-02	7.0E-01	**1.1E+01**
16	SVOC	Anthracene	120-12-7	D	23	1	1.80E+00	1.80E+00		4.1E+01	4.4E-02	1.0E+06	1.8E-06	1.4E+06	1.3E-06	6.7E+07	2.7E-08	2.3E+05	7.8E-06		
16	SVOC	Benzo(b)fluoranthene	205-99-2	B2	23	1	4.10E-01	4.10E-01										2.0E+01	2.1E-02		
16	SVOC	2-Methylnaphthalene	91-57-6	ID	13	3	4.00E-01	1.20E+00		5.7E+01	2.1E-02							8.1E+03	1.5E-04		
16	SVOC	Naphthalene	91-20-3	C	23	2	8.00E-01	3.00E+00		3.5E+01	8.6E-02	2.5E+02	1.2E-02	3.0E+02	1.0E-02	2.0E+05	1.5E-05	1.6E+04	1.9E-04	8.7E-01	**3.4E+00**
16	SVOC	Phenanthrene	85-01-8	D	23	1	1.60E+00	1.60E+00		5.6E+01	2.9E-02	2.8E+03	5.7E-04	1.6E+02	1.0E-02	6.7E+03	2.4E-04	1.6E+03	1.0E-03	5.3E+00	3.0E-01
16	PDIST	Petroleum Hydrocarbons	68334-30-5		15	11	2.30E-02	3.35E+01													
16	INORG	Cadmium	7440-43-9	B1	2	2	5.00E-01	6.00E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
16	INORG	Chromium VI	18540-29-9	A	2	2	1.10E+01	1.40E+01		3.0E+01	4.7E-01					2.6E+02	5.4E-02	2.5E+03	5.6E-03	3.3E+00	**4.2E+00**
16	INORG	Lead	7439-92-1	B2	21	21	2.10E+00	2.70E+01	2.10E+01	7.0E+02	8.6E-03					1.0E+05	6.0E-05	4.0E+02	1.5E-02	5.2E+03	1.2E-03

Notes:

Only constituents detected in each area are shown.

The criteria for 2-Methylnaphthalene are the criteria provided by the agency for Naphthalene.

The criteria for Phenanthrene are the criteria provided by the agency for Pyrene.

Ratios are calculated using the maximum detected concentrations, except for inorganics. Ratios for inorganics use the facility-related concentrations, which are those in excess of background.

Ratios of concentrations to criteria greater than 1 are shaded in bold.

Chem Group - chemical group

Carc Class - USEPA Weight-of-Evidence Cancer Classification

Table A-2b: Summary of Soil Screening against Non-Residential Criteria
GM: Lansing Plant 2, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Industrial Particulate Inhalation Criteria	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Industrial Direct Contact Criteria	Construction Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Construction Worker Soil Criteria
15	VOC	Benzene	71-43-2	A	54	13	1.10E-03	2.50E+00		8.4E+00	3.0E-01	4.5E+01	5.6E-02	4.7E+05	5.3E-06	4.0E+02	6.3E-03	3.4E+01	7.5E-02
15	VOC	Chlorobenzene	108-90-7	D	54	3	2.00E-02	8.00E-02		2.2E+02	3.6E-04	9.2E+02	8.7E-05	2.1E+06	3.8E-08	2.6E+02	3.1E-04	7.7E+01	1.0E-03
15	VOC	Chloroethane	75-00-3	LC	54	3	6.70E-02	4.30E-01		9.5E+02	4.5E-04	3.6E+04	1.2E-05	2.9E+08	1.5E-09	9.5E+02	4.5E-04	1.9E+03	2.2E-04
15	VOC	1,2-Dichlorobenzene	95-50-1	D	54	4	3.20E-02	7.50E-01		2.1E+02	3.6E-03	4.6E+04	1.6E-05	4.4E+07	1.7E-08	2.1E+02	3.6E-03	5.3E+03	1.4E-04
15	VOC	1,3-Dichlorobenzene	541-73-1	D	54	4	1.40E-02	1.60E-01								1.7E+02	9.4E-04	3.1E+02	5.1E-04
15	VOC	1,4-Dichlorobenzene	106-46-7	C	54	4	7.40E-02	5.00E-01		1.0E+02	5.0E-03	2.6E+02	1.9E-03	5.7E+05	8.8E-07	1.9E+03	2.6E-04	2.9E+02	1.7E-03
15	VOC	1,1-Dichloroethane	75-34-3	SC	54	30	1.10E-03	3.90E+00		4.3E+02	9.1E-03	2.5E+03	1.6E-03	1.5E+07	2.6E-07	8.9E+02	4.4E-03	2.5E+03	1.5E-03
15	VOC	1,1-Dichloroethene	75-35-4	C	54	17	1.10E-03	1.60E+01		3.3E-01	**4.8E+01**	3.7E+00	**4.3E+00**	7.8E+04	2.1E-04	5.7E+02	2.8E-02	6.3E+01	2.5E-01
15	VOC	1,2-Dichloropropane	78-87-5	B2	54	1	2.30E-02	2.30E-02		7.4E+00	3.1E-03	3.0E+01	7.7E-04	1.2E+05	1.9E-07	5.5E+02	4.2E-05	9.6E+00	2.4E-03
15	VOC	Ethyl Benzene	100-41-4	D	54	3	1.20E-01	1.30E+00		1.4E+02	9.3E-03	2.4E+03	5.4E-04	1.3E+07	1.0E-07	1.4E+02	9.3E-03	1.1E+03	1.2E-03
15	VOC	Methylene Chloride	75-09-2	B2	54	5	1.20E-03	5.70E-03		2.4E+02	2.4E-05	7.0E+02	8.1E-06	8.3E+06	6.9E-10	2.3E+03	2.5E-06	7.6E+02	7.5E-06
15	VOC	Tetrachloroethene	127-18-4	C-B2	54	4	3.10E-02	1.50E+00		6.0E+01	2.5E-02	6.0E+02	2.5E-03	6.8E+06	2.2E-07	8.8E+01	1.7E-02	1.2E+02	1.2E-02
15	VOC	Toluene	108-88-3	ID	54	37	1.20E-03	3.90E+00		2.5E+02	1.6E-02	3.3E+03	1.2E-03	1.2E+07	3.3E-07	2.5E+02	1.6E-02	4.1E+03	9.6E-04
15	VOC	1,1,1-Trichloroethane	71-55-6	ID	54	46	1.30E-03	3.10E+02		4.6E+02	6.7E-01	4.5E+03	6.9E-02	2.9E+07	1.1E-05	4.6E+02	6.7E-01	9.7E+03	3.2E-02
15	VOC	Trichloroethene	79-01-6	C-B2	54	1	1.40E-01	1.40E-01		3.7E+01	3.8E-03	2.6E+02	5.4E-04	2.3E+06	6.1E-08	5.0E+02	2.8E-04	2.8E+02	5.0E-04
15	VOC	Vinyl Chloride	75-01-4	A	54	1	1.00E-03	1.00E-03		2.8E+00	3.6E-04	2.9E+01	3.4E-05	8.9E+05	1.1E-09	3.4E+01	2.9E-05	1.8E+01	5.7E-05
15	VOC	Xylenes (total)	1330-20-7	ID	54	11	3.80E-03	4.90E+00		1.5E+02	3.3E-02	5.4E+04	9.1E-05	1.3E+08	3.8E-08	1.5E+02	3.3E-02	3.6E+02	1.4E-02
16	VOC	Benzene	71-43-2	A	38	1	2.30E-02	2.30E-02		8.4E+00	2.7E-03	4.5E+01	5.1E-04	4.7E+05	4.9E-08	4.0E+02	5.8E-05	3.4E+01	6.9E-04
16	VOC	Ethyl Benzene	100-41-4	D	38	7	1.60E-03	1.40E+00		1.4E+02	1.0E-02	2.4E+03	5.8E-04	1.3E+07	1.1E-07	1.4E+02	1.0E-02	1.1E+03	1.3E-03
16	VOC	Toluene	108-88-3	ID	38	4	1.00E-03	7.80E-01		2.5E+02	3.1E-03	3.3E+03	2.4E-04	1.2E+07	6.5E-08	2.5E+02	3.1E-03	4.1E+03	1.9E-04
16	VOC	Xylenes (total)	1330-20-7	ID	38	5	1.40E-02	8.00E+00		1.5E+02	5.3E-02	5.4E+04	1.5E-04	1.3E+08	6.2E-08	1.5E+02	5.3E-02	3.6E+02	2.2E-02
16	SVOC	Anthracene	120-12-7	D	23	1	1.80E+00	1.80E+00		1.0E+06	1.8E-06	1.6E+06	1.1E-06	2.9E+07	6.2E-08	7.3E+05	2.5E-06	1.1E+06	1.7E-06
16	SVOC	Benzo(b)fluoranthene	205-99-2	B2	23	1	4.10E-01	4.10E-01								8.0E+01	5.1E-03	3.3E+02	1.3E-03
16	SVOC	2-Methylnaphthalene	91-57-6	ID	13	3	4.00E-01	1.20E+00								2.6E+04	4.6E-05	6.2E+01	1.9E-02
16	SVOC	Naphthalene	91-20-3	C	23	2	8.00E-01	3.00E+00		4.7E+02	6.4E-03	3.5E+02	8.6E-03	8.8E+04	3.4E-05	5.2E+04	5.8E-05	3.4E+01	8.7E-02
16	SVOC	Phenanthrene	85-01-8	D	23	1	1.60E+00	1.60E+00		5.1E+03	3.1E-04	1.9E+02	8.4E-03	2.9E+03	5.5E-04	5.2E+03	3.1E-04	7.3E+04	2.2E-05
16	PDIST	Petroleum Hydrocarbons	68334-30-5		15	11	2.30E-02	3.35E+01											
16	INORG	Cadmium	7440-43-9	B1	2	2	5.00E-01	6.00E-01	1.20E+00					2.2E+03		2.1E+03		4.3E+02	
16	INORG	Chromium VI	18540-29-9	A	2	2	1.10E+01	1.40E+01						2.4E+02	5.8E-02	9.2E+03	1.5E-03	5.7E+02	2.5E-02
16	INORG	Lead	7439-92-1	B2	21	21	2.10E+00	2.70E+01	2.10E+01					4.4E+04	1.4E-04	9.0E+02	6.7E-03		

Notes:

Only constituents detected in each area are shown.

The criteria for 2-Methylnaphthalene are the criteria provided by the agency for Naphthalene.

The criteria for Phenanthrene are the criteria provided by the agency for Pyrene.

Ratios are calculated using the maximum detected concentrations, except for inorganics. Ratios for inorganics use the facility-related concentrations, which are those in excess of background.

Ratios of concentrations to criteria greater than 1 are shaded in bold.

Chem Group - chemical group

Carc Class - USEPA Weight-of-Evidence Cancer Classification

Table A-2c: Soil Samples Exceeding Screening Criteria
GM: Lansing Plant 2, Lansing, Michigan

Area	Location	Sample ID	Sample Type	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Chem Group	Chemical	CASRN	Conc	Qual	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Conc to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Conc to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Conc to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Conc to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Conc to Residential Direct Contact Criteria	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Conc to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Conc to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Conc to Industrial Particulate Inhalation Criteria	Industrial/ Commercial II Direct Contact Criteria (mg/kg)	Ratio of Conc to Industrial/ Commercial II Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Conc to GSI Protection Criteria	Risk-Based Construction Worker Soil Contact Criteria (mg/kg)	Ratio of Conc to Risk-Based Construction Worker Soil Contact Criteria	Deepest Soil Sample
15	B-1	B-1-22.5	N	22.5	30	06/13/89	VOC	1,1-Dichloroethene	75-35-4	8.40E-02			1.4E-01	6.0E-01	6.2E-02	**1.4E+00**	1.1E+00	7.6E-02	6.2E+04	1.4E-06	2.0E+02	4.2E-04	3.3E-01	2.5E-01	3.7E+00	2.3E-02	7.8E+04	1.1E-06	5.7E+02	1.5E-04	1.3E+00	6.5E-02	6.3E+01	1.3E-03	Yes
15	B-2	B-2-00.0	N	0	7.5	06/15/89	VOC	Benzene	71-43-2	2.50E+00			1.0E-01	2.5E+01	1.6E+00	**1.6E+00**	1.3E+01	1.9E-01	3.8E+05	6.6E-06	1.8E+02	1.4E-02	8.4E+00	3.0E-01	4.5E+01	5.6E-02	4.7E+05	5.3E-06	4.0E+02	6.3E-03	4.0E+00	6.3E-01	3.4E+01	7.5E-02	No
15	B-2	B-2-00.0	N	0	7.5	06/15/89	VOC	1,1-Dichloroethene	75-35-4	1.20E+00			1.4E-01	8.6E+00	6.2E-02	**1.9E+01**	1.1E+00	**1.1E+00**	6.2E+04	1.9E-05	2.0E+02	6.0E-03	3.3E-01	**3.6E+00**	3.7E+00	3.2E-01	7.8E+04	1.5E-05	5.7E+02	2.1E-03	1.3E+00	9.2E-01	6.3E+01	1.9E-02	No
15	B-2	B-2-07.5	N	7.5	15	06/15/89	VOC	1,1-Dichloroethene	75-35-4	9.10E-02			1.4E-01	6.5E-01	6.2E-02	**1.5E+00**	1.1E+00	8.3E-02	6.2E+04	1.5E-06	2.0E+02	4.6E-04	3.3E-01	2.8E-01	3.7E+00	2.5E-02	7.8E+04	1.2E-06	5.7E+02	1.6E-04	1.3E+00	7.0E-02	6.3E+01	1.4E-03	No
15	B-4	B-4-15.0	N	15	22.5	06/14/89	VOC	1,1-Dichloroethene	75-35-4	9.40E-02			1.4E-01	6.7E-01	6.2E-02	**1.5E+00**	1.1E+00	8.5E-02	6.2E+04	1.5E-06	2.0E+02	4.7E-04	3.3E-01	2.8E-01	3.7E+00	2.5E-02	7.8E+04	1.2E-06	5.7E+02	1.6E-04	1.3E+00	7.2E-02	6.3E+01	1.5E-03	No
15	B-6	B-6-00.0	N	0	7.5	06/12/89	VOC	1,1-Dichloroethene	75-35-4	7.60E-02			1.4E-01	5.4E-01	6.2E-02	**1.2E+00**	1.1E+00	6.9E-02	6.2E+04	1.2E-06	2.0E+02	3.8E-04	3.3E-01	2.3E-01	3.7E+00	2.1E-02	7.8E+04	9.7E-07	5.7E+02	1.3E-04	1.3E+00	5.8E-02	6.3E+01	1.2E-03	No
15	B-7	B-7-00.0	N	0	7.5	06/12/89	VOC	1,1-Dichloroethene	75-35-4	1.80E-01			1.4E-01	1.3E+00	6.2E-02	**2.9E+00**	1.1E+00	1.6E-01	6.2E+04	2.9E-06	2.0E+02	9.0E-04	3.3E-01	5.5E-01	3.7E+00	4.9E-02	7.8E+04	2.3E-06	5.7E+02	3.2E-04	1.3E+00	1.4E-01	6.3E+01	2.9E-03	No
15	B-7	B-7-00.0	N	0	7.5	06/12/89	VOC	1,1,1-Trichloroethane	71-55-6	3.10E+02			4.0E+00	7.8E+01	2.5E+02	**1.2E+00**	3.8E+03	8.2E-02	6.7E+07	4.6E-06	4.6E+02	6.7E-01	4.6E+02	6.7E-01	4.5E+03	6.9E-02	2.9E+07	1.1E-05	4.6E+02	6.7E-01	4.0E+00	7.8E+01	9.7E+03	3.2E-02	No
15	B-7	B-7-07.5	N	7.5	15	06/12/89	VOC	1,1-Dichloroethene	75-35-4	1.60E+01			1.4E-01	**1.1E+02**	6.2E-02	**2.6E+02**	1.1E+00	**1.5E+01**	6.2E+04	2.6E-04	2.0E+02	8.0E-02	3.3E-01	**4.8E+01**	3.7E+00	**4.3E+00**	7.8E+04	2.1E-04	5.7E+02	2.8E-02	1.3E+00	**1.2E+01**	6.3E+01	2.5E-01	Yes
15	B-7	B-7-07.5	N	7.5	15	06/12/89	VOC	Tetrachloroethene	127-18-4	1.20E-01			1.0E-01	**1.2E+00**	1.1E+01	1.1E-02	1.8E+02	6.7E-04	5.4E+06	2.2E-08	8.8E+01	1.4E-03	6.0E+01	2.0E-03	6.0E+02	2.0E-04	6.8E+06	1.8E-08	8.8E+01	1.4E-03	9.0E-01	1.3E-01	1.2E+02	9.9E-04	Yes
15	B-7	B-7-07.5	N	7.5	15	06/12/89	VOC	Toluene	108-88-3	3.90E+00			1.6E+01	2.4E-01	2.5E+02	1.6E-02	2.8E+03	1.4E-03	2.7E+07	1.4E-07	2.5E+02	1.6E-02	2.5E+02	1.6E-02	3.3E+03	1.2E-03	1.2E+07	3.3E-07	2.5E+02	1.6E-02	2.8E+00	**1.4E+00**	4.1E+03	9.6E-04	Yes
15	B-7	B-7-07.5	N	7.5	15	06/12/89	VOC	1,1,1-Trichloroethane	71-55-6	3.10E+02			4.0E+00	**7.8E+01**	2.5E+02	**1.2E+00**	3.8E+03	8.2E-02	6.7E+07	4.6E-06	4.6E+02	6.7E-01	4.6E+02	6.7E-01	4.5E+03	6.9E-02	2.9E+07	1.1E-05	4.6E+02	6.7E-01	4.0E+00	**7.8E+01**	9.7E+03	3.2E-02	Yes
15	B-7	B-7-07.5	N	7.5	15	06/12/89	VOC	Trichloroethene	79-01-6	1.40E-01			1.0E-01	**1.4E+00**	7.1E+00	2.0E-02	7.8E+01	1.8E-03	1.8E+06	7.8E-08	5.0E+02	2.8E-04	3.7E+01	3.8E-03	2.6E+02	5.4E-04	2.3E+06	6.1E-08	5.0E+02	2.8E-04	4.0E+00	3.5E-02	2.8E+02	5.0E-04	Yes
15	TP-4	TP-4-02.5	N	2.5	2.5	10/31/93	VOC	Benzene	71-43-2	1.30E-01			1.0E-01	**1.3E+00**	1.6E+00	8.1E-02	1.3E+01	1.0E-02	3.8E+05	3.4E-07	1.8E+02	7.2E-04	8.4E+00	1.5E-02	4.5E+01	2.9E-03	4.7E+05	2.8E-07	4.0E+02	3.3E-04	4.0E+00	3.3E-02	3.4E+01	3.9E-03	Yes
15	TP-4	TP-4-02.5	N	2.5	2.5	10/31/93	VOC	Ethyl Benzene	100-41-4	1.30E+00			1.5E+00	8.7E-01	8.7E+01	1.5E-02	7.2E+02	1.8E-03	1.0E+07	1.3E-07	1.4E+02	9.3E-03	1.4E+02	9.3E-03	2.4E+03	5.4E-04	1.3E+07	1.0E-07	1.4E+02	9.3E-03	3.6E-01	**3.6E+00**	1.1E+03	1.2E-03	Yes
15	TP-4	TP-4-02.5	N	2.5	2.5	10/31/93	VOC	Xylenes (total)	1330-20-7	4.90E+00			5.6E+00	8.8E-01	1.5E+02	3.3E-02	4.6E+04	1.1E-04	2.9E+08	1.7E-08	1.5E+02	3.3E-02	1.5E+02	3.3E-02	5.4E+04	9.1E-05	1.3E+08	3.8E-08	1.5E+02	3.3E-02	7.0E-01	**7.0E+00**	3.6E+02	1.4E-02	Yes
16	B25012	B25012-04.0	N	4	6	04/19/91	INORG	Chromium VI	18540-29-9	1.10E+01			3.0E+01	3.7E-01					2.6E+02	4.2E-02	2.5E+03	4.4E-03					2.4E+02	4.6E-02	9.2E+03	1.2E-03	3.3E+00	**3.3E+00**	5.7E+02	1.9E-02	Yes
16	B25013	B25013-04.0	N	4	6	04/19/91	INORG	Chromium VI	18540-29-9	1.40E+01			3.0E+01	4.7E-01					2.6E+02	5.4E-02	2.5E+03	5.6E-03					2.4E+02	5.8E-02	9.2E+03	1.5E-03	3.3E+00	**4.2E+00**	5.7E+02	2.5E-02	Yes
16	S250N	S250N-10.0	N	10	12	10/11/91	VOC	Ethyl Benzene	100-41-4	1.40E+00			1.5E+00	9.3E-01	8.7E+01	1.6E-02	7.2E+02	1.9E-03	1.0E+07	1.4E-07	1.4E+02	1.0E-02	1.4E+02	1.0E-02	2.4E+03	5.8E-04	1.3E+07	1.1E-07	1.4E+02	1.0E-02	3.6E-01	**3.9E+00**	1.1E+03	1.3E-03	Yes
16	S250N	S250N-10.0	N	10	12	10/11/91	VOC	Xylenes (total)	1330-20-7	7.80E+00			5.6E+00	**1.4E+00**	1.5E+02	5.2E-02	4.6E+04	1.7E-04	2.9E+08	2.7E-08	1.5E+02	5.2E-02	1.5E+02	5.2E-02	5.4E+04	1.4E-04	1.3E+08	6.0E-08	1.5E+02	5.2E-02	7.0E-01	**1.1E+01**	3.6E+02	2.2E-02	Yes
16	S250N	S250N-10.0	N	10	12	10/11/91	SVOC	Naphthalene	91-20-3	3.00E+00			3.5E+01	8.6E-02	2.5E+02	1.2E-02	3.0E+02	1.0E-02	2.0E+05	1.5E-05	1.6E+04	1.9E-04	4.7E+02	6.4E-03	3.5E+02	8.6E-03	8.8E+04	3.4E-05	5.2E+04	5.8E-05	8.7E-01	**3.4E+00**	3.4E+01	8.7E-02	Yes

Notes:

Sample Types: "N" = normal or parent sample, "FD" = field duplicate sample

Ratios for inorganics use the facility-related concentrations, which are those in excess of background.

Ratios of concentrations to groundwater protection criteria are only highlighted for the deepest sample in the boring in which that chemical was analyzed.

Table A-3a: Groundwater Screening Results
GM Lansing Plant 2, Lansing, Michigan

Area	Wellzone	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Residential Drinking Water Criteria (mg/L)	Ratio of Max Detected to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Max Detected to Groundwater Surface water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Max Detected to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Groundwater Contact Criteria
15	Overburden	VOC	Benzene	71-43-2	T	A	7	1	8.98E-01	8.98E-01	5.0E-03	**1.8E+02**	2.0E-01	**4.5E+00**	5.6E+00	1.6E-01	1.1E+01	8.2E-02
15	Overburden	VOC	Chloroethane	75-00-3	T	LC	7	3	5.20E-03	1.36E+00	4.3E-01	**3.2E+00**			5.7E+03	2.4E-04	4.4E+02	3.1E-03
15	Overburden	VOC	1,1-Dichloroethane	75-34-3	T	SC	7	2	9.00E-03	3.01E+01	8.8E-01	**3.4E+01**	7.4E-01	**4.1E+01**	1.0E+03	3.0E-02	2.4E+03	1.3E-02
15	Overburden	VOC	1,2-Dichloroethane	107-06-2	T	B2	7	2	1.00E-03	2.27E-01	5.0E-03	**4.5E+01**	3.6E-01	6.3E-01	9.6E+00	2.4E-02	1.9E+01	1.2E-02
15	Overburden	VOC	1,1-Dichloroethene	75-35-4	T	C	7	1	2.20E+00	2.20E+00	7.0E-03	**3.1E+02**	6.5E-02	**3.4E+01**	2.0E-01	**1.1E+01**	1.1E+01	2.0E-01
15	Overburden	VOC	trans-1,2-Dichloroethene	156-60-5	T		7	1	9.05E-01	9.05E-01	1.0E-01	**9.1E+00**	1.5E+00	6.0E-01	8.5E+01	1.1E-02	2.2E+02	4.1E-03
15	Overburden	VOC	Ethyl Benzene	100-41-4	T	D	7	1	8.90E-03	8.90E-03	7.0E-01	1.3E-02	1.8E-02	4.9E-01	1.1E+02	8.1E-05	1.7E+02	5.2E-05
15	Overburden	VOC	Tetrachloroethene	127-18-4	T	C-B2	7	1	2.14E-02	2.14E-02	5.0E-03	**4.3E+00**	4.5E-02	4.8E-01	2.5E+01	8.6E-04	1.2E+01	1.8E-03
15	Overburden	VOC	Toluene	108-88-3	T	ID	7	1	1.56E+00	1.56E+00	1.0E+00	**1.6E+00**	1.4E-01	**1.1E+01**	5.3E+02	2.9E-03	5.3E+02	2.9E-03
15	Overburden	VOC	1,1,1-Trichloroethane	71-55-6	T	ID	7	1	9.72E+01	9.72E+01	2.0E-01	**4.9E+02**	2.0E-01	**4.9E+02**	6.6E+02	1.5E-01	1.3E+03	7.5E-02
15	Overburden	VOC	1,1,2-Trichloroethane	79-00-5	T	C	7	1	4.87E-01	4.87E-01	5.0E-03	**9.7E+01**	3.3E-01	**1.5E+00**	1.7E+01	2.9E-02	2.1E+01	2.3E-02
15	Overburden	VOC	Trichloroethene	79-01-6	T	C-B2	7	1	1.44E-01	1.44E-01	5.0E-03	**2.9E+01**	2.0E-01	7.2E-01	1.5E+01	9.6E-03	2.2E+01	6.5E-03
15	Overburden	VOC	Vinyl Chloride	75-01-4	T	A	7	1	1.74E-02	1.74E-02	2.0E-03	**8.7E+00**	1.5E-02	**1.2E+00**	1.1E+00	1.6E-02	1.0E+00	1.7E-02
16	Overburden	VOC	Xylenes (total)	1330-20-7	T	ID	4	1	2.10E-02	2.10E-02	1.0E+01	2.1E-03	3.5E-02	6.0E-01	1.9E+02	1.1E-04	1.9E+02	1.1E-04
16	Overburden	SVOC	Fluorene	86-73-7	T	D	4	1	2.10E-02	2.10E-02	8.8E-01	2.4E-02	1.2E-02	**1.8E+00**	2.0E+00	1.1E-02	2.0E+00	1.1E-02
16	Overburden	SVOC	Naphthalene	91-20-3	T	C	4	1	2.10E-02	2.10E-02	5.2E-01	4.0E-02	1.3E-02	**1.6E+00**	3.1E+01	6.8E-04	3.1E+01	6.8E-04
16	Overburden	SVOC	Phenanthrene	85-01-8	T	D	4	1	6.60E-02	6.60E-02	5.2E-02	**1.3E+00**	2.4E-03	**2.8E+01**	1.0E+00	6.6E-02	1.0E+00	6.6E-02

Notes:

Only constituents detected in each area are shown.

The criteria for Phenanthrene are the criteria provided by the agency for Pyrene.

Ratios of concentrations to criteria greater than 1 are shaded in bold.

Chem Group - chemical group

Meas Basis - measured basis; T = total, D = dissolved

Carc Class - USEPA Weight-of-Evidence Cancer Classification

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 2, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
15	Overburden	MW-8	MW-8-19850701	N	07/01/85	T	VOC	Benzene	71-43-2	8.98E-01		5.0E-03	**1.8E+02**	2.0E-01	**4.5E+00**	5.6E+00	1.6E-01	1.1E+01	8.2E-02
15	Overburden	MW-8	MW-8-19850701	N	07/01/85	T	VOC	Chloroethane	75-00-3	1.36E+00		4.3E-01	**3.2E+00**			5.7E+03	2.4E-04	4.4E+02	3.1E-03
15	Overburden	MW-8	MW-8-19850701	N	07/01/85	T	VOC	1,1-Dichloroethane	75-34-3	3.01E+01		8.8E-01	**3.4E+01**	7.4E-01	**4.1E+01**	1.0E+03	3.0E-02	2.4E+03	1.3E-02
15	Overburden	MW-8	MW-8-19850701	N	07/01/85	T	VOC	1,2-Dichloroethane	107-06-2	2.27E-01		5.0E-03	**4.5E+01**	3.6E-01	6.3E-01	9.6E+00	2.4E-02	1.9E+01	1.2E-02
15	Overburden	MW-8	MW-8-19850701	N	07/01/85	T	VOC	1,1-Dichloroethene	75-35-4	2.20E+00		7.0E-03	**3.1E+02**	6.5E-02	**3.4E+01**	2.0E-01	**1.1E+01**	1.1E+01	2.0E-01
15	Overburden	MW-8	MW-8-19850701	N	07/01/85	T	VOC	trans-1,2-Dichloroethene	156-60-5	9.05E-01		1.0E-01	**9.1E+00**	1.5E+00	6.0E-01	8.5E+01	1.1E-02	2.2E+02	4.1E-03
15	Overburden	MW-8	MW-8-19850701	N	07/01/85	T	VOC	Tetrachloroethene	127-18-4	2.14E-02		5.0E-03	**4.3E+00**	4.5E-02	4.8E-01	2.5E+01	8.6E-04	1.2E+01	1.8E-03
15	Overburden	MW-8	MW-8-19850701	N	07/01/85	T	VOC	Toluene	108-88-3	1.56E+00		1.0E+00	**1.6E+00**	1.4E-01	**1.1E+01**	5.3E+02	2.9E-03	5.3E+02	2.9E-03
15	Overburden	MW-8	MW-8-19850701	N	07/01/85	T	VOC	1,1,1-Trichloroethane	71-55-6	9.72E+01		2.0E-01	**4.9E+02**	2.0E-01	**4.9E+02**	6.6E+02	1.5E-01	1.3E+03	7.5E-02
15	Overburden	MW-8	MW-8-19850701	N	07/01/85	T	VOC	1,1,2-Trichloroethane	79-00-5	4.87E-01		5.0E-03	**9.7E+01**	3.3E-01	**1.5E+00**	1.7E+01	2.9E-02	2.1E+01	2.3E-02
15	Overburden	MW-8	MW-8-19850701	N	07/01/85	T	VOC	Trichloroethene	79-01-6	1.44E-01		5.0E-03	**2.9E+01**	2.0E-01	7.2E-01	1.5E+01	9.6E-03	2.2E+01	6.5E-03
15	Overburden	MW-8	MW-8-19850701	N	07/01/85	T	VOC	Vinyl Chloride	75-01-4	1.74E-02		2.0E-03	**8.7E+00**	1.5E-02	**1.2E+00**	1.1E+00	1.6E-02	1.0E+00	1.7E-02
16	Overburden	W-250	W-250-19910426	N	04/26/91	T	SVOC	Fluorene	86-73-7	2.10E-02		8.8E-01	2.4E-02	1.2E-02	**1.8E+00**	2.0E+00	1.1E-02	2.0E+00	1.1E-02
16	Overburden	W-250	W-250-19910426	N	04/26/91	T	SVOC	Naphthalene	91-20-3	2.10E-02		5.2E-01	4.0E-02	1.3E-02	**1.6E+00**	3.1E+01	6.8E-04	3.1E+01	6.8E-04
16	Overburden	W-250	W-250-19910426	N	04/26/91	T	SVOC	Phenanthrene	85-01-8	6.60E-02		5.2E-02	**1.3E+00**	2.4E-03	**2.8E+01**	1.0E+00	6.6E-02	1.0E+00	6.6E-02

Notes:

Sample Types: "N" = normal or parent sample, "FD" = field duplicate sample

Meas Basis - measured basis; T = total, D = dissolved

Table A-2a: Summary of Soil Screening against Residential and Water Protection Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Max Detect to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Residential Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Max Detect to GSI Protection Criteria
10	INORG	Arsenic	7440-38-2	A	251	251	6.30E-01	4.20E+01	5.80E+00	4.6E+00	**7.9E+00**					7.2E+02	5.0E-02	7.6E+00	**4.8E+00**	7.0E+01	5.2E-01
10	INORG	Cadmium	7440-43-9	B1	250	4	2.00E-01	6.50E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
10	INORG	Chromium (total)	7440-47-3		25	25	3.30E+00	4.60E+03		3.0E+01	**1.5E+02**					2.6E+02	**1.8E+01**	2.5E+03	**1.8E+00**	3.3E+00	**1.4E+03**
10	INORG	Chromium III	16065-83-1	D	250	250	3.30E+00	4.07E+01	1.80E+01	1.0E+06	2.3E-05					3.3E+05	6.9E-05	7.9E+05	2.9E-05	4.8E+06	4.8E-06
10	INORG	Copper	7440-50-8	D	418	404	5.70E-01	1.50E+03	3.20E+01	5.8E+03	2.5E-01					1.3E+05	1.1E-02	2.0E+04	7.3E-02	1.2E+02	**1.2E+01**
10	INORG	Cyanide (total)	57-12-5	D	409	132	5.00E+00	2.07E+03	3.90E-01	4.0E+00	**5.2E+02**					2.5E+02	**8.3E+00**	1.2E+01	**1.7E+02**	1.0E-01	**2.1E+04**
10	INORG	Lead	7439-92-1	B2	250	244	1.30E+00	1.30E+01	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
10	INORG	Nickel	7440-02-0	A	386	386	2.50E+00	1.20E+04	2.00E+01	1.0E+02	**1.2E+02**					1.3E+04	9.2E-01	4.0E+04	3.0E-01	1.2E+02	**9.7E+01**
10	INORG	Zinc	7440-66-6	ID	375	375	7.30E+00	1.96E+02	4.70E+01	2.4E+03	6.2E-02							1.7E+05	8.8E-04	2.7E+02	5.5E-01
6	INORG	Chromium (total)	7440-47-3		6	6	7.10E+00	2.00E+01		3.0E+01	6.7E-01					2.6E+02	7.7E-02	2.5E+03	8.0E-03	3.3E+00	**6.1E+00**
6	INORG	Copper	7440-50-8	D	6	6	1.20E+01	2.10E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
6	INORG	Nickel	7440-02-0	A	31	31	1.40E+01	6.30E+03	2.00E+01	1.0E+02	**6.3E+01**					1.3E+04	4.8E-01	4.0E+04	1.6E-01	1.2E+02	**5.1E+01**
6	INORG	Zinc	7440-66-6	ID	6	6	2.80E+01	9.90E+01	4.70E+01	2.4E+03	2.2E-02							1.7E+05	3.1E-04	2.7E+02	1.9E-01
9	VOC	Benzene	71-43-2	A	149	23	1.00E-02	5.70E+00		1.0E-01	**5.7E+01**	1.6E+00	**3.6E+00**	1.3E+01	4.4E-01	3.8E+05	1.5E-05	1.8E+02	3.2E-02	4.0E+00	**1.4E+00**
9	VOC	Chlorobenzene	108-90-7	D	86	2	2.80E-02	2.80E-02		2.0E+00	1.4E-02	1.2E+02	2.3E-04	7.7E+02	3.6E-05	4.7E+06	6.0E-09	2.6E+02	1.1E-04	9.4E-01	3.0E-02
9	VOC	Chloroethane	75-00-3	LC	86	2	2.70E-01	2.80E-01		8.6E+00	3.3E-02	9.5E+02	2.9E-04	3.0E+04	9.3E-06	6.7E+08	4.2E-10	9.5E+02	2.9E-04		
9	VOC	Chloroform	67-66-3	B2	86	2	1.20E-02	1.20E-02		1.6E+00	7.5E-03	7.2E+00	1.7E-03	4.5E+01	2.7E-04	1.3E+06	9.2E-09	1.2E+03	1.0E-05	3.4E+00	3.5E-03
9	VOC	1,1-Dichloroethane	75-34-3	SC	85	3	1.40E-02	3.60E-01		1.8E+01	2.0E-02	2.3E+02	1.6E-03	2.1E+03	1.7E-04	3.3E+07	1.1E-08	8.9E+02	4.0E-04	1.5E+01	2.4E-02
9	VOC	Ethyl Benzene	100-41-4	D	149	16	1.00E-02	5.80E+00		1.5E+00	**3.9E+00**	8.7E+01	6.7E-02	7.2E+02	8.1E-03	1.0E+07	5.8E-07	1.4E+02	4.1E-02	3.6E-01	**1.6E+01**
9	VOC	Methylene Chloride	75-09-2	B2	86	8	1.60E-02	2.70E-02		1.0E-01	2.7E-01	4.5E+01	6.0E-04	2.1E+02	1.3E-04	6.6E+06	4.1E-09	1.3E+03	2.1E-05	1.9E+01	1.4E-03
9	VOC	Toluene	108-88-3	ID	149	33	1.00E-02	2.00E+01		1.6E+01	**1.3E+00**	2.5E+02	8.0E-02	2.8E+03	7.1E-03	2.7E+07	7.4E-07	2.5E+02	8.0E-02	2.8E+00	**7.1E+00**
9	VOC	1,1,1-Trichloroethane	71-55-6	ID	86	11	1.20E-02	2.60E+00		4.0E+00	6.5E-01	2.5E+02	1.0E-02	3.8E+03	6.8E-04	6.7E+07	3.9E-08	4.6E+02	5.7E-03	4.0E+00	6.5E-01
9	VOC	Trichloroethene	79-01-6	C-B2	86	1	4.20E-02	4.20E-02		1.0E-01	4.2E-01	7.1E+00	5.9E-03	7.8E+01	5.4E-04	1.8E+06	2.3E-08	5.0E+02	8.4E-05	4.0E+00	1.1E-02
9	VOC	Trichlorofluoromethane	75-69-4		86	4	1.40E-02	4.70E-02		5.2E+01	9.0E-04	5.6E+02	8.4E-05	9.2E+04	5.1E-07	3.8E+09	1.2E-11	5.6E+02	8.4E-05		
9	VOC	Vinyl Chloride	75-01-4	A	86	1	1.90E-01	1.90E-01		4.0E-02	**4.8E+00**	2.7E-01	7.0E-01	4.2E+00	4.5E-02	3.5E+05	5.4E-07	3.8E+00	5.0E-02	3.0E-01	6.3E-01
9	VOC	Xylenes (total)	1330-20-7	ID	149	23	3.50E-02	3.20E+01		5.6E+00	**5.7E+00**	1.5E+02	2.1E-01	4.6E+04	7.0E-04	2.9E+08	1.1E-07	1.5E+02	2.1E-01	7.0E-01	**4.6E+01**

Notes:

Only constituents detected in each area are shown.

The criteria for Benzo(g,h,i)perylene are the criteria provided by the agency for Pyrene.

The criteria for Chromium (total) are the criteria provided by the agency for Chromium VI, unless otherwise noted.

The criteria for Phenanthrene are the criteria provided by the agency for Pyrene.

The concentrations for the Xylene isomers (m/p and o) were summed before comparing to the criteria for Xylenes (total).

Ratios are calculated using the maximum detected concentrations, except for inorganics. Ratios for inorganics use the facility-related concentrations, which are those in excess of background.

Ratios of concentrations to criteria greater than 1 are shaded in bold.

Chem Group - chemical group

Carc Class - USEPA Weight-of-Evidence Cancer Classification

Table A-2b: Summary of Soil Screening against Non-Residential Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Industrial Particulate Inhalation Criteria	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Industrial Direct Contact Criteria	Construction Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Construction Worker Soil Criteria
10	INORG	Arsenic	7440-38-2	A	251	251	6.30E-01	4.20E+01	5.80E+00					9.1E+02	4.0E-02	3.7E+01	9.8E-01	1.9E+02	1.9E-01
10	INORG	Cadmium	7440-43-9	B1	250	4	2.00E-01	6.50E-01	1.20E+00					2.2E+03		2.1E+03		4.3E+02	
10	INORG	Chromium (total)	7440-47-3		25	25	3.30E+00	4.60E+03						2.4E+02	**1.9E+01**	9.2E+03	5.0E-01	5.7E+02	**8.1E+00**
10	INORG	Chromium III	16065-83-1	D	250	250	3.30E+00	4.07E+01	1.80E+01					1.5E+05	1.5E-04	1.0E+06	2.3E-05	7.6E+05	3.0E-05
10	INORG	Copper	7440-50-8	D	418	404	5.70E-01	1.50E+03	3.20E+01					5.9E+04	2.5E-02	7.3E+04	2.0E-02	2.0E+04	7.3E-02
10	INORG	Cyanide (total)	57-12-5	D	409	132	5.00E+00	2.07E+03	3.90E-01					2.5E+02	**8.3E+00**	2.5E+02	**8.3E+00**	1.0E+04	2.1E-01
10	INORG	Lead	7439-92-1	B2	250	244	1.30E+00	1.30E+01	2.10E+01					4.4E+04		9.0E+02			
10	INORG	Nickel	7440-02-0	A	386	386	2.50E+00	1.20E+04	2.00E+01					1.6E+04	7.5E-01	1.5E+05	8.0E-02	1.0E+04	**1.2E+00**
10	INORG	Zinc	7440-66-6	ID	375	375	7.30E+00	1.96E+02	4.70E+01							6.3E+05	2.4E-04	1.5E+05	9.9E-04
6	INORG	Chromium (total)	7440-47-3		6	6	7.10E+00	2.00E+01						2.4E+02	8.3E-02	9.2E+03	2.2E-03	5.7E+02	3.5E-02
6	INORG	Copper	7440-50-8	D	6	6	1.20E+01	2.10E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
6	INORG	Nickel	7440-02-0	A	31	31	1.40E+01	6.30E+03	2.00E+01					1.6E+04	3.9E-01	1.5E+05	4.2E-02	1.0E+04	6.1E-01
6	INORG	Zinc	7440-66-6	ID	6	6	2.80E+01	9.90E+01	4.70E+01							6.3E+05	8.3E-05	1.5E+05	3.4E-04
9	VOC	Benzene	71-43-2	A	149	23	1.00E-02	5.70E+00		8.4E+00	6.8E-01	4.5E+01	1.3E-01	4.7E+05	1.2E-05	4.0E+02	1.4E-02	3.4E+01	1.7E-01
9	VOC	Chlorobenzene	108-90-7	D	86	2	2.80E-02	2.80E-02		2.2E+02	1.3E-04	9.2E+02	3.0E-05	2.1E+06	1.3E-08	2.6E+02	1.1E-04	7.7E+01	3.6E-04
9	VOC	Chloroethane	75-00-3	LC	86	2	2.70E-01	2.80E-01		9.5E+02	2.9E-04	3.6E+04	7.8E-06	2.9E+08	9.7E-10	9.5E+02	2.9E-04	1.9E+03	1.4E-04
9	VOC	Chloroform	67-66-3	B2	86	2	1.20E-02	1.20E-02		3.8E+01	3.2E-04	1.5E+02	8.0E-05	1.6E+06	7.5E-09	1.5E+03	8.0E-06	1.7E+01	7.1E-04
9	VOC	1,1-Dichloroethane	75-34-3	SC	85	3	1.40E-02	3.60E-01		4.3E+02	8.4E-04	2.5E+03	1.4E-04	1.5E+07	2.4E-08	8.9E+02	4.0E-04	2.5E+03	1.4E-04
9	VOC	Ethyl Benzene	100-41-4	D	149	16	1.00E-02	5.80E+00		1.4E+02	4.1E-02	2.4E+03	2.4E-03	1.3E+07	4.5E-07	1.4E+02	4.1E-02	1.1E+03	5.3E-03
9	VOC	Methylene Chloride	75-09-2	B2	86	8	1.60E-02	2.70E-02		2.4E+02	1.1E-04	7.0E+02	3.9E-05	8.3E+06	3.3E-09	2.3E+03	1.2E-05	7.6E+02	3.6E-05
9	VOC	Toluene	108-88-3	ID	149	33	1.00E-02	2.00E+01		2.5E+02	8.0E-02	3.3E+03	6.1E-03	1.2E+07	1.7E-06	2.5E+02	8.0E-02	4.1E+03	4.9E-03
9	VOC	1,1,1-Trichloroethane	71-55-6	ID	86	11	1.20E-02	2.60E+00		4.6E+02	5.7E-03	4.5E+03	5.8E-04	2.9E+07	9.0E-08	4.6E+02	5.7E-03	9.7E+03	2.7E-04
9	VOC	Trichloroethene	79-01-6	C-B2	86	1	4.20E-02	4.20E-02		3.7E+01	1.1E-03	2.6E+02	1.6E-04	2.3E+06	1.8E-08	5.0E+02	8.4E-05	2.8E+02	1.5E-04
9	VOC	Trichlorofluoromethane	75-69-4		86	4	1.40E-02	4.70E-02		5.6E+02	8.4E-05	1.1E+05	4.3E-07	1.7E+09	2.8E-11	5.6E+02	8.4E-05	1.9E+03	2.5E-05
9	VOC	Vinyl Chloride	75-01-4	A	86	1	1.90E-01	1.90E-01		2.8E+00	6.8E-02	2.9E+01	6.6E-03	8.9E+05	2.1E-07	3.4E+01	5.6E-03	1.8E+01	1.1E-02
9	VOC	Xylenes (total)	1330-20-7	ID	149	23	3.50E-02	3.20E+01		1.5E+02	2.1E-01	5.4E+04	5.9E-04	1.3E+08	2.5E-07	1.5E+02	2.1E-01	3.6E+02	8.8E-02

Notes:

Only constituents detected in each area are shown.

The criteria for Benzo(g,h,i)perylene are the criteria provided by the agency for Pyrene.

The criteria for Chromium (total) are the criteria provided by the agency for Chromium VI, unless otherwise noted.

The criteria for Phenanthrene are the criteria provided by the agency for Pyrene.

The concentrations for the Xylene isomers (m/p and o) were summed before comparing to the criteria for Xylenes (total).

Ratios are calculated using the maximum detected concentrations, except for inorganics. Ratios for inorganics use the facility-related concentrations, which are those in excess of background.

Ratios of concentrations to criteria greater than 1 are shaded in bold.

Chem Group - chemical group

Carc Class - USEPA Weight-of-Evidence Cancer Classification

Table A-2c: Soil Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Location	Sample ID	Sample Type	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Chem Group	Chemical	CASRN	Conc	Qual	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Conc to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Conc to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Conc to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Conc to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Conc to Residential Direct Contact Criteria	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Conc to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Conc to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Conc to Industrial Particulate Inhalation Criteria	Industrial/ Commercial II Direct Contact Criteria (mg/kg)	Ratio of Conc to Industrial/ Commercial II Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Conc to GSI Protection Criteria	Deepest Soil Analysis - DWP	Deepest Soil Analysis - GSIP	Risk-Based Redevelop-ment Worker Soil Contact Criteria (mg/kg)	Ratio of Conc to Risk-Based Redevelop-ment Worker Soil Contact Criteria
10	13	13(11-12.5)	N	11	12.5	01/01/88	INORG	Copper	7440-50-8	3.90E+02		3.20E+01	5.8E+03	6.2E-02					1.3E+05	2.8E-03	2.0E+04	1.8E-02					5.9E+04	6.1E-03	7.3E+04	4.9E-03	1.2E+02	**3.0E+00**	No	Yes	2.0E+04	1.8E-02
10	13	13(11-12.5)	N	11	12.5	01/01/88	INORG	Cyanide (total)	57-12-5	1.75E+02		3.90E-01	4.0E+00	4.4E+01					2.5E+02	7.0E-01	1.2E+01	**1.5E+01**					2.5E+02	7.0E-01	2.5E+02	7.0E-01	1.0E-01	**1.7E+03**	No	Yes	1.0E+04	1.7E-02
10	13	13(11-12.5)	N	11	12.5	01/01/88	INORG	Nickel	7440-02-0	4.70E+03		2.00E+01	1.0E+02	4.7E+01					1.3E+04	3.6E-01	4.0E+04	1.2E-01					1.6E+04	2.9E-01	1.5E+05	3.1E-02	1.2E+02	**3.8E+01**	No	Yes	1.0E+04	4.6E-01
10	13	13(43.5-45)	N	43.5	45	01/01/88	INORG	Arsenic	7440-38-2	4.20E+01		5.80E+00	4.6E+00	7.9E+00					7.2E+02	5.0E-02	7.6E+00	**4.8E+00**					9.1E+02	4.0E-02	3.7E+01	9.8E-01	7.0E+01	5.2E-01	No	No	1.9E+02	1.9E-01
10	13	13(6-7.5)	N	6	7.5	01/01/88	INORG	Cyanide (total)	57-12-5	1.75E+01		3.90E-01	4.0E+00	4.3E+00					2.5E+02	6.8E-02	1.2E+01	**1.4E+00**					2.5E+02	6.8E-02	2.5E+02	6.8E-02	1.0E-01	1.7E+02	No	No	1.0E+04	1.7E-03
10	14	14(11-12.5)	N	11	12.5	01/01/88	INORG	Cyanide (total)	57-12-5	8.20E+02		3.90E-01	4.0E+00	2.0E+02					2.5E+02	**3.3E+00**	1.2E+01	**6.8E+01**					2.5E+02	**3.3E+00**	2.5E+02	**3.3E+00**	1.0E-01	8.2E+03	No	No	1.0E+04	8.1E-02
10	14	14(13.5-15)	N	13.5	15	01/01/88	INORG	Copper	7440-50-8	4.00E+02		3.20E+01	5.8E+03	6.3E-02					1.3E+05	2.8E-03	2.0E+04	1.8E-02					5.9E+04	6.2E-03	7.3E+04	5.0E-03	1.2E+02	**3.1E+00**	No	Yes	2.0E+04	1.8E-02
10	14	14(13.5-15)	N	13.5	15	01/01/88	INORG	Cyanide (total)	57-12-5	5.25E+02		3.90E-01	4.0E+00	1.3E+02					2.5E+02	**2.1E+00**	1.2E+01	**4.4E+01**					2.5E+02	**2.1E+00**	2.5E+02	**2.1E+00**	1.0E-01	**5.2E+03**	No	Yes	1.0E+04	5.2E-02
10	14	14(13.5-15)	N	13.5	15	01/01/88	INORG	Nickel	7440-02-0	1.90E+02		2.00E+01	1.0E+02	1.7E+00					1.3E+04	1.3E-02	4.0E+04	4.3E-03					1.6E+04	1.1E-02	1.5E+05	1.1E-03	1.2E+02	**1.4E+00**	No	Yes	1.0E+04	1.7E-02
10	14	14(16-17.5)	N	16	17.5	01/01/88	INORG	Cyanide (total)	57-12-5	1.40E+02		3.90E-01	4.0E+00	**3.5E+01**					2.5E+02	5.6E-01	1.2E+01	**1.2E+01**					2.5E+02	5.6E-01	2.5E+02	5.6E-01	1.0E-01	1.4E+03	Yes	No	1.0E+04	1.4E-02
10	15	15(11-12.5)	N	11	12.5	01/01/88	INORG	Nickel	7440-02-0	6.50E+03		2.00E+01	1.0E+02	6.5E+01					1.3E+04	5.0E-01	4.0E+04	1.6E-01					1.6E+04	4.1E-01	1.5E+05	4.3E-02	1.2E+02	**5.2E+01**	No	Yes	1.0E+04	6.3E-01
10	16	16(11-12.5)	N	11	12.5	01/01/88	INORG	Nickel	7440-02-0	7.50E+03		2.00E+01	1.0E+02	7.5E+01					1.3E+04	5.8E-01	4.0E+04	1.9E-01					1.6E+04	4.7E-01	1.5E+05	5.0E-02	1.2E+02	**6.0E+01**	No	Yes	1.0E+04	7.3E-01
10	16	16(11-12.5)DP	FD	11	12.5	01/01/88	INORG	Nickel	7440-02-0	6.60E+03		2.00E+01	1.0E+02	6.6E+01					1.3E+04	5.1E-01	4.0E+04	1.6E-01					1.6E+04	4.1E-01	1.5E+05	4.4E-02	1.2E+02	**5.3E+01**	No	Yes	1.0E+04	6.4E-01
10	17	17(6-7.5)	N	6	7.5	01/01/88	INORG	Arsenic	7440-38-2	3.60E+01		5.80E+00	4.6E+00	6.6E+00					7.2E+02	4.2E-02	7.6E+00	**4.0E+00**					9.1E+02	3.3E-02	3.7E+01	8.2E-01	7.0E+01	4.3E-01	No	No	1.9E+02	1.6E-01
10	19	19(11-12.5)	N	11	12.5	01/01/88	INORG	Cyanide (total)	57-12-5	8.13E+01		3.90E-01	4.0E+00	2.0E+01					2.5E+02	3.2E-01	1.2E+01	**6.7E+00**					2.5E+02	3.2E-01	2.5E+02	3.2E-01	1.0E-01	**8.1E+02**	No	Yes	1.0E+04	8.0E-03
10	19	19(16-17.5)	N	16	17.5	01/01/88	INORG	Cyanide (total)	57-12-5	9.00E+01		3.90E-01	4.0E+00	2.2E+01					2.5E+02	3.6E-01	1.2E+01	**7.5E+00**					2.5E+02	3.6E-01	2.5E+02	3.6E-01	1.0E-01	9.0E+02	No	No	1.0E+04	8.9E-03
10	19	19(21-22.5)	N	21	22.5	01/01/88	INORG	Cyanide (total)	57-12-5	3.25E+01		3.90E-01	4.0E+00	8.0E+00					2.5E+02	1.3E-01	1.2E+01	**2.7E+00**					2.5E+02	1.3E-01	2.5E+02	1.3E-01	1.0E-01	3.2E+02	No	No	1.0E+04	3.2E-03
10	19	19(23.5-25)	N	23.5	25	01/01/88	INORG	Cyanide (total)	57-12-5	4.20E+01		3.90E-01	4.0E+00	**1.0E+01**					2.5E+02	1.7E-01	1.2E+01	**3.5E+00**					2.5E+02	1.7E-01	2.5E+02	1.7E-01	1.0E-01	4.2E+02	Yes	No	1.0E+04	4.1E-03
10	19	19(6-7.5)	N	6	7.5	01/01/88	INORG	Cyanide (total)	57-12-5	3.00E+01		3.90E-01	4.0E+00	7.4E+00					2.5E+02	1.2E-01	1.2E+01	**2.5E+00**					2.5E+02	1.2E-01	2.5E+02	1.2E-01	1.0E-01	3.0E+02	No	No	1.0E+04	2.9E-03
10	19	19(6-7.5)DP	FD	6	7.5	01/01/88	INORG	Cyanide (total)	57-12-5	3.75E+01		3.90E-01	4.0E+00	9.3E+00					2.5E+02	1.5E-01	1.2E+01	**3.1E+00**					2.5E+02	1.5E-01	2.5E+02	1.5E-01	1.0E-01	3.7E+02	No	No	1.0E+04	3.7E-03
10	20	20(16-17.5)	N	16	17.5	01/01/88	INORG	Cyanide (total)	57-12-5	3.20E+02		3.90E-01	4.0E+00	8.0E+01					2.5E+02	**1.3E+00**	1.2E+01	**2.7E+01**					2.5E+02	**1.3E+00**	2.5E+02	**1.3E+00**	1.0E-01	3.2E+03	No	No	1.0E+04	3.2E-02
10	21	21(11-12.5)	N	11	12.5	01/01/88	INORG	Copper	7440-50-8	7.60E+02		3.20E+01	5.8E+03	1.3E-01					1.3E+05	5.6E-03	2.0E+04	3.6E-02					5.9E+04	1.2E-02	7.3E+04	1.0E-02	1.2E+02	**6.1E+00**	No	Yes	2.0E+04	3.6E-02
10	21	21(11-12.5)	N	11	12.5	01/01/88	INORG	Cyanide (total)	57-12-5	1.55E+02		3.90E-01	4.0E+00	3.9E+01					2.5E+02	6.2E-01	1.2E+01	**1.3E+01**					2.5E+02	6.2E-01	2.5E+02	6.2E-01	1.0E-01	**1.5E+03**	No	Yes	1.0E+04	1.5E-02
10	21	21(16-17.5)	N	16	17.5	01/01/88	INORG	Cyanide (total)	57-12-5	2.95E+02		3.90E-01	4.0E+00	7.4E+01					2.5E+02	**1.2E+00**	1.2E+01	**2.5E+01**					2.5E+02	**1.2E+00**	2.5E+02	**1.2E+00**	1.0E-01	2.9E+03	No	Yes	1.0E+04	2.9E-02
10	21	21(21-22.5)	N	21	22.5	01/01/88	INORG	Cyanide (total)	57-12-5	3.25E+01		3.90E-01	4.0E+00	8.0E+00					2.5E+02	1.3E-01	1.2E+01	**2.7E+00**					2.5E+02	1.3E-01	2.5E+02	1.3E-01	1.0E-01	3.2E+02	No	No	1.0E+04	3.2E-03
10	23	23(11-12.5)	N	11	12.5	01/01/88	INORG	Cyanide (total)	57-12-5	1.00E+01		3.90E-01	4.0E+00	2.4E+00					2.5E+02	3.8E-02	1.2E+01	8.0E-01					2.5E+02	3.8E-02	2.5E+02	3.8E-02	1.0E-01	**9.6E+01**	No	Yes	1.0E+04	9.5E-04
10	23	23(23.5-25)	N	23.5	25	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	**3.7E+00**					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	1.5E+02	Yes	No	1.0E+04	1.5E-03
10	24	24(23.5-25)	N	23.5	25	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	**3.7E+00**					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	1.5E+02	Yes	No	1.0E+04	1.5E-03
10	25	25(23.5-25)	N	23.5	25	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	**2.4E+00**					2.5E+02	3.8E-02	1.2E+01	8.0E-01					2.5E+02	3.8E-02	2.5E+02	3.8E-02	1.0E-01	9.6E+01	Yes	No	1.0E+04	9.5E-04
10	26	26(16-17.5)	N	16	17.5	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	3.7E+00					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	1.5E+02	No	No	1.0E+04	1.5E-03
10	26	26(23.5-25)	N	23.5	25	01/01/88	INORG	Cyanide (total)	57-12-5	1.25E+01		3.90E-01	4.0E+00	**3.0E+00**					2.5E+02	4.8E-02	1.2E+01	1.0E+00					2.5E+02	4.8E-02	2.5E+02	4.8E-02	1.0E-01	1.2E+02	Yes	No	1.0E+04	1.2E-03
10	27	27(1-2.5)	N	1	2.5	01/01/88	INORG	Arsenic	7440-38-2	1.70E+01		5.80E+00	4.6E+00	2.4E+00					7.2E+02	1.6E-02	7.6E+00	**1.5E+00**					9.1E+02	1.2E-02	3.7E+01	3.0E-01	7.0E+01	1.6E-01	No	No	1.9E+02	5.9E-02
10	27	27(21-22.5)	N	21	22.5	01/01/88	INORG	Arsenic	7440-38-2	1.60E+01		5.80E+00	4.6E+00	2.2E+00					7.2E+02	1.4E-02	7.6E+00	**1.3E+00**					9.1E+02	1.1E-02	3.7E+01	2.8E-01	7.0E+01	1.5E-01	No	No	1.9E+02	5.3E-02
10	27	27(23.5-25)	N	23.5	25	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	**3.0E+00**					2.5E+02	4.8E-02	1.2E+01	1.0E+00					2.5E+02	4.8E-02	2.5E+02	4.8E-02	1.0E-01	1.2E+02	Yes	No	1.0E+04	1.2E-03
10	28	28(28.5-30)	N	28.5	30	01/01/88	INORG	Cyanide (total)	57-12-5	3.50E+01		3.90E-01	4.0E+00	8.7E+00					2.5E+02	1.4E-01	1.2E+01	**2.9E+00**					2.5E+02	1.4E-01	2.5E+02	1.4E-01	1.0E-01	3.5E+02	No	No	1.0E+04	3.4E-03
10	28	28(48.5-50)	N	48.5	50	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	**3.7E+00**					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	1.5E+02	Yes	No	1.0E+04	1.5E-03
10	30	30(11-12.5)	N	11	12.5	01/01/88	INORG	Cyanide (total)	57-12-5	3.40E+01		3.90E-01	4.0E+00	8.4E+00					2.5E+02	1.3E-01	1.2E+01	**2.8E+00**					2.5E+02	1.3E-01	2.5E+02	1.3E-01	1.0E-01	**3.4E+02**	No	Yes	1.0E+04	3.3E-03
10	30	30(11-12.5)	N	11	12.5	01/01/88	INORG	Nickel	7440-02-0	1.30E+03		2.00E+01	1.0E+02	1.3E+01					1.3E+04	9.8E-02	4.0E+04	3.2E-02					1.6E+04	8.0E-02	1.5E+05	8.5E-03	1.2E+02	**1.0E+01**	No	Yes	1.0E+04	1.3E-01
10	30	30(16-17.5)	N	16	17.5	01/01/88	INORG	Cyanide (total)	57-12-5	2.13E+02		3.90E-01	4.0E+00	5.3E+01					2.5E+02	8.5E-01	1.2E+01	**1.8E+01**					2.5E+02	8.5E-01	2.5E+02	8.5E-01	1.0E-01	2.1E+03	No	No	1.0E+04	2.1E-02
10	30	30(21-22.5)	N	21	22.5	01/01/88	INORG	Cyanide (total)	57-12-5	3.20E+02		3.90E-01	4.0E+00	8.0E+01					2.5E+02	**1.3E+00**	1.2E+01	**2.7E+01**					2.5E+02	**1.3E+00**	2.5E+02	**1.3E+00**	1.0E-01	3.2E+03	No	No	1.0E+04	3.2E-02
10	30	30(23.5-25)	N	23.5	25	01/01/88	INORG	Cyanide (total)	57-12-5	2.85E+02		3.90E-01	4.0E+00	**7.1E+01**					2.5E+02	**1.1E+00**	1.2E+01	**2.4E+01**					2.5E+02	**1.1E+00**	2.5E+02	**1.1E+00**	1.0E-01	2.8E+03	Yes	No	1.0E+04	2.8E-02
10	30	30(6-7.5)	N	6	7.5	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	3.7E+00					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	1.5E+02	No	No	1.0E+04	1.5E-03
10	31	31(16-17.5)	N	16	17.5	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	3.7E+00					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	1.5E+02	No	No	1.0E+04	1.5E-03
10	31	31(21-22.5)	N	21	22.5	01/01/88	INORG	Arsenic	7440-38-2	1.10E+01		5.80E+00	4.6E+00	**1.1E+00**					7.2E+02	7.2E-03	7.6E+00	6.8E-01					9.1E+02	5.7E-03	3.7E+01	1.4E-01	7.0E+01	7.4E-02	Yes	No	1.9E+02	2.7E-02
10	31	31(21-22.5)	N	21	22.5	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	3.7E+00					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	1.5E+02	No	No	1.0E+04	1.5E-03
10	32	32(10-10.6)	N	10	10.6	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	**3.7E+00**					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	**1.5E+02**	Yes	No	1.0E+04	1.5E-03
10	33	33(21-22.5)	N	21	22.5	01/01/88	INORG	Arsenic	7440-38-2	2.10E+01		5.80E+00	4.6E+00	3.3E+00					7.2E+02	2.1E-02	7.6E+00	**2.0E+00**					9.1E+02	1.7E-02	3.7E+01	4.1E-01	7.0E+01	2.2E-01	No	No	1.9E+02	8.0E-02
10	35	35(21-22.5)	N	21	22.5	01/01/88	INORG	Cyanide (total)	57-12-5	1.75E+01		3.90E-01	4.0E+00	4.3E+00					2.5E+02	6.8E-02	1.2E+01	**1.4E+00**					2.5E+02	6.8E-02	2.5E+02	6.8E-02	1.0E-01	1.7E+02	No	No	1.0E+04	1.7E-03
10	36	36(11-12.5)	N	11	12.5	01/01/88	INORG	Nickel	7440-02-0	3.70E+03		2.00E+01	1.0E+02	3.7E+01					1.3E+04	2.8E-01	4.0E+04	9.2E-02					1.6E+04	2.3E-01	1.5E+05	2.5E-02	1.2E+02	**3.0E+01**	No	Yes	1.0E+04	3.6E-01
10	37	37(11-12.5)	N	11	12.5	01/01/88	INORG	Nickel	7440-02-0	5.10E+02		2.00E+01	1.0E+02	4.9E+00					1.3E+04	3.8E-02	4.0E+04	1.2E-02					1.6E+04	3.1E-02	1.5E+05	3.3E-03	1.2E+02	**3.9E+00**	No	Yes	1.0E+04	4.8E-02
10	40	40(11-12.5)	N	11	12.5	01/01/88	INORG	Cyanide (total)	57-12-5	2.00E+01		3.90E-01	4.0E+00	3.7E+00					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	**1.5E+02**	No	Yes	1.0E+04	1.5E-03
10	40	40(11-12.5)DP	FD	11	12.5	01/01/88	INORG	Cyanide (total)	57-12-5	2.00E+01		3.90E-01	4.0E+00	3.7E+00					2.5E+02	7.8E-02	1.2E+01	**1.6E+00**					2.5E+02	7.8E-02	2.5E+02	7.8E-02	1.0E-01	**2.0E+02**	No	Yes	1.0E+04	1.9E-03
10	40	40(16-17.5)	N	16	17.5	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	3.7E+00					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	1.5E+02	No	No	1.0E+04	1.5E-03
10	41	41(38.5-40)	N	38.5	40	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	3.7E+00					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	1.5E+02	No	No	1.0E+04	1.5E-03
10	41	41(43.5-45)	N	43.5	45	01/01/88	INORG	Cyanide (total)	57-12-5	2.00E+01		3.90E-01	4.0E+00	4.9E+00					2.5E+02	7.8E-02	1.2E+01	**1.6E+00**					2.5E+02	7.8E-02	2.5E+02	7.8E-02	1.0E-01	2.0E+02	No	No	1.0E+04	1.9E-03
10	41	41(48.5-50)	N	48.5	50	01/01/88	INORG	Cyanide (total)	57-12-5	1.00E+01		3.90E-01	4.0E+00	**2.4E+00**					2.5E+02	3.8E-02	1.2E+01	8.0E-01					2.5E+02	3.8E-02	2.5E+02	3.8E-02	1.0E-01	9.6E+01	Yes	No	1.0E+04	9.5E-04
10	42	42(21-22.5)	N	21	22.5	01/01/88	INORG	Cyanide (total)	57-12-5	2.24E+01		3.90E-01	4.0E+00	5.5E+00					2.5E+02	8.8E-02	1.2E+01	**1.8E+00**					2.5E+02	8.8E-02	2.5E+02	8.8E-02	1.0E-01	2.2E+02	No	No	1.0E+04	2.2E-03
10	42	42(43.5-45)	N	43.5	45	01/01/88	INORG	Cyanide (total)	57-12-5	1.75E+01		3.90E-01	4.0E+00	4.3E+00					2.5E+02	6.8E-02	1.2E+01	**1.4E+00**					2.5E+02	6.8E-02	2.5E+02	6.8E-02	1.0E-01	1.7E+02	No	No	1.0E+04	1.7E-03
10	42	42(48.5-50)	N	48.5	50	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	**3.7E+00**					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	1.5E+02	Yes	No	1.0E+04	1.5E-03
10	43	43(48.5-50)	N	48.5	50	01/01/88	INORG	Cyanide (total)	57-12-5	1.00E+01		3.90E-01	4.0E+00	**2.4E+00**					2.5E+02	3.8E-02	1.2E+01	8.0E-01					2.5E+02	3.8E-02	2.5E+02	3.8E-02	1.0E-01	9.6E+01	Yes	No	1.0E+04	9.5E-04
10	46	46(38.5-40)DP	FD	38.5	40	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	3.7E+00					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	1.5E+02	No	No	1.0E+04	1.5E-03
10	46	46(43.5-45)	N	43.5	45	01/01/88	INORG	Cyanide (total)	57-12-5	1.75E+01		3.90E-01	4.0E+00	4.3E+00					2.5E+02	6.8E-02	1.2E+01	**1.4E+00**					2.5E+02	6.8E-02	2.5E+02	6.8E-02	1.0E-01	1.7E+02	No	No	1.0E+04	1.7E-03
10	46	46(48.5-50)	N	48.5	50	01/01/88	INORG	Cyanide (total)	57-12-5	1.50E+01		3.90E-01	4.0E+00	**3.7E+00**					2.5E+02	5.8E-02	1.2E+01	**1.2E+00**					2.5E+02	5.8E-02	2.5E+02	5.8E-02	1.0E-01	1.5E+02	Yes	No	1.0E+04	1.5E-03
10	50	50(21-22.5)	N	21	22.5	01/01/88	INORG	Cyanide (total)	57-12-5	1.00E+01		3.90E-01	4.0E+00	**2.4E+00**					2.5E+02	3.8E-02	1.2E+01	8.0E-01					2.5E+02	3.8E-02	2.5E+02	3.8E-02	1.0E-01	9.6E+01	Yes	No	1.0E+04	9.5E-04
10	55	55(48.5-50.5)	N	48.5	50.5	04/06/89	INORG	Cyanide (total)	57-12-5	2.50E+01		3.90E-01	4.0E+00	6.2E+00					2.5E+02	9.8E-02	1.2E+01	**2.1E+00**					2.5E+02	9.8E-02	2.5E+02	9.8E-02	1.0E-01	2.5E+02	No	No	1.0E+04	2.4E-03
10	62	62(10)	N	10	10	02/24/89	INORG	Cyanide (total)	57-12-5	8.50E+01		3.90E-01	4.0E+00	2.1E+01					2.5E+02	3.4E-01	1.2E+01	**7.1E+00**					2.5E+02	3.4E-01	2.5E+02	3.4E-01	1.0E-01	**8.5E+02**	No	Yes	1.0E+04	8.4E-03
10	62	62(20)	N	20	20	02/24/89	INORG	Cyanide (total)	57-12-5	2.50E+01		3.90E-01	4.0E+00	6.2E+00					2.5E+02	9.8E-02	1.2E+01	**2.1E+00**					2.5E+02	9.8E-02	2.5E+02	9.8E-02	1.0E-01	2.5E+02	No	No	1.0E+04	2.4E-03
10	62	62(40)	N	40	40	02/24/89	INORG	Cyanide (total)	57-12-5	2.00E+01		3.90E-01	4.0E+00	**4.9E+00**					2.5E+02	7.8E-02	1.2E+01	**1.6E+00**					2.5E+02	7.8E-02	2.5E+02	7.8E-02	1.0E-01	2.0E+02	Yes	No	1.0E+04	1.9E-03
10	63	63(10)	N	10	10	02/23/89	INORG	Cyanide (total)	57-12-5	1.00E+01		3.90E-01	4.0E+00	2.4E+00					2.5E+02	3.8E-02	1.2E+01	8.0E-01					2.5E+02	3.8E-02	2.5E+02	3.8E-02	1.0E-01	**9.6E+01**	No	Yes	1.0E+04	9.5E-04
10	63	63(10)	N	10	10	02/23/89	INORG	Nickel	7440-02-0	6.10E+03		2.00E

Table A-2c: Soil Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Location	Sample ID	Sample Type	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Chem Group	Chemical	CASRN	Conc	Qual	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Conc to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Conc to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Conc to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Conc to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Conc to Residential Direct Contact Criteria	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Conc to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Conc to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Conc to Industrial Particulate Inhalation Criteria	Industrial/ Commercial II Direct Contact Criteria (mg/kg)	Ratio of Conc to Industrial/ Commercial II Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Conc to GSI Protection Criteria	Deepest Soil Analysis - DWP	Deepest Soil Analysis - GSIP	Risk-Based Redevelop-ment Worker Soil Contact Criteria (mg/kg)	Ratio of Conc to Risk-Based Redevelop-ment Worker Soil Contact Criteria
10	CH-1-G	CH-1-G(13)	N	13	13	05/15/89	INORG	Chromium (total)	7440-47-3	8.30E+01			3.0E+01	**2.8E+00**					2.6E+02	3.2E-01	2.5E+03	3.3E-02					2.4E+02	3.5E-01	9.2E+03	9.0E-03	3.3E+00	**2.5E+01**	Yes	Yes	5.7E+02	1.5E-01
10	CH-1-G	CH-1-G(13)	N	13	13	05/15/89	INORG	Nickel	7440-02-0	2.70E+02		2.00E+01	1.0E+02	**2.5E+00**					1.3E+04	1.9E-02	4.0E+04	6.3E-03					1.6E+04	1.6E-02	1.5E+05	1.7E-03	1.2E+02	**2.0E+00**	Yes	Yes	1.0E+04	2.4E-02
10	CH-2-B	CH-2-B(13-15.5)	N	13	15.5	07/18/89	INORG	Chromium (total)	7440-47-3	1.20E+02			3.0E+01	**4.0E+00**					2.6E+02	4.6E-01	2.5E+03	4.8E-02					2.4E+02	5.0E-01	9.2E+03	1.3E-02	3.3E+00	3.6E+01	Yes	No	5.7E+02	2.1E-01
10	CH-2-B	CH-2-B(15.5-18)	N	15.5	18	07/18/89	INORG	Chromium (total)	7440-47-3	3.30E+02			3.0E+01	**1.1E+01**					2.6E+02	**1.3E+00**	2.5E+03	1.3E-01					2.4E+02	**1.4E+00**	9.2E+03	3.6E-02	3.3E+00	**1.0E+02**	Yes	Yes	5.7E+02	5.8E-01
10	CH-2-G	CH-2-G(13)	N	13	13	05/15/89	INORG	Chromium (total)	7440-47-3	4.20E+03			3.0E+01	**1.4E+02**					2.6E+02	**1.6E+01**	2.5E+03	**1.7E+00**					2.4E+02	**1.8E+01**	9.2E+03	4.6E-01	3.3E+00	**1.3E+03**	No	Yes	5.7E+02	**7.4E+00**
10	CH-3-B	CH-3-B(13-15.5)	N	15.5	18	07/19/89	INORG	Chromium (total)	7440-47-3	2.60E+03			3.0E+01	**8.7E+01**					2.6E+02	**1.0E+01**	2.5E+03	1.0E+00					2.4E+02	**1.1E+01**	9.2E+03	2.8E-01	3.3E+00	7.9E+02	Yes	No	5.7E+02	**4.6E+00**
10	CH-3-G	CH-3-G(13)	N	13	13	05/15/89	INORG	Chromium (total)	7440-47-3	1.80E+03			3.0E+01	**6.0E+01**					2.6E+02	**6.9E+00**	2.5E+03	7.2E-01					2.4E+02	**7.5E+00**	9.2E+03	2.0E-01	3.3E+00	**5.5E+02**	Yes	Yes	5.7E+02	**3.2E+00**
10	CH-3-G	CH-3-G(13)	N	13	13	05/15/89	INORG	Copper	7440-50-8	2.10E+02		3.20E+01	5.8E+03	3.1E-02					1.3E+05	1.4E-03	2.0E+04	8.9E-03					5.9E+04	3.0E-03	7.3E+04	2.4E-03	1.2E+02	**1.5E+00**	Yes	Yes	2.0E+04	8.8E-03
10	CH-5	CH-5(5-8.5)	N	5	8.5	07/01/89	INORG	Chromium (total)	7440-47-3	1.10E+01			3.0E+01	3.7E-01					2.6E+02	4.2E-02	2.5E+03	4.4E-03					2.4E+02	4.6E-02	9.2E+03	1.2E-03	3.3E+00	**3.3E+00**	Yes	Yes	5.7E+02	1.9E-02
10	CH-6	CH-6(7-10.5)	N	7	10.5	07/01/89	INORG	Chromium (total)	7440-47-3	6.80E+01			3.0E+01	**2.3E+00**					2.6E+02	2.6E-01	2.5E+03	2.7E-02					2.4E+02	2.8E-01	9.2E+03	7.4E-03	3.3E+00	**2.1E+01**	Yes	Yes	5.7E+02	1.2E-01
10	CH-7	CH-7(7-10.5)	N	7	10.5	07/01/89	INORG	Chromium (total)	7440-47-3	7.40E+01			3.0E+01	**2.5E+00**					2.6E+02	2.8E-01	2.5E+03	3.0E-02					2.4E+02	3.1E-01	9.2E+03	8.0E-03	3.3E+00	**2.2E+01**	Yes	Yes	5.7E+02	1.3E-01
10	CH-7	CH-7(7-10.5)	N	7	10.5	07/01/89	INORG	Copper	7440-50-8	1.70E+02		3.20E+01	5.8E+03	2.4E-02					1.3E+05	1.1E-03	2.0E+04	6.9E-03					5.9E+04	2.3E-03	7.3E+04	1.9E-03	1.2E+02	**1.2E+00**	Yes	Yes	2.0E+04	6.9E-03
10	CH-8-B	CH-8-B(13-15.5)	N	13	15.5	07/20/89	INORG	Chromium (total)	7440-47-3	1.50E+03			3.0E+01	5.0E+01					2.6E+02	**5.8E+00**	2.5E+03	6.0E-01					2.4E+02	**6.3E+00**	9.2E+03	1.6E-01	3.3E+00	**4.5E+02**	No	Yes	5.7E+02	**2.6E+00**
10	CH-8-B	CH-8-B(15.5-18)	N	15.5	18	07/20/89	INORG	Chromium (total)	7440-47-3	9.30E+02			3.0E+01	**3.1E+01**					2.6E+02	**3.6E+00**	2.5E+03	3.7E-01					2.4E+02	**3.9E+00**	9.2E+03	1.0E-01	3.3E+00	2.8E+02	Yes	No	5.7E+02	**1.6E+00**
10	CH-8-G	CH-8-G(13)	N	13	13	05/15/89	INORG	Chromium (total)	7440-47-3	4.00E+02			3.0E+01	**1.3E+01**					2.6E+02	**1.5E+00**	2.5E+03	1.6E-01					2.4E+02	**1.7E+00**	9.2E+03	4.3E-02	3.3E+00	**1.2E+02**	Yes	Yes	5.7E+02	7.0E-01
10	CH-9-B	CH-9-B(13-15.5)	N	13	15.5	07/18/89	INORG	Chromium (total)	7440-47-3	2.50E+03			3.0E+01	8.3E+01					2.6E+02	**9.6E+00**	2.5E+03	1.0E+00					2.4E+02	**1.0E+01**	9.2E+03	2.7E-01	3.3E+00	**7.6E+02**	No	Yes	5.7E+02	**4.4E+00**
10	CH-9-B	CH-9-B(15.5-18)	N	15.5	18	07/18/89	INORG	Chromium (total)	7440-47-3	1.50E+03			3.0E+01	**5.0E+01**					2.6E+02	**5.8E+00**	2.5E+03	6.0E-01					2.4E+02	**6.3E+00**	9.2E+03	1.6E-01	3.3E+00	4.5E+02	Yes	No	5.7E+02	**2.6E+00**
10	CH-9-G	CH-9-G(13)	N	13	13	05/15/89	INORG	Chromium (total)	7440-47-3	3.30E+02			3.0E+01	**4.3E+00**					2.6E+02	5.0E-01	2.5E+03	5.2E-02					2.4E+02	5.4E-01	9.2E+03	1.4E-02	3.3E+00	**3.9E+01**	Yes	Yes	5.7E+02	2.3E-01
10	G1	G1(2)	N	2	2	03/23/89	INORG	Copper	7440-50-8	1.50E+03		3.20E+01	5.8E+03	2.5E-01					1.3E+05	1.1E-02	2.0E+04	7.3E-02					5.9E+04	2.5E-02	7.3E+04	2.0E-02	1.2E+02	**1.2E+01**	Yes	Yes	2.0E+04	7.3E-02
10	G1	G1(2)	N	2	2	03/23/89	INORG	Cyanide (total)	57-12-5	1.37E+03		3.90E-01	4.0E+00	**3.4E+02**					2.5E+02	**5.5E+00**	1.2E+01	**1.1E+02**					2.5E+02	**5.5E+00**	2.5E+02	**5.5E+00**	1.0E-01	**1.4E+04**	Yes	Yes	1.0E+04	1.4E-01
10	G1	G1(2)	N	2	2	03/23/89	INORG	Nickel	7440-02-0	3.50E+03		2.00E+01	1.0E+02	**3.5E+01**					1.3E+04	2.7E-01	4.0E+04	8.7E-02					1.6E+04	2.2E-01	1.5E+05	2.3E-02	1.2E+02	**2.8E+01**	Yes	Yes	1.0E+04	3.4E-01
10	G11	G11(18)	N	18	18	03/23/89	INORG	Cyanide (total)	57-12-5	5.10E+01		3.90E-01	4.0E+00	**1.3E+01**					2.5E+02	2.0E-01	1.2E+01	**4.2E+00**					2.5E+02	2.0E-01	2.5E+02	2.0E-01	1.0E-01	5.1E+02	Yes	No	1.0E+04	5.0E-03
10	G11	G11(18)	N	18	18	03/23/89	INORG	Nickel	7440-02-0	2.60E+03		2.00E+01	1.0E+02	**2.6E+01**					1.3E+04	2.0E-01	4.0E+04	6.5E-02					1.6E+04	1.6E-01	1.5E+05	1.7E-02	1.2E+02	2.1E+01	Yes	No	1.0E+04	2.5E-01
10	G12	G12(15)	N	15	15	03/23/89	INORG	Cyanide (total)	57-12-5	2.50E+02		3.90E-01	4.0E+00	**6.2E+01**					2.5E+02	1.0E+00	1.2E+01	**2.1E+01**					2.5E+02	1.0E+00	2.5E+02	1.0E+00	1.0E-01	2.5E+03	Yes	No	1.0E+04	2.5E-02
10	G12	G12(15)	N	15	15	03/23/89	INORG	Nickel	7440-02-0	1.20E+04		2.00E+01	1.0E+02	**1.2E+02**					1.3E+04	9.2E-01	4.0E+04	3.0E-01					1.6E+04	7.5E-01	1.5E+05	8.0E-02	1.2E+02	9.7E+01	Yes	No	1.0E+04	**1.2E+00**
10	G2	G2(7)	N	7	7	03/23/89	INORG	Copper	7440-50-8	3.90E+02		3.20E+01	5.8E+03	6.2E-02					1.3E+05	2.8E-03	2.0E+04	1.8E-02					5.9E+04	6.1E-03	7.3E+04	4.9E-03	1.2E+02	**3.0E+00**	Yes	Yes	2.0E+04	1.8E-02
10	G2	G2(7)	N	7	7	03/23/89	INORG	Cyanide (total)	57-12-5	3.90E+02		3.90E-01	4.0E+00	**9.7E+01**					2.5E+02	**1.6E+00**	1.2E+01	**3.2E+01**					2.5E+02	**1.6E+00**	2.5E+02	**1.6E+00**	1.0E-01	**3.9E+03**	Yes	Yes	1.0E+04	3.9E-02
10	G2	G2(7)	N	7	7	03/23/89	INORG	Nickel	7440-02-0	5.90E+03		2.00E+01	1.0E+02	**5.9E+01**					1.3E+04	4.5E-01	4.0E+04	1.5E-01					1.6E+04	3.7E-01	1.5E+05	3.9E-02	1.2E+02	**4.7E+01**	Yes	Yes	1.0E+04	5.8E-01
10	G3	G3(5)	N	5	5	03/23/89	INORG	Copper	7440-50-8	5.00E+02		3.20E+01	5.8E+03	8.1E-02					1.3E+05	3.6E-03	2.0E+04	2.3E-02					5.9E+04	7.9E-03	7.3E+04	6.4E-03	1.2E+02	**3.9E+00**	Yes	Yes	2.0E+04	2.3E-02
10	G3	G3(5)	N	5	5	03/23/89	INORG	Cyanide (total)	57-12-5	7.70E+02		3.90E-01	4.0E+00	**1.9E+02**					2.5E+02	**3.1E+00**	1.2E+01	**6.4E+01**					2.5E+02	**3.1E+00**	2.5E+02	**3.1E+00**	1.0E-01	**7.7E+03**	Yes	Yes	1.0E+04	7.6E-02
10	G3	G3(5)	N	5	5	03/23/89	INORG	Nickel	7440-02-0	8.70E+02		2.00E+01	1.0E+02	**8.5E+00**					1.3E+04	6.5E-02	4.0E+04	2.1E-02					1.6E+04	5.3E-02	1.5E+05	5.7E-03	1.2E+02	**6.8E+00**	Yes	Yes	1.0E+04	8.3E-02
10	G4	G4(6)	N	6	6	03/23/89	INORG	Cyanide (total)	57-12-5	3.00E+01		3.90E-01	4.0E+00	**7.4E+00**					2.5E+02	1.2E-01	1.2E+01	**2.5E+00**					2.5E+02	1.2E-01	2.5E+02	1.2E-01	1.0E-01	**3.0E+02**	Yes	Yes	1.0E+04	2.9E-03
10	G4	G4(6)	N	6	6	03/23/89	INORG	Nickel	7440-02-0	2.60E+03		2.00E+01	1.0E+02	**2.2E+00**					1.3E+04	1.7E-02	4.0E+04	5.5E-03					1.6E+04	1.4E-02	1.5E+05	1.5E-03	1.2E+02	**1.0E+00**	Yes	Yes	1.0E+04	2.2E-02
10	G5	G5(5)	N	5	5	03/23/89	INORG	Cyanide (total)	57-12-5	8.00E+01		3.90E-01	4.0E+00	**2.0E+01**					2.5E+02	3.2E-01	1.2E+01	**6.6E+00**					2.5E+02	3.2E-01	2.5E+02	3.2E-01	1.0E-01	**8.0E+02**	Yes	Yes	1.0E+04	7.9E-03
10	G5	G5(5)	N	5	5	03/23/89	INORG	Nickel	7440-02-0	3.40E+03		2.00E+01	1.0E+02	**3.4E+01**					1.3E+04	2.6E-01	4.0E+04	8.5E-02					1.6E+04	2.1E-01	1.5E+05	2.3E-02	1.2E+02	**2.7E+01**	Yes	Yes	1.0E+04	3.3E-01
10	G6	G6(20)	N	20	20	03/23/89	INORG	Cyanide (total)	57-12-5	2.10E+01		3.90E-01	4.0E+00	**5.2E+00**					2.5E+02	8.2E-02	1.2E+01	**1.7E+00**					2.5E+02	8.2E-02	2.5E+02	8.2E-02	1.0E-01	2.1E+02	Yes	No	1.0E+04	2.0E-03
10	G6	G6(20)	N	20	20	03/23/89	INORG	Nickel	7440-02-0	1.70E+02		2.00E+01	1.0E+02	**1.5E+00**					1.3E+04	1.2E-02	4.0E+04	3.8E-03					1.6E+04	9.4E-03	1.5E+05	1.0E-03	1.2E+02	1.2E+00	Yes	No	1.0E+04	1.5E-02
10	G7	G7(20)	N	20	20	03/23/89	INORG	Cyanide (total)	57-12-5	1.40E+02		3.90E-01	4.0E+00	**3.5E+01**					2.5E+02	5.6E-01	1.2E+01	**1.2E+01**					2.5E+02	5.6E-01	2.5E+02	5.6E-01	1.0E-01	1.4E+03	Yes	No	1.0E+04	1.4E-02
10	G7	G7(20)	N	20	20	03/23/89	INORG	Nickel	7440-02-0	2.80E+03		2.00E+01	1.0E+02	**2.8E+01**					1.3E+04	2.1E-01	4.0E+04	7.0E-02					1.6E+04	1.7E-01	1.5E+05	1.9E-02	1.2E+02	2.2E+01	Yes	No	1.0E+04	2.7E-01
10	G8	G8(10)	N	10	10	03/23/89	INORG	Cyanide (total)	57-12-5	1.00E+01		3.90E-01	4.0E+00	**2.4E+00**					2.5E+02	3.8E-02	1.2E+01	8.0E-01					2.5E+02	3.8E-02	2.5E+02	3.8E-02	1.0E-01	**9.6E+01**	Yes	Yes	1.0E+04	9.5E-04
10	G9	G9(16)	N	16	16	03/23/89	INORG	Cyanide (total)	57-12-5	1.20E+02		3.90E-01	4.0E+00	**3.0E+01**					2.5E+02	4.8E-01	1.2E+01	**1.0E+01**					2.5E+02	4.8E-01	2.5E+02	4.8E-01	1.0E-01	1.2E+03	Yes	No	1.0E+04	1.2E-02
10	G9	G9(16)	N	16	16	03/23/89	INORG	Nickel	7440-02-0	3.10E+03		2.00E+01	1.0E+02	**3.1E+01**					1.3E+04	2.4E-01	4.0E+04	7.7E-02					1.6E+04	1.9E-01	1.5E+05	2.1E-02	1.2E+02	2.5E+01	Yes	No	1.0E+04	3.0E-01
10	H2	H2(7)	N	7	7	04/24/89	INORG	Copper	7440-50-8	1.70E+02		3.20E+01	5.8E+03	2.4E-02					1.3E+05	1.1E-03	2.0E+04	6.9E-03					5.9E+04	2.3E-03	7.3E+04	1.9E-03	1.2E+02	**1.2E+00**	Yes	Yes	2.0E+04	6.9E-03
10	H2	H2(7)	N	7	7	04/24/89	INORG	Cyanide (total)	57-12-5	3.10E+01		3.90E-01	4.0E+00	**7.7E+00**					2.5E+02	1.2E-01	1.2E+01	**2.6E+00**					2.5E+02	1.2E-01	2.5E+02	1.2E-01	1.0E-01	**3.1E+02**	Yes	Yes	1.0E+04	3.0E-03
10	H3	H3(20)	N	20	20	04/24/89	INORG	Cyanide (total)	57-12-5	2.10E+01		3.90E-01	4.0E+00	**5.2E+00**					2.5E+02	8.2E-02	1.2E+01	**1.7E+00**					2.5E+02	8.2E-02	2.5E+02	8.2E-02	1.0E-01	2.1E+02	Yes	No	1.0E+04	2.0E-03
10	H3	H3(20)	N	20	20	04/24/89	INORG	Nickel	7440-02-0	2.90E+02		2.00E+01	1.0E+02	**2.7E+00**					1.3E+04	2.1E-02	4.0E+04	6.8E-03					1.6E+04	1.7E-02	1.5E+05	1.8E-03	1.2E+02	2.2E+00	Yes	No	1.0E+04	2.6E-02
10	H4	H4(16)	N	16	16	04/24/89	INORG	Cyanide (total)	57-12-5	1.90E+02		3.90E-01	4.0E+00	**4.7E+01**					2.5E+02	7.6E-01	1.2E+01	**1.6E+01**					2.5E+02	7.6E-01	2.5E+02	7.6E-01	1.0E-01	1.9E+03	Yes	No	1.0E+04	1.9E-02
10	H4	H4(16)	N	16	16	04/24/89	INORG	Nickel	7440-02-0	1.60E+02		2.00E+01	1.0E+02	**1.4E+00**					1.3E+04	1.1E-02	4.0E+04	3.5E-03					1.6E+04	8.8E-03	1.5E+05	9.3E-04	1.2E+02	1.1E+00	Yes	No	1.0E+04	1.4E-02
10	H5	H5(10)	N	10	10	04/24/89	INORG	Copper	7440-50-8	2.60E+02		3.20E+01	5.8E+03	3.9E-02					1.3E+05	1.8E-03	2.0E+04	1.1E-02					5.9E+04	3.9E-03	7.3E+04	3.1E-03	1.2E+02	**1.9E+00**	Yes	Yes	2.0E+04	1.1E-02
10	H5	H5(10)	N	10	10	04/24/89	INORG	Cyanide (total)	57-12-5	9.80E+01		3.90E-01	4.0E+00	**2.4E+01**					2.5E+02	3.9E-01	1.2E+01	**8.1E+00**					2.5E+02	3.9E-01	2.5E+02	3.9E-01	1.0E-01	**9.8E+02**	Yes	Yes	1.0E+04	9.7E-03
10	H5	H5(10)	N	10	10	04/24/89	INORG	Nickel	7440-02-0	2.10E+02		2.00E+01	1.0E+02	**1.9E+00**					1.3E+04	1.5E-02	4.0E+04	4.8E-03					1.6E+04	1.2E-02	1.5E+05	1.3E-03	1.2E+02	**1.5E+00**	Yes	Yes	1.0E+04	1.9E-02
10	H6	H6(17)	N	17	17	04/24/89	INORG	Cyanide (total)	57-12-5	1.10E+01		3.90E-01	4.0E+00	**2.7E+00**					2.5E+02	4.2E-02	1.2E+01	8.8E-01					2.5E+02	4.2E-02	2.5E+02	4.2E-02	1.0E-01	1.1E+02	Yes	No	1.0E+04	1.1E-03
10	H7	H7(20)	N	20	20	04/24/89	INORG	Cyanide (total)	57-12-5	2.01E+03		3.90E-01	4.0E+00	**5.0E+02**					2.5E+02	**8.0E+00**	1.2E+01	**1.7E+02**					2.5E+02	**8.0E+00**	2.5E+02	**8.0E+00**	1.0E-01	2.0E+04	Yes	No	1.0E+04	2.0E-01
10	H7	H7(20)	N	20	20	04/24/89	INORG	Nickel	7440-02-0	1.60E+02		2.00E+01	1.0E+02	**1.4E+00**					1.3E+04	1.1E-02	4.0E+04	3.5E-03					1.6E+04	8.8E-03	1.5E+05	9.3E-04	1.2E+02	1.1E+00	Yes	No	1.0E+04	1.4E-02
10	I10	I10(6)	N	6	6	04/14/89	INORG	Copper	7440-50-8	3.00E+02		3.20E+01	5.8E+03	4.6E-02					1.3E+05	2.1E-03	2.0E+04	1.3E-02					5.9E+04	4.5E-03	7.3E+04	3.7E-03	1.2E+02	**2.2E+00**	Yes	Yes	2.0E+04	1.3E-02
10	I10	I10(6)	N	6	6	04/14/89	INORG	Cyanide (total)	57-12-5	2.07E+03		3.90E-01	4.0E+00	**5.2E+02**					2.5E+02	**8.3E+00**	1.2E+01	**1.7E+02**					2.5E+02	**8.3E+00**	2.5E+02	**8.3E+00**	1.0E-01	**2.1E+04**	Yes	Yes	1.0E+04	2.1E-01
10	I11	I11(10)	N	10	10	04/14/89	INORG	Cyanide (total)	57-12-5	2.70E+01		3.90E-01	4.0E+00	**6.7E+00**					2.5E+02	1.1E-01	1.2E+01	**2.2E+00**					2.5E+02	1.1E-01	2.5E+02	1.1E-01	1.0E-01	**2.7E+02**	Yes	Yes	1.0E+04	2.6E-03
10	I5	I5(20)	N	20	20	04/14/89	INORG	Cyanide (total)	57-12-5	4.16E+02		3.90E-01	4.0E+00	**1.0E+02**					2.5E+02	**1.7E+00**	1.2E+01	**3.5E+01**					2.5E+02	**1.7E+00**	2.5E+02	**1.7E+00**	1.0E-01	4.2E+03	Yes	No	1.0E+04	4.1E-02
10	MW-88-1	MW-88(48.5-50)	N	48.5	50	01/01/88	INORG	Cyanide (total)	57-12-5	2.50E+01		3.90E-01	4.0E+00	**6.2E+00**					2.5E+02	9.8E-02	1.2E+01	**2.1E+00**					2.5E+02	9.8E-02	2.5E+02	9.8E-02	1.0E-01	2.5E+02	Yes	No	1.0E+04	2.4E-03
6	SB#1	SB#1(3.5-7.0)	N	3.5	7	07/28/89	INORG	Chromium (total)	7440-47-3	1.10E+01			3.0E+01	3.7E-01					2.6E+02	4.2E-02	2.5E+03	4.4E-03					2.4E+02	4.6E-02	9.2E+03	1.2E-03	3.3E+00	**3.3E+00**	Yes	Yes	5.7E+02	1.9E-02
6	SB#1	SB#1(3.5-7.0)	N	3.5	7	07/28/89	INORG	Nickel	7440-02-0	6.60E+02		2.00E+01	1.0E+02	**6.4E+00**					1.3E+04	4.9E-02	4.0E+04	1.6E-02					1.6E+04	4.0E-02	1.5E+05	4.3E-03	1.2E+02	**5.2E+00**	Yes	Yes	1.0E+04	6.3E-02
6	SB#2	SB#2(3.5-7.0)	N	3.5	7	07/28/89	INORG	Chromium (total)	7440-47-3	2.00E+01			3.0E+01	6.7E-01					2.6E+02	7.7E-02	2.5E+03	8.0E-03					2.4E+02	8.3E-02	9.2E+03	2.2E-03	3.3E+00	**6.1E+00**	Yes	Yes	5.7E+02	3.5E-02
6	SB#2	SB#2(3.5-7.0)	N	3.5	7	07/28/89	INORG	Nickel	7440-02-0	2.40E+03		2.00E+01	1.0E+02	**2.4E+01**					1.3E+04	1.8E-01	4.0E+04	6.0E-02					1.6E+04	1.5E-01	1.5E+05	1.6E-02	1.2E+02	**1.9E+01**	Yes	Yes	1.0E+04	2.3E-01
6	SB#3	SB#3(3.5-7.0)	N	3.5	7	07/28/89	INORG	Chromium (total)	7440-47-3	1.20E+01			3.0E+01	4.0E-01					2.6E+02	4.6E-02	2.5E+03	4.8E-03					2.4E+02	5.0E-02	9.2E+03	1.3E-03	3.3E+00	**3.6E+00**	Yes	Yes	5.7E+02	2.1E-02
9	SB1	SB-1(7-9.5)	N	7	9.5	05/16/89	VOC	Benzene	71-43-2	3.50E-01			1.0E-01	**3.5E+00**	1.6E+00	2.2E-01	1.3E+01	2.7E-02	3.8E+05	9.2E-07	1.8E+02	1.9E-03	8.4E+00	4.2E-02	4.5E+01	7.8E-03	4.7E+05	7.4E-07	4.0E+02	8.8E-04	4.0E+00	8.8E-02	Yes	Yes	3.4E+01	1.0E-02
9	SB1	SB-1(7-9.5)	N	7	9.5	05/16/89	VOC	Ethyl Benzene	100-41-4	2.30E+00			1.5E+00	**1.5E+00**	8.7E+01	2.6E-02	7.2E+02	3.2E-03	1.0E+07	2.3E-07	1.4E+02	1.6E-02	1.4E+02	1.6E-02	2.4E+03	9.6E-04	1.3E+07	1.8E-07	1.4E+02	1.6E-02	3.6E-01	**6.4E+00**	Yes	Yes	1.1E+03	2.1E-03
9	SB1	SB-1(7-9.5)	N	7	9.5	05/16/89	VOC	Toluene	108-88-3	1.00E+01			1.6E+01	6.3E-01	2.5E+02	4.0E-02	2.8E+03	3.6E-03	2.7E+07	3.7E-07	2.5E+02	4.0E-02	2.5E+02	4.0E-02	3.3E+03	3.0E-03	1.2E+07	8.3E-07	2.5E+02	4.0E-02	2.8E+00	**3.6E+00**	Yes	Yes	4.1E+03	2.5E-03
9	SB1	SB-1(7-9.5)	N	7	9.5	05/16/89	VOC	Xylenes (total)	1330-20-7	1.90E+01			5.6E+00	**3.4E+00**	1.5E+02	1.3E-01	4.6E+04	4.1E-04	2.9E+08	6.6E-08	1.5E+02	1.3E-01	1.5E+02	1.3E-01	5.4E+04	3.5E-04	1.3E+08	1.5E-07	1.5E+02	1.3E-01	7.0E-01	**2.7E+01**	Yes	Yes	3.6E+02	5.2E-02
9	SB12	SB-12(14-16)	N	14	16	11/07/89	VOC	Benzene	71-43-2	2.07E-01			1.0E-01	**2.1E+00**	1.6E+00	1.3E-01	1.3E+01	1.6E-02	3.8E+05	5.4E-07	1.8E+02	1.2E-03	8.4E+00	2.5E-02	4.5E+01	4.6E-03	4.7E+05	4.4E-07	4.0E

Table A-3a: Groundwater Screening Results
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Residential Drinking Water Criteria (mg/L)	Ratio of Max Detected to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Max Detected to Groundwater Surface water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Max Detected to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Groundwater Contact Criteria
10	Bedrock	INORG	Arsenic	7440-38-2	D	A	16	13	1.00E-03	1.20E-02	1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			4.3E+00	2.8E-03
10	Bedrock	INORG	Arsenic	7440-38-2	T	A	24	20	1.00E-03	1.20E-02	1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			4.3E+00	2.8E-03
10	Bedrock	INORG	Barium	7440-39-3	D	NC	16	16	2.00E-02	2.90E-01	2.0E+00	1.5E-01	1.2E+00	2.3E-01			1.4E+04	2.1E-05
10	Bedrock	INORG	Barium	7440-39-3	T	NC	22	22	2.00E-02	3.00E-01	2.0E+00	1.5E-01	1.2E+00	2.4E-01			1.4E+04	2.1E-05
10	Bedrock	INORG	Cadmium	7440-43-9	T	B1	29	8	3.00E-04	7.00E-03	5.0E-03	**1.4E+00**	4.6E-03	**1.5E+00**			1.9E+02	3.7E-05
10	Bedrock	INORG	Chromium (total)	7440-47-3	D		16	7	3.00E-03	8.00E-03	1.0E-01	8.0E-02	1.1E-02	7.3E-01			4.6E+02	1.7E-05
10	Bedrock	INORG	Chromium (total)	7440-47-3	T		74	11	2.00E-03	6.70E-02	1.0E-01	6.7E-01	1.1E-02	**6.1E+00**			4.6E+02	1.5E-04
10	Bedrock	INORG	Cobalt	7440-48-4	D	B1	16	2	7.00E-03	2.00E-02	4.0E-02	5.0E-01	1.0E-01	2.0E-01			2.4E+03	8.3E-06
10	Bedrock	INORG	Copper	7440-50-8	T	D	72	26	8.00E-03	3.70E-01	1.4E+00	2.6E-01	2.1E-02	**1.8E+01**			7.4E+03	5.0E-05
10	Bedrock	INORG	Cyanide (total)	57-12-5	D	D	16	2	7.00E-03	9.00E-03	2.0E-01	4.5E-02	5.2E-03	**1.7E+00**			5.7E+01	1.6E-04
10	Bedrock	INORG	Cyanide (total)	57-12-5	T	D	70	5	9.00E-03	2.40E-02	2.0E-01	1.2E-01	5.2E-03	**4.6E+00**			5.7E+01	4.2E-04
10	Bedrock	INORG	Lead	7439-92-1	T	B2	29	7	3.00E-03	1.20E-02	4.0E-03	**3.0E+00**	2.9E-02	4.1E-01				
10	Bedrock	INORG	Manganese	7439-96-5	D	D	16	13	2.30E-02	3.36E-01	8.6E-01	3.9E-01	4.6E+00	7.3E-02			9.1E+03	3.7E-05
10	Bedrock	INORG	Manganese	7439-96-5	T	D	22	20	1.70E-02	3.38E-01	8.6E-01	3.9E-01	4.6E+00	7.4E-02			9.1E+03	3.7E-05
10	Bedrock	INORG	Nickel	7440-02-0	D	A	16	1	3.40E-02	3.40E-02	1.0E-01	3.4E-01	1.2E-01	2.8E-01			7.4E+04	4.6E-07
10	Bedrock	INORG	Nickel	7440-02-0	T	A	75	7	1.00E-02	4.90E-02	1.0E-01	4.9E-01	1.2E-01	4.1E-01			7.4E+04	6.6E-07
10	Bedrock	INORG	Vanadium	7440-62-2	D		16	5	5.00E-03	7.00E-03	4.5E-03	**1.6E+00**	1.2E-02	5.8E-01			9.7E+02	7.2E-06
10	Bedrock	INORG	Vanadium	7440-62-2	T		22	7	4.00E-03	9.00E-03	4.5E-03	**2.0E+00**	1.2E-02	7.5E-01			9.7E+02	9.3E-06
10	Bedrock	INORG	Zinc	7440-66-6	D	ID	16	5	1.00E-02	5.70E-02	2.4E+00	2.4E-02	2.7E-01	2.1E-01			1.1E+05	5.2E-07
10	Bedrock	INORG	Zinc	7440-66-6	T	ID	72	36	1.00E-02	4.10E+00	2.4E+00	**1.7E+00**	2.7E-01	**1.5E+01**			1.1E+05	3.7E-05
10	Overburden	INORG	Arsenic	7440-38-2	D	A	23	22	2.00E-03	2.20E-02	1.0E-02	**2.2E+00**	1.5E-01	1.5E-01			4.3E+00	5.1E-03
10	Overburden	INORG	Arsenic	7440-38-2	T	A	39	32	2.00E-03	2.20E-02	1.0E-02	**2.2E+00**	1.5E-01	1.5E-01			4.3E+00	5.1E-03
10	Overburden	INORG	Barium	7440-39-3	D	NC	23	23	3.80E-02	4.59E-01	2.0E+00	2.3E-01	1.2E+00	3.7E-01			1.4E+04	3.3E-05
10	Overburden	INORG	Barium	7440-39-3	T	NC	31	31	4.50E-02	4.47E-01	2.0E+00	2.2E-01	1.2E+00	3.6E-01			1.4E+04	3.2E-05
10	Overburden	INORG	Cadmium	7440-43-9	T	B1	60	17	3.00E-04	2.60E-03	5.0E-03	5.2E-01	4.6E-03	5.6E-01			1.9E+02	1.4E-05
10	Overburden	INORG	Chromium (total)	7440-47-3	D		23	9	2.00E-03	6.00E-03	1.0E-01	6.0E-02	1.1E-02	5.5E-01			4.6E+02	1.3E-05
10	Overburden	INORG	Chromium (total)	7440-47-3	T		81	34	2.00E-03	1.85E-01	1.0E-01	**1.9E+00**	1.1E-02	**1.7E+01**			4.6E+02	4.0E-04
10	Overburden	INORG	Cobalt	7440-48-4	D	B1	23	4	6.00E-03	8.00E-03	4.0E-02	2.0E-01	1.0E-01	8.0E-02			2.4E+03	3.3E-06
10	Overburden	INORG	Copper	7440-50-8	D	D	23	7	2.00E-03	1.30E-02	1.4E+00	9.3E-03	2.1E-02	6.3E-01			7.4E+03	1.8E-06
10	Overburden	INORG	Copper	7440-50-8	T	D	99	39	3.00E-03	7.90E+02	1.4E+00	**5.6E+02**	2.1E-02	**3.8E+04**			7.4E+03	1.1E-01
10	Overburden	INORG	Cyanide (total)	57-12-5	D	D	18	1	3.00E-02	3.00E-02	2.0E-01	1.5E-01	5.2E-03	**5.8E+00**			5.7E+01	5.3E-04
10	Overburden	INORG	Cyanide (total)	57-12-5	T	D	94	3	3.20E-02	6.38E+02	2.0E-01	**3.2E+03**	5.2E-03	**1.2E+05**			5.7E+01	1.1E+01
10	Overburden	INORG	Lead	7439-92-1	T	B2	60	16	1.00E-03	1.40E-02	4.0E-03	**3.5E+00**	2.9E-02	4.8E-01				
10	Overburden	INORG	Manganese	7439-96-5	D	D	23	22	4.10E-02	4.02E-01	8.6E-01	4.7E-01	4.6E+00	8.8E-02			9.1E+03	4.4E-05
10	Overburden	INORG	Manganese	7439-96-5	T	D	31	31	2.30E-02	8.46E-01	8.6E-01	9.8E-01	4.6E+00	1.9E-01			9.1E+03	9.3E-05
10	Overburden	INORG	Nickel	7440-02-0	D	A	23	5	1.00E-02	4.20E-02	1.0E-01	4.2E-01	1.2E-01	3.5E-01			7.4E+04	5.7E-07
10	Overburden	INORG	Nickel	7440-02-0	T	A	99	41	5.00E-03	8.60E+00	1.0E-01	**8.6E+01**	1.2E-01	**7.2E+01**			7.4E+04	1.2E-04
10	Overburden	INORG	Selenium	7782-49-2	T	D	31	1	6.00E-03	6.00E-03	5.0E-02	1.2E-01	5.0E-03	**1.2E+00**			9.7E+02	6.2E-06
10	Overburden	INORG	Silver	7440-22-4	T	D	52	1	1.00E-03	1.00E-03	3.4E-02	2.9E-02	2.0E-04	**5.0E+00**			1.5E+03	6.7E-07
10	Overburden	INORG	Vanadium	7440-62-2	D		23	6	5.00E-03	1.10E-02	4.5E-03	**2.4E+00**	1.2E-02	9.2E-01			9.7E+02	1.1E-05
10	Overburden	INORG	Vanadium	7440-62-2	T		31	8	4.00E-03	3.00E-02	4.5E-03	**6.7E+00**	1.2E-02	**2.5E+00**			9.7E+02	3.1E-05
10	Overburden	INORG	Zinc	7440-66-6	D	ID	23	10	1.00E-02	6.00E-02	2.4E+00	2.5E-02	2.7E-01	2.2E-01			1.1E+05	5.5E-07
10	Overburden	INORG	Zinc	7440-66-6	T	ID	99	50	6.00E-03	2.25E-01	2.4E+00	9.4E-02	2.7E-01	8.3E-01			1.1E+05	2.0E-06
10	Perched	INORG	Antimony	7440-36-0	D		3	1	1.00E-03	1.00E-03	6.0E-03	1.7E-01	1.3E-01	7.7E-03			6.8E+01	1.5E-05
10	Perched	INORG	Antimony	7440-36-0	T		5	1	1.00E-03	1.00E-03	6.0E-03	1.7E-01	1.3E-01	7.7E-03			6.8E+01	1.5E-05
10	Perched	INORG	Arsenic	7440-38-2	D	A	3	2	1.00E-03	2.00E-03	1.0E-02	2.0E-01	1.5E-01	1.3E-02			4.3E+00	4.7E-04
10	Perched	INORG	Arsenic	7440-38-2	T	A	6	2	1.00E-03	1.70E-02	1.0E-02	**1.7E+00**	1.5E-01	1.1E-01			4.3E+00	4.0E-03
10	Perched	INORG	Barium	7440-39-3	D	NC	3	3	6.00E-02	7.60E-02	2.0E+00	3.8E-02	1.2E+00	6.1E-02			1.4E+04	5.4E-06
10	Perched	INORG	Barium	7440-39-3	T	NC	5	5	5.00E-02	8.00E-02	2.0E+00	4.0E-02	1.2E+00	6.4E-02			1.4E+04	5.7E-06
10	Perched	INORG	Beryllium	7440-41-7	D	B1	4	3	3.00E-03	8.00E-03	4.0E-03	**2.0E+00**	2.9E-02	2.8E-01			2.9E+02	2.8E-05
10	Perched	INORG	Beryllium	7440-41-7	T	B1	104	6	3.00E-03	9.00E-03	4.0E-03	**2.3E+00**	2.9E-02	3.1E-01			2.9E+02	3.1E-05
10	Perched	INORG	Cadmium	7440-43-9	D	B1	4	1	4.00E-04	4.00E-04	5.0E-03	8.0E-02	4.6E-03	8.7E-02			1.9E+02	2.1E-06
10	Perched	INORG	Cadmium	7440-43-9	T	B1	105	44	4.00E-04	7.00E-01	5.0E-03	**1.4E+02**	4.6E-03	**1.5E+02**			1.9E+02	3.7E-03
10	Perched	INORG	Chromium (total)	7440-47-3	D		4	3	2.00E-03	3.00E-02	1.0E-01	3.0E-01	1.1E-02	**2.7E+00**			4.6E+02	6.5E-05
10	Perched	INORG	Chromium (total)	7440-47-3	T		112	74	3.00E-03	8.90E+01	1.0E-01	**8.9E+02**	1.1E-02	**8.1E+03**			4.6E+02	1.9E-01
10	Perched	INORG	Chromium III	16065-83-1	T	D	2	1			3.8E+01		1.7E-01				2.9E+05	
10	Perched	INORG	Cobalt	7440-48-4	D	B1	3	1	5.00E-03	5.00E-03	4.0E-02	1.3E-01	1.0E-01	5.0E-02			2.4E+03	2.1E-06
10	Perched	INORG	Cobalt	7440-48-4	T	B1	5	1	5.00E-03	5.00E-03	4.0E-02	1.3E-01	1.0E-01	5.0E-02			2.4E+03	2.1E-06
10	Perched	INORG	Copper	7440-50-8	D	D	4	4	6.20E-02	2.50E-01	1.4E+00	1.8E-01	2.1E-02	**1.2E+01**			7.4E+03	3.4E-05
10	Perched	INORG	Copper	7440-50-8	T	D	114	113	7.80E-02	3.90E+01	1.4E+00	**2.8E+01**	2.1E-02	**1.9E+03**			7.4E+03	5.3E-03
10	Perched	INORG	Cyanide (total)	57-12-5	T	D	16	7	7.00E-02	2.20E+01	2.0E-01	**1.1E+02**	5.2E-03	**4.2E+03**			5.7E+01	3.9E-01
10	Perched	INORG	Lead	7439-92-1	T	B2	105	42	1.00E-03	3.80E+00	4.0E-03	**9.5E+02**	2.9E-02	**1.3E+02**				
10	Perched	INORG	Manganese	7439-96-5	D	D	3	3	7.40E-02	1.38E+00	8.6E-01	**1.6E+00**	4.6E+00	3.0E-01			9.1E+03	1.5E-04
10	Perched	INORG	Manganese	7439-96-5	T	D	5	5	7.70E-02	1.38E+00	8.6E-01	**1.6E+00**	4.6E+00	3.0E-01			9.1E+03	1.5E-04
10	Perched	INORG	Nickel	7440-02-0	D	A	4	4	1.02E+01	2.16E+01	1.0E-01	**2.2E+02**	1.2E-01	**1.8E+02**			7.4E+04	2.9E-04
10	Perched	INORG	Nickel	7440-02-0	T	A	114	114	3.00E-02	3.60E+03	1.0E-01	**3.6E+04**	1.2E-01	**3.0E+04**			7.4E+04	4.9E-02
9	Perched	VOC	Benzene	71-43-2	T	A	1	1	2.20E-02	2.20E-02	5.0E-03	**4.4E+00**	2.0E-01	1.1E-01	5.6E+00	3.9E-03	1.1E+01	2.0E-03

Table A-3a: Groundwater Screening Results
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Residential Drinking Water Criteria (mg/L)	Ratio of Max Detected to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Max Detected to Groundwater Surface water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Max Detected to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Groundwater Contact Criteria
9	Perched	VOC	Chloroethane	75-00-3	T	LC	1	1	4.00E-03	4.00E-03	4.3E-01	9.3E-03			5.7E+03	7.0E-07	4.4E+02	9.1E-06
10	Perched	INORG	Selenium	7782-49-2	D	D	3	1	4.00E-03	4.00E-03	5.0E-02	8.0E-02	5.0E-03	8.0E-01			9.7E+02	4.1E-06
10	Perched	INORG	Selenium	7782-49-2	T	D	5	1	3.00E-03	3.00E-03	5.0E-02	6.0E-02	5.0E-03	6.0E-01			9.7E+02	3.1E-06
10	Perched	INORG	Silver	7440-22-4	D	D	4	1	2.00E-04	2.00E-04	3.4E-02	5.9E-03	2.0E-04	1.0E+00			1.5E+03	1.3E-07
10	Perched	INORG	Vanadium	7440-62-2	D		3	2	1.00E-03	7.00E-03	4.5E-03	**1.6E+00**	1.2E-02	5.8E-01			9.7E+02	7.2E-06
10	Perched	INORG	Vanadium	7440-62-2	T		5	1	2.00E-03	2.00E-03	4.5E-03	4.4E-01	1.2E-02	1.7E-01			9.7E+02	2.1E-06
10	Perched	INORG	Zinc	7440-66-6	D	ID	4	4	1.00E-02	8.40E-02	2.4E+00	3.5E-02	2.7E-01	3.1E-01			1.1E+05	7.6E-07
10	Perched	INORG	Zinc	7440-66-6	T	ID	114	113	1.00E-02	1.20E+01	2.4E+00	**5.0E+00**	2.7E-01	**4.4E+01**			1.1E+05	1.1E-04
9	Overburden	VOC	1,1,1-Trichloroethane	71-55-6	T	ID	10	1	2.00E-02	2.00E-02	2.0E-01	1.0E-01	2.0E-01	1.0E-01	6.6E+02	3.0E-05	1.3E+03	1.5E-05

Notes:

Only constituents detected in each area are shown.

The criteria for Chromium (total) are the criteria provided by the agency for Chromium VI.

Ratios of concentrations to criteria greater than 1 are shaded in bold.

Chem Group - chemical group

Meas Basis - measured basis; T = total, D = dissolved

Carc Class - USEPA Weight-of-Evidence Cancer Classification

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
10	Bedrock	MW-04-01	MW-04-01~~6/15/2005~Ground Water~N	N	06/15/05	D	INORG	Vanadium	7440-62-2	6.00E-03		4.5E-03	**1.3E+00**	1.2E-02	5.0E-01			9.7E+02	6.2E-06
10	Bedrock	MW-04-01	MW-04-01~~6/15/2005~Ground Water~N	N	06/15/05	T	INORG	Vanadium	7440-62-2	7.00E-03		4.5E-03	**1.6E+00**	1.2E-02	5.8E-01			9.7E+02	7.2E-06
10	Bedrock	MW-88-1	MW-88-1(102704)	N	10/27/04	T	INORG	Lead	7439-92-1	1.00E-02		4.0E-03	**2.5E+00**	2.9E-02	3.4E-01				
10	Bedrock	MW-88-1	MW-88-1~~6/14/2005~Ground Water~N	N	06/14/05	D	INORG	Vanadium	7440-62-2	5.00E-03		4.5E-03	**1.1E+00**	1.2E-02	4.2E-01			9.7E+02	5.2E-06
10	Bedrock	MW-88-1	MW-88-1~~6/14/2005~Ground Water~N	N	06/14/05	T	INORG	Cadmium	7440-43-9	7.00E-03		5.0E-03	**1.4E+00**	4.6E-03	**1.5E+00**			1.9E+02	3.7E-05
10	Bedrock	MW-88-1	MW-88-1~~6/14/2005~Ground Water~N	N	06/14/05	T	INORG	Lead	7439-92-1	1.20E-02		4.0E-03	**3.0E+00**	2.9E-02	4.1E-01				
10	Bedrock	MW-88-1	MW-88-1~~6/14/2005~Ground Water~N	N	06/14/05	T	INORG	Vanadium	7440-62-2	7.00E-03		4.5E-03	**1.6E+00**	1.2E-02	5.8E-01			9.7E+02	7.2E-06
10	Bedrock	MW-91-3	MW-101(062205)	FD	06/22/05	T	INORG	Vanadium	7440-62-2	5.00E-03		4.5E-03	**1.1E+00**	1.2E-02	4.2E-01			9.7E+02	5.2E-06
10	Bedrock	MW-91-3	MW-91-3~~6/22/2005~Ground Water~N	N	06/22/05	D	INORG	Vanadium	7440-62-2	5.00E-03		4.5E-03	**1.1E+00**	1.2E-02	4.2E-01			9.7E+02	5.2E-06
10	Bedrock	MW-91-4	MW-102_032803	FD	03/28/03	T	INORG	Lead	7439-92-1	8.00E-03		4.0E-03	**2.0E+00**	2.9E-02	2.7E-01				
10	Bedrock	MW-91-4	MW104 (10/10/03)	FD	10/10/03	T	INORG	Arsenic	7440-38-2	1.20E-02		1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			4.3E+00	2.8E-03
10	Bedrock	MW-91-4	MW-91-4~~10/10/2003~Ground Water~N	N	10/10/03	T	INORG	Arsenic	7440-38-2	1.20E-02		1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			4.3E+00	2.8E-03
10	Bedrock	MW-91-4	MW-91-4~~3/28/2003~Ground Water~N	N	03/28/03	T	INORG	Lead	7439-92-1	6.00E-03		4.0E-03	**1.5E+00**	2.9E-02	2.0E-01				
10	Bedrock	MW-91-4	MW-91-4~~6/14/2005~Ground Water~N	N	06/14/05	D	INORG	Arsenic	7440-38-2	1.20E-02		1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			4.3E+00	2.8E-03
10	Bedrock	MW-91-4	MW-91-4~~6/14/2005~Ground Water~N	N	06/14/05	D	INORG	Vanadium	7440-62-2	7.00E-03		4.5E-03	**1.6E+00**	1.2E-02	5.8E-01			9.7E+02	7.2E-06
10	Bedrock	MW-91-4	MW-91-4~~6/14/2005~Ground Water~N	N	06/14/05	T	INORG	Arsenic	7440-38-2	1.10E-02		1.0E-02	**1.1E+00**	1.5E-01	7.3E-02			4.3E+00	2.6E-03
10	Bedrock	MW-91-4	MW-91-4~~6/14/2005~Ground Water~N	N	06/14/05	T	INORG	Vanadium	7440-62-2	9.00E-03		4.5E-03	**2.0E+00**	1.2E-02	7.5E-01			9.7E+02	9.3E-06
10	Bedrock	MW-91-5	MW-102(062405)	FD	06/24/05	T	INORG	Vanadium	7440-62-2	5.00E-03		4.5E-03	**1.1E+00**	1.2E-02	4.2E-01			9.7E+02	5.2E-06
10	Bedrock	MW-91-6	MW91-6(102804)NS	N	10/28/04	T	INORG	Lead	7439-92-1	9.00E-03		4.0E-03	**2.3E+00**	2.9E-02	3.1E-01				
10	Bedrock	MW-91-6	MW-91-6~~10/25/1991~Ground Water~N	N	10/25/91	T	INORG	Zinc	7440-66-6	4.10E+00		2.4E+00	**1.7E+00**	2.7E-01	**1.5E+01**			1.1E+05	3.7E-05
10	Bedrock	MW-91-6	MW-91-6~~11/8/1991~Ground Water~N	N	11/08/91	T	INORG	Zinc	7440-66-6	3.50E+00		2.4E+00	**1.5E+00**	2.7E-01	**1.3E+01**			1.1E+05	3.2E-05
10	Bedrock	MW-91-6	MW-91-6~~6/23/2005~Ground Water~N	N	06/23/05	D	INORG	Vanadium	7440-62-2	5.00E-03		4.5E-03	**1.1E+00**	1.2E-02	4.2E-01			9.7E+02	5.2E-06
10	Bedrock	MW-91-6	MW-91-6~~6/23/2005~Ground Water~N	N	06/23/05	T	INORG	Vanadium	7440-62-2	9.00E-03		4.5E-03	**2.0E+00**	1.2E-02	7.5E-01			9.7E+02	9.3E-06
10	Overburden	MW-02-01	MW-02-01(102604)NS	N	10/26/04	T	INORG	Arsenic	7440-38-2	1.40E-02		1.0E-02	**1.4E+00**	1.5E-01	9.3E-02			4.3E+00	3.3E-03
10	Overburden	MW-02-01	MW-02-01(102604)NS	N	10/26/04	T	INORG	Chromium (total)	7440-47-3	1.85E-01		1.0E-01	**1.9E+00**	1.1E-02	**1.7E+01**			4.6E+02	4.0E-04
10	Overburden	MW-02-01	MW-02-01(102604)NS	N	10/26/04	T	INORG	Lead	7439-92-1	1.40E-02		4.0E-03	**3.5E+00**	2.9E-02	4.8E-01				
10	Overburden	MW-02-01	MW-02-01(102604)NS	N	10/26/04	T	INORG	Nickel	7440-02-0	1.73E-01		1.0E-01	**1.7E+00**	1.2E-01	**1.4E+00**			7.4E+04	2.3E-06
10	Overburden	MW-02-01	MW-02-01(102604)NS	N	10/26/04	T	INORG	Vanadium	7440-62-2	3.00E-02		4.5E-03	**6.7E+00**	1.2E-02	**2.5E+00**			9.7E+02	3.1E-05
10	Overburden	MW-02-01	MW-02-01~~3/27/2003~Ground Water~N	N	03/27/03	T	INORG	Lead	7439-92-1	8.00E-03		4.0E-03	**2.0E+00**	2.9E-02	2.7E-01				
10	Overburden	MW-02-01	MW-02-01~~6/15/2005~Ground Water~N	N	06/15/05	T	INORG	Arsenic	7440-38-2	1.10E-02		1.0E-02	**1.1E+00**	1.5E-01	7.3E-02			4.3E+00	2.6E-03
10	Overburden	MW-02-01	MW-02-01~~6/15/2005~Ground Water~N	N	06/15/05	T	INORG	Vanadium	7440-62-2	5.00E-03		4.5E-03	**1.1E+00**	1.2E-02	4.2E-01			9.7E+02	5.2E-06
10	Overburden	MW-02-01	MW-101_032703	FD	03/27/03	T	INORG	Lead	7439-92-1	1.20E-02		4.0E-03	**3.0E+00**	2.9E-02	4.1E-01				
10	Overburden	MW-02-02	MW-02-02(102804)NS	N	10/28/04	T	INORG	Chromium (total)	7440-47-3	1.15E-01		1.0E-01	**1.2E+00**	1.1E-02	**1.0E+01**			4.6E+02	2.5E-04
10	Overburden	MW-02-02	MW-02-02(102804)NS	N	10/28/04	T	INORG	Lead	7439-92-1	1.10E-02		4.0E-03	**2.8E+00**	2.9E-02	3.7E-01				
10	Overburden	MW-02-02	MW-02-02_112502	N	11/25/02	T	INORG	Lead	7439-92-1	1.00E-02		4.0E-03	**2.5E+00**	2.9E-02	3.4E-01				
10	Overburden	MW-02-02	MW-02-02~~3/27/2003~Ground Water~N	N	03/27/03	T	INORG	Lead	7439-92-1	7.00E-03		4.0E-03	**1.8E+00**	2.9E-02	2.4E-01				
10	Overburden	MW-02-02	MW-02-02~~6/22/2005~Ground Water~N	N	06/22/05	D	INORG	Vanadium	7440-62-2	1.10E-02		4.5E-03	**2.4E+00**	1.2E-02	9.2E-01			9.7E+02	1.1E-05
10	Overburden	MW-02-02	MW-02-02~~6/22/2005~Ground Water~N	N	06/22/05	T	INORG	Vanadium	7440-62-2	1.20E-02		4.5E-03	**2.7E+00**	1.2E-02	1.0E+00			9.7E+02	1.2E-05
10	Overburden	MW-02-03	MW-02-03~~6/21/2005~Ground Water~N	N	06/21/05	D	INORG	Vanadium	7440-62-2	9.00E-03		4.5E-03	**2.0E+00**	1.2E-02	7.5E-01			9.7E+02	9.3E-06
10	Overburden	MW-02-03	MW-02-03~~6/21/2005~Ground Water~N	N	06/21/05	T	INORG	Vanadium	7440-62-2	9.00E-03		4.5E-03	**2.0E+00**	1.2E-02	7.5E-01			9.7E+02	9.3E-06
10	Overburden	MW-02-04	MW-02-04(110104)NS	N	11/01/04	T	INORG	Arsenic	7440-38-2	1.30E-02		1.0E-02	**1.3E+00**	1.5E-01	8.7E-02			4.3E+00	3.0E-03
10	Overburden	MW-02-04	MW-02-04~~6/20/2005~Ground Water~N	N	06/20/05	D	INORG	Vanadium	7440-62-2	8.00E-03		4.5E-03	**1.8E+00**	1.2E-02	6.7E-01			9.7E+02	8.2E-06
10	Overburden	MW-02-04	MW-02-04~~6/20/2005~Ground Water~N	N	06/20/05	T	INORG	Arsenic	7440-38-2	1.50E-02		1.0E-02	**1.5E+00**	1.5E-01	1.0E-01			4.3E+00	3.5E-03
10	Overburden	MW-02-04	MW-02-04~~6/20/2005~Ground Water~N	N	06/20/05	T	INORG	Vanadium	7440-62-2	8.00E-03		4.5E-03	**1.8E+00**	1.2E-02	6.7E-01			9.7E+02	8.2E-06
10	Overburden	MW-02-04	MW-02-04~~7/28/2003~Ground Water~N	N	07/28/03	T	INORG	Arsenic	7440-38-2	1.10E-02		1.0E-02	**1.1E+00**	1.5E-01	7.3E-02			4.3E+00	2.6E-03
10	Overburden	MW-04-03	MW-04-03(102804)	N	10/28/04	D	INORG	Arsenic	7440-38-2	2.20E-02		1.0E-02	**2.2E+00**	1.5E-01	1.5E-01			4.3E+00	5.1E-03
10	Overburden	MW-04-03	MW-04-03(102804)	N	10/28/04	T	INORG	Arsenic	7440-38-2	2.20E-02		1.0E-02	**2.2E+00**	1.5E-01	1.5E-01			4.3E+00	5.1E-03
10	Overburden	MW-04-03	MW-04-03~~6/21/2005~Ground Water~N	N	06/21/05	D	INORG	Vanadium	7440-62-2	8.00E-03		4.5E-03	**1.8E+00**	1.2E-02	6.7E-01			9.7E+02	8.2E-06
10	Overburden	MW-04-03	MW-04-03~~6/21/2005~Ground Water~N	N	06/21/05	T	INORG	Vanadium	7440-62-2	8.00E-03		4.5E-03	**1.8E+00**	1.2E-02	6.7E-01			9.7E+02	8.2E-06
10	Overburden	MW-04-04	MW-04-04(102704)	N	10/27/04	D	INORG	Arsenic	7440-38-2	1.10E-02		1.0E-02	**1.1E+00**	1.5E-01	7.3E-02			4.3E+00	2.6E-03
10	Overburden	MW-04-04	MW-04-04(102704)	N	10/27/04	T	INORG	Arsenic	7440-38-2	1.20E-02		1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			4.3E+00	2.8E-03
10	Overburden	MW-04-04	MW-04-04~~6/13/2005~Ground Water~N	N	06/13/05	D	INORG	Arsenic	7440-38-2	1.10E-02		1.0E-02	**1.1E+00**	1.5E-01	7.3E-02			4.3E+00	2.6E-03
10	Overburden	MW-04-04	MW-04-04~~6/13/2005~Ground Water~N	N	06/13/05	D	INORG	Vanadium	7440-62-2	7.00E-03		4.5E-03	**1.6E+00**	1.2E-02	5.8E-01			9.7E+02	7.2E-06
10	Overburden	MW-04-04	MW-04-04~~6/13/2005~Ground Water~N	N	06/13/05	T	INORG	Arsenic	7440-38-2	1.10E-02		1.0E-02	**1.1E+00**	1.5E-01	7.3E-02			4.3E+00	2.6E-03
10	Overburden	MW-04-04	MW-04-04~~6/13/2005~Ground Water~N	N	06/13/05	T	INORG	Vanadium	7440-62-2	1.00E-02		4.5E-03	**2.2E+00**	1.2E-02	8.3E-01			9.7E+02	1.0E-05
10	Overburden	MW-91-1	MW-91-1~~6/20/2005~Ground Water~N	N	06/20/05	D	INORG	Vanadium	7440-62-2	5.00E-03		4.5E-03	**1.1E+00**	1.2E-02	4.2E-01			9.7E+02	5.2E-06
10	Overburden	MW-91-2	MW-101(110104) NS	FD	11/01/04	T	INORG	Arsenic	7440-38-2	1.30E-02		1.0E-02	**1.3E+00**	1.5E-01	8.7E-02			4.3E+00	3.0E-03
10	Overburden	MW-91-2	MW91-2(110104)NS	N	11/01/04	T	INORG	Arsenic	7440-38-2	1.20E-02		1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			4.3E+00	2.8E-03
10	Overburden	MW-91-2	MW-91-2~~6/24/2005~Ground Water~N	N	06/24/05	T	INORG	Arsenic	7440-38-2	1.20E-02		1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			4.3E+00	2.8E-03

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
10	Overburden	TW-23	TW-23	N	01/01/88	T	INORG	Nickel	7440-02-0	5.40E-01		1.0E-01	**5.4E+00**	1.2E-01	**4.5E+00**			7.4E+04	7.3E-06
10	Overburden	TW-30	TW-30	N	01/01/88	T	INORG	Arsenic	7440-38-2	1.90E-02		1.0E-02	**1.9E+00**	1.5E-01	1.3E-01			4.3E+00	4.4E-03
10	Overburden	TW-30	TW-30	N	01/01/88	T	INORG	Copper	7440-50-8	7.90E+02		1.4E+00	**5.6E+02**	2.1E-02	**3.8E+04**			7.4E+03	1.1E-01
10	Overburden	TW-30	TW-30	N	01/01/88	T	INORG	Cyanide (total)	57-12-5	6.38E+02	J	2.0E-01	**3.2E+03**	5.2E-03	**1.2E+05**			5.7E+01	1.1E+01
10	Overburden	TW-30	TW-30	N	01/01/88	T	INORG	Nickel	7440-02-0	8.60E+00		1.0E-01	**8.6E+01**	1.2E-01	**7.2E+01**			7.4E+04	1.2E-04
10	Perched	DRAIN #1	Drain #1	N	07/29/03	T	INORG	Copper	7440-50-8	1.79E-01		1.4E+00	1.3E-01	2.1E-02	**8.6E+00**			7.4E+03	2.4E-05
10	Perched	DRAIN #1	Drain #1	N	07/29/03	T	INORG	Manganese	7439-96-5	1.13E+00		8.6E-01	**1.3E+00**	4.6E+00	2.5E-01			9.1E+03	1.2E-04
10	Perched	DRAIN #1	Drain #1	N	07/29/03	T	INORG	Nickel	7440-02-0	1.33E+01		1.0E-01	**1.3E+02**	1.2E-01	**1.1E+02**			7.4E+04	1.8E-04
10	Perched	DRAIN #1	DRAIN #1_032903	N	03/29/03	T	INORG	Copper	7440-50-8	2.39E-01		1.4E+00	1.7E-01	2.1E-02	**1.2E+01**			7.4E+03	3.2E-05
10	Perched	DRAIN #1	DRAIN #1_032903	N	03/29/03	T	INORG	Nickel	7440-02-0	1.57E+01		1.0E-01	**1.6E+02**	1.2E-01	**1.3E+02**			7.4E+04	2.1E-04
10	Perched	DRAIN #1	DRAIN #1_042702	N	04/27/02	T	INORG	Copper	7440-50-8	2.80E-01		1.4E+00	2.0E-01	2.1E-02	**1.4E+01**			7.4E+03	3.8E-05
10	Perched	DRAIN #1	DRAIN #1_042702	N	04/27/02	T	INORG	Nickel	7440-02-0	1.49E+01		1.0E-01	**1.5E+02**	1.2E-01	**1.2E+02**			7.4E+04	2.0E-04
10	Perched	DRAIN #1	DRAIN #1~~1/10/1995~Ground Water~N	N	01/10/95	T	INORG	Cadmium	7440-43-9	3.00E-02		5.0E-03	**6.0E+00**	4.6E-03	**6.5E+00**			1.9E+02	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~1/10/1995~Ground Water~N	N	01/10/95	T	INORG	Chromium (total)	7440-47-3	3.20E+00		1.0E-01	**3.2E+01**	1.1E-02	**2.9E+02**			4.6E+02	7.0E-03
10	Perched	DRAIN #1	DRAIN #1~~1/10/1995~Ground Water~N	N	01/10/95	T	INORG	Copper	7440-50-8	2.00E+00		1.4E+00	**1.4E+00**	2.1E-02	**9.6E+01**			7.4E+03	2.7E-04
10	Perched	DRAIN #1	DRAIN #1~~1/10/1995~Ground Water~N	N	01/10/95	T	INORG	Nickel	7440-02-0	8.50E+01		1.0E-01	**8.5E+02**	1.2E-01	**7.1E+02**			7.4E+04	1.1E-03
10	Perched	DRAIN #1	DRAIN #1~~1/10/1995~Ground Water~N	N	01/10/95	T	INORG	Zinc	7440-66-6	1.40E+00		2.4E+00	5.8E-01	2.7E-01	**5.2E+00**			1.1E+05	1.3E-05
10	Perched	DRAIN #1	DRAIN #1~~1/15/1991~Ground Water~N	N	01/15/91	T	INORG	Cadmium	7440-43-9	3.30E-01		5.0E-03	**6.6E+01**	4.6E-03	**7.1E+01**			1.9E+02	1.7E-03
10	Perched	DRAIN #1	DRAIN #1~~1/15/1991~Ground Water~N	N	01/15/91	T	INORG	Chromium (total)	7440-47-3	4.00E-02		1.0E-01	4.0E-01	1.1E-02	**3.6E+00**			4.6E+02	8.7E-05
10	Perched	DRAIN #1	DRAIN #1~~1/15/1991~Ground Water~N	N	01/15/91	T	INORG	Copper	7440-50-8	1.10E+01		1.4E+00	**7.9E+00**	2.1E-02	**5.3E+02**			7.4E+03	1.5E-03
10	Perched	DRAIN #1	DRAIN #1~~1/15/1991~Ground Water~N	N	01/15/91	T	INORG	Lead	7439-92-1	1.60E+00		4.0E-03	**4.0E+02**	2.9E-02	**5.4E+01**				
10	Perched	DRAIN #1	DRAIN #1~~1/15/1991~Ground Water~N	N	01/15/91	T	INORG	Nickel	7440-02-0	2.00E+03		1.0E-01	**2.0E+04**	1.2E-01	**1.7E+04**			7.4E+04	2.7E-02
10	Perched	DRAIN #1	DRAIN #1~~1/15/1991~Ground Water~N	N	01/15/91	T	INORG	Zinc	7440-66-6	7.50E+00		2.4E+00	**3.1E+00**	2.7E-01	**2.8E+01**			1.1E+05	6.8E-05
10	Perched	DRAIN #1	DRAIN #1~~1/20/2001~Ground Water~N	N	01/20/01	T	INORG	Copper	7440-50-8	2.20E-01		1.4E+00	1.6E-01	2.1E-02	**1.1E+01**			7.4E+03	3.0E-05
10	Perched	DRAIN #1	DRAIN #1~~1/20/2001~Ground Water~N	N	01/20/01	T	INORG	Nickel	7440-02-0	1.81E+01		1.0E-01	**1.8E+02**	1.2E-01	**1.5E+02**			7.4E+04	2.4E-04
10	Perched	DRAIN #1	DRAIN #1~~1/24/1994~Ground Water~N	N	01/24/94	T	INORG	Copper	7440-50-8	7.80E-01		1.4E+00	5.6E-01	2.1E-02	**3.8E+01**			7.4E+03	1.1E-04
10	Perched	DRAIN #1	DRAIN #1~~1/24/1994~Ground Water~N	N	01/24/94	T	INORG	Nickel	7440-02-0	8.40E+01		1.0E-01	**8.4E+02**	1.2E-01	**7.0E+02**			7.4E+04	1.1E-03
10	Perched	DRAIN #1	DRAIN #1~~1/24/1994~Ground Water~N	N	01/24/94	T	INORG	Zinc	7440-66-6	4.50E-01		2.4E+00	1.9E-01	2.7E-01	**1.7E+00**			1.1E+05	4.1E-06
10	Perched	DRAIN #1	DRAIN #1~~1/29/2000~Ground Water~N	N	01/29/00	T	INORG	Copper	7440-50-8	2.40E-01		1.4E+00	1.7E-01	2.1E-02	**1.2E+01**			7.4E+03	3.2E-05
10	Perched	DRAIN #1	DRAIN #1~~1/29/2000~Ground Water~N	N	01/29/00	T	INORG	Nickel	7440-02-0	2.20E+01		1.0E-01	**2.2E+02**	1.2E-01	**1.8E+02**			7.4E+04	3.0E-04
10	Perched	DRAIN #1	DRAIN #1~~1/6/1993~Ground Water~N	N	01/06/93	T	INORG	Cadmium	7440-43-9	3.00E-02		5.0E-03	**6.0E+00**	4.6E-03	**6.5E+00**			1.9E+02	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~1/6/1993~Ground Water~N	N	01/06/93	T	INORG	Chromium (total)	7440-47-3	1.60E+00		1.0E-01	**1.6E+01**	1.1E-02	**1.5E+02**			4.6E+02	3.5E-03
10	Perched	DRAIN #1	DRAIN #1~~1/6/1993~Ground Water~N	N	01/06/93	T	INORG	Copper	7440-50-8	1.80E+00		1.4E+00	**1.3E+00**	2.1E-02	**8.7E+01**			7.4E+03	2.4E-04
10	Perched	DRAIN #1	DRAIN #1~~1/6/1993~Ground Water~N	N	01/06/93	T	INORG	Lead	7439-92-1	1.60E-01		4.0E-03	**4.0E+01**	2.9E-02	**5.4E+00**				
10	Perched	DRAIN #1	DRAIN #1~~1/6/1993~Ground Water~N	N	01/06/93	T	INORG	Nickel	7440-02-0	1.60E+02		1.0E-01	**1.6E+03**	1.2E-01	**1.3E+03**			7.4E+04	2.2E-03
10	Perched	DRAIN #1	DRAIN #1~~1/6/1993~Ground Water~N	N	01/06/93	T	INORG	Zinc	7440-66-6	8.60E-01		2.4E+00	3.6E-01	2.7E-01	**3.2E+00**			1.1E+05	7.8E-06
10	Perched	DRAIN #1	DRAIN #1~~1/9/1992~Ground Water~N	N	01/09/92	T	INORG	Cadmium	7440-43-9	3.00E-02		5.0E-03	**6.0E+00**	4.6E-03	**6.5E+00**			1.9E+02	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~1/9/1992~Ground Water~N	N	01/09/92	T	INORG	Chromium (total)	7440-47-3	3.50E-01		1.0E-01	**3.5E+00**	1.1E-02	**3.2E+01**			4.6E+02	7.6E-04
10	Perched	DRAIN #1	DRAIN #1~~1/9/1992~Ground Water~N	N	01/09/92	T	INORG	Copper	7440-50-8	2.60E+00		1.4E+00	**1.9E+00**	2.1E-02	**1.3E+02**			7.4E+03	3.5E-04
10	Perched	DRAIN #1	DRAIN #1~~1/9/1992~Ground Water~N	N	01/09/92	T	INORG	Lead	7439-92-1	1.00E-01		4.0E-03	**2.5E+01**	2.9E-02	**3.4E+00**				
10	Perched	DRAIN #1	DRAIN #1~~1/9/1992~Ground Water~N	N	01/09/92	T	INORG	Nickel	7440-02-0	2.20E+02		1.0E-01	**2.2E+03**	1.2E-01	**1.8E+03**			7.4E+04	3.0E-03
10	Perched	DRAIN #1	DRAIN #1~~1/9/1992~Ground Water~N	N	01/09/92	T	INORG	Zinc	7440-66-6	1.10E+00		2.4E+00	4.6E-01	2.7E-01	**4.1E+00**			1.1E+05	1.0E-05
10	Perched	DRAIN #1	DRAIN #1~~10/10/1991~Ground Water~N	N	10/10/91	T	INORG	Cadmium	7440-43-9	8.00E-02		5.0E-03	**1.6E+01**	4.6E-03	**1.7E+01**			1.9E+02	4.2E-04
10	Perched	DRAIN #1	DRAIN #1~~10/10/1991~Ground Water~N	N	10/10/91	T	INORG	Chromium (total)	7440-47-3	4.90E+00		1.0E-01	**4.9E+01**	1.1E-02	**4.5E+02**			4.6E+02	1.1E-02
10	Perched	DRAIN #1	DRAIN #1~~10/10/1991~Ground Water~N	N	10/10/91	T	INORG	Copper	7440-50-8	8.80E+00		1.4E+00	**6.3E+00**	2.1E-02	**4.2E+02**			7.4E+03	1.2E-03
10	Perched	DRAIN #1	DRAIN #1~~10/10/1991~Ground Water~N	N	10/10/91	T	INORG	Lead	7439-92-1	4.30E-01		4.0E-03	**1.1E+02**	2.9E-02	**1.5E+01**				
10	Perched	DRAIN #1	DRAIN #1~~10/10/1991~Ground Water~N	N	10/10/91	T	INORG	Nickel	7440-02-0	6.00E+02		1.0E-01	**6.0E+03**	1.2E-01	**5.0E+03**			7.4E+04	8.1E-03
10	Perched	DRAIN #1	DRAIN #1~~10/10/1991~Ground Water~N	N	10/10/91	T	INORG	Zinc	7440-66-6	2.60E+00		2.4E+00	**1.1E+00**	2.7E-01	**9.6E+00**			1.1E+05	2.4E-05
10	Perched	DRAIN #1	DRAIN #1~~10/10/1996~Ground Water~N	N	10/10/96	T	INORG	Chromium (total)	7440-47-3	4.20E-01		1.0E-01	**4.2E+00**	1.1E-02	**3.8E+01**			4.6E+02	9.1E-04
10	Perched	DRAIN #1	DRAIN #1~~10/10/1996~Ground Water~N	N	10/10/96	T	INORG	Copper	7440-50-8	8.40E-01		1.4E+00	6.0E-01	2.1E-02	**4.1E+01**			7.4E+03	1.1E-04
10	Perched	DRAIN #1	DRAIN #1~~10/10/1996~Ground Water~N	N	10/10/96	T	INORG	Nickel	7440-02-0	4.20E+01		1.0E-01	**4.2E+02**	1.2E-01	**3.5E+02**			7.4E+04	5.7E-04
10	Perched	DRAIN #1	DRAIN #1~~10/11/1991~Ground Water~N	N	10/11/91	T	INORG	Chromium (total)	7440-47-3	5.00E+00		1.0E-01	**5.0E+01**	1.1E-02	**4.5E+02**			4.6E+02	1.1E-02
10	Perched	DRAIN #1	DRAIN #1~~10/11/1991~Ground Water~N	N	10/11/91	T	INORG	Copper	7440-50-8	1.60E+01		1.4E+00	**1.1E+01**	2.1E-02	**7.7E+02**			7.4E+03	2.2E-03
10	Perched	DRAIN #1	DRAIN #1~~10/11/1991~Ground Water~N	N	10/11/91	T	INORG	Cyanide (total)	57-12-5	9.00E+00		2.0E-01	**4.5E+01**	5.2E-03	**1.7E+03**			5.7E+01	1.6E-01
10	Perched	DRAIN #1	DRAIN #1~~10/11/1991~Ground Water~N	N	10/11/91	T	INORG	Nickel	7440-02-0	6.18E+02		1.0E-01	**6.2E+03**	1.2E-01	**5.2E+03**			7.4E+04	8.4E-03
10	Perched	DRAIN #1	DRAIN #1~~10/19/1993~Ground Water~N	N	10/19/93	T	INORG	Cadmium	7440-43-9	3.00E-02		5.0E-03	**6.0E+00**	4.6E-03	**6.5E+00**			1.9E+02	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~10/19/1993~Ground Water~N	N	10/19/93	T	INORG	Chromium (total)	7440-47-3	2.20E-01		1.0E-01	**2.2E+00**	1.1E-02	**2.0E+01**			4.6E+02	4.8E-04
10	Perched	DRAIN #1	DRAIN #1~~10/19/1993~Ground Water~N	N	10/19/93	T	INORG	Copper	7440-50-8	9.70E-01		1.4E+00	6.9E-01	2.1E-02	**4.7E+01**			7.4E+03	1.3E-04
10	Perched	DRAIN #1	DRAIN #1~~10/19/1993~Ground Water~N	N	10/19/93	T	INORG	Lead	7439-92-1	1.20E-01		4.0E-03	**3.0E+01**	2.9E-02	**4.1E+00**				

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
10	Perched	DRAIN #1	DRAIN #1~~10/19/1993~Ground Water~N	N	10/19/93	T	INORG	Nickel	7440-02-0	9.40E+01		1.0E-01	**9.4E+02**	1.2E-01	**7.9E+02**			7.4E+04	1.3E-03
10	Perched	DRAIN #1	DRAIN #1~~10/19/1993~Ground Water~N	N	10/19/93	T	INORG	Zinc	7440-66-6	5.70E-01		2.4E+00	2.4E-01	2.7E-01	**2.1E+00**			1.1E+05	5.2E-06
10	Perched	DRAIN #1	DRAIN #1~~10/19/1994~Ground Water~N	N	10/19/94	T	INORG	Chromium (total)	7440-47-3	5.00E-02		1.0E-01	5.0E-01	1.1E-02	**4.5E+00**			4.6E+02	1.1E-04
10	Perched	DRAIN #1	DRAIN #1~~10/19/1994~Ground Water~N	N	10/19/94	T	INORG	Copper	7440-50-8	7.20E-01		1.4E+00	5.1E-01	2.1E-02	**3.5E+01**			7.4E+03	9.7E-05
10	Perched	DRAIN #1	DRAIN #1~~10/19/1994~Ground Water~N	N	10/19/94	T	INORG	Nickel	7440-02-0	6.50E+01		1.0E-01	**6.5E+02**	1.2E-01	**5.4E+02**			7.4E+04	8.8E-04
10	Perched	DRAIN #1	DRAIN #1~~10/19/1994~Ground Water~N	N	10/19/94	T	INORG	Zinc	7440-66-6	3.10E-01		2.4E+00	1.3E-01	2.7E-01	**1.1E+00**			1.1E+05	2.8E-06
10	Perched	DRAIN #1	DRAIN #1~~10/2/1990~Ground Water~N	N	10/02/90	T	INORG	Cadmium	7440-43-9	2.70E-01		5.0E-03	**5.4E+01**	4.6E-03	**5.8E+01**			1.9E+02	1.4E-03
10	Perched	DRAIN #1	DRAIN #1~~10/2/1990~Ground Water~N	N	10/02/90	T	INORG	Chromium (total)	7440-47-3	2.60E+01		1.0E-01	**2.6E+02**	1.1E-02	**2.4E+03**			4.6E+02	5.7E-02
10	Perched	DRAIN #1	DRAIN #1~~10/2/1990~Ground Water~N	N	10/02/90	T	INORG	Copper	7440-50-8	9.40E+00		1.4E+00	**6.7E+00**	2.1E-02	**4.5E+02**			7.4E+03	1.3E-03
10	Perched	DRAIN #1	DRAIN #1~~10/2/1990~Ground Water~N	N	10/02/90	T	INORG	Nickel	7440-02-0	1.40E+03		1.0E-01	**1.4E+04**	1.2E-01	**1.2E+04**			7.4E+04	1.9E-02
10	Perched	DRAIN #1	DRAIN #1~~10/2/1990~Ground Water~N	N	10/02/90	T	INORG	Zinc	7440-66-6	4.90E+00		2.4E+00	**2.0E+00**	2.7E-01	**1.8E+01**			1.1E+05	4.5E-05
10	Perched	DRAIN #1	DRAIN #1~~10/24/1991~Ground Water~N	N	10/24/91	T	INORG	Cadmium	7440-43-9	6.00E-02		5.0E-03	**1.2E+01**	4.6E-03	**1.3E+01**			1.9E+02	3.2E-04
10	Perched	DRAIN #1	DRAIN #1~~10/24/1991~Ground Water~N	N	10/24/91	T	INORG	Chromium (total)	7440-47-3	3.80E-01		1.0E-01	**3.8E+00**	1.1E-02	**3.5E+01**			4.6E+02	8.3E-04
10	Perched	DRAIN #1	DRAIN #1~~10/24/1991~Ground Water~N	N	10/24/91	T	INORG	Copper	7440-50-8	5.90E+00		1.4E+00	**4.2E+00**	2.1E-02	**2.8E+02**			7.4E+03	8.0E-04
10	Perched	DRAIN #1	DRAIN #1~~10/24/1991~Ground Water~N	N	10/24/91	T	INORG	Lead	7439-92-1	2.00E-01		4.0E-03	**5.0E+01**	2.9E-02	**6.8E+00**				
10	Perched	DRAIN #1	DRAIN #1~~10/24/1991~Ground Water~N	N	10/24/91	T	INORG	Nickel	7440-02-0	4.30E+02		1.0E-01	**4.3E+03**	1.2E-01	**3.6E+03**			7.4E+04	5.8E-03
10	Perched	DRAIN #1	DRAIN #1~~10/24/1991~Ground Water~N	N	10/24/91	T	INORG	Zinc	7440-66-6	2.10E+00		2.4E+00	8.8E-01	2.7E-01	**7.7E+00**			1.1E+05	1.9E-05
10	Perched	DRAIN #1	DRAIN #1~~10/25/1991~Ground Water~N	N	10/25/91	T	INORG	Chromium (total)	7440-47-3	6.60E-01		1.0E-01	**6.6E+00**	1.1E-02	**6.0E+01**			4.6E+02	1.4E-03
10	Perched	DRAIN #1	DRAIN #1~~10/25/1991~Ground Water~N	N	10/25/91	T	INORG	Copper	7440-50-8	9.30E+00		1.4E+00	**6.6E+00**	2.1E-02	**4.5E+02**			7.4E+03	1.3E-03
10	Perched	DRAIN #1	DRAIN #1~~10/25/1991~Ground Water~N	N	10/25/91	T	INORG	Cyanide (total)	57-12-5	1.60E+01		2.0E-01	**8.0E+01**	5.2E-03	**3.1E+03**			5.7E+01	2.8E-01
10	Perched	DRAIN #1	DRAIN #1~~10/25/1991~Ground Water~N	N	10/25/91	T	INORG	Nickel	7440-02-0	5.48E+02		1.0E-01	**5.5E+03**	1.2E-01	**4.6E+03**			7.4E+04	7.4E-03
10	Perched	DRAIN #1	DRAIN #1~~10/25/1991~Ground Water~N	N	10/25/91	T	INORG	Zinc	7440-66-6	3.00E+00		2.4E+00	**1.3E+00**	2.7E-01	**1.1E+01**			1.1E+05	2.7E-05
10	Perched	DRAIN #1	DRAIN #1~~10/3/1995~Ground Water~N	N	10/03/95	T	INORG	Copper	7440-50-8	4.80E-01		1.4E+00	3.4E-01	2.1E-02	**2.3E+01**			7.4E+03	6.5E-05
10	Perched	DRAIN #1	DRAIN #1~~10/3/1995~Ground Water~N	N	10/03/95	T	INORG	Nickel	7440-02-0	3.60E+01		1.0E-01	**3.6E+02**	1.2E-01	**3.0E+02**			7.4E+04	4.9E-04
10	Perched	DRAIN #1	DRAIN #1~~10/3/1995~Ground Water~N	N	10/03/95	T	INORG	Zinc	7440-66-6	5.30E-01		2.4E+00	2.2E-01	2.7E-01	**2.0E+00**			1.1E+05	4.8E-06
10	Perched	DRAIN #1	DRAIN #1~~10/30/1999~Ground Water~N	N	10/30/99	T	INORG	Chromium (total)	7440-47-3	3.00E-02		1.0E-01	3.0E-01	1.1E-02	**2.7E+00**			4.6E+02	6.5E-05
10	Perched	DRAIN #1	DRAIN #1~~10/30/1999~Ground Water~N	N	10/30/99	T	INORG	Copper	7440-50-8	2.10E-01		1.4E+00	1.5E-01	2.1E-02	**1.0E+01**			7.4E+03	2.8E-05
10	Perched	DRAIN #1	DRAIN #1~~10/30/1999~Ground Water~N	N	10/30/99	T	INORG	Nickel	7440-02-0	2.00E+01		1.0E-01	**2.0E+02**	1.2E-01	**1.7E+02**			7.4E+04	2.7E-04
10	Perched	DRAIN #1	DRAIN #1~~10/7/2000~Ground Water~N	N	10/07/00	T	INORG	Copper	7440-50-8	3.70E-01		1.4E+00	2.6E-01	2.1E-02	**1.8E+01**			7.4E+03	5.0E-05
10	Perched	DRAIN #1	DRAIN #1~~10/7/2000~Ground Water~N	N	10/07/00	T	INORG	Nickel	7440-02-0	2.40E+01		1.0E-01	**2.4E+02**	1.2E-01	**2.0E+02**			7.4E+04	3.2E-04
10	Perched	DRAIN #1	DRAIN #1~~10/7/2000~Ground Water~N	N	10/07/00	T	INORG	Zinc	7440-66-6	6.00E-01		2.4E+00	2.5E-01	2.7E-01	**2.2E+00**			1.1E+05	5.5E-06
10	Perched	DRAIN #1	DRAIN #1~~10/8/1992~Ground Water~N	N	10/08/92	T	INORG	Cadmium	7440-43-9	5.00E-02		5.0E-03	**1.0E+01**	4.6E-03	**1.1E+01**			1.9E+02	2.6E-04
10	Perched	DRAIN #1	DRAIN #1~~10/8/1992~Ground Water~N	N	10/08/92	T	INORG	Chromium (total)	7440-47-3	3.10E+00		1.0E-01	**3.1E+01**	1.1E-02	**2.8E+02**			4.6E+02	6.7E-03
10	Perched	DRAIN #1	DRAIN #1~~10/8/1992~Ground Water~N	N	10/08/92	T	INORG	Copper	7440-50-8	2.80E+00		1.4E+00	**2.0E+00**	2.1E-02	**1.4E+02**			7.4E+03	3.8E-04
10	Perched	DRAIN #1	DRAIN #1~~10/8/1992~Ground Water~N	N	10/08/92	T	INORG	Lead	7439-92-1	3.70E-01		4.0E-03	**9.3E+01**	2.9E-02	**1.3E+01**				
10	Perched	DRAIN #1	DRAIN #1~~10/8/1992~Ground Water~N	N	10/08/92	T	INORG	Nickel	7440-02-0	1.90E+02		1.0E-01	**1.9E+03**	1.2E-01	**1.6E+03**			7.4E+04	2.6E-03
10	Perched	DRAIN #1	DRAIN #1~~10/8/1992~Ground Water~N	N	10/08/92	T	INORG	Zinc	7440-66-6	1.30E+00		2.4E+00	5.4E-01	2.7E-01	**4.8E+00**			1.1E+05	1.2E-05
10	Perched	DRAIN #1	DRAIN #1~~11/1/1993~Ground Water~N	N	11/01/93	T	INORG	Copper	7440-50-8	5.40E-01		1.4E+00	3.9E-01	2.1E-02	**2.6E+01**			7.4E+03	7.3E-05
10	Perched	DRAIN #1	DRAIN #1~~11/1/1993~Ground Water~N	N	11/01/93	T	INORG	Nickel	7440-02-0	8.10E+01		1.0E-01	**8.1E+02**	1.2E-01	**6.8E+02**			7.4E+04	1.1E-03
10	Perched	DRAIN #1	DRAIN #1~~11/10/1994~Ground Water~N	N	11/10/94	T	INORG	Chromium (total)	7440-47-3	2.70E-01		1.0E-01	**2.7E+00**	1.1E-02	**2.5E+01**			4.6E+02	5.9E-04
10	Perched	DRAIN #1	DRAIN #1~~11/10/1994~Ground Water~N	N	11/10/94	T	INORG	Copper	7440-50-8	1.10E+00		1.4E+00	7.9E-01	2.1E-02	**5.3E+01**			7.4E+03	1.5E-04
10	Perched	DRAIN #1	DRAIN #1~~11/10/1994~Ground Water~N	N	11/10/94	T	INORG	Nickel	7440-02-0	5.90E+01		1.0E-01	**5.9E+02**	1.2E-01	**4.9E+02**			7.4E+04	8.0E-04
10	Perched	DRAIN #1	DRAIN #1~~11/10/1994~Ground Water~N	N	11/10/94	T	INORG	Zinc	7440-66-6	4.10E-01		2.4E+00	1.7E-01	2.7E-01	**1.5E+00**			1.1E+05	3.7E-06
10	Perched	DRAIN #1	DRAIN #1~~11/13/2000~Ground Water~N	N	11/13/00	T	INORG	Copper	7440-50-8	1.90E-01		1.4E+00	1.4E-01	2.1E-02	**9.2E+00**			7.4E+03	2.6E-05
10	Perched	DRAIN #1	DRAIN #1~~11/13/2000~Ground Water~N	N	11/13/00	T	INORG	Nickel	7440-02-0	1.80E+01		1.0E-01	**1.8E+02**	1.2E-01	**1.5E+02**			7.4E+04	2.4E-04
10	Perched	DRAIN #1	DRAIN #1~~11/13/2000~Ground Water~N	N	11/13/00	T	INORG	Zinc	7440-66-6	3.20E-01		2.4E+00	1.3E-01	2.7E-01	**1.2E+00**			1.1E+05	2.9E-06
10	Perched	DRAIN #1	DRAIN #1~~11/16/1990~Ground Water~N	N	11/16/90	T	INORG	Cadmium	7440-43-9	4.90E-01		5.0E-03	**9.8E+01**	4.6E-03	**1.1E+02**			1.9E+02	2.6E-03
10	Perched	DRAIN #1	DRAIN #1~~11/16/1990~Ground Water~N	N	11/16/90	T	INORG	Chromium (total)	7440-47-3	2.00E+00		1.0E-01	**2.0E+01**	1.1E-02	**1.8E+02**			4.6E+02	4.3E-03
10	Perched	DRAIN #1	DRAIN #1~~11/16/1990~Ground Water~N	N	11/16/90	T	INORG	Copper	7440-50-8	2.50E+01		1.4E+00	**1.8E+01**	2.1E-02	**1.2E+03**			7.4E+03	3.4E-03
10	Perched	DRAIN #1	DRAIN #1~~11/16/1990~Ground Water~N	N	11/16/90	T	INORG	Lead	7439-92-1	2.70E+00		4.0E-03	**6.8E+02**	2.9E-02	**9.2E+01**				
10	Perched	DRAIN #1	DRAIN #1~~11/16/1990~Ground Water~N	N	11/16/90	T	INORG	Nickel	7440-02-0	2.50E+03		1.0E-01	**2.5E+04**	1.2E-01	**2.1E+04**			7.4E+04	3.4E-02
10	Perched	DRAIN #1	DRAIN #1~~11/16/1990~Ground Water~N	N	11/16/90	T	INORG	Zinc	7440-66-6	8.60E+00		2.4E+00	**3.6E+00**	2.7E-01	**3.2E+01**			1.1E+05	7.8E-05
10	Perched	DRAIN #1	DRAIN #1~~11/29/1993~Ground Water~N	N	11/29/93	T	INORG	Copper	7440-50-8	8.10E-01		1.4E+00	5.8E-01	2.1E-02	**3.9E+01**			7.4E+03	1.1E-04
10	Perched	DRAIN #1	DRAIN #1~~11/29/1993~Ground Water~N	N	11/29/93	T	INORG	Nickel	7440-02-0	9.20E+01		1.0E-01	**9.2E+02**	1.2E-01	**7.7E+02**			7.4E+04	1.2E-03
10	Perched	DRAIN #1	DRAIN #1~~11/29/1993~Ground Water~N	N	11/29/93	T	INORG	Zinc	7440-66-6	5.10E-01		2.4E+00	2.1E-01	2.7E-01	**1.9E+00**			1.1E+05	4.6E-06
10	Perched	DRAIN #1	DRAIN #1~~11/5/1992~Ground Water~N	N	11/05/92	T	INORG	Cadmium	7440-43-9	1.40E-01		5.0E-03	**2.8E+01**	4.6E-03	**3.0E+01**			1.9E+02	7.4E-04
10	Perched	DRAIN #1	DRAIN #1~~11/5/1992~Ground Water~N	N	11/05/92	T	INORG	Chromium (total)	7440-47-3	2.60E+01		1.0E-01	**2.6E+02**	1.1E-02	**2.4E+03**			4.6E+02	5.7E-02
10	Perched	DRAIN #1	DRAIN #1~~11/5/1992~Ground Water~N	N	11/05/92	T	INORG	Copper	7440-50-8	1.10E+01		1.4E+00	**7.9E+00**	2.1E-02	**5.3E+02**			7.4E+03	1.5E-03
10	Perched	DRAIN #1	DRAIN #1~~11/5/1992~Ground Water~N	N	11/05/92	T	INORG	Lead	7439-92-1	8.10E-01		4.0E-03	**2.0E+02**	2.9E-02	**2.8E+01**				

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
10	Perched	DRAIN #1	DRAIN #1~~11/5/1992~Ground Water~N	N	11/05/92	T	INORG	Nickel	7440-02-0	5.90E+02		1.0E-01	**5.9E+03**	1.2E-01	**4.9E+03**			7.4E+04	8.0E-03
10	Perched	DRAIN #1	DRAIN #1~~11/5/1992~Ground Water~N	N	11/05/92	T	INORG	Zinc	7440-66-6	7.60E+00		2.4E+00	**3.2E+00**	2.7E-01	**2.8E+01**			1.1E+05	6.9E-05
10	Perched	DRAIN #1	DRAIN #1~~11/7/1991~Ground Water~N	N	11/07/91	T	INORG	Cadmium	7440-43-9	4.00E-02		5.0E-03	**8.0E+00**	4.6E-03	**8.7E+00**			1.9E+02	2.1E-04
10	Perched	DRAIN #1	DRAIN #1~~11/7/1991~Ground Water~N	N	11/07/91	T	INORG	Chromium (total)	7440-47-3	3.80E-01		1.0E-01	**3.8E+00**	1.1E-02	**3.5E+01**			4.6E+02	8.3E-04
10	Perched	DRAIN #1	DRAIN #1~~11/7/1991~Ground Water~N	N	11/07/91	T	INORG	Copper	7440-50-8	2.90E+00		1.4E+00	**2.1E+00**	2.1E-02	**1.4E+02**			7.4E+03	3.9E-04
10	Perched	DRAIN #1	DRAIN #1~~11/7/1991~Ground Water~N	N	11/07/91	T	INORG	Lead	7439-92-1	2.80E-01		4.0E-03	**7.0E+01**	2.9E-02	**9.5E+00**				
10	Perched	DRAIN #1	DRAIN #1~~11/7/1991~Ground Water~N	N	11/07/91	T	INORG	Nickel	7440-02-0	3.90E+02		1.0E-01	**3.9E+03**	1.2E-01	**3.3E+03**			7.4E+04	5.3E-03
10	Perched	DRAIN #1	DRAIN #1~~11/7/1991~Ground Water~N	N	11/07/91	T	INORG	Zinc	7440-66-6	1.50E+00		2.4E+00	6.3E-01	2.7E-01	**5.5E+00**			1.1E+05	1.4E-05
10	Perched	DRAIN #1	DRAIN #1~~11/8/1991~Ground Water~N	N	11/08/91	T	INORG	Chromium (total)	7440-47-3	7.50E+00		1.0E-01	**7.5E+01**	1.1E-02	**6.8E+02**			4.6E+02	1.6E-02
10	Perched	DRAIN #1	DRAIN #1~~11/8/1991~Ground Water~N	N	11/08/91	T	INORG	Copper	7440-50-8	1.70E+01		1.4E+00	**1.2E+01**	2.1E-02	**8.2E+02**			7.4E+03	2.3E-03
10	Perched	DRAIN #1	DRAIN #1~~11/8/1991~Ground Water~N	N	11/08/91	T	INORG	Cyanide (total)	57-12-5	5.60E+00		2.0E-01	**2.8E+01**	5.2E-03	**1.1E+03**			5.7E+01	9.8E-02
10	Perched	DRAIN #1	DRAIN #1~~11/8/1991~Ground Water~N	N	11/08/91	T	INORG	Nickel	7440-02-0	5.48E+02		1.0E-01	**5.5E+03**	1.2E-01	**4.6E+03**			7.4E+04	7.4E-03
10	Perched	DRAIN #1	DRAIN #1~~11/8/1991~Ground Water~N	N	11/08/91	T	INORG	Zinc	7440-66-6	3.80E+00		2.4E+00	**1.6E+00**	2.7E-01	**1.4E+01**			1.1E+05	3.5E-05
10	Perched	DRAIN #1	DRAIN #1~~11/9/1993~Ground Water~N	N	11/09/93	T	INORG	Chromium (total)	7440-47-3	3.50E-01		1.0E-01	**3.5E+00**	1.1E-02	**3.2E+01**			4.6E+02	7.6E-04
10	Perched	DRAIN #1	DRAIN #1~~11/9/1993~Ground Water~N	N	11/09/93	T	INORG	Copper	7440-50-8	1.20E+00		1.4E+00	8.6E-01	2.1E-02	**5.8E+01**			7.4E+03	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~11/9/1993~Ground Water~N	N	11/09/93	T	INORG	Nickel	7440-02-0	1.05E+02		1.0E-01	**1.1E+03**	1.2E-01	**8.8E+02**			7.4E+04	1.4E-03
10	Perched	DRAIN #1	DRAIN #1~~11/9/1993~Ground Water~N	N	11/09/93	T	INORG	Zinc	7440-66-6	5.80E-01		2.4E+00	2.4E-01	2.7E-01	**2.1E+00**			1.1E+05	5.3E-06
10	Perched	DRAIN #1	DRAIN #1~~11/9/1995~Ground Water~N	N	11/09/95	T	INORG	Copper	7440-50-8	4.40E-01		1.4E+00	3.1E-01	2.1E-02	**2.1E+01**			7.4E+03	5.9E-05
10	Perched	DRAIN #1	DRAIN #1~~11/9/1995~Ground Water~N	N	11/09/95	T	INORG	Nickel	7440-02-0	3.50E+01		1.0E-01	**3.5E+02**	1.2E-01	**2.9E+02**			7.4E+04	4.7E-04
10	Perched	DRAIN #1	DRAIN #1~~12/1/1992~Ground Water~N	N	12/01/92	T	INORG	Cadmium	7440-43-9	5.00E-02		5.0E-03	**1.0E+01**	4.6E-03	**1.1E+01**			1.9E+02	2.6E-04
10	Perched	DRAIN #1	DRAIN #1~~12/1/1992~Ground Water~N	N	12/01/92	T	INORG	Chromium (total)	7440-47-3	3.90E+00		1.0E-01	**3.9E+01**	1.1E-02	**3.5E+02**			4.6E+02	8.5E-03
10	Perched	DRAIN #1	DRAIN #1~~12/1/1992~Ground Water~N	N	12/01/92	T	INORG	Copper	7440-50-8	3.60E+00		1.4E+00	**2.6E+00**	2.1E-02	**1.7E+02**			7.4E+03	4.9E-04
10	Perched	DRAIN #1	DRAIN #1~~12/1/1992~Ground Water~N	N	12/01/92	T	INORG	Lead	7439-92-1	3.20E-01		4.0E-03	**8.0E+01**	2.9E-02	**1.1E+01**				
10	Perched	DRAIN #1	DRAIN #1~~12/1/1992~Ground Water~N	N	12/01/92	T	INORG	Nickel	7440-02-0	2.20E+02		1.0E-01	**2.2E+03**	1.2E-01	**1.8E+03**			7.4E+04	3.0E-03
10	Perched	DRAIN #1	DRAIN #1~~12/1/1992~Ground Water~N	N	12/01/92	T	INORG	Zinc	7440-66-6	1.90E+00		2.4E+00	7.9E-01	2.7E-01	**7.0E+00**			1.1E+05	1.7E-05
10	Perched	DRAIN #1	DRAIN #1~~12/18/1990~Ground Water~N	N	12/18/90	T	INORG	Cadmium	7440-43-9	2.90E-01		5.0E-03	**5.8E+01**	4.6E-03	**6.3E+01**			1.9E+02	1.5E-03
10	Perched	DRAIN #1	DRAIN #1~~12/18/1990~Ground Water~N	N	12/18/90	T	INORG	Chromium (total)	7440-47-3	8.30E-01		1.0E-01	**8.3E+00**	1.1E-02	**7.5E+01**			4.6E+02	1.8E-03
10	Perched	DRAIN #1	DRAIN #1~~12/18/1990~Ground Water~N	N	12/18/90	T	INORG	Copper	7440-50-8	1.30E+01		1.4E+00	**9.3E+00**	2.1E-02	**6.3E+02**			7.4E+03	1.8E-03
10	Perched	DRAIN #1	DRAIN #1~~12/18/1990~Ground Water~N	N	12/18/90	T	INORG	Lead	7439-92-1	1.50E+00		4.0E-03	**3.8E+02**	2.9E-02	**5.1E+01**				
10	Perched	DRAIN #1	DRAIN #1~~12/18/1990~Ground Water~N	N	12/18/90	T	INORG	Nickel	7440-02-0	1.50E+03		1.0E-01	**1.5E+04**	1.2E-01	**1.3E+04**			7.4E+04	2.0E-02
10	Perched	DRAIN #1	DRAIN #1~~12/18/1990~Ground Water~N	N	12/18/90	T	INORG	Zinc	7440-66-6	6.10E+00		2.4E+00	**2.5E+00**	2.7E-01	**2.2E+01**			1.1E+05	5.5E-05
10	Perched	DRAIN #1	DRAIN #1~~12/21/1993~Ground Water~N	N	12/21/93	T	INORG	Cadmium	7440-43-9	2.00E-02		5.0E-03	**4.0E+00**	4.6E-03	**4.3E+00**			1.9E+02	1.1E-04
10	Perched	DRAIN #1	DRAIN #1~~12/21/1993~Ground Water~N	N	12/21/93	T	INORG	Chromium (total)	7440-47-3	2.50E-01		1.0E-01	**2.5E+00**	1.1E-02	**2.3E+01**			4.6E+02	5.4E-04
10	Perched	DRAIN #1	DRAIN #1~~12/21/1993~Ground Water~N	N	12/21/93	T	INORG	Copper	7440-50-8	9.00E-01		1.4E+00	6.4E-01	2.1E-02	**4.3E+01**			7.4E+03	1.2E-04
10	Perched	DRAIN #1	DRAIN #1~~12/21/1993~Ground Water~N	N	12/21/93	T	INORG	Lead	7439-92-1	1.00E-01		4.0E-03	**2.5E+01**	2.9E-02	**3.4E+00**				
10	Perched	DRAIN #1	DRAIN #1~~12/21/1993~Ground Water~N	N	12/21/93	T	INORG	Nickel	7440-02-0	8.70E+01		1.0E-01	**8.7E+02**	1.2E-01	**7.3E+02**			7.4E+04	1.2E-03
10	Perched	DRAIN #1	DRAIN #1~~12/21/1993~Ground Water~N	N	12/21/93	T	INORG	Zinc	7440-66-6	5.00E-01		2.4E+00	2.1E-01	2.7E-01	**1.8E+00**			1.1E+05	4.5E-06
10	Perched	DRAIN #1	DRAIN #1~~12/4/1999~Ground Water~N	N	12/04/99	T	INORG	Copper	7440-50-8	3.20E-01		1.4E+00	2.3E-01	2.1E-02	**1.5E+01**			7.4E+03	4.3E-05
10	Perched	DRAIN #1	DRAIN #1~~12/4/1999~Ground Water~N	N	12/04/99	T	INORG	Nickel	7440-02-0	2.30E+01		1.0E-01	**2.3E+02**	1.2E-01	**1.9E+02**			7.4E+04	3.1E-04
10	Perched	DRAIN #1	DRAIN #1~~12/5/1991~Ground Water~N	N	12/05/91	T	INORG	Cadmium	7440-43-9	2.00E-02		5.0E-03	**4.0E+00**	4.6E-03	**4.3E+00**			1.9E+02	1.1E-04
10	Perched	DRAIN #1	DRAIN #1~~12/5/1991~Ground Water~N	N	12/05/91	T	INORG	Chromium (total)	7440-47-3	5.40E-01		1.0E-01	**5.4E+00**	1.1E-02	**4.9E+01**			4.6E+02	1.2E-03
10	Perched	DRAIN #1	DRAIN #1~~12/5/1991~Ground Water~N	N	12/05/91	T	INORG	Copper	7440-50-8	2.50E+00		1.4E+00	**1.8E+00**	2.1E-02	**1.2E+02**			7.4E+03	3.4E-04
10	Perched	DRAIN #1	DRAIN #1~~12/5/1991~Ground Water~N	N	12/05/91	T	INORG	Lead	7439-92-1	8.00E-02		4.0E-03	**2.0E+01**	2.9E-02	**2.7E+00**				
10	Perched	DRAIN #1	DRAIN #1~~12/5/1991~Ground Water~N	N	12/05/91	T	INORG	Nickel	7440-02-0	4.30E+02		1.0E-01	**4.3E+03**	1.2E-01	**3.6E+03**			7.4E+04	5.8E-03
10	Perched	DRAIN #1	DRAIN #1~~12/5/1991~Ground Water~N	N	12/05/91	T	INORG	Zinc	7440-66-6	1.30E+00		2.4E+00	5.4E-01	2.7E-01	**4.8E+00**			1.1E+05	1.2E-05
10	Perched	DRAIN #1	DRAIN #1~~12/6/1995~Ground Water~N	N	12/06/95	T	INORG	Copper	7440-50-8	4.40E-01		1.4E+00	3.1E-01	2.1E-02	**2.1E+01**			7.4E+03	5.9E-05
10	Perched	DRAIN #1	DRAIN #1~~12/6/1995~Ground Water~N	N	12/06/95	T	INORG	Nickel	7440-02-0	3.60E+01		1.0E-01	**3.6E+02**	1.2E-01	**3.0E+02**			7.4E+04	4.9E-04
10	Perched	DRAIN #1	DRAIN #1~~12/7/1994~Ground Water~N	N	12/07/94	T	INORG	Copper	7440-50-8	3.60E-01		1.4E+00	2.6E-01	2.1E-02	**1.7E+01**			7.4E+03	4.9E-05
10	Perched	DRAIN #1	DRAIN #1~~12/7/1994~Ground Water~N	N	12/07/94	T	INORG	Nickel	7440-02-0	3.10E+01		1.0E-01	**3.1E+02**	1.2E-01	**2.6E+02**			7.4E+04	4.2E-04
10	Perched	DRAIN #1	DRAIN #1~~12/7/1994~Ground Water~N	N	12/07/94	T	INORG	Zinc	7440-66-6	7.80E-01		2.4E+00	3.3E-01	2.7E-01	**2.9E+00**			1.1E+05	7.1E-06
10	Perched	DRAIN #1	DRAIN #1~~12/9/2000~Ground Water~N	N	12/09/00	T	INORG	Chromium (total)	7440-47-3	2.00E-02		1.0E-01	2.0E-01	1.1E-02	**1.8E+00**			4.6E+02	4.3E-05
10	Perched	DRAIN #1	DRAIN #1~~12/9/2000~Ground Water~N	N	12/09/00	T	INORG	Copper	7440-50-8	2.30E-01		1.4E+00	1.6E-01	2.1E-02	**1.1E+01**			7.4E+03	3.1E-05
10	Perched	DRAIN #1	DRAIN #1~~12/9/2000~Ground Water~N	N	12/09/00	T	INORG	Nickel	7440-02-0	1.90E+01		1.0E-01	**1.9E+02**	1.2E-01	**1.6E+02**			7.4E+04	2.6E-04
10	Perched	DRAIN #1	DRAIN #1~~2/1/1994~Ground Water~N	N	02/01/94	T	INORG	Chromium (total)	7440-47-3	7.20E-01		1.0E-01	**7.2E+00**	1.1E-02	**6.5E+01**			4.6E+02	1.6E-03
10	Perched	DRAIN #1	DRAIN #1~~2/1/1994~Ground Water~N	N	02/01/94	T	INORG	Copper	7440-50-8	1.40E+00		1.4E+00	1.0E+00	2.1E-02	**6.8E+01**			7.4E+03	1.9E-04
10	Perched	DRAIN #1	DRAIN #1~~2/1/1994~Ground Water~N	N	02/01/94	T	INORG	Nickel	7440-02-0	1.10E+02		1.0E-01	**1.1E+03**	1.2E-01	**9.2E+02**			7.4E+04	1.5E-03
10	Perched	DRAIN #1	DRAIN #1~~2/1/1994~Ground Water~N	N	02/01/94	T	INORG	Zinc	7440-66-6	6.90E-01		2.4E+00	2.9E-01	2.7E-01	**2.5E+00**			1.1E+05	6.3E-06
10	Perched	DRAIN #1	DRAIN #1~~2/10/1995~Ground Water~N	N	02/10/95	T	INORG	Chromium (total)	7440-47-3	5.50E-01		1.0E-01	**5.5E+00**	1.1E-02	**5.0E+01**			4.6E+02	1.2E-03
10	Perched	DRAIN #1	DRAIN #1~~2/10/1995~Ground Water~N	N	02/10/95	T	INORG	Copper	7440-50-8	1.00E+00		1.4E+00	7.1E-01	2.1E-02	**4.8E+01**			7.4E+03	1.4E-04

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
10	Perched	DRAIN #1	DRAIN #1~~2/10/1995~Ground Water~N	N	02/10/95	T	INORG	Lead	7439-92-1	8.00E-02		4.0E-03	**2.0E+01**	2.9E-02	**2.7E+00**				
10	Perched	DRAIN #1	DRAIN #1~~2/10/1995~Ground Water~N	N	02/10/95	T	INORG	Nickel	7440-02-0	6.40E+01		1.0E-01	**6.4E+02**	1.2E-01	**5.4E+02**			7.4E+04	8.6E-04
10	Perched	DRAIN #1	DRAIN #1~~2/10/1995~Ground Water~N	N	02/10/95	T	INORG	Zinc	7440-66-6	4.20E-01		2.4E+00	1.8E-01	2.7E-01	**1.5E+00**			1.1E+05	3.8E-06
10	Perched	DRAIN #1	DRAIN #1~~2/11/2002~Ground Water~N	N	02/11/02	T	INORG	Copper	7440-50-8	1.90E-01		1.4E+00	1.4E-01	2.1E-02	**9.2E+00**			7.4E+03	2.6E-05
10	Perched	DRAIN #1	DRAIN #1~~2/11/2002~Ground Water~N	N	02/11/02	T	INORG	Nickel	7440-02-0	1.51E+01		1.0E-01	**1.5E+02**	1.2E-01	**1.3E+02**			7.4E+04	2.0E-04
10	Perched	DRAIN #1	DRAIN #1~~2/21/1992~Ground Water~N	N	02/21/92	T	INORG	Cadmium	7440-43-9	3.00E-02		5.0E-03	**6.0E+00**	4.6E-03	**6.5E+00**			1.9E+02	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~2/21/1992~Ground Water~N	N	02/21/92	T	INORG	Copper	7440-50-8	1.90E+00		1.4E+00	**1.4E+00**	2.1E-02	**9.2E+01**			7.4E+03	2.6E-04
10	Perched	DRAIN #1	DRAIN #1~~2/21/1992~Ground Water~N	N	02/21/92	T	INORG	Lead	7439-92-1	1.70E-01		4.0E-03	**4.3E+01**	2.9E-02	**5.8E+00**				
10	Perched	DRAIN #1	DRAIN #1~~2/21/1992~Ground Water~N	N	02/21/92	T	INORG	Nickel	7440-02-0	2.00E+02		1.0E-01	**2.0E+03**	1.2E-01	**1.7E+03**			7.4E+04	2.7E-03
10	Perched	DRAIN #1	DRAIN #1~~2/21/1992~Ground Water~N	N	02/21/92	T	INORG	Zinc	7440-66-6	9.00E-01		2.4E+00	3.8E-01	2.7E-01	**3.3E+00**			1.1E+05	8.2E-06
10	Perched	DRAIN #1	DRAIN #1~~2/4/1993~Ground Water~N	N	02/04/93	T	INORG	Cadmium	7440-43-9	3.00E-02		5.0E-03	**6.0E+00**	4.6E-03	**6.5E+00**			1.9E+02	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~2/4/1993~Ground Water~N	N	02/04/93	T	INORG	Chromium (total)	7440-47-3	2.00E+00		1.0E-01	**2.0E+01**	1.1E-02	**1.8E+02**			4.6E+02	4.3E-03
10	Perched	DRAIN #1	DRAIN #1~~2/4/1993~Ground Water~N	N	02/04/93	T	INORG	Copper	7440-50-8	2.10E+00		1.4E+00	**1.5E+00**	2.1E-02	**1.0E+02**			7.4E+03	2.8E-04
10	Perched	DRAIN #1	DRAIN #1~~2/4/1993~Ground Water~N	N	02/04/93	T	INORG	Lead	7439-92-1	1.70E-01		4.0E-03	**4.3E+01**	2.9E-02	**5.8E+00**				
10	Perched	DRAIN #1	DRAIN #1~~2/4/1993~Ground Water~N	N	02/04/93	T	INORG	Nickel	7440-02-0	1.60E+02		1.0E-01	**1.6E+03**	1.2E-01	**1.3E+03**			7.4E+04	2.2E-03
10	Perched	DRAIN #1	DRAIN #1~~2/4/1993~Ground Water~N	N	02/04/93	T	INORG	Zinc	7440-66-6	1.10E+00		2.4E+00	4.6E-01	2.7E-01	**4.1E+00**			1.1E+05	1.0E-05
10	Perched	DRAIN #1	DRAIN #1~~3/1/1994~Ground Water~N	N	03/01/94	T	INORG	Chromium (total)	7440-47-3	3.20E-02		1.0E-01	3.2E-01	1.1E-02	**2.9E+00**			4.6E+02	7.0E-05
10	Perched	DRAIN #1	DRAIN #1~~3/1/1994~Ground Water~N	N	03/01/94	T	INORG	Copper	7440-50-8	5.87E-01		1.4E+00	4.2E-01	2.1E-02	**2.8E+01**			7.4E+03	7.9E-05
10	Perched	DRAIN #1	DRAIN #1~~3/1/1994~Ground Water~N	N	03/01/94	T	INORG	Nickel	7440-02-0	7.76E+01		1.0E-01	**7.8E+02**	1.2E-01	**6.5E+02**			7.4E+04	1.0E-03
10	Perched	DRAIN #1	DRAIN #1~~3/14/1994~Ground Water~N	N	03/14/94	T	INORG	Chromium (total)	7440-47-3	8.30E-01		1.0E-01	**8.3E+00**	1.1E-02	**7.5E+01**			4.6E+02	1.8E-03
10	Perched	DRAIN #1	DRAIN #1~~3/14/1994~Ground Water~N	N	03/14/94	T	INORG	Copper	7440-50-8	1.50E+00		1.4E+00	**1.1E+00**	2.1E-02	**7.2E+01**			7.4E+03	2.0E-04
10	Perched	DRAIN #1	DRAIN #1~~3/14/1994~Ground Water~N	N	03/14/94	T	INORG	Lead	7439-92-1	6.00E-02		4.0E-03	**1.5E+01**	2.9E-02	**2.0E+00**				
10	Perched	DRAIN #1	DRAIN #1~~3/14/1994~Ground Water~N	N	03/14/94	T	INORG	Nickel	7440-02-0	8.50E+01		1.0E-01	**8.5E+02**	1.2E-01	**7.1E+02**			7.4E+04	1.1E-03
10	Perched	DRAIN #1	DRAIN #1~~3/14/1994~Ground Water~N	N	03/14/94	T	INORG	Zinc	7440-66-6	8.00E-01		2.4E+00	3.3E-01	2.7E-01	**2.9E+00**			1.1E+05	7.3E-06
10	Perched	DRAIN #1	DRAIN #1~~3/18/2000~Ground Water~N	N	03/18/00	D	INORG	Copper	7440-50-8	2.50E-01		1.4E+00	1.8E-01	2.1E-02	**1.2E+01**			7.4E+03	3.4E-05
10	Perched	DRAIN #1	DRAIN #1~~3/18/2000~Ground Water~N	N	03/18/00	D	INORG	Nickel	7440-02-0	2.16E+01		1.0E-01	**2.2E+02**	1.2E-01	**1.8E+02**			7.4E+04	2.9E-04
10	Perched	DRAIN #1	DRAIN #1~~3/18/2000~Ground Water~N	N	03/18/00	T	INORG	Copper	7440-50-8	1.50E-01		1.4E+00	1.1E-01	2.1E-02	**7.2E+00**			7.4E+03	2.0E-05
10	Perched	DRAIN #1	DRAIN #1~~3/18/2000~Ground Water~N	N	03/18/00	T	INORG	Nickel	7440-02-0	2.30E+01		1.0E-01	**2.3E+02**	1.2E-01	**1.9E+02**			7.4E+04	3.1E-04
10	Perched	DRAIN #1	DRAIN #1~~3/20/1999~Ground Water~N	N	03/20/99	T	INORG	Copper	7440-50-8	2.10E-01		1.4E+00	1.5E-01	2.1E-02	**1.0E+01**			7.4E+03	2.8E-05
10	Perched	DRAIN #1	DRAIN #1~~3/20/1999~Ground Water~N	N	03/20/99	T	INORG	Nickel	7440-02-0	2.40E+01		1.0E-01	**2.4E+02**	1.2E-01	**2.0E+02**			7.4E+04	3.2E-04
10	Perched	DRAIN #1	DRAIN #1~~3/22/1995~Ground Water~N	N	03/22/95	T	INORG	Copper	7440-50-8	4.40E-01		1.4E+00	3.1E-01	2.1E-02	**2.1E+01**			7.4E+03	5.9E-05
10	Perched	DRAIN #1	DRAIN #1~~3/22/1995~Ground Water~N	N	03/22/95	T	INORG	Nickel	7440-02-0	4.70E+01		1.0E-01	**4.7E+02**	1.2E-01	**3.9E+02**			7.4E+04	6.4E-04
10	Perched	DRAIN #1	DRAIN #1~~3/24/2001~Ground Water~N	N	03/24/01	T	INORG	Copper	7440-50-8	1.50E-01		1.4E+00	1.1E-01	2.1E-02	**7.2E+00**			7.4E+03	2.0E-05
10	Perched	DRAIN #1	DRAIN #1~~3/24/2001~Ground Water~N	N	03/24/01	T	INORG	Nickel	7440-02-0	1.66E+01		1.0E-01	**1.7E+02**	1.2E-01	**1.4E+02**			7.4E+04	2.2E-04
10	Perched	DRAIN #1	DRAIN #1~~3/30/1994~Ground Water~N	N	03/30/94	T	INORG	Chromium (total)	7440-47-3	2.00E-01		1.0E-01	**2.0E+00**	1.1E-02	**1.8E+01**			4.6E+02	4.3E-04
10	Perched	DRAIN #1	DRAIN #1~~3/30/1994~Ground Water~N	N	03/30/94	T	INORG	Copper	7440-50-8	9.30E-01		1.4E+00	6.6E-01	2.1E-02	**4.5E+01**			7.4E+03	1.3E-04
10	Perched	DRAIN #1	DRAIN #1~~3/30/1994~Ground Water~N	N	03/30/94	T	INORG	Nickel	7440-02-0	7.80E+01		1.0E-01	**7.8E+02**	1.2E-01	**6.5E+02**			7.4E+04	1.1E-03
10	Perched	DRAIN #1	DRAIN #1~~3/30/1994~Ground Water~N	N	03/30/94	T	INORG	Zinc	7440-66-6	3.90E-01		2.4E+00	1.6E-01	2.7E-01	**1.4E+00**			1.1E+05	3.5E-06
10	Perched	DRAIN #1	DRAIN #1~~3/4/1993~Ground Water~N	N	03/04/93	T	INORG	Cadmium	7440-43-9	3.00E-02		5.0E-03	**6.0E+00**	4.6E-03	**6.5E+00**			1.9E+02	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~3/4/1993~Ground Water~N	N	03/04/93	T	INORG	Chromium (total)	7440-47-3	1.80E+00		1.0E-01	**1.8E+01**	1.1E-02	**1.6E+02**			4.6E+02	3.9E-03
10	Perched	DRAIN #1	DRAIN #1~~3/4/1993~Ground Water~N	N	03/04/93	T	INORG	Copper	7440-50-8	3.20E+00		1.4E+00	**2.3E+00**	2.1E-02	**1.5E+02**			7.4E+03	4.3E-04
10	Perched	DRAIN #1	DRAIN #1~~3/4/1993~Ground Water~N	N	03/04/93	T	INORG	Lead	7439-92-1	1.30E-01		4.0E-03	**3.3E+01**	2.9E-02	**4.4E+00**				
10	Perched	DRAIN #1	DRAIN #1~~3/4/1993~Ground Water~N	N	03/04/93	T	INORG	Nickel	7440-02-0	1.60E+02		1.0E-01	**1.6E+03**	1.2E-01	**1.3E+03**			7.4E+04	2.2E-03
10	Perched	DRAIN #1	DRAIN #1~~3/4/1993~Ground Water~N	N	03/04/93	T	INORG	Zinc	7440-66-6	2.20E+00		2.4E+00	9.2E-01	2.7E-01	**8.1E+00**			1.1E+05	2.0E-05
10	Perched	DRAIN #1	DRAIN #1~~3/4/1994~Ground Water~N	N	03/04/94	T	INORG	Cadmium	7440-43-9	3.00E-02		5.0E-03	**6.0E+00**	4.6E-03	**6.5E+00**			1.9E+02	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~3/4/1994~Ground Water~N	N	03/04/94	T	INORG	Chromium (total)	7440-47-3	2.70E-01		1.0E-01	**2.7E+00**	1.1E-02	**2.5E+01**			4.6E+02	5.9E-04
10	Perched	DRAIN #1	DRAIN #1~~3/4/1994~Ground Water~N	N	03/04/94	T	INORG	Copper	7440-50-8	1.10E+00		1.4E+00	7.9E-01	2.1E-02	**5.3E+01**			7.4E+03	1.5E-04
10	Perched	DRAIN #1	DRAIN #1~~3/4/1994~Ground Water~N	N	03/04/94	T	INORG	Lead	7439-92-1	1.30E-01		4.0E-03	**3.3E+01**	2.9E-02	**4.4E+00**				
10	Perched	DRAIN #1	DRAIN #1~~3/4/1994~Ground Water~N	N	03/04/94	T	INORG	Nickel	7440-02-0	9.40E-01		1.0E-01	**9.4E+00**	1.2E-01	**7.9E+00**			7.4E+04	1.3E-05
10	Perched	DRAIN #1	DRAIN #1~~3/4/1994~Ground Water~N	N	03/04/94	T	INORG	Zinc	7440-66-6	4.80E-01		2.4E+00	2.0E-01	2.7E-01	**1.8E+00**			1.1E+05	4.4E-06
10	Perched	DRAIN #1	DRAIN #1~~4/1/1994~Ground Water~N	N	04/01/94	T	INORG	Copper	7440-50-8	7.38E-01		1.4E+00	5.3E-01	2.1E-02	**3.6E+01**			7.4E+03	1.0E-04
10	Perched	DRAIN #1	DRAIN #1~~4/1/1994~Ground Water~N	N	04/01/94	T	INORG	Nickel	7440-02-0	8.02E+01		1.0E-01	**8.0E+02**	1.2E-01	**6.7E+02**			7.4E+04	1.1E-03
10	Perched	DRAIN #1	DRAIN #1~~4/10/1990~Ground Water~N	N	04/10/90	T	INORG	Cadmium	7440-43-9	7.00E-01		5.0E-03	**1.4E+02**	4.6E-03	**1.5E+02**			1.9E+02	3.7E-03
10	Perched	DRAIN #1	DRAIN #1~~4/10/1990~Ground Water~N	N	04/10/90	T	INORG	Chromium (total)	7440-47-3	8.90E+01		1.0E-01	**8.9E+02**	1.1E-02	**8.1E+03**			4.6E+02	1.9E-01
10	Perched	DRAIN #1	DRAIN #1~~4/10/1990~Ground Water~N	N	04/10/90	T	INORG	Copper	7440-50-8	8.00E+00		1.4E+00	**5.7E+00**	2.1E-02	**3.9E+02**			7.4E+03	1.1E-03
10	Perched	DRAIN #1	DRAIN #1~~4/10/1990~Ground Water~N	N	04/10/90	T	INORG	Lead	7439-92-1	3.80E+00		4.0E-03	**9.5E+02**	2.9E-02	**1.3E+02**				
10	Perched	DRAIN #1	DRAIN #1~~4/10/1990~Ground Water~N	N	04/10/90	T	INORG	Nickel	7440-02-0	3.60E+03		1.0E-01	**3.6E+04**	1.2E-01	**3.0E+04**			7.4E+04	4.9E-02
10	Perched	DRAIN #1	DRAIN #1~~4/10/1990~Ground Water~N	N	04/10/90	T	INORG	Zinc	7440-66-6	1.20E+01		2.4E+00	**5.0E+00**	2.7E-01	**4.4E+01**			1.1E+05	1.1E-04
10	Perched	DRAIN #1	DRAIN #1~~4/13/1993~Ground Water~N	N	04/13/93	T	INORG	Chromium (total)	7440-47-3	1.20E-01		1.0E-01	**1.2E+00**	1.1E-02	**1.1E+01**			4.6E+02	2.6E-04

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
10	Perched	DRAIN #1	DRAIN #1~~4/13/1993~Ground Water~N	N	04/13/93	T	INORG	Copper	7440-50-8	1.50E+00		1.4E+00	**1.1E+00**	2.1E-02	**7.2E+01**			7.4E+03	2.0E-04
10	Perched	DRAIN #1	DRAIN #1~~4/13/1993~Ground Water~N	N	04/13/93	T	INORG	Nickel	7440-02-0	1.00E+02		1.0E-01	**1.0E+03**	1.2E-01	**8.4E+02**			7.4E+04	1.4E-03
10	Perched	DRAIN #1	DRAIN #1~~4/13/1993~Ground Water~N	N	04/13/93	T	INORG	Zinc	7440-66-6	6.00E-01		2.4E+00	2.5E-01	2.7E-01	**2.2E+00**			1.1E+05	5.5E-06
10	Perched	DRAIN #1	DRAIN #1~~4/19/1991~Ground Water~N	N	04/19/91	T	INORG	Cadmium	7440-43-9	3.90E-01		5.0E-03	**7.8E+01**	4.6E-03	**8.4E+01**			1.9E+02	2.1E-03
10	Perched	DRAIN #1	DRAIN #1~~4/19/1991~Ground Water~N	N	04/19/91	T	INORG	Copper	7440-50-8	1.80E+01		1.4E+00	**1.3E+01**	2.1E-02	**8.7E+02**			7.4E+03	2.4E-03
10	Perched	DRAIN #1	DRAIN #1~~4/19/1991~Ground Water~N	N	04/19/91	T	INORG	Lead	7439-92-1	2.30E+00		4.0E-03	**5.8E+02**	2.9E-02	**7.8E+01**				
10	Perched	DRAIN #1	DRAIN #1~~4/19/1991~Ground Water~N	N	04/19/91	T	INORG	Nickel	7440-02-0	2.20E+03		1.0E-01	**2.2E+04**	1.2E-01	**1.8E+04**			7.4E+04	3.0E-02
10	Perched	DRAIN #1	DRAIN #1~~4/19/1991~Ground Water~N	N	04/19/91	T	INORG	Zinc	7440-66-6	9.10E+00		2.4E+00	**3.8E+00**	2.7E-01	**3.4E+01**			1.1E+05	8.3E-05
10	Perched	DRAIN #1	DRAIN #1~~4/20/1995~Ground Water~N	N	04/20/95	T	INORG	Copper	7440-50-8	4.90E-01		1.4E+00	3.5E-01	2.1E-02	**2.4E+01**			7.4E+03	6.6E-05
10	Perched	DRAIN #1	DRAIN #1~~4/20/1995~Ground Water~N	N	04/20/95	T	INORG	Nickel	7440-02-0	4.40E+01		1.0E-01	**4.4E+02**	1.2E-01	**3.7E+02**			7.4E+04	5.9E-04
10	Perched	DRAIN #1	DRAIN #1~~4/21/1994~Ground Water~N	N	04/21/94	T	INORG	Chromium (total)	7440-47-3	1.10E-01		1.0E-01	**1.1E+00**	1.1E-02	**1.0E+01**			4.6E+02	2.4E-04
10	Perched	DRAIN #1	DRAIN #1~~4/21/1994~Ground Water~N	N	04/21/94	T	INORG	Copper	7440-50-8	7.50E-01		1.4E+00	5.4E-01	2.1E-02	**3.6E+01**			7.4E+03	1.0E-04
10	Perched	DRAIN #1	DRAIN #1~~4/21/1994~Ground Water~N	N	04/21/94	T	INORG	Nickel	7440-02-0	6.50E+01		1.0E-01	**6.5E+02**	1.2E-01	**5.4E+02**			7.4E+04	8.8E-04
10	Perched	DRAIN #1	DRAIN #1~~4/21/1994~Ground Water~N	N	04/21/94	T	INORG	Zinc	7440-66-6	3.80E-01		2.4E+00	1.6E-01	2.7E-01	**1.4E+00**			1.1E+05	3.5E-06
10	Perched	DRAIN #1	DRAIN #1~~4/29/2000~Ground Water~N	N	04/29/00	T	INORG	Copper	7440-50-8	1.10E-01		1.4E+00	7.9E-02	2.1E-02	**5.3E+00**			7.4E+03	1.5E-05
10	Perched	DRAIN #1	DRAIN #1~~4/29/2000~Ground Water~N	N	04/29/00	T	INORG	Nickel	7440-02-0	2.20E+01		1.0E-01	**2.2E+02**	1.2E-01	**1.8E+02**			7.4E+04	3.0E-04
10	Perched	DRAIN #1	DRAIN #1~~5/1/1991~Ground Water~N	N	05/01/91	T	INORG	Cadmium	7440-43-9	1.90E-01		5.0E-03	**3.8E+01**	4.6E-03	**4.1E+01**			1.9E+02	1.0E-03
10	Perched	DRAIN #1	DRAIN #1~~5/1/1991~Ground Water~N	N	05/01/91	T	INORG	Chromium (total)	7440-47-3	2.60E-01		1.0E-01	**2.6E+00**	1.1E-02	**2.4E+01**			4.6E+02	5.7E-04
10	Perched	DRAIN #1	DRAIN #1~~5/1/1991~Ground Water~N	N	05/01/91	T	INORG	Copper	7440-50-8	9.10E+00		1.4E+00	**6.5E+00**	2.1E-02	**4.4E+02**			7.4E+03	1.2E-03
10	Perched	DRAIN #1	DRAIN #1~~5/1/1991~Ground Water~N	N	05/01/91	T	INORG	Lead	7439-92-1	1.00E+00		4.0E-03	**2.5E+02**	2.9E-02	**3.4E+01**				
10	Perched	DRAIN #1	DRAIN #1~~5/1/1991~Ground Water~N	N	05/01/91	T	INORG	Nickel	7440-02-0	1.10E+03		1.0E-01	**1.1E+04**	1.2E-01	**9.2E+03**			7.4E+04	1.5E-02
10	Perched	DRAIN #1	DRAIN #1~~5/1/1991~Ground Water~N	N	05/01/91	T	INORG	Zinc	7440-66-6	4.60E+00		2.4E+00	**1.9E+00**	2.7E-01	**1.7E+01**			1.1E+05	4.2E-05
10	Perched	DRAIN #1	DRAIN #1~~5/14/1992~Ground Water~N	N	05/14/92	T	INORG	Cadmium	7440-43-9	4.00E-02		5.0E-03	**8.0E+00**	4.6E-03	**8.7E+00**			1.9E+02	2.1E-04
10	Perched	DRAIN #1	DRAIN #1~~5/14/1992~Ground Water~N	N	05/14/92	T	INORG	Chromium (total)	7440-47-3	4.00E-02		1.0E-01	4.0E-01	1.1E-02	**3.6E+00**			4.6E+02	8.7E-05
10	Perched	DRAIN #1	DRAIN #1~~5/14/1992~Ground Water~N	N	05/14/92	T	INORG	Copper	7440-50-8	2.70E+00		1.4E+00	**1.9E+00**	2.1E-02	**1.3E+02**			7.4E+03	3.6E-04
10	Perched	DRAIN #1	DRAIN #1~~5/14/1992~Ground Water~N	N	05/14/92	T	INORG	Lead	7439-92-1	2.00E-01		4.0E-03	**5.0E+01**	2.9E-02	**6.8E+00**				
10	Perched	DRAIN #1	DRAIN #1~~5/14/1992~Ground Water~N	N	05/14/92	T	INORG	Nickel	7440-02-0	1.70E+02		1.0E-01	**1.7E+03**	1.2E-01	**1.4E+03**			7.4E+04	2.3E-03
10	Perched	DRAIN #1	DRAIN #1~~5/14/1992~Ground Water~N	N	05/14/92	T	INORG	Zinc	7440-66-6	9.00E-01		2.4E+00	3.8E-01	2.7E-01	**3.3E+00**			1.1E+05	8.2E-06
10	Perched	DRAIN #1	DRAIN #1~~5/18/1994~Ground Water~N	N	05/18/94	T	INORG	Chromium (total)	7440-47-3	1.20E-01		1.0E-01	**1.2E+00**	1.1E-02	**1.1E+01**			4.6E+02	2.6E-04
10	Perched	DRAIN #1	DRAIN #1~~5/18/1994~Ground Water~N	N	05/18/94	T	INORG	Copper	7440-50-8	8.40E-01		1.4E+00	6.0E-01	2.1E-02	**4.1E+01**			7.4E+03	1.1E-04
10	Perched	DRAIN #1	DRAIN #1~~5/18/1994~Ground Water~N	N	05/18/94	T	INORG	Nickel	7440-02-0	7.10E+01		1.0E-01	**7.1E+02**	1.2E-01	**5.9E+02**			7.4E+04	9.6E-04
10	Perched	DRAIN #1	DRAIN #1~~5/18/1994~Ground Water~N	N	05/18/94	T	INORG	Zinc	7440-66-6	4.00E-01		2.4E+00	1.7E-01	2.7E-01	**1.5E+00**			1.1E+05	3.6E-06
10	Perched	DRAIN #1	DRAIN #1~~5/20/2000~Ground Water~N	N	05/20/00	T	INORG	Chromium (total)	7440-47-3	3.00E-01		1.0E-01	**3.0E+00**	1.1E-02	**2.7E+01**			4.6E+02	6.5E-04
10	Perched	DRAIN #1	DRAIN #1~~5/20/2000~Ground Water~N	N	05/20/00	T	INORG	Copper	7440-50-8	4.80E-01		1.4E+00	3.4E-01	2.1E-02	**2.3E+01**			7.4E+03	6.5E-05
10	Perched	DRAIN #1	DRAIN #1~~5/20/2000~Ground Water~N	N	05/20/00	T	INORG	Nickel	7440-02-0	2.20E+01		1.0E-01	**2.2E+02**	1.2E-01	**1.8E+02**			7.4E+04	3.0E-04
10	Perched	DRAIN #1	DRAIN #1~~5/20/2000~Ground Water~N	N	05/20/00	T	INORG	Zinc	7440-66-6	3.30E-01		2.4E+00	1.4E-01	2.7E-01	**1.2E+00**			1.1E+05	3.0E-06
10	Perched	DRAIN #1	DRAIN #1~~5/25/2001~Ground Water~N	N	05/25/01	T	INORG	Copper	7440-50-8	1.80E-01		1.4E+00	1.3E-01	2.1E-02	**8.7E+00**			7.4E+03	2.4E-05
10	Perched	DRAIN #1	DRAIN #1~~5/25/2001~Ground Water~N	N	05/25/01	T	INORG	Nickel	7440-02-0	2.06E+01		1.0E-01	**2.1E+02**	1.2E-01	**1.7E+02**			7.4E+04	2.8E-04
10	Perched	DRAIN #1	DRAIN #1~~5/29/1991~Ground Water~N	N	05/29/91	T	INORG	Cadmium	7440-43-9	1.40E-01		5.0E-03	**2.8E+01**	4.6E-03	**3.0E+01**			1.9E+02	7.4E-04
10	Perched	DRAIN #1	DRAIN #1~~5/29/1991~Ground Water~N	N	05/29/91	T	INORG	Chromium (total)	7440-47-3	2.30E+00		1.0E-01	**2.3E+01**	1.1E-02	**2.1E+02**			4.6E+02	5.0E-03
10	Perched	DRAIN #1	DRAIN #1~~5/29/1991~Ground Water~N	N	05/29/91	T	INORG	Copper	7440-50-8	7.40E+00		1.4E+00	**5.3E+00**	2.1E-02	**3.6E+02**			7.4E+03	1.0E-03
10	Perched	DRAIN #1	DRAIN #1~~5/29/1991~Ground Water~N	N	05/29/91	T	INORG	Lead	7439-92-1	8.40E-01		4.0E-03	**2.1E+02**	2.9E-02	**2.9E+01**				
10	Perched	DRAIN #1	DRAIN #1~~5/29/1991~Ground Water~N	N	05/29/91	T	INORG	Nickel	7440-02-0	8.50E+02		1.0E-01	**8.5E+03**	1.2E-01	**7.1E+03**			7.4E+04	1.1E-02
10	Perched	DRAIN #1	DRAIN #1~~5/29/1991~Ground Water~N	N	05/29/91	T	INORG	Zinc	7440-66-6	3.40E+00		2.4E+00	**1.4E+00**	2.7E-01	**1.3E+01**			1.1E+05	3.1E-05
10	Perched	DRAIN #1	DRAIN #1~~5/4/1995~Ground Water~N	N	05/04/95	T	INORG	Chromium (total)	7440-47-3	3.00E-02		1.0E-01	3.0E-01	1.1E-02	**2.7E+00**			4.6E+02	6.5E-05
10	Perched	DRAIN #1	DRAIN #1~~5/4/1995~Ground Water~N	N	05/04/95	T	INORG	Copper	7440-50-8	5.50E-01		1.4E+00	3.9E-01	2.1E-02	**2.7E+01**			7.4E+03	7.4E-05
10	Perched	DRAIN #1	DRAIN #1~~5/4/1995~Ground Water~N	N	05/04/95	T	INORG	Nickel	7440-02-0	5.00E+01		1.0E-01	**5.0E+02**	1.2E-01	**4.2E+02**			7.4E+04	6.8E-04
10	Perched	DRAIN #1	DRAIN #1~~5/5/1996~Ground Water~N	N	05/05/96	T	INORG	Copper	7440-50-8	7.50E-01		1.4E+00	5.4E-01	2.1E-02	**3.6E+01**			7.4E+03	1.0E-04
10	Perched	DRAIN #1	DRAIN #1~~5/5/1996~Ground Water~N	N	05/05/96	T	INORG	Nickel	7440-02-0	4.00E+01		1.0E-01	**4.0E+02**	1.2E-01	**3.4E+02**			7.4E+04	5.4E-04
10	Perched	DRAIN #1	DRAIN #1~~5/6/1993~Ground Water~N	N	05/06/93	T	INORG	Cadmium	7440-43-9	5.00E-02		5.0E-03	**1.0E+01**	4.6E-03	**1.1E+01**			1.9E+02	2.6E-04
10	Perched	DRAIN #1	DRAIN #1~~5/6/1993~Ground Water~N	N	05/06/93	T	INORG	Chromium (total)	7440-47-3	3.60E+00		1.0E-01	**3.6E+01**	1.1E-02	**3.3E+02**			4.6E+02	7.8E-03
10	Perched	DRAIN #1	DRAIN #1~~5/6/1993~Ground Water~N	N	05/06/93	T	INORG	Copper	7440-50-8	3.50E+00		1.4E+00	**2.5E+00**	2.1E-02	**1.7E+02**			7.4E+03	4.7E-04
10	Perched	DRAIN #1	DRAIN #1~~5/6/1993~Ground Water~N	N	05/06/93	T	INORG	Nickel	7440-02-0	2.00E+02		1.0E-01	**2.0E+03**	1.2E-01	**1.7E+03**			7.4E+04	2.7E-03
10	Perched	DRAIN #1	DRAIN #1~~5/6/1993~Ground Water~N	N	05/06/93	T	INORG	Zinc	7440-66-6	1.40E+00		2.4E+00	5.8E-01	2.7E-01	**5.2E+00**			1.1E+05	1.3E-05
10	Perched	DRAIN #1	DRAIN #1~~6/18/2001~Ground Water~N	N	06/18/01	T	INORG	Beryllium	7440-41-7	5.00E-03		4.0E-03	**1.3E+00**	2.9E-02	1.7E-01			2.9E+02	1.7E-05
10	Perched	DRAIN #1	DRAIN #1~~6/18/2001~Ground Water~N	N	06/18/01	T	INORG	Chromium (total)	7440-47-3	4.00E-02		1.0E-01	4.0E-01	1.1E-02	**3.6E+00**			4.6E+02	8.7E-05
10	Perched	DRAIN #1	DRAIN #1~~6/18/2001~Ground Water~N	N	06/18/01	T	INORG	Copper	7440-50-8	1.90E-01		1.4E+00	1.4E-01	2.1E-02	**9.2E+00**			7.4E+03	2.6E-05
10	Perched	DRAIN #1	DRAIN #1~~6/18/2001~Ground Water~N	N	06/18/01	T	INORG	Nickel	7440-02-0	2.07E+01		1.0E-01	**2.1E+02**	1.2E-01	**1.7E+02**			7.4E+04	2.8E-04
10	Perched	DRAIN #1	DRAIN #1~~6/18/2001~Ground Water~N	N	06/18/01	T	INORG	Zinc	7440-66-6	3.00E-01		2.4E+00	1.3E-01	2.7E-01	**1.1E+00**			1.1E+05	2.7E-06

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
10	Perched	DRAIN #1	DRAIN #1~~6/2/1993~Ground Water~N	N	06/02/93	T	INORG	Cadmium	7440-43-9	3.00E-02		5.0E-03	**6.0E+00**	4.6E-03	**6.5E+00**			1.9E+02	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~6/2/1993~Ground Water~N	N	06/02/93	T	INORG	Chromium (total)	7440-47-3	8.50E-01		1.0E-01	**8.5E+00**	1.1E-02	**7.7E+01**			4.6E+02	1.8E-03
10	Perched	DRAIN #1	DRAIN #1~~6/2/1993~Ground Water~N	N	06/02/93	T	INORG	Copper	7440-50-8	1.70E+00		1.4E+00	**1.2E+00**	2.1E-02	**8.2E+01**			7.4E+03	2.3E-04
10	Perched	DRAIN #1	DRAIN #1~~6/2/1993~Ground Water~N	N	06/02/93	T	INORG	Lead	7439-92-1	8.00E-02		4.0E-03	**2.0E+01**	2.9E-02	**2.7E+00**				
10	Perched	DRAIN #1	DRAIN #1~~6/2/1993~Ground Water~N	N	06/02/93	T	INORG	Nickel	7440-02-0	1.20E+02		1.0E-01	**1.2E+03**	1.2E-01	**1.0E+03**			7.4E+04	1.6E-03
10	Perched	DRAIN #1	DRAIN #1~~6/2/1993~Ground Water~N	N	06/02/93	T	INORG	Zinc	7440-66-6	7.80E-01		2.4E+00	3.3E-01	2.7E-01	**2.9E+00**			1.1E+05	7.1E-06
10	Perched	DRAIN #1	DRAIN #1~~6/2/1995~Ground Water~N	N	06/02/95	T	INORG	Copper	7440-50-8	6.50E-01		1.4E+00	4.6E-01	2.1E-02	**3.1E+01**			7.4E+03	8.8E-05
10	Perched	DRAIN #1	DRAIN #1~~6/2/1995~Ground Water~N	N	06/02/95	T	INORG	Nickel	7440-02-0	4.60E+01		1.0E-01	**4.6E+02**	1.2E-01	**3.9E+02**			7.4E+04	6.2E-04
10	Perched	DRAIN #1	DRAIN #1~~6/20/1991~Ground Water~N	N	06/20/91	T	INORG	Cadmium	7440-43-9	1.30E-01		5.0E-03	**2.6E+01**	4.6E-03	**2.8E+01**			1.9E+02	6.8E-04
10	Perched	DRAIN #1	DRAIN #1~~6/20/1991~Ground Water~N	N	06/20/91	T	INORG	Chromium (total)	7440-47-3	7.70E-01		1.0E-01	**7.7E+00**	1.1E-02	**7.0E+01**			4.6E+02	1.7E-03
10	Perched	DRAIN #1	DRAIN #1~~6/20/1991~Ground Water~N	N	06/20/91	T	INORG	Copper	7440-50-8	7.10E+00		1.4E+00	**5.1E+00**	2.1E-02	**3.4E+02**			7.4E+03	9.6E-04
10	Perched	DRAIN #1	DRAIN #1~~6/20/1991~Ground Water~N	N	06/20/91	T	INORG	Lead	7439-92-1	6.80E-01		4.0E-03	**1.7E+02**	2.9E-02	**2.3E+01**				
10	Perched	DRAIN #1	DRAIN #1~~6/20/1991~Ground Water~N	N	06/20/91	T	INORG	Nickel	7440-02-0	8.00E+02		1.0E-01	**8.0E+03**	1.2E-01	**6.7E+03**			7.4E+04	1.1E-02
10	Perched	DRAIN #1	DRAIN #1~~6/20/1991~Ground Water~N	N	06/20/91	T	INORG	Zinc	7440-66-6	3.60E+00		2.4E+00	**1.5E+00**	2.7E-01	**1.3E+01**			1.1E+05	3.3E-05
10	Perched	DRAIN #1	DRAIN #1~~6/24/2000~Ground Water~N	N	06/24/00	T	INORG	Chromium (total)	7440-47-3	6.60E-01		1.0E-01	**6.6E+00**	1.1E-02	**6.0E+01**			4.6E+02	1.4E-03
10	Perched	DRAIN #1	DRAIN #1~~6/24/2000~Ground Water~N	N	06/24/00	T	INORG	Copper	7440-50-8	8.50E-01		1.4E+00	6.1E-01	2.1E-02	**4.1E+01**			7.4E+03	1.1E-04
10	Perched	DRAIN #1	DRAIN #1~~6/24/2000~Ground Water~N	N	06/24/00	T	INORG	Nickel	7440-02-0	3.00E+01		1.0E-01	**3.0E+02**	1.2E-01	**2.5E+02**			7.4E+04	4.1E-04
10	Perched	DRAIN #1	DRAIN #1~~6/24/2000~Ground Water~N	N	06/24/00	T	INORG	Zinc	7440-66-6	1.30E+00		2.4E+00	5.4E-01	2.7E-01	**4.8E+00**			1.1E+05	1.2E-05
10	Perched	DRAIN #1	DRAIN #1~~6/25/1992~Ground Water~N	N	06/25/92	T	INORG	Cadmium	7440-43-9	3.00E-02		5.0E-03	**6.0E+00**	4.6E-03	**6.5E+00**			1.9E+02	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~6/25/1992~Ground Water~N	N	06/25/92	T	INORG	Chromium (total)	7440-47-3	8.80E-01		1.0E-01	**8.8E+00**	1.1E-02	**8.0E+01**			4.6E+02	1.9E-03
10	Perched	DRAIN #1	DRAIN #1~~6/25/1992~Ground Water~N	N	06/25/92	T	INORG	Copper	7440-50-8	2.60E+00		1.4E+00	**1.9E+00**	2.1E-02	**1.3E+02**			7.4E+03	3.5E-04
10	Perched	DRAIN #1	DRAIN #1~~6/25/1992~Ground Water~N	N	06/25/92	T	INORG	Lead	7439-92-1	1.50E-01		4.0E-03	**3.8E+01**	2.9E-02	**5.1E+00**				
10	Perched	DRAIN #1	DRAIN #1~~6/25/1992~Ground Water~N	N	06/25/92	T	INORG	Nickel	7440-02-0	1.70E+02		1.0E-01	**1.7E+03**	1.2E-01	**1.4E+03**			7.4E+04	2.3E-03
10	Perched	DRAIN #1	DRAIN #1~~6/25/1992~Ground Water~N	N	06/25/92	T	INORG	Zinc	7440-66-6	1.00E+00		2.4E+00	4.2E-01	2.7E-01	**3.7E+00**			1.1E+05	9.1E-06
10	Perched	DRAIN #1	DRAIN #1~~6/25/1999~Ground Water~N	N	06/25/99	T	INORG	Copper	7440-50-8	2.00E-01		1.4E+00	1.4E-01	2.1E-02	**9.6E+00**			7.4E+03	2.7E-05
10	Perched	DRAIN #1	DRAIN #1~~6/25/1999~Ground Water~N	N	06/25/99	T	INORG	Nickel	7440-02-0	2.90E+01		1.0E-01	**2.9E+02**	1.2E-01	**2.4E+02**			7.4E+04	3.9E-04
10	Perched	DRAIN #1	DRAIN #1~~6/25/1999~Ground Water~N	N	06/25/99	T	INORG	Zinc	7440-66-6	5.20E-01		2.4E+00	2.2E-01	2.7E-01	**1.9E+00**			1.1E+05	4.7E-06
10	Perched	DRAIN #1	DRAIN #1~~6/27/1994~Ground Water~N	N	06/27/94	T	INORG	Chromium (total)	7440-47-3	9.00E-02		1.0E-01	9.0E-01	1.1E-02	**8.2E+00**			4.6E+02	2.0E-04
10	Perched	DRAIN #1	DRAIN #1~~6/27/1994~Ground Water~N	N	06/27/94	T	INORG	Copper	7440-50-8	8.10E-01		1.4E+00	5.8E-01	2.1E-02	**3.9E+01**			7.4E+03	1.1E-04
10	Perched	DRAIN #1	DRAIN #1~~6/27/1994~Ground Water~N	N	06/27/94	T	INORG	Nickel	7440-02-0	6.90E+01		1.0E-01	**6.9E+02**	1.2E-01	**5.8E+02**			7.4E+04	9.3E-04
10	Perched	DRAIN #1	DRAIN #1~~6/27/1994~Ground Water~N	N	06/27/94	T	INORG	Zinc	7440-66-6	3.40E-01		2.4E+00	1.4E-01	2.7E-01	**1.3E+00**			1.1E+05	3.1E-06
10	Perched	DRAIN #1	DRAIN #1~~6/4/1996~Ground Water~N	N	06/04/96	T	INORG	Copper	7440-50-8	3.30E-01		1.4E+00	2.4E-01	2.1E-02	**1.6E+01**			7.4E+03	4.5E-05
10	Perched	DRAIN #1	DRAIN #1~~6/4/1996~Ground Water~N	N	06/04/96	T	INORG	Nickel	7440-02-0	3.20E+01		1.0E-01	**3.2E+02**	1.2E-01	**2.7E+02**			7.4E+04	4.3E-04
10	Perched	DRAIN #1	DRAIN #1~~6/6/1991~Ground Water~N	N	06/06/91	T	INORG	Cadmium	7440-43-9	1.60E-01		5.0E-03	**3.2E+01**	4.6E-03	**3.5E+01**			1.9E+02	8.4E-04
10	Perched	DRAIN #1	DRAIN #1~~6/6/1991~Ground Water~N	N	06/06/91	T	INORG	Chromium (total)	7440-47-3	2.00E-01		1.0E-01	**2.0E+00**	1.1E-02	**1.8E+01**			4.6E+02	4.3E-04
10	Perched	DRAIN #1	DRAIN #1~~6/6/1991~Ground Water~N	N	06/06/91	T	INORG	Copper	7440-50-8	7.10E+00		1.4E+00	**5.1E+00**	2.1E-02	**3.4E+02**			7.4E+03	9.6E-04
10	Perched	DRAIN #1	DRAIN #1~~6/6/1991~Ground Water~N	N	06/06/91	T	INORG	Lead	7439-92-1	8.70E-01		4.0E-03	**2.2E+02**	2.9E-02	**3.0E+01**				
10	Perched	DRAIN #1	DRAIN #1~~6/6/1991~Ground Water~N	N	06/06/91	T	INORG	Nickel	7440-02-0	9.50E+02		1.0E-01	**9.5E+03**	1.2E-01	**8.0E+03**			7.4E+04	1.3E-02
10	Perched	DRAIN #1	DRAIN #1~~6/6/1991~Ground Water~N	N	06/06/91	T	INORG	Zinc	7440-66-6	3.90E+00		2.4E+00	**1.6E+00**	2.7E-01	**1.4E+01**			1.1E+05	3.5E-05
10	Perched	DRAIN #1	DRAIN #1~~7/10/1991~Ground Water~N	N	07/10/91	T	INORG	Cadmium	7440-43-9	1.50E-01		5.0E-03	**3.0E+01**	4.6E-03	**3.2E+01**			1.9E+02	7.9E-04
10	Perched	DRAIN #1	DRAIN #1~~7/10/1991~Ground Water~N	N	07/10/91	T	INORG	Chromium (total)	7440-47-3	1.10E-01		1.0E-01	**1.1E+00**	1.1E-02	**1.0E+01**			4.6E+02	2.4E-04
10	Perched	DRAIN #1	DRAIN #1~~7/10/1991~Ground Water~N	N	07/10/91	T	INORG	Copper	7440-50-8	7.30E+00		1.4E+00	**5.2E+00**	2.1E-02	**3.5E+02**			7.4E+03	9.9E-04
10	Perched	DRAIN #1	DRAIN #1~~7/10/1991~Ground Water~N	N	07/10/91	T	INORG	Lead	7439-92-1	8.40E-01		4.0E-03	**2.1E+02**	2.9E-02	**2.9E+01**				
10	Perched	DRAIN #1	DRAIN #1~~7/10/1991~Ground Water~N	N	07/10/91	T	INORG	Nickel	7440-02-0	8.10E+02		1.0E-01	**8.1E+03**	1.2E-01	**6.8E+03**			7.4E+04	1.1E-02
10	Perched	DRAIN #1	DRAIN #1~~7/10/1991~Ground Water~N	N	07/10/91	T	INORG	Zinc	7440-66-6	3.80E+00		2.4E+00	**1.6E+00**	2.7E-01	**1.4E+01**			1.1E+05	3.5E-05
10	Perched	DRAIN #1	DRAIN #1~~7/12/1995~Ground Water~N	N	07/12/95	T	INORG	Copper	7440-50-8	6.70E-01		1.4E+00	4.8E-01	2.1E-02	**3.2E+01**			7.4E+03	9.1E-05
10	Perched	DRAIN #1	DRAIN #1~~7/12/1995~Ground Water~N	N	07/12/95	T	INORG	Nickel	7440-02-0	4.20E+01		1.0E-01	**4.2E+02**	1.2E-01	**3.5E+02**			7.4E+04	5.7E-04
10	Perched	DRAIN #1	DRAIN #1~~7/14/1993~Ground Water~N	N	07/14/93	T	INORG	Cadmium	7440-43-9	4.00E-02		5.0E-03	**8.0E+00**	4.6E-03	**8.7E+00**			1.9E+02	2.1E-04
10	Perched	DRAIN #1	DRAIN #1~~7/14/1993~Ground Water~N	N	07/14/93	T	INORG	Chromium (total)	7440-47-3	3.30E+00		1.0E-01	**3.3E+01**	1.1E-02	**3.0E+02**			4.6E+02	7.2E-03
10	Perched	DRAIN #1	DRAIN #1~~7/14/1993~Ground Water~N	N	07/14/93	T	INORG	Copper	7440-50-8	2.80E+00		1.4E+00	**2.0E+00**	2.1E-02	**1.4E+02**			7.4E+03	3.8E-04
10	Perched	DRAIN #1	DRAIN #1~~7/14/1993~Ground Water~N	N	07/14/93	T	INORG	Lead	7439-92-1	2.40E-01		4.0E-03	**6.0E+01**	2.9E-02	**8.2E+00**				
10	Perched	DRAIN #1	DRAIN #1~~7/14/1993~Ground Water~N	N	07/14/93	T	INORG	Nickel	7440-02-0	1.90E+02		1.0E-01	**1.9E+03**	1.2E-01	**1.6E+03**			7.4E+04	2.6E-03
10	Perched	DRAIN #1	DRAIN #1~~7/14/1993~Ground Water~N	N	07/14/93	T	INORG	Zinc	7440-66-6	1.40E+00		2.4E+00	5.8E-01	2.7E-01	**5.2E+00**			1.1E+05	1.3E-05
10	Perched	DRAIN #1	DRAIN #1~~7/20/1994~Ground Water~N	N	07/20/94	T	INORG	Chromium (total)	7440-47-3	4.40E-01		1.0E-01	**4.4E+00**	1.1E-02	**4.0E+01**			4.6E+02	9.6E-04
10	Perched	DRAIN #1	DRAIN #1~~7/20/1994~Ground Water~N	N	07/20/94	T	INORG	Copper	7440-50-8	9.10E-01		1.4E+00	6.5E-01	2.1E-02	**4.4E+01**			7.4E+03	1.2E-04
10	Perched	DRAIN #1	DRAIN #1~~7/20/1994~Ground Water~N	N	07/20/94	T	INORG	Nickel	7440-02-0	7.30E+01		1.0E-01	7.3E+02	1.2E-01	6.1E+02			7.4E+04	9.9E-04
10	Perched	DRAIN #1	DRAIN #1~~7/20/1994~Ground Water~N	N	07/20/94	T	INORG	Zinc	7440-66-6	4.00E-01		2.4E+00	1.7E-01	2.7E-01	1.5E+00			1.1E+05	3.6E-06
10	Perched	DRAIN #1	DRAIN #1~~7/26/2001~Ground Water~N	N	07/26/01	T	INORG	Chromium (total)	7440-47-3	1.30E-01		1.0E-01	1.3E+00	1.1E-02	1.2E+01			4.6E+02	2.8E-04
10	Perched	DRAIN #1	DRAIN #1~~7/26/2001~Ground Water~N	N	07/26/01	T	INORG	Copper	7440-50-8	3.10E-01		1.4E+00	2.2E-01	2.1E-02	1.5E+01			7.4E+03	4.2E-05

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
10	Perched	DRAIN #1	DRAIN #1~~7/26/2001~Ground Water~N	N	07/26/01	T	INORG	Lead	7439-92-1	9.00E-03		4.0E-03	2.3E+00	2.9E-02	3.1E-01				
10	Perched	DRAIN #1	DRAIN #1~~7/26/2001~Ground Water~N	N	07/26/01	T	INORG	Nickel	7440-02-0	1.86E+01		1.0E-01	1.9E+02	1.2E-01	1.6E+02			7.4E+04	2.5E-04
10	Perched	DRAIN #1	DRAIN #1~~7/26/2001~Ground Water~N	N	07/26/01	T	INORG	Zinc	7440-66-6	3.90E-01		2.4E+00	1.6E-01	2.7E-01	1.4E+00			1.1E+05	3.5E-06
10	Perched	DRAIN #1	DRAIN #1~~7/29/2000~Ground Water~N	N	07/29/00	T	INORG	Chromium (total)	7440-47-3	6.00E-02		1.0E-01	6.0E-01	1.1E-02	5.5E+00			4.6E+02	1.3E-04
10	Perched	DRAIN #1	DRAIN #1~~7/29/2000~Ground Water~N	N	07/29/00	T	INORG	Copper	7440-50-8	2.40E-01		1.4E+00	1.7E-01	2.1E-02	1.2E+01			7.4E+03	3.2E-05
10	Perched	DRAIN #1	DRAIN #1~~7/29/2000~Ground Water~N	N	07/29/00	T	INORG	Nickel	7440-02-0	2.20E+01		1.0E-01	2.2E+02	1.2E-01	1.8E+02			7.4E+04	3.0E-04
10	Perched	DRAIN #1	DRAIN #1~~7/29/2000~Ground Water~N	N	07/29/00	T	INORG	Zinc	7440-66-6	8.10E-01		2.4E+00	3.4E-01	2.7E-01	3.0E+00			1.1E+05	7.4E-06
10	Perched	DRAIN #1	DRAIN #1~~7/31/1990~Ground Water~N	N	07/31/90	T	INORG	Cadmium	7440-43-9	1.80E-01		5.0E-03	3.6E+01	4.6E-03	3.9E+01			1.9E+02	9.5E-04
10	Perched	DRAIN #1	DRAIN #1~~7/31/1990~Ground Water~N	N	07/31/90	T	INORG	Chromium (total)	7440-47-3	2.30E+01		1.0E-01	2.3E+02	1.1E-02	2.1E+03			4.6E+02	5.0E-02
10	Perched	DRAIN #1	DRAIN #1~~7/31/1990~Ground Water~N	N	07/31/90	T	INORG	Copper	7440-50-8	7.20E+00		1.4E+00	5.1E+00	2.1E-02	3.5E+02			7.4E+03	9.7E-04
10	Perched	DRAIN #1	DRAIN #1~~7/31/1990~Ground Water~N	N	07/31/90	T	INORG	Lead	7439-92-1	8.70E-01		4.0E-03	2.2E+02	2.9E-02	3.0E+01				
10	Perched	DRAIN #1	DRAIN #1~~7/31/1990~Ground Water~N	N	07/31/90	T	INORG	Nickel	7440-02-0	8.20E+02		1.0E-01	8.2E+03	1.2E-01	6.9E+03			7.4E+04	1.1E-02
10	Perched	DRAIN #1	DRAIN #1~~7/31/1990~Ground Water~N	N	07/31/90	T	INORG	Zinc	7440-66-6	3.10E+00		2.4E+00	1.3E+00	2.7E-01	1.1E+01			1.1E+05	2.8E-05
10	Perched	DRAIN #1	DRAIN #1~~8/10/1994~Ground Water~N	N	08/10/94	T	INORG	Chromium (total)	7440-47-3	8.00E-01		1.0E-01	8.0E+00	1.1E-02	7.3E+01			4.6E+02	1.7E-03
10	Perched	DRAIN #1	DRAIN #1~~8/10/1994~Ground Water~N	N	08/10/94	T	INORG	Copper	7440-50-8	1.20E+00		1.4E+00	8.6E-01	2.1E-02	5.8E+01			7.4E+03	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~8/10/1994~Ground Water~N	N	08/10/94	T	INORG	Nickel	7440-02-0	8.50E+01		1.0E-01	8.5E+02	1.2E-01	7.1E+02			7.4E+04	1.1E-03
10	Perched	DRAIN #1	DRAIN #1~~8/10/1994~Ground Water~N	N	08/10/94	T	INORG	Zinc	7440-66-6	5.20E-01		2.4E+00	2.2E-01	2.7E-01	1.9E+00			1.1E+05	4.7E-06
10	Perched	DRAIN #1	DRAIN #1~~8/13/1993~Ground Water~N	N	08/13/93	T	INORG	Chromium (total)	7440-47-3	3.00E-01		1.0E-01	3.0E+00	1.1E-02	2.7E+01			4.6E+02	6.5E-04
10	Perched	DRAIN #1	DRAIN #1~~8/13/1993~Ground Water~N	N	08/13/93	T	INORG	Copper	7440-50-8	1.20E+00		1.4E+00	8.6E-01	2.1E-02	5.8E+01			7.4E+03	1.6E-04
10	Perched	DRAIN #1	DRAIN #1~~8/13/1993~Ground Water~N	N	08/13/93	T	INORG	Nickel	7440-02-0	9.70E+01		1.0E-01	9.7E+02	1.2E-01	8.1E+02			7.4E+04	1.3E-03
10	Perched	DRAIN #1	DRAIN #1~~8/13/1993~Ground Water~N	N	08/13/93	T	INORG	Zinc	7440-66-6	6.10E-01		2.4E+00	2.5E-01	2.7E-01	2.2E+00			1.1E+05	5.5E-06
10	Perched	DRAIN #1	DRAIN #1~~8/14/1991~Ground Water~N	N	08/14/91	T	INORG	Cadmium	7440-43-9	1.40E-01		5.0E-03	2.8E+01	4.6E-03	3.0E+01			1.9E+02	7.4E-04
10	Perched	DRAIN #1	DRAIN #1~~8/14/1991~Ground Water~N	N	08/14/91	T	INORG	Chromium (total)	7440-47-3	1.40E+00		1.0E-01	1.4E+01	1.1E-02	1.3E+02			4.6E+02	3.0E-03
10	Perched	DRAIN #1	DRAIN #1~~8/14/1991~Ground Water~N	N	08/14/91	T	INORG	Copper	7440-50-8	8.30E+00		1.4E+00	5.9E+00	2.1E-02	4.0E+02			7.4E+03	1.1E-03
10	Perched	DRAIN #1	DRAIN #1~~8/14/1991~Ground Water~N	N	08/14/91	T	INORG	Lead	7439-92-1	7.40E-01		4.0E-03	1.9E+02	2.9E-02	2.5E+01				
10	Perched	DRAIN #1	DRAIN #1~~8/14/1991~Ground Water~N	N	08/14/91	T	INORG	Nickel	7440-02-0	8.00E+02		1.0E-01	8.0E+03	1.2E-01	6.7E+03			7.4E+04	1.1E-02
10	Perched	DRAIN #1	DRAIN #1~~8/14/1991~Ground Water~N	N	08/14/91	T	INORG	Zinc	7440-66-6	3.60E+00		2.4E+00	1.5E+00	2.7E-01	1.3E+01			1.1E+05	3.3E-05
10	Perched	DRAIN #1	DRAIN #1~~8/14/1999~Ground Water~N	N	08/14/99	T	INORG	Copper	7440-50-8	2.30E-01		1.4E+00	1.6E-01	2.1E-02	1.1E+01			7.4E+03	3.1E-05
10	Perched	DRAIN #1	DRAIN #1~~8/14/1999~Ground Water~N	N	08/14/99	T	INORG	Nickel	7440-02-0	2.20E+01		1.0E-01	2.2E+02	1.2E-01	1.8E+02			7.4E+04	3.0E-04
10	Perched	DRAIN #1	DRAIN #1~~8/14/1999~Ground Water~N	N	08/14/99	T	INORG	Zinc	7440-66-6	4.00E-01		2.4E+00	1.7E-01	2.7E-01	1.5E+00			1.1E+05	3.6E-06
10	Perched	DRAIN #1	DRAIN #1~~8/22/1990~Ground Water~N	N	08/22/90	T	INORG	Cadmium	7440-43-9	1.40E-01		5.0E-03	2.8E+01	4.6E-03	3.0E+01			1.9E+02	7.4E-04
10	Perched	DRAIN #1	DRAIN #1~~8/22/1990~Ground Water~N	N	08/22/90	T	INORG	Chromium (total)	7440-47-3	3.10E+01		1.0E-01	3.1E+02	1.1E-02	2.8E+03			4.6E+02	6.7E-02
10	Perched	DRAIN #1	DRAIN #1~~8/22/1990~Ground Water~N	N	08/22/90	T	INORG	Copper	7440-50-8	7.90E+00		1.4E+00	5.6E+00	2.1E-02	3.8E+02			7.4E+03	1.1E-03
10	Perched	DRAIN #1	DRAIN #1~~8/22/1990~Ground Water~N	N	08/22/90	T	INORG	Lead	7439-92-1	7.00E-01		4.0E-03	1.8E+02	2.9E-02	2.4E+01				
10	Perched	DRAIN #1	DRAIN #1~~8/22/1990~Ground Water~N	N	08/22/90	T	INORG	Nickel	7440-02-0	7.00E+02		1.0E-01	7.0E+03	1.2E-01	5.9E+03			7.4E+04	9.5E-03
10	Perched	DRAIN #1	DRAIN #1~~8/22/1990~Ground Water~N	N	08/22/90	T	INORG	Zinc	7440-66-6	2.50E+00		2.4E+00	1.0E+00	2.7E-01	9.2E+00			1.1E+05	2.3E-05
10	Perched	DRAIN #1	DRAIN #1~~8/27/2001~Ground Water~N	N	08/27/01	T	INORG	Copper	7440-50-8	1.70E-01		1.4E+00	1.2E-01	2.1E-02	8.2E+00			7.4E+03	2.3E-05
10	Perched	DRAIN #1	DRAIN #1~~8/27/2001~Ground Water~N	N	08/27/01	T	INORG	Nickel	7440-02-0	1.88E+01		1.0E-01	1.9E+02	1.2E-01	1.6E+02			7.4E+04	2.5E-04
10	Perched	DRAIN #1	DRAIN #1~~8/27/2001~Ground Water~N	N	08/27/01	T	INORG	Zinc	7440-66-6	3.00E-01		2.4E+00	1.3E-01	2.7E-01	1.1E+00			1.1E+05	2.7E-06
10	Perched	DRAIN #1	DRAIN #1~~8/29/1991~Ground Water~N	N	08/29/91	T	INORG	Cadmium	7440-43-9	1.20E-01		5.0E-03	2.4E+01	4.6E-03	2.6E+01			1.9E+02	6.3E-04
10	Perched	DRAIN #1	DRAIN #1~~8/29/1991~Ground Water~N	N	08/29/91	T	INORG	Chromium (total)	7440-47-3	1.80E-01		1.0E-01	1.8E+00	1.1E-02	1.6E+01			4.6E+02	3.9E-04
10	Perched	DRAIN #1	DRAIN #1~~8/29/1991~Ground Water~N	N	08/29/91	T	INORG	Copper	7440-50-8	5.70E+00		1.4E+00	4.1E+00	2.1E-02	2.7E+02			7.4E+03	7.7E-04
10	Perched	DRAIN #1	DRAIN #1~~8/29/1991~Ground Water~N	N	08/29/91	T	INORG	Lead	7439-92-1	7.10E-01		4.0E-03	1.8E+02	2.9E-02	2.4E+01				
10	Perched	DRAIN #1	DRAIN #1~~8/29/1991~Ground Water~N	N	08/29/91	T	INORG	Nickel	7440-02-0	7.00E+02		1.0E-01	7.0E+03	1.2E-01	5.9E+03			7.4E+04	9.5E-03
10	Perched	DRAIN #1	DRAIN #1~~8/29/1991~Ground Water~N	N	08/29/91	T	INORG	Zinc	7440-66-6	2.90E+00		2.4E+00	1.2E+00	2.7E-01	1.1E+01			1.1E+05	2.6E-05
10	Perched	DRAIN #1	DRAIN #1~~8/29/1998~Ground Water~N	N	08/29/98	T	INORG	Copper	7440-50-8	1.60E-01		1.4E+00	1.1E-01	2.1E-02	7.7E+00			7.4E+03	2.2E-05
10	Perched	DRAIN #1	DRAIN #1~~8/29/1998~Ground Water~N	N	08/29/98	T	INORG	Nickel	7440-02-0	2.40E+01		1.0E-01	2.4E+02	1.2E-01	2.0E+02			7.4E+04	3.2E-04
10	Perched	DRAIN #1	DRAIN #1~~8/30/1991~Ground Water~N	N	08/30/91	T	INORG	Chromium (total)	7440-47-3	3.40E+01		1.0E-01	3.4E+02	1.1E-02	3.1E+03			4.6E+02	7.4E-02
10	Perched	DRAIN #1	DRAIN #1~~8/30/1991~Ground Water~N	N	08/30/91	T	INORG	Copper	7440-50-8	3.60E+01		1.4E+00	2.6E+01	2.1E-02	1.7E+03			7.4E+03	4.9E-03
10	Perched	DRAIN #1	DRAIN #1~~8/30/1991~Ground Water~N	N	08/30/91	T	INORG	Cyanide (total)	57-12-5	4.20E+00		2.0E-01	2.1E+01	5.2E-03	8.1E+02			5.7E+01	7.4E-02
10	Perched	DRAIN #1	DRAIN #1~~8/30/1991~Ground Water~N	N	08/30/91	T	INORG	Nickel	7440-02-0	9.74E+02		1.0E-01	9.7E+03	1.2E-01	8.2E+03			7.4E+04	1.3E-02
10	Perched	DRAIN #1	DRAIN #1~~8/30/1991~Ground Water~N	N	08/30/91	T	INORG	Zinc	7440-66-6	2.20E+00		2.4E+00	9.2E-01	2.7E-01	8.1E+00			1.1E+05	2.0E-05
10	Perched	DRAIN #1	DRAIN #1~~8/4/1995~Ground Water~N	N	08/04/95	T	INORG	Copper	7440-50-8	6.20E-01		1.4E+00	4.4E-01	2.1E-02	3.0E+01			7.4E+03	8.4E-05
10	Perched	DRAIN #1	DRAIN #1~~8/4/1995~Ground Water~N	N	08/04/95	T	INORG	Nickel	7440-02-0	3.90E+01		1.0E-01	3.9E+02	1.2E-01	3.3E+02			7.4E+04	5.3E-04
10	Perched	DRAIN #1	DRAIN #1~~8/6/1992~Ground Water~N	N	08/06/92	T	INORG	Chromium (total)	7440-47-3	8.00E-02		1.0E-01	8.0E-01	1.1E-02	7.3E+00			4.6E+02	1.7E-04
10	Perched	DRAIN #1	DRAIN #1~~8/6/1992~Ground Water~N	N	08/06/92	T	INORG	Copper	7440-50-8	1.80E+00		1.4E+00	1.3E+00	2.1E-02	8.7E+01			7.4E+03	2.4E-04
10	Perched	DRAIN #1	DRAIN #1~~8/6/1992~Ground Water~N	N	08/06/92	T	INORG	Lead	7439-92-1	1.00E-01		4.0E-03	2.5E+01	2.9E-02	3.4E+00				
10	Perched	DRAIN #1	DRAIN #1~~8/6/1992~Ground Water~N	N	08/06/92	T	INORG	Nickel	7440-02-0	1.10E+02		1.0E-01	1.1E+03	1.2E-01	9.2E+02			7.4E+04	1.5E-03
10	Perched	DRAIN #1	DRAIN #1~~8/6/1992~Ground Water~N	N	08/06/92	T	INORG	Zinc	7440-66-6	6.30E-01		2.4E+00	2.6E-01	2.7E-01	2.3E+00			1.1E+05	5.7E-06

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
10	Perched	DRAIN #1	DRAIN #1~~9/1/1995~Ground Water~N	N	09/01/95	T	INORG	Chromium (total)	7440-47-3	6.00E-02		1.0E-01	6.0E-01	1.1E-02	5.5E+00			4.6E+02	1.3E-04
10	Perched	DRAIN #1	DRAIN #1~~9/1/1995~Ground Water~N	N	09/01/95	T	INORG	Copper	7440-50-8	5.30E-01		1.4E+00	3.8E-01	2.1E-02	2.6E+01			7.4E+03	7.2E-05
10	Perched	DRAIN #1	DRAIN #1~~9/1/1995~Ground Water~N	N	09/01/95	T	INORG	Nickel	7440-02-0	3.90E+01		1.0E-01	3.9E+02	1.2E-01	3.3E+02			7.4E+04	5.3E-04
10	Perched	DRAIN #1	DRAIN #1~~9/11/1999~Ground Water~N	N	09/11/99	T	INORG	Copper	7440-50-8	2.50E-01		1.4E+00	1.8E-01	2.1E-02	1.2E+01			7.4E+03	3.4E-05
10	Perched	DRAIN #1	DRAIN #1~~9/11/1999~Ground Water~N	N	09/11/99	T	INORG	Nickel	7440-02-0	2.30E+01		1.0E-01	2.3E+02	1.2E-01	1.9E+02			7.4E+04	3.1E-04
10	Perched	DRAIN #1	DRAIN #1~~9/12/1991~Ground Water~N	N	09/12/91	T	INORG	Cadmium	7440-43-9	1.00E-01		5.0E-03	2.0E+01	4.6E-03	2.2E+01			1.9E+02	5.3E-04
10	Perched	DRAIN #1	DRAIN #1~~9/12/1991~Ground Water~N	N	09/12/91	T	INORG	Chromium (total)	7440-47-3	1.80E+00		1.0E-01	1.8E+01	1.1E-02	1.6E+02			4.6E+02	3.9E-03
10	Perched	DRAIN #1	DRAIN #1~~9/12/1991~Ground Water~N	N	09/12/91	T	INORG	Copper	7440-50-8	7.70E+00		1.4E+00	5.5E+00	2.1E-02	3.7E+02			7.4E+03	1.0E-03
10	Perched	DRAIN #1	DRAIN #1~~9/12/1991~Ground Water~N	N	09/12/91	T	INORG	Lead	7439-92-1	4.90E-01		4.0E-03	1.2E+02	2.9E-02	1.7E+01				
10	Perched	DRAIN #1	DRAIN #1~~9/12/1991~Ground Water~N	N	09/12/91	T	INORG	Nickel	7440-02-0	6.40E+02		1.0E-01	6.4E+03	1.2E-01	5.4E+03			7.4E+04	8.6E-03
10	Perched	DRAIN #1	DRAIN #1~~9/12/1991~Ground Water~N	N	09/12/91	T	INORG	Zinc	7440-66-6	2.90E+00		2.4E+00	1.2E+00	2.7E-01	1.1E+01			1.1E+05	2.6E-05
10	Perched	DRAIN #1	DRAIN #1~~9/13/1991~Ground Water~N	N	09/13/91	T	INORG	Chromium (total)	7440-47-3	1.80E+00		1.0E-01	1.8E+01	1.1E-02	1.6E+02			4.6E+02	3.9E-03
10	Perched	DRAIN #1	DRAIN #1~~9/13/1991~Ground Water~N	N	09/13/91	T	INORG	Copper	7440-50-8	7.10E+00		1.4E+00	5.1E+00	2.1E-02	3.4E+02			7.4E+03	9.6E-04
10	Perched	DRAIN #1	DRAIN #1~~9/13/1991~Ground Water~N	N	09/13/91	T	INORG	Cyanide (total)	57-12-5	9.80E-01		2.0E-01	4.9E+00	5.2E-03	1.9E+02			5.7E+01	1.7E-02
10	Perched	DRAIN #1	DRAIN #1~~9/13/1991~Ground Water~N	N	09/13/91	T	INORG	Nickel	7440-02-0	6.08E+02		1.0E-01	6.1E+03	1.2E-01	5.1E+03			7.4E+04	8.2E-03
10	Perched	DRAIN #1	DRAIN #1~~9/13/1991~Ground Water~N	N	09/13/91	T	INORG	Zinc	7440-66-6	4.60E-01		2.4E+00	1.9E-01	2.7E-01	1.7E+00			1.1E+05	4.2E-06
10	Perched	DRAIN #1	DRAIN #1~~9/16/1993~Ground Water~N	N	09/16/93	T	INORG	Copper	7440-50-8	8.40E-01		1.4E+00	6.0E-01	2.1E-02	4.1E+01			7.4E+03	1.1E-04
10	Perched	DRAIN #1	DRAIN #1~~9/16/1993~Ground Water~N	N	09/16/93	T	INORG	Nickel	7440-02-0	9.50E+01		1.0E-01	9.5E+02	1.2E-01	8.0E+02			7.4E+04	1.3E-03
10	Perched	DRAIN #1	DRAIN #1~~9/16/1993~Ground Water~N	N	09/16/93	T	INORG	Zinc	7440-66-6	5.80E-01		2.4E+00	2.4E-01	2.7E-01	2.1E+00			1.1E+05	5.3E-06
10	Perched	DRAIN #1	DRAIN #1~~9/25/1994~Ground Water~N	N	09/25/94	T	INORG	Copper	7440-50-8	7.40E-01		1.4E+00	5.3E-01	2.1E-02	3.6E+01			7.4E+03	1.0E-04
10	Perched	DRAIN #1	DRAIN #1~~9/25/1994~Ground Water~N	N	09/25/94	T	INORG	Nickel	7440-02-0	5.50E+01		1.0E-01	5.5E+02	1.2E-01	4.6E+02			7.4E+04	7.4E-04
10	Perched	DRAIN #1	DRAIN #1~~9/25/1994~Ground Water~N	N	09/25/94	T	INORG	Zinc	7440-66-6	3.00E-01		2.4E+00	1.3E-01	2.7E-01	1.1E+00			1.1E+05	2.7E-06
10	Perched	DRAIN #1	DRAIN #1~~9/26/1991~Ground Water~N	N	09/26/91	T	INORG	Cadmium	7440-43-9	1.20E-01		5.0E-03	2.4E+01	4.6E-03	2.6E+01			1.9E+02	6.3E-04
10	Perched	DRAIN #1	DRAIN #1~~9/26/1991~Ground Water~N	N	09/26/91	T	INORG	Chromium (total)	7440-47-3	8.10E-01		1.0E-01	8.1E+00	1.1E-02	7.4E+01			4.6E+02	1.8E-03
10	Perched	DRAIN #1	DRAIN #1~~9/26/1991~Ground Water~N	N	09/26/91	T	INORG	Copper	7440-50-8	7.60E+00		1.4E+00	5.4E+00	2.1E-02	3.7E+02			7.4E+03	1.0E-03
10	Perched	DRAIN #1	DRAIN #1~~9/26/1991~Ground Water~N	N	09/26/91	T	INORG	Lead	7439-92-1	6.90E-01		4.0E-03	1.7E+02	2.9E-02	2.3E+01				
10	Perched	DRAIN #1	DRAIN #1~~9/26/1991~Ground Water~N	N	09/26/91	T	INORG	Nickel	7440-02-0	6.90E+02		1.0E-01	6.9E+03	1.2E-01	5.8E+03			7.4E+04	9.3E-03
10	Perched	DRAIN #1	DRAIN #1~~9/26/1991~Ground Water~N	N	09/26/91	T	INORG	Zinc	7440-66-6	3.00E+00		2.4E+00	1.3E+00	2.7E-01	1.1E+01			1.1E+05	2.7E-05
10	Perched	DRAIN #1	DRAIN #1~~9/27/1991~Ground Water~N	N	09/27/91	T	INORG	Chromium (total)	7440-47-3	5.60E+01		1.0E-01	5.6E+02	1.1E-02	5.1E+03			4.6E+02	1.2E-01
10	Perched	DRAIN #1	DRAIN #1~~9/27/1991~Ground Water~N	N	09/27/91	T	INORG	Copper	7440-50-8	3.90E+01		1.4E+00	2.8E+01	2.1E-02	1.9E+03			7.4E+03	5.3E-03
10	Perched	DRAIN #1	DRAIN #1~~9/27/1991~Ground Water~N	N	09/27/91	T	INORG	Cyanide (total)	57-12-5	2.20E+01		2.0E-01	1.1E+02	5.2E-03	4.2E+03			5.7E+01	3.9E-01
10	Perched	DRAIN #1	DRAIN #1~~9/27/1991~Ground Water~N	N	09/27/91	T	INORG	Nickel	7440-02-0	1.79E+03		1.0E-01	1.8E+04	1.2E-01	1.5E+04			7.4E+04	2.4E-02
10	Perched	DRAIN #1	DRAIN #1~~9/27/1991~Ground Water~N	N	09/27/91	T	INORG	Zinc	7440-66-6	7.80E+00		2.4E+00	3.3E+00	2.7E-01	2.9E+01			1.1E+05	7.1E-05
10	Perched	DRAIN #1	DRAIN #1~~9/3/1992~Ground Water~N	N	09/03/92	T	INORG	Cadmium	7440-43-9	2.00E-02		5.0E-03	4.0E+00	4.6E-03	4.3E+00			1.9E+02	1.1E-04
10	Perched	DRAIN #1	DRAIN #1~~9/3/1992~Ground Water~N	N	09/03/92	T	INORG	Chromium (total)	7440-47-3	1.50E-01		1.0E-01	1.5E+00	1.1E-02	1.4E+01			4.6E+02	3.3E-04
10	Perched	DRAIN #1	DRAIN #1~~9/3/1992~Ground Water~N	N	09/03/92	T	INORG	Copper	7440-50-8	2.40E+00		1.4E+00	1.7E+00	2.1E-02	1.2E+02			7.4E+03	3.2E-04
10	Perched	DRAIN #1	DRAIN #1~~9/3/1992~Ground Water~N	N	09/03/92	T	INORG	Lead	7439-92-1	1.80E-01		4.0E-03	4.5E+01	2.9E-02	6.1E+00				
10	Perched	DRAIN #1	DRAIN #1~~9/3/1992~Ground Water~N	N	09/03/92	T	INORG	Nickel	7440-02-0	1.10E+02		1.0E-01	1.1E+03	1.2E-01	9.2E+02			7.4E+04	1.5E-03
10	Perched	DRAIN #1	DRAIN #1~~9/3/1992~Ground Water~N	N	09/03/92	T	INORG	Zinc	7440-66-6	6.40E-01		2.4E+00	2.7E-01	2.7E-01	2.4E+00			1.1E+05	5.8E-06
10	Perched	DRAIN #1	DRAIN #1~~9/9/2000~Ground Water~N	N	09/09/00	T	INORG	Copper	7440-50-8	2.50E-01		1.4E+00	1.8E-01	2.1E-02	1.2E+01			7.4E+03	3.4E-05
10	Perched	DRAIN #1	DRAIN #1~~9/9/2000~Ground Water~N	N	09/09/00	T	INORG	Nickel	7440-02-0	2.00E+01		1.0E-01	2.0E+02	1.2E-01	1.7E+02			7.4E+04	2.7E-04
10	Perched	DRAIN #1	DRAIN #1~~9/9/2000~Ground Water~N	N	09/09/00	T	INORG	Zinc	7440-66-6	2.90E-01		2.4E+00	1.2E-01	2.7E-01	1.1E+00			1.1E+05	2.6E-06
10	Perched	DRAIN #1	Drain (10/11/03)	N	10/11/03	T	INORG	Copper	7440-50-8	1.80E-01		1.4E+00	1.3E-01	2.1E-02	8.7E+00			7.4E+03	2.4E-05
10	Perched	DRAIN #1	Drain (10/11/03)	N	10/11/03	T	INORG	Nickel	7440-02-0	1.25E+01		1.0E-01	1.3E+02	1.2E-01	1.0E+02			7.4E+04	1.7E-04
10	Perched	DRAIN #1	French Drain (062905)	N	06/29/05	D	INORG	Beryllium	7440-41-7	8.00E-03		4.0E-03	2.0E+00	2.9E-02	2.8E-01			2.9E+02	2.8E-05
10	Perched	DRAIN #1	French Drain (062905)	N	06/29/05	D	INORG	Copper	7440-50-8	2.23E-01		1.4E+00	1.6E-01	2.1E-02	1.1E+01			7.4E+03	3.0E-05
10	Perched	DRAIN #1	French Drain (062905)	N	06/29/05	D	INORG	Manganese	7439-96-5	1.38E+00		8.6E-01	1.6E+00	4.6E+00	3.0E-01			9.1E+03	1.5E-04
10	Perched	DRAIN #1	French Drain (062905)	N	06/29/05	D	INORG	Nickel	7440-02-0	1.80E+01		1.0E-01	1.8E+02	1.2E-01	1.5E+02			7.4E+04	2.4E-04
10	Perched	DRAIN #1	French Drain (062905)	N	06/29/05	D	INORG	Vanadium	7440-62-2	7.00E-03		4.5E-03	1.6E+00	1.2E-02	5.8E-01			9.7E+02	7.2E-06
10	Perched	DRAIN #1	French Drain (062905)	N	06/29/05	T	INORG	Beryllium	7440-41-7	9.00E-03		4.0E-03	2.3E+00	2.9E-02	3.1E-01			2.9E+02	3.1E-05
10	Perched	DRAIN #1	French Drain (062905)	N	06/29/05	T	INORG	Copper	7440-50-8	2.27E-01		1.4E+00	1.6E-01	2.1E-02	1.1E+01			7.4E+03	3.1E-05
10	Perched	DRAIN #1	French Drain (062905)	N	06/29/05	T	INORG	Manganese	7439-96-5	1.38E+00		8.6E-01	1.6E+00	4.6E+00	3.0E-01			9.1E+03	1.5E-04
10	Perched	DRAIN #1	French Drain (062905)	N	06/29/05	T	INORG	Nickel	7440-02-0	1.82E+01		1.0E-01	1.8E+02	1.2E-01	1.5E+02			7.4E+04	2.5E-04
10	Perched	DRAIN #1	French Drain (102607)	N	10/26/07	D	INORG	Chromium (total)	7440-47-3	3.00E-02		1.0E-01	3.0E-01	1.1E-02	2.7E+00			4.6E+02	6.5E-05
10	Perched	DRAIN #1	French Drain (102607)	N	10/26/07	D	INORG	Copper	7440-50-8	6.20E-02		1.4E+00	4.4E-02	2.1E-02	3.0E+00			7.4E+03	8.4E-06
10	Perched	DRAIN #1	French Drain (102607)	N	10/26/07	D	INORG	Nickel	7440-02-0	1.02E+01		1.0E-01	1.0E+02	1.2E-01	8.5E+01			7.4E+04	1.4E-04
10	Perched	DRAIN #1	French Drain (102607)	N	10/26/07	T	INORG	Copper	7440-50-8	7.80E-02		1.4E+00	5.6E-02	2.1E-02	3.8E+00			7.4E+03	1.1E-05
10	Perched	DRAIN #1	French Drain (102607)	N	10/26/07	T	INORG	Nickel	7440-02-0	1.06E+01		1.0E-01	1.1E+02	1.2E-01	8.9E+01			7.4E+04	1.4E-04
10	Perched	DRAIN #1	French Drain (111904)	N	11/19/04	D	INORG	Beryllium	7440-41-7	5.00E-03		4.0E-03	1.3E+00	2.9E-02	1.7E-01			2.9E+02	1.7E-05

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
10	Perched	DRAIN #1	French Drain (111904)	N	11/19/04	D	INORG	Copper	7440-50-8	1.47E-01		1.4E+00	1.1E-01	2.1E-02	7.1E+00			7.4E+03	2.0E-05
10	Perched	DRAIN #1	French Drain (111904)	N	11/19/04	D	INORG	Nickel	7440-02-0	1.19E+01		1.0E-01	1.2E+02	1.2E-01	1.0E+02			7.4E+04	1.6E-04
10	Perched	DRAIN #1	French Drain (111904)	N	11/19/04	T	INORG	Beryllium	7440-41-7	5.00E-03		4.0E-03	1.3E+00	2.9E-02	1.7E-01			2.9E+02	1.7E-05
10	Perched	DRAIN #1	French Drain (111904)	N	11/19/04	T	INORG	Copper	7440-50-8	1.51E-01		1.4E+00	1.1E-01	2.1E-02	7.3E+00			7.4E+03	2.0E-05
10	Perched	DRAIN #1	French Drain (111904)	N	11/19/04	T	INORG	Nickel	7440-02-0	1.21E+01		1.0E-01	1.2E+02	1.2E-01	1.0E+02			7.4E+04	1.6E-04
10	Perched	DRAIN #1	FrenchDrain DUP	FD	03/18/00	T	INORG	Chromium (total)	7440-47-3	2.00E-02		1.0E-01	2.0E-01	1.1E-02	1.8E+00			4.6E+02	4.3E-05
10	Perched	DRAIN #1	FrenchDrain DUP	FD	03/18/00	T	INORG	Copper	7440-50-8	2.60E-01		1.4E+00	1.9E-01	2.1E-02	1.3E+01			7.4E+03	3.5E-05
10	Perched	DRAIN #1	FrenchDrain DUP	FD	03/18/00	T	INORG	Nickel	7440-02-0	2.12E+01		1.0E-01	2.1E+02	1.2E-01	1.8E+02			7.4E+04	2.9E-04
10	Perched	TW-32	TW-32	N	01/01/88	T	INORG	Arsenic	7440-38-2	1.70E-02		1.0E-02	1.7E+00	1.5E-01	1.1E-01			4.3E+00	4.0E-03
10	Perched	TW-32	TW-32	N	01/01/88	T	INORG	Cyanide (total)	57-12-5	7.00E-02	J	2.0E-01	3.5E-01	5.2E-03	1.3E+01			5.7E+01	1.2E-03
9	Perched	VEW1	VEW-1(10)	N	02/01/95	T	VOC	Benzene	71-43-2	2.20E-02		5.0E-03	4.4E+00	2.0E-01	1.1E-01	5.6E+00	3.9E-03	1.1E+01	2.0E-03

Notes:

Sample Types: "N" = normal or parent sample, "FD" = field duplicate sample

Meas Basis - measured basis; T = total, D = dissolved

Table A-3c: Borehole Water Screening Results
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Residential Drinking Water Criteria (mg/L)	Ratio of Max Detected to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Max Detected to Groundwater Surface water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Max Detected to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Groundwater Contact Criteria
6	Unassigned	INORG	Nickel	7440-02-0	T	A	5	5	2.50E-01	3.20E+00	1.0E-01	**3.2E+01**	1.2E-01	**2.7E+01**			7.4E+04	4.3E-05

Notes:

Only constituents detected in each area are shown.

Ratios of concentrations to criteria greater than 1 are shaded in bold.

Chem Group - chemical group

Meas Basis - measured basis; T = total, D = dissolved

Carc Class - USEPA Weight-of-Evidence Cancer Classification

Table A-3d: Borehole Water Samples Exceeding Screening Criteria
GM Lansing Plant 3, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
6	Unassigned	SB#4	SB#4(15-17)~WB	N	02/15/90	T	INORG	Nickel	7440-02-0	7.40E-01		1.0E-01	**7.4E+00**	1.2E-01	**6.2E+00**			7.4E+04	1.0E-05
6	Unassigned	SB#5	SB#5(18.5-20.5)~WG	N	02/14/90	T	INORG	Nickel	7440-02-0	3.20E+00		1.0E-01	**3.2E+01**	1.2E-01	**2.7E+01**			7.4E+04	4.3E-05
6	Unassigned	SB#6	SB#6(80-80.5)	N	02/13/90	T	INORG	Nickel	7440-02-0	2.50E-01		1.0E-01	**2.5E+00**	1.2E-01	**2.1E+00**			7.4E+04	3.4E-06
6	Unassigned	SB#7	SB#7(28.5-30)~WG	N	02/19/90	T	INORG	Nickel	7440-02-0	4.20E-01		1.0E-01	**4.2E+00**	1.2E-01	**3.5E+00**			7.4E+04	5.7E-06
6	Unassigned	SB#8	SB#8(68.5-70)~WG	N	02/20/90	T	INORG	Nickel	7440-02-0	6.30E-01		1.0E-01	**6.3E+00**	1.2E-01	**5.3E+00**			7.4E+04	8.5E-06
	Notes:																		
	Sample Types: "N" = normal or parent sample, "FD" = field duplicate sample																		
	Meas Basis - measured basis; T = total, D = dissolved																		

Table A-2a: Summary of Soil Screening against Residential and Water Protection Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Max Detect to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Residential Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Max Detect to GSI Protection Criteria
10	INORG	Arsenic	7440-38-2	A	7	7	6.10E-01	1.64E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
10	INORG	Barium	7440-39-3	NC	7	7	1.99E+01	7.13E+01	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
10	INORG	Beryllium	7440-41-7	B1	7	7	1.20E-01	1.90E-01		5.1E+01	3.7E-03					1.3E+03	1.5E-04	4.1E+02	4.6E-04	3.6E+02	5.2E-04
10	INORG	Cadmium	7440-43-9	B1	7	7	8.00E-02	1.80E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
10	INORG	Chromium (total)	7440-47-3		7	7	3.60E+00	1.83E+01		3.0E+01	6.1E-01					2.6E+02	7.0E-02	2.5E+03	7.3E-03	3.3E+00	**5.5E+00**
10	INORG	Cobalt	7440-48-4	B1	7	7	2.54E+00	1.06E+01	6.80E+00	8.0E-01	**4.8E+00**					1.3E+04	2.9E-04	2.6E+03	1.5E-03	2.0E+00	**1.9E+00**
10	INORG	Copper	7440-50-8	D	7	7	6.70E+00	1.27E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
10	INORG	Lead	7439-92-1	B2	7	7	3.20E+00	7.00E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
10	INORG	Lead (Coarse Fraction)	7439-92-1C		7	7	3.20E+00	7.20E+00													
10	INORG	Lead (Fine Fraction)	7439-92-1F		7	7	1.22E+01	7.52E+01													
10	INORG	Lead (Summed Fractions)	7439-92-1S		7	7	4.99E+00	1.03E+01													
10	INORG	Manganese	7439-96-5	D	7	7	2.05E+02	6.55E+02	4.40E+02	1.0E+00	**2.2E+02**					3.3E+03	6.5E-02	2.5E+04	8.6E-03	9.1E+01	**2.4E+00**
10	INORG	Mercury	7439-97-6	D	7	6	1.00E-02	2.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
10	INORG	Nickel	7440-02-0	A	7	7	5.70E+00	2.42E+01	2.00E+01	1.0E+02	4.2E-02					1.3E+04	3.2E-04	4.0E+04	1.1E-04	1.2E+02	3.4E-02
10	INORG	Selenium	7782-49-2	D	7	7	2.40E-01	6.30E-01	4.10E-01	4.0E+00	5.5E-02					1.3E+05	1.7E-06	2.6E+03	8.5E-05	4.0E-01	5.5E-01
10	INORG	Silver	7440-22-4	D	7	3	2.00E-02	8.00E-02	1.00E+00	4.5E+00						6.7E+03		2.5E+03		1.0E-01	
10	INORG	Thallium	7440-28-0		7	7	3.00E-02	9.00E-02		2.3E+00	3.9E-02							3.5E+01	2.6E-03	4.2E+00	2.1E-02
10	INORG	Vanadium	7440-62-2		7	7	4.60E+00	1.47E+01		7.2E+01	2.0E-01							7.5E+02	2.0E-02	1.9E+02	7.7E-02
10	INORG	Zinc	7440-66-6	ID	7	7	1.04E+01	3.31E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
13	VOC	Acetone	67-64-1	ID	2	1	4.10E-02	4.10E-02		1.5E+01	2.7E-03	1.1E+05	3.7E-07	1.3E+05	3.2E-07	3.9E+08	1.1E-10	2.3E+04	1.8E-06	3.4E+01	1.2E-03
13	VOC	Benzene	71-43-2	A	31	3	1.20E-02	5.80E-01		1.0E-01	**5.8E+00**	1.6E+00	3.6E-01	1.3E+01	4.5E-02	3.8E+05	1.5E-06	1.8E+02	3.2E-03	4.0E+00	1.5E-01
13	VOC	Ethyl Benzene	100-41-4	D	31	2	9.70E-02	3.40E+00		1.5E+00	**2.3E+00**	8.7E+01	3.9E-02	7.2E+02	4.7E-03	1.0E+07	3.4E-07	1.4E+02	2.4E-02	3.6E-01	**9.4E+00**
13	VOC	Methylene Chloride	75-09-2	B2	2	1	1.00E-02	1.00E-02		1.0E-01	1.0E-01	4.5E+01	2.2E-04	2.1E+02	4.8E-05	6.6E+06	1.5E-09	1.3E+03	7.7E-06	1.9E+01	5.3E-04
13	VOC	Toluene	108-88-3	ID	31	14	5.00E-03	1.60E-01		1.6E+01	1.0E-02	2.5E+02	6.4E-04	2.8E+03	5.7E-05	2.7E+07	5.9E-09	2.5E+02	6.4E-04	2.8E+00	5.7E-02
13	VOC	Xylenes (total)	1330-20-7	ID	31	8	2.00E-03	9.90E+01		5.6E+00	**1.8E+01**	1.5E+02	6.6E-01	4.6E+04	2.2E-03	2.9E+08	3.4E-07	1.5E+02	6.6E-01	7.0E-01	**1.4E+02**
13	PDIST	Petroleum Hydrocarbons	68334-30-5		19	8	1.20E+01	1.15E+04													
16	VOC	Acetone	67-64-1	ID	2	1	4.10E-02	4.10E-02		1.5E+01	2.7E-03	1.1E+05	3.7E-07	1.3E+05	3.2E-07	3.9E+08	1.1E-10	2.3E+04	1.8E-06	3.4E+01	1.2E-03
16	VOC	Benzene	71-43-2	A	31	3	1.20E-02	5.80E-01		1.0E-01	**5.8E+00**	1.6E+00	3.6E-01	1.3E+01	4.5E-02	3.8E+05	1.5E-06	1.8E+02	3.2E-03	4.0E+00	1.5E-01
16	VOC	Ethyl Benzene	100-41-4	D	31	2	9.70E-02	3.40E+00		1.5E+00	**2.3E+00**	8.7E+01	3.9E-02	7.2E+02	4.7E-03	1.0E+07	3.4E-07	1.4E+02	2.4E-02	3.6E-01	**9.4E+00**
16	VOC	Methylene Chloride	75-09-2	B2	2	1	1.00E-02	1.00E-02		1.0E-01	1.0E-01	4.5E+01	2.2E-04	2.1E+02	4.8E-05	6.6E+06	1.5E-09	1.3E+03	7.7E-06	1.9E+01	5.3E-04
16	VOC	Toluene	108-88-3	ID	31	14	5.00E-03	1.60E-01		1.6E+01	1.0E-02	2.5E+02	6.4E-04	2.8E+03	5.7E-05	2.7E+07	5.9E-09	2.5E+02	6.4E-04	2.8E+00	5.7E-02
16	VOC	Xylenes (total)	1330-20-7	ID	31	8	2.00E-03	9.90E+01		5.6E+00	**1.8E+01**	1.5E+02	6.6E-01	4.6E+04	2.2E-03	2.9E+08	3.4E-07	1.5E+02	6.6E-01	7.0E-01	**1.4E+02**
16	PDIST	Petroleum Hydrocarbons	68334-30-5		19	8	1.20E+01	1.15E+04													
17	VOC	Acetone	67-64-1	ID	15	2	4.10E-02	2.60E-01		1.5E+01	1.7E-02	1.1E+05	2.4E-06	1.3E+05	2.0E-06	3.9E+08	6.7E-10	2.3E+04	1.1E-05	3.4E+01	7.6E-03
17	VOC	Benzene	71-43-2	A	90	18	6.00E-03	2.97E+01		1.0E-01	**3.0E+02**	1.6E+00	**1.9E+01**	1.3E+01	**2.3E+00**	3.8E+05	7.8E-05	1.8E+02	1.7E-01	4.0E+00	**7.4E+00**
17	VOC	2-Butanone	78-93-3	ID	15	2	6.30E-02	1.90E-01		2.6E+02	7.3E-04	2.7E+04	7.0E-06	2.9E+04	6.6E-06	6.7E+07	2.8E-09	2.7E+04	7.0E-06	4.4E+01	4.3E-03
17	VOC	1,1-Dichloroethane	75-34-3	SC	80	1	9.00E-03	9.00E-03		1.8E+01	5.0E-04	2.3E+02	3.9E-05	2.1E+03	4.3E-06	3.3E+07	2.7E-10	8.9E+02	1.0E-05	1.5E+01	6.0E-04
17	VOC	1,2-Dichloroethane	107-06-2	B2	44	1	1.00E-03	1.00E-03		1.0E-01	1.0E-02	2.1E+00	4.8E-04	6.2E+00	1.6E-04	1.2E+05	8.3E-09	9.1E+01	1.1E-05	7.2E+00	1.4E-04
17	VOC	1,1-Dichloroethene	75-35-4	C	80	3	2.00E-03	5.00E-01		1.4E-01	**3.6E+00**	6.2E-02	**8.1E+00**	1.1E+00	4.5E-01	6.2E+04	8.1E-06	2.0E+02	2.5E-03	1.3E+00	3.8E-01
17	VOC	cis-1,2-Dichloroethene	156-59-2	ID	80	4	2.00E-03	1.20E+01		1.4E+00	**8.6E+00**	2.2E+01	5.5E-01	1.8E+02	6.7E-02	2.3E+06	5.2E-06	6.4E+02	1.9E-02	1.2E+01	1.0E+00
17	VOC	Ethyl Benzene	100-41-4	D	90	22	1.00E-03	1.22E+02		1.5E+00	**8.1E+01**	8.7E+01	**1.4E+00**	7.2E+02	1.7E-01	1.0E+07	1.2E-05	1.4E+02	8.7E-01	3.6E-01	**3.4E+02**
17	VOC	Methyl tert-butyl ether	1634-04-4		36	2	3.90E+00	1.00E+01		8.0E-01	**1.3E+01**	5.9E+03	1.7E-03	2.5E+04	4.0E-04	2.0E+08	5.0E-08	1.5E+03	6.7E-03	1.5E+01	6.7E-01
17	VOC	Methylene Chloride	75-09-2	B2	37	9	7.00E-03	2.20E-02		1.0E-01	2.2E-01	4.5E+01	4.9E-04	2.1E+02	1.0E-04	6.6E+06	3.3E-09	1.3E+03	1.7E-05	1.9E+01	1.2E-03
17	VOC	Tetrachloroethene	127-18-4	C-B2	80	3	4.00E-03	9.00E-02		1.0E-01	9.0E-01	1.1E+01	8.2E-03	1.8E+02	5.0E-04	5.4E+06	1.7E-08	8.8E+01	1.0E-03	9.0E-01	1.0E-01
17	VOC	Toluene	108-88-3	ID	90	33	1.00E-03	1.80E+00		1.6E+01	1.1E-01	2.5E+02	7.2E-03	2.8E+03	6.4E-04	2.7E+07	6.7E-08	2.5E+02	7.2E-03	2.8E+00	6.4E-01
17	VOC	1,1,1-Trichloroethane	71-55-6	ID	73	9	1.00E-03	9.00E+00		4.0E+00	**2.3E+00**	2.5E+02	3.6E-02	3.8E+03	2.4E-03	6.7E+07	1.3E-07	4.6E+02	2.0E-02	4.0E+00	**2.3E+00**
17	VOC	1,1,2-Trichloroethane	79-00-5	C	80	5	1.00E-03	6.00E-01		1.0E-01	**6.0E+00**	4.6E+00	1.3E-01	1.7E+01	3.5E-02	1.9E+05	3.2E-06	1.8E+02	3.3E-03	6.6E+00	9.1E-02
17	VOC	Trichloroethene	79-01-6	C-B2	73	14	3.00E-03	1.20E+00		1.0E-01	**1.2E+01**	7.1E+00	1.7E-01	7.8E+01	1.5E-02	1.8E+06	6.7E-07	5.0E+02	2.4E-03	4.0E+00	3.0E-01
17	VOC	Xylenes (total)	1330-20-7	ID	90	27	2.00E-03	2.99E+02		5.6E+00	**5.3E+01**	1.5E+02	**2.0E+00**	4.6E+04	6.5E-03	2.9E+08	1.0E-06	1.5E+02	**2.0E+00**	7.0E-01	**4.3E+02**
17	SVOC	2-Methylnaphthalene	91-57-6	ID	7	1	9.50E+00	9.50E+00		5.7E+01	1.7E-01							8.1E+03	1.2E-03		
17	SVOC	Naphthalene	91-20-3	C	7	1	9.20E+00	9.20E+00		3.5E+01	2.6E-01	2.5E+02	3.7E-02	3.0E+02	3.1E-02	2.0E+05	4.6E-05	1.6E+04	5.8E-04	8.7E-01	**1.1E+01**
18	VOC	Benzene	71-43-2	A	6	2	1.00E-02	3.00E-02		1.0E-01	3.0E-01	1.6E+00	1.9E-02	1.3E+01	2.3E-03	3.8E+05	7.9E-08	1.8E+02	1.7E-04	4.0E+00	7.5E-03
18	VOC	Cumene	98-82-8	D	5	5	8.00E-03	1.42E+00		9.1E+01	1.6E-02	3.9E+02	3.6E-03	1.7E+03	8.4E-04	5.8E+06	2.4E-07	3.9E+02	3.6E-03		
18	VOC	Cyclohexane	110-82-7	ID	5	4	2.00E-02	4.00E-02													
18	VOC	Ethyl Benzene	100-41-4	D	6	3	1.00E-02	6.00E-02		1.5E+00	4.0E-02	8.7E+01	6.9E-04	7.2E+02	8.3E-05	1.0E+07	6.0E-09	1.4E+02	4.3E-04	3.6E-01	1.7E-01
18	VOC	Methylcyclohexane	108-87-2		5	5	5.00E-02	1.50E+00													
18	VOC	Toluene	108-88-3	ID	6	4	1.00E-02	1.20E-01		1.6E+01	7.5E-03	2.5E+02	4.8E-04	2.8E+03	4.3E-05	2.7E+07	4.4E-09	2.5E+02	4.8E-04	2.8E+00	4.3E-02
18	VOC	Xylenes (total)	1330-20-7	ID	6	2	8.00E-02	1.80E-01		5.6E+00	3.2E-02	1.5E+02	1.2E-03	4.6E+04	3.9E-06	2.9E+08	6.2E-10	1.5E+02	1.2E-03	7.0E-01	2.6E-01
18	SVOC	Benzo(a)pyrene	50-32-8	B2	1	1	5.00E-02	5.00E-02								1.5E+03	3.3E-05	2.0E+00	2.5E-02		
18	SVOC	Benzo(b)fluoranthene	205-99-2	B2	1	1	3.00E-02	3.00E-02										2.0E+01	1.5E-03		
18	SVOC	Benzo(g,h,i)perylene	191-24-2	D	1	1	9.00E-02	9.00E-02								8.0E+05	1.1E-07	2.5E+03	3.6E-05		
18	SVOC	Benzo(k)fluoranthene	207-08-9	B2	1	1	3.00E-02	3.00E-02										2.0E+02	1.5E-04		
18	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	1	1	8.00E-02	8.00E-02										2.0E+00	4.0E-02		
18	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	1	1	8.00E-02	8.00E-02										2.0E+01	4.0E-03		
18	SVOC	Naphthalene	91-20-3	C	1	1	9.00E-02	9.00E-02		3.5E+01	2.6E-03	2.5E+02	3.6E-04	3.0E+02	3.0E-04	2.0E+05	4.5E-07	1.6E+04	5.6E-06	8.7E-01	1.0E-01
18	PDIST	Petroleum Hydrocarbons	68334-30-5		1	1	3.00E+01	3.00E+01													
18	INORG	Antimony	7440-36-0		26	5	1.00E-01	5.70E-01		4.3E+00	1.3E-01					1.3E+04	4.4E-05	1.8E+02	3.2E-03	9.4E+01	6.1E-03

Table A-2a: Summary of Soil Screening against Residential and Water Protection Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Max Detect to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Residential Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Max Detect to GSI Protection Criteria
18	INORG	Arsenic	7440-38-2	A	26	26	6.20E-01	2.41E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
18	INORG	Barium	7440-39-3	NC	26	26	9.30E+00	1.40E+02	7.50E+01	1.3E+03	5.0E-02					3.3E+05	2.0E-04	3.7E+04	1.8E-03	8.2E+02	8.0E-02
18	INORG	Beryllium	7440-41-7	B1	26	13	1.20E-01	1.19E+00		5.1E+01	2.3E-02					1.3E+03	9.2E-04	4.1E+02	2.9E-03	3.6E+02	3.3E-03
18	INORG	Cadmium	7440-43-9	B1	26	25	6.00E-02	5.70E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
18	INORG	Chromium (total)	7440-47-3		26	26	2.80E+00	2.57E+01		3.0E+01	8.6E-01					2.6E+02	9.9E-02	2.5E+03	1.0E-02	3.3E+00	**7.8E+00**
18	INORG	Cobalt	7440-48-4	B1	26	26	9.80E-01	2.28E+01	6.80E+00	8.0E-01	**2.0E+01**					1.3E+04	1.2E-03	2.6E+03	6.2E-03	2.0E+00	**8.0E+00**
18	INORG	Copper	7440-50-8	D	26	26	4.50E+00	1.63E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
18	INORG	Cyanide (total)	57-12-5	D	26	4	2.00E-01	3.50E-01	3.90E-01	4.0E+00						2.5E+02		1.2E+01		1.0E-01	
18	INORG	Lead	7439-92-1	B2	199	198	1.30E+00	4.03E+03	2.10E+01	7.0E+02	**5.7E+00**					1.0E+05	4.0E-02	4.0E+02	**1.0E+01**	5.2E+03	7.7E-01
18	INORG	Lead (Coarse Fraction)	7439-92-1C		26	26	2.60E+00	1.82E+02													
18	INORG	Lead (Fine Fraction)	7439-92-1F		26	26	1.16E+01	2.40E+02													
18	INORG	Lead (Summed Fractions)	7439-92-1S		26	26	4.68E+00	1.80E+02													
18	INORG	Manganese	7439-96-5	D	26	26	4.98E+01	6.01E+02	4.40E+02	1.0E+00	**1.6E+02**					3.3E+03	4.9E-02	2.5E+04	6.4E-03	9.1E+01	**1.8E+00**
18	INORG	Mercury	7439-97-6	D	26	23	1.00E-02	7.60E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
18	INORG	Nickel	7440-02-0	A	26	26	3.10E+00	3.15E+01	2.00E+01	1.0E+02	1.2E-01					1.3E+04	8.8E-04	4.0E+04	2.9E-04	1.2E+02	9.3E-02
18	INORG	Selenium	7782-49-2	D	26	12	2.60E-01	1.01E+00	4.10E-01	4.0E+00	1.5E-01					1.3E+05	4.6E-06	2.6E+03	2.3E-04	4.0E-01	**1.5E+00**
18	INORG	Silver	7440-22-4	D	26	5	2.00E-02	4.00E-02	1.00E+00	4.5E+00						6.7E+03		2.5E+03		1.0E-01	
18	INORG	Thallium	7440-28-0		26	12	2.00E-02	7.00E-02		2.3E+00	3.0E-02							3.5E+01	2.0E-03	4.2E+00	1.7E-02
18	INORG	Vanadium	7440-62-2		26	26	2.90E+00	2.34E+01		7.2E+01	3.3E-01							7.5E+02	3.1E-02	1.9E+02	1.2E-01
18	INORG	Zinc	7440-66-6	ID	26	26	8.00E+00	1.88E+02	4.70E+01	2.4E+03	5.9E-02							1.7E+05	8.3E-04	2.7E+02	5.2E-01
19	INORG	Arsenic	7440-38-2	A	3	3	9.80E-01	1.05E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
19	INORG	Barium	7440-39-3	NC	3	3	3.30E+00	7.96E+01	7.50E+01	1.3E+03	3.5E-03					3.3E+05	1.4E-05	3.7E+04	1.2E-04	8.2E+02	5.6E-03
19	INORG	Beryllium	7440-41-7	B1	3	1	1.50E-01	1.50E-01		5.1E+01	2.9E-03					1.3E+03	1.2E-04	4.1E+02	3.7E-04	3.6E+02	4.1E-04
19	INORG	Cadmium	7440-43-9	B1	3	2	8.00E-02	9.00E-02	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
19	INORG	Chromium (total)	7440-47-3		3	3	1.60E+00	1.47E+01		3.0E+01	4.9E-01					2.6E+02	5.7E-02	2.5E+03	5.9E-03	3.3E+00	**4.5E+00**
19	INORG	Cobalt	7440-48-4	B1	3	3	1.01E+00	6.55E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
19	INORG	Copper	7440-50-8	D	3	3	5.00E+00	1.02E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
19	INORG	Lead	7439-92-1	B2	3	3	1.40E+00	4.90E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
19	INORG	Lead (Coarse Fraction)	7439-92-1C		3	3	2.90E+00	4.40E+00													
19	INORG	Lead (Fine Fraction)	7439-92-1F		3	3	7.30E+00	4.25E+01													
19	INORG	Lead (Summed Fractions)	7439-92-1S		3	3	5.31E+00	7.86E+00													
19	INORG	Manganese	7439-96-5	D	3	3	8.40E+01	3.35E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
19	INORG	Mercury	7439-97-6	D	3	2	1.00E-02	1.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
19	INORG	Nickel	7440-02-0	A	3	3	2.40E+00	1.60E+01	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
19	INORG	Selenium	7782-49-2	D	3	2	6.30E-01	7.80E-01	4.10E-01	4.0E+00	9.3E-02					1.3E+05	2.8E-06	2.6E+03	1.4E-04	4.0E-01	9.3E-01
19	INORG	Thallium	7440-28-0		3	2	5.00E-02	5.00E-02		2.3E+00	2.2E-02							3.5E+01	1.4E-03	4.2E+00	1.2E-02
19	INORG	Vanadium	7440-62-2		3	3	2.30E+00	1.42E+01		7.2E+01	2.0E-01							7.5E+02	1.9E-02	1.9E+02	7.5E-02
19	INORG	Zinc	7440-66-6	ID	3	3	7.30E+00	2.78E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
2	VOC	Cumene	98-82-8	D	2	2	9.30E-01	1.42E+00		9.1E+01	1.6E-02	3.9E+02	3.6E-03	1.7E+03	8.4E-04	5.8E+06	2.4E-07	3.9E+02	3.6E-03		
2	VOC	Cyclohexane	110-82-7	ID	2	1	3.00E-02	3.00E-02													
2	VOC	Ethyl Benzene	100-41-4	D	2	1	6.00E-02	6.00E-02		1.5E+00	4.0E-02	8.7E+01	6.9E-04	7.2E+02	8.3E-05	1.0E+07	6.0E-09	1.4E+02	4.3E-04	3.6E-01	1.7E-01
2	VOC	Methylcyclohexane	108-87-2		2	2	8.60E-01	1.50E+00													
2	VOC	Toluene	108-88-3	ID	2	1	2.00E-02	2.00E-02		1.6E+01	1.3E-03	2.5E+02	8.0E-05	2.8E+03	7.1E-06	2.7E+07	7.4E-10	2.5E+02	8.0E-05	2.8E+00	7.1E-03
2	INORG	Antimony	7440-36-0		14	4	1.90E-01	5.70E-01		4.3E+00	1.3E-01					1.3E+04	4.4E-05	1.8E+02	3.2E-03	9.4E+01	6.1E-03
2	INORG	Arsenic	7440-38-2	A	14	14	1.06E+00	2.22E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
2	INORG	Barium	7440-39-3	NC	14	14	9.30E+00	7.54E+01	7.50E+01	1.3E+03	3.1E-04					3.3E+05	1.2E-06	3.7E+04	1.1E-05	8.2E+02	4.9E-04
2	INORG	Beryllium	7440-41-7	B1	14	6	1.50E-01	6.80E-01		5.1E+01	1.3E-02					1.3E+03	5.2E-04	4.1E+02	1.7E-03	3.6E+02	1.9E-03
2	INORG	Cadmium	7440-43-9	B1	14	13	6.00E-02	5.70E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
2	INORG	Chromium (total)	7440-47-3		14	14	2.80E+00	1.61E+01		3.0E+01	5.4E-01					2.6E+02	6.2E-02	2.5E+03	6.4E-03	3.3E+00	**4.9E+00**
2	INORG	Cobalt	7440-48-4	B1	14	14	9.80E-01	8.35E+00	6.80E+00	8.0E-01	**1.9E+00**					1.3E+04	1.2E-04	2.6E+03	6.0E-04	2.0E+00	7.8E-01
2	INORG	Copper	7440-50-8	D	14	14	4.50E+00	1.32E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
2	INORG	Cyanide (total)	57-12-5	D	14	3	2.00E-01	2.00E-01	3.90E-01	4.0E+00						2.5E+02		1.2E+01		1.0E-01	
2	INORG	Lead	7439-92-1	B2	14	14	2.50E+00	1.21E+02	2.10E+01	7.0E+02	1.4E-01					1.0E+05	1.0E-03	4.0E+02	2.5E-01	5.2E+03	1.9E-02
2	INORG	Lead (Coarse Fraction)	7439-92-1C		14	14	2.60E+00	1.82E+02													
2	INORG	Lead (Fine Fraction)	7439-92-1F		14	14	1.16E+01	2.40E+02													
2	INORG	Lead (Summed Fractions)	7439-92-1S		14	14	4.68E+00	1.80E+02													
2	INORG	Manganese	7439-96-5	D	14	14	4.98E+01	6.01E+02	4.40E+02	1.0E+00	**1.6E+02**					3.3E+03	4.9E-02	2.5E+04	6.4E-03	9.1E+01	**1.8E+00**
2	INORG	Mercury	7439-97-6	D	14	12	1.00E-02	6.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
2	INORG	Nickel	7440-02-0	A	14	14	3.50E+00	1.85E+01	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
2	INORG	Selenium	7782-49-2	D	14	2	3.70E-01	5.60E-01	4.10E-01	4.0E+00	3.8E-02					1.3E+05	1.2E-06	2.6E+03	5.8E-05	4.0E-01	3.8E-01
2	INORG	Thallium	7440-28-0		14	1	4.00E-02	4.00E-02		2.3E+00	1.7E-02							3.5E+01	1.1E-03	4.2E+00	9.5E-03
2	INORG	Vanadium	7440-62-2		14	14	2.90E+00	1.47E+01		7.2E+01	2.0E-01							7.5E+02	2.0E-02	1.9E+02	7.7E-02
2	INORG	Zinc	7440-66-6	ID	14	14	8.00E+00	1.88E+02	4.70E+01	2.4E+03	5.9E-02							1.7E+05	8.3E-04	2.7E+02	5.2E-01
21	INORG	Arsenic	7440-38-2	A	1	1	8.90E-01	8.90E-01	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
21	INORG	Barium	7440-39-3	NC	1	1	7.00E+00	7.00E+00	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
21	INORG	Beryllium	7440-41-7	B1	1	1	5.00E-02	5.00E-02		5.1E+01	9.8E-04					1.3E+03	3.8E-05	4.1E+02	1.2E-04	3.6E+02	1.4E-04
21	INORG	Cadmium	7440-43-9	B1	1	1	5.00E-02	5.00E-02	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	

Table A-2a: Summary of Soil Screening against Residential and Water Protection Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Max Detect to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Residential Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Max Detect to GSI Protection Criteria
21	INORG	Chromium (total)	7440-47-3		1	1	1.80E+00	1.80E+00		3.0E+01	6.0E-02					2.6E+02	6.9E-03	2.5E+03	7.2E-04	3.3E+00	5.5E-01
21	INORG	Cobalt	7440-48-4	B1	1	1	1.39E+00	1.39E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
21	INORG	Copper	7440-50-8	D	1	1	2.50E+00	2.50E+00	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
21	INORG	Lead	7439-92-1	B2	1	1	2.20E+00	2.20E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
21	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	3.00E+00	3.00E+00													
21	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	3.60E+00	3.60E+00													
21	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	3.40E+00	3.40E+00													
21	INORG	Manganese	7439-96-5	D	1	1	1.21E+02	1.21E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
21	INORG	Nickel	7440-02-0	A	1	1	2.80E+00	2.80E+00	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
21	INORG	Vanadium	7440-62-2		1	1	2.60E+00	2.60E+00		7.2E+01	3.6E-02							7.5E+02	3.5E-03	1.9E+02	1.4E-02
21	INORG	Zinc	7440-66-6	ID	1	1	5.50E+00	5.50E+00	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
3	INORG	Arsenic	7440-38-2	A	6	6	6.10E-01	1.64E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
3	INORG	Barium	7440-39-3	NC	6	6	1.99E+01	3.90E+01	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
3	INORG	Beryllium	7440-41-7	B1	6	6	1.20E-01	1.80E-01		5.1E+01	3.5E-03					1.3E+03	1.4E-04	4.1E+02	4.4E-04	3.6E+02	5.0E-04
3	INORG	Cadmium	7440-43-9	B1	6	6	8.00E-02	1.80E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
3	INORG	Chromium (total)	7440-47-3		6	6	3.60E+00	1.24E+01		3.0E+01	4.1E-01					2.6E+02	4.8E-02	2.5E+03	5.0E-03	3.3E+00	**3.8E+00**
3	INORG	Cobalt	7440-48-4	B1	6	6	2.54E+00	5.74E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
3	INORG	Copper	7440-50-8	D	6	6	6.70E+00	1.04E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
3	INORG	Lead	7439-92-1	B2	6	6	3.20E+00	4.60E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
3	INORG	Lead (Coarse Fraction)	7439-92-1C		6	6	3.20E+00	7.20E+00													
3	INORG	Lead (Fine Fraction)	7439-92-1F		6	6	1.22E+01	4.40E+01													
3	INORG	Lead (Summed Fractions)	7439-92-1S		6	6	4.99E+00	1.03E+01													
3	INORG	Manganese	7439-96-5	D	6	6	2.05E+02	4.17E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
3	INORG	Mercury	7439-97-6	D	6	5	1.00E-02	2.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
3	INORG	Nickel	7440-02-0	A	6	6	5.70E+00	1.41E+01	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
3	INORG	Selenium	7782-49-2	D	6	6	2.40E-01	6.30E-01	4.10E-01	4.0E+00	5.5E-02					1.3E+05	1.7E-06	2.6E+03	8.5E-05	4.0E-01	5.5E-01
3	INORG	Silver	7440-22-4	D	6	3	2.00E-02	8.00E-02	1.00E+00	4.5E+00						6.7E+03		2.5E+03		1.0E-01	
3	INORG	Thallium	7440-28-0		6	6	3.00E-02	6.00E-02		2.3E+00	2.6E-02							3.5E+01	1.7E-03	4.2E+00	1.4E-02
3	INORG	Vanadium	7440-62-2		6	6	4.60E+00	1.13E+01		7.2E+01	1.6E-01							7.5E+02	1.5E-02	1.9E+02	5.9E-02
3	INORG	Zinc	7440-66-6	ID	6	6	1.04E+01	3.08E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
30	INORG	Arsenic	7440-38-2	A	1	1	1.05E+00	1.05E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
30	INORG	Barium	7440-39-3	NC	1	1	2.61E+01	2.61E+01	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
30	INORG	Beryllium	7440-41-7	B1	1	1	1.50E-01	1.50E-01		5.1E+01	2.9E-03					1.3E+03	1.2E-04	4.1E+02	3.7E-04	3.6E+02	4.1E-04
30	INORG	Cadmium	7440-43-9	B1	1	1	9.00E-02	9.00E-02	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
30	INORG	Chromium (total)	7440-47-3		1	1	5.60E+00	5.60E+00		3.0E+01	1.9E-01					2.6E+02	2.2E-02	2.5E+03	2.2E-03	3.3E+00	**1.7E+00**
30	INORG	Cobalt	7440-48-4	B1	1	1	3.29E+00	3.29E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
30	INORG	Copper	7440-50-8	D	1	1	5.60E+00	5.60E+00	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
30	INORG	Lead	7439-92-1	B2	1	1	3.60E+00	3.60E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
30	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	3.70E+00	3.70E+00													
30	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	2.43E+01	2.43E+01													
30	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	6.56E+00	6.56E+00													
30	INORG	Manganese	7439-96-5	D	1	1	1.90E+02	1.90E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
30	INORG	Mercury	7439-97-6	D	1	1	1.00E-02	1.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
30	INORG	Nickel	7440-02-0	A	1	1	6.80E+00	6.80E+00	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
30	INORG	Selenium	7782-49-2	D	1	1	2.90E-01	2.90E-01	4.10E-01	4.0E+00						1.3E+05		2.6E+03		4.0E-01	
30	INORG	Thallium	7440-28-0		1	1	2.00E-02	2.00E-02		2.3E+00	8.7E-03							3.5E+01	5.7E-04	4.2E+00	4.8E-03
30	INORG	Vanadium	7440-62-2		1	1	6.20E+00	6.20E+00		7.2E+01	8.6E-02							7.5E+02	8.3E-03	1.9E+02	3.3E-02
30	INORG	Zinc	7440-66-6	ID	1	1	1.24E+01	1.24E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
40	INORG	Arsenic	7440-38-2	A	1	1	5.90E-01	5.90E-01	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
40	INORG	Barium	7440-39-3	NC	1	1	1.12E+01	1.12E+01	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
40	INORG	Beryllium	7440-41-7	B1	1	1	7.00E-02	7.00E-02		5.1E+01	1.4E-03					1.3E+03	5.4E-05	4.1E+02	1.7E-04	3.6E+02	1.9E-04
40	INORG	Chromium (total)	7440-47-3		1	1	1.40E+00	1.40E+00		3.0E+01	4.7E-02					2.6E+02	5.4E-03	2.5E+03	5.6E-04	3.3E+00	4.2E-01
40	INORG	Cobalt	7440-48-4	B1	1	1	1.48E+00	1.48E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
40	INORG	Copper	7440-50-8	D	1	1	2.10E+00	2.10E+00	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
40	INORG	Lead	7439-92-1	B2	1	1	2.50E+00	2.50E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
40	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	4.60E+00	4.60E+00													
40	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	5.10E+00	5.10E+00													
40	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	4.89E+00	4.89E+00													
40	INORG	Manganese	7439-96-5	D	1	1	1.25E+02	1.25E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
40	INORG	Mercury	7439-97-6	D	1	1	1.00E-02	1.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
40	INORG	Nickel	7440-02-0	A	1	1	2.30E+00	2.30E+00	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
40	INORG	Selenium	7782-49-2	D	1	1	1.60E-01	1.60E-01	4.10E-01	4.0E+00						1.3E+05		2.6E+03		4.0E-01	
40	INORG	Vanadium	7440-62-2		1	1	2.30E+00	2.30E+00		7.2E+01	3.2E-02							7.5E+02	3.1E-03	1.9E+02	1.2E-02
40	INORG	Zinc	7440-66-6	ID	1	1	3.90E+00	3.90E+00	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
42	INORG	Antimony	7440-36-0		1	1	8.00E-02	8.00E-02		4.3E+00	1.9E-02					1.3E+04	6.2E-06	1.8E+02	4.4E-04	9.4E+01	8.5E-04
42	INORG	Arsenic	7440-38-2	A	1	1	6.00E-01	6.00E-01	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
42	INORG	Barium	7440-39-3	NC	1	1	9.40E+00	9.40E+00	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	

Table A-2a: Summary of Soil Screening against Residential and Water Protection Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Max Detect to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Residential Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Max Detect to GSI Protection Criteria
42	INORG	Beryllium	7440-41-7	B1	1	1	5.00E-02	5.00E-02		5.1E+01	9.8E-04					1.3E+03	3.8E-05	4.1E+02	1.2E-04	3.6E+02	1.4E-04
42	INORG	Chromium (total)	7440-47-3		1	1	1.60E+00	1.60E+00		3.0E+01	5.3E-02					2.6E+02	6.2E-03	2.5E+03	6.4E-04	3.3E+00	4.8E-01
42	INORG	Cobalt	7440-48-4	B1	1	1	1.33E+00	1.33E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
42	INORG	Copper	7440-50-8	D	1	1	1.90E+00	1.90E+00	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
42	INORG	Lead	7439-92-1	B2	1	1	7.70E+00	7.70E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
42	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	6.50E+00	6.50E+00													
42	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	4.10E+00	4.10E+00													
42	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	5.57E+00	5.57E+00													
42	INORG	Manganese	7439-96-5	D	1	1	1.18E+02	1.18E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
42	INORG	Mercury	7439-97-6	D	1	1	1.00E-02	1.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
42	INORG	Nickel	7440-02-0	A	1	1	3.10E+00	3.10E+00	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
42	INORG	Selenium	7782-49-2	D	1	1	1.70E-01	1.70E-01	4.10E-01	4.0E+00						1.3E+05		2.6E+03		4.0E-01	
42	INORG	Vanadium	7440-62-2		1	1	2.20E+00	2.20E+00		7.2E+01	3.1E-02							7.5E+02	2.9E-03	1.9E+02	1.2E-02
42	INORG	Zinc	7440-66-6	ID	1	1	4.50E+00	4.50E+00	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
43	INORG	Arsenic	7440-38-2	A	2	2	6.70E-01	1.26E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
43	INORG	Barium	7440-39-3	NC	2	2	5.50E+00	8.40E+00	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
43	INORG	Beryllium	7440-41-7	B1	2	2	5.00E-02	6.00E-02		5.1E+01	1.2E-03					1.3E+03	4.6E-05	4.1E+02	1.5E-04	3.6E+02	1.7E-04
43	INORG	Cadmium	7440-43-9	B1	2	2	5.00E-02	6.00E-02	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
43	INORG	Chromium (total)	7440-47-3		2	2	1.90E+00	5.50E+00		3.0E+01	1.8E-01					2.6E+02	2.1E-02	2.5E+03	2.2E-03	3.3E+00	**1.7E+00**
43	INORG	Cobalt	7440-48-4	B1	2	2	1.31E+00	2.77E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
43	INORG	Copper	7440-50-8	D	2	2	3.50E+00	4.10E+00	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
43	INORG	Lead	7439-92-1	B2	2	2	1.90E+00	3.10E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
43	INORG	Lead (Coarse Fraction)	7439-92-1C		2	2	1.90E+00	2.50E+00													
43	INORG	Lead (Fine Fraction)	7439-92-1F		2	2	8.30E+00	1.13E+01													
43	INORG	Lead (Summed Fractions)	7439-92-1S		2	2	3.67E+00	5.09E+00													
43	INORG	Manganese	7439-96-5	D	2	2	1.23E+02	1.44E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
43	INORG	Nickel	7440-02-0	A	2	2	3.00E+00	3.50E+00	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
43	INORG	Selenium	7782-49-2	D	2	2	2.90E-01	3.00E-01	4.10E-01	4.0E+00						1.3E+05		2.6E+03		4.0E-01	
43	INORG	Silver	7440-22-4	D	2	1	3.40E-01	3.40E-01	1.00E+00	4.5E+00						6.7E+03		2.5E+03		1.0E-01	
43	INORG	Thallium	7440-28-0		2	2	2.00E-02	3.00E-02		2.3E+00	1.3E-02							3.5E+01	8.6E-04	4.2E+00	7.1E-03
43	INORG	Vanadium	7440-62-2		2	2	3.00E+00	3.70E+00		7.2E+01	5.1E-02							7.5E+02	4.9E-03	1.9E+02	1.9E-02
43	INORG	Zinc	7440-66-6	ID	2	2	7.70E+00	7.90E+00	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
46	VOC	Benzene	71-43-2	A	2	1	2.00E-01	2.00E-01		1.0E-01	**2.0E+00**	1.6E+00	1.3E-01	1.3E+01	1.5E-02	3.8E+05	5.3E-07	1.8E+02	1.1E-03	4.0E+00	5.0E-02
46	VOC	Cumene	98-82-8	D	2	2	1.18E+00	3.89E+01		9.1E+01	4.3E-01	3.9E+02	1.0E-01	1.7E+03	2.3E-02	5.8E+06	6.7E-06	3.9E+02	1.0E-01		
46	VOC	Cyclohexane	110-82-7	ID	2	1	1.40E+00	1.40E+00													
46	VOC	Ethyl Benzene	100-41-4	D	2	2	5.50E-01	2.35E+01		1.5E+00	**1.6E+01**	8.7E+01	2.7E-01	7.2E+02	3.3E-02	1.0E+07	2.4E-06	1.4E+02	1.7E-01	3.6E-01	**6.5E+01**
46	VOC	Methylcyclohexane	108-87-2		2	2	1.16E+00	5.93E+01													
46	VOC	Tetrachloroethene	127-18-4	C-B2	2	1	4.00E-02	4.00E-02		1.0E-01	4.0E-01	1.1E+01	3.6E-03	1.8E+02	2.2E-04	5.4E+06	7.4E-09	8.8E+01	4.5E-04	9.0E-01	4.4E-02
46	VOC	Toluene	108-88-3	ID	2	1	5.00E-01	5.00E-01		1.6E+01	3.1E-02	2.5E+02	2.0E-03	2.8E+03	1.8E-04	2.7E+07	1.9E-08	2.5E+02	2.0E-03	2.8E+00	1.8E-01
46	VOC	Xylenes (total)	1330-20-7	ID	2	2	2.90E-01	1.37E+02		5.6E+00	**2.5E+01**	1.5E+02	9.1E-01	4.6E+04	3.0E-03	2.9E+08	4.7E-07	1.5E+02	9.1E-01	7.0E-01	**2.0E+02**
46	INORG	Antimony	7440-36-0		4	1	9.00E-02	9.00E-02		4.3E+00	2.1E-02					1.3E+04	6.9E-06	1.8E+02	5.0E-04	9.4E+01	9.6E-04
46	INORG	Arsenic	7440-38-2	A	4	4	1.07E+00	2.17E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
46	INORG	Barium	7440-39-3	NC	4	4	4.50E+00	4.62E+01	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
46	INORG	Beryllium	7440-41-7	B1	4	4	7.00E-02	3.30E-01		5.1E+01	6.5E-03					1.3E+03	2.5E-04	4.1E+02	8.0E-04	3.6E+02	9.1E-04
46	INORG	Cadmium	7440-43-9	B1	4	4	5.00E-02	3.80E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
46	INORG	Chromium (total)	7440-47-3		4	4	1.80E+00	8.90E+00		3.0E+01	3.0E-01					2.6E+02	3.4E-02	2.5E+03	3.6E-03	3.3E+00	**2.7E+00**
46	INORG	Cobalt	7440-48-4	B1	4	4	1.37E+00	5.00E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
46	INORG	Copper	7440-50-8	D	4	4	4.70E+00	2.16E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
46	INORG	Lead	7439-92-1	B2	4	4	3.00E+00	7.70E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
46	INORG	Lead (Coarse Fraction)	7439-92-1C		4	4	5.20E+00	4.45E+01													
46	INORG	Lead (Fine Fraction)	7439-92-1F		4	4	1.77E+01	2.86E+01													
46	INORG	Lead (Summed Fractions)	7439-92-1S		4	4	7.08E+00	4.28E+01													
46	INORG	Manganese	7439-96-5	D	4	4	4.31E+01	1.95E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
46	INORG	Mercury	7439-97-6	D	4	4	1.00E-02	3.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
46	INORG	Nickel	7440-02-0	A	4	4	2.90E+00	1.71E+01	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
46	INORG	Selenium	7782-49-2	D	4	4	2.80E-01	1.26E+00	4.10E-01	4.0E+00	2.1E-01					1.3E+05	6.5E-06	2.6E+03	3.3E-04	4.0E-01	**2.1E+00**
46	INORG	Silver	7440-22-4	D	4	3	3.00E-02	4.10E-01	1.00E+00	4.5E+00						6.7E+03		2.5E+03		1.0E-01	
46	INORG	Thallium	7440-28-0		4	4	3.00E-02	1.10E-01		2.3E+00	4.8E-02							3.5E+01	3.1E-03	4.2E+00	2.6E-02
46	INORG	Vanadium	7440-62-2		4	4	2.50E+00	1.56E+01		7.2E+01	2.2E-01							7.5E+02	2.1E-02	1.9E+02	8.2E-02
46	INORG	Zinc	7440-66-6	ID	4	4	1.00E+01	3.61E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
47	INORG	Antimony	7440-36-0		2	1	9.00E-02	9.00E-02		4.3E+00	2.1E-02					1.3E+04	6.9E-06	1.8E+02	5.0E-04	9.4E+01	9.6E-04
47	INORG	Arsenic	7440-38-2	A	2	2	1.07E+00	2.17E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
47	INORG	Barium	7440-39-3	NC	2	2	3.16E+01	4.62E+01	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
47	INORG	Beryllium	7440-41-7	B1	2	2	2.70E-01	3.30E-01		5.1E+01	6.5E-03					1.3E+03	2.5E-04	4.1E+02	8.0E-04	3.6E+02	9.1E-04
47	INORG	Cadmium	7440-43-9	B1	2	2	3.40E-01	3.80E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
47	INORG	Chromium (total)	7440-47-3		2	2	7.20E+00	8.90E+00		3.0E+01	3.0E-01					2.6E+02	3.4E-02	2.5E+03	3.6E-03	3.3E+00	**2.7E+00**
47	INORG	Cobalt	7440-48-4	B1	2	2	3.06E+00	5.00E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	

Table A-2a: Summary of Soil Screening against Residential and Water Protection Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Max Detect to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Residential Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Max Detect to GSI Protection Criteria
47	INORG	Copper	7440-50-8	D	2	2	1.34E+01	2.16E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
47	INORG	Lead	7439-92-1	B2	2	2	7.30E+00	7.70E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
47	INORG	Lead (Coarse Fraction)	7439-92-1C		2	2	7.20E+00	7.90E+00													
47	INORG	Lead (Fine Fraction)	7439-92-1F		2	2	2.00E+01	2.30E+01													
47	INORG	Lead (Summed Fractions)	7439-92-1S		2	2	8.22E+00	9.06E+00													
47	INORG	Manganese	7439-96-5	D	2	2	4.31E+01	1.69E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
47	INORG	Mercury	7439-97-6	D	2	2	2.00E-02	3.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
47	INORG	Nickel	7440-02-0	A	2	2	1.36E+01	1.71E+01	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
47	INORG	Selenium	7782-49-2	D	2	2	1.03E+00	1.26E+00	4.10E-01	4.0E+00	2.1E-01					1.3E+05	6.5E-06	2.6E+03	3.3E-04	4.0E-01	**2.1E+00**
47	INORG	Silver	7440-22-4	D	2	2	7.00E-02	4.10E-01	1.00E+00	4.5E+00						6.7E+03		2.5E+03		1.0E-01	
47	INORG	Thallium	7440-28-0		2	2	1.00E-01	1.10E-01		2.3E+00	4.8E-02							3.5E+01	3.1E-03	4.2E+00	2.6E-02
47	INORG	Vanadium	7440-62-2		2	2	1.14E+01	1.56E+01		7.2E+01	2.2E-01							7.5E+02	2.1E-02	1.9E+02	8.2E-02
47	INORG	Zinc	7440-66-6	ID	2	2	3.57E+01	3.61E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
48	VOC	Cumene	98-82-8	D	2	2	9.30E-01	1.42E+00		9.1E+01	1.6E-02	3.9E+02	3.6E-03	1.7E+03	8.4E-04	5.8E+06	2.4E-07	3.9E+02	3.6E-03		
48	VOC	Cyclohexane	110-82-7	ID	2	1	3.00E-02	3.00E-02													
48	VOC	Ethyl Benzene	100-41-4	D	2	1	6.00E-02	6.00E-02		1.5E+00	4.0E-02	8.7E+01	6.9E-04	7.2E+02	8.3E-05	1.0E+07	6.0E-09	1.4E+02	4.3E-04	3.6E-01	1.7E-01
48	VOC	Methylcyclohexane	108-87-2		2	2	8.60E-01	1.50E+00													
48	VOC	Toluene	108-88-3	ID	2	1	2.00E-02	2.00E-02		1.6E+01	1.3E-03	2.5E+02	8.0E-05	2.8E+03	7.1E-06	2.7E+07	7.4E-10	2.5E+02	8.0E-05	2.8E+00	7.1E-03
48	INORG	Antimony	7440-36-0		14	4	1.90E-01	5.70E-01		4.3E+00	1.3E-01					1.3E+04	4.4E-05	1.8E+02	3.2E-03	9.4E+01	6.1E-03
48	INORG	Arsenic	7440-38-2	A	14	14	1.06E+00	2.22E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
48	INORG	Barium	7440-39-3	NC	14	14	9.30E+00	7.54E+01	7.50E+01	1.3E+03	3.1E-04					3.3E+05	1.2E-06	3.7E+04	1.1E-05	8.2E+02	4.9E-04
48	INORG	Beryllium	7440-41-7	B1	14	6	1.50E-01	6.80E-01		5.1E+01	1.3E-02					1.3E+03	5.2E-04	4.1E+02	1.7E-03	3.6E+02	1.9E-03
48	INORG	Cadmium	7440-43-9	B1	14	13	6.00E-02	5.70E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
48	INORG	Chromium (total)	7440-47-3		14	14	2.80E+00	1.61E+01		3.0E+01	5.4E-01					2.6E+02	6.2E-02	2.5E+03	6.4E-03	3.3E+00	**4.9E+00**
48	INORG	Cobalt	7440-48-4	B1	14	14	9.80E-01	8.35E+00	6.80E+00	8.0E-01	**1.9E+00**					1.3E+04	1.2E-04	2.6E+03	6.0E-04	2.0E+00	7.8E-01
48	INORG	Copper	7440-50-8	D	14	14	4.50E+00	1.32E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
48	INORG	Cyanide (total)	57-12-5	D	14	3	2.00E-01	2.00E-01	3.90E-01	4.0E+00						2.5E+02		1.2E+01		1.0E-01	
48	INORG	Lead	7439-92-1	B2	14	14	2.50E+00	1.21E+02	2.10E+01	7.0E+02	1.4E-01					1.0E+05	1.0E-03	4.0E+02	2.5E-01	5.2E+03	1.9E-02
48	INORG	Lead (Coarse Fraction)	7439-92-1C		14	14	2.60E+00	1.82E+02													
48	INORG	Lead (Fine Fraction)	7439-92-1F		14	14	1.16E+01	2.40E+02													
48	INORG	Lead (Summed Fractions)	7439-92-1S		14	14	4.68E+00	1.80E+02													
48	INORG	Manganese	7439-96-5	D	14	14	4.98E+01	6.01E+02	4.40E+02	1.0E+00	**1.6E+02**					3.3E+03	4.9E-02	2.5E+04	6.4E-03	9.1E+01	**1.8E+00**
48	INORG	Mercury	7439-97-6	D	14	12	1.00E-02	6.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
48	INORG	Nickel	7440-02-0	A	14	14	3.50E+00	1.85E+01	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
48	INORG	Selenium	7782-49-2	D	14	2	3.70E-01	5.60E-01	4.10E-01	4.0E+00	3.8E-02					1.3E+05	1.2E-06	2.6E+03	5.8E-05	4.0E-01	3.8E-01
48	INORG	Thallium	7440-28-0		14	1	4.00E-02	4.00E-02		2.3E+00	1.7E-02							3.5E+01	1.1E-03	4.2E+00	9.5E-03
48	INORG	Vanadium	7440-62-2		14	14	2.90E+00	1.47E+01		7.2E+01	2.0E-01							7.5E+02	2.0E-02	1.9E+02	7.7E-02
48	INORG	Zinc	7440-66-6	ID	14	14	8.00E+00	1.88E+02	4.70E+01	2.4E+03	5.9E-02							1.7E+05	8.3E-04	2.7E+02	5.2E-01
49	INORG	Antimony	7440-36-0		2	1	9.00E-02	9.00E-02		4.3E+00	2.1E-02					1.3E+04	6.9E-06	1.8E+02	5.0E-04	9.4E+01	9.6E-04
49	INORG	Arsenic	7440-38-2	A	2	2	1.12E+00	1.79E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
49	INORG	Barium	7440-39-3	NC	2	2	1.00E+02	1.42E+02	7.50E+01	1.3E+03	5.2E-02					3.3E+05	2.0E-04	3.7E+04	1.8E-03	8.2E+02	8.2E-02
49	INORG	Beryllium	7440-41-7	B1	2	2	3.90E-01	4.20E-01		5.1E+01	8.2E-03					1.3E+03	3.2E-04	4.1E+02	1.0E-03	3.6E+02	1.2E-03
49	INORG	Cadmium	7440-43-9	B1	2	2	1.60E-01	3.20E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
49	INORG	Chromium (total)	7440-47-3		2	2	5.80E+00	1.06E+01		3.0E+01	3.5E-01					2.6E+02	4.1E-02	2.5E+03	4.2E-03	3.3E+00	**3.2E+00**
49	INORG	Cobalt	7440-48-4	B1	2	2	4.32E+00	5.50E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
49	INORG	Copper	7440-50-8	D	2	2	7.00E+00	8.40E+00	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
49	INORG	Lead	7439-92-1	B2	2	2	5.90E+00	7.90E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
49	INORG	Lead (Coarse Fraction)	7439-92-1C		2	2	5.50E+00	7.50E+00													
49	INORG	Lead (Fine Fraction)	7439-92-1F		2	2	1.49E+01	2.07E+01													
49	INORG	Lead (Summed Fractions)	7439-92-1S		2	2	6.62E+00	9.25E+00													
49	INORG	Manganese	7439-96-5	D	2	2	9.82E+01	3.68E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
49	INORG	Mercury	7439-97-6	D	2	2	2.00E-02	4.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
49	INORG	Nickel	7440-02-0	A	2	2	5.10E+00	1.00E+01	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
49	INORG	Selenium	7782-49-2	D	2	2	1.70E-01	1.01E+00	4.10E-01	4.0E+00	1.5E-01					1.3E+05	4.6E-06	2.6E+03	2.3E-04	4.0E-01	**1.5E+00**
49	INORG	Silver	7440-22-4	D	2	2	2.00E-02	1.40E-01	1.00E+00	4.5E+00						6.7E+03		2.5E+03		1.0E-01	
49	INORG	Thallium	7440-28-0		2	1	1.50E-01	1.50E-01		2.3E+00	6.5E-02							3.5E+01	4.3E-03	4.2E+00	3.6E-02
49	INORG	Vanadium	7440-62-2		2	2	9.50E+00	1.45E+01		7.2E+01	2.0E-01							7.5E+02	1.9E-02	1.9E+02	7.6E-02
49	INORG	Zinc	7440-66-6	ID	2	2	1.85E+01	2.54E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
59	INORG	Arsenic	7440-38-2	A	2	2	5.20E-01	2.25E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
59	INORG	Barium	7440-39-3	NC	2	2	2.33E+01	2.53E+01	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
59	INORG	Beryllium	7440-41-7	B1	2	2	1.20E-01	1.40E-01		5.1E+01	2.7E-03					1.3E+03	1.1E-04	4.1E+02	3.4E-04	3.6E+02	3.9E-04
59	INORG	Cadmium	7440-43-9	B1	2	2	9.00E-02	1.10E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
59	INORG	Chromium (total)	7440-47-3		2	2	3.50E+00	3.80E+00		3.0E+01	1.3E-01					2.6E+02	1.5E-02	2.5E+03	1.5E-03	3.3E+00	**1.2E+00**
59	INORG	Cobalt	7440-48-4	B1	2	2	2.51E+00	3.07E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
59	INORG	Copper	7440-50-8	D	2	2	5.50E+00	9.50E+00	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
59	INORG	Lead	7439-92-1	B2	2	2	3.00E+00	4.40E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
59	INORG	Lead (Coarse Fraction)	7439-92-1C		2	2	3.90E+00	4.60E+00													
59	INORG	Lead (Fine Fraction)	7439-92-1F		2	2	1.85E+01	3.35E+01													
59	INORG	Lead (Summed Fractions)	7439-92-1S		2	2	6.33E+00	9.33E+00													
59	INORG	Manganese	7439-96-5	D	2	2	1.88E+02	2.31E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
59	INORG	Mercury	7439-97-6	D	2	2	1.00E-02	1.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	

Table A-2a: Summary of Soil Screening against Residential and Water Protection Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Max Detect to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Residential Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Max Detect to GSI Protection Criteria
59	INORG	Nickel	7440-02-0	A	2	2	6.10E+00	7.80E+00	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
59	INORG	Selenium	7782-49-2	D	2	2	6.10E-01	6.80E-01	4.10E-01	4.0E+00	6.8E-02					1.3E+05	2.1E-06	2.6E+03	1.0E-04	4.0E-01	6.8E-01
59	INORG	Silver	7440-22-4	D	2	1	2.00E-02	2.00E-02	1.00E+00	4.5E+00						6.7E+03		2.5E+03		1.0E-01	
59	INORG	Thallium	7440-28-0		2	2	2.00E-02	6.00E-02		2.3E+00	2.6E-02							3.5E+01	1.7E-03	4.2E+00	1.4E-02
59	INORG	Vanadium	7440-62-2		2	2	4.80E+00	5.00E+00		7.2E+01	6.9E-02							7.5E+02	6.7E-03	1.9E+02	2.6E-02
59	INORG	Zinc	7440-66-6	ID	2	2	1.09E+01	1.84E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
60	VOC	Acetone	67-64-1	ID	1	1	3.50E+01	3.50E+01		1.5E+01	**2.3E+00**	1.1E+05	3.2E-04	1.3E+05	2.7E-04	3.9E+08	9.0E-08	2.3E+04	1.5E-03	3.4E+01	1.0E+00
60	VOC	Cumene	98-82-8	D	1	1	1.00E-01	1.00E-01		9.1E+01	1.1E-03	3.9E+02	2.6E-04	1.7E+03	5.9E-05	5.8E+06	1.7E-08	3.9E+02	2.6E-04		
60	VOC	Ethyl Benzene	100-41-4	D	1	1	6.10E+00	6.10E+00		1.5E+00	**4.1E+00**	8.7E+01	7.0E-02	7.2E+02	8.5E-03	1.0E+07	6.1E-07	1.4E+02	4.4E-02	3.6E-01	**1.7E+01**
60	VOC	4-Methyl-2-pentanone	108-10-1	ID	1	1	3.00E+00	3.00E+00		3.6E+01	8.3E-02	2.7E+03	1.1E-03	4.5E+04	6.7E-05	1.4E+08	2.1E-08	2.7E+03	1.1E-03		
60	VOC	Toluene	108-88-3	ID	1	1	5.00E-01	5.00E-01		1.6E+01	3.1E-02	2.5E+02	2.0E-03	2.8E+03	1.8E-04	2.7E+07	1.9E-08	2.5E+02	2.0E-03	2.8E+00	1.8E-01
60	VOC	Xylenes (total)	1330-20-7	ID	1	1	3.45E+01	3.45E+01		5.6E+00	**6.2E+00**	1.5E+02	2.3E-01	4.6E+04	7.5E-04	2.9E+08	1.2E-07	1.5E+02	2.3E-01	7.0E-01	**4.9E+01**
60	INORG	Arsenic	7440-38-2	A	3	3	8.00E-01	1.22E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
60	INORG	Barium	7440-39-3	NC	3	3	6.00E+00	3.64E+01	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
60	INORG	Beryllium	7440-41-7	B1	3	3	4.00E-02	1.70E-01		5.1E+01	3.3E-03					1.3E+03	1.3E-04	4.1E+02	4.1E-04	3.6E+02	4.7E-04
60	INORG	Cadmium	7440-43-9	B1	3	3	6.00E-02	8.00E-02	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
60	INORG	Chromium (total)	7440-47-3		3	3	1.80E+00	5.90E+00		3.0E+01	2.0E-01					2.6E+02	2.3E-02	2.5E+03	2.4E-03	3.3E+00	**1.8E+00**
60	INORG	Cobalt	7440-48-4	B1	3	3	1.01E+00	3.89E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
60	INORG	Copper	7440-50-8	D	3	3	3.90E+00	6.20E+00	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
60	INORG	Lead	7439-92-1	B2	3	3	2.30E+00	4.00E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
60	INORG	Lead (Coarse Fraction)	7439-92-1C		3	3	1.50E+00	3.90E+00													
60	INORG	Lead (Fine Fraction)	7439-92-1F		3	3	4.90E+00	2.60E+01													
60	INORG	Lead (Summed Fractions)	7439-92-1S		3	3	2.49E+00	5.00E+00													
60	INORG	Manganese	7439-96-5	D	3	3	1.32E+02	2.76E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
60	INORG	Mercury	7439-97-6	D	3	2	1.00E-02	1.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
60	INORG	Nickel	7440-02-0	A	3	3	2.30E+00	9.40E+00	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
60	INORG	Selenium	7782-49-2	D	3	3	1.70E-01	3.60E-01	4.10E-01	4.0E+00						1.3E+05		2.6E+03		4.0E-01	
60	INORG	Thallium	7440-28-0		3	2	3.00E-02	4.00E-02		2.3E+00	1.7E-02							3.5E+01	1.1E-03	4.2E+00	9.5E-03
60	INORG	Vanadium	7440-62-2		3	3	2.00E+00	6.90E+00		7.2E+01	9.6E-02							7.5E+02	9.2E-03	1.9E+02	3.6E-02
60	INORG	Zinc	7440-66-6	ID	3	3	6.90E+00	1.39E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
63	INORG	Arsenic	7440-38-2	A	1	1	1.34E+00	1.34E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
63	INORG	Barium	7440-39-3	NC	1	1	5.81E+01	5.81E+01	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
63	INORG	Beryllium	7440-41-7	B1	1	1	2.60E-01	2.60E-01		5.1E+01	5.1E-03					1.3E+03	2.0E-04	4.1E+02	6.3E-04	3.6E+02	7.2E-04
63	INORG	Cadmium	7440-43-9	B1	1	1	9.00E-02	9.00E-02	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
63	INORG	Chromium (total)	7440-47-3		1	1	9.00E+00	9.00E+00		3.0E+01	3.0E-01					2.6E+02	3.5E-02	2.5E+03	3.6E-03	3.3E+00	**2.7E+00**
63	INORG	Cobalt	7440-48-4	B1	1	1	6.25E+00	6.25E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
63	INORG	Copper	7440-50-8	D	1	1	9.20E+00	9.20E+00	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
63	INORG	Lead	7439-92-1	B2	1	1	5.50E+00	5.50E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
63	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	5.20E+00	5.20E+00													
63	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	3.16E+01	3.16E+01													
63	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	6.59E+00	6.59E+00													
63	INORG	Manganese	7439-96-5	D	1	1	3.50E+02	3.50E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
63	INORG	Mercury	7439-97-6	D	1	1	2.00E-02	2.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
63	INORG	Nickel	7440-02-0	A	1	1	1.31E+01	1.31E+01	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
63	INORG	Selenium	7782-49-2	D	1	1	4.90E-01	4.90E-01	4.10E-01	4.0E+00	2.0E-02					1.3E+05	6.2E-07	2.6E+03	3.1E-05	4.0E-01	2.0E-01
63	INORG	Thallium	7440-28-0		1	1	5.00E-02	5.00E-02		2.3E+00	2.2E-02							3.5E+01	1.4E-03	4.2E+00	1.2E-02
63	INORG	Vanadium	7440-62-2		1	1	1.01E+01	1.01E+01		7.2E+01	1.4E-01							7.5E+02	1.3E-02	1.9E+02	5.3E-02
63	INORG	Zinc	7440-66-6	ID	1	1	1.84E+01	1.84E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
78	INORG	Arsenic	7440-38-2	A	1	1	9.10E-01	9.10E-01	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
78	INORG	Barium	7440-39-3	NC	1	1	4.38E+01	4.38E+01	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
78	INORG	Beryllium	7440-41-7	B1	1	1	1.80E-01	1.80E-01		5.1E+01	3.5E-03					1.3E+03	1.4E-04	4.1E+02	4.4E-04	3.6E+02	5.0E-04
78	INORG	Cadmium	7440-43-9	B1	1	1	9.00E-02	9.00E-02	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
78	INORG	Chromium (total)	7440-47-3		1	1	1.71E+01	1.71E+01		3.0E+01	5.7E-01					2.6E+02	6.6E-02	2.5E+03	6.8E-03	3.3E+00	**5.2E+00**
78	INORG	Cobalt	7440-48-4	B1	1	1	7.03E+00	7.03E+00	6.80E+00	8.0E-01	2.9E-01					1.3E+04	1.8E-05	2.6E+03	8.8E-05	2.0E+00	1.2E-01
78	INORG	Copper	7440-50-8	D	1	1	1.06E+01	1.06E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
78	INORG	Lead	7439-92-1	B2	1	1	5.70E+00	5.70E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
78	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	4.20E+00	4.20E+00													
78	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	1.92E+01	1.92E+01													
78	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	6.07E+00	6.07E+00													
78	INORG	Manganese	7439-96-5	D	1	1	2.80E+02	2.80E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
78	INORG	Mercury	7439-97-6	D	1	1	2.00E-02	2.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
78	INORG	Nickel	7440-02-0	A	1	1	2.02E+01	2.02E+01	2.00E+01	1.0E+02	2.0E-03					1.3E+04	1.5E-05	4.0E+04	5.0E-06	1.2E+02	1.6E-03
78	INORG	Selenium	7782-49-2	D	1	1	5.80E-01	5.80E-01	4.10E-01	4.0E+00	4.3E-02					1.3E+05	1.3E-06	2.6E+03	6.5E-05	4.0E-01	4.3E-01
78	INORG	Thallium	7440-28-0		1	1	6.00E-02	6.00E-02		2.3E+00	2.6E-02							3.5E+01	1.7E-03	4.2E+00	1.4E-02
78	INORG	Vanadium	7440-62-2		1	1	1.42E+01	1.42E+01		7.2E+01	2.0E-01							7.5E+02	1.9E-02	1.9E+02	7.5E-02
78	INORG	Zinc	7440-66-6	ID	1	1	2.98E+01	2.98E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
81	INORG	Antimony	7440-36-0		18	1	1.50E-01	1.50E-01		4.3E+00	3.5E-02					1.3E+04	1.2E-05	1.8E+02	8.3E-04	9.4E+01	1.6E-03
81	INORG	Arsenic	7440-38-2	A	18	18	5.90E-01	7.34E+00	5.80E+00	4.6E+00	3.3E-01					7.2E+02	2.1E-03	7.6E+00	2.0E-01	7.0E+01	2.2E-02
81	INORG	Barium	7440-39-3	NC	18	18	1.93E+01	4.20E+02	7.50E+01	1.3E+03	2.7E-01					3.3E+05	1.0E-03	3.7E+04	9.3E-03	8.2E+02	4.2E-01
81	INORG	Beryllium	7440-41-7	B1	18	18	8.00E-02	1.04E+00		5.1E+01	2.0E-02					1.3E+03	8.0E-04	4.1E+02	2.5E-03	3.6E+02	2.9E-03
81	INORG	Cadmium	7440-43-9	B1	18	18	5.00E-02	3.50E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
81	INORG	Chromium (total)	7440-47-3		18	18	3.40E+00	2.50E+01		3.0E+01	8.3E-01					2.6E+02	9.6E-02	2.5E+03	1.0E-02	3.3E+00	**7.6E+00**

Table A-2a: Summary of Soil Screening against Residential and Water Protection Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Max Detect to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Residential Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Max Detect to GSI Protection Criteria
81	INORG	Cobalt	7440-48-4	B1	18	18	1.82E+00	1.26E+01	6.80E+00	8.0E-01	**7.3E+00**					1.3E+04	4.5E-04	2.6E+03	2.2E-03	2.0E+00	**2.9E+00**
81	INORG	Copper	7440-50-8	D	18	18	4.70E+00	1.81E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
81	INORG	Lead	7439-92-1	B2	18	18	3.40E+00	9.30E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
81	INORG	Lead (Coarse Fraction)	7439-92-1C		18	18	3.20E+00	8.90E+00													
81	INORG	Lead (Fine Fraction)	7439-92-1F		18	18	5.80E+00	3.01E+01													
81	INORG	Lead (Summed Fractions)	7439-92-1S		18	18	3.72E+00	1.01E+01													
81	INORG	Manganese	7439-96-5	D	18	18	8.16E+01	1.18E+03	4.40E+02	1.0E+00	**7.4E+02**					3.3E+03	2.2E-01	2.5E+04	3.0E-02	9.1E+01	**8.1E+00**
81	INORG	Mercury	7439-97-6	D	18	18	1.00E-02	6.10E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
81	INORG	Nickel	7440-02-0	A	18	18	4.40E+00	2.91E+01	2.00E+01	1.0E+02	9.1E-02					1.3E+04	7.0E-04	4.0E+04	2.3E-04	1.2E+02	7.3E-02
81	INORG	Selenium	7782-49-2	D	18	17	2.70E-01	8.00E-01	4.10E-01	4.0E+00	9.8E-02					1.3E+05	3.0E-06	2.6E+03	1.5E-04	4.0E-01	9.8E-01
81	INORG	Silver	7440-22-4	D	18	13	2.00E-02	1.90E-01	1.00E+00	4.5E+00						6.7E+03		2.5E+03		1.0E-01	
81	INORG	Thallium	7440-28-0		18	16	3.00E-02	1.80E-01		2.3E+00	7.8E-02							3.5E+01	5.1E-03	4.2E+00	4.3E-02
81	INORG	Vanadium	7440-62-2		18	18	4.00E+00	2.99E+01		7.2E+01	4.2E-01							7.5E+02	4.0E-02	1.9E+02	1.6E-01
81	INORG	Zinc	7440-66-6	ID	18	18	1.32E+01	5.50E+01	4.70E+01	2.4E+03	3.3E-03							1.7E+05	4.7E-05	2.7E+02	3.0E-02
82	VOC	Benzene	71-43-2	A	2	2	1.00E-02	3.00E-02		1.0E-01	3.0E-01	1.6E+00	1.9E-02	1.3E+01	2.3E-03	3.8E+05	7.9E-08	1.8E+02	1.7E-04	4.0E+00	7.5E-03
82	VOC	Cumene	98-82-8	D	2	2	8.00E-03	1.00E-02		9.1E+01	1.1E-04	3.9E+02	2.6E-05	1.7E+03	5.9E-06	5.8E+06	1.7E-09	3.9E+02	2.6E-05		
82	VOC	Cyclohexane	110-82-7	ID	2	2	2.00E-02	3.00E-02													
82	VOC	Ethyl Benzene	100-41-4	D	2	2	1.00E-02	3.00E-02		1.5E+00	2.0E-02	8.7E+01	3.4E-04	7.2E+02	4.2E-05	1.0E+07	3.0E-09	1.4E+02	2.1E-04	3.6E-01	8.3E-02
82	VOC	Methylcyclohexane	108-87-2		2	2	5.00E-02	1.10E-01													
82	VOC	Toluene	108-88-3	ID	2	2	5.00E-02	1.20E-01		1.6E+01	7.5E-03	2.5E+02	4.8E-04	2.8E+03	4.3E-05	2.7E+07	4.4E-09	2.5E+02	4.8E-04	2.8E+00	4.3E-02
82	VOC	Xylenes (total)	1330-20-7	ID	2	2	8.00E-02	1.80E-01		5.6E+00	3.2E-02	1.5E+02	1.2E-03	4.6E+04	3.9E-06	2.9E+08	6.2E-10	1.5E+02	1.2E-03	7.0E-01	2.6E-01
82	INORG	Arsenic	7440-38-2	A	5	5	6.20E-01	2.41E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
82	INORG	Barium	7440-39-3	NC	5	5	2.40E+01	9.68E+01	7.50E+01	1.3E+03	1.7E-02					3.3E+05	6.6E-05	3.7E+04	5.9E-04	8.2E+02	2.7E-02
82	INORG	Beryllium	7440-41-7	B1	5	1	1.90E-01	1.90E-01		5.1E+01	3.7E-03					1.3E+03	1.5E-04	4.1E+02	4.6E-04	3.6E+02	5.2E-04
82	INORG	Cadmium	7440-43-9	B1	5	5	7.00E-02	2.60E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
82	INORG	Chromium (total)	7440-47-3		5	5	4.10E+00	1.61E+01		3.0E+01	5.4E-01					2.6E+02	6.2E-02	2.5E+03	6.4E-03	3.3E+00	**4.9E+00**
82	INORG	Cobalt	7440-48-4	B1	5	5	2.59E+00	7.90E+00	6.80E+00	8.0E-01	**1.4E+00**					1.3E+04	8.5E-05	2.6E+03	4.2E-04	2.0E+00	5.5E-01
82	INORG	Copper	7440-50-8	D	5	5	6.20E+00	1.15E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
82	INORG	Lead	7439-92-1	B2	5	5	3.70E+00	1.09E+01	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
82	INORG	Lead (Coarse Fraction)	7439-92-1C		5	5	3.40E+00	1.22E+01													
82	INORG	Lead (Fine Fraction)	7439-92-1F		5	5	2.08E+01	6.62E+01													
82	INORG	Lead (Summed Fractions)	7439-92-1S		5	5	5.19E+00	1.50E+01													
82	INORG	Manganese	7439-96-5	D	5	5	2.50E+02	3.26E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
82	INORG	Mercury	7439-97-6	D	5	4	1.00E-02	1.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
82	INORG	Nickel	7440-02-0	A	5	5	5.60E+00	1.89E+01	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
82	INORG	Selenium	7782-49-2	D	5	5	5.20E-01	1.01E+00	4.10E-01	4.0E+00	1.5E-01					1.3E+05	4.6E-06	2.6E+03	2.3E-04	4.0E-01	**1.5E+00**
82	INORG	Silver	7440-22-4	D	5	2	2.00E-02	2.00E-02	1.00E+00	4.5E+00						6.7E+03		2.5E+03		1.0E-01	
82	INORG	Thallium	7440-28-0		5	5	3.00E-02	7.00E-02		2.3E+00	3.0E-02							3.5E+01	2.0E-03	4.2E+00	1.7E-02
82	INORG	Vanadium	7440-62-2		5	5	7.10E+00	1.41E+01		7.2E+01	2.0E-01							7.5E+02	1.9E-02	1.9E+02	7.4E-02
82	INORG	Zinc	7440-66-6	ID	5	5	1.49E+01	3.21E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
83	INORG	Arsenic	7440-38-2	A	10	10	9.10E-01	1.65E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
83	INORG	Barium	7440-39-3	NC	10	10	3.50E+01	7.13E+01	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
83	INORG	Beryllium	7440-41-7	B1	10	10	1.80E-01	2.30E-01		5.1E+01	4.5E-03					1.3E+03	1.8E-04	4.1E+02	5.6E-04	3.6E+02	6.4E-04
83	INORG	Cadmium	7440-43-9	B1	10	10	8.00E-02	1.30E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
83	INORG	Chromium (total)	7440-47-3		10	10	7.50E+00	2.08E+01		3.0E+01	6.9E-01					2.6E+02	8.0E-02	2.5E+03	8.3E-03	3.3E+00	**6.3E+00**
83	INORG	Cobalt	7440-48-4	B1	10	10	3.58E+00	1.06E+01	6.80E+00	8.0E-01	**4.8E+00**					1.3E+04	2.9E-04	2.6E+03	1.5E-03	2.0E+00	**1.9E+00**
83	INORG	Copper	7440-50-8	D	10	10	7.20E+00	1.32E+01	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
83	INORG	Lead	7439-92-1	B2	10	10	4.10E+00	7.00E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
83	INORG	Lead (Coarse Fraction)	7439-92-1C		10	10	3.10E+00	4.80E+00													
83	INORG	Lead (Fine Fraction)	7439-92-1F		10	10	1.68E+01	7.52E+01													
83	INORG	Lead (Summed Fractions)	7439-92-1S		10	10	4.86E+00	9.87E+00													
83	INORG	Manganese	7439-96-5	D	10	10	2.23E+02	6.55E+02	4.40E+02	1.0E+00	**2.2E+02**					3.3E+03	6.5E-02	2.5E+04	8.6E-03	9.1E+01	**2.4E+00**
83	INORG	Mercury	7439-97-6	D	10	10	1.00E-02	2.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
83	INORG	Nickel	7440-02-0	A	10	10	9.50E+00	2.42E+01	2.00E+01	1.0E+02	4.2E-02					1.3E+04	3.2E-04	4.0E+04	1.1E-04	1.2E+02	3.4E-02
83	INORG	Selenium	7782-49-2	D	10	10	4.00E-01	1.31E+00	4.10E-01	4.0E+00	2.3E-01					1.3E+05	6.9E-06	2.6E+03	3.5E-04	4.0E-01	**2.3E+00**
83	INORG	Silver	7440-22-4	D	10	3	2.00E-02	4.00E-02	1.00E+00	4.5E+00						6.7E+03		2.5E+03		1.0E-01	
83	INORG	Thallium	7440-28-0		10	10	3.00E-02	9.00E-02		2.3E+00	3.9E-02							3.5E+01	2.6E-03	4.2E+00	2.1E-02
83	INORG	Vanadium	7440-62-2		10	10	8.90E+00	1.69E+01		7.2E+01	2.3E-01							7.5E+02	2.3E-02	1.9E+02	8.9E-02
83	INORG	Zinc	7440-66-6	ID	10	10	1.56E+01	3.54E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
87	INORG	Arsenic	7440-38-2	A	1	1	1.40E+00	1.40E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
87	INORG	Barium	7440-39-3	NC	1	1	5.04E+01	5.04E+01	7.50E+01	1.3E+03						3.3E+05		3.7E+04		8.2E+02	
87	INORG	Beryllium	7440-41-7	B1	1	1	1.90E-01	1.90E-01		5.1E+01	3.7E-03					1.3E+03	1.5E-04	4.1E+02	4.6E-04	3.6E+02	5.2E-04
87	INORG	Cadmium	7440-43-9	B1	1	1	1.00E-01	1.00E-01	1.20E+00	6.0E+00						1.7E+03		5.5E+02		5.5E+00	
87	INORG	Chromium (total)	7440-47-3		1	1	7.70E+00	7.70E+00		3.0E+01	2.6E-01					2.6E+02	3.0E-02	2.5E+03	3.1E-03	3.3E+00	**2.3E+00**
87	INORG	Cobalt	7440-48-4	B1	1	1	4.34E+00	4.34E+00	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
87	INORG	Copper	7440-50-8	D	1	1	7.20E+00	7.20E+00	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
87	INORG	Lead	7439-92-1	B2	1	1	3.70E+00	3.70E+00	2.10E+01	7.0E+02						1.0E+05		4.0E+02		5.2E+03	
87	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	3.70E+00	3.70E+00													
87	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	4.56E+01	4.56E+01													
87	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	6.59E+00	6.59E+00													
87	INORG	Manganese	7439-96-5	D	1	1	2.50E+02	2.50E+02	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
87	INORG	Mercury	7439-97-6	D	1	1	1.00E-02	1.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	

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GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Max Detect to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Residential Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Max Detect to GSI Protection Criteria
87	INORG	Nickel	7440-02-0	A	1	1	1.03E+01	1.03E+01	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
87	INORG	Selenium	7782-49-2	D	1	1	5.10E-01	5.10E-01	4.10E-01	4.0E+00	2.5E-02					1.3E+05	7.7E-07	2.6E+03	3.8E-05	4.0E-01	2.5E-01
87	INORG	Silver	7440-22-4	D	1	1	2.00E-02	2.00E-02	1.00E+00	4.5E+00						6.7E+03		2.5E+03		1.0E-01	
87	INORG	Thallium	7440-28-0		1	1	6.00E-02	6.00E-02		2.3E+00	2.6E-02							3.5E+01	1.7E-03	4.2E+00	1.4E-02
87	INORG	Vanadium	7440-62-2		1	1	8.80E+00	8.80E+00		7.2E+01	1.2E-01							7.5E+02	1.2E-02	1.9E+02	4.6E-02
87	INORG	Zinc	7440-66-6	ID	1	1	1.66E+01	1.66E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	
88	VOC	Benzene	71-43-2	A	1	1	1.60E-01	1.60E-01		1.0E-01	**1.6E+00**	1.6E+00	1.0E-01	1.3E+01	1.2E-02	3.8E+05	4.2E-07	1.8E+02	8.9E-04	4.0E+00	4.0E-02
88	VOC	Cumene	98-82-8	D	1	1	3.50E-01	3.50E-01		9.1E+01	3.8E-03	3.9E+02	9.0E-04	1.7E+03	2.1E-04	5.8E+06	6.0E-08	3.9E+02	9.0E-04		
88	VOC	Cyclohexane	110-82-7	ID	1	1	1.10E-01	1.10E-01													
88	VOC	Ethyl Benzene	100-41-4	D	1	1	1.23E+00	1.23E+00		1.5E+00	8.2E-01	8.7E+01	1.4E-02	7.2E+02	1.7E-03	1.0E+07	1.2E-07	1.4E+02	8.8E-03	3.6E-01	**3.4E+00**
88	VOC	Methylcyclohexane	108-87-2		1	1	7.40E-01	7.40E-01													
88	VOC	Toluene	108-88-3	ID	1	1	2.63E+00	2.63E+00		1.6E+01	1.6E-01	2.5E+02	1.1E-02	2.8E+03	9.4E-04	2.7E+07	9.7E-08	2.5E+02	1.1E-02	2.8E+00	9.4E-01
88	VOC	Xylenes (total)	1330-20-7	ID	1	1	8.11E+00	8.11E+00		5.6E+00	**1.4E+00**	1.5E+02	5.4E-02	4.6E+04	1.8E-04	2.9E+08	2.8E-08	1.5E+02	5.4E-02	7.0E-01	**1.2E+01**
88	INORG	Antimony	7440-36-0		1	1	3.00E+01	3.00E+01		4.3E+00	**7.0E+00**					1.3E+04	2.3E-03	1.8E+02	1.7E-01	9.4E+01	3.2E-01
88	INORG	Arsenic	7440-38-2	A	1	1	1.24E+00	1.24E+00	5.80E+00	4.6E+00						7.2E+02		7.6E+00		7.0E+01	
88	INORG	Barium	7440-39-3	NC	1	1	1.19E+02	1.19E+02	7.50E+01	1.3E+03	3.4E-02					3.3E+05	1.3E-04	3.7E+04	1.2E-03	8.2E+02	5.4E-02
88	INORG	Beryllium	7440-41-7	B1	1	1	5.70E-01	5.70E-01		5.1E+01	1.1E-02					1.3E+03	4.4E-04	4.1E+02	1.4E-03	3.6E+02	1.6E-03
88	INORG	Cadmium	7440-43-9	B1	1	1	2.60E+00	2.60E+00	1.20E+00	6.0E+00	2.3E-01					1.7E+03	8.2E-04	5.5E+02	2.5E-03	5.5E+00	2.5E-01
88	INORG	Chromium (total)	7440-47-3		1	1	9.90E+00	9.90E+00		3.0E+01	3.3E-01					2.6E+02	3.8E-02	2.5E+03	4.0E-03	3.3E+00	**3.0E+00**
88	INORG	Cobalt	7440-48-4	B1	1	1	9.80E-01	9.80E-01	6.80E+00	8.0E-01						1.3E+04		2.6E+03		2.0E+00	
88	INORG	Copper	7440-50-8	D	1	1	6.30E+00	6.30E+00	3.20E+01	5.8E+03						1.3E+05		2.0E+04		1.2E+02	
88	INORG	Lead	7439-92-1	B2	1	1	2.22E+01	2.22E+01	2.10E+01	7.0E+02	1.7E-03					1.0E+05	1.2E-05	4.0E+02	3.0E-03	5.2E+03	2.3E-04
88	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	1.47E+02	1.47E+02													
88	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	1.58E+02	1.58E+02													
88	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	1.47E+02	1.47E+02													
88	INORG	Manganese	7439-96-5	D	1	1	1.27E+01	1.27E+01	4.40E+02	1.0E+00						3.3E+03		2.5E+04		9.1E+01	
88	INORG	Mercury	7439-97-6	D	1	1	1.00E-02	1.00E-02	1.30E-01	1.7E+00		4.8E+01		5.2E+01		2.0E+04		1.6E+02		5.0E-02	
88	INORG	Nickel	7440-02-0	A	1	1	1.19E+01	1.19E+01	2.00E+01	1.0E+02						1.3E+04		4.0E+04		1.2E+02	
88	INORG	Selenium	7782-49-2	D	1	1	1.09E+00	1.09E+00	4.10E-01	4.0E+00	1.7E-01					1.3E+05	5.2E-06	2.6E+03	2.6E-04	4.0E-01	**1.7E+00**
88	INORG	Vanadium	7440-62-2		1	1	9.60E+00	9.60E+00		7.2E+01	1.3E-01							7.5E+02	1.3E-02	1.9E+02	5.1E-02
88	INORG	Zinc	7440-66-6	ID	1	1	1.89E+01	1.89E+01	4.70E+01	2.4E+03								1.7E+05		2.7E+02	

Notes:

Only constituents detected in each area are shown.

The criteria for 2-Methylnaphthalene are the criteria provided by the agency for Naphthalene.

Ratios are calculated using the maximum detected concentrations, except for inorganics. Ratios for inorganics use the facility-related concentrations, which are those in excess of background.

Ratios of concentrations to criteria greater than 1 are shaded in bold.

Chem Group - chemical group

Carc Class - USEPA Weight-of-Evidence Cancer Classification

Table A-2b: Summary of Soil Screening against Non-Residential Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Industrial Particulate Inhalation Criteria	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Industrial Direct Contact Criteria	Construction Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Construction Worker Soil Criteria
10	INORG	Arsenic	7440-38-2	A	7	7	6.10E-01	1.64E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
10	INORG	Barium	7440-39-3	NC	7	7	1.99E+01	7.13E+01	7.50E+01					1.5E+05		1.3E+05			
10	INORG	Beryllium	7440-41-7	B1	7	7	1.20E-01	1.90E-01						5.9E+02	3.2E-04	1.6E+03	1.2E-04	3.7E+02	5.1E-04
10	INORG	Cadmium	7440-43-9	B1	7	7	8.00E-02	1.80E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
10	INORG	Chromium (total)	7440-47-3		7	7	3.60E+00	1.83E+01						2.4E+02	7.6E-02	9.2E+03	2.0E-03	1.7E+03	1.1E-02
10	INORG	Cobalt	7440-48-4	B1	7	7	2.54E+00	1.06E+01	6.80E+00					5.9E+03	6.4E-04	9.0E+03	4.2E-04	5.5E+02	6.9E-03
10	INORG	Copper	7440-50-8	D	7	7	6.70E+00	1.27E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
10	INORG	Lead	7439-92-1	B2	7	7	3.20E+00	7.00E+00	2.10E+01					4.4E+04		9.0E+02			
10	INORG	Lead (Coarse Fraction)	7439-92-1C		7	7	3.20E+00	7.20E+00											
10	INORG	Lead (Fine Fraction)	7439-92-1F		7	7	1.22E+01	7.52E+01											
10	INORG	Lead (Summed Fractions)	7439-92-1S		7	7	4.99E+00	1.03E+01											
10	INORG	Manganese	7439-96-5	D	7	7	2.05E+02	6.55E+02	4.40E+02					1.5E+03	1.4E-01	9.0E+04	2.4E-03	1.4E+03	1.5E-01
10	INORG	Mercury	7439-97-6	D	7	6	1.00E-02	2.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
10	INORG	Nickel	7440-02-0	A	7	7	5.70E+00	2.42E+01	2.00E+01					1.6E+04	2.6E-04	1.5E+05	2.8E-05	8.5E+04	4.9E-05
10	INORG	Selenium	7782-49-2	D	7	7	2.40E-01	6.30E-01	4.10E-01					5.9E+04	3.7E-06	9.6E+03	2.3E-05	2.5E+03	8.7E-05
10	INORG	Silver	7440-22-4	D	7	3	2.00E-02	8.00E-02	1.00E+00					2.9E+03		9.0E+03		2.6E+02	
10	INORG	Thallium	7440-28-0		7	7	3.00E-02	9.00E-02								1.3E+02	6.9E-04	3.6E+01	2.5E-03
10	INORG	Vanadium	7440-62-2		7	7	4.60E+00	1.47E+01								5.5E+03	2.7E-03	3.6E+03	4.1E-03
10	INORG	Zinc	7440-66-6	ID	7	7	1.04E+01	3.31E+01	4.70E+01							6.3E+05		1.5E+05	
13	VOC	Acetone	67-64-1	ID	2	1	4.10E-02	4.10E-02		1.1E+05	3.7E-07	1.6E+05	2.6E-07	1.7E+08	2.4E-10	7.3E+04	5.6E-07	4.4E+03	9.4E-06
13	VOC	Benzene	71-43-2	A	31	3	1.20E-02	5.80E-01		8.4E+00	6.9E-02	4.5E+01	1.3E-02	4.7E+05	1.2E-06	4.0E+02	1.5E-03	1.5E+01	4.0E-02
13	VOC	Ethyl Benzene	100-41-4	D	31	2	9.70E-02	3.40E+00		1.4E+02	2.4E-02	2.4E+03	1.4E-03	1.3E+07	2.6E-07	1.4E+02	2.4E-02	4.6E+02	7.3E-03
13	VOC	Methylene Chloride	75-09-2	B2	2	1	1.00E-02	1.00E-02		2.4E+02	4.2E-05	7.0E+02	1.4E-05	8.3E+06	1.2E-09	2.3E+03	4.3E-06	3.5E+02	2.8E-05
13	VOC	Toluene	108-88-3	ID	31	14	5.00E-03	1.60E-01		2.5E+02	6.4E-04	3.3E+03	4.8E-05	1.2E+07	1.3E-08	2.5E+02	6.4E-04	1.7E+03	9.3E-05
13	VOC	Xylenes (total)	1330-20-7	ID	31	8	2.00E-03	9.90E+01		1.5E+02	6.6E-01	5.4E+04	1.8E-03	1.3E+08	7.6E-07	1.5E+02	6.6E-01	5.1E+01	**2.0E+00**
13	PDIST	Petroleum Hydrocarbons	68334-30-5		19	8	1.20E+01	1.15E+04											
16	VOC	Acetone	67-64-1	ID	2	1	4.10E-02	4.10E-02		1.1E+05	3.7E-07	1.6E+05	2.6E-07	1.7E+08	2.4E-10	7.3E+04	5.6E-07	4.4E+03	9.4E-06
16	VOC	Benzene	71-43-2	A	31	3	1.20E-02	5.80E-01		8.4E+00	6.9E-02	4.5E+01	1.3E-02	4.7E+05	1.2E-06	4.0E+02	1.5E-03	1.5E+01	4.0E-02
16	VOC	Ethyl Benzene	100-41-4	D	31	2	9.70E-02	3.40E+00		1.4E+02	2.4E-02	2.4E+03	1.4E-03	1.3E+07	2.6E-07	1.4E+02	2.4E-02	4.6E+02	7.3E-03
16	VOC	Methylene Chloride	75-09-2	B2	2	1	1.00E-02	1.00E-02		2.4E+02	4.2E-05	7.0E+02	1.4E-05	8.3E+06	1.2E-09	2.3E+03	4.3E-06	3.5E+02	2.8E-05
16	VOC	Toluene	108-88-3	ID	31	14	5.00E-03	1.60E-01		2.5E+02	6.4E-04	3.3E+03	4.8E-05	1.2E+07	1.3E-08	2.5E+02	6.4E-04	1.7E+03	9.3E-05
16	VOC	Xylenes (total)	1330-20-7	ID	31	8	2.00E-03	9.90E+01		1.5E+02	6.6E-01	5.4E+04	1.8E-03	1.3E+08	7.6E-07	1.5E+02	6.6E-01	5.1E+01	**2.0E+00**
16	PDIST	Petroleum Hydrocarbons	68334-30-5		19	8	1.20E+01	1.15E+04											
17	VOC	Acetone	67-64-1	ID	15	2	4.10E-02	2.60E-01		1.1E+05	2.4E-06	1.6E+05	1.6E-06	1.7E+08	1.5E-09	7.3E+04	3.6E-06	4.4E+03	5.9E-05
17	VOC	Benzene	71-43-2	A	90	18	6.00E-03	2.97E+01		8.4E+00	**3.5E+00**	4.5E+01	6.6E-01	4.7E+05	6.3E-05	4.0E+02	7.4E-02	1.5E+01	**2.0E+00**
17	VOC	2-Butanone	78-93-3	ID	15	2	6.30E-02	1.90E-01		2.7E+04	7.0E-06	3.5E+04	5.4E-06	2.9E+07	6.6E-09	2.7E+04	7.0E-06	6.7E+03	2.9E-05
17	VOC	1,1-Dichloroethane	75-34-3	SC	80	1	9.00E-03	9.00E-03		4.3E+02	2.1E-05	2.5E+03	3.6E-06	1.5E+07	6.0E-10	8.9E+02	1.0E-05	1.1E+03	8.0E-06
17	VOC	1,2-Dichloroethane	107-06-2	B2	44	1	1.00E-03	1.00E-03		1.1E+01	9.1E-05	2.1E+01	4.8E-05	1.5E+05	6.7E-09	4.2E+02	2.4E-06	1.8E+00	5.5E-04
17	VOC	1,1-Dichloroethene	75-35-4	C	80	3	2.00E-03	5.00E-01		3.3E-01	**1.5E+00**	3.7E+00	1.4E-01	7.8E+04	6.4E-06	5.7E+02	8.8E-04	2.7E+01	1.9E-02
17	VOC	cis-1,2-Dichloroethene	156-59-2	ID	80	4	2.00E-03	1.20E+01		4.1E+01	2.9E-01	2.1E+02	5.7E-02	1.0E+06	1.2E-05	6.4E+02	1.9E-02	9.3E+01	1.3E-01
17	VOC	Ethyl Benzene	100-41-4	D	90	22	1.00E-03	1.22E+02		1.4E+02	8.7E-01	2.4E+03	5.1E-02	1.3E+07	9.4E-06	1.4E+02	8.7E-01	4.6E+02	2.6E-01
17	VOC	Methyl tert-butyl ether	1634-04-4		36	2	3.90E+00	1.00E+01		5.9E+03	1.7E-03	3.0E+04	3.3E-04	8.8E+07	1.1E-07	5.9E+03	1.7E-03	1.4E+03	7.0E-03
17	VOC	Methylene Chloride	75-09-2	B2	37	9	7.00E-03	2.20E-02		2.4E+02	9.2E-05	7.0E+02	3.1E-05	8.3E+06	2.7E-09	2.3E+03	9.6E-06	3.5E+02	6.3E-05
17	VOC	Tetrachloroethene	127-18-4	C-B2	80	3	4.00E-03	9.00E-02		6.0E+01	1.5E-03	6.0E+02	1.5E-04	6.8E+06	1.3E-08	8.8E+01	1.0E-03	5.2E+01	1.7E-03
17	VOC	Toluene	108-88-3	ID	90	33	1.00E-03	1.80E+00		2.5E+02	7.2E-03	3.3E+03	5.5E-04	1.2E+07	1.5E-07	2.5E+02	7.2E-03	1.7E+03	1.0E-03
17	VOC	1,1,1-Trichloroethane	71-55-6	ID	73	9	1.00E-03	9.00E+00		4.6E+02	2.0E-02	4.5E+03	2.0E-03	2.9E+07	3.1E-07	4.6E+02	2.0E-02	4.3E+03	2.1E-03
17	VOC	1,1,2-Trichloroethane	79-00-5	C	80	5	1.00E-03	6.00E-01		2.4E+01	2.5E-02	5.7E+01	1.1E-02	2.5E+05	2.4E-06	8.4E+02	7.1E-04	2.5E+01	2.4E-02
17	VOC	Trichloroethene	79-01-6	C-B2	73	14	3.00E-03	1.20E+00		3.7E+01	3.2E-02	2.6E+02	4.6E-03	2.3E+06	5.2E-07	5.0E+02	2.4E-03	1.2E+02	1.0E-02
17	VOC	Xylenes (total)	1330-20-7	ID	90	27	2.00E-03	2.99E+02		1.5E+02	**2.0E+00**	5.4E+04	5.5E-03	1.3E+08	2.3E-06	1.5E+02	**2.0E+00**	5.1E+01	**5.9E+00**
17	SVOC	2-Methylnaphthalene	91-57-6	ID	7	1	9.50E+00	9.50E+00								2.6E+04	3.7E-04	2.6E+01	3.6E-01
17	SVOC	Naphthalene	91-20-3	C	7	1	9.20E+00	9.20E+00		4.7E+02	2.0E-02	3.5E+02	2.6E-02	8.8E+04	1.0E-04	5.2E+04	1.8E-04	1.4E+01	6.4E-01
18	VOC	Benzene	71-43-2	A	6	2	1.00E-02	3.00E-02		8.4E+00	3.6E-03	4.5E+01	6.7E-04	4.7E+05	6.4E-08	4.0E+02	7.5E-05	1.5E+01	2.1E-03
18	VOC	Cumene	98-82-8	D	5	5	8.00E-03	1.42E+00		3.9E+02	3.6E-03	2.0E+03	7.1E-04	2.6E+06	5.5E-07	3.9E+02	3.6E-03	2.1E+02	6.7E-03
18	VOC	Cyclohexane	110-82-7	ID	5	4	2.00E-02	4.00E-02										8.5E+02	4.7E-05
18	VOC	Ethyl Benzene	100-41-4	D	6	3	1.00E-02	6.00E-02		1.4E+02	4.3E-04	2.4E+03	2.5E-05	1.3E+07	4.6E-09	1.4E+02	4.3E-04	4.6E+02	1.3E-04
18	VOC	Methylcyclohexane	108-87-2		5	5	5.00E-02	1.50E+00										3.2E+02	4.7E-03
18	VOC	Toluene	108-88-3	ID	6	4	1.00E-02	1.20E-01		2.5E+02	4.8E-04	3.3E+03	3.6E-05	1.2E+07	1.0E-08	2.5E+02	4.8E-04	1.7E+03	7.0E-05
18	VOC	Xylenes (total)	1330-20-7	ID	6	2	8.00E-02	1.80E-01		1.5E+02	1.2E-03	5.4E+04	3.3E-06	1.3E+08	1.4E-09	1.5E+02	1.2E-03	5.1E+01	3.6E-03
18	SVOC	Benzo(a)pyrene	50-32-8	B2	1	1	5.00E-02	5.00E-02						1.9E+03	2.6E-05	8.0E+00	6.3E-03	3.4E+01	1.5E-03
18	SVOC	Benzo(b)fluoranthene	205-99-2	B2	1	1	3.00E-02	3.00E-02								8.0E+01	3.8E-04	3.1E+02	9.7E-05
18	SVOC	Benzo(g,h,i)perylene	191-24-2	D	1	1	9.00E-02	9.00E-02						3.5E+05	2.6E-07	7.0E+03	1.3E-05	1.1E+05	8.4E-07
18	SVOC	Benzo(k)fluoranthene	207-08-9	B2	1	1	3.00E-02	3.00E-02								8.0E+02	3.8E-05	3.4E+03	8.8E-06
18	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	1	1	8.00E-02	8.00E-02								8.0E+00	1.0E-02	3.4E+01	2.3E-03
18	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	1	1	8.00E-02	8.00E-02								8.0E+01	1.0E-03	3.4E+02	2.4E-04
18	SVOC	Naphthalene	91-20-3	C	1	1	9.00E-02	9.00E-02		4.7E+02	1.9E-04	3.5E+02	2.6E-04	8.8E+04	1.0E-06	5.2E+04	1.7E-06	1.4E+01	6.3E-03
18	PDIST	Petroleum Hydrocarbons	68334-30-5		1	1	3.00E+01	3.00E+01											

Table A-2b: Summary of Soil Screening against Non-Residential Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Industrial Particulate Inhalation Criteria	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Industrial Direct Contact Criteria	Construction Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Construction Worker Soil Criteria
18	INORG	Antimony	7440-36-0		26	5	1.00E-01	5.70E-01						5.9E+03	9.7E-05	6.7E+02	8.5E-04	2.0E+02	2.8E-03
18	INORG	Arsenic	7440-38-2	A	26	26	6.20E-01	2.41E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
18	INORG	Barium	7440-39-3	NC	26	26	9.30E+00	1.40E+02	7.50E+01					1.5E+05	4.3E-04	1.3E+05	5.0E-04		
18	INORG	Beryllium	7440-41-7	B1	26	13	1.20E-01	1.19E+00						5.9E+02	2.0E-03	1.6E+03	7.4E-04	3.7E+02	3.2E-03
18	INORG	Cadmium	7440-43-9	B1	26	25	6.00E-02	5.70E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
18	INORG	Chromium (total)	7440-47-3		26	26	2.80E+00	2.57E+01						2.4E+02	1.1E-01	9.2E+03	2.8E-03	1.7E+03	1.5E-02
18	INORG	Cobalt	7440-48-4	B1	26	26	9.80E-01	2.28E+01	6.80E+00					5.9E+03	2.7E-03	9.0E+03	1.8E-03	5.5E+02	2.9E-02
18	INORG	Copper	7440-50-8	D	26	26	4.50E+00	1.63E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
18	INORG	Cyanide (total)	57-12-5	D	26	4	2.00E-01	3.50E-01	3.90E-01					2.5E+02		2.5E+02		1.0E+04	
18	INORG	Lead	7439-92-1	B2	199	198	1.30E+00	4.03E+03	2.10E+01					4.4E+04	9.1E-02	9.0E+02	**4.5E+00**		
18	INORG	Lead (Coarse Fraction)	7439-92-1C		26	26	2.60E+00	1.82E+02											
18	INORG	Lead (Fine Fraction)	7439-92-1F		26	26	1.16E+01	2.40E+02											
18	INORG	Lead (Summed Fractions)	7439-92-1S		26	26	4.68E+00	1.80E+02											
18	INORG	Manganese	7439-96-5	D	26	26	4.98E+01	6.01E+02	4.40E+02					1.5E+03	1.1E-01	9.0E+04	1.8E-03	1.4E+03	1.1E-01
18	INORG	Mercury	7439-97-6	D	26	23	1.00E-02	7.60E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
18	INORG	Nickel	7440-02-0	A	26	26	3.10E+00	3.15E+01	2.00E+01					1.6E+04	7.2E-04	1.5E+05	7.7E-05	8.5E+04	1.4E-04
18	INORG	Selenium	7782-49-2	D	26	12	2.60E-01	1.01E+00	4.10E-01					5.9E+04	1.0E-05	9.6E+03	6.3E-05	2.5E+03	2.4E-04
18	INORG	Silver	7440-22-4	D	26	5	2.00E-02	4.00E-02	1.00E+00					2.9E+03		9.0E+03		2.6E+02	
18	INORG	Thallium	7440-28-0		26	12	2.00E-02	7.00E-02								1.3E+02	5.4E-04	3.6E+01	2.0E-03
18	INORG	Vanadium	7440-62-2		26	26	2.90E+00	2.34E+01								5.5E+03	4.3E-03	3.6E+03	6.6E-03
18	INORG	Zinc	7440-66-6	ID	26	26	8.00E+00	1.88E+02	4.70E+01							6.3E+05	2.2E-04	1.5E+05	9.2E-04
19	INORG	Arsenic	7440-38-2	A	3	3	9.80E-01	1.05E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
19	INORG	Barium	7440-39-3	NC	3	3	3.30E+00	7.96E+01	7.50E+01					1.5E+05	3.1E-05	1.3E+05	3.5E-05		
19	INORG	Beryllium	7440-41-7	B1	3	1	1.50E-01	1.50E-01						5.9E+02	2.5E-04	1.6E+03	9.4E-05	3.7E+02	4.0E-04
19	INORG	Cadmium	7440-43-9	B1	3	2	8.00E-02	9.00E-02	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
19	INORG	Chromium (total)	7440-47-3		3	3	1.60E+00	1.47E+01						2.4E+02	6.1E-02	9.2E+03	1.6E-03	1.7E+03	8.6E-03
19	INORG	Cobalt	7440-48-4	B1	3	3	1.01E+00	6.55E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
19	INORG	Copper	7440-50-8	D	3	3	5.00E+00	1.02E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
19	INORG	Lead	7439-92-1	B2	3	3	1.40E+00	4.90E+00	2.10E+01					4.4E+04		9.0E+02			
19	INORG	Lead (Coarse Fraction)	7439-92-1C		3	3	2.90E+00	4.40E+00											
19	INORG	Lead (Fine Fraction)	7439-92-1F		3	3	7.30E+00	4.25E+01											
19	INORG	Lead (Summed Fractions)	7439-92-1S		3	3	5.31E+00	7.86E+00											
19	INORG	Manganese	7439-96-5	D	3	3	8.40E+01	3.35E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
19	INORG	Mercury	7439-97-6	D	3	2	1.00E-02	1.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
19	INORG	Nickel	7440-02-0	A	3	3	2.40E+00	1.60E+01	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
19	INORG	Selenium	7782-49-2	D	3	2	6.30E-01	7.80E-01	4.10E-01					5.9E+04	6.3E-06	9.6E+03	3.9E-05	2.5E+03	1.5E-04
19	INORG	Thallium	7440-28-0		3	2	5.00E-02	5.00E-02								1.3E+02	3.8E-04	3.6E+01	1.4E-03
19	INORG	Vanadium	7440-62-2		3	3	2.30E+00	1.42E+01								5.5E+03	2.6E-03	3.6E+03	4.0E-03
19	INORG	Zinc	7440-66-6	ID	3	3	7.30E+00	2.78E+01	4.70E+01							6.3E+05		1.5E+05	
2	VOC	Cumene	98-82-8	D	2	2	9.30E-01	1.42E+00		3.9E+02	3.6E-03	2.0E+03	7.1E-04	2.6E+06	5.5E-07	3.9E+02	3.6E-03	2.1E+02	6.7E-03
2	VOC	Cyclohexane	110-82-7	ID	2	1	3.00E-02	3.00E-02										8.5E+02	3.5E-05
2	VOC	Ethyl Benzene	100-41-4	D	2	1	6.00E-02	6.00E-02		1.4E+02	4.3E-04	2.4E+03	2.5E-05	1.3E+07	4.6E-09	1.4E+02	4.3E-04	4.6E+02	1.3E-04
2	VOC	Methylcyclohexane	108-87-2		2	2	8.60E-01	1.50E+00										3.2E+02	4.7E-03
2	VOC	Toluene	108-88-3	ID	2	1	2.00E-02	2.00E-02		2.5E+02	8.0E-05	3.3E+03	6.1E-06	1.2E+07	1.7E-09	2.5E+02	8.0E-05	1.7E+03	1.2E-05
2	INORG	Antimony	7440-36-0		14	4	1.90E-01	5.70E-01						5.9E+03	9.7E-05	6.7E+02	8.5E-04	2.0E+02	2.8E-03
2	INORG	Arsenic	7440-38-2	A	14	14	1.06E+00	2.22E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
2	INORG	Barium	7440-39-3	NC	14	14	9.30E+00	7.54E+01	7.50E+01					1.5E+05	2.7E-06	1.3E+05	3.1E-06		
2	INORG	Beryllium	7440-41-7	B1	14	6	1.50E-01	6.80E-01						5.9E+02	1.2E-03	1.6E+03	4.3E-04	3.7E+02	1.8E-03
2	INORG	Cadmium	7440-43-9	B1	14	13	6.00E-02	5.70E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
2	INORG	Chromium (total)	7440-47-3		14	14	2.80E+00	1.61E+01						2.4E+02	6.7E-02	9.2E+03	1.8E-03	1.7E+03	9.5E-03
2	INORG	Cobalt	7440-48-4	B1	14	14	9.80E-01	8.35E+00	6.80E+00					5.9E+03	2.6E-04	9.0E+03	1.7E-04	5.5E+02	2.8E-03
2	INORG	Copper	7440-50-8	D	14	14	4.50E+00	1.32E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
2	INORG	Cyanide (total)	57-12-5	D	14	3	2.00E-01	2.00E-01	3.90E-01					2.5E+02		2.5E+02		1.0E+04	
2	INORG	Lead	7439-92-1	B2	14	14	2.50E+00	1.21E+02	2.10E+01					4.4E+04	2.3E-03	9.0E+02	1.1E-01		
2	INORG	Lead (Coarse Fraction)	7439-92-1C		14	14	2.60E+00	1.82E+02											
2	INORG	Lead (Fine Fraction)	7439-92-1F		14	14	1.16E+01	2.40E+02											
2	INORG	Lead (Summed Fractions)	7439-92-1S		14	14	4.68E+00	1.80E+02											
2	INORG	Manganese	7439-96-5	D	14	14	4.98E+01	6.01E+02	4.40E+02					1.5E+03	1.1E-01	9.0E+04	1.8E-03	1.4E+03	1.1E-01
2	INORG	Mercury	7439-97-6	D	14	12	1.00E-02	6.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
2	INORG	Nickel	7440-02-0	A	14	14	3.50E+00	1.85E+01	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
2	INORG	Selenium	7782-49-2	D	14	2	3.70E-01	5.60E-01	4.10E-01					5.9E+04	2.5E-06	9.6E+03	1.6E-05	2.5E+03	5.9E-05
2	INORG	Thallium	7440-28-0		14	1	4.00E-02	4.00E-02								1.3E+02	3.1E-04	3.6E+01	1.1E-03
2	INORG	Vanadium	7440-62-2		14	14	2.90E+00	1.47E+01								5.5E+03	2.7E-03	3.6E+03	4.1E-03
2	INORG	Zinc	7440-66-6	ID	14	14	8.00E+00	1.88E+02	4.70E+01							6.3E+05	2.2E-04	1.5E+05	9.2E-04
21	INORG	Arsenic	7440-38-2	A	1	1	8.90E-01	8.90E-01	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
21	INORG	Barium	7440-39-3	NC	1	1	7.00E+00	7.00E+00	7.50E+01					1.5E+05		1.3E+05			

Table A-2b: Summary of Soil Screening against Non-Residential Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Industrial Particulate Inhalation Criteria	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Industrial Direct Contact Criteria	Construction Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Construction Worker Soil Criteria
21	INORG	Beryllium	7440-41-7	B1	1	1	5.00E-02	5.00E-02						5.9E+02	8.5E-05	1.6E+03	3.1E-05	3.7E+02	1.3E-04
21	INORG	Cadmium	7440-43-9	B1	1	1	5.00E-02	5.00E-02	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
21	INORG	Chromium (total)	7440-47-3		1	1	1.80E+00	1.80E+00						2.4E+02	7.5E-03	9.2E+03	2.0E-04	1.7E+03	1.1E-03
21	INORG	Cobalt	7440-48-4	B1	1	1	1.39E+00	1.39E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
21	INORG	Copper	7440-50-8	D	1	1	2.50E+00	2.50E+00	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
21	INORG	Lead	7439-92-1	B2	1	1	2.20E+00	2.20E+00	2.10E+01					4.4E+04		9.0E+02			
21	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	3.00E+00	3.00E+00											
21	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	3.60E+00	3.60E+00											
21	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	3.40E+00	3.40E+00											
21	INORG	Manganese	7439-96-5	D	1	1	1.21E+02	1.21E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
21	INORG	Nickel	7440-02-0	A	1	1	2.80E+00	2.80E+00	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
21	INORG	Vanadium	7440-62-2		1	1	2.60E+00	2.60E+00								5.5E+03	4.7E-04	3.6E+03	7.3E-04
21	INORG	Zinc	7440-66-6	ID	1	1	5.50E+00	5.50E+00	4.70E+01							6.3E+05		1.5E+05	
3	INORG	Arsenic	7440-38-2	A	6	6	6.10E-01	1.64E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
3	INORG	Barium	7440-39-3	NC	6	6	1.99E+01	3.90E+01	7.50E+01					1.5E+05		1.3E+05			
3	INORG	Beryllium	7440-41-7	B1	6	6	1.20E-01	1.80E-01						5.9E+02	3.1E-04	1.6E+03	1.1E-04	3.7E+02	4.8E-04
3	INORG	Cadmium	7440-43-9	B1	6	6	8.00E-02	1.80E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
3	INORG	Chromium (total)	7440-47-3		6	6	3.60E+00	1.24E+01						2.4E+02	5.2E-02	9.2E+03	1.3E-03	1.7E+03	7.3E-03
3	INORG	Cobalt	7440-48-4	B1	6	6	2.54E+00	5.74E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
3	INORG	Copper	7440-50-8	D	6	6	6.70E+00	1.04E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
3	INORG	Lead	7439-92-1	B2	6	6	3.20E+00	4.60E+00	2.10E+01					4.4E+04		9.0E+02			
3	INORG	Lead (Coarse Fraction)	7439-92-1C		6	6	3.20E+00	7.20E+00											
3	INORG	Lead (Fine Fraction)	7439-92-1F		6	6	1.22E+01	4.40E+01											
3	INORG	Lead (Summed Fractions)	7439-92-1S		6	6	4.99E+00	1.03E+01											
3	INORG	Manganese	7439-96-5	D	6	6	2.05E+02	4.17E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
3	INORG	Mercury	7439-97-6	D	6	5	1.00E-02	2.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
3	INORG	Nickel	7440-02-0	A	6	6	5.70E+00	1.41E+01	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
3	INORG	Selenium	7782-49-2	D	6	6	2.40E-01	6.30E-01	4.10E-01					5.9E+04	3.7E-06	9.6E+03	2.3E-05	2.5E+03	8.7E-05
3	INORG	Silver	7440-22-4	D	6	3	2.00E-02	8.00E-02	1.00E+00					2.9E+03		9.0E+03		2.6E+02	
3	INORG	Thallium	7440-28-0		6	6	3.00E-02	6.00E-02								1.3E+02	4.6E-04	3.6E+01	1.7E-03
3	INORG	Vanadium	7440-62-2		6	6	4.60E+00	1.13E+01								5.5E+03	2.1E-03	3.6E+03	3.2E-03
3	INORG	Zinc	7440-66-6	ID	6	6	1.04E+01	3.08E+01	4.70E+01							6.3E+05		1.5E+05	
30	INORG	Arsenic	7440-38-2	A	1	1	1.05E+00	1.05E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
30	INORG	Barium	7440-39-3	NC	1	1	2.61E+01	2.61E+01	7.50E+01					1.5E+05		1.3E+05			
30	INORG	Beryllium	7440-41-7	B1	1	1	1.50E-01	1.50E-01						5.9E+02	2.5E-04	1.6E+03	9.4E-05	3.7E+02	4.0E-04
30	INORG	Cadmium	7440-43-9	B1	1	1	9.00E-02	9.00E-02	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
30	INORG	Chromium (total)	7440-47-3		1	1	5.60E+00	5.60E+00						2.4E+02	2.3E-02	9.2E+03	6.1E-04	1.7E+03	3.3E-03
30	INORG	Cobalt	7440-48-4	B1	1	1	3.29E+00	3.29E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
30	INORG	Copper	7440-50-8	D	1	1	5.60E+00	5.60E+00	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
30	INORG	Lead	7439-92-1	B2	1	1	3.60E+00	3.60E+00	2.10E+01					4.4E+04		9.0E+02			
30	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	3.70E+00	3.70E+00											
30	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	2.43E+01	2.43E+01											
30	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	6.56E+00	6.56E+00											
30	INORG	Manganese	7439-96-5	D	1	1	1.90E+02	1.90E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
30	INORG	Mercury	7439-97-6	D	1	1	1.00E-02	1.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
30	INORG	Nickel	7440-02-0	A	1	1	6.80E+00	6.80E+00	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
30	INORG	Selenium	7782-49-2	D	1	1	2.90E-01	2.90E-01	4.10E-01					5.9E+04		9.6E+03		2.5E+03	
30	INORG	Thallium	7440-28-0		1	1	2.00E-02	2.00E-02								1.3E+02	1.5E-04	3.6E+01	5.6E-04
30	INORG	Vanadium	7440-62-2		1	1	6.20E+00	6.20E+00								5.5E+03	1.1E-03	3.6E+03	1.7E-03
30	INORG	Zinc	7440-66-6	ID	1	1	1.24E+01	1.24E+01	4.70E+01							6.3E+05		1.5E+05	
40	INORG	Arsenic	7440-38-2	A	1	1	5.90E-01	5.90E-01	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
40	INORG	Barium	7440-39-3	NC	1	1	1.12E+01	1.12E+01	7.50E+01					1.5E+05		1.3E+05			
40	INORG	Beryllium	7440-41-7	B1	1	1	7.00E-02	7.00E-02						5.9E+02	1.2E-04	1.6E+03	4.4E-05	3.7E+02	1.9E-04
40	INORG	Chromium (total)	7440-47-3		1	1	1.40E+00	1.40E+00						2.4E+02	5.8E-03	9.2E+03	1.5E-04	1.7E+03	8.2E-04
40	INORG	Cobalt	7440-48-4	B1	1	1	1.48E+00	1.48E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
40	INORG	Copper	7440-50-8	D	1	1	2.10E+00	2.10E+00	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
40	INORG	Lead	7439-92-1	B2	1	1	2.50E+00	2.50E+00	2.10E+01					4.4E+04		9.0E+02			
40	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	4.60E+00	4.60E+00											
40	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	5.10E+00	5.10E+00											
40	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	4.89E+00	4.89E+00											
40	INORG	Manganese	7439-96-5	D	1	1	1.25E+02	1.25E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
40	INORG	Mercury	7439-97-6	D	1	1	1.00E-02	1.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
40	INORG	Nickel	7440-02-0	A	1	1	2.30E+00	2.30E+00	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
40	INORG	Selenium	7782-49-2	D	1	1	1.60E-01	1.60E-01	4.10E-01					5.9E+04		9.6E+03		2.5E+03	
40	INORG	Vanadium	7440-62-2		1	1	2.30E+00	2.30E+00								5.5E+03	4.2E-04	3.6E+03	6.5E-04
40	INORG	Zinc	7440-66-6	ID	1	1	3.90E+00	3.90E+00	4.70E+01							6.3E+05		1.5E+05	

Table A-2b: Summary of Soil Screening against Non-Residential Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Industrial Particulate Inhalation Criteria	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Industrial Direct Contact Criteria	Construction Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Construction Worker Soil Criteria
42	INORG	Antimony	7440-36-0		1	1	8.00E-02	8.00E-02						5.9E+03	1.4E-05	6.7E+02	1.2E-04	2.0E+02	3.9E-04
42	INORG	Arsenic	7440-38-2	A	1	1	6.00E-01	6.00E-01	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
42	INORG	Barium	7440-39-3	NC	1	1	9.40E+00	9.40E+00	7.50E+01					1.5E+05		1.3E+05			
42	INORG	Beryllium	7440-41-7	B1	1	1	5.00E-02	5.00E-02						5.9E+02	8.5E-05	1.6E+03	3.1E-05	3.7E+02	1.3E-04
42	INORG	Chromium (total)	7440-47-3		1	1	1.60E+00	1.60E+00						2.4E+02	6.7E-03	9.2E+03	1.7E-04	1.7E+03	9.4E-04
42	INORG	Cobalt	7440-48-4	B1	1	1	1.33E+00	1.33E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
42	INORG	Copper	7440-50-8	D	1	1	1.90E+00	1.90E+00	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
42	INORG	Lead	7439-92-1	B2	1	1	7.70E+00	7.70E+00	2.10E+01					4.4E+04		9.0E+02			
42	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	6.50E+00	6.50E+00											
42	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	4.10E+00	4.10E+00											
42	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	5.57E+00	5.57E+00											
42	INORG	Manganese	7439-96-5	D	1	1	1.18E+02	1.18E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
42	INORG	Mercury	7439-97-6	D	1	1	1.00E-02	1.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
42	INORG	Nickel	7440-02-0	A	1	1	3.10E+00	3.10E+00	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
42	INORG	Selenium	7782-49-2	D	1	1	1.70E-01	1.70E-01	4.10E-01					5.9E+04		9.6E+03		2.5E+03	
42	INORG	Vanadium	7440-62-2		1	1	2.20E+00	2.20E+00								5.5E+03	4.0E-04	3.6E+03	6.2E-04
42	INORG	Zinc	7440-66-6	ID	1	1	4.50E+00	4.50E+00	4.70E+01							6.3E+05		1.5E+05	
43	INORG	Arsenic	7440-38-2	A	2	2	6.70E-01	1.26E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
43	INORG	Barium	7440-39-3	NC	2	2	5.50E+00	8.40E+00	7.50E+01					1.5E+05		1.3E+05			
43	INORG	Beryllium	7440-41-7	B1	2	2	5.00E-02	6.00E-02						5.9E+02	1.0E-04	1.6E+03	3.8E-05	3.7E+02	1.6E-04
43	INORG	Cadmium	7440-43-9	B1	2	2	5.00E-02	6.00E-02	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
43	INORG	Chromium (total)	7440-47-3		2	2	1.90E+00	5.50E+00						2.4E+02	2.3E-02	9.2E+03	6.0E-04	1.7E+03	3.2E-03
43	INORG	Cobalt	7440-48-4	B1	2	2	1.31E+00	2.77E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
43	INORG	Copper	7440-50-8	D	2	2	3.50E+00	4.10E+00	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
43	INORG	Lead	7439-92-1	B2	2	2	1.90E+00	3.10E+00	2.10E+01					4.4E+04		9.0E+02			
43	INORG	Lead (Coarse Fraction)	7439-92-1C		2	2	1.90E+00	2.50E+00											
43	INORG	Lead (Fine Fraction)	7439-92-1F		2	2	8.30E+00	1.13E+01											
43	INORG	Lead (Summed Fractions)	7439-92-1S		2	2	3.67E+00	5.09E+00											
43	INORG	Manganese	7439-96-5	D	2	2	1.23E+02	1.44E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
43	INORG	Nickel	7440-02-0	A	2	2	3.00E+00	3.50E+00	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
43	INORG	Selenium	7782-49-2	D	2	2	2.90E-01	3.00E-01	4.10E-01					5.9E+04		9.6E+03		2.5E+03	
43	INORG	Silver	7440-22-4	D	2	1	3.40E-01	3.40E-01	1.00E+00					2.9E+03		9.0E+03		2.6E+02	
43	INORG	Thallium	7440-28-0		2	2	2.00E-02	3.00E-02								1.3E+02	2.3E-04	3.6E+01	8.4E-04
43	INORG	Vanadium	7440-62-2		2	2	3.00E+00	3.70E+00								5.5E+03	6.7E-04	3.6E+03	1.0E-03
43	INORG	Zinc	7440-66-6	ID	2	2	7.70E+00	7.90E+00	4.70E+01							6.3E+05		1.5E+05	
46	VOC	Benzene	71-43-2	A	2	1	2.00E-01	2.00E-01		8.4E+00	2.4E-02	4.5E+01	4.4E-03	4.7E+05	4.3E-07	4.0E+02	5.0E-04	1.5E+01	1.4E-02
46	VOC	Cumene	98-82-8	D	2	2	1.18E+00	3.89E+01		3.9E+02	1.0E-01	2.0E+03	1.9E-02	2.6E+06	1.5E-05	3.9E+02	1.0E-01	2.1E+02	1.8E-01
46	VOC	Cyclohexane	110-82-7	ID	2	1	1.40E+00	1.40E+00										8.5E+02	1.6E-03
46	VOC	Ethyl Benzene	100-41-4	D	2	2	5.50E-01	2.35E+01		1.4E+02	1.7E-01	2.4E+03	9.8E-03	1.3E+07	1.8E-06	1.4E+02	1.7E-01	4.6E+02	5.1E-02
46	VOC	Methylcyclohexane	108-87-2		2	2	1.16E+00	5.93E+01										3.2E+02	1.8E-01
46	VOC	Tetrachloroethene	127-18-4	C-B2	2	1	4.00E-02	4.00E-02		6.0E+01	6.7E-04	6.0E+02	6.7E-05	6.8E+06	5.9E-09	8.8E+01	4.5E-04	5.2E+01	7.7E-04
46	VOC	Toluene	108-88-3	ID	2	1	5.00E-01	5.00E-01		2.5E+02	2.0E-03	3.3E+03	1.5E-04	1.2E+07	4.2E-08	2.5E+02	2.0E-03	1.7E+03	2.9E-04
46	VOC	Xylenes (total)	1330-20-7	ID	2	2	2.90E-01	1.37E+02		1.5E+02	9.1E-01	5.4E+04	2.5E-03	1.3E+08	1.1E-06	1.5E+02	9.1E-01	5.1E+01	**2.7E+00**
46	INORG	Antimony	7440-36-0		4	1	9.00E-02	9.00E-02						5.9E+03	1.5E-05	6.7E+02	1.3E-04	2.0E+02	4.4E-04
46	INORG	Arsenic	7440-38-2	A	4	4	1.07E+00	2.17E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
46	INORG	Barium	7440-39-3	NC	4	4	4.50E+00	4.62E+01	7.50E+01					1.5E+05		1.3E+05			
46	INORG	Beryllium	7440-41-7	B1	4	4	7.00E-02	3.30E-01						5.9E+02	5.6E-04	1.6E+03	2.1E-04	3.7E+02	8.9E-04
46	INORG	Cadmium	7440-43-9	B1	4	4	5.00E-02	3.80E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
46	INORG	Chromium (total)	7440-47-3		4	4	1.80E+00	8.90E+00						2.4E+02	3.7E-02	9.2E+03	9.7E-04	1.7E+03	5.2E-03
46	INORG	Cobalt	7440-48-4	B1	4	4	1.37E+00	5.00E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
46	INORG	Copper	7440-50-8	D	4	4	4.70E+00	2.16E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
46	INORG	Lead	7439-92-1	B2	4	4	3.00E+00	7.70E+00	2.10E+01					4.4E+04		9.0E+02			
46	INORG	Lead (Coarse Fraction)	7439-92-1C		4	4	5.20E+00	4.45E+01											
46	INORG	Lead (Fine Fraction)	7439-92-1F		4	4	1.77E+01	2.86E+01											
46	INORG	Lead (Summed Fractions)	7439-92-1S		4	4	7.08E+00	4.28E+01											
46	INORG	Manganese	7439-96-5	D	4	4	4.31E+01	1.95E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
46	INORG	Mercury	7439-97-6	D	4	4	1.00E-02	3.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
46	INORG	Nickel	7440-02-0	A	4	4	2.90E+00	1.71E+01	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
46	INORG	Selenium	7782-49-2	D	4	4	2.80E-01	1.26E+00	4.10E-01					5.9E+04	1.4E-05	9.6E+03	8.9E-05	2.5E+03	3.3E-04
46	INORG	Silver	7440-22-4	D	4	3	3.00E-02	4.10E-01	1.00E+00					2.9E+03		9.0E+03		2.6E+02	
46	INORG	Thallium	7440-28-0		4	4	3.00E-02	1.10E-01								1.3E+02	8.5E-04	3.6E+01	3.1E-03
46	INORG	Vanadium	7440-62-2		4	4	2.50E+00	1.56E+01								5.5E+03	2.8E-03	3.6E+03	4.4E-03
46	INORG	Zinc	7440-66-6	ID	4	4	1.00E+01	3.61E+01	4.70E+01							6.3E+05		1.5E+05	
47	INORG	Antimony	7440-36-0		2	1	9.00E-02	9.00E-02						5.9E+03	1.5E-05	6.7E+02	1.3E-04	2.0E+02	4.4E-04
47	INORG	Arsenic	7440-38-2	A	2	2	1.07E+00	2.17E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
47	INORG	Barium	7440-39-3	NC	2	2	3.16E+01	4.62E+01	7.50E+01					1.5E+05		1.3E+05			

Table A-2b: Summary of Soil Screening against Non-Residential Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Industrial Particulate Inhalation Criteria	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Industrial Direct Contact Criteria	Construction Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Construction Worker Soil Criteria
47	INORG	Beryllium	7440-41-7	B1	2	2	2.70E-01	3.30E-01						5.9E+02	5.6E-04	1.6E+03	2.1E-04	3.7E+02	8.9E-04
47	INORG	Cadmium	7440-43-9	B1	2	2	3.40E-01	3.80E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
47	INORG	Chromium (total)	7440-47-3		2	2	7.20E+00	8.90E+00						2.4E+02	3.7E-02	9.2E+03	9.7E-04	1.7E+03	5.2E-03
47	INORG	Cobalt	7440-48-4	B1	2	2	3.06E+00	5.00E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
47	INORG	Copper	7440-50-8	D	2	2	1.34E+01	2.16E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
47	INORG	Lead	7439-92-1	B2	2	2	7.30E+00	7.70E+00	2.10E+01					4.4E+04		9.0E+02			
47	INORG	Lead (Coarse Fraction)	7439-92-1C		2	2	7.20E+00	7.90E+00											
47	INORG	Lead (Fine Fraction)	7439-92-1F		2	2	2.00E+01	2.30E+01											
47	INORG	Lead (Summed Fractions)	7439-92-1S		2	2	8.22E+00	9.06E+00											
47	INORG	Manganese	7439-96-5	D	2	2	4.31E+01	1.69E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
47	INORG	Mercury	7439-97-6	D	2	2	2.00E-02	3.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
47	INORG	Nickel	7440-02-0	A	2	2	1.36E+01	1.71E+01	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
47	INORG	Selenium	7782-49-2	D	2	2	1.03E+00	1.26E+00	4.10E-01					5.9E+04	1.4E-05	9.6E+03	8.9E-05	2.5E+03	3.3E-04
47	INORG	Silver	7440-22-4	D	2	2	7.00E-02	4.10E-01	1.00E+00					2.9E+03		9.0E+03		2.6E+02	
47	INORG	Thallium	7440-28-0		2	2	1.00E-01	1.10E-01								1.3E+02	8.5E-04	3.6E+01	3.1E-03
47	INORG	Vanadium	7440-62-2		2	2	1.14E+01	1.56E+01								5.5E+03	2.8E-03	3.6E+03	4.4E-03
47	INORG	Zinc	7440-66-6	ID	2	2	3.57E+01	3.61E+01	4.70E+01							6.3E+05		1.5E+05	
48	VOC	Cumene	98-82-8	D	2	2	9.30E-01	1.42E+00		3.9E+02	3.6E-03	2.0E+03	7.1E-04	2.6E+06	5.5E-07	3.9E+02	3.6E-03	2.1E+02	6.7E-03
48	VOC	Cyclohexane	110-82-7	ID	2	1	3.00E-02	3.00E-02										8.5E+02	3.5E-05
48	VOC	Ethyl Benzene	100-41-4	D	2	1	6.00E-02	6.00E-02		1.4E+02	4.3E-04	2.4E+03	2.5E-05	1.3E+07	4.6E-09	1.4E+02	4.3E-04	4.6E+02	1.3E-04
48	VOC	Methylcyclohexane	108-87-2		2	2	8.60E-01	1.50E+00										3.2E+02	4.7E-03
48	VOC	Toluene	108-88-3	ID	2	1	2.00E-02	2.00E-02		2.5E+02	8.0E-05	3.3E+03	6.1E-06	1.2E+07	1.7E-09	2.5E+02	8.0E-05	1.7E+03	1.2E-05
48	INORG	Antimony	7440-36-0		14	4	1.90E-01	5.70E-01						5.9E+03	9.7E-05	6.7E+02	8.5E-04	2.0E+02	2.8E-03
48	INORG	Arsenic	7440-38-2	A	14	14	1.06E+00	2.22E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
48	INORG	Barium	7440-39-3	NC	14	14	9.30E+00	7.54E+01	7.50E+01					1.5E+05	2.7E-06	1.3E+05	3.1E-06		
48	INORG	Beryllium	7440-41-7	B1	14	6	1.50E-01	6.80E-01						5.9E+02	1.2E-03	1.6E+03	4.3E-04	3.7E+02	1.8E-03
48	INORG	Cadmium	7440-43-9	B1	14	13	6.00E-02	5.70E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
48	INORG	Chromium (total)	7440-47-3		14	14	2.80E+00	1.61E+01						2.4E+02	6.7E-02	9.2E+03	1.8E-03	1.7E+03	9.5E-03
48	INORG	Cobalt	7440-48-4	B1	14	14	9.80E-01	8.35E+00	6.80E+00					5.9E+03	2.6E-04	9.0E+03	1.7E-04	5.5E+02	2.8E-03
48	INORG	Copper	7440-50-8	D	14	14	4.50E+00	1.32E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
48	INORG	Cyanide (total)	57-12-5	D	14	3	2.00E-01	2.00E-01	3.90E-01					2.5E+02		2.5E+02		1.0E+04	
48	INORG	Lead	7439-92-1	B2	14	14	2.50E+00	1.21E+02	2.10E+01					4.4E+04	2.3E-03	9.0E+02	1.1E-01		
48	INORG	Lead (Coarse Fraction)	7439-92-1C		14	14	2.60E+00	1.82E+02											
48	INORG	Lead (Fine Fraction)	7439-92-1F		14	14	1.16E+01	2.40E+02											
48	INORG	Lead (Summed Fractions)	7439-92-1S		14	14	4.68E+00	1.80E+02											
48	INORG	Manganese	7439-96-5	D	14	14	4.98E+01	6.01E+02	4.40E+02					1.5E+03	1.1E-01	9.0E+04	1.8E-03	1.4E+03	1.1E-01
48	INORG	Mercury	7439-97-6	D	14	12	1.00E-02	6.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
48	INORG	Nickel	7440-02-0	A	14	14	3.50E+00	1.85E+01	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
48	INORG	Selenium	7782-49-2	D	14	2	3.70E-01	5.60E-01	4.10E-01					5.9E+04	2.5E-06	9.6E+03	1.6E-05	2.5E+03	5.9E-05
48	INORG	Thallium	7440-28-0		14	1	4.00E-02	4.00E-02								1.3E+02	3.1E-04	3.6E+01	1.1E-03
48	INORG	Vanadium	7440-62-2		14	14	2.90E+00	1.47E+01								5.5E+03	2.7E-03	3.6E+03	4.1E-03
48	INORG	Zinc	7440-66-6	ID	14	14	8.00E+00	1.88E+02	4.70E+01							6.3E+05	2.2E-04	1.5E+05	9.2E-04
49	INORG	Antimony	7440-36-0		2	1	9.00E-02	9.00E-02						5.9E+03	1.5E-05	6.7E+02	1.3E-04	2.0E+02	4.4E-04
49	INORG	Arsenic	7440-38-2	A	2	2	1.12E+00	1.79E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
49	INORG	Barium	7440-39-3	NC	2	2	1.00E+02	1.42E+02	7.50E+01					1.5E+05	4.5E-04	1.3E+05	5.2E-04		
49	INORG	Beryllium	7440-41-7	B1	2	2	3.90E-01	4.20E-01						5.9E+02	7.1E-04	1.6E+03	2.6E-04	3.7E+02	1.1E-03
49	INORG	Cadmium	7440-43-9	B1	2	2	1.60E-01	3.20E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
49	INORG	Chromium (total)	7440-47-3		2	2	5.80E+00	1.06E+01						2.4E+02	4.4E-02	9.2E+03	1.2E-03	1.7E+03	6.2E-03
49	INORG	Cobalt	7440-48-4	B1	2	2	4.32E+00	5.50E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
49	INORG	Copper	7440-50-8	D	2	2	7.00E+00	8.40E+00	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
49	INORG	Lead	7439-92-1	B2	2	2	5.90E+00	7.90E+00	2.10E+01					4.4E+04		9.0E+02			
49	INORG	Lead (Coarse Fraction)	7439-92-1C		2	2	5.50E+00	7.50E+00											
49	INORG	Lead (Fine Fraction)	7439-92-1F		2	2	1.49E+01	2.07E+01											
49	INORG	Lead (Summed Fractions)	7439-92-1S		2	2	6.62E+00	9.25E+00											
49	INORG	Manganese	7439-96-5	D	2	2	9.82E+01	3.68E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
49	INORG	Mercury	7439-97-6	D	2	2	2.00E-02	4.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
49	INORG	Nickel	7440-02-0	A	2	2	5.10E+00	1.00E+01	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
49	INORG	Selenium	7782-49-2	D	2	2	1.70E-01	1.01E+00	4.10E-01					5.9E+04	1.0E-05	9.6E+03	6.3E-05	2.5E+03	2.4E-04
49	INORG	Silver	7440-22-4	D	2	2	2.00E-02	1.40E-01	1.00E+00					2.9E+03		9.0E+03		2.6E+02	
49	INORG	Thallium	7440-28-0		2	1	1.50E-01	1.50E-01								1.3E+02	1.2E-03	3.6E+01	4.2E-03
49	INORG	Vanadium	7440-62-2		2	2	9.50E+00	1.45E+01								5.5E+03	2.6E-03	3.6E+03	4.1E-03
49	INORG	Zinc	7440-66-6	ID	2	2	1.85E+01	2.54E+01	4.70E+01							6.3E+05		1.5E+05	
59	INORG	Arsenic	7440-38-2	A	2	2	5.20E-01	2.25E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
59	INORG	Barium	7440-39-3	NC	2	2	2.33E+01	2.53E+01	7.50E+01					1.5E+05		1.3E+05			
59	INORG	Beryllium	7440-41-7	B1	2	2	1.20E-01	1.40E-01						5.9E+02	2.4E-04	1.6E+03	8.8E-05	3.7E+02	3.8E-04
59	INORG	Cadmium	7440-43-9	B1	2	2	9.00E-02	1.10E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	

Table A-2b: Summary of Soil Screening against Non-Residential Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Industrial Particulate Inhalation Criteria	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Industrial Direct Contact Criteria	Construction Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Construction Worker Soil Criteria
59	INORG	Chromium (total)	7440-47-3		2	2	3.50E+00	3.80E+00						2.4E+02	1.6E-02	9.2E+03	4.1E-04	1.7E+03	2.2E-03
59	INORG	Cobalt	7440-48-4	B1	2	2	2.51E+00	3.07E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
59	INORG	Copper	7440-50-8	D	2	2	5.50E+00	9.50E+00	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
59	INORG	Lead	7439-92-1	B2	2	2	3.00E+00	4.40E+00	2.10E+01					4.4E+04		9.0E+02			
59	INORG	Lead (Coarse Fraction)	7439-92-1C		2	2	3.90E+00	4.60E+00											
59	INORG	Lead (Fine Fraction)	7439-92-1F		2	2	1.85E+01	3.35E+01											
59	INORG	Lead (Summed Fractions)	7439-92-1S		2	2	6.33E+00	9.33E+00											
59	INORG	Manganese	7439-96-5	D	2	2	1.88E+02	2.31E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
59	INORG	Mercury	7439-97-6	D	2	2	1.00E-02	1.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
59	INORG	Nickel	7440-02-0	A	2	2	6.10E+00	7.80E+00	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
59	INORG	Selenium	7782-49-2	D	2	2	6.10E-01	6.80E-01	4.10E-01					5.9E+04	4.6E-06	9.6E+03	2.8E-05	2.5E+03	1.1E-04
59	INORG	Silver	7440-22-4	D	2	1	2.00E-02	2.00E-02	1.00E+00					2.9E+03		9.0E+03		2.6E+02	
59	INORG	Thallium	7440-28-0		2	2	2.00E-02	6.00E-02								1.3E+02	4.6E-04	3.6E+01	1.7E-03
59	INORG	Vanadium	7440-62-2		2	2	4.80E+00	5.00E+00								5.5E+03	9.1E-04	3.6E+03	1.4E-03
59	INORG	Zinc	7440-66-6	ID	2	2	1.09E+01	1.84E+01	4.70E+01							6.3E+05		1.5E+05	
60	VOC	Acetone	67-64-1	ID	1	1	3.50E+01	3.50E+01		1.1E+05	3.2E-04	1.6E+05	2.2E-04	1.7E+08	2.1E-07	7.3E+04	4.8E-04	4.4E+03	8.0E-03
60	VOC	Cumene	98-82-8	D	1	1	1.00E-01	1.00E-01		3.9E+02	2.6E-04	2.0E+03	5.0E-05	2.6E+06	3.8E-08	3.9E+02	2.6E-04	2.1E+02	4.7E-04
60	VOC	Ethyl Benzene	100-41-4	D	1	1	6.10E+00	6.10E+00		1.4E+02	4.4E-02	2.4E+03	2.5E-03	1.3E+07	4.7E-07	1.4E+02	4.4E-02	4.6E+02	1.3E-02
60	VOC	4-Methyl-2-pentanone	108-10-1	ID	1	1	3.00E+00	3.00E+00		2.7E+03	1.1E-03	5.3E+04	5.7E-05	6.0E+07	5.0E-08	2.7E+03	1.1E-03	3.1E+03	9.7E-04
60	VOC	Toluene	108-88-3	ID	1	1	5.00E-01	5.00E-01		2.5E+02	2.0E-03	3.3E+03	1.5E-04	1.2E+07	4.2E-08	2.5E+02	2.0E-03	1.7E+03	2.9E-04
60	VOC	Xylenes (total)	1330-20-7	ID	1	1	3.45E+01	3.45E+01		1.5E+02	2.3E-01	5.4E+04	6.4E-04	1.3E+08	2.7E-07	1.5E+02	2.3E-01	5.1E+01	6.8E-01
60	INORG	Arsenic	7440-38-2	A	3	3	8.00E-01	1.22E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
60	INORG	Barium	7440-39-3	NC	3	3	6.00E+00	3.64E+01	7.50E+01					1.5E+05		1.3E+05			
60	INORG	Beryllium	7440-41-7	B1	3	3	4.00E-02	1.70E-01						5.9E+02	2.9E-04	1.6E+03	1.1E-04	3.7E+02	4.6E-04
60	INORG	Cadmium	7440-43-9	B1	3	3	6.00E-02	8.00E-02	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
60	INORG	Chromium (total)	7440-47-3		3	3	1.80E+00	5.90E+00						2.4E+02	2.5E-02	9.2E+03	6.4E-04	1.7E+03	3.5E-03
60	INORG	Cobalt	7440-48-4	B1	3	3	1.01E+00	3.89E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
60	INORG	Copper	7440-50-8	D	3	3	3.90E+00	6.20E+00	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
60	INORG	Lead	7439-92-1	B2	3	3	2.30E+00	4.00E+00	2.10E+01					4.4E+04		9.0E+02			
60	INORG	Lead (Coarse Fraction)	7439-92-1C		3	3	1.50E+00	3.90E+00											
60	INORG	Lead (Fine Fraction)	7439-92-1F		3	3	4.90E+00	2.60E+01											
60	INORG	Lead (Summed Fractions)	7439-92-1S		3	3	2.49E+00	5.00E+00											
60	INORG	Manganese	7439-96-5	D	3	3	1.32E+02	2.76E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
60	INORG	Mercury	7439-97-6	D	3	2	1.00E-02	1.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
60	INORG	Nickel	7440-02-0	A	3	3	2.30E+00	9.40E+00	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
60	INORG	Selenium	7782-49-2	D	3	3	1.70E-01	3.60E-01	4.10E-01					5.9E+04		9.6E+03		2.5E+03	
60	INORG	Thallium	7440-28-0		3	2	3.00E-02	4.00E-02								1.3E+02	3.1E-04	3.6E+01	1.1E-03
60	INORG	Vanadium	7440-62-2		3	3	2.00E+00	6.90E+00								5.5E+03	1.3E-03	3.6E+03	1.9E-03
60	INORG	Zinc	7440-66-6	ID	3	3	6.90E+00	1.39E+01	4.70E+01							6.3E+05		1.5E+05	
63	INORG	Arsenic	7440-38-2	A	1	1	1.34E+00	1.34E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
63	INORG	Barium	7440-39-3	NC	1	1	5.81E+01	5.81E+01	7.50E+01					1.5E+05		1.3E+05			
63	INORG	Beryllium	7440-41-7	B1	1	1	2.60E-01	2.60E-01						5.9E+02	4.4E-04	1.6E+03	1.6E-04	3.7E+02	7.0E-04
63	INORG	Cadmium	7440-43-9	B1	1	1	9.00E-02	9.00E-02	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
63	INORG	Chromium (total)	7440-47-3		1	1	9.00E+00	9.00E+00						2.4E+02	3.8E-02	9.2E+03	9.8E-04	1.7E+03	5.3E-03
63	INORG	Cobalt	7440-48-4	B1	1	1	6.25E+00	6.25E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
63	INORG	Copper	7440-50-8	D	1	1	9.20E+00	9.20E+00	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
63	INORG	Lead	7439-92-1	B2	1	1	5.50E+00	5.50E+00	2.10E+01					4.4E+04		9.0E+02			
63	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	5.20E+00	5.20E+00											
63	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	3.16E+01	3.16E+01											
63	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	6.59E+00	6.59E+00											
63	INORG	Manganese	7439-96-5	D	1	1	3.50E+02	3.50E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
63	INORG	Mercury	7439-97-6	D	1	1	2.00E-02	2.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
63	INORG	Nickel	7440-02-0	A	1	1	1.31E+01	1.31E+01	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
63	INORG	Selenium	7782-49-2	D	1	1	4.90E-01	4.90E-01	4.10E-01					5.9E+04	1.4E-06	9.6E+03	8.3E-06	2.5E+03	3.1E-05
63	INORG	Thallium	7440-28-0		1	1	5.00E-02	5.00E-02								1.3E+02	3.8E-04	3.6E+01	1.4E-03
63	INORG	Vanadium	7440-62-2		1	1	1.01E+01	1.01E+01								5.5E+03	1.8E-03	3.6E+03	2.8E-03
63	INORG	Zinc	7440-66-6	ID	1	1	1.84E+01	1.84E+01	4.70E+01							6.3E+05		1.5E+05	
78	INORG	Arsenic	7440-38-2	A	1	1	9.10E-01	9.10E-01	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
78	INORG	Barium	7440-39-3	NC	1	1	4.38E+01	4.38E+01	7.50E+01					1.5E+05		1.3E+05			
78	INORG	Beryllium	7440-41-7	B1	1	1	1.80E-01	1.80E-01						5.9E+02	3.1E-04	1.6E+03	1.1E-04	3.7E+02	4.8E-04
78	INORG	Cadmium	7440-43-9	B1	1	1	9.00E-02	9.00E-02	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
78	INORG	Chromium (total)	7440-47-3		1	1	1.71E+01	1.71E+01						2.4E+02	7.1E-02	9.2E+03	1.9E-03	1.7E+03	1.0E-02
78	INORG	Cobalt	7440-48-4	B1	1	1	7.03E+00	7.03E+00	6.80E+00					5.9E+03	3.9E-05	9.0E+03	2.6E-05	5.5E+02	4.2E-04
78	INORG	Copper	7440-50-8	D	1	1	1.06E+01	1.06E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
78	INORG	Lead	7439-92-1	B2	1	1	5.70E+00	5.70E+00	2.10E+01					4.4E+04		9.0E+02			
78	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	4.20E+00	4.20E+00											

Table A-2b: Summary of Soil Screening against Non-Residential Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Industrial Particulate Inhalation Criteria	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Industrial Direct Contact Criteria	Construction Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Construction Worker Soil Criteria
78	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	1.92E+01	1.92E+01											
78	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	6.07E+00	6.07E+00											
78	INORG	Manganese	7439-96-5	D	1	1	2.80E+02	2.80E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
78	INORG	Mercury	7439-97-6	D	1	1	2.00E-02	2.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
78	INORG	Nickel	7440-02-0	A	1	1	2.02E+01	2.02E+01	2.00E+01					1.6E+04	1.3E-05	1.5E+05	1.3E-06	8.5E+04	2.3E-06
78	INORG	Selenium	7782-49-2	D	1	1	5.80E-01	5.80E-01	4.10E-01					5.9E+04	2.9E-06	9.6E+03	1.8E-05	2.5E+03	6.7E-05
78	INORG	Thallium	7440-28-0		1	1	6.00E-02	6.00E-02								1.3E+02	4.6E-04	3.6E+01	1.7E-03
78	INORG	Vanadium	7440-62-2		1	1	1.42E+01	1.42E+01								5.5E+03	2.6E-03	3.6E+03	4.0E-03
78	INORG	Zinc	7440-66-6	ID	1	1	2.98E+01	2.98E+01	4.70E+01							6.3E+05		1.5E+05	
81	INORG	Antimony	7440-36-0		18	1	1.50E-01	1.50E-01						5.9E+03	2.5E-05	6.7E+02	2.2E-04	2.0E+02	7.4E-04
81	INORG	Arsenic	7440-38-2	A	18	18	5.90E-01	7.34E+00	5.80E+00					9.1E+02	1.7E-03	3.7E+01	4.2E-02	2.1E+02	7.4E-03
81	INORG	Barium	7440-39-3	NC	18	18	1.93E+01	4.20E+02	7.50E+01					1.5E+05	2.3E-03	1.3E+05	2.7E-03		
81	INORG	Beryllium	7440-41-7	B1	18	18	8.00E-02	1.04E+00						5.9E+02	1.8E-03	1.6E+03	6.5E-04	3.7E+02	2.8E-03
81	INORG	Cadmium	7440-43-9	B1	18	18	5.00E-02	3.50E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
81	INORG	Chromium (total)	7440-47-3		18	18	3.40E+00	2.50E+01						2.4E+02	1.0E-01	9.2E+03	2.7E-03	1.7E+03	1.5E-02
81	INORG	Cobalt	7440-48-4	B1	18	18	1.82E+00	1.26E+01	6.80E+00					5.9E+03	9.8E-04	9.0E+03	6.4E-04	5.5E+02	1.0E-02
81	INORG	Copper	7440-50-8	D	18	18	4.70E+00	1.81E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
81	INORG	Lead	7439-92-1	B2	18	18	3.40E+00	9.30E+00	2.10E+01					4.4E+04		9.0E+02			
81	INORG	Lead (Coarse Fraction)	7439-92-1C		18	18	3.20E+00	8.90E+00											
81	INORG	Lead (Fine Fraction)	7439-92-1F		18	18	5.80E+00	3.01E+01											
81	INORG	Lead (Summed Fractions)	7439-92-1S		18	18	3.72E+00	1.01E+01											
81	INORG	Manganese	7439-96-5	D	18	18	8.16E+01	1.18E+03	4.40E+02					1.5E+03	4.9E-01	9.0E+04	8.2E-03	1.4E+03	5.2E-01
81	INORG	Mercury	7439-97-6	D	18	18	1.00E-02	6.10E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
81	INORG	Nickel	7440-02-0	A	18	18	4.40E+00	2.91E+01	2.00E+01					1.6E+04	5.7E-04	1.5E+05	6.1E-05	8.5E+04	1.1E-04
81	INORG	Selenium	7782-49-2	D	18	17	2.70E-01	8.00E-01	4.10E-01					5.9E+04	6.6E-06	9.6E+03	4.1E-05	2.5E+03	1.5E-04
81	INORG	Silver	7440-22-4	D	18	13	2.00E-02	1.90E-01	1.00E+00					2.9E+03		9.0E+03		2.6E+02	
81	INORG	Thallium	7440-28-0		18	16	3.00E-02	1.80E-01								1.3E+02	1.4E-03	3.6E+01	5.1E-03
81	INORG	Vanadium	7440-62-2		18	18	4.00E+00	2.99E+01								5.5E+03	5.4E-03	3.6E+03	8.4E-03
81	INORG	Zinc	7440-66-6	ID	18	18	1.32E+01	5.50E+01	4.70E+01							6.3E+05	1.3E-05	1.5E+05	5.2E-05
82	VOC	Benzene	71-43-2	A	2	2	1.00E-02	3.00E-02		8.4E+00	3.6E-03	4.5E+01	6.7E-04	4.7E+05	6.4E-08	4.0E+02	7.5E-05	1.5E+01	2.1E-03
82	VOC	Cumene	98-82-8	D	2	2	8.00E-03	1.00E-02		3.9E+02	2.6E-05	2.0E+03	5.0E-06	2.6E+06	3.8E-09	3.9E+02	2.6E-05	2.1E+02	4.7E-05
82	VOC	Cyclohexane	110-82-7	ID	2	2	2.00E-02	3.00E-02										8.5E+02	3.5E-05
82	VOC	Ethyl Benzene	100-41-4	D	2	2	1.00E-02	3.00E-02		1.4E+02	2.1E-04	2.4E+03	1.3E-05	1.3E+07	2.3E-09	1.4E+02	2.1E-04	4.6E+02	6.5E-05
82	VOC	Methylcyclohexane	108-87-2		2	2	5.00E-02	1.10E-01										3.2E+02	3.4E-04
82	VOC	Toluene	108-88-3	ID	2	2	5.00E-02	1.20E-01		2.5E+02	4.8E-04	3.3E+03	3.6E-05	1.2E+07	1.0E-08	2.5E+02	4.8E-04	1.7E+03	7.0E-05
82	VOC	Xylenes (total)	1330-20-7	ID	2	2	8.00E-02	1.80E-01		1.5E+02	1.2E-03	5.4E+04	3.3E-06	1.3E+08	1.4E-09	1.5E+02	1.2E-03	5.1E+01	3.6E-03
82	INORG	Arsenic	7440-38-2	A	5	5	6.20E-01	2.41E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
82	INORG	Barium	7440-39-3	NC	5	5	2.40E+01	9.68E+01	7.50E+01					1.5E+05	1.5E-04	1.3E+05	1.7E-04		
82	INORG	Beryllium	7440-41-7	B1	5	1	1.90E-01	1.90E-01						5.9E+02	3.2E-04	1.6E+03	1.2E-04	3.7E+02	5.1E-04
82	INORG	Cadmium	7440-43-9	B1	5	5	7.00E-02	2.60E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
82	INORG	Chromium (total)	7440-47-3		5	5	4.10E+00	1.61E+01						2.4E+02	6.7E-02	9.2E+03	1.8E-03	1.7E+03	9.5E-03
82	INORG	Cobalt	7440-48-4	B1	5	5	2.59E+00	7.90E+00	6.80E+00					5.9E+03	1.9E-04	9.0E+03	1.2E-04	5.5E+02	2.0E-03
82	INORG	Copper	7440-50-8	D	5	5	6.20E+00	1.15E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
82	INORG	Lead	7439-92-1	B2	5	5	3.70E+00	1.09E+01	2.10E+01					4.4E+04		9.0E+02			
82	INORG	Lead (Coarse Fraction)	7439-92-1C		5	5	3.40E+00	1.22E+01											
82	INORG	Lead (Fine Fraction)	7439-92-1F		5	5	2.08E+01	6.62E+01											
82	INORG	Lead (Summed Fractions)	7439-92-1S		5	5	5.19E+00	1.50E+01											
82	INORG	Manganese	7439-96-5	D	5	5	2.50E+02	3.26E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
82	INORG	Mercury	7439-97-6	D	5	4	1.00E-02	1.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
82	INORG	Nickel	7440-02-0	A	5	5	5.60E+00	1.89E+01	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
82	INORG	Selenium	7782-49-2	D	5	5	5.20E-01	1.01E+00	4.10E-01					5.9E+04	1.0E-05	9.6E+03	6.3E-05	2.5E+03	2.4E-04
82	INORG	Silver	7440-22-4	D	5	2	2.00E-02	2.00E-02	1.00E+00					2.9E+03		9.0E+03		2.6E+02	
82	INORG	Thallium	7440-28-0		5	5	3.00E-02	7.00E-02								1.3E+02	5.4E-04	3.6E+01	2.0E-03
82	INORG	Vanadium	7440-62-2		5	5	7.10E+00	1.41E+01								5.5E+03	2.6E-03	3.6E+03	4.0E-03
82	INORG	Zinc	7440-66-6	ID	5	5	1.49E+01	3.21E+01	4.70E+01							6.3E+05		1.5E+05	
83	INORG	Arsenic	7440-38-2	A	10	10	9.10E-01	1.65E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
83	INORG	Barium	7440-39-3	NC	10	10	3.50E+01	7.13E+01	7.50E+01					1.5E+05		1.3E+05			
83	INORG	Beryllium	7440-41-7	B1	10	10	1.80E-01	2.30E-01						5.9E+02	3.9E-04	1.6E+03	1.4E-04	3.7E+02	6.2E-04
83	INORG	Cadmium	7440-43-9	B1	10	10	8.00E-02	1.30E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
83	INORG	Chromium (total)	7440-47-3		10	10	7.50E+00	2.08E+01						2.4E+02	8.7E-02	9.2E+03	2.3E-03	1.7E+03	1.2E-02
83	INORG	Cobalt	7440-48-4	B1	10	10	3.58E+00	1.06E+01	6.80E+00					5.9E+03	6.4E-04	9.0E+03	4.2E-04	5.5E+02	6.9E-03
83	INORG	Copper	7440-50-8	D	10	10	7.20E+00	1.32E+01	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
83	INORG	Lead	7439-92-1	B2	10	10	4.10E+00	7.00E+00	2.10E+01					4.4E+04		9.0E+02			
83	INORG	Lead (Coarse Fraction)	7439-92-1C		10	10	3.10E+00	4.80E+00											
83	INORG	Lead (Fine Fraction)	7439-92-1F		10	10	1.68E+01	7.52E+01											
83	INORG	Lead (Summed Fractions)	7439-92-1S		10	10	4.86E+00	9.87E+00											

Table A-2b: Summary of Soil Screening against Non-Residential Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	MDEQ Statewide Default Background (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Max Detect to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Max Detect to Industrial Particulate Inhalation Criteria	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Detect to Industrial Direct Contact Criteria	Construction Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Construction Worker Soil Criteria
83	INORG	Manganese	7439-96-5	D	10	10	2.23E+02	6.55E+02	4.40E+02					1.5E+03	1.4E-01	9.0E+04	2.4E-03	1.4E+03	1.5E-01
83	INORG	Mercury	7439-97-6	D	10	10	1.00E-02	2.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
83	INORG	Nickel	7440-02-0	A	10	10	9.50E+00	2.42E+01	2.00E+01					1.6E+04	2.6E-04	1.5E+05	2.8E-05	8.5E+04	4.9E-05
83	INORG	Selenium	7782-49-2	D	10	10	4.00E-01	1.31E+00	4.10E-01					5.9E+04	1.5E-05	9.6E+03	9.4E-05	2.5E+03	3.5E-04
83	INORG	Silver	7440-22-4	D	10	3	2.00E-02	4.00E-02	1.00E+00					2.9E+03		9.0E+03		2.6E+02	
83	INORG	Thallium	7440-28-0		10	10	3.00E-02	9.00E-02								1.3E+02	6.9E-04	3.6E+01	2.5E-03
83	INORG	Vanadium	7440-62-2		10	10	8.90E+00	1.69E+01								5.5E+03	3.1E-03	3.6E+03	4.7E-03
83	INORG	Zinc	7440-66-6	ID	10	10	1.56E+01	3.54E+01	4.70E+01							6.3E+05		1.5E+05	
87	INORG	Arsenic	7440-38-2	A	1	1	1.40E+00	1.40E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
87	INORG	Barium	7440-39-3	NC	1	1	5.04E+01	5.04E+01	7.50E+01					1.5E+05		1.3E+05			
87	INORG	Beryllium	7440-41-7	B1	1	1	1.90E-01	1.90E-01						5.9E+02	3.2E-04	1.6E+03	1.2E-04	3.7E+02	5.1E-04
87	INORG	Cadmium	7440-43-9	B1	1	1	1.00E-01	1.00E-01	1.20E+00					2.2E+03		2.1E+03		4.4E+02	
87	INORG	Chromium (total)	7440-47-3		1	1	7.70E+00	7.70E+00						2.4E+02	3.2E-02	9.2E+03	8.4E-04	1.7E+03	4.5E-03
87	INORG	Cobalt	7440-48-4	B1	1	1	4.34E+00	4.34E+00	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
87	INORG	Copper	7440-50-8	D	1	1	7.20E+00	7.20E+00	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
87	INORG	Lead	7439-92-1	B2	1	1	3.70E+00	3.70E+00	2.10E+01					4.4E+04		9.0E+02			
87	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	3.70E+00	3.70E+00											
87	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	4.56E+01	4.56E+01											
87	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	6.59E+00	6.59E+00											
87	INORG	Manganese	7439-96-5	D	1	1	2.50E+02	2.50E+02	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
87	INORG	Mercury	7439-97-6	D	1	1	1.00E-02	1.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
87	INORG	Nickel	7440-02-0	A	1	1	1.03E+01	1.03E+01	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
87	INORG	Selenium	7782-49-2	D	1	1	5.10E-01	5.10E-01	4.10E-01					5.9E+04	1.7E-06	9.6E+03	1.0E-05	2.5E+03	3.9E-05
87	INORG	Silver	7440-22-4	D	1	1	2.00E-02	2.00E-02	1.00E+00					2.9E+03		9.0E+03		2.6E+02	
87	INORG	Thallium	7440-28-0		1	1	6.00E-02	6.00E-02								1.3E+02	4.6E-04	3.6E+01	1.7E-03
87	INORG	Vanadium	7440-62-2		1	1	8.80E+00	8.80E+00								5.5E+03	1.6E-03	3.6E+03	2.5E-03
87	INORG	Zinc	7440-66-6	ID	1	1	1.66E+01	1.66E+01	4.70E+01							6.3E+05		1.5E+05	
88	VOC	Benzene	71-43-2	A	1	1	1.60E-01	1.60E-01		8.4E+00	1.9E-02	4.5E+01	3.6E-03	4.7E+05	3.4E-07	4.0E+02	4.0E-04	1.5E+01	1.1E-02
88	VOC	Cumene	98-82-8	D	1	1	3.50E-01	3.50E-01		3.9E+02	9.0E-04	2.0E+03	1.8E-04	2.6E+06	1.3E-07	3.9E+02	9.0E-04	2.1E+02	1.6E-03
88	VOC	Cyclohexane	110-82-7	ID	1	1	1.10E-01	1.10E-01										8.5E+02	1.3E-04
88	VOC	Ethyl Benzene	100-41-4	D	1	1	1.23E+00	1.23E+00		1.4E+02	8.8E-03	2.4E+03	5.1E-04	1.3E+07	9.5E-08	1.4E+02	8.8E-03	4.6E+02	2.7E-03
88	VOC	Methylcyclohexane	108-87-2		1	1	7.40E-01	7.40E-01										3.2E+02	2.3E-03
88	VOC	Toluene	108-88-3	ID	1	1	2.63E+00	2.63E+00		2.5E+02	1.1E-02	3.3E+03	8.0E-04	1.2E+07	2.2E-07	2.5E+02	1.1E-02	1.7E+03	1.5E-03
88	VOC	Xylenes (total)	1330-20-7	ID	1	1	8.11E+00	8.11E+00		1.5E+02	5.4E-02	5.4E+04	1.5E-04	1.3E+08	6.2E-08	1.5E+02	5.4E-02	5.1E+01	1.6E-01
88	INORG	Antimony	7440-36-0		1	1	3.00E+01	3.00E+01						5.9E+03	5.1E-03	6.7E+02	4.5E-02	2.0E+02	1.5E-01
88	INORG	Arsenic	7440-38-2	A	1	1	1.24E+00	1.24E+00	5.80E+00					9.1E+02		3.7E+01		2.1E+02	
88	INORG	Barium	7440-39-3	NC	1	1	1.19E+02	1.19E+02	7.50E+01					1.5E+05	2.9E-04	1.3E+05	3.4E-04		
88	INORG	Beryllium	7440-41-7	B1	1	1	5.70E-01	5.70E-01						5.9E+02	9.7E-04	1.6E+03	3.6E-04	3.7E+02	1.5E-03
88	INORG	Cadmium	7440-43-9	B1	1	1	2.60E+00	2.60E+00	1.20E+00					2.2E+03	6.4E-04	2.1E+03	6.7E-04	4.4E+02	3.2E-03
88	INORG	Chromium (total)	7440-47-3		1	1	9.90E+00	9.90E+00						2.4E+02	4.1E-02	9.2E+03	1.1E-03	1.7E+03	5.8E-03
88	INORG	Cobalt	7440-48-4	B1	1	1	9.80E-01	9.80E-01	6.80E+00					5.9E+03		9.0E+03		5.5E+02	
88	INORG	Copper	7440-50-8	D	1	1	6.30E+00	6.30E+00	3.20E+01					5.9E+04		7.3E+04		2.0E+04	
88	INORG	Lead	7439-92-1	B2	1	1	2.22E+01	2.22E+01	2.10E+01					4.4E+04	2.7E-05	9.0E+02	1.3E-03		
88	INORG	Lead (Coarse Fraction)	7439-92-1C		1	1	1.47E+02	1.47E+02											
88	INORG	Lead (Fine Fraction)	7439-92-1F		1	1	1.58E+02	1.58E+02											
88	INORG	Lead (Summed Fractions)	7439-92-1S		1	1	1.47E+02	1.47E+02											
88	INORG	Manganese	7439-96-5	D	1	1	1.27E+01	1.27E+01	4.40E+02					1.5E+03		9.0E+04		1.4E+03	
88	INORG	Mercury	7439-97-6	D	1	1	1.00E-02	1.00E-02	1.30E-01	8.9E+01		6.2E+01		8.8E+03		5.8E+02		7.7E+00	
88	INORG	Nickel	7440-02-0	A	1	1	1.19E+01	1.19E+01	2.00E+01					1.6E+04		1.5E+05		8.5E+04	
88	INORG	Selenium	7782-49-2	D	1	1	1.09E+00	1.09E+00	4.10E-01					5.9E+04	1.2E-05	9.6E+03	7.1E-05	2.5E+03	2.7E-04
88	INORG	Vanadium	7440-62-2		1	1	9.60E+00	9.60E+00								5.5E+03	1.7E-03	3.6E+03	2.7E-03
88	INORG	Zinc	7440-66-6	ID	1	1	1.89E+01	1.89E+01	4.70E+01							6.3E+05		1.5E+05	

Notes:

Only constituents detected in each area are shown.

The criteria for 2-Methylnaphthalene are the criteria provided by the agency for Naphthalene.

Ratios are calculated using the maximum detected concentrations, except for inorganics. Ratios for inorganics use the facility-related concentrations, which are those in excess of background.

Ratios of concentrations to criteria greater than 1 are shaded in bold.

Chem Group - chemical group

Carc Class - USEPA Weight-of-Evidence Cancer Classification

Table A-2c: Soil Samples Exceeding Screening Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Location	Sample ID	Sample Type	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Chem Group	Chemical	Conc	Qual	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Conc to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Conc to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Conc to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Conc to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Conc to Residential Direct Contact Criteria	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Conc to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Conc to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Conc to Industrial Particulate Inhalation Criteria	Industrial/ Commercial II Direct Contact Criteria (mg/kg)	Ratio of Conc to Industrial/ Commercial II Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Conc to GSI Protection Criteria	Risk-Based Maintenance Worker Soil Contact Criteria (mg/kg)	Ratio of Conc to Risk-Based Maintenance Worker Soil Contact Criteria	Deepest Soil Analysis
10, 83	SA 7-7	SA7-7 (9-11)	N	9	11	11/07/05	INORG	Chromium (total)	1.83E+01			3.0E+01	6.1E-01					2.6E+02	7.0E-02	2.5E+03	7.3E-03					2.4E+02	7.6E-02	9.2E+03	2.0E-03	3.3E+00	**5.5E+00**	1.7E+03	1.1E-02	Yes
10, 83	SA 7-7	SA7-7 (9-11)	N	9	11	11/07/05	INORG	Cobalt	1.06E+01		6.80E+00	8.0E-01	**4.8E+00**					1.3E+04	2.9E-04	2.6E+03	1.5E-03					5.9E+03	6.4E-04	9.0E+03	4.2E-04	2.0E+00	**1.9E+00**	5.5E+02	6.9E-03	Yes
10, 83	SA 7-7	SA7-7 (9-11)	N	9	11	11/07/05	INORG	Manganese	6.55E+02		4.40E+02	1.0E+00	**2.2E+02**					3.3E+03	6.5E-02	2.5E+04	8.6E-03					1.5E+03	1.4E-01	9.0E+04	2.4E-03	9.1E+01	**2.4E+00**	1.4E+03	1.5E-01	Yes
13, 16	SW-4-UST5-6	SW-4(ExcWall)	N			06/07/91	VOC	Xylenes (total)	9.90E+01			5.6E+00	**1.8E+01**	1.5E+02	6.6E-01	4.6E+04	2.2E-03	2.9E+08	3.4E-07	1.5E+02	6.6E-01	1.5E+02	6.6E-01	5.4E+04	1.8E-03	1.3E+08	7.6E-07	1.5E+02	6.6E-01	7.0E-01	**1.4E+02**	5.1E+01	**2.0E+00**	Yes
17	B-96-B	B-96-B(9-11)	N	9	11	08/03/96	VOC	Benzene	3.40E+00			1.0E-01	3.4E+01	1.6E+00	**2.1E+00**	1.3E+01	2.6E-01	3.8E+05	8.9E-06	1.8E+02	1.9E-02	8.4E+00	4.0E-01	4.5E+01	7.6E-02	4.7E+05	7.2E-06	4.0E+02	8.5E-03	4.0E+00	8.5E-01	1.5E+01	2.3E-01	No
17	B-96-B	B-96-B(9-11)	N	9	11	08/03/96	VOC	Xylenes (total)	2.99E+02			5.6E+00	5.3E+01	1.5E+02	**2.0E+00**	4.6E+04	6.5E-03	2.9E+08	1.0E-06	1.5E+02	**2.0E+00**	1.5E+02	**2.0E+00**	5.4E+04	5.5E-03	1.3E+08	2.3E-06	1.5E+02	**2.0E+00**	7.0E-01	4.3E+02	5.1E+01	**5.9E+00**	No
17	SB-2	SB-2(11-13)	N	11	13	11/02/95	VOC	Benzene	2.90E+00			1.0E-01	2.9E+01	1.6E+00	**1.8E+00**	1.3E+01	2.2E-01	3.8E+05	7.6E-06	1.8E+02	1.6E-02	8.4E+00	3.5E-01	4.5E+01	6.4E-02	4.7E+05	6.2E-06	4.0E+02	7.3E-03	4.0E+00	7.3E-01	1.5E+01	2.0E-01	No
17	SB-2	SB-2(13-15)	N	13	15	11/02/95	VOC	Benzene	6.90E-01			1.0E-01	**6.9E+00**	1.6E+00	4.3E-01	1.3E+01	5.3E-02	3.8E+05	1.8E-06	1.8E+02	3.8E-03	8.4E+00	8.2E-02	4.5E+01	1.5E-02	4.7E+05	1.5E-06	4.0E+02	1.7E-03	4.0E+00	1.7E-01	1.5E+01	4.7E-02	Yes
17	SB-2	SB-2(9-11)	N	9	11	11/02/95	VOC	Benzene	2.97E+01			1.0E-01	3.0E+02	1.6E+00	**1.9E+01**	1.3E+01	**2.3E+00**	3.8E+05	7.8E-05	1.8E+02	1.7E-01	8.4E+00	**3.5E+00**	4.5E+01	6.6E-01	4.7E+05	6.3E-05	4.0E+02	7.4E-02	4.0E+00	7.4E+00	1.5E+01	**2.0E+00**	No
17	SB-2	SB-2(9-11)	N	9	11	11/02/95	VOC	Ethyl Benzene	1.22E+02			1.5E+00	8.1E+01	8.7E+01	**1.4E+00**	7.2E+02	1.7E-01	1.0E+07	1.2E-05	1.4E+02	8.7E-01	1.4E+02	8.7E-01	2.4E+03	5.1E-02	1.3E+07	9.4E-06	1.4E+02	8.7E-01	3.6E-01	3.4E+02	4.6E+02	2.6E-01	No
17	SB-2	SB-2(9-11)	N	9	11	11/02/95	VOC	Xylenes (total)	1.25E+02			5.6E+00	2.2E+01	1.5E+02	8.3E-01	4.6E+04	2.7E-03	2.9E+08	4.3E-07	1.5E+02	8.3E-01	1.5E+02	8.3E-01	5.4E+04	2.3E-03	1.3E+08	9.6E-07	1.5E+02	8.3E-01	7.0E-01	1.8E+02	5.1E+01	**2.5E+00**	No
17	SB-3	SB-3(14)	N	14		01/06/96	VOC	Benzene	1.72E+00			1.0E-01	1.7E+01	1.6E+00	**1.1E+00**	1.3E+01	1.3E-01	3.8E+05	4.5E-06	1.8E+02	9.6E-03	8.4E+00	2.0E-01	4.5E+01	3.8E-02	4.7E+05	3.7E-06	4.0E+02	4.3E-03	4.0E+00	4.3E-01	1.5E+01	1.2E-01	No
17	VEW-5	VEW-5(6-8)	N	6	8	03/19/95	VOC	Benzene	2.00E+00			1.0E-01	2.0E+01	1.6E+00	**1.3E+00**	1.3E+01	1.5E-01	3.8E+05	5.3E-06	1.8E+02	1.1E-02	8.4E+00	2.4E-01	4.5E+01	4.4E-02	4.7E+05	4.3E-06	4.0E+02	5.0E-03	4.0E+00	5.0E-01	1.5E+01	1.4E-01	No
17	VEW-5	VEW-5(6-8)	N	6	8	03/19/95	VOC	1,1-Dichloroethene	1.30E-01			1.4E-01	9.3E-01	6.2E-02	**2.1E+00**	1.2E+01	1.1E-02	6.2E+04	2.1E-06	2.0E+02	6.5E-04	3.3E-01	3.9E-01	3.7E+00	3.5E-02	7.8E+04	1.7E-06	5.7E+02	2.3E-04	1.3E+00	1.0E-01	2.7E+01	4.8E-03	No
17	VEW-5	VEW-5(8-10)	N	8	10	03/19/95	VOC	Benzene	7.00E+00			1.0E-01	**7.0E+01**	1.6E+00	**4.4E+00**	1.3E+01	5.4E-01	3.8E+05	1.8E-05	1.8E+02	3.9E-02	8.4E+00	8.3E-01	4.5E+01	1.6E-01	4.7E+05	1.5E-05	4.0E+02	1.8E-02	4.0E+00	**1.8E+00**	1.5E+01	4.8E-01	Yes
17	VEW-5	VEW-5(8-10)	N	8	10	03/19/95	VOC	1,1-Dichloroethene	5.00E-01			1.4E-01	**3.6E+00**	6.2E-02	**8.1E+00**	1.1E+00	4.5E-01	6.2E+04	8.1E-06	2.0E+02	2.5E-03	3.3E-01	**1.5E+00**	3.7E+00	1.4E-01	7.8E+04	6.4E-06	5.7E+02	8.8E-04	1.3E+00	3.8E-01	2.7E+01	1.9E-02	Yes
17	VEW-5	VEW-5(8-10)	N	8	10	03/19/95	VOC	cis-1,2-Dichloroethene	1.20E+01			1.4E+00	**8.6E+00**	2.2E+01	5.5E-01	1.8E+02	6.7E-02	2.3E+06	5.2E-06	6.4E+02	1.9E-02	4.1E+01	2.9E-01	2.1E+02	5.7E-02	1.0E+06	1.2E-05	6.4E+02	1.9E-02	1.2E+01	1.0E+00	9.3E+01	1.3E-01	Yes
17	VEW-5	VEW-5(8-10)	N	8	10	03/19/95	VOC	Ethyl Benzene	6.00E-01			1.5E+00	4.0E-01	8.7E+01	6.9E-03	7.2E+02	8.3E-04	1.0E+07	6.0E-08	1.4E+02	4.3E-03	1.4E+02	4.3E-03	2.4E+03	2.5E-04	1.3E+07	4.6E-08	1.4E+02	4.3E-03	3.6E-01	**1.7E+00**	4.6E+02	1.3E-03	Yes
17	VEW-5	VEW-5(8-10)	N	8	10	03/19/95	VOC	Methyl tert-butyl ether	1.00E+01			8.0E-01	**1.3E+01**	5.9E+03	1.7E-03	2.5E+04	4.0E-04	2.0E+08	5.0E-08	1.5E+03	6.7E-03	5.9E+03	1.7E-03	3.0E+04	3.3E-04	8.8E+07	1.1E-07	5.9E+03	1.7E-03	1.5E+01	6.7E-01	1.4E+03	7.0E-03	Yes
17	VEW-5	VEW-5(8-10)	N	8	10	03/19/95	VOC	1,1,1-Trichloroethane	9.00E+00			4.0E+00	**2.3E+00**	2.5E+02	3.6E-02	3.8E+03	2.4E-03	6.7E+07	1.3E-07	4.6E+02	2.0E-02	4.6E+02	2.0E-02	4.5E+03	2.0E-03	2.9E+07	3.1E-07	4.6E+02	2.0E-02	4.0E+00	**2.3E+00**	4.3E+03	2.1E-03	Yes
17	VEW-5	VEW-5(8-10)	N	8	10	03/19/95	VOC	Trichloroethene	1.20E+00			1.0E-01	**1.2E+01**	7.1E+00	1.7E-01	7.8E+01	1.5E-02	1.8E+06	6.7E-07	5.0E+02	2.4E-03	3.7E+01	3.2E-02	2.6E+02	4.6E-03	2.3E+06	5.2E-07	5.0E+02	2.4E-03	4.0E+00	3.0E-01	1.2E+02	1.0E-02	Yes
17	VEW-8	VEW-8(10-12)	N	10	12	03/26/95	VOC	Trichloroethene	1.60E-01			1.0E-01	**1.6E+00**	7.1E+00	2.3E-02	7.8E+01	2.1E-03	1.8E+06	8.9E-08	5.0E+02	3.2E-04	3.7E+01	4.3E-03	2.6E+02	6.2E-04	2.3E+06	7.0E-08	5.0E+02	3.2E-04	4.0E+00	4.0E-02	1.2E+02	1.4E-03	Yes
17	VEW-9	VEW-9(10-12)	N	10	12	03/26/95	VOC	Xylenes (total)	9.50E-01			5.6E+00	1.7E-01	1.5E+02	6.3E-03	4.6E+04	2.1E-05	2.9E+08	3.3E-09	1.5E+02	6.3E-03	1.5E+02	6.3E-03	5.4E+04	1.8E-05	1.3E+08	7.3E-09	1.5E+02	6.3E-03	7.0E-01	**1.4E+00**	5.1E+01	1.9E-02	Yes
18	E-16	E-16(4-6)	N	4	6	12/31/93	INORG	Lead	1.29E+03		2.10E+01	7.0E+02	1.8E+00					1.0E+05	1.3E-02	4.0E+02	**3.2E+00**					4.4E+04	2.9E-02	9.0E+02	**1.4E+00**	5.2E+03	2.4E-01			No
18	E-17	E-17(4-6)	N	4	6	12/31/93	INORG	Lead	1.48E+03		2.10E+01	7.0E+02	2.1E+00					1.0E+05	1.5E-02	4.0E+02	**3.6E+00**					4.4E+04	3.3E-02	9.0E+02	**1.6E+00**	5.2E+03	2.8E-01			No
18	E-23	E-23(0-2)	N		2	12/31/93	INORG	Lead	8.29E+02		2.10E+01	7.0E+02	1.2E+00					1.0E+05	8.1E-03	4.0E+02	**2.0E+00**					4.4E+04	1.8E-02	9.0E+02	9.0E-01	5.2E+03	1.6E-01			No
18	E-25	E-25(0-2)	N		2	12/31/93	INORG	Lead	4.03E+03		2.10E+01	7.0E+02	5.7E+00					1.0E+05	4.0E-02	4.0E+02	**1.0E+01**					4.4E+04	9.1E-02	9.0E+02	**4.5E+00**	5.2E+03	7.7E-01			No
18	E-27	E-27(0-2)	N		2	12/31/93	INORG	Lead	3.24E+03		2.10E+01	7.0E+02	4.6E+00					1.0E+05	3.2E-02	4.0E+02	**8.0E+00**					4.4E+04	7.3E-02	9.0E+02	**3.6E+00**	5.2E+03	6.2E-01			No
18	E-34A	E-34A(Comp)(0-15)	N		15	12/31/93	INORG	Lead	1.20E+03		2.10E+01	7.0E+02	1.7E+00					1.0E+05	1.2E-02	4.0E+02	**2.9E+00**					4.4E+04	2.7E-02	9.0E+02	**1.3E+00**	5.2E+03	2.3E-01			No
18	SA 12-1	SA12-1 (9-11)	N	9	11	11/02/05	INORG	Chromium (total)	2.28E+01			3.0E+01	7.6E-01					2.6E+02	8.8E-02	2.5E+03	9.1E-03					2.4E+02	9.5E-02	9.2E+03	2.5E-03	3.3E+00	**6.9E+00**	1.7E+03	1.3E-02	Yes
18	SA 12-1	SA12-1 (9-11)	N	9	11	11/02/05	INORG	Cobalt	1.74E+01		6.80E+00	8.0E-01	**1.3E+01**					1.3E+04	8.2E-04	2.6E+03	4.1E-03					5.9E+03	1.8E-03	9.0E+03	1.2E-03	2.0E+00	**5.3E+00**	5.5E+02	1.9E-02	Yes
18	SA 12-1	SA12-1 (9-11)	N	9	11	11/02/05	INORG	Manganese	5.48E+02		4.40E+02	1.0E+00	**1.1E+02**					3.3E+03	3.3E-02	2.5E+04	4.3E-03					1.5E+03	7.2E-02	9.0E+04	1.2E-03	9.1E+01	**1.2E+00**	1.4E+03	7.5E-02	Yes
18	SA 12-2	SA12-2 (10-12)	N	10	12	11/02/05	INORG	Chromium (total)	2.57E+01			3.0E+01	8.6E-01					2.6E+02	9.9E-02	2.5E+03	1.0E-02					2.4E+02	1.1E-01	9.2E+03	2.8E-03	3.3E+00	**7.8E+00**	1.7E+03	1.5E-02	Yes
18	SA 12-2	SA12-2 (10-12)	N	10	12	11/02/05	INORG	Cobalt	2.28E+01		6.80E+00	8.0E-01	**2.0E+01**					1.3E+04	1.2E-03	2.6E+03	6.2E-03					5.9E+03	2.7E-03	9.0E+03	1.8E-03	2.0E+00	**8.0E+00**	5.5E+02	2.9E-02	Yes
18	SA 12-3	SA12-3 (10-12)	N	10	12	11/02/05	INORG	Chromium (total)	6.40E+00			3.0E+01	2.1E-01					2.6E+02	2.5E-02	2.5E+03	2.6E-03					2.4E+02	2.7E-02	9.2E+03	7.0E-04	3.3E+00	**1.9E+00**	1.7E+03	3.8E-03	Yes
18	SA 12-4	SA12-4 (11-13)	N	11	13	11/03/05	INORG	Chromium (total)	5.80E+00			3.0E+01	1.9E-01					2.6E+02	2.2E-02	2.5E+03	2.3E-03					2.4E+02	2.4E-02	9.2E+03	6.3E-04	3.3E+00	**1.8E+00**	1.7E+03	3.4E-03	Yes
18	SME-MW-4	MW-4(5)	N	5		03/15/96	INORG	Lead	4.54E+02		2.10E+01	7.0E+02	6.2E-01					1.0E+05	4.3E-03	4.0E+02	**1.1E+00**					4.4E+04	9.8E-03	9.0E+02	4.8E-01	5.2E+03	8.4E-02			No
18, 19	SA 10-3	SA10-3 (14-16)	N	14	16	11/07/05	INORG	Chromium (total)	1.47E+01			3.0E+01	4.9E-01					2.6E+02	5.7E-02	2.5E+03	5.9E-03					2.4E+02	6.1E-02	9.2E+03	1.6E-03	3.3E+00	**4.5E+00**	1.7E+03	8.6E-03	Yes
18, 19	SA 10-4	SA10-4 (8-10)	N	8	10	11/04/05	INORG	Chromium (total)	1.39E+01			3.0E+01	4.6E-01					2.6E+02	5.3E-02	2.5E+03	5.6E-03					2.4E+02	5.8E-02	9.2E+03	1.5E-03	3.3E+00	**4.2E+00**	1.7E+03	8.2E-03	Yes
18, 82	SA 20-1	SA20-1 (4-6)	N	4	6	11/04/05	INORG	Chromium (total)	1.37E+01			3.0E+01	4.6E-01					2.6E+02	5.3E-02	2.5E+03	5.5E-03					2.4E+02	5.7E-02	9.2E+03	1.5E-03	3.3E+00	**4.2E+00**	1.7E+03	8.0E-03	Yes
18, 82	SA 20-1	SA20-1 (4-6)	N	4	6	11/04/05	INORG	Cobalt	7.90E+00		6.80E+00	8.0E-01	**1.4E+00**					1.3E+04	8.5E-05	2.6E+03	4.2E-04					5.9E+03	1.9E-04	9.0E+03	1.2E-04	2.0E+00	5.5E-01	5.5E+02	2.0E-03	Yes
18, 82	SA 20-1	SA20-1 (4-6)	N	4	6	11/04/05	INORG	Selenium	8.40E-01		4.10E-01	4.0E+00	1.1E-01					1.3E+05	3.3E-06	2.6E+03	1.7E-04					5.9E+04	7.3E-06	9.6E+03	4.5E-05	4.0E-01	**1.1E+00**	2.5E+03	1.7E-04	Yes
18, 82	SA 20-2	SA20-2 (14-16)	N	14	16	11/04/05	INORG	Chromium (total)	1.19E+01			3.0E+01	4.0E-01					2.6E+02	4.6E-02	2.5E+03	4.8E-03					2.4E+02	5.0E-02	9.2E+03	1.3E-03	3.3E+00	**3.6E+00**	1.7E+03	7.0E-03	Yes
18, 82	SA 20-2	SA20-2 (14-16)	N	14	16	11/04/05	INORG	Selenium	1.01E+00		4.10E-01	4.0E+00	1.5E-01					1.3E+05	4.6E-06	2.6E+03	2.3E-04					5.9E+04	1.0E-05	9.6E+03	6.3E-05	4.0E-01	**1.5E+00**	2.5E+03	2.4E-04	Yes
18, 82	SA 20-3	SA20-3 (7-9)	N	7	9	11/04/05	INORG	Chromium (total)	1.61E+01			3.0E+01	5.4E-01					2.6E+02	6.2E-02	2.5E+03	6.4E-03					2.4E+02	6.7E-02	9.2E+03	1.8E-03	3.3E+00	**4.9E+00**	1.7E+03	9.5E-03	Yes
18, 82	SA 20-4	Dup-4	FD	10	12	11/04/05	INORG	Chromium (total)	9.00E+00			3.0E+01	3.0E-01					2.6E+02	3.5E-02	2.5E+03	3.6E-03					2.4E+02	3.8E-02	9.2E+03	9.8E-04	3.3E+00	**2.7E+00**	1.7E+03	5.3E-03	Yes
18, 82	SA 20-4	Dup-4	FD	10	12	11/04/05	INORG	Selenium	8.70E-01		4.10E-01	4.0E+00	1.2E-01					1.3E+05	3.5E-06	2.6E+03	1.8E-04					5.9E+04	7.8E-06	9.6E+03	4.8E-05	4.0E-01	**1.2E+00**	2.5E+03	1.8E-04	Yes
18, 82	SA 20-4	SA20-4 (10-12)	N	10	12	11/04/05	INORG	Chromium (total)	4.10E+00			3.0E+01	1.4E-01					2.6E+02	1.6E-02	2.5E+03	1.6E-03					2.4E+02	1.7E-02	9.2E+03	4.5E-04	3.3E+00	**1.2E+00**	1.7E+03	2.4E-03	Yes
2, 18, 48	SA 6-1	SA6-1 (2.5-4.5)	N	2.5	4.5	11/03/05	INORG	Chromium (total)	5.80E+00			3.0E+01	1.9E-01					2.6E+02	2.2E-02	2.5E+03	2.3E-03					2.4E+02	2.4E-02	9.2E+03	6.3E-04	3.3E+00	**1.8E+00**	1.7E+03	3.4E-03	Yes
2, 18, 48	SA 6-10	SA6-10 (14-16)	N	14	16	11/03/05	INORG	Chromium (total)	7.70E+00			3.0E+01	2.6E-01					2.6E+02	3.0E-02	2.5E+03	3.1E-03					2.4E+02	3.2E-02	9.2E+03	8.4E-04	3.3E+00	**2.3E+00**	1.7E+03	4.5E-03	Yes
2, 18, 48	SA 6-11	SA6-11 (8-10)	N	8	10	11/04/05	INORG	Chromium (total)	4.50E+00			3.0E+01	1.5E-01					2.6E+02	1.7E-02	2.5E+03	1.8E-03					2.4E+02	1.9E-02	9.2E+03	4.9E-04	3.3E+00	**1.4E+00**	1.7E+03	2.6E-03	Yes
2, 18, 48	SA 6-12	SA6-12 (8-10)	N	8	10	11/04/05	INORG	Chromium (total)	1.61E+01			3.0E+01	5.4E-01					2.6E+02	6.2E-02	2.5E+03	6.4E-03					2.4E+02	6.7E-02	9.2E+03	1.8E-03	3.3E+00	**4.9E+00**	1.7E+03	9.5E-03	Yes
2, 18, 48	SA 6-12	SA6-12 (8-10)	N	8	10	11/04/05	INORG	Cobalt	8.35E+00		6.80E+00	8.0E-01	**1.9E+00**					1.3E+04	1.2E-04	2.6E+03	6.0E-04					5.9E+03	2.6E-04	9.0E+03	1.7E-04	2.0E+00	7.8E-01	5.5E+02	2.8E-03	Yes
2, 18, 48	SA 6-2	Dup-2	FD	4	6	11/03/05	INORG	Chromium (total)	4.10E+00			3.0E+01	1.4E-01					2.6E+02	1.6E-02	2.5E+03	1.6E-03					2.4E+02	1.7E-02	9.2E+03	4.5E-04	3.3E+00	**1.2E+00**	1.7E+03	2.4E-03	Yes
2, 18, 48	SA 6-3	SA6-3 (3-5)	N	3	5	11/03/05	INORG	Chromium (total)	3.50E+00			3.0E+01	1.2E-01					2.6E+02	1.3E-02	2.5E+03	1.4E-03					2.4E+02	1.5E-02	9.2E+03	3.8E-04	3.3E+00	**1.1E+00**	1.7E+03	2.1E-03	Yes
2, 18, 48	SA 6-4	Dup-3	FD	8	10	11/03/05	INORG	Chromium (total)	7.80E+00			3.0E+01	2.6E-01					2.6E+02	3.0E-02	2.5E+03	3.1E-03					2.4E+02	3.3E-02	9.2E+03	8.5E-04	3.3E+00	**2.4E+00**	1.7E+03	4.6E-03	Yes
2, 18, 48	SA 6-4	SA6-4 (8-10)	N	8	10	11/03/05	INORG	Chromium (total)	6.90E+00			3.0E+01	2.3E-01					2.6E+02	2.7E-02	2.5E+03	2.8E-03					2.4E+02	2.9E-02	9.2E+03	7.5E-04	3.3E+00	**2.1E+00**	1.7E+03	4.1E-03	Yes
2, 18, 48	SA 6-5	SA6-5 (3-5)	N	3	5	11/03/05	INORG	Chromium (total)	3.50E+00			3.0E+01	1.2E-01					2.6E+02	1.3E-02	2.5E+03	1.4E-03					2.4E+02	1.5E-02	9.2E+03	3.8E-04	3.3E+00	**1.1E+00**	1.7E+03	2.1E-03	Yes
2, 18, 48	SA 6-7	SA6-7 (4-6)	N	4	6	11/03/05	INORG	Chromium (total)	6.60E+00			3.0E+01	2.2E-01					2.6E+02	2.5E-02	2.5E+03	2.6E-03					2.4E+02	2.8E-02	9.2E+03	7.2E-04	3.3E+00	**2.0E+00**	1.7E+03	3.9E-03	Yes
2, 18, 48	SA 6-7	SA6-7 (4-6)	N	4	6	11/03/05	INORG	Manganese	6.01E+02		4.40E+02	1.0E+00	**1.6E+02**					3.3E+03	4.9E-02	2.5E+04	6.4E-03					1.5E+03	1.1E-01	9.0E+04	1.8E-03	9.1E+01	**1.8E+00**	1.4E+03	1.1E-01	Yes
2, 18, 48	SA 6-8	SA6-8 (3-5)	N	3	5	11/03/05	INORG	Chromium (total)	9.40E+00			3.0E+01	3.1E-01					2.6E+02	3.6E-02	2.5E+03	3.8E-03					2.4E+02	3.9E-02	9.2E+03	1.0E-03	3.3E+00	**2.8E+00**	1.7E+03	5.5E-03	Yes
2, 18, 48	SA 6-9	SA6-9 (6-8)	N	6	8	11/03/05	INORG	Chromium (total)	6.60E+00			3.0E+01	2.2E-01					2.6E+02	2.5E-02	2.5E+03	2.6E-03					2.4E+02	2.8E-02	9.2E+03	7.2E-04	3.3E+00	**2.0E+00**	1.7E+03	3.9E-03	Yes
3, 10	SA 8-1	SA8-1 (9-11)	N	9	11	11/09/05	INORG	Chromium (total)	6.10E+00			3.0E+01	2.0E-01					2.6E+02	2.3E-02	2.5E+03	2.4E-03					2.4E+02	2.5E-02	9.2E+03	6.6E-04	3.3E+00	**1.8E+00**	1.7E+03	3.6E-03	Yes
3, 10	SA 8-2	SA8-2 (14-16)	N	14	16	11/09/05	INORG	Chromium (total)	3.60E+00			3.0E+01	1.2E-01					2.6E+02	1.4E-02	2.5E+03	1.4E-03					2.4E+02	1.5E-02	9.2E+03	3.9E-04	3.3E+00	**1.1E+00**	1.7E+03	2.1E-03	Yes
3, 10	SA 8-3	SA8-3 (14-16)	N	14	16	11/08/05	INORG	Chromium (total)	4.40E+00			3.0E+01	1.5E-01					2.6E+02	1.7E-02	2.5E+03	1.8E-03					2.4E+02	1.8E-02	9.2E+03	4.8E-04	3.3E+00	**1.3E+00**	1.7E+03	2.6E-03	Yes
3, 10	SA 8-5	SA8-5 (7-9)	N	7	9	11/08/05	INORG	Chromium (total)	6.20E+00			3.0E+01	2.1E-01					2.6E+02	2.4E-02	2.5E+03	2.5E-03					2.4E+02	2.6E-02	9.2E+03	6.7E-04	3.3E+00	**1.9E+00**	1.7E+03	3.6E-03	Yes
3, 10	SA 8-6	Dup-5	FD	12	14	11/07/05	INORG	Chromium (total)	8.00E+00			3.0E+01	2.7E-01					2.6E+02	3.1E-02	2.5E+03	3.2E-03					2.4E+02	3.3E-02	9.2E+03	8.7E-04	3.3E+00	**2.4E+00**	1.7E+03	4.7E-03	Yes
3, 10	SA 8-6	SA8-6 (12-14)	N	12	14	11/07/05	INORG	Chromium (total)	1.24E+01			3.0E+01	4.1E-01					2.6E+02	4.8E-02	2.5E+03	5.0E-03					2.4E+02	5.2E-02	9.2E+03	1.

Table A-2c: Soil Samples Exceeding Screening Criteria
GM: Lansing Plant 6, Lansing, Michigan

Area	Location	Sample ID	Sample Type	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Chem Group	Chemical	Conc	Qual	MDEQ Statewide Default Background (mg/kg)	Residential Drinking Water Protection Criteria (mg/kg)	Ratio of Conc to Residential Drinking Water Protection Criteria	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Conc to Residential Soil Volatilization to Indoor Air Criteria	Residential Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Conc to Residential Soil Volatilization to Ambient Air Criteria	Residential Particulate Inhalation Criteria (mg/kg)	Ratio of Conc to Residential Particulate Inhalation Criteria	Residential Direct Contact Criteria (mg/kg)	Ratio of Conc to Residential Direct Contact Criteria	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Ratio of Conc to Industrial Soil Volatilization to Indoor Air Criteria	Industrial Soil Volatilization to Ambient Air Criteria (mg/kg)	Ratio of Conc to Industrial Soil Volatilization to Ambient Air Criteria	Industrial Particulate Inhalation Criteria (mg/kg)	Ratio of Conc to Industrial Particulate Inhalation Criteria	Industrial/ Commercial II Direct Contact Criteria (mg/kg)	Ratio of Conc to Industrial/ Commercial II Direct Contact Criteria	GSI Protection Criteria (mg/kg)	Ratio of Conc to GSI Protection Criteria	Risk-Based Maintenance Worker Soil Contact Criteria (mg/kg)	Ratio of Conc to Risk-Based Maintenance Worker Soil Contact Criteria	Deepest Soil Analysis
81	SA 11-6	SA11-6 (2-4)	N	2	4	10/31/05	INORG	Chromium (total)	7.10E+00			3.0E+01	2.4E-01					2.6E+02	2.7E-02	2.5E+03	2.8E-03					2.4E+02	3.0E-02	9.2E+03	7.7E-04	3.3E+00	**2.2E+00**	1.7E+03	4.2E-03	Yes
81	SA 11-7	SA11-7 (4-6)	N	4	6	10/31/05	INORG	Chromium (total)	1.15E+01			3.0E+01	3.8E-01					2.6E+02	4.4E-02	2.5E+03	4.6E-03					2.4E+02	4.8E-02	9.2E+03	1.3E-03	3.3E+00	**3.5E+00**	1.7E+03	6.8E-03	Yes
81	SA 11-8	SA11-8 (8-10)	N	8	10	10/31/05	INORG	Chromium (total)	8.00E+00			3.0E+01	2.7E-01					2.6E+02	3.1E-02	2.5E+03	3.2E-03					2.4E+02	3.3E-02	9.2E+03	8.7E-04	3.3E+00	**2.4E+00**	1.7E+03	4.7E-03	Yes
81	SA 11-9	SA11-9 (8-10)	N	8	10	11/02/05	INORG	Chromium (total)	1.93E+01			3.0E+01	6.4E-01					2.6E+02	7.4E-02	2.5E+03	7.7E-03					2.4E+02	8.0E-02	9.2E+03	2.1E-03	3.3E+00	**5.8E+00**	1.7E+03	1.1E-02	Yes
83	SA 7-1	SA7-1 (9-11)	N	9	11	11/08/05	INORG	Chromium (total)	1.03E+01			3.0E+01	3.4E-01					2.6E+02	4.0E-02	2.5E+03	4.1E-03					2.4E+02	4.3E-02	9.2E+03	1.1E-03	3.3E+00	**3.1E+00**	1.7E+03	6.0E-03	Yes
83	SA 7-10	SA7-10 (4-6)	N	4	6	11/07/05	INORG	Chromium (total)	1.38E+01			3.0E+01	4.6E-01					2.6E+02	5.3E-02	2.5E+03	5.5E-03					2.4E+02	5.8E-02	9.2E+03	1.5E-03	3.3E+00	**4.2E+00**	1.7E+03	8.1E-03	Yes
83	SA 7-2	SA7-2 (4-6)	N	4	6	11/08/05	INORG	Chromium (total)	7.50E+00			3.0E+01	2.5E-01					2.6E+02	2.9E-02	2.5E+03	3.0E-03					2.4E+02	3.1E-02	9.2E+03	8.2E-04	3.3E+00	**2.3E+00**	1.7E+03	4.4E-03	Yes
83	SA 7-3	SA7-3 (7-9)	N	7	9	11/08/05	INORG	Chromium (total)	7.90E+00			3.0E+01	2.6E-01					2.6E+02	3.0E-02	2.5E+03	3.2E-03					2.4E+02	3.3E-02	9.2E+03	8.6E-04	3.3E+00	**2.4E+00**	1.7E+03	4.6E-03	Yes
83	SA 7-4	SA7-4 (8-10)	N	8	10	11/08/05	INORG	Chromium (total)	7.90E+00			3.0E+01	2.6E-01					2.6E+02	3.0E-02	2.5E+03	3.2E-03					2.4E+02	3.3E-02	9.2E+03	8.6E-04	3.3E+00	**2.4E+00**	1.7E+03	4.6E-03	Yes
83	SA 7-4	SA7-4 (8-10)	N	8	10	11/08/05	INORG	Selenium	1.31E+00		4.10E-01	4.0E+00	2.3E-01					1.3E+05	6.9E-06	2.6E+03	3.5E-04					5.9E+04	1.5E-05	9.6E+03	9.4E-05	4.0E-01	**2.3E+00**	2.5E+03	3.5E-04	Yes
83	SA 7-5	SA7-5 (12-14)	N	12	14	11/07/05	INORG	Chromium (total)	1.85E+01			3.0E+01	6.2E-01					2.6E+02	7.1E-02	2.5E+03	7.4E-03					2.4E+02	7.7E-02	9.2E+03	2.0E-03	3.3E+00	**5.6E+00**	1.7E+03	1.1E-02	Yes
83	SA 7-5	SA7-5 (12-14)	N	12	14	11/07/05	INORG	Selenium	8.90E-01		4.10E-01	4.0E+00	1.2E-01					1.3E+05	3.7E-06	2.6E+03	1.8E-04					5.9E+04	8.1E-06	9.6E+03	5.0E-05	4.0E-01	**1.2E+00**	2.5E+03	1.9E-04	Yes
83	SA 7-6	SA7-6 (14-16)	N	14	16	11/07/05	INORG	Chromium (total)	2.08E+01			3.0E+01	6.9E-01					2.6E+02	8.0E-02	2.5E+03	8.3E-03					2.4E+02	8.7E-02	9.2E+03	2.3E-03	3.3E+00	**6.3E+00**	1.7E+03	1.2E-02	Yes
83	SA 7-6	SA7-6 (14-16)	N	14	16	11/07/05	INORG	Selenium	9.20E-01		4.10E-01	4.0E+00	1.3E-01					1.3E+05	3.9E-06	2.6E+03	2.0E-04					5.9E+04	8.6E-06	9.6E+03	5.3E-05	4.0E-01	**1.3E+00**	2.5E+03	2.0E-04	Yes
83	SA 7-8	SA7-8 (10-12)	N	10	12	11/07/05	INORG	Chromium (total)	1.81E+01			3.0E+01	6.0E-01					2.6E+02	7.0E-02	2.5E+03	7.2E-03					2.4E+02	7.5E-02	9.2E+03	2.0E-03	3.3E+00	**5.5E+00**	1.7E+03	1.1E-02	Yes
83	SA 7-8	SA7-8 (10-12)	N	10	12	11/07/05	INORG	Selenium	9.40E-01		4.10E-01	4.0E+00	1.3E-01					1.3E+05	4.1E-06	2.6E+03	2.0E-04					5.9E+04	9.0E-06	9.6E+03	5.5E-05	4.0E-01	**1.3E+00**	2.5E+03	2.1E-04	Yes
87	SA 9-2	SA9-2 (8-10)	N	8	10	11/08/05	INORG	Chromium (total)	7.70E+00			3.0E+01	2.6E-01					2.6E+02	3.0E-02	2.5E+03	3.1E-03					2.4E+02	3.2E-02	9.2E+03	8.4E-04	3.3E+00	**2.3E+00**	1.7E+03	4.5E-03	Yes
88	SA 34-6	SA34-6 (6-8)	N	6	8	11/11/05	VOC	Benzene	1.60E-01			1.0E-01	**1.6E+00**	1.6E+00	1.0E-01	1.3E+01	1.2E-02	3.8E+05	4.2E-07	1.8E+02	8.9E-04	8.4E+00	1.9E-02	4.5E+01	3.6E-03	4.7E+05	3.4E-07	4.0E+02	4.0E-04	4.0E+00	4.0E-02	1.5E+01	1.1E-02	Yes
88	SA 34-6	SA34-6 (6-8)	N	6	8	11/11/05	VOC	Ethyl Benzene	1.23E+00			1.5E+00	8.2E-01	8.7E+01	1.4E-02	7.2E+02	1.7E-03	1.0E+07	1.2E-07	1.4E+02	8.8E-03	1.4E+02	8.8E-03	2.4E+03	5.1E-04	1.3E+07	9.5E-08	1.4E+02	8.8E-03	3.6E-01	**3.4E+00**	4.6E+02	2.7E-03	Yes
88	SA 34-6	SA34-6 (6-8)	N	6	8	11/11/05	VOC	Xylenes (total)	8.11E+00			5.6E+00	**1.4E+00**	1.5E+02	5.4E-02	4.6E+04	1.8E-04	2.9E+08	2.8E-08	1.5E+02	5.4E-02	1.5E+02	5.4E-02	5.4E+04	1.5E-04	1.3E+08	6.2E-08	1.5E+02	5.4E-02	7.0E-01	**1.2E+01**	5.1E+01	1.6E-01	Yes
88	SA 34-6	SA34-6 (6-8)	N	6	8	11/11/05	INORG	Antimony	3.00E+01			4.3E+00	**7.0E+00**					1.3E+04	2.3E-03	1.8E+02	1.7E-01					5.9E+03	5.1E-03	6.7E+02	4.5E-02	9.4E+01	3.2E-01	2.0E+02	1.5E-01	Yes
88	SA 34-6	SA34-6 (6-8)	N	6	8	11/11/05	INORG	Chromium (total)	9.90E+00			3.0E+01	3.3E-01					2.6E+02	3.8E-02	2.5E+03	4.0E-03					2.4E+02	4.1E-02	9.2E+03	1.1E-03	3.3E+00	**3.0E+00**	1.7E+03	5.8E-03	Yes
88	SA 34-6	SA34-6 (6-8)	N	6	8	11/11/05	INORG	Selenium	1.09E+00		4.10E-01	4.0E+00	1.7E-01					1.3E+05	5.2E-06	2.6E+03	2.6E-04					5.9E+04	1.2E-05	9.6E+03	7.1E-05	4.0E-01	**1.7E+00**	2.5E+03	2.7E-04	Yes

Notes:

Sample Types: "N" = normal or parent sample, "FD" = field duplicate sample

Ratios for inorganics use the facility-related concentrations, which are those in excess of background.

Ratios of concentrations to groundwater protection criteria are only highlighted for the deepest sample in the boring in which that chemical was analyzed.

Table A-3a: Groundwater Screening Results
GM Lansing Plant 6, Lansing, Michigan

Area	Wellzone	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Residential Drinking Water Criteria (mg/L)	Ratio of Max Detected to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Max Detected to Groundwater Surface water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Max Detected to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Groundwater Contact Criteria
17	Overburden	VOC	Benzene	71-43-2	T	A	10	1	3.00E-03	3.00E-03	5.0E-03	6.0E-01	2.0E-01	1.5E-02	3.5E+01	8.6E-05	1.1E+01	2.7E-04
17	Overburden	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	9	1	2.20E-02	2.20E-02	7.0E-02	3.1E-01	6.2E-01	3.5E-02	2.1E+02	1.0E-04	2.0E+02	1.1E-04
17	Overburden	VOC	Ethyl Benzene	100-41-4	T	D	10	1	1.00E-03	1.00E-03	7.0E-01	1.4E-03	1.8E-02	5.6E-02	1.7E+02	5.9E-06	1.7E+02	5.9E-06
18	Overburden	INORG	Arsenic	7440-38-2	D	A	48	35	1.00E-03	3.60E-02	1.0E-02	**3.6E+00**	1.5E-01	2.4E-01			4.3E+00	8.4E-03
18	Overburden	INORG	Arsenic	7440-38-2	T	A	32	30	2.00E-03	6.80E-02	1.0E-02	**6.8E+00**	1.5E-01	4.5E-01			4.3E+00	1.6E-02
18	Overburden	INORG	Barium	7440-39-3	D	NC	48	48	1.40E-01	2.23E+00	2.0E+00	**1.1E+00**	1.2E+00	**1.8E+00**			1.4E+04	1.6E-04
18	Overburden	INORG	Barium	7440-39-3	T	NC	32	32	1.70E-01	2.27E+00	2.0E+00	**1.1E+00**	1.2E+00	**1.8E+00**			1.4E+04	1.6E-04
18	Overburden	INORG	Beryllium	7440-41-7	T	B1	32	4	1.00E-03	2.00E-03	4.0E-03	5.0E-01	2.9E-02	7.0E-02			2.9E+02	6.9E-06
18	Overburden	INORG	Cadmium	7440-43-9	D	B1	48	4	2.00E-04	1.40E-03	5.0E-03	2.8E-01	4.6E-03	3.0E-01			1.9E+02	7.4E-06
18	Overburden	INORG	Cadmium	7440-43-9	T	B1	32	19	2.00E-04	8.30E-03	5.0E-03	**1.7E+00**	4.6E-03	**1.8E+00**			1.9E+02	4.4E-05
18	Overburden	INORG	Chromium (total)	7440-47-3	D		48	9	2.00E-03	1.10E-02	1.0E-01	1.1E-01	1.1E-02	1.0E+00			4.6E+02	2.4E-05
18	Overburden	INORG	Chromium (total)	7440-47-3	T		32	22	3.00E-03	8.60E-02	1.0E-01	8.6E-01	1.1E-02	**7.8E+00**			4.6E+02	1.9E-04
18	Overburden	INORG	Cobalt	7440-48-4	D	B1	48	3	7.00E-03	7.00E-03	4.0E-02	1.8E-01	1.0E-01	7.0E-02			2.4E+03	2.9E-06
18	Overburden	INORG	Cobalt	7440-48-4	T	B1	32	6	5.00E-03	2.70E-02	4.0E-02	6.8E-01	1.0E-01	2.7E-01			2.4E+03	1.1E-05
18	Overburden	INORG	Copper	7440-50-8	D	D	48	22	2.00E-03	1.10E-02	1.4E+00	7.9E-03	2.1E-02	5.3E-01			7.4E+03	1.5E-06
18	Overburden	INORG	Copper	7440-50-8	T	D	32	27	3.00E-03	1.38E-01	1.4E+00	9.9E-02	2.1E-02	**6.7E+00**			7.4E+03	1.9E-05
18	Overburden	INORG	Lead	7439-92-1	D	B2	55	7	7.00E-03	1.80E-02	4.0E-03	**4.5E+00**	2.9E-02	6.1E-01				
18	Overburden	INORG	Lead	7439-92-1	T	B2	46	30	2.00E-03	2.76E+00	4.0E-03	**6.9E+02**	2.9E-02	**9.4E+01**				
18	Overburden	INORG	Manganese	7439-96-5	D	D	48	48	7.00E-03	6.01E-01	8.6E-01	7.0E-01	4.6E+00	1.3E-01			9.1E+03	6.6E-05
18	Overburden	INORG	Manganese	7439-96-5	T	D	32	32	3.50E-02	3.05E+00	8.6E-01	**3.5E+00**	4.6E+00	6.7E-01			9.1E+03	3.4E-04
18	Overburden	INORG	Nickel	7440-02-0	D	A	48	17	5.00E-03	1.50E-02	1.0E-01	1.5E-01	1.2E-01	1.3E-01			7.4E+04	2.0E-07
18	Overburden	INORG	Nickel	7440-02-0	T	A	32	15	6.00E-03	6.30E-02	1.0E-01	6.3E-01	1.2E-01	5.3E-01			7.4E+04	8.5E-07
18	Overburden	INORG	Silver	7440-22-4	D	D	48	1	1.00E-03	1.00E-03	3.4E-02	2.9E-02	2.0E-04	**5.0E+00**			1.5E+03	6.7E-07
18	Overburden	INORG	Silver	7440-22-4	T	D	32	2	1.00E-03	1.50E-03	3.4E-02	4.4E-02	2.0E-04	**7.5E+00**			1.5E+03	1.0E-06
18	Overburden	INORG	Vanadium	7440-62-2	D		48	1	6.00E-03	6.00E-03	4.5E-03	**1.3E+00**	1.2E-02	5.0E-01			9.7E+02	6.2E-06
18	Overburden	INORG	Vanadium	7440-62-2	T		32	7	5.00E-03	5.00E-02	4.5E-03	**1.1E+01**	1.2E-02	**4.2E+00**			9.7E+02	5.2E-05
18	Overburden	INORG	Zinc	7440-66-6	D	ID	48	42	5.00E-03	2.37E-01	2.4E+00	9.9E-02	2.7E-01	8.7E-01			1.1E+05	2.2E-06
18	Overburden	INORG	Zinc	7440-66-6	T	ID	32	31	1.20E-02	1.17E+00	2.4E+00	4.9E-01	2.7E-01	**4.3E+00**			1.1E+05	1.1E-05
18	Bedrock	INORG	Arsenic	7440-38-2	D	A	3	3	1.00E-03	1.90E-02	1.0E-02	**1.9E+00**	1.5E-01	1.3E-01			4.3E+00	4.4E-03
18	Bedrock	INORG	Arsenic	7440-38-2	T	A	3	3	2.00E-03	1.30E-02	1.0E-02	**1.3E+00**	1.5E-01	8.7E-02			4.3E+00	3.0E-03
18	Bedrock	INORG	Barium	7440-39-3	D	NC	3	3	1.80E-01	2.80E-01	2.0E+00	1.4E-01	1.2E+00	2.3E-01			1.4E+04	2.0E-05
18	Bedrock	INORG	Barium	7440-39-3	T	NC	3	3	3.60E-01	1.81E+00	2.0E+00	9.1E-01	1.2E+00	**1.5E+00**			1.4E+04	1.3E-04
18	Bedrock	INORG	Beryllium	7440-41-7	T	B1	3	1	8.00E-03	8.00E-03	4.0E-03	**2.0E+00**	2.9E-02	2.8E-01			2.9E+02	2.8E-05
18	Bedrock	INORG	Cadmium	7440-43-9	T	B1	3	1	1.30E-03	1.30E-03	5.0E-03	2.6E-01	4.6E-03	2.8E-01			1.9E+02	6.8E-06
18	Bedrock	INORG	Chromium (total)	7440-47-3	D		3	2	3.00E-03	4.00E-03	1.0E-01	4.0E-02	1.1E-02	3.6E-01			4.6E+02	8.7E-06
18	Bedrock	INORG	Chromium (total)	7440-47-3	T		3	3	3.00E-03	1.53E-01	1.0E-01	**1.5E+00**	1.1E-02	**1.4E+01**			4.6E+02	3.3E-04
18	Bedrock	INORG	Cobalt	7440-48-4	T	B1	3	2	4.30E-02	5.00E-02	4.0E-02	**1.3E+00**	1.0E-01	5.0E-01			2.4E+03	2.1E-05
18	Bedrock	INORG	Copper	7440-50-8	D	D	3	2	3.00E-03	5.00E-03	1.4E+00	3.6E-03	2.1E-02	2.4E-01			7.4E+03	6.8E-07
18	Bedrock	INORG	Copper	7440-50-8	T	D	3	3	8.00E-03	4.30E-02	1.4E+00	3.1E-02	2.1E-02	**2.1E+00**			7.4E+03	5.8E-06
18	Bedrock	INORG	Lead	7439-92-1	D	B2	3	1	1.00E-03	1.00E-03	4.0E-03	2.5E-01	2.9E-02	3.4E-02				
18	Bedrock	INORG	Lead	7439-92-1	T	B2	3	2	3.00E-03	1.80E-02	4.0E-03	**4.5E+00**	2.9E-02	6.1E-01				
18	Bedrock	INORG	Manganese	7439-96-5	D	D	3	2	4.80E-02	1.67E-01	8.6E-01	1.9E-01	4.6E+00	3.7E-02			9.1E+03	1.8E-05
18	Bedrock	INORG	Manganese	7439-96-5	T	D	3	3	2.50E-01	7.34E+00	8.6E-01	**8.5E+00**	4.6E+00	**1.6E+00**			9.1E+03	8.1E-04
18	Bedrock	INORG	Nickel	7440-02-0	D	A	3	2	3.20E-02	6.90E-02	1.0E-01	6.9E-01	1.2E-01	5.8E-01			7.4E+04	9.3E-07
18	Bedrock	INORG	Nickel	7440-02-0	T	A	3	3	3.80E-02	1.50E-01	1.0E-01	**1.5E+00**	1.2E-01	**1.3E+00**			7.4E+04	2.0E-06
18	Bedrock	INORG	Vanadium	7440-62-2	D		3	1	2.00E-02	2.00E-02	4.5E-03	**4.4E+00**	1.2E-02	**1.7E+00**			9.7E+02	2.1E-05
18	Bedrock	INORG	Vanadium	7440-62-2	T		3	2	2.00E-02	3.50E-02	4.5E-03	**7.8E+00**	1.2E-02	**2.9E+00**			9.7E+02	3.6E-05
18	Bedrock	INORG	Zinc	7440-66-6	D	ID	3	1	1.40E-02	1.40E-02	2.4E+00	5.8E-03	2.7E-01	5.2E-02			1.1E+05	1.3E-07
18	Bedrock	INORG	Zinc	7440-66-6	T	ID	3	3	2.20E-02	1.48E-01	2.4E+00	6.2E-02	2.7E-01	5.5E-01			1.1E+05	1.3E-06
NA	Overburden	INORG	Lead	7439-92-1	D	B2	1	1	6.00E-03	6.00E-03	4.0E-03	**1.5E+00**	2.9E-02	2.0E-01				
NA	Overburden	INORG	Lead	7439-92-1	T	B2	2	2	1.60E-02	4.72E-01	4.0E-03	**1.2E+02**	2.9E-02	**1.6E+01**				

Notes:

Only constituents detected in each area are shown.

The criteria for Chromium (total) are the criteria provided by the agency for Chromium VI.

Ratios of concentrations to criteria greater than 1 are shaded in bold.

Chem Group - chemical group

Meas Basis - measured basis; T = total, D = dissolved

Carc Class - USEPA Weight-of-Evidence Cancer Classification

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 6, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
18	Overburden	MW-02-01	MW02-01(11/26/2002)	N	11/26/02	T	INORG	Lead	7439-92-1	5.89E-01		4.0E-03	**1.5E+02**	2.9E-02	**2.0E+01**				
18	Overburden	MW-02-01	MW-02-01(111104)NS	N	11/11/04	T	INORG	Chromium (total)	7440-47-3	1.30E-02		1.0E-01	1.3E-01	1.1E-02	**1.2E+00**			**4.6E+02**	2.8E-05
18	Overburden	MW-02-01	MW-02-01(111104)NS	N	11/11/04	T	INORG	Copper	7440-50-8	2.40E-02		1.4E+00	1.7E-02	2.1E-02	**1.2E+00**			**7.4E+03**	3.2E-06
18	Overburden	MW-02-01	MW-02-01(111104)NS	N	11/11/04	T	INORG	Lead	7439-92-1	1.40E-02		4.0E-03	**3.5E+00**	2.9E-02	4.8E-01				
18	Overburden	MW-02-01	MW-02-01(3/3/2003)	N	03/03/03	D	INORG	Lead	7439-92-1	9.00E-03		4.0E-03	**2.3E+00**	2.9E-02	3.1E-01				
18	Overburden	MW-02-01	MW-02-01(3/3/2003)	N	03/03/03	T	INORG	Lead	7439-92-1	1.00E-02		4.0E-03	**2.5E+00**	2.9E-02	3.4E-01				
18	Overburden	MW-02-01	MW-101(111104)NS	FD	11/11/04	T	INORG	Lead	7439-92-1	1.10E-02		4.0E-03	**2.8E+00**	2.9E-02	3.7E-01				
18	Overburden	MW-02-02	MW-02-02 NS(9/16/2003)	N	09/16/03	D	INORG	Arsenic	7440-38-2	1.10E-02		1.0E-02	**1.1E+00**	1.5E-01	7.3E-02			**4.3E+00**	2.6E-03
18	Overburden	MW-02-02	MW-02-02 NS(9/16/2003)	N	09/16/03	T	INORG	Arsenic	7440-38-2	3.70E-02		1.0E-02	**3.7E+00**	1.5E-01	2.5E-01			**4.3E+00**	8.6E-03
18	Overburden	MW-02-02	MW02-02(11/26/2002)	N	11/26/02	T	INORG	Lead	7439-92-1	4.91E-01		4.0E-03	**1.2E+02**	2.9E-02	**1.7E+01**				
18	Overburden	MW-02-02	MW-02-02(111104)	N	11/11/04	T	INORG	Arsenic	7440-38-2	1.80E-02		1.0E-02	**1.8E+00**	1.5E-01	1.2E-01			**4.3E+00**	4.2E-03
18	Overburden	MW-02-02	MW-02-02(111104)	N	11/11/04	T	INORG	Chromium (total)	7440-47-3	2.30E-02		1.0E-01	2.3E-01	1.1E-02	**2.1E+00**			**4.6E+02**	5.0E-05
18	Overburden	MW-02-02	MW-02-02(111104)	N	11/11/04	T	INORG	Copper	7440-50-8	8.00E-02		1.4E+00	5.7E-02	2.1E-02	**3.9E+00**			**7.4E+03**	1.1E-05
18	Overburden	MW-02-02	MW-02-02(111104)	N	11/11/04	T	INORG	Lead	7439-92-1	2.70E-02		4.0E-03	**6.8E+00**	2.9E-02	9.2E-01				
18	Overburden	MW-02-02	MW-02-02(111104)	N	11/11/04	T	INORG	Manganese	7439-96-5	3.05E+00		8.6E-01	**3.5E+00**	4.6E+00	6.7E-01			**9.1E+03**	3.4E-04
18	Overburden	MW-02-02	MW-02-02(3/4/2003)	N	03/04/03	D	INORG	Lead	7439-92-1	9.00E-03		4.0E-03	**2.3E+00**	2.9E-02	3.1E-01				
18	Overburden	MW-02-02	MW-02-02(3/4/2003)	N	03/04/03	T	INORG	Lead	7439-92-1	1.10E-02		4.0E-03	**2.8E+00**	2.9E-02	3.7E-01				
18	Overburden	MW-02-02	MW-02-02(8/19/2003)	N	08/19/03	D	INORG	Arsenic	7440-38-2	1.60E-02	J	1.0E-02	**1.6E+00**	1.5E-01	1.1E-01			**4.3E+00**	3.7E-03
18	Overburden	MW-02-03	MW02-03(11/26/2002)	N	11/26/02	T	INORG	Lead	7439-92-1	7.20E-02		4.0E-03	**1.8E+01**	2.9E-02	**2.4E+00**				
18	Overburden	MW-02-03	MW-02-03(111204)NS	N	11/11/04	D	INORG	Arsenic	7440-38-2	2.80E-02		1.0E-02	**2.8E+00**	1.5E-01	1.9E-01			**4.3E+00**	6.5E-03
18	Overburden	MW-02-03	MW-02-03(111204)NS	N	11/11/04	T	INORG	Arsenic	7440-38-2	1.20E-02		1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			**4.3E+00**	2.8E-03
18	Overburden	MW-02-03	MW-02-03(111204)NS	N	11/11/04	T	INORG	Manganese	7439-96-5	1.15E+00		8.6E-01	**1.3E+00**	4.6E+00	2.5E-01			**9.1E+03**	1.3E-04
18	Overburden	MW-02-03	MW-02-03(111204)NS	N	11/11/04	T	INORG	Zinc	7440-66-6	1.17E+00		2.4E+00	4.9E-01	2.7E-01	**4.3E+00**			**1.1E+05**	1.1E-05
18	Overburden	MW-02-03	MW-02-03(3/4/2003)	N	03/04/03	D	INORG	Lead	7439-92-1	7.00E-03		4.0E-03	**1.8E+00**	2.9E-02	2.4E-01				
18	Overburden	MW-02-03	MW-02-03(3/4/2003)	N	03/04/03	T	INORG	Lead	7439-92-1	1.80E-02		4.0E-03	**4.5E+00**	2.9E-02	6.1E-01				
18	Overburden	MW-02-03	MW-02-03(8/19/2003)	N	08/19/03	D	INORG	Arsenic	7440-38-2	2.80E-02	J	1.0E-02	**2.8E+00**	1.5E-01	1.9E-01			**4.3E+00**	6.5E-03
18	Overburden	MW-02-03	MW-02-03(9/17/2003)	N	09/17/03	T	INORG	Arsenic	7440-38-2	4.20E-02		1.0E-02	**4.2E+00**	1.5E-01	2.8E-01			**4.3E+00**	9.8E-03
18	Overburden	MW-02-03	MW-02-03(9/17/2003)	N	09/17/03	T	INORG	Copper	7440-50-8	2.40E-02		1.4E+00	1.7E-02	2.1E-02	**1.2E+00**			**7.4E+03**	3.2E-06
18	Overburden	MW-02-03	MW-02-03(9/17/2003)	N	09/17/03	T	INORG	Lead	7439-92-1	5.00E-03		4.0E-03	**1.3E+00**	2.9E-02	1.7E-01				
18	Overburden	MW-02-03	MW-02-03(9/17/2003)	N	09/17/03	T	INORG	Zinc	7440-66-6	4.42E-01		2.4E+00	1.8E-01	2.7E-01	**1.6E+00**			**1.1E+05**	4.0E-06
18	Overburden	MW-02-03	MW-201(9/17/2003)	FD	09/17/03	T	INORG	Arsenic	7440-38-2	3.90E-02		1.0E-02	**3.9E+00**	1.5E-01	2.6E-01			**4.3E+00**	9.1E-03
18	Overburden	MW-02-03	MW-201(9/17/2003)	FD	09/17/03	T	INORG	Copper	7440-50-8	2.30E-02		1.4E+00	1.6E-02	2.1E-02	**1.1E+00**			**7.4E+03**	3.1E-06
18	Overburden	MW-02-03	MW-201(9/17/2003)	FD	09/17/03	T	INORG	Lead	7439-92-1	5.00E-03		4.0E-03	**1.3E+00**	2.9E-02	1.7E-01				
18	Overburden	MW-02-03	MW-201(9/17/2003)	FD	09/17/03	T	INORG	Zinc	7440-66-6	4.44E-01		2.4E+00	1.9E-01	2.7E-01	**1.6E+00**			**1.1E+05**	4.0E-06
18	Overburden	MW-03-01	MW-03-01(110904)NS	N	11/09/04	T	INORG	Chromium (total)	7440-47-3	2.90E-02		1.0E-01	2.9E-01	1.1E-02	**2.6E+00**			**4.6E+02**	6.3E-05
18	Overburden	MW-03-01	MW-03-01(110904)NS	N	11/09/04	T	INORG	Lead	7439-92-1	8.00E-03		4.0E-03	**2.0E+00**	2.9E-02	2.7E-01				
18	Overburden	MW-03-01	MW-03-01(9/16/2003)	N	09/16/03	T	INORG	Silver	7440-22-4	1.00E-03		3.4E-02	2.9E-02	2.0E-04	**5.0E+00**			**1.5E+03**	6.7E-07
18	Overburden	MW-03-01	MW-03-01(9/16/2003)	N	09/16/03	T	INORG	Vanadium	7440-62-2	1.00E-02		4.5E-03	**2.2E+00**	1.2E-02	8.3E-01			**9.7E+02**	1.0E-05
18	Overburden	MW-03-02	MW-03-02(9/17/2003)	N	09/17/03	T	INORG	Lead	7439-92-1	1.00E-02		4.0E-03	**2.5E+00**	2.9E-02	3.4E-01				
18	Overburden	MW-03-02	MW-03-02(9/17/2003)	N	09/17/03	T	INORG	Vanadium	7440-62-2	5.00E-03		4.5E-03	**1.1E+00**	1.2E-02	4.2E-01			**9.7E+02**	5.2E-06
18	Overburden	MW-03-03	MW-03-03(111004)NS	N	11/10/04	D	INORG	Arsenic	7440-38-2	3.60E-02		1.0E-02	**3.6E+00**	1.5E-01	2.4E-01			**4.3E+00**	8.4E-03
18	Overburden	MW-03-03	MW-03-03(111004)NS	N	11/10/04	T	INORG	Arsenic	7440-38-2	2.90E-02		1.0E-02	**2.9E+00**	1.5E-01	1.9E-01			**4.3E+00**	6.7E-03
18	Overburden	MW-03-03	MW-03-03(111004)NS	N	11/10/04	T	INORG	Chromium (total)	7440-47-3	1.30E-02		1.0E-01	1.3E-01	1.1E-02	**1.2E+00**			**4.6E+02**	2.8E-05
18	Overburden	MW-03-03	MW-03-03(111004)NS	N	11/10/04	T	INORG	Lead	7439-92-1	9.00E-03		4.0E-03	**2.3E+00**	2.9E-02	3.1E-01				
18	Overburden	MW-03-03	MW-03-03(8/20/2003)	N	08/20/03	D	INORG	Arsenic	7440-38-2	1.20E-02	J	1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			**4.3E+00**	2.8E-03
18	Overburden	MW-03-03	MW-03-03(8/20/2003)	N	08/20/03	D	INORG	Barium	7440-39-3	1.34E+00		2.0E+00	6.7E-01	1.2E+00	**1.1E+00**			**1.4E+04**	9.6E-05
18	Overburden	MW-03-03	MW-03-03(9/16/2003)	N	09/16/03	T	INORG	Arsenic	7440-38-2	1.80E-02		1.0E-02	**1.8E+00**	1.5E-01	1.2E-01			**4.3E+00**	4.2E-03
18	Overburden	MW-03-04	MW-03-04(111004)NS	N	11/10/04	D	INORG	Arsenic	7440-38-2	1.20E-02		1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			**4.3E+00**	2.8E-03
18	Overburden	MW-03-04	MW-03-04(111004)NS	N	11/10/04	T	INORG	Arsenic	7440-38-2	1.40E-02		1.0E-02	**1.4E+00**	1.5E-01	9.3E-02			**4.3E+00**	3.3E-03
18	Overburden	MW-03-04	MW-03-04(111004)NS	N	11/10/04	T	INORG	Lead	7439-92-1	5.00E-03		4.0E-03	**1.3E+00**	2.9E-02	1.7E-01				
18	Overburden	MW-03-04	MW-03-04(9/17/2003)	N	09/17/03	T	INORG	Arsenic	7440-38-2	1.40E-02		1.0E-02	**1.4E+00**	1.5E-01	9.3E-02			**4.3E+00**	3.3E-03
18	Overburden	MW-03-04	MW-100(111004)NS	FD	11/10/04	D	INORG	Arsenic	7440-38-2	1.20E-02		1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			**4.3E+00**	2.8E-03
18	Overburden	MW-03-04	MW-100(111004)NS	FD	11/10/04	T	INORG	Arsenic	7440-38-2	1.40E-02		1.0E-02	**1.4E+00**	1.5E-01	9.3E-02			**4.3E+00**	3.3E-03
18	Overburden	MW-03-04	MW-100(111004)NS	FD	11/10/04	T	INORG	Chromium (total)	7440-47-3	1.20E-02		1.0E-01	1.2E-01	1.1E-02	**1.1E+00**			**4.6E+02**	2.6E-05
18	Overburden	MW-03-04	MW-100(111004)NS	FD	11/10/04	T	INORG	Lead	7439-92-1	5.00E-03		4.0E-03	**1.3E+00**	2.9E-02	1.7E-01				
18	Overburden	MW-03-05	MW-03-05(111004)NS	N	11/10/04	T	INORG	Arsenic	7440-38-2	1.20E-02		1.0E-02	**1.2E+00**	1.5E-01	8.0E-02			**4.3E+00**	2.8E-03
18	Overburden	MW-03-05	MW-03-05(111004)NS	N	11/10/04	T	INORG	Chromium (total)	7440-47-3	2.30E-02		1.0E-01	2.3E-01	1.1E-02	**2.1E+00**			**4.6E+02**	5.0E-05

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 6, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
18	Overburden	MW-03-05	MW-03-05(111004)NS	N	11/10/04	T	INORG	Lead	7439-92-1	1.40E-02		4.0E-03	**3.5E+00**	2.9E-02	4.8E-01				
18	Overburden	MW-03-05	MW-03-05(9/16/2003)	N	09/16/03	D	INORG	Silver	7440-22-4	1.00E-03		3.4E-02	2.9E-02	2.0E-04	**5.0E+00**			**1.5E+03**	6.7E-07
18	Overburden	MW-03-05	MW-03-05(9/16/2003)	N	09/16/03	T	INORG	Silver	7440-22-4	1.50E-03		3.4E-02	4.4E-02	2.0E-04	**7.5E+00**			**1.5E+03**	1.0E-06
18	Overburden	MW-03-06	MW-03-06(111104)NS	N	11/11/04	T	INORG	Chromium (total)	7440-47-3	1.50E-02		1.0E-01	1.5E-01	1.1E-02	**1.4E+00**			**4.6E+02**	3.3E-05
18	Overburden	MW-03-06	MW-03-06(111104)NS	N	11/11/04	T	INORG	Lead	7439-92-1	5.00E-03		4.0E-03	**1.3E+00**	2.9E-02	1.7E-01				
18	Overburden	MW-03-07	MW-03-07(110904)NS	N	11/09/04	T	INORG	Arsenic	7440-38-2	6.80E-02		1.0E-02	**6.8E+00**	1.5E-01	4.5E-01			**4.3E+00**	1.6E-02
18	Overburden	MW-03-07	MW-03-07(110904)NS	N	11/09/04	T	INORG	Chromium (total)	7440-47-3	1.30E-02		1.0E-01	1.3E-01	1.1E-02	**1.2E+00**			**4.6E+02**	2.8E-05
18	Overburden	MW-03-07	MW-03-07(110904)NS	N	11/09/04	T	INORG	Lead	7439-92-1	8.00E-03		4.0E-03	**2.0E+00**	2.9E-02	2.7E-01				
18	Overburden	MW-03-07	MW-03-07(9/15/2003)	N	09/15/03	T	INORG	Arsenic	7440-38-2	1.10E-02		1.0E-02	**1.1E+00**	1.5E-01	7.3E-02			**4.3E+00**	2.6E-03
18	Overburden	MW-03-07	MW-200(9/15/2003)	FD	09/15/03	T	INORG	Arsenic	7440-38-2	1.10E-02		1.0E-02	**1.1E+00**	1.5E-01	7.3E-02			**4.3E+00**	2.6E-03
18	Overburden	MW-03-08	MW-03-08(111104)NS	N	11/11/04	D	INORG	Arsenic	7440-38-2	2.00E-02		1.0E-02	**2.0E+00**	1.5E-01	1.3E-01			**4.3E+00**	4.7E-03
18	Overburden	MW-03-08	MW-03-08(111104)NS	N	11/11/04	T	INORG	Arsenic	7440-38-2	2.50E-02		1.0E-02	**2.5E+00**	1.5E-01	1.7E-01			**4.3E+00**	5.8E-03
18	Overburden	MW-03-08	MW-03-08(9/15/2003)	N	09/15/03	T	INORG	Arsenic	7440-38-2	2.90E-02		1.0E-02	**2.9E+00**	1.5E-01	1.9E-01			**4.3E+00**	6.7E-03
18	Overburden	MW-04-05	MW-04-05(110904)NS	N	11/09/04	D	INORG	Barium	7440-39-3	2.23E+00		2.0E+00	**1.1E+00**	1.2E+00	**1.8E+00**			**1.4E+04**	1.6E-04
18	Overburden	MW-04-05	MW-04-05(110904)NS	N	11/09/04	T	INORG	Barium	7440-39-3	2.27E+00		2.0E+00	**1.1E+00**	1.2E+00	**1.8E+00**			**1.4E+04**	1.6E-04
18	Overburden	MW-04-05	MW-04-05(110904)NS	N	11/09/04	T	INORG	Chromium (total)	7440-47-3	6.40E-02		1.0E-01	6.4E-01	1.1E-02	**5.8E+00**			**4.6E+02**	1.4E-04
18	Overburden	MW-04-05	MW-04-05(110904)NS	N	11/09/04	T	INORG	Copper	7440-50-8	5.30E-02		1.4E+00	3.8E-02	2.1E-02	**2.6E+00**			**7.4E+03**	7.2E-06
18	Overburden	MW-04-05	MW-04-05(110904)NS	N	11/09/04	T	INORG	Lead	7439-92-1	3.30E-02		4.0E-03	**8.3E+00**	2.9E-02	**1.1E+00**				
18	Overburden	MW-04-05	MW-04-05(110904)NS	N	11/09/04	T	INORG	Manganese	7439-96-5	2.15E+00		8.6E-01	**2.5E+00**	4.6E+00	4.7E-01			**9.1E+03**	2.4E-04
18	Overburden	MW-04-05	MW-04-05(110904)NS	N	11/09/04	T	INORG	Vanadium	7440-62-2	3.70E-02		4.5E-03	**8.2E+00**	1.2E-02	**3.1E+00**			**9.7E+02**	3.8E-05
18	Overburden	SME-MW-1	SME MW-1(9/17/2003)	N	09/17/03	D	INORG	Vanadium	7440-62-2	6.00E-03		4.5E-03	**1.3E+00**	1.2E-02	5.0E-01			**9.7E+02**	6.2E-06
18	Overburden	SME-MW-1	SME MW-1(9/17/2003)	N	09/17/03	T	INORG	Manganese	7439-96-5	9.97E-01		8.6E-01	**1.2E+00**	4.6E+00	2.2E-01			**9.1E+03**	1.1E-04
18	Overburden	SME-MW-1	SME MW-1(9/17/2003)	N	09/17/03	T	INORG	Vanadium	7440-62-2	1.40E-02		4.5E-03	**3.1E+00**	1.2E-02	**1.2E+00**			**9.7E+02**	1.4E-05
18	Overburden	SME-MW-1	SME-MW-1 (3/4/2003)	N	03/04/03	D	INORG	Lead	7439-92-1	1.00E-02		4.0E-03	**2.5E+00**	2.9E-02	3.4E-01				
18	Overburden	SME-MW-1	SME-MW-1 (3/4/2003)	N	03/04/03	T	INORG	Lead	7439-92-1	2.10E-02		4.0E-03	**5.3E+00**	2.9E-02	7.1E-01				
18	Overburden	SME-MW-2	SME MW-2(111104)NS	N	11/11/04	T	INORG	Arsenic	7440-38-2	1.80E-02		1.0E-02	**1.8E+00**	1.5E-01	1.2E-01			**4.3E+00**	4.2E-03
18	Overburden	SME-MW-2	SME MW-2(111104)NS	N	11/11/04	T	INORG	Chromium (total)	7440-47-3	5.10E-02		1.0E-01	5.1E-01	1.1E-02	**4.6E+00**			**4.6E+02**	1.1E-04
18	Overburden	SME-MW-2	SME MW-2(111104)NS	N	11/11/04	T	INORG	Copper	7440-50-8	1.04E-01		1.4E+00	7.4E-02	2.1E-02	**5.0E+00**			**7.4E+03**	1.4E-05
18	Overburden	SME-MW-2	SME MW-2(111104)NS	N	11/11/04	T	INORG	Lead	7439-92-1	5.80E-02		4.0E-03	**1.5E+01**	2.9E-02	**2.0E+00**				
18	Overburden	SME-MW-2	SME MW-2(111104)NS	N	11/11/04	T	INORG	Manganese	7439-96-5	2.32E+00		8.6E-01	**2.7E+00**	4.6E+00	5.1E-01			**9.1E+03**	2.5E-04
18	Overburden	SME-MW-2	SME MW-2(111104)NS	N	11/11/04	T	INORG	Vanadium	7440-62-2	3.60E-02		4.5E-03	**8.0E+00**	1.2E-02	**3.0E+00**			**9.7E+02**	3.7E-05
18	Overburden	SME-MW-2	SME-MW-02 (3/4/2003)	N	03/04/03	D	INORG	Lead	7439-92-1	9.00E-03		4.0E-03	**2.3E+00**	2.9E-02	3.1E-01				
18	Overburden	SME-MW-2	SME-MW-02 (3/4/2003)	N	03/04/03	T	INORG	Lead	7439-92-1	1.10E-02		4.0E-03	**2.8E+00**	2.9E-02	3.7E-01				
18	Overburden	SME-MW-2	SME-MW-2NS(9/16/2003)	N	09/16/03	T	INORG	Chromium (total)	7440-47-3	1.20E-02		1.0E-01	1.2E-01	1.1E-02	**1.1E+00**			**4.6E+02**	2.6E-05
18	Overburden	SME-MW-2	SME-MW-2NS(9/16/2003)	N	09/16/03	T	INORG	Copper	7440-50-8	2.50E-02		1.4E+00	1.8E-02	2.1E-02	**1.2E+00**			**7.4E+03**	3.4E-06
18	Overburden	SME-MW-2	SME-MW-2NS(9/16/2003)	N	09/16/03	T	INORG	Lead	7439-92-1	7.00E-03		4.0E-03	**1.8E+00**	2.9E-02	2.4E-01				
18	Overburden	SME-MW-2	SME-MW-2NS(9/16/2003)	N	09/16/03	T	INORG	Vanadium	7440-62-2	1.30E-02		4.5E-03	**2.9E+00**	1.2E-02	**1.1E+00**			**9.7E+02**	1.3E-05
18	Overburden	SME-MW-3	SME-MW-3 (3/5/2003)NS	N	03/05/03	T	INORG	Lead	7439-92-1	2.76E+00		4.0E-03	**6.9E+02**	2.9E-02	**9.4E+01**				
18	Overburden	SME-MW-3	SME-MW-3 (3/6/2003)NS	N	03/05/03	D	INORG	Lead	7439-92-1	1.80E-02		4.0E-03	**4.5E+00**	2.9E-02	6.1E-01				
18	Overburden	SME-MW-4	SME MW-4(111004)NS	N	11/10/04	D	INORG	Arsenic	7440-38-2	2.60E-02		1.0E-02	**2.6E+00**	1.5E-01	1.7E-01			**4.3E+00**	6.0E-03
18	Overburden	SME-MW-4	SME MW-4(111004)NS	N	11/10/04	T	INORG	Arsenic	7440-38-2	3.80E-02		1.0E-02	**3.8E+00**	1.5E-01	2.5E-01			**4.3E+00**	8.8E-03
18	Overburden	SME-MW-4	SME MW-4(111004)NS	N	11/10/04	T	INORG	Cadmium	7440-43-9	8.30E-03		5.0E-03	**1.7E+00**	4.6E-03	**1.8E+00**			**1.9E+02**	4.4E-05
18	Overburden	SME-MW-4	SME MW-4(111004)NS	N	11/10/04	T	INORG	Chromium (total)	7440-47-3	8.60E-02		1.0E-01	8.6E-01	1.1E-02	**7.8E+00**			**4.6E+02**	1.9E-04
18	Overburden	SME-MW-4	SME MW-4(111004)NS	N	11/10/04	T	INORG	Copper	7440-50-8	1.38E-01		1.4E+00	9.9E-02	2.1E-02	**6.7E+00**			**7.4E+03**	1.9E-05
18	Overburden	SME-MW-4	SME MW-4(111004)NS	N	11/10/04	T	INORG	Lead	7439-92-1	1.03E-01		4.0E-03	**2.6E+01**	2.9E-02	**3.5E+00**				
18	Overburden	SME-MW-4	SME MW-4(111004)NS	N	11/10/04	T	INORG	Manganese	7439-96-5	1.69E+00		8.6E-01	**2.0E+00**	4.6E+00	3.7E-01			**9.1E+03**	1.9E-04
18	Overburden	SME-MW-4	SME MW-4(111004)NS	N	11/10/04	T	INORG	Vanadium	7440-62-2	5.00E-02		4.5E-03	**1.1E+01**	1.2E-02	**4.2E+00**			**9.7E+02**	5.2E-05
18	Overburden	SME-MW-4	SME MW-4(111004)NS	N	11/10/04	T	INORG	Zinc	7440-66-6	4.35E-01		2.4E+00	1.8E-01	2.7E-01	**1.6E+00**			**1.1E+05**	4.0E-06
18	Overburden	SME-MW-4	SME MW-4(9/17/2003)	N	09/17/03	T	INORG	Arsenic	7440-38-2	2.70E-02		1.0E-02	**2.7E+00**	1.5E-01	1.8E-01			**4.3E+00**	6.3E-03
18	Overburden	SME-MW-4	SME-4(8/19/2003)	N	08/19/03	D	INORG	Arsenic	7440-38-2	1.90E-02	J	1.0E-02	**1.9E+00**	1.5E-01	1.3E-01			**4.3E+00**	4.4E-03
18	Overburden	SME-MW-4	SME-MW-4 (3/5/2003)	N	03/05/03	D	INORG	Lead	7439-92-1	8.00E-03		4.0E-03	**2.0E+00**	2.9E-02	2.7E-01				
18	Overburden	SME-MW-4	SME-MW-4 (3/5/2003)	N	03/05/03	T	INORG	Lead	7439-92-1	8.00E-03		4.0E-03	**2.0E+00**	2.9E-02	2.7E-01				
18	Bedrock	MW-04-01	MW-04-01(110904)NS	N	11/09/04	D	INORG	Arsenic	7440-38-2	1.10E-02		1.0E-02	**1.1E+00**	1.5E-01	7.3E-02			**4.3E+00**	2.6E-03
18	Bedrock	MW-04-01	MW-04-01(110904)NS	N	11/09/04	T	INORG	Cobalt	7440-48-4	4.30E-02		4.0E-02	**1.1E+00**	1.0E-01	4.3E-01			**2.4E+03**	1.8E-05
18	Bedrock	MW-04-01	MW-04-01(110904)NS	N	11/09/04	T	INORG	Manganese	7439-96-5	7.34E+00		8.6E-01	**8.5E+00**	4.6E+00	**1.6E+00**			**9.1E+03**	8.1E-04
18	Bedrock	MW-04-01	MW-04-01(110904)NS	N	11/09/04	T	INORG	Nickel	7440-02-0	1.50E-01		1.0E-01	**1.5E+00**	1.2E-01	**1.3E+00**			**7.4E+04**	2.0E-06
18	Bedrock	MW-04-04	MW-04-04(110804)NS	N	11/08/04	D	INORG	Arsenic	7440-38-2	1.90E-02		1.0E-02	**1.9E+00**	1.5E-01	1.3E-01			**4.3E+00**	4.4E-03

Table A-3b: Groundwater Samples Exceeding Screening Criteria
GM Lansing Plant 6, Lansing, Michigan

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Conc (mg/L)	Qual	Residential Drinking Water Criteria (mg/L)	Ratio of Conc to Residential Drinking Water Criteria	Groundwater Surface water Interface Criteria (mg/L)	Ratio of Conc to Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Ratio of Conc to Residential Groundwater Volatilization to Indoor Air Criteria	Groundwater Contact Criteria (mg/L)	Ratio of Conc to Groundwater Contact Criteria
18	Bedrock	MW-04-04	MW-04-04(110804)NS	N	11/08/04	T	INORG	Arsenic	7440-38-2	1.30E-02		1.0E-02	**1.3E+00**	1.5E-01	8.7E-02			**4.3E+00**	3.0E-03
18	Bedrock	MW-04-04	MW-04-04(110804)NS	N	11/08/04	T	INORG	Beryllium	7440-41-7	8.00E-03		4.0E-03	**2.0E+00**	2.9E-02	2.8E-01			**2.9E+02**	2.8E-05
18	Bedrock	MW-04-04	MW-04-04(110804)NS	N	11/08/04	T	INORG	Chromium (total)	7440-47-3	1.53E-01		1.0E-01	**1.5E+00**	1.1E-02	**1.4E+01**			**4.6E+02**	3.3E-04
18	Bedrock	MW-04-04	MW-04-04(110804)NS	N	11/08/04	T	INORG	Cobalt	7440-48-4	5.00E-02		4.0E-02	**1.3E+00**	1.0E-01	5.0E-01			**2.4E+03**	2.1E-05
18	Bedrock	MW-04-04	MW-04-04(110804)NS	N	11/08/04	T	INORG	Lead	7439-92-1	1.80E-02		4.0E-03	**4.5E+00**	2.9E-02	6.1E-01				
18	Bedrock	MW-04-04	MW-04-04(110804)NS	N	11/08/04	T	INORG	Manganese	7439-96-5	6.66E+00		8.6E-01	**7.7E+00**	4.6E+00	**1.5E+00**			**9.1E+03**	7.3E-04
18	Bedrock	MW-04-04	MW-04-04(110804)NS	N	11/08/04	T	INORG	Nickel	7440-02-0	1.46E-01		1.0E-01	**1.5E+00**	1.2E-01	**1.2E+00**			**7.4E+04**	2.0E-06
18	Bedrock	MW-04-04	MW-04-04(110804)NS	N	11/08/04	T	INORG	Vanadium	7440-62-2	3.50E-02		4.5E-03	**7.8E+00**	1.2E-02	**2.9E+00**			**9.7E+02**	3.6E-05
18	Bedrock	MW-04-06	MW-04-06(110904)NS	N	11/09/04	D	INORG	Vanadium	7440-62-2	2.00E-02		4.5E-03	**4.4E+00**	1.2E-02	**1.7E+00**			**9.7E+02**	2.1E-05
18	Bedrock	MW-04-06	MW-04-06(110904)NS	N	11/09/04	T	INORG	Vanadium	7440-62-2	2.00E-02		4.5E-03	**4.4E+00**	1.2E-02	**1.7E+00**			**9.7E+02**	2.1E-05
NA	Overburden	MW-100	MW100(11/26/2002)	N	11/26/02	T	INORG	Lead	7439-92-1	4.72E-01		4.0E-03	**1.2E+02**	2.9E-02	**1.6E+01**				
NA	Overburden	MW-101	MW-101(3/4/2003)	N	03/04/03	D	INORG	Lead	7439-92-1	6.00E-03		4.0E-03	**1.5E+00**	2.9E-02	2.0E-01				
NA	Overburden	MW-101	MW-101(3/4/2003)	N	03/04/03	T	INORG	Lead	7439-92-1	1.60E-02		4.0E-03	**4.0E+00**	2.9E-02	5.4E-01				

Notes:

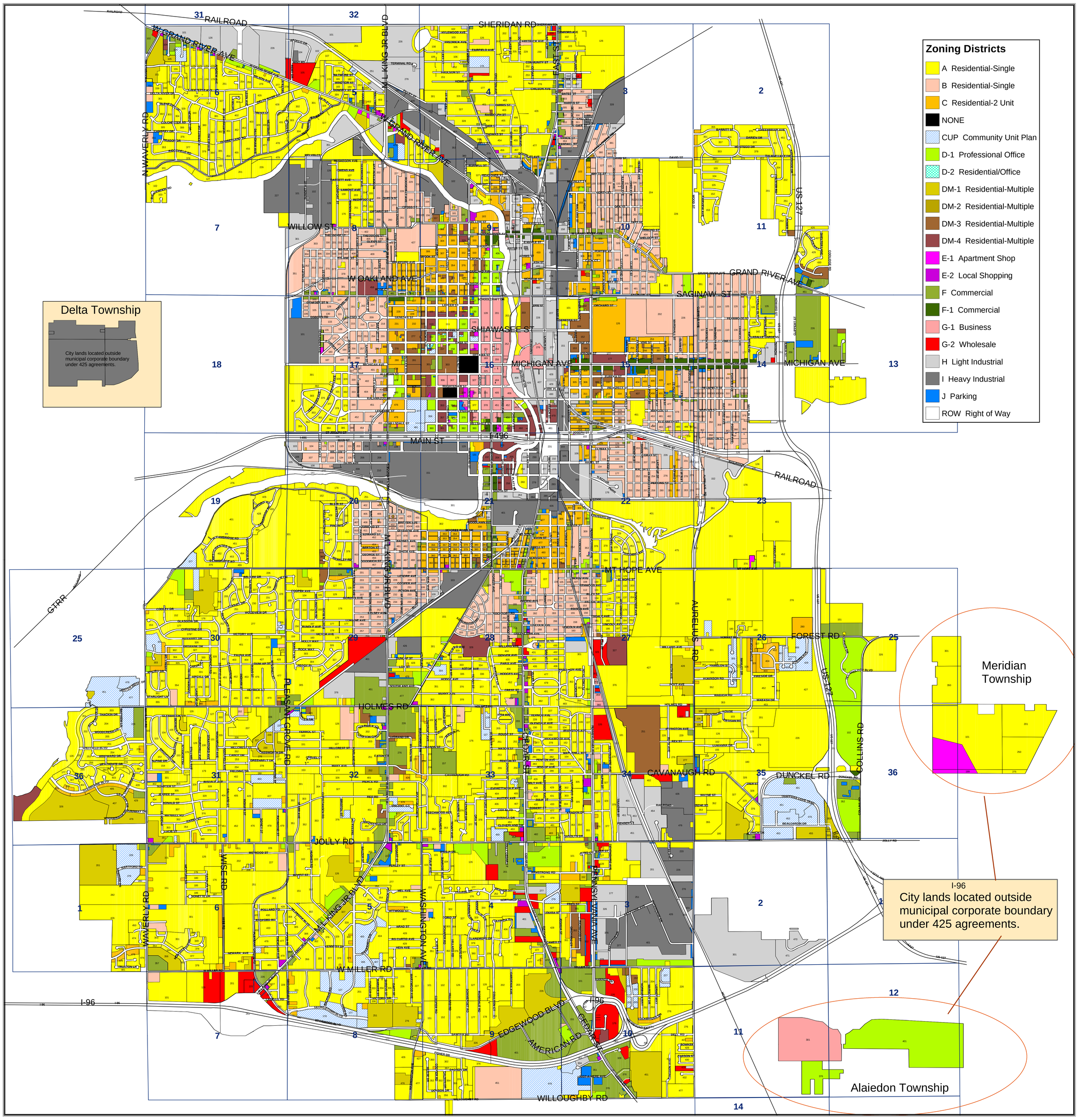
Sample Types: "N" = normal or parent sample, "FD" = field duplicate sample

Meas Basis - measured basis; T = total, D = dissolved

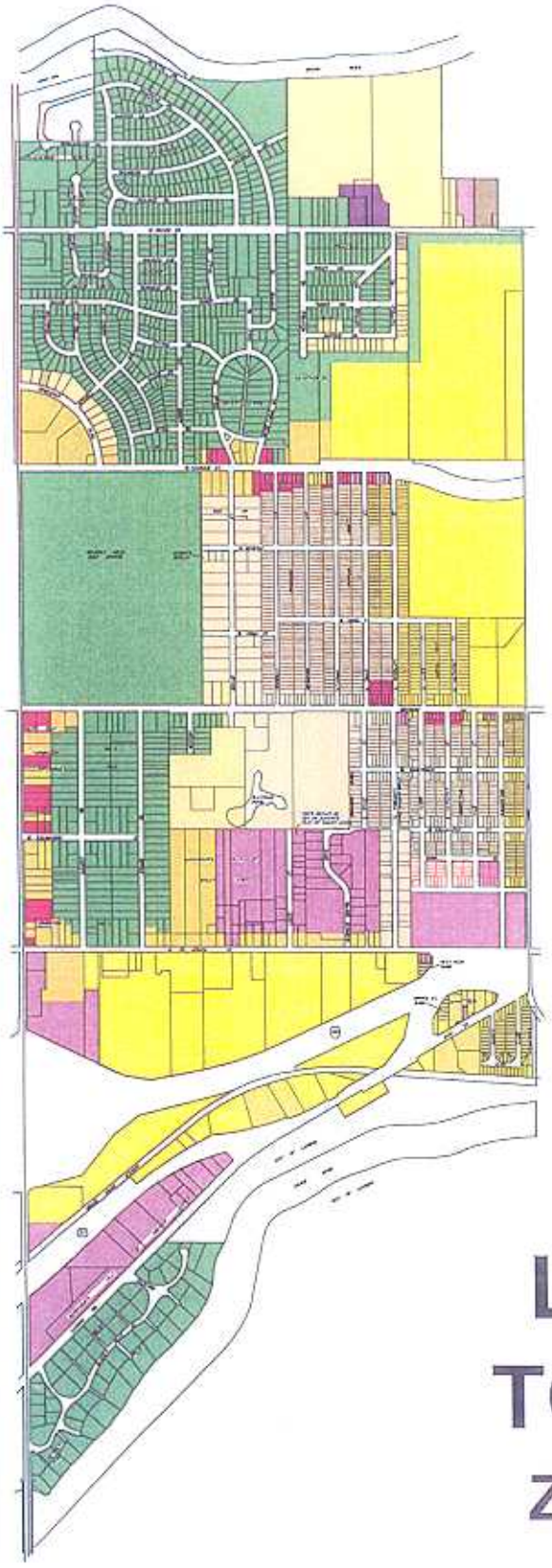
ARCADIS

Area Zoning Maps

City of Lansing
Zoning Map



Prepared by the City of Lansing Planning Office, Planning and Neighbohood Development Office
February 18, 2004
cartographer - John Hodges







ZONING DISTRICT

"A"	RESIDENTIAL (SINGLE FAMILY)
"B"	RESIDENTIAL (SINGLE FAMILY)
"C1"	RESIDENTIAL (MULTI- FAMILY LOW DENSITY)
"C2"	RESIDENTIAL (MULTI-FAMILY INT. DENSITY)
"C3"	RESIDENTIAL (MULTI- FAMILY MEDIUM DENSITY)
"C4"	RESIDENTIAL (MULTI-FAMILY HIGH DENSITY)
"O"	ADMINISTRATION & PROFESSIONAL
"E"	LOCAL BUSINESS
"F"	COMMERCIAL
"G"	GENERAL BUSINESS
"H"	INDUSTRIAL
"PO"	PLANNED DEVELOPMENT

LANSING TOWNSHIP

ZONING MAP

ARCADIS

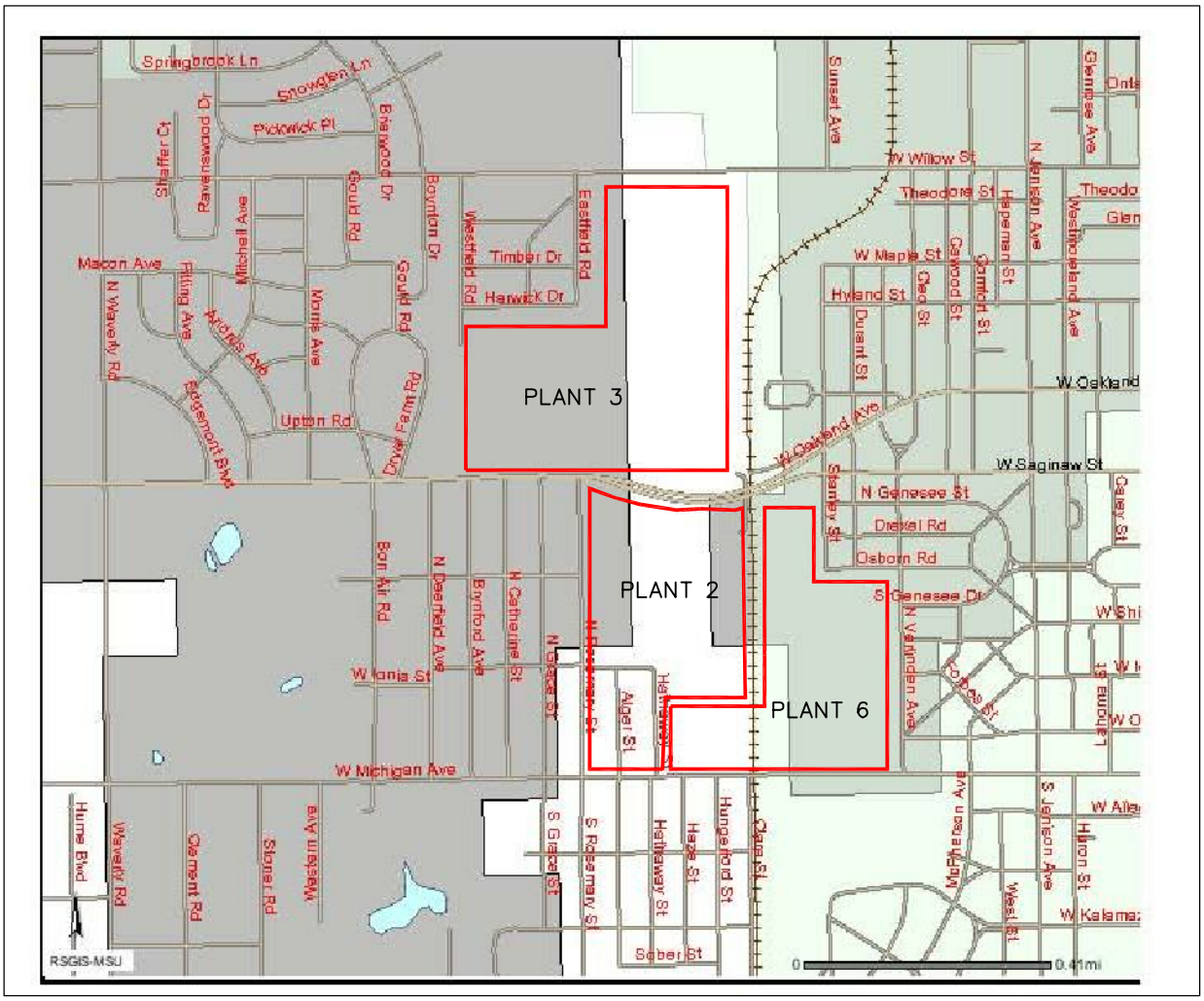
Appendix B

Groundwater Usage Support Data

- Figure B-1 – Wellhead Protection Areas
- LBWL – 2005 Annual Water Quality Report
- LBWL – Analytical Data
- Figure B-2 – Map of LBWL and Township Wells
- LBWL Water Well Logs

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Map of Wellhead Protection Areas



CITY OF LANSING WELLHEAD PROTECTION AREA

TOWNSHIP OF LANSING WELLHEAD PROTECTION AREA

CITY OF LANSING

TOWNSHIP OF LANSING

GENERAL MOTORS CORPORATION
LANSING, MICHIGAN
PLANTS 2, 3, AND 6
CURRENT CONDITIONS REPORT

WELLHEAD PROTECTION AREAS

ARCADIS

FIGURE
B-1

CITY:BRIGHTON DIV/GROUP:85 DB:ADF LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
J:\2008\B0064479\00000\00300\DWG\64479B06.dwg LAYOUT: B-1 SAVED: 7/28/2008 1:46 PM ACADVER: 17.1S (LMS TECH) PAGESETUP: ---PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 7/28/2008 1:46 PM BY: FOX, AARON
XREFS: IMAGES: PROJECTNAME: ---
city of lansing wellhead.JPG
lansing township wellhead.JPG
lansing wellhead.JPG
map.JPG

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Lansing Board of Water and Light – 2005 Annual Water Quality Report

LANSING BOARD OF WATER & LIGHT

2005 ANNUAL WATER QUALITY REPORT

Dear Customer:

We are pleased to present the eighth annual report summarizing the quality of the drinking water provided to you during the past year. This "Consumer Confidence Report" is required by the Safe Drinking Water Act (SDWA). It tells you where your tap water comes from, what our tests show about it, and includes other things you may wish to know about drinking water.

The BWL is a publicly owned utility. We encourage public interest and participation in our community's decisions affecting drinking water. Our Board of Commissioners meets on the fourth Tuesday of every other month at our Customer Service Center, 1232 Haco Drive in Lansing. Meeting dates and times are published in advance and may be accessed site **here** , or by calling us at 517-702-6006. Our meetings are open to the public.

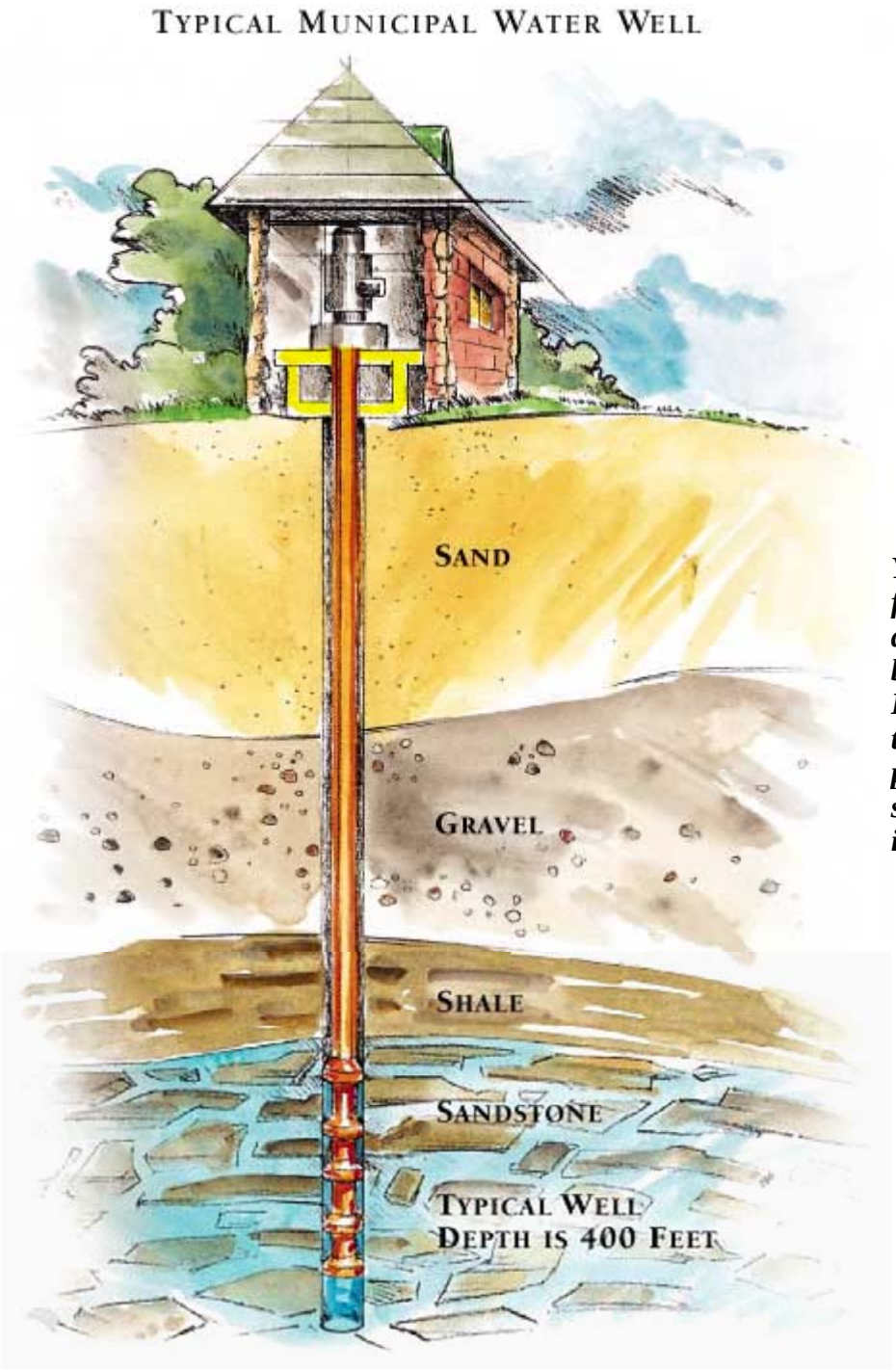
The Bottom Line

During 2005 your drinking water from the BWL met or exceeded all quality standards issued by the U.S. Environmental Protection Agency (EPA) and the Michigan Department of Environmental Quality (MDEQ).

Water Source

Our drinking water comes from 128 wells, drilled about 400 feet into the earth's surface. The source of this plentiful supply is an underground aquifer called the Saginaw Formation, which underlies much of the mid-Michigan region. Water from our wells is transported through large transmission mains to one of two conditioning plants. There, a process removes about 80 percent of the water hardness. The softened water is then chlorinated, fluoridated, filtered and stored in reservoirs for distribution to our customers. Lansing is one of the larger cities in the country to take its

drinking supply entirely from groundwater.



Your drinking water comes from deep water wells, drilled about 400 feet beneath the earth's surface. From here, it's transported to central conditioning plants where the water is softened, treated and stored in reservoirs.

Virtually all the Lansing area's drinking water comes from deep water wells, but the BWL's water conditioning plants greatly improve

water quality. Here at the John Dye Water Conditional Plant, a process removes 80 percent of the water hardness, producing a fresh, good-tasting drinking water that's also easy on your dishes and laundry.



Protecting Your Water Supply

Lansing's drinking water source is shielded in most places from direct contact with the surface by layers of clay and shale, so contaminants don't easily reach it. There are areas at the surface, however, that directly contribute to the aquifer without the benefit of clay and shale filtration. During 2003, the MDEQ conducted an assessment of the vulnerability of our aquifer to impacts from human activities. Because there are several known and potential sources of contamination in and near the BWL's wellhead protection areas, the aquifer in this region has been assessed as "highly susceptible" to contamination. If you desire more information on this local Source Water Assessment, contact Bill Maier, Water Quality Administrator, at 517-702-6813.

Important Information About Lead

Lead is a common, naturally occurring metal that is found throughout the environment in lead-based paint, as well as air, soil, household dust, and, sometimes, water. Lead can pose a significant risk to your health if too much of it enters your body.

Lead builds up in the body over many years and can cause damage to the brain, red blood cells and kidneys. The greatest risk is to young children and pregnant women. Amounts of lead that won't hurt adults can slow down normal mental and physical development of growing bodies. In addition, a child at play often comes into contact with sources of lead contamination – like dirt and dust – that rarely affects an adult. It is important to wash children's hands and toys often, and to try to make sure they only put food in their mouths.

Lead in Drinking Water

Lead in drinking water, although rarely the sole cause of lead poisoning, can significantly increase a person's total lead exposure, particularly the exposure of infants who drink baby formula and concentrated juices that are mixed with water. EPA estimates that drinking water can make up 20 percent or more of a person's total exposure to lead.

How Lead Enters Our Water

There is no detectable lead in BWL drinking water when it leaves our conditioning plants. But, since water is naturally corrosive, small amounts of lead can dissolve into your drinking water if your water sits for several hours in plumbing, fixtures or service lines that contain lead. Lead levels in drinking water are likely to be highest:

- In homes with lead service lines connecting the water main to the house

- In homes with lead indoor plumbing
- In homes that have copper plumbing with lead solder
- In homes that have brass fixtures.

Lead Service Lines

From the early 20th century through the early 1950s the BWL and other water utilities across the country commonly used lead service lines to deliver water from the distribution mains to individual customers. In 2004 our Board of Commissioners made a decision to remove all of the estimated 14,000 lead service lines in our system over the next 10 years, even though we're in compliance with the EPA's lead regulations and are not required to take this action. We simply believe it's in the best interest of our customers and our utility to get lead service lines out of our system.

Protecting Against Lead Exposure

The EPA provides the following guidelines for minimizing exposure to lead in drinking water.
1. Flush your pipes before drinking, and only use cold water for consumption. Any time the water in a particular faucet has not been used for six hours or longer, flush your cold-water pipes by running the water until it becomes as cold as it will get. This could take as little as five to 30 seconds if there has been recent heavy water use such as showering or toilet flushing. Otherwise, it could take two minutes or longer. The more time water has been sitting in your home's pipes, the more lead it may contain.

While this advice is appropriate for customers with standard copper service lines, tests conducted for the BWL by a national consulting firm have concluded that **customers with lead service lines should flush their water longer.** Customers with lead service lines should flush their water for seven minutes before using water for drinking or cooking if the water has been sitting idle in plumbing for six hours or longer. Following high-water usage, such as bathing or washing clothes, flush pipes for at least two minutes. Due to this longer flushing requirement, the BWL provides free water filters and replacement cartridges to its customers with lead service lines.

2. Use only water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead.

The actions recommended above are very important to the health of your family. They will reduce lead levels because most of the lead in household water comes from the plumbing in your house or, if you have one, the lead service line serving your house, not from the local water supply.

Monitoring results for lead can be found on page 3 of this report under the heading, "Substances We Measured in Homes and Businesses." A new round of lead monitoring will be conducted in 2005 and every year thereafter until all lead service lines are removed from the BWL system.

How to Read These Tables

The following tables show the results of our water quality tests. Every regulated contaminant we detected in the water, even in the smallest traces, is listed here. The tables contain the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the usual sources of such contamination, footnotes explaining our findings and a key to units of measurement.

The state allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All the data are representative of the water quality, but some are more than a year old.

The tables do not list the hundreds of contaminants we tested for but did not detect.

Key to Table

AL **Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL **Maximum Contaminant Level:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the **MCLGs** as feasible using the best available treatment technology.

MCLG **Maximum Contaminant Level Goal:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL **Maximum Residual Disinfectant Level:** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG **Maximum Residual Disinfectant Level Goal:** The level of a disinfectant in drinking water below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

PPM **Parts Per Million,** or milligrams per liter (mg/l)

PPB **Parts Per Billion,** or micrograms per liter (ug/l)

SUBSTANCES WE MEASURED AT THE WATER CONDITIONING PLANT

Substance	Unit	MCL	MCLG	Highest Detected Level	Range	Major Sources	Violation?
Barium	PPM	2	2	0.033	0.030 to 0.033	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No
Fluoride	PPM	4	4	0.9	0.9 to 0.9	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	No
Nitrite	PPM	1	1	0.061	0.059 to 0.061	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	No

SUBSTANCES WE MEASURED IN HOMES AND BUSINESSES

Substance	Unit	AL	9 out of 10 homes were below a level of:	Number of samples above the action	Major Sources	Violation?

				level:		
Copper	PPM	*1.3 at 90th percentile	0.05	0	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	No
Lead	PPB	**15 at 90th percentile	11.3	10	Corrosion of household plumbing systems; erosion of natural deposits	No

Water Quality Table Footnotes:
*9 out of 10 homes tested must show a concentration equal to or lower than 1.3 parts per million.
**9 out of 10 homes tested must show a concentration equal to or lower than 15 parts per billion

Infants and young children are typically more vulnerable to lead in drinking water than is the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to two minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791). Tests at our conditioning plants detect no copper or lead in your water before it's sent to you. Typically, if these substances enter your water they do so through your indoor plumbing system or, if you have one, a lead water service line. Our water conditioning process naturally provides some corrosion protection to prevent this.

If you're concerned about possible lead content in your tap water, there are precautions you can take to minimize exposure:

1. Any time the water in a particular faucet has not been used for six hours or longer, flush your cold-water pipes by running the water until it becomes as cold as it will get. This could take as little as five to 30 seconds if there has been recent heavy water use such as showering or toilet flushing. Otherwise, it could take two minutes or longer. The more time water has been sitting in your home's pipes, the more lead it may contain. Customers with lead service lines should flush their pipes longer. Customers with lead service lines should flush their water for seven minutes before using water for drinking or cooking if the water has been sitting idle in the plumbing for six hours or longer. Even after heavy water use, such as flushing, bathing or washing clothes, a water tap used for drinking should also be flushed until the water turns cold. As an alternative, use filtered water for drinking or cooking. The BWL offers free water filters and replacement cartridges to customers with lead service lines.
2. Use only water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead.

If you're concerned about lead, have the water tested. Arrangements can be made for water testing through the Ingham County Health Department at 517-887-4312. A test costs about $20. Or, you may choose to install a water filter that is NSF- certified for lead removal. If a water filter is installed, replace filters at least as often as recommended by the manufacturer.

SUBSTANCES WE MEASURED IN THE DISTRIBUTION SYSTEM

Substance	Unit	MCL	MCLG	Highest Detected Level	Major Sources	Violation?
Total Coliform	Samples	Presence in less than 5% of samples taken on a monthly basis	0	1.0%	Naturally present in the environment	No

Disinfectants and Disinfection By-Products

The BWL adds chloramine to its water at the conditioning plant to protect against bacterial growth. We use chloramine rather than other disinfectant options because it minimizes the number and level of chlorination by-products, persists better in the distribution system, and leaves little or no unpleasant odor and taste. The following table lists the chloramine levels and disinfectant by-products created by the reaction of our chloramine treatment and naturally occurring organic compounds. The chloramine levels were measured at the water plant tap and the disinfectant by-products were measured in the distribution system.

Substance	Unit	MCL	MCLG	Average Detected Level	Range of Detected Levels	Major Sources	Violation?
Haloacetic Acids (HAA5)	PPB	60	60	2.7	Less than 1 to 3.9	By-product of drinking water chlorination	No
Total Trihalomethanes (THMs)	PPB	80	80	4.0	2.5 to 6.4	By-product of drinking water chlorination	No
Chloramine	PPM	4	4	2.1	1.1 to 2.9	Water additive used to control microbes	No

Unregulated Contaminants

Unregulated contaminants are those that have no MCL or MCLG but are monitored for the purpose of providing information to MDEQ and EPA on their occurrence.

Substance	Unit	Average Detected Level	Lowest Detected Level	Highest Detected Level	Major Source	Violation?
Sodium	PPM	79	47	110	Natural constituent of groundwater	No

Cryptosporidium: We tested for Cryptosporidium in 2000 and did not detect any. Cryptosporidium is a microbial pathogen occasionally found in surface waters. If ingested it can cause cryptosporidiosis, a gastrointestinal infection with symptoms of cramping, nausea or diarrhea. Cryptosporidium can be spread by means other than drinking water. It is not a concern for water systems like ours, which draw drinking water from deep wells.

Radon: We last monitored for radon in 2000. The results were between 140 and 150 picoCuries per liter (pCi/l). This is a relatively low level for groundwater, which contains radon gas that has dissolved into the water from surrounding soils. A proposed EPA Rule for radon, since withdrawn, would have established maximum contaminant levels of between 300 to 4,000 pCi/l for public water supplies. Radon is a radioactive gas that you can't see, taste, or smell. It is found throughout the United States. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will, in most cases, be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned

about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 pCi/l or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your state radon program or EPA's Radon Hotline (800-SOS-RADON)

Radium 226 and 228: We monitored for both radium 226 and radium 228 in 2003 and did not detect either.

General Health Information Provided by EPA

To ensure that tap water is safe to drink, EPA prescribes limits on the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

A. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

B. Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

C. Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff and residential uses.

D. Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, can also come from gas stations, urban stormwater runoff and septic systems.

E. Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than is the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline (800-426-4791).

National Primary Drinking Water Regulation Compliance

For more information about our water quality, please contact Water Quality Administrator Bill Maier at 517-702-6813. Learn more about the Lansing Board of Water & Light water system **here**. For more information about safe drinking water, visit the U.S. Environmental Protection Agency (EPA) at **www.epa.gov/safewater/**.

ARCADIS

Lansing Board of Water and Light
– Analytical Data

Responder's Notes

The data attached can be considered composites of the well water sent to the Water Conditioning Plants over the period July 1998 through June 1999. The most representative data for the requester's purpose would be the data labeled "Dye North Raw, at the top of each two-sided page.

Please do not hesitate to call or email if you have any questions.

Sincerely,

Bill Maier
Environmental, Health and Safety Section
Board of Water and Light
P.O. Box 13007
Lansing, MI 48901-3007
Office: 517-702-6813
Fax: 517-702-6373
Mobile: 517-331-6813
email: wfm@lbwl.com

TYPICAL PLANT INFLUENT CHEMICAL ANALYSIS
DYE NORTH RAW
DYE SOUTH RAW
WISE COMBINED RAW

Data from monthly sample July 1998 - June 1999 by Environmental Services Department

DYE NORTH RAW

	pH	Conductiv us/cm	Tot Alk mg/l as CaCO3	Tot Hard mg/l as CaCO3	Ammonia mg/l as N-NH3	Turbidity NTU	Sulfate mg/l	Chloride mg/l
1998 Jul	7.1	790	320	390		LT 0.10	64	29
1998 Aug	7.2	770	330	440		LT 0.10	95	24
1998 Sep	7.2	820	320	470		LT 0.10	94	23
1998 Oct	7.3	830	320	430		LT 0.10	90	23
1998 Nov	7.2	820	320	380		0.13	99	24
1998 Dec	7.2	830	320	420		0.14	99	27
1999 Jan	7.1	840	330	460		LT 0.10	95	27
1999 Feb	7.4	730	320	380		LT 0.10	59	19
1999 Mar	7.3	750	320	380		0.14	61	22
1999 Apr	7.3	680	300	310		LT 0.10		
1999 May	7.3	780	310	430		LT 0.10	79	22
1999 Jun	7.5	780	320	420		0.15	70	27

DYE SOUTH RAW

	pH	Conductiv us/cm	Tot Alk mg/l as CaCO3	Tot Hard mg/l as CaCO3	Ammonia mg/l as N-NH3	Turbidity NTU	Sulfate mg/l	Chloride mg/l
1998 Jul	7	1200	350	560		LT 0.10	170	97
1998 Aug	7.2	910	330	450		LT 0.10	99	65
1998 Sep	7.2	840	320	390		LT 0.10	66	42
1998 Oct	7.4	720	300	370		LT 0.10	39	28
1998 Nov	7.2	800	310	400		0.15	58	41
1998 Dec	7.3	840	310	390		0.11	71	45
1999 Jan	7.3	850	320	390		0.13	65	53
1999 Feb	7.4	800	310	370		0.15	55	40
1999 Mar	7.3	890	330	410		LT 0.10	75	64
1999 Apr	7.2	880	320	450		0.12		
1999 May	7.2	950	320	440		0.11	110	60
1999 Jun	7.3	1100	340	570		LT 0.10	120	77

	Copper ug/l	Iron mg/l	Antimony ug/l	Arsenic ug/l	Lead ug/l	Selenium ug/l	Thallium ug/l	Mercury ug/l
1998 Jul	LT 20	0.14	LT 2.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	LT 0.2
1998 Aug	92	0.44	LT 2.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	LT 0.2
1998 Sep	84	0.49	LT 2.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	LT 0.2
1998 Oct	36	0.42	LT 5.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	LT 0.2
1998 Nov	36	0.7	LT 5.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	LT 0.2
1998 Dec	510	0.65	LT 5.0	LT 5.0	8.7	LT 5.0	LT 2.0	LT 0.2
1999 Jan	30	0.42	LT 5.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	LT 0.2
1999 Feb	28	0.22	LT 5.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	LT 0.2
1999 Mar	65	0.31	LT 2.0	1.1	LT 3.0	LT 1.0	LT 2.0	LT 0.2
1999 Apr	24	0.68	LT 2.0	LT 1.0	LT 3.0	LT 1.0	LT 2.0	LT 0.21
1999 May	30	0.51	LT 1.2	LT 5.0	LT 3.0	LT 5.0	LT 0.50	LT 0.21
1999 Jun	37	0.32	LT 1.2	LT 5.0	LT 3.0	LT 5.0	LT 0.50	LT 0.20

	Copper ug/l	Iron mg/l	Antimony ug/l	Arsenic ug/l	Lead ug/l	Selenium ug/l	Thallium ug/l	Mercury ug/l
1998 Jul	69	0.64	LT 2.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	LT 0.2
1998 Aug	94	0.66	LT 2.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	LT 0.2
1998 Sep	44	0.95	LT 2.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	LT 0.2
1998 Oct	50	0.85	LT 5.0	LT 5.0	3.4	LT 5.0	LT 2.0	LT 0.2
1998 Nov	490	0.92	LT 5.0	LT 5.0	14.8	LT 5.0	LT 2.0	LT 0.2
1998 Dec	180	0.96	LT 5.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	
1999 Jan	LT 20	0.7	LT 5.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	LT 0.2
1999 Feb	LT 20	0.72	LT 5.0	LT 5.0	LT 3.0	LT 5.0	LT 2.0	LT 0.2
1999 Mar	LT 20	0.24	LT 2.0	LT 1.0	LT 3.0	LT 1.0	LT 2.0	LT 0.2
1999 Apr	LT 20	0.9	4	LT 1.0	LT 3.0	LT 1.0	LT 2.0	LT 0.21
1999 May	LT 20	0.69	LT 1.2	LT 5.0	LT 3.0	LT 5.0	LT 0.5	LT 0.21
1999 Jun	27	0.7	LT 1.2	LT 5.0	LT 3.0	LT 5.0	LT 0.5	LT 0.20

	Cyanide mg/l	Aluminum ug/l	Barium ug/l	Beryllium ug/l	Calcium mg/l	Cadmium ug/l	Chromium ug/l	Magnesium mg/l
1998 Jul	LT 0.005	45	160	LT 1.0	94	LT 1.0	LT 5.0	
1998 Aug	LT 0.005	59	160	LT 1.0	110	LT 1.0	LT 5.0	
1998 Sep	LT 0.005	66	150	LT 1.0	110	LT 1.0	LT 5.0	
1998 Oct	LT 0.2	64	160	LT 0.10	110	LT 0.50	LT 5.0	44
1998 Nov	LT 0.02	65	160	LT 0.10	97	LT 0.50	LT 5.0	37
1998 Dec	LT 0.005	55	150	LT 0.10	99	LT 0.50	LT 5.0	38
1999 Jan	LT 0.05	64	160	LT 0.10	100	LT 0.50	LT 5.0	38
1999 Feb	LT 0.005	68	160	LT 0.10	88	LT 0.50	LT 5.0	33
1999 Mar	LT 0.2	55	190	LT 1.0	88	LT 0.2	LT 10	32
1999 Apr	LT 0.005	LT 20	180	LT 1.0	83	LT 0.2	LT 10	32
1999 May	LT 0.005	140	250	LT 0.50	91	LT 2.4	LT 4.2	36
1999 Jun	LT 0.005	110	270	LT 0.50	96	LT 2.4	LT 4.2	34

	Amenable Cyanide mg/l	Aluminum ug/l	Barium ug/l	Beryllium ug/l	Calcium mg/l	Cadmium ug/l	Chromium ug/l	Magnesium mg/l
1998 Jul	LT 0.005	80	140	LT 1.0	140	LT 1.0	LT 5.0	
1998 Aug	LT 0.005	60	160	LT 1.0	120	LT 1.0	LT 5.0	
1998 Sep	LT 0.005	100	160	LT 1.0	110	LT 1.0	LT 5.0	
1998 Oct	LT 0.2	45	150	LT 0.10	89	LT 0.50	LT 5.0	34
1998 Nov	LT 0.02	59	160	LT 0.10	92	LT 0.50	11	32
1998 Dec	LT 0.005	67	150	LT 0.10	98	LT 0.50	LT 5.0	34
1999 Jan	LT 0.05	65	160	LT 0.10	93	LT 0.50	LT 5.0	33
1999 Feb	LT 0.005	62	170	LT 0.10	93	LT 0.50	LT 5.0	32
1999 Mar	LT 0.2	LT 20	190	LT 1.0	100	LT 0.2	LT 10	34
1999 Apr	LT 0.005	62	200	LT 1.0	100	LT 0.2	LT 10	36
1999 May	LT 0.005	120	280	LT 0.5	110	LT 2.4	LT 4.2	40
1999 Jun	LT 0.005	110	280	LT 0.5	120	LT 2.4	LT 4.2	42

	Manganese mg/l	Nickel ug/l	Silver ug/l	Sodium mg/l	Total Zinc ug/l	THM ug/l
1998 Jul		54		12		
1998 Aug		LT 50		14		
1998 Sep		LT 50		15		
1998 Oct		LT 54		16		
1998 Nov		LT 54		15		
1998 Dec		LT 54		17		
1999 Jan		LT 54		16		
1999 Feb		LT 25		14		
1999 Mar		LT 25	LT 0.2	11		
1999 Apr		LT 25	LT 0.2	9.1		
1999 May		LT 25	LT 5.0	13		
1999 Jun		27	LT 5.0	13		

	Manganese mg/l	Nickel ug/l	Silver ug/l	Sodium mg/l	Total Zinc ug/l	THM ug/l
1998 Jul		86		42		
1998 Aug		LT 50		27		
1998 Sep		LT 50		22		
1998 Oct		LT 54		17		
1998 Nov		LT 54		18		
1998 Dec		LT 54		21		
1999 Jan		LT 54		23		
1999 Feb		LT 25		20		
1999 Mar		LT 25	LT 0.2	26		
1999 Apr		LT 25	LT 0.2	25		
1999 May		LT 25	LT 5.0	25		
1999 Jun		40	LT 5.0	37		

	Other Organics ug/l
1998 Jul	
1998 Aug	
1998 Sep	
1998 Oct	ND
1998 Nov	ND
1998 Dec	
1999 Jan	
1999 Feb	ND
1999 Mar	ND
1999 Apr	ND
1999 May	ND
1999 Jun	ND

	Other Organics ug/l
1998 Jul	
1998 Aug	
1998 Sep	
1998 Oct	ND
1998 Nov	ND
1998 Dec	
1999 Jan	
1999 Feb	1,2 methylene chloride
1999 Mar	ND
1999 Apr	ND
1999 May	ND
1999 Jun	ND

ARCADIS

Map of LBWL and Township Wells





Locator Map



GENERAL MOTORS CORPORATION – LANSING, MI
PLANTS 2, 3 AND 6
CURRENT CONDITIONS REPORT

MAP OF LBWL AND TOWNSHIP WELLS

ARCADIS

APPENDIX

B-2

ARCADIS

LBWL Water Well Logs

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 19000002017 **Import ID**: 19050336004

Tax No:	**Permit No**:	**County**: Clinton	**Township**: Watertown

Well ID: 19000002017

Elevation: 850 ft

Latitude: 42.7700024878

Longitude: -84.6032661191

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SE¼ SE¼ SE¼	36	05N 03W		

Distance and Direction from Road Intersection: SW CORNER WAVERLY & GND RVER

Well Name:

Well Owner: Glosovatz, Joseph

Well Address:	**Owner Address**:
3439 WAVERLY RD. LANSING MI 48917	3439 WAVERLY RD. LANSING MI 48917

Drilling Method: Rotary

Well Depth: 185.00 ft. **Well Use**: Household

Well Type: Replacement **Date Completed**: 6/10/1972

Casing Type: Steel - black
Casing Joint: Threaded & coupled
Diameter: 4.00 in. to 94.00 ft. depth

Bore Diameter 1: 0.00 in. to 85.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height: 1.00 ft. above grade
Casing Fitting: Drive shoe

Static Water Level: 60.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
0.00 ft. after 0.00 hrs. pumping at 35.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Other From 0.00 ft. to 0.00 ft.

Well Head Completion: Pitless adapter

Nearest source of possible contamination:

Type	**Distance**	**Direction**
None		South

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Red Jacket **Pump Type**: Submersible
Model Number: **Pump Capacity**: 0.00 GPM
Length of Drop Pipe: 84.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Clay	12.00	12.00
Sand & Gravel	20.00	32.00
Gravel	53.00	85.00
Sandstone	100.00	185.00

Geology Remarks: 1. [CLAY] [12] [12] 2. [SAND & GRAVEL] [32] [20] 3. [GRAVEL] [85] [53] 4. [SANDROCK] [185] [100]

Contractor Type: Unknown
Registration Number: 676
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks:

OTHER REMARKS **Grouting Material 1**: Listed as other in Wellkey

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 03:20

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 23000000122 **Import ID**: 23040312401

Tax No:	**Permit No**:	**County**: Eaton	**Township**: Delta

Well ID: 23000000122

Elevation: 836 ft

Latitude: 42.748448

Longitude: -84.603855

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SE¼ SE¼ NE¼	12	04N 03W		2026123

Distance and Direction from Road Intersection: 2026123 GRACE BRETHREN CHURCH

Well Name: 001

Well Owner: Grace Brethren Church

Well Address:
MI

Owner Address:
3904 W. WILLOW HWY.
LANSING MI 48917

Drilling Method: Unknown

Well Depth: 0.00 ft. **Well Use**: Other

Well Type: Replacement **Date Completed**:

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 1.00 ft. above grade
Casing Fitting: None

Static Water Level: 999.99 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	**Thickness**	**Depth to Bottom**
No Lithology Information	0.00	0.00

Geology Remarks: 1. [No Lithology Information] [0] [0]

Contractor Type: Unknown
Registration Number:
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: NO LOG EXISTS AS OF 9/14/98
OTHER REMARKS **Well Use**: Closed Type 2

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 04:19

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 23000005485 **Import ID**: 23040301001

Tax No:	**Permit No**:	**County**: Eaton	**Township**: Delta

Well ID: 23000005485

Elevation: 822 ft

Latitude: 42.7636640281

Longitude: -84.6130029931

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ SE¼ NW¼	1	04N 03W		

Distance and Direction from Road Intersection:

Well Name:

Well Owner: Gloria Corey

Well Address:	**Owner Address**:
DELTA RIVER DR LANSING MI 48917	DELTA RIVER DR LANSING MI 48917

Drilling Method: Rotary

Well Depth: 160.00 ft. **Well Use**: Household

Well Type: New **Date Completed**:

Casing Type: Steel - black
Casing Joint: Threaded & coupled
Diameter: 4.00 in. to 72.00 ft. depth

Bore Diameter 1: Unknown in. to
Bore Diameter 2:
Bore Diameter 3:
Height: 1.00 ft. above grade
Casing Fitting: Drive shoe

Static Water Level: 33.00 ft. Above Grade(Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: Yes **Well Intake**:
Filter Packed: No
Screen Diameter: 0.00 in. **Length**: 0.00 ft.
Screen Material Type:
Slot: 0.00 in. Set Between 0.00 ft. and 0.00 ft.
Blank: 0.00 ft. Above
Fittings:
None

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Other From 0.00 ft. to 0.00 ft.

Well Head Completion: Pitless adapter

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Sewer line	50.00 ft.	South

Drilling Machine Operator Name: KLEINFELT

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**: 0.75
Manufacturer: Other **Pump Type**: Submersible
Model Number: **Pump Capacity**: 10.00 GPM
Length of Drop Pipe: 42.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Clay	27.00	27.00
Sand & Clay	12.00	39.00
Clay	28.00	67.00
Sandstone	93.00	160.00

Geology Remarks: CLAY. [27] [10] [27] SAND AND CLAY. [12] [25] [39] CLAY. [28] [10] [67] SAND ROCK. [93] [50] [160]

Contractor Type: Unknown
Registration Number: 107
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks:

OTHER REMARKS **Grouting Material 1**: Unknown **Pump Manufacturer**: FLINT & WALLING

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

1/29/2001 13:06

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 23000005495 **Import ID**: 23040301015

Tax No:	**Permit No**:	**County**: Eaton	**Township**: Delta

Well ID: 23000005495

Elevation: 849 ft

Latitude: 42.7686658965

Longitude: -84.6165002022

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ SE¼ SE¼	1	04N 03W		

Distance and Direction from Road Intersection:

Well Name:

Well Owner: Bleisener & Sons

Well Address:	**Owner Address**:
4767 CLYDESDALE LANSING MI 48917	LANSING MI 48917

Drilling Method: Rotary

Well Depth: 180.00 ft. **Well Use**: Household

Well Type: New **Date Completed**: 10/18/1966

Casing Type: Steel - black
Casing Joint: Threaded & coupled
Diameter: 4.00 in. to 98.00 ft. depth

Bore Diameter 1: Unknown in. to
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: Drive shoe

Static Water Level: 41.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
60.00 ft. after 2.00 hrs. pumping at 25.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: Yes **Well Intake**:
Filter Packed: No
Screen Diameter: 0.00 in. **Length**: 0.00 ft.
Screen Material Type:
Slot: 0.00 in. Set Between 0.00 ft. and 0.00 ft.
Blank: 0.00 ft. Above
Fittings:
None

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Bentonite slurry From 0.00 ft. to 0.00 ft.

Well Head Completion: Pitless adapter

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Sewer line	50.00 ft.	Northwest

Drilling Machine Operator Name: HART WELL DRILLING

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**: 0.75
Manufacturer: Red Jacket **Pump Type**: Submersible
Model Number: **Pump Capacity**: 14.00 GPM
Length of Drop Pipe: 60.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Brown Clay	8.00	8.00
Gray Clay & Stones	7.00	15.00
Gray Clay & Gravel	15.00	30.00
Gray Clay & Sand	30.00	60.00
Gray Clay	28.00	88.00
Gravel	4.00	92.00
Sandstone & Shale White	6.00	98.00
Sandstone	32.00	130.00
Sandstone W/Shale	50.00	180.00

Geology Remarks: BROWN CLAY. [8] [10] [8] GREY CLAY & STONES. [7] [19] [15] GREY CLAY & GRAVEL. [15] [17] [30] GREY CLAY & SAND STRIPS. [30] [13] [60] GREY CLAY. [28] [10] [88] GRAVEL. [4] [30] [92] SANDSTONE & WHITE SHALE. [6] [52] [98] SANDSTONE. [32] [50] [130] SANDSTONE WITH SHALE STRIPS. [50] [52] [180]

Contractor Type: Unknown
Registration Number: 522
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks:

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

1/29/2001 13:07

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 23000005496 **Import ID**: 23040301016

Tax No:	**Permit No**:	**County**: Eaton	**Township**: Delta

Well ID: 23000005496

Elevation: 847 ft

Latitude: 42.7664997705

Longitude: -84.6125018587

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ SE¼ SE¼	1	04N 03W		

Distance and Direction from Road Intersection:

Well Name:

Well Owner: Loren Boyes

Well Address:	**Owner Address**:
3237 W BROADMOOR GRAND LEDGE MI 48837	2321 DILLINGHAM LANSING MI 48917

Drilling Method: Rotary

Well Depth: 200.00 ft. **Well Use**: Household

Well Type: New **Date Completed**: 9/19/1966

Casing Type: Steel - black
Casing Joint: Threaded & coupled
Diameter: 4.00 in. to 111.00 ft. depth

Bore Diameter 1: Unknown in. to
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: Drive shoe

Static Water Level: 45.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
0.00 ft. after 0.00 hrs. pumping at 60.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: Yes **Well Intake**:
Filter Packed: No
Screen Diameter: 0.00 in. **Length**: 0.00 ft.
Screen Material Type:
Slot: 0.00 in. Set Between 0.00 ft. and 0.00 ft.
Blank: 0.00 ft. Above
Fittings:
None

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Pitless adapter

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name: DAILY & JACKSON

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**: 1.00
Manufacturer: Aermotor **Pump Type**: Submersible
Model Number: **Pump Capacity**: 0.00 GPM
Length of Drop Pipe: 77.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Gravel & Clay	30.00	30.00
Sand Wet/Moist	15.00	45.00
Gravel & Clay	45.00	90.00
Gravel	5.00	95.00
Gravel & Clay	5.00	100.00
Unidentified Consolidated Fm W/Shale	30.00	130.00
Unidentified Consolidated Fm	70.00	200.00

Geology Remarks: GRAVEL AND CLAY. [30] [17] [30] WATER SAND. [15] [29] [45] GRAVEL AND CLAY. [45] [17] [90] GRAVEL. [5] [30] [95] GRAVEL AND CLAY. [5] [17] [100] ROCK AND SHALE. [30] [52] [130] ROCK. [70] [59] [200]

Contractor Type: Unknown
Registration Number: 390
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks:

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

1/29/2001 13:07

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 23000005500 **Import ID**: 23040301020

Tax No: 23040072600140	**Permit No**:	**County**: Eaton	**Township**: Delta

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ SE¼ NW¼	1	04N 03W		

Well ID: 23000005500

Elevation: 840 ft

Latitude: 42.7656202533

Longitude: -84.6132956551

Distance and Direction from Road Intersection:

Well Name:

Well Owner: Donald A Drake

Well Address:	**Owner Address**:
3152 E BROADMOOR LANSING MI 48906	3152 E BROADMOOR LANSING MI 48906

Drilling Method: Rotary

Well Depth: 200.00 ft. **Well Use**: Household

Well Type: Replacement **Date Completed**: 8/6/1992

Casing Type: PVC plastic
Casing Joint: Welded
Diameter: 5.00 in. to 107.00 ft. depth

Bore Diameter 1: 8.00 in. to 25.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height: 1.00 ft. above grade
Casing Fitting: None

Static Water Level: 40.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
51.00 ft. after 2.00 hrs. pumping at 20.00 GPM

Abandoned Well Plugged: Yes
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: Yes **Well Intake**:
Filter Packed: No
Screen Diameter: 0.00 in. **Length**: 0.00 ft.
Screen Material Type:
Slot: 0.00 in. Set Between 0.00 ft. and 0.00 ft.
Blank: 0.00 ft. Above
Fittings:
None

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Bentonite slurry From 0.00 ft. to 25.00 ft.

Well Head Completion: Pitless adapter

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Septic tank	30.00 ft.	West

Drilling Machine Operator Name: JACK PERU

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**: 0.50
Manufacturer: Red Jacket **Pump Type**: Submersible
Model Number: **Pump Capacity**: 10.00 GPM
Length of Drop Pipe: 80.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Clay & Sand	34.00	34.00
Gravel & Sand	42.00	76.00
Clay	11.00	87.00
Sandstone	20.00	107.00
Sandstone & Shale	93.00	200.00

Geology Remarks: CLAY & SAND. [34] [16] [34] GRAVEL & SAND. [42] [32] [76] CLAY. [11] [10] [87] SANDROCK. [20] [54] [107] SANDROCK & SHALE. [93] [54] [200]

Contractor Type: Unknown
Registration Number: 383
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks:

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

1/29/2001 13:07

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 23000005501 **Import ID**: 23040301021

Tax No: 23040059000030	**Permit No**:	**County**: Eaton	**Township**: Delta

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SE¼ SE¼ NW¼	1	04N 03W		

Well ID: 23000005501

Elevation: 828 ft

Latitude: 42.7633983908

Longitude: -84.6142644456

Distance and Direction from Road Intersection:

Well Name:

Well Owner: Milton Walters

Well Address:	**Owner Address**:
4221 DELTA RIVER DR LANSING MI 48917	4221 DELTA RIVER DR LANSING MI 48917

Drilling Method: Rotary

Well Depth: 155.00 ft. **Well Use**: Household

Well Type: Replacement **Date Completed**: 12/17/1993

Casing Type: PVC plastic
Casing Joint: Welded
Diameter: 5.00 in. to 88.00 ft. depth

Bore Diameter 1: 8.00 in. to 88.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height: 1.00 ft. above grade
Casing Fitting: None

Static Water Level: 24.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
25.00 ft. after 2.00 hrs. pumping at 20.00 GPM

Abandoned Well Plugged: Yes
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: Yes **Well Intake**:
Filter Packed: No
Screen Diameter: 0.00 in. **Length**: 0.00 ft.
Screen Material Type:
Slot: 0.00 in. Set Between 0.00 ft. and 0.00 ft.
Blank: 0.00 ft. Above
Fittings:
None

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Bentonite slurry From 0.00 ft. to 25.00 ft.

Well Head Completion: Pitless adapter

Nearest source of possible contamination:

Type	**Distance**	**Direction**
None		

Drilling Machine Operator Name: JACK PERU

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**: 0.75
Manufacturer: Aermotor **Pump Type**: Submersible
Model Number: **Pump Capacity**: 12.00 GPM
Length of Drop Pipe: 60.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Clay	7.00	7.00
Clay & Gravel	17.00	24.00
Clay	39.00	63.00
Shale & Sandstone	21.00	84.00
Sandstone	71.00	155.00

Geology Remarks: CLAY. [7] [10] [7] CLAY & GRAVEL. [17] [17] [24] CLAY. [39] [10] [63] SHALE & SANDROCK. [21] [55] [84] SANDROCK. [71] [54] [155]

Contractor Type: Unknown
Registration Number: 383
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks:

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

1/29/2001 13:07

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 23000009145

Tax No:	**Permit No**: 10482	**County**: Eaton	**Township**: Delta

Well ID: 23000009145

Elevation:

Latitude: 42.72844845

Longitude: -84.61614424

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
U¼ U¼ U¼	13	04N 03W		

Distance and Direction from Road Intersection: 150 FEET E. OF STOLL RD

Well Name:

Well Owner: Peter Mora

Well Address: 323 STOLL RD

Owner Address: 323 STOLL RD

Drilling Method: Rotary

Well Depth: 200.00 ft. **Well Use**: Irrigation

Well Type: New **Date Completed**: 7/27/1990

Casing Type: Steel - unknown
Casing Joint: Unknown
Diameter: 5.00 in. to 80.00 ft. depth

Bore Diameter 1: Unknown in. to
Bore Diameter 2:
Bore Diameter 3:
Height: 1.00 ft. above grade
Casing Fitting: None

Static Water Level: 96.00 ft. Below Grade(Not Flowing)
Yield Test Method: Air
Measurement Taken During Pump Test:
140.00 ft. after 47.00 hrs. pumping at 40.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Bedrock Well
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Bentonite slurry From 0.00 ft. to 80.00 ft.

Well Head Completion: 12 inches above grade, Pitless adapter

Nearest source of possible contamination:

Type	**Distance**	**Direction**
None		

Drilling Machine Operator Name: STEVE

Employment: Employee

Pump Installed: Yes **Pump Installation only**: Yes
Pump Installation date: **HP**: 0.75
Manufacturer: Aermotor **Pump Type**: Submersible
Model Number: **Pump Capacity**: 10.00 GPM
Length of Drop Pipe: 140.00 ft. **Id of Well**:
Diameter of Drop Pipe: Unknown in.
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Unknown
Manufacturer: Well-Rite-Flexcon
Model Number : W-80 **Tank Capacity** : 26 Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Clay	68.00	68.00
Shale	72.00	140.00
Sandstone	60.00	200.00

Geology Remarks:

Contractor Type: Water well drilling contractor
Registration Number: 1783
Business Name: JOHNSON WELL DRILLING
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks:

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

5/25/2004 08:19

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 23000009146

Tax No:	**Permit No**:	**County**: Eaton	**Township**: Delta

Well ID: 23000009146

Elevation:

Latitude: 42.73492011

Longitude: -84.62062526

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ SW¼ NW¼	13	04N 03W		

Distance and Direction from Road Intersection: 250 FEET N. OF INTERSECTIONOF W. MICHIGAN & SNOW RD. 1800 FEET E NE OF PW #2

Well Name:

Well Owner: Delta Township

Well Address:

Owner Address:

Drilling Method: Cable Tool

Well Depth: 426.00 ft. **Well Use**: Type I public

Well Type: Unknown **Date Completed**:

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 12.00 in. to 110.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height:
Casing Fitting: None

Pump Installed: No **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Static Water Level: 62.60 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
55.00 ft. after 8.00 hrs. pumping at 600.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Bedrock Well
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: No **Grouting Method**:
No. of Bags: **Additives**:
Grouting Materials:

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown		
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Formation Description	Thickness	Depth to Bottom
Muck	5.00	5.00
Sand & Clay	30.00	35.00
Clay & Stones	30.00	65.00
Dark Gray Shale Soft	35.00	100.00
White Sandstone Medium	35.00	135.00
White Shale Silty	5.00	140.00
White Sandstone Medium	85.00	225.00
Gray Shale Silty	15.00	240.00
Gray Sandstone Fine To Medium Silty	5.00	245.00
White Sandstone Medium To Coarse	52.00	297.00
Dark Gray Shale	44.00	341.00
Dark Gray Shale	4.00	345.00
Gray Limestone W/Shale	5.00	350.00
Gray Silt	55.00	405.00
White Sandstone Very Fine	18.00	423.00
Gray Limestone	3.00	426.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 23000009146

Tax No:	**Permit No**:	**County**: Eaton	**Township**: Delta

Well ID: 23000009146

Elevation:

Latitude: 42.73492011

Longitude: -84.62062526

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ SW¼ NW¼	13	04N 03W		

Distance and Direction from Road Intersection: 250 FEET N. OF INTERSECTIONOF W. MICHIGAN & SNOW RD. 1800 FEET E NE OF PW #2

Well Name:

Well Owner: Delta Township

Well Address:

Owner Address:

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000000002 **Import ID**: 33040205009

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NE¼ NE¼ SE¼	5	04N 02W		

Well ID: 33000000002

Elevation: 840 ft

Latitude: 42.7616429693

Longitude: -84.5637414729

Distance and Direction from Road Intersection: 20'SW OF FILLEY ST. BTWN DEWITT AND TAYLOR RDS.

Well Name:

Well Owner: C & O Railroad

Well Address:
2000 N. TURNER ST.
LANSING MI

Owner Address:
LANSING MI

Drilling Method: Unknown

Well Depth: 44.00 ft. **Well Use**: Other

Well Type: New **Date Completed**:

Casing Type: Steel - black
Casing Joint: Threaded & coupled
Diameter: 12.00 in. to 0.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 19.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance Direction**
Unknown	0.00 ft.
Unknown	

Drilling Machine Operator Name: LAYNE NORTHERN- NESS, HARRY

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**: 5.00
Manufacturer: Other **Pump Type**: Other
Model Number: **Pump Capacity**:
Length of Drop Pipe: 0.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Clay	14.00	14.00
Clay & Sand Soft	13.00	27.00
Clay Hard	12.00	39.00
Gravel	5.00	44.00

Geology Remarks: 1. [CLAY] [14] [14] 2. [SOFT CLAY AND SAND] [27] [13] 3. [HARD CLAY] [39] [12] 4. [GRAVEL] [44] [5]

Contractor Type: Unknown
Registration Number:
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: WELL DESTROYED JUNE 1952

OTHER REMARKS **Well Use**: Abandoned **Pump Type**: Type Unknown **Pump Manufacturer**: LAYNE NORTHERN

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/16/2000 17:00

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000000125 **Import ID**: 33040206001

Tax No: 330106226001	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000000125

Elevation: 845 ft

Latitude: 42.7667735014

Longitude: -84.5833419676

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ NE¼ NE¼	6	04N 02W		

Distance and Direction from Road Intersection: 8' N AND 30' E OF SE CORNER OF GARAGE BLDG.

Well Name:

Well Owner: Farm Bureau Services, Inc.

Well Address:	**Owner Address**:
3800 N. GRAND RIVER LANSING MI	3800 N. GRAND RIVER LANSING MI

Drilling Method: Unknown

Well Depth: 49.00 ft. **Well Use**: Other

Well Type: New **Date Completed**: 1/13/1948

Casing Type: Steel - black
Casing Joint: Threaded & coupled
Diameter: 8.00 in. to 0.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 27.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name: F.C. WILLARS

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Other
Model Number: **Pump Capacity**:
Length of Drop Pipe: 0.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Topsoil	1.00	1.00
Clay Hard W/Gravel	3.00	4.00
Silt & Clay Soft	6.00	10.00
Blue Clay	24.00	34.00
Sand & Gravel	15.00	49.00

Geology Remarks: 1. [TOP SOIL] [1] [1] 2. [CLAY, HARD AND GRAVEL] [4] [3] 3. [SILT, SOFT AND CLAY] [10] [6] 4. [BLUE CLAY] [34] [24] 5. [SAND, GRAVEL] [49] [15]

Contractor Type: Unknown
Registration Number:
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks:

OTHER REMARKS **Well Use**: Commercial **Pump Type**: Type Unknown **Pump Manufacturer**: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/16/2000 17:51

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006118 **Import ID**: 33040204301

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ SW¼ SE¼	4	04N 02W		3760

Well ID: 33000006118

Elevation: 851 ft

Latitude: 42.756011995

Longitude: -84.5515142886

Distance and Direction from Road Intersection: WSSN 03760; 100' E OF TURNER ST. 100' N OF DOUGLAS ST.

Well Name: BWL WELL 25-22

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-22 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 430.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 9/30/1950

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 106.40 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Unknown
Model Number: **Pump Capacity**:
Length of Drop Pipe: 138.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Clay & Sand	15.00	15.00
Gray Clay	20.00	35.00
Clay & Gravel	5.00	40.00
Gravel Coarse	13.00	53.00
Black Shale	17.00	70.00
Gray Shale	10.00	80.00
Coal	2.00	82.00
Light Gray Shale	26.00	108.00
Gray Shale	36.00	144.00
Sandstone Fine	1.00	145.00
Sandstone Fine W/Shale	30.00	175.00
Sandstone Fine To Medium	35.00	210.00
Sandstone Medium	10.00	220.00
Sandstone Medium To Coarse	10.00	230.00
Brown Unidentified Consolidated Fm Hard	5.00	235.00
Sandstone Medium	27.00	262.00
Light Brown Sandstone Medium	8.00	270.00
Sandstone Coarse W/Shale	15.00	285.00
Sandstone Medium To Coarse	12.00	297.00
Black Shale & Sandstone	3.00	300.00
Gray Shale	27.00	327.00
Sandstone W/Shale	3.00	330.00
Sandstone Fine W/Shale	5.00	335.00
Gray Shale	5.00	340.00
Shale W/Sandstone Fine	28.00	368.00
Sandstone Fine To Medium W/Shale	20.00	388.00
Sandstone Medium W/Shale	2.00	390.00
Sandstone Medium To Coarse	18.00	408.00
Sandstone Coarse	4.00	412.00
Sandstone Coarse	9.00	421.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006118

Failure to comply is a misdemeanor.

Import ID: 33040204301

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006118

Elevation: 851 ft

Latitude: 42.756011995

Longitude: -84.5515142886

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ SW¼ SE¼	4	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 100' E OF TURNER ST. 100' N OF DOUGLAS ST.

Well Name: BWL WELL 25-22

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-22 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom
Brown Unidentified Consolidated Fm Coarse	3.00	424.00
Gray Shale	6.00	430.00

(Continued from Page 1)

Geology Remarks: 1. [CLAY & SAND] [15] [15] 2. [GRAY CLAY] [35] [20] 3. [CLAY & GRAVEL] [40] [5] 4. [COARSE GRAVEL] [53] [13] 5. [BLACK SHALE] [70] [17] 6. [GRAY SHALE] [80] [10] 7. [COAL] [82] [2] 8. [LIGHT GRAY SHALE] [108] [26] 9. [GRAY SHALE] [144] [36] 10. [FINE SAND ROCK] [145] [1] 11. [FINE SHALEY SAND ROCK] [175] [30] 12. [FINE TO MEDIUM SAND ROCK] [210] [35] 13. [MEDIUM SAND ROCK] [220] [10] 14. [MEDIUM TO COARSE SAND ROCK] [230] [10] 15. [VERY HARD BROWN PUDDEN ROCK] [235] [5] 16. [LIGHT MEDIUM SAND ROCK] [262] [27] 17. [LIGHT BROWN MEDIUM TO COARSE SAND ROCK] [270] [8] 18. [VERY COARSE SHALEY SAND ROCK] [285] [15] 19. [MEDIUM TO COARSE SAND ROCK] [297] [12] 20. [BLACK SHALE SAND ROCK] [300] [3] 21. [GRAY SHALE] [327] [27] 22. [SHALEY SAND ROCK] [330] [3] 23. [FINE SHALEY SAND ROCK] [335] [5] 24. [GRAY SHALE] [340] [5] 25. [SHALEY FINE SAND ROCK] [368] [28] 26. [FINE TO MEDIUM SAND ROCK, SHALEY] [388] [20] 27. [MEDIUM SHALEY SAND ROCK] [390] [2] 28. [MEDIUM TO COARSE SAND ROCK] [408] [18] 29. [COARSE SAND ROCK] [412] [4] 30. [VERY COARSE SAND ROCK] [421] [9] 31. [COARSE BROWN AND WHITE ROCK] [424] [3] 32. [GRAY SHALE] [430] [6]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 04001;

OTHER REMARKS **Pump Manufacturer**: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:24

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006119 **Import ID**: 33040204302

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SE¼ NE¼ SW¼	4	04N 02W		3760

Well ID: 33000006119

Elevation: 855 ft

Latitude: 42.7592287712

Longitude: -84.5536443315

Distance and Direction from Road Intersection: WSSN 03760; 150' E OF TURNER ST. 150' N OF W GIER ST.

Well Name: BWL WELL 25-23

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-23 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 450.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 3/22/1951

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 99.50 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Unknown
Model Number: **Pump Capacity**:
Length of Drop Pipe: 92.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Yellow Clay & Sand	15.00	15.00
Blue Clay & Sand	10.00	25.00
Sand Gravel Clay	10.00	35.00
Gravel Medium	5.00	40.00
Gravel Medium To Coarse	10.00	50.00
Gravel Coarse	7.00	57.00
Gray Shale	3.00	60.00
Gray Shale	30.00	90.00
Sandstone W/Shale Hard	2.00	92.00
Sandstone	3.00	95.00
Sandstone W/Shale	13.00	108.00
Shale Fine	27.00	135.00
Sandstone Fine	13.00	148.00
Sandstone Coarse	2.00	150.00
Gray Shale	5.00	155.00
Sandstone Coarse W/Shale	10.00	165.00
Sandstone Coarse W/Shale	5.00	170.00
Sandstone Medium W/Shale	8.00	178.00
Sandstone Fine W/Shale	5.00	183.00
Sandstone Coarse W/Shale	10.00	193.00
Sandstone Fine To Medium	5.00	198.00
Sandstone Fine	20.00	218.00
Sandstone Fine To Medium	9.00	227.00
Sandstone Medium	6.00	233.00
Lithology Unknown Medium To Coarse	4.00	237.00
Brown Sandstone W/Shale	10.00	247.00
Sandstone	4.00	251.00
Sandstone Medium	12.00	263.00
Sandstone Medium To Coarse	10.00	273.00
Brown Sandstone W/Shale	5.00	278.00
Brown Sandstone Coarse	10.00	288.00
Brown Sandstone Medium	5.00	293.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006119

Import ID: 33040204302

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006119

Elevation: 855 ft

Latitude: 42.7592287712

Longitude: -84.5536443315

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SE¼ NE¼ SW¼	4	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 150' E OF TURNER ST. 150' N OF W GIER ST.

Well Name: BWL WELL 25-23

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-23 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom
Brown Sandstone Coarse	12.00	305.00
Gray Shale	45.00	350.00
Sandstone Fine W/Shale	25.00	375.00
Sandstone Medium W/Shale	12.00	387.00
Sandstone Fine W/Shale	11.00	398.00
Sandstone Medium W/Shale	5.00	403.00
Sandstone Medium To Coarse W/Shale	2.00	405.00
Sandstone Coarse Hard	5.00	410.00
Sandstone Fine	10.00	420.00
Shale Fine	22.00	442.00
Sandstone Fine W/Shale	3.00	445.00
Gray Shale	5.00	450.00

(Continued from Page 1)

Geology Remarks: 1. [YELLOW CLAY AND SAND] [15] [15] 2. [BLUE CLAY & SAND] [25] [10] 3. [SAND, GRAVEL & CLAY MIXTURE] [35] [10] 4. [MEDIUM GRAVEL] [40] [5] 5. [MEDIUM TO COARSE GRAVEL] [50] [10] 6. [COARSE GRAVEL] [57] [7] 7. [GRAY SHALE ROCK] [60] [3] 8. [GRAY SHALE] [90] [30] 9. [SAND ROCK & VERY HARD SHALE LAYERS] [92] [2] 10. [SAND ROCK] [95] [3] 11. [SHALEY SAND ROCK] [108] [13] 12. [FINE SHALEY ROCK] [135] [27] 13. [FINE SAND ROCK] [148] [13] 14. [COARSE SAND ROCK] [150] [2] 15. [GRAY SHALE] [155] [5] 16. [VERY COARSE SHALEY SAND ROCK] [165] [10] 17. [COARSE SHALEY SAND ROCK] [170] [5] 18. [MEDIUM SHALEY SAND ROCK] [178] [8] 19. [FINE SHALEY SAND ROCK] [183] [5] 20. [COARSE SHALEY SAND ROCK] [193] [10] 21. [FINE TO MEDIUM SAND ROCK] [198] [5] 22. [FINE SAND ROCK] [218] [20] 23. [FINE TO MEDIUM SAND ROCK] [227] [9] 24. [MEDIUM SAND ROCK] [233] [6] 25. [MEDIUM TO COARSE] [237] [4] 26. [DARK BROWN COARSE SHALEY SAND ROCK] [247] [10] 27. [LIGHT COLOR SAND ROCK] [251] [4] 28. [MEDIUM SAND ROCK] [263] [12] 29. [MEDIUM TO COARSE SAND ROCK] [273] [10] 30. [BROWN SHALEY SAND ROCK] [278] [5] 31. [VERY COARSE BROWN SAND ROCK] [288] [10] 32. [MEDIUM BROWN SAND ROCK] [293] [5] 33. [VERY COARSE BROWN SAND ROCK] [305] [12] 34. [GRAY SHALE] [350] [45] 35. [FINE SHALEY SAND ROCK] [375] [25] 36. [MEDIUM SHALEY SAND ROCK] [387] [12] 37. [FINE SHALEY SAND ROCK] [398] [11] 38. [MEDIUM SHALEY SAND ROCK] [403] [5] 39. [MEDIUM TO COARSE SHALEY SAND ROCK] [405] [2] 40. [VERY HARD COARSE SAND ROCK] [410] [5] 41. [FINE SAND ROCK] [420] [10] 42. [FINE SHALEY ROCK] [442] [22] 43. [FINE SHALEY SAND ROCK] [445] [3] 44. [GRAY SHALE] [450] [5]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 04002;

OTHER REMARKS **Pump Manufacturer**: Pump Manufacturer unknown

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006123 **Import ID**: 33040204306

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ NW¼ SW¼	4	04N 02W		3760

Well ID: 33000006123

Elevation: 860 ft

Latitude: 42.7621555589

Longitude: -84.5625322169

Distance and Direction from Road Intersection: WSSN 03760; 1300' E OF LOGAN ST. 150' NE OF FILLEY ST.

Well Name: BWL WELL 25-30

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-30 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 432.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 3/1/1956

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 46.50 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Unknown
Model Number: **Pump Capacity**:
Length of Drop Pipe: 113.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Clay Sandy	17.00	17.00
Gravel	3.00	20.00
Hardpan W/Gravel	20.00	40.00
Gravel Medium	5.00	45.00
Gravel Coarse	15.00	60.00
Shale	36.00	96.00
Red Sand	4.00	100.00
Shale	8.00	108.00
Gray Shale W/Sandstone Coarse	12.00	120.00
Gray Shale W/Sandstone Fine	5.00	125.00
Shale W/Sandstone Fine	7.00	132.00
Shale	3.00	135.00
Sandstone Fine W/Shale	13.00	148.00
Shale	7.00	155.00
Sandstone Fine W/Shale	10.00	165.00
Gray Sandstone Medium	10.00	175.00
Sandstone Coarse W/Shale	5.00	180.00
Gray Sandstone Coarse	15.00	195.00
Gray Sandstone Medium Hard	15.00	210.00
Sandstone Hard	4.00	214.00
Gray Sandstone Medium	6.00	220.00
Dark Gray Sandstone Medium	5.00	225.00
Gray Sandstone Medium	10.00	235.00
Gray Sandstone Fine	15.00	250.00
Gray Sandstone Very Fine	5.00	255.00
Gray Sandstone Fine W/Shale	5.00	260.00
Shale	35.00	295.00
Gray Sandstone Medium W/Shale	5.00	300.00
Gray Sandstone Fine Hard	45.00	345.00
Gray Sandstone Medium	10.00	355.00
Gray Sandstone Medium Hard	8.00	363.00
Sandstone Coarse	4.00	367.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006123

Import ID: 33040204306

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006123

Elevation: 860 ft

Latitude: 42.7621555589

Longitude: -84.5625322169

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ NW¼ SW¼	4	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 1300' E OF LOGAN ST. 150' NE OF FILLEY ST.

Well Name: BWL WELL 25-30

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-30 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom
Sandstone W/Shale	3.00	370.00
Sandstone Fine W/Shale	8.00	378.00
Gray Sandstone Medium Hard	5.00	383.00
Gray Sandstone Hard	4.00	387.00
Sandstone Hard Fine	6.00	393.00
Shale	1.00	394.00
Sandstone Hard Fine	12.00	406.00
Sandstone Hard Fine	14.00	420.00
Shale Hard	5.00	425.00
Shale & Sandstone	3.00	428.00
Shale	4.00	432.00

(Continued from Page 1)

Geology Remarks: 1. [SANDY CLAY] [17] [17] 2. [GRAVEL] [20] [3] 3. [HARD PAN GRAVEL] [40] [20] 4. [MEDIUM GRAVEL] [45] [5] 5. [COARSE GRAVEL] [60] [15] 6. [SHALE] [96] [36] 7. [LIGHT RED SAND] [100] [4] 8. [SHALE] [108] [8] 9. [SHALEY COARSE GRAY SAND ROCK] [120] [12] 10. [SHALEY FINE GRAY SAND ROCK] [125] [5] 11. [SHALEY FINE SAND ROCK] [132] [7] 12. [SHALE] [135] [3] 13. [FINE SHALEY SAND ROCK] [148] [13] 14. [SHALE] [155] [7] 15. [FINE SHALEY SAND ROCK] [165] [10] 16. [MEDIUM GRAY SAND ROCK] [175] [10] 17. [COARSE SHALEY SAND ROCK] [180] [5] 18. [COARSE GRAY SAND ROCK] [195] [15] 19. [MEDIUM GRAY HARD SAND ROCK] [210] [15] 20. [VERY HARD MEDIUM GRAY SAND ROCK] [214] [4] 21. [MEDIUM GRAY SAND ROCK] [220] [6] 22. [DARK GRAY MEDIUM SAND ROCK] [225] [5] 23. [MEDIUM GRAY SAND ROCK] [235] [10] 24. [FINE GRAY SAND ROCK] [250] [15] 25. [VERY FINE GRAY SAND ROCK] [255] [5] 26. [FINE SHALEY GRAY SAND ROCK] [260] [5] 27. [SHALE] [295] [35] 28. [MEDIUM SHALEY GRAY SAND ROCK] [300] [5] 29. [FINE HARD GRAY SAND ROCK] [345] [45] 30. [MEDIUM GRAY SAND ROCK] [355] [10] 31. [MEDIUM GRAY HARD SAND ROCK] [363] [8] 32. [VERY COARSE SAND ROCK] [367] [4] 33. [SHALEY SAND ROCK] [370] [3] 34. [FINE SHALEY SAND ROCK] [378] [8] 35. [MEDIUM GRAY HARD SAND ROCK] [383] [5] 36. [HARD FINE GRAY SAND ROCK] [387] [4] 37. [VERY HARD FINE GRAY SAND ROCK] [393] [6] 38. [SHALE] [394] [1] 39. [VERY HARD FINE SAND ROCK] [406] [12] 40. [HARD FINE SAND ROCK] [420] [14] 41. [SHALEY HARD SAND ROCK] [425] [5] 42. [HEAVY WITH SHALE SAND ROCK] [428] [3] 43. [SHALE] [432] [4]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 04006;

OTHER REMARKS **Pump Manufacturer**: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:24

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006125 **Import ID**: 33040204308

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ SW¼ NW¼	4	04N 02W		3760

Well ID: 33000006125

Elevation: 836 ft

Latitude: 42.76534709

Longitude: -84.562106814

Distance and Direction from Road Intersection: WSSN 03760; 1600' E OF SHERIDAN ST. 1400' E OF LOGAN ST

Well Name: BWL WELL 25-32

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-32 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 450.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 10/6/1960

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 133.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Unknown
Model Number: **Pump Capacity**:
Length of Drop Pipe: 132.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Clay	30.00	30.00
Clay W/Gravel	10.00	40.00
Hardpan W/Gravel	35.00	75.00
Red Sand	30.00	105.00
Shale	20.00	125.00
Sandstone Fine W/Shale	5.00	130.00
Shale	5.00	135.00
Sandstone Fine W/Shale	25.00	160.00
Shale	15.00	175.00
Sandstone Coarse W/Shale	5.00	180.00
Sandstone Soft	5.00	185.00
Sandstone Medium W/Shale	5.00	190.00
Sandstone Medium	10.00	200.00
Sandstone Coarse	15.00	215.00
Sandstone Medium	25.00	240.00
Sandstone Coarse	5.00	245.00
Sandstone Medium	15.00	260.00
Sandstone Fine	25.00	285.00
Sandstone Medium	5.00	290.00
Sandstone Coarse W/Shale	2.00	292.00
Shale	28.00	320.00
Sandstone Coarse W/Shale	10.00	330.00
Sandstone Fine W/Shale	5.00	335.00
Shale	10.00	345.00
Sandstone Medium W/Shale	5.00	350.00
Sandstone Fine W/Shale	20.00	370.00
Sandstone Fine	5.00	375.00
Sandstone Fine W/Shale	15.00	390.00
Sandstone Medium W/Shale	5.00	395.00
Sandstone Medium	20.00	415.00
Sandstone Medium W/Shale	5.00	420.00
Sandstone Medium	20.00	440.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006125

Failure to comply is a misdemeanor.

Import ID: 33040204308

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006125

Elevation: 836 ft

Latitude: 42.76534709

Longitude: -84.562106814

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ SW¼ NW¼	4	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 1600' E OF SHERIDAN ST. 1400' E OF LOGAN ST

Well Name: BWL WELL 25-32

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-32 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom
Sandstone Hard Coarse	5.00	445.00
Shale	5.00	450.00

(Continued from Page 1)

Geology Remarks: 1. [CLAY] [30] [30] 2. [CLAY WITH GRAVEL] [40] [10] 3. [HARD PAN GRAVEL] [75] [35] 4. [RED SAND] [105] [30] 5. [SHALE] [125] [20] 6. [FINE SHALEY SAND ROCK] [130] [5] 7. [SHALE] [135] [5] 8. [FINE SHALEY SAND ROCK] [160] [25] 9. [SHALE] [175] [15] 10. [COARSE SHALEY SAND ROCK] [180] [5] 11. [SOFT SHALEY SAND ROCK] [185] [5] 12. [MEDIUM SHALEY SAND ROCK] [190] [5] 13. [MEDIUM SAND ROCK] [200] [10] 14. [COARSE SAND ROCK] [215] [15] 15. [GOOD MEDIUM SAND ROCK] [240] [25] 16. [COARSE SAND ROCK] [245] [5] 17. [MEDIUM SAND ROCK] [260] [15] 18. [FINE SAND ROCK] [285] [25] 19. [MEDIUM SAND ROCK] [290] [5] 20. [COARSE SHALEY SAND ROCK] [292] [2] 21. [SHALE] [320] [28] 22. [COARSE SHALEY SAND ROCK] [330] [10] 23. [FINE SHALEY SAND ROCK] [335] [5] 24. [SHALE] [345] [10] 25. [MEDIUM SAND ROCK, SHALEY] [350] [5] 26. [FINE SHALEY SAND ROCK] [370] [20] 27. [FINE SAND ROCK, CLEAN] [375] [5] 28. [FINE SHALEY SAND ROCK] [390] [15] 29. [MEDIUM SHALEY SAND ROCK] [395] [5] 30. [MEDIUM SAND ROCK] [415] [20] 31. [MEDIUM SHALEY SAND ROCK] [420] [5] 32. [MEDIUM SAND ROCK] [440] [20] 33. [HARD COARSE SAND ROCK] [445] [5] 34. [SHALE] [450] [5]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 04008;

OTHER REMARKS **Pump Manufacturer**: Pump Manufacturer unknown

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006127 **Import ID**: 33040204310

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NE¼ SW¼ NE¼	4	04N 02W		3760

Well ID: 33000006127

Elevation: 850 ft

Latitude: 42.7655473979

Longitude: -84.550000882

Distance and Direction from Road Intersection: WSSN 03760; 1400' S OF SHERIDAN RD. 1900' W OF LARCH ST

Well Name: BWL WELL 25-34

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-34 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 440.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 8/12/1960

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 58.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Unknown
Model Number: **Pump Capacity**:
Length of Drop Pipe: 76.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Topsoil	5.00	5.00
Clay	5.00	10.00
Clay Sandy	15.00	25.00
Clay & Gravel Sandy	30.00	55.00
Sand & Gravel Medium To Coarse	15.00	70.00
Sandstone W/Clay Blue	5.00	75.00
Sandstone Fine	7.00	82.00
Shale	53.00	135.00
Sandstone Fine W/Shale	15.00	150.00
Sandstone Medium W/Shale	5.00	155.00
Sandstone Coarse W/Shale	10.00	165.00
Sandstone Fine W/Shale	25.00	190.00
Sandstone Medium	10.00	200.00
Sandstone Coarse	15.00	215.00
Sandstone Coarse Hard	5.00	220.00
Sandstone Coarse	5.00	225.00
Sandstone Medium W/Shale	10.00	235.00
Sandstone Fine	10.00	245.00
Sandstone Medium W/Shale	10.00	255.00
Sandstone Medium W/Shale	10.00	265.00
Sandstone Fine W/Shale	10.00	275.00
Sandstone Medium W/Shale	5.00	280.00
Sandstone Medium	5.00	285.00
Sandstone Medium W/Shale	15.00	300.00
Sandstone Coarse W/Shale	30.00	330.00
Sandstone Coarse Hard	35.00	365.00
Sandstone Medium	15.00	380.00
Sandstone Hard Medium	5.00	385.00
Sandstone Hard Coarse	5.00	390.00
Sandstone Medium	5.00	395.00
Sandstone Fine W/Shale	35.00	430.00
Sandstone Coarse W/Shale	5.00	435.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006127

Import ID: 33040204310

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006127

Elevation: 850 ft

Latitude: 42.7655473979

Longitude: -84.550000882

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NE¼ SW¼ NE¼	4	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 1400' S OF SHERIDAN RD. 1900' W OF LARCH ST

Well Name: BWL WELL 25-34

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-34 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom
Shale	5.00	440.00

(Continued from Page 1)

Geology Remarks: 1. [TOP SOIL] [5] [5] 2. [CLAY] [10] [5] 3. [SANDY CLAY] [25] [15] 4. [SANDY CLAY & GRAVEL] [55] [30] 5. [MEDIUM & COARSE SAND & GRAVEL] [70] [15] 6. [LAYERED SAND ROCK & BLUE CLAY] [75] [5] 7. [FINE SHARP SAND ROCK] [82] [7] 8. [SHALE] [135] [53] 9. [FINE SAND ROCK, SHALEY] [150] [15] 10. [MEDIUM SHALEY SAND ROCK] [155] [5] 11. [COARSE SHALEY SAND ROCK] [165] [10] 12. [FINE SHALEY SAND ROCK] [190] [25] 13. [GOOD MEDIUM SAND ROCK] [200] [10] 14. [GOOD COARSE SAND ROCK] [215] [15] 15. [VERY HARD COARSE SAND ROCK] [220] [5] 16. [COARSE SAND ROCK] [225] [5] 17. [MEDIUM SHALEY SAND ROCK] [235] [10] 18. [FINE SAND ROCK] [245] [10] 19. [MEDIUM SHALEY SAND ROCK] [255] [10] 20. [GOOD MEDIUM SHALEY SAND ROCK] [265] [10] 21. [FINE SHALEY SAND ROCK] [275] [10] 22. [MEDIUM SHALEY SAND ROCK] [280] [5] 23. [MEDIUM SAND ROCK] [285] [5] 24. [MEDIUM SHALEY SAND ROCK] [300] [15] 25. [COARSE SHALEY SAND ROCK] [330] [30] 26. [COARSE HARD SAND ROCK] [365] [35] 27. [MEDIUM SAND ROCK] [380] [15] 28. [HARD MEDIUM SAND ROCK] [385] [5] 29. [HARD COARSE SAND ROCK] [390] [5] 30. [MEDIUM SAND ROCK] [395] [5] 31. [FINE SHALEY SAND ROCK] [430] [35] 32. [COARSE SHALEY SAND ROCK] [435] [5] 33. [SHALE] [440] [5]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 04010;

OTHER REMARKS **Pump Manufacturer**: Pump Manufacturer unknown

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006129 **Import ID**: 33040204312

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NE¼ NW¼ NW¼	4	04N 02W		3760

Well ID: 33000006129

Elevation: 849 ft

Latitude: 42.7681964428

Longitude: -84.5591979663

Distance and Direction from Road Intersection: WSSN 03760; 850' W OF TURNER ST. 500' S OF SHERIDAN RD.

Well Name: BWL WELL 25-36

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-36 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 450.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 11/15/1960

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 108.50 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Unknown
Model Number: **Pump Capacity**:
Length of Drop Pipe: 134.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Topsoil W/Clay	15.00	15.00
Clay Sandy	20.00	35.00
Gravel	20.00	55.00
Hardpan W/Gravel Sandy	27.00	82.00
Red Sand & Gravel	3.00	85.00
Sand Heaving/Quick	25.00	110.00
Shale	20.00	130.00
Sandstone W/Shale	5.00	135.00
Shale	45.00	180.00
Sandstone Fine W/Shale	15.00	195.00
Sandstone Medium W/Shale	30.00	225.00
Sandstone Medium	15.00	240.00
Sandstone Hard Coarse	10.00	250.00
Sandstone Medium	20.00	270.00
Sandstone Medium W/Shale	15.00	285.00
Sandstone Medium	20.00	305.00
Sandstone Hard	5.00	310.00
Sandstone Medium	15.00	325.00
Sandstone Fine	15.00	340.00
Shale	20.00	360.00
Sandstone Medium	10.00	370.00
Sandstone Medium W/Shale	5.00	375.00
Sandstone Coarse W/Shale	30.00	405.00
Sandstone Medium W/Shale	45.00	450.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006129 **Import ID**: 33040204312

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NE¼ NW¼ NW¼	4	04N 02W		3760

Well ID: 33000006129

Elevation: 849 ft

Latitude: 42.7681964428

Longitude: -84.5591979663

Distance and Direction from Road Intersection: WSSN 03760; 850' W OF TURNER ST. 500' S OF SHERIDAN RD.

Well Name: BWL WELL 25-36

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-36 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006130 **Import ID**: 33040204313

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ NW¼ NE¼	4	04N 02W		3760

Well ID: 33000006130

Elevation: 845 ft

Latitude: 42.768681339

Longitude: -84.5526991901

Distance and Direction from Road Intersection: WSSN 03760; 200' W OF CRESTON AVE. 350' S OF SHERIDAN R

Well Name: BWL WELL 25-38

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-38 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 444.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 9/13/1960

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 110.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Unknown
Model Number: **Pump Capacity**:
Length of Drop Pipe: 81.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Sand	40.00	40.00
Gravel	15.00	55.00
Shale	65.00	120.00
Sandstone Coarse W/Shale	5.00	125.00
Sandstone Fine W/Shale	45.00	170.00
Sandstone Fine	30.00	200.00
Sandstone Medium	25.00	225.00
Sandstone Coarse	5.00	230.00
Sandstone Medium	40.00	270.00
Sandstone Medium W/Shale	10.00	280.00
Sandstone Medium	5.00	285.00
Sandstone & Limestone Coarse	10.00	295.00
Brown Sandstone & Limestone Coarse	5.00	300.00
Sandstone Hard Medium	5.00	305.00
Sandstone Hard W/Shale	10.00	315.00
Sandstone Medium W/Shale	20.00	335.00
Sandstone Medium	15.00	350.00
Sandstone Coarse	10.00	360.00
Sandstone Medium	15.00	375.00
Sandstone Medium	5.00	380.00
Sandstone Medium W/Shale	20.00	400.00
Sandstone Fine W/Shale	10.00	410.00
Sandstone Coarse W/Shale	5.00	415.00
Sandstone Fine W/Shale	20.00	435.00
Sandstone Coarse W/Shale	3.00	438.00
Sandstone Coarse Hard	2.00	440.00
Shale	4.00	444.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006130 **Import ID**: 33040204313

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006130

Elevation: 845 ft

Latitude: 42.768681339

Longitude: -84.5526991901

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ NW¼ NE¼	4	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 200' W OF CRESTON AVE. 350' S OF SHERIDAN R

Well Name: BWL WELL 25-38

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-38 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

(Continued from Page 1)

Geology Remarks: 1. [SAND] [40] [40] 2. [GRAVEL] [55] [15] 3. [SHALE] [120] [65] 4. [COARSE SHALEY SAND ROCK] [125] [5] 5. [FINE SHALEY SAND ROCK] [170] [45] 6. [FINE SAND ROCK] [200] [30] 7. [GOOD MEDIUM SAND ROCK] [225] [25] 8. [GOOD COARSE SAND ROCK] [230] [5] 9. [GOOD MEDIUM SAND ROCK] [270] [40] 10. [MEDIUM SAND ROCK, SHALEY] [280] [10] 11. [GOOD MEDIUM SAND ROCK] [285] [5] 12. [GOOD COARSE SAND ROCK & LIMESTONE] [295] [10] 13. [BROWN COARSE SAND ROCK & LIMESTONE] [300] [5] 14. [HARD MEDIUM SAND ROCK] [305] [5] 15. [HARD MEDIUM SHALEY SAND ROCK] [315] [10] 16. [MEDIUM SHALEY SAND ROCK] [335] [20] 17. [GOOD MEDIUM SAND ROCK] [350] [15] 18. [GOOD COARSE SAND ROCK] [360] [10] 19. [GOOD MEDIUM SAND ROCK] [375] [15] 20. [MEDIUM SAND ROCK, NOT CLEAN] [380] [5] 21. [MEDIUM SAND ROCK, SHALEY] [400] [20] 22. [FINE SAND ROCK, SHALEY] [410] [10] 23. [COARSE SHALEY SAND ROCK] [415] [5] 24. [FINE SHALEY SAND ROCK] [435] [20] 25. [COARSE SHALEY SAND ROCK] [438] [3] 26. [VERY HARD COARSE SAND ROCK] [440] [2] 27. [SHALE] [444] [4]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 04013;

OTHER REMARKS **Pump Manufacturer**: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:24

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006167 **Import ID**: 33040205301

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ SE¼ NE¼	5	04N 02W		3760

Well ID: 33000006167

Elevation: 855 ft

Latitude: 42.7635862532

Longitude: -84.5651203766

Distance and Direction from Road Intersection: WSSN 03760;2200' S OF SHERIDAN RD. 600' E OF LOGAN ST.

Well Name: BWL WELL 25-41

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-41 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Cable Tool

Well Depth: 490.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 2/2/1983

Casing Type: Steel - black
Casing Joint: Welded
Diameter: 14.00 in. to 179.50 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 2.00 ft. above grade
Casing Fitting: Drive shoe

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Unknown
Model Number: **Pump Capacity**: 0.00 GPM
Length of Drop Pipe: 400.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Static Water Level: 124.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
224.00 ft. after 6.00 hrs. pumping at 402.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Formation Description	Thickness	Depth to Bottom
Clay	3.00	3.00
Brown Sand	12.00	15.00
Gray Clay & Sand W/Gravel	45.00	60.00
Sand & Gravel Cemented	15.00	75.00
Gray Clay W/Sand W/Gravel	10.00	85.00
Gray Coal W/Shale	2.00	87.00
Sandstone	4.00	91.00
Shale W/Gravel W/Sandstone	23.00	114.00
Sandstone W/Shale	1.00	115.00
Gray Shale Sandy W/Gravel	125.00	240.00
Sandstone Fine To Medium W/Shale	45.00	285.00
Gray Shale	25.00	310.00
Sandstone Fine W/Shale	20.00	330.00
Gray Shale	10.00	340.00
Sandstone Fine To Medium W/Shale	130.00	470.00
Gray Shale & Sandstone	20.00	490.00

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Bentonite slurry From 0.00 ft. to 0.00 ft.

Well Head Completion: 12 inches above grade, Other

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Sewer line	100.00 ft.	South

Drilling Machine Operator Name:

Employment: Unknown

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006167 **Import ID**: 33040205301

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006167

Elevation: 855 ft

Latitude: 42.7635862532

Longitude: -84.5651203766

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ SE¼ NE¼	5	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760;2200' S OF SHERIDAN RD. 600' E OF LOGAN ST.

Well Name: BWL WELL 25-41

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-41 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006169 **Import ID**: 33040205303

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ SW¼ NE¼	5	04N 02W		3760

Well ID: 33000006169

Elevation: 854 ft

Latitude: 42.7649490639

Longitude: -84.5721056388

Distance and Direction from Road Intersection: WSSN 03760; 0.25 MILES W OF LOGAN ST. 1200' N OF GRAND

Well Name: BWL WELL 02-02

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 02-02 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 445.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 11/19/1957

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 93.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Sand	15.00	15.00
Hardpan W/Gravel	10.00	25.00
Gravel Medium	5.00	30.00
Gravel Coarse	14.00	44.00
Gray Clay	1.00	45.00
Gray Shale	28.00	73.00
Coal	2.00	75.00
Shale	4.00	79.00
Sandstone	21.00	100.00
Sandstone W/Shale	2.00	102.00
Shale	56.00	158.00
Sandstone W/Shale	5.00	163.00
Shale	7.00	170.00
Sandstone	5.00	175.00
Sandstone W/Shale	30.00	205.00
White Sandstone Fine Wet/Moist	15.00	220.00
White Sandstone Medium	45.00	265.00
Sandstone Hard	5.00	270.00
Limestone	1.00	271.00
Sandstone Fine	14.00	285.00
Sandstone Hard Fine	5.00	290.00
Sandstone Medium	15.00	305.00
Sandstone Fine	15.00	320.00
Sandstone Medium	5.00	325.00
Sandstone Medium To Coarse	10.00	335.00
Sandstone Coarse	20.00	355.00
Sandstone Medium	5.00	360.00
Sandstone Fine W/Shale	15.00	375.00
Sandstone Medium	10.00	385.00
Sandstone Medium W/Shale	10.00	395.00
Sandstone Medium W/Shale	5.00	400.00
Sandstone Fine W/Shale	20.00	420.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006169

Import ID: 33040205303

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006169

Elevation: 854 ft

Latitude: 42.7649490639

Longitude: -84.5721056388

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ SW¼ NE¼	5	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 0.25 MILES W OF LOGAN ST. 1200' N OF GRAND

Well Name: BWL WELL 02-02

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 02-02 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom
Sandstone Fine To Medium	20.00	440.00
Sandstone Medium To Coarse	5.00	445.00

(Continued from Page 1)

Geology Remarks: 1. [SAND] [15] [15] 2. [HARD PAN GRAVEL] [25] [10] 3. [GOOD MEDIUM GRAVEL] [30] [5] 4. [COARSE GRAVEL] [44] [14] 5. [GRAY CLAY] [45] [1] 6. [GRAY SHALE] [73] [28] 7. [COAL] [75] [2] 8. [SHALE] [79] [4] 9. [SAND ROCK] [100] [21] 10. [SHALEY SAND ROCK] [102] [2] 11. [SHALE] [158] [56] 12. [SHALEY SAND ROCK] [163] [5] 13. [SHALE] [170] [7] 14. [SAND ROCK] [175] [5] 15. [SHALEY SAND ROCK] [205] [30] 16. [FINE WHITE SAND ROCK] [220] [15] 17. [MEDIUM WHITE SAND ROCK] [265] [45] 18. [HARD SHARP SAND ROCK] [270] [5] 19. [LIMESTONE ROCK] [271] [1] 20. [FINE SAND ROCK] [285] [14] 21. [HARD FINE SAND ROCK] [290] [5] 22. [MEDIUM SAND ROCK] [305] [15] 23. [FINE SAND ROCK] [320] [15] 24. [MEDIUM SAND ROCK] [325] [5] 25. [MEDIUM COARSE SAND ROCK] [335] [10] 26. [COARSE SAND ROCK] [355] [20] 27. [MEDIUM DARK SAND ROCK] [360] [5] 28. [FINE AND LITTLE SHALEY SAND ROCK] [375] [15] 29. [MEDIUM SAND ROCK] [385] [10] 30. [MEDIUM LIGHT SHALEY SAND ROCK] [395] [10] 31. [MEDIUM SHALEY SAND ROCK] [400] [5] 32. [FINE SHALEY SAND ROCK] [420] [20] 33. [MEDIUM & FINE SAND ROCK] [440] [20] 34. [MEDIUM & COARSE SAND ROCK] [445] [5]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 05003;

OTHER REMARKS

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006170 **Import ID**: 33040205304

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SE¼ SW¼ SE¼	5	04N 02W		3760

Well ID: 33000006170

Elevation: 811 ft

Latitude: 42.7562579618

Longitude: -84.569270313

Distance and Direction from Road Intersection: WSSN 03760; 350' N OF MUSKEGON AVE. 400' W OF LOGAN ST.

Well Name: BWL WELL 10-01

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 10-01 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 500.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**:

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 999.99 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Unknown
Model Number: **Pump Capacity**:
Length of Drop Pipe: 0.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Brown Peat	4.00	4.00
Gray Gravel Silty	4.00	8.00
Brown Gravel	2.00	10.00
Yellow Gravel Silty	9.00	19.00
Gray Sand & Gravel	11.00	30.00
Light Gray Sandstone Medium	25.00	55.00
Gray Shale Sandy	5.00	60.00
Gray Sandstone Fine	10.00	70.00
Light Gray Shale Sandy	5.00	75.00
White Sandstone Medium W/Sand	100.00	175.00
Shale	20.00	195.00
Gray Sandstone Coarse	25.00	220.00
White Sandstone Fine	15.00	235.00
Light Gray Sandstone Fine W/Silt	15.00	250.00
Light Gray Sandstone Medium To Coarse	60.00	310.00
Light Gray Sandstone Medium To Coarse	90.00	400.00
Dark Gray Gypsum W/Shale	5.00	405.00
Light Gray Gypsum W/Shale	15.00	420.00
Light Gray Sandstone W/Shale Gray	10.00	430.00
Light Gray Gypsum W/Shale	10.00	440.00
Light Gray Sandstone W/Shale Gray	5.00	445.00
Light Gray Gypsum W/Shale	5.00	450.00
Light Gray Sandstone	10.00	460.00
Black Shale W/Sandstone	5.00	465.00
Light Gray Sandstone Fine	5.00	470.00
Gray Sandstone W/Shale Gray	3.00	473.00
Gypsum W/Sandstone W/Shale	16.00	489.00
Gray Shale Soft	2.00	491.00
Sandstone Fine	4.00	495.00
Light Gray Shale Soft	5.00	500.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006170 **Import ID**: 33040205304

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SE¼ SW¼ SE¼	5	04N 02W		3760

Well ID: 33000006170

Elevation: 811 ft

Latitude: 42.7562579618

Longitude: -84.569270313

Distance and Direction from Road Intersection: WSSN 03760; 350' N OF MUSKEGON AVE. 400' W OF LOGAN ST.

Well Name: BWL WELL 10-01

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 10-01 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

(Continued from Page 1)

Geology Remarks: 1. [DARK BROWN PEAT] [4] [4] 2. [GRAY SILTY GRAVEL] [8] [4] 3. [BROWN FERRUGINOUS GRAVEL] [10] [2] 4. [YELLOWISH GRAY SILTY GRAVEL] [19] [9] 5. [GRAY SAND AND GRAVEL] [30] [11] 6. [LIGHT GRAY MED MICACEOUS SANDSTONE] [55] [25] 7. [GRAY PLASTIC SANDY SHALE] [60] [5] 8. [FINE GRAINED LIGHT GRAY SANDSTONE] [70] [10] 9. [LIGHT GRAY SANDY SHALE] [75] [5] 10. [NEARLY WHITE MEDIUM GRAINED SANDSTONE AND LIGHT GRAY PLASTIC SANDY SHALE] [175] [100] 11. [SHALE] [195] [20] 12. [COARSE GRAY CONGLOMERITIC SANDSTONE (PARMA?) (600 GALS. PER MINUTE)] [220] [25] 13. [FINE GRAINED WHITE MICACEOUS SANDSTONE] [235] [15] 14. [DIRTY LIGHT GRAY FINE GRAINED SANDSTONE] [250] [15] 15. [COARSE TO MEDIUM GRAINED LIGHT GRAY SANDSTONE (IRON STAINED AND W/PYRITE] [310] [60] 16. [COARSE TO MEDIUM GRAINED LIGHT GRAY SANDSTONE] [400] [90] 17. [DARK GRAY SOFT SHALE WITH GYPSUM] [405] [5] 18. [LIGHT GRAY SHALE AND GYPSUM] [420] [15] 19. [LIGHT GRAY SANDSTONE AND DARKER GRAY SHALE] [430] [10] 20. [LIGHT GRAY SHALE AND GYPSUM] [440] [10] 21. [LIGHT GRAY SANDSTONE AND DARKER GRAY SHALE] [445] [5] 22. [LIGHT GRAY SHALE AND GYPSUM] [450] [5] 23. [LIGHT GRAY SANDSTONE (PYRITIC)] [460] [10] 24. [BLACK TO DARK GRAY SHALE AND PYRITIC WHITE SANDSTONE] [465] [5] 25. [LIGHT GRAY FINE GRAINED SANDSTONE] [470] [5] 26. [GRAY SANDSTONE AND DARKER GRAY SHALE] [473] [3] 27. [PYRITIFEROUS FINE GHRAINED SHALEY SANDSTONE AND GYPSUM] [489] [16] 28. [SOFT GRAY SHALE] [491] [2] 29. [FINE PYRITIFEROUS IRON STAINED SANDSTONE] [495] [4] 30. [SOFT LIGHT GRAY SHALE] [500] [5]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 05004; RECORDED BY R.B. NEWCOMBE FROM SAMPLES FURNISHED BY THE BOARD OF ELECTRIC LIGHT AND WATER COMMISSIONERS, AND SUPPLEMENTARY LOG.

OTHER REMARKS **Pump Manufacturer**: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006173 **Import ID**: 33040205307

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ SW¼ SW¼	5	04N 02W		3760

Well ID: 33000006173

Elevation: 811 ft

Latitude: 42.7563058369

Longitude: -84.5804996189

Distance and Direction from Road Intersection: WSSN 03760; 2900' N OF WILLOW ST. 300' W OF SUNSET AVE.

Well Name: BWL WELL 10-13

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 10-13 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 388.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 12/15/1945

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: Drive shoe

Static Water Level: 999.99 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Topsoil	1.00	1.00
Yellow Clay Hard	11.00	12.00
Red Sand	2.00	14.00
Red Clay Sandy Wet/Moist	11.00	25.00
Blue Clay	10.00	35.00
Blue Sandstone	4.00	39.00
Blue Sandstone	47.00	86.00
Blue Sandstone Soft	4.00	90.00
Blue Sandstone Soft	10.00	100.00
Gray & White Sandstone Fine Hard	20.00	120.00
Light Gray Sandstone W/Shale	25.00	145.00
White Sandstone Fine To Medium	1.00	146.00
White Sandstone Fine	4.00	150.00
White Sandstone Fine To Medium	50.00	200.00
White Sandstone Fine To Medium	28.00	228.00
Gray & White Sandstone Fine Hard	3.00	231.00
White Sandstone Hard	19.00	250.00
White Sandstone Hard	20.00	270.00
White Sandstone Hard	18.00	288.00
Blue Shale Hard	2.00	290.00
White Sandstone Medium	4.00	294.00
Gray & White Sandstone W/Shale	10.00	304.00
Gray & White Sandstone W/Shale	10.00	314.00
White Sandstone Fine To Medium	28.00	342.00
White Sandstone Fine To Medium	35.00	377.00
Shale Hard	3.00	380.00
Blue Shale	6.00	386.00
Shale Hard	2.00	388.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006173 **Import ID**: 33040205307

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006173

Elevation: 811 ft

Latitude: 42.7563058369

Longitude: -84.5804996189

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ SW¼ SW¼	5	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 2900' N OF WILLOW ST. 300' W OF SUNSET AVE.

Well Name: BWL WELL 10-13

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 10-13 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

(Continued from Page 1)

Geology Remarks: 1. [TOP SOIL] [1] [1] 2. [HARD YELLOW CLAY] [12] [11] 3. [RED SAND] [14] [2] 4. [RED SANDY CLAY, SOME WATER] [25] [11] 5. [BLUE CLAY] [35] [10] 6. [BLUE GRAY SANDSTONE] [39] [4] 7. [BLUE GRAY SANDSTONE] [86] [47] 8. [BLUE GRAY SANDSTONE SOFT DRILLS EASY] [90] [4] 9. [BLUE GRAY SANDSTONE, DRILLS EASY (SOFT)] [100] [10] 10. [GRAY WHITE SANDSTONE, HARD FINE MUDDY] [120] [20] 11. [LIGHT GRAY SANDSTONE (SHALE MIXED)] [145] [25] 12. [WHITE SANDSTONE, MEDIUM FINE CLEAN] [146] [1] 13. [WHITE SANDSTONE, FINE CLEAN] [150] [4] 14. [WHITE SANDSTONE, MEDIUM FINE CLEAN] [200] [50] 15. [WHITE SANDSTONE, MEDIUM FINE CLEAN] [228] [28] 16. [GRAY WHITE SANDSTONE, HARD FINE] [231] [3] 17. [WHITE, SANDSTONE, HARD FINE] [250] [19] 18. [WHITE SANDSTONE, HARD FINE] [270] [20] 19. [WHITE SANDSTONE, HARD FINE] [288] [18] 20. [BLUE SHALE HARD] [290] [2] 21. [WHITE SANDSTONE, CLEAN MEDIUM] [294] [4] 22. [GRAY WHITE SANDSTONE SHALE MIXED] [304] [10] 23. [GRAY WHITE SANDSTONE SHALE STRIPS] [314] [10] 24. [WHITE MEDIUM FINE HARD SANDSTONE] [342] [28] 25. [WHITE MEDIUM FINE HARD SANDSTONE] [377] [35] 26. [DARK SHALE MEDIUM HARD] [380] [3] 27. [BLUE SHALE, SLOUGH OFF] [386] [6] 28. [DARK SHALE, MEDIUM HARD] [388] [2]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 05007; 14" O.D. DRIVE PIPE WITH CAST STEEL SHOE DRIVEN TO 39'. BOTTOM PIECE INCLUDING SHOE 21'11" TOP PIECE 18'7" LONG. JOINT MADE UP TO BUTT. BACK UP TONGS USED IN PIT. DRIVE SHOE WELDED ON TOP (BY CITY_ LAST DRIVE 1" TO 15 STROK

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006174 **Import ID**: 33040205308

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SE¼ SW¼ SW¼	5	04N 02W		3760

Well ID: 33000006174

Elevation: 831 ft

Latitude: 42.7564760693

Longitude: -84.5775152136

Distance and Direction from Road Intersection: WSSN 03760; 3000' N OF WILLOW ST. 500' E OF SUNSET AVE.

Well Name: BWL WELL 10-14

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 10-14 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Cable Tool

Well Depth: 423.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 6/7/1945

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 13.00 in. to 0.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Unknown
Model Number: **Pump Capacity**:
Length of Drop Pipe: 0.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Static Water Level: 80.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Formation Description	Thickness	Depth to Bottom
Topsoil W/Clay	5.00	5.00
Gravel Wet/Moist	15.00	20.00
Clay Sandy	10.00	30.00
Sand & Gravel	25.00	55.00
Sand Coarse	5.00	60.00
Sand & Gravel	15.00	75.00
Blue Clay Stoney	5.00	80.00
Sand & Gravel Wet/Moist	10.00	90.00
Blue Shale	13.00	103.00
White Sandstone Fine	73.00	176.00
White Sandstone Coarse	24.00	200.00
White Sandstone Fine	115.00	315.00
White Sand Soft	3.00	318.00
White Sand	3.00	321.00
Shale Broken	24.00	345.00
White Sand Hard	50.00	395.00
Sand	10.00	405.00
Sand W/Limestone	13.00	418.00
Gray Limestone Coarse	5.00	423.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006174 **Import ID**: 33040205308

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006174

Elevation: 831 ft

Latitude: 42.7564760693

Longitude: -84.5775152136

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SE¼ SW¼ SW¼	5	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 3000' N OF WILLOW ST. 500' E OF SUNSET AVE.

Well Name: BWL WELL 10-14

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 10-14 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006175 **Import ID**: 33040207301

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ SE¼ NE¼	7	04N 02W		3760

Well ID: 33000006175

Elevation: 851 ft

Latitude: 42.7485651279

Longitude: -84.5823838811

Distance and Direction from Road Intersection: WSSN 03760; 700' W OF SUNSET AVE. 100' N OF WILLOW ST.

Well Name: BWL WELL 10-15

Well Owner: Board Of Water & Light

Well Address:
BWL WELL 10-15
LANSING MI

Owner Address:
123 W. OTTAWA ST.
LANSING MI 48933

Drilling Method: Unknown

Well Depth: 440.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 5/19/1961

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 123.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Unknown
Model Number: **Pump Capacity**:
Length of Drop Pipe: 77.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Clay	50.00	50.00
Hardpan-W/Clay	10.00	60.00
Hardpan-Sandy-W/Clay	16.00	76.00
Sandstone	6.00	82.00
Shale	8.00	90.00
Sandstone-Fine	15.00	105.00
Sandstone-W/Shale	10.00	115.00
Shale	25.00	140.00
Sandstone-Fine	5.00	145.00
Sandstone-Medium	65.00	210.00
Sandstone-Fine	20.00	230.00
Sandstone-Coarse	5.00	235.00
Sandstone-Fine	10.00	245.00
Limestone	3.00	248.00
Limestone-Hard	17.00	265.00
Sandstone-Medium	10.00	275.00
Sandstone-Coarse	15.00	290.00
Sandstone-W/Shale	5.00	295.00
Sandstone-Fine-W/Shale	10.00	305.00
Shale	15.00	320.00
Sandstone-Fine-W/Shale	15.00	335.00
Sandstone-Medium-W/Shale	10.00	345.00
Sandstone-Medium	15.00	360.00
Sandstone-Medium-W/Shale	35.00	395.00
Sandstone-Coarse-W/Shale	10.00	405.00
Sandstone-Fine-W/Shale	10.00	415.00
Sandstone-Coarse-W/Shale	15.00	430.00
Shale	10.00	440.00

(Continued on Page 2)

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006175 Failure to comply is a misdemeanor. **Import ID**: 33040207301

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ SE¼ NE¼	7	04N 02W		3760

Well ID: 33000006175

Elevation: 851 ft

Latitude: 42.7485651279

Longitude: -84.5823838811

Distance and Direction from Road Intersection: WSSN 03760; 700' W OF SUNSET AVE. 100' N OF WILLOW ST.

Well Name: BWL WELL 10-15

Well Owner: Board Of Water & Light

Well Address:	Owner Address:
BWL WELL 10-15 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

Geology Remarks: 1. [CLAY] [50] [50] 2. [HARD PAN CLAY] [60] [10] 3. [SANDY HARD PAN CLAY] [76] [16] 4. [SAND ROCK] [82] [6] 5. [SHALE] [90] [8] 6. [FINE SAND ROCK] [105] [15] 7. [SHALEY SAND ROCK] [115] [10] 8. [SHALE] [140] [25] 9. [FINE SAND ROCK] [145] [5] 10. [MEDIUM SAND ROCK] [210] [65] 11. [FINE SAND ROCK] [230] [20] 12. [COARSE SAND ROCK] [235] [5] 13. [FINE SAND ROCK] [245] [10] 14. [LIME ROCK] [248] [3] 15. [HARD LIME ROCK] [265] [17] 16. [MEDIUM SAND ROCK] [275] [10] 17. [COARSE SAND ROCK] [290] [15] 18. [SHALEY SAND ROCK] [295] [5] 19. [FINE SHALEY SAND ROCK] [305] [10] 20. [SHALE] [320] [15] 21. [FINE SHALEY SAND ROCK] [335] [15] 22. [MEDIUM SHALEY SAND ROCK] [345] [10] 23. [MEDIUM SAND ROCK] [360] [15] 24. [MEDIUM SHALEY SAND ROCK] [395] [35] 25. [COARSE SHALEY SAND ROCK] [405] [10] 26. [FINE SHALEY SAND ROCK] [415] [10] 27. [COARSE SHALEY SAND ROCK] [430] [15] 28. [SHALE] [440] [10]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 07001;

OTHER REMARKS **Pump Manufacturer**: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006176 — Failure to comply is a misdemeanor. — **Import ID:** 33040207302

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ NE¼ SW¼	7	04N 02W		3770

Distance and Direction from Road Intersection: WSSN 03770;600'S OF WEST WILLOW ST. 2700' EAST OF WAVER

Well ID: 33000006176

Elevation: 874 ft

Latitude: 42.7463657303

Longitude: -84.5931489428

Well Name: LANSING TWP WELL #5

Well Owner: Lansing Township

Well Address:
LANSING TWP WELL #5
LANSING MI

Owner Address:
LANSING MI 48933

Drilling Method: Unknown

Well Depth: 400.00 ft. — **Well Use:** Type I public

Well Type: Replacement — **Date Completed:** 1/7/1988

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 999.99 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No — **Well Intake:** Unknown
Filter Packed:
Screen Diameter: — **Length:**
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes — **Grouting Method:** Unknown
No. of Bags: — **Additives:** None
Grouting Materials:
Unknown — From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No — **Pump Installation only:**
Pump Installation date: — **HP:**
Manufacturer: — **Pump Type:**
Model Number: — **Pump Capacity:**
Length of Drop Pipe: — **Id of Well:**
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Yellow-Clay	12.00	12.00
Blue-Clay-W/Stones	38.00	50.00
Sand & Clay-Fine	10.00	60.00
Sand	15.00	75.00
Hardpan-Clayey	5.00	80.00
Shale-Soft	15.00	95.00
Sandstone-Broken	7.00	102.00
Gray-Sandstone	18.00	120.00
White-Sandstone	15.00	135.00
Sandstone & Shale	10.00	145.00
White-Sandstone	10.00	155.00
Gray-Sandstone	38.00	193.00
Sandstone & Shale	3.00	196.00
Shale	7.00	203.00
Sandstone & Shale	7.00	210.00
Shale	10.00	220.00
Sandstone & Shale	15.00	235.00
Sandstone	25.00	260.00
Limestone	8.00	268.00
Sandstone	12.00	280.00
Sandstone & Shale	15.00	295.00
Black-Shale	10.00	305.00
Sandstone & Shale	25.00	330.00
Sandstone	70.00	400.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006176 Failure to comply is a misdemeanor. **Import ID**: 33040207302

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006176

Elevation: 874 ft

Latitude: 42.7463657303

Longitude: -84.5931489428

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ NE¼ SW¼	7	04N 02W		3770

Distance and Direction from Road Intersection: WSSN 03770;600'S OF WEST WILLOW ST. 2700' EAST OF WAVER

Well Name: LANSING TWP WELL #5

Well Owner: Lansing Township

Well Address:	Owner Address:
LANSING TWP WELL #5 LANSING MI	LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

Geology Remarks: 1. [YELLOW CLAY] [12] [12] 2. [BLUE CLAY, STONES] [50] [38] 3. [FINE SAND, CLAY] [60] [10] 4. [SAND] [75] [15] 5. [CLAY, HARDPAN] [80] [5] 6. [SHALE (SOFT)] [95] [15] 7. [BROKEN SANDROCK] [102] [7] 8. [GRAY SANDROCK] [120] [18] 9. [WHITE SAND ROCK] [135] [15] 10. [SANDROCK SHALE STREAKS] [145] [10] 11. [WHITE SANDROCK] [155] [10] 12. [GRAY SANDROCK] [193] [38] 13. [SANDROCK, SHALE STREAKS] [196] [3] 14. [SHALE] [203] [7] 15. [SANDROCK SHALE STREAKS] [210] [7] 16. [SHALE] [220] [10] 17. [SANDROCK SHALE STREAKS] [235] [15] 18. [SANDROCK] [260] [25] 19. [LIME ROCK] [268] [8] 20. [SANDROCK] [280] [12] 21. [SANDROCK SHALE STREAKS] [295] [15] 22. [BLACK SHALE] [305] [10] 23. [SANDROCK SHALE STREAKS] [330] [25] 24. [SANDROCK] [400] [70]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 07002; 1800' NORTH OF WELL #4. LANSING MUNICIPAL WELL #5. HOLE 14" DIAMETER. DRILLER; OHIO ,DRILLING

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006177 **Import ID:** 33040207303

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SW¼ SW¼ SE¼	7	04N 02W		3770

Well ID: 33000006177

Elevation: 863 ft

Latitude: 42.7412347515

Longitude: -84.5924354439

Distance and Direction from Road Intersection: WSSN 03770; 90' N OF W SAGINAW ST. 1050' E OF MORRIS AV

Well Name: LANSING TWP WELL #4

Well Owner: Lansing Township

Well Address:
LANSING TWP WELL #4
LANSING MI

Owner Address:
LANSING MI 48933

Drilling Method: Unknown

Well Depth: 404.00 ft. **Well Use:** Type I public

Well Type: Replacement **Date Completed:** 6/17/1952

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: Drive shoe

Static Water Level: 89.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake:** Unknown
Filter Packed:
Screen Diameter: **Length:**
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method:** Unknown
No. of Bags: **Additives:** None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only:**
Pump Installation date: **HP:**
Manufacturer: **Pump Type:**
Model Number: **Pump Capacity:**
Length of Drop Pipe: **Id of Well:**
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Yellow-Clay & Sand	12.00	12.00
Blue-Clay & Sand	13.00	25.00
Yellow-Sand & Clay	10.00	35.00
Blue-Sand & Clay	12.00	47.00
Blue-Clay & Sand	38.00	85.00
Red-Sand & Clay	29.00	114.00
Sandstone-Broken	3.00	117.00
Sandstone	30.00	147.00
Shale	4.00	151.00
Sandstone & Shale-Broken	9.00	160.00
Sandstone	25.00	185.00
Sandstone & Shale	4.00	189.00
Shale	21.00	210.00
Sandstone	10.00	220.00
Unidentified Consolidated Fm-W/Shale	20.00	240.00
Sandstone & Shale	10.00	250.00
Sandstone	33.00	283.00
Shale	14.00	297.00
Shale	11.00	308.00
Sandstone & Shale	12.00	320.00
Sandstone	15.00	335.00
Sandstone-W/Shale	15.00	350.00
Sandstone	30.00	380.00
Sandstone & Shale	24.00	404.00

(Continued on Page 2)

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006177 Failure to comply is a misdemeanor. **Import ID**: 33040207303

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006177

Elevation: 863 ft

Latitude: 42.7412347515

Longitude: -84.5924354439

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SW¼ SW¼ SE¼	7	04N 02W		3770

Distance and Direction from Road Intersection: WSSN 03770; 90' N OF W SAGINAW ST. 1050' E OF MORRIS AV

Well Name: LANSING TWP WELL #4

Well Owner: Lansing Township

Well Address:	Owner Address:
LANSING TWP WELL #4 LANSING MI	LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

Geology Remarks: 1. [YELLOW CLAY, SAND] [12] [12] 2. [BLUE CLAY, SAND] [25] [13] 3. [YELLOW SAND, CLAY] [35] [10] 4. [BLUE SAND, CLAY] [47] [12] 5. [BLUE CLAY, SAND] [85] [38] 6. [RED SAND, CLAY] [114] [29] 7. [BROKEN SANDROCK] [117] [3] 8. [SANDROCK] [147] [30] 9. [SHALE] [151] [4] 10. [BROKEN SANDROCK, SHALE] [160] [9] 11. [SANDROCK] [185] [25] 12. [SANDROCK, SHALE] [189] [4] 13. [SHALE] [210] [21] 14. [SHELLS, SANDROCK] [220] [10] 15. [SHELLY ROCK AND SHALE] [240] [20] 16. [SANDROCK, SHALE] [250] [10] 17. [SANDROCK] [283] [33] 18. [SHALE] [297] [14] 19. [SHALE, SHELLS] [308] [11] 20. [SANDROCK, SHALE] [320] [12] 21. [SANDROCK] [335] [15] 22. [SANDROCK, SHELLY] [350] [15] 23. [SANDROCK] [380] [30] 24. [SANDROCK, SHALE] [404] [24]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 07003; WELL CASED WITH 121'11" OF 14"-57 LB BLACK STEEL DRIVE PIPE IN HALF RANDOM LENGHTS, FITTED WITH STEEL DRIVE SHOE. LANSING MUNICIPAL WELL #4. DRILLED BY ELMER WENGER

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006178 **Import ID:** 33040207304

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006178

Elevation: 840 ft

Latitude: 42.7509101546

Longitude: -84.5929687846

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
NE¼ SE¼ NW¼	7	04N 02W		3770

Distance and Direction from Road Intersection: WSSN 03770;100' N OF SNOWGLEN LN. 100' E OF BOYNTON DR.

Well Name: LANSING TWP WELL #6

Well Owner: Lansing Township

Well Address:	Owner Address:
LANSING TWP WELL #6 LANSING MI	LANSING MI 48933

Drilling Method: Other

Well Depth: 441.00 ft. **Well Use:** Type I public

Well Type: Replacement **Date Completed:** 6/18/1966

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 16.00 in. to 63.80 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 3.00 ft. above grade
Casing Fitting: None

Static Water Level: 999.99 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
197.00 ft. after 24.00 hrs. pumping at 700.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake:** Unknown
Filter Packed:
Screen Diameter: **Length:**
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method:** Unknown
No. of Bags: **Additives:** None
Grouting Materials:
Neat cement From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name: COONRAD

Employment: Unknown

Pump Installed: Yes **Pump Installation only:** No
Pump Installation date: **HP:**
Manufacturer: Other **Pump Type:** Unknown
Model Number: **Pump Capacity:**
Length of Drop Pipe: 0.00 ft. **Id of Well:**
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Topsoil	1.00	1.00
Blue-Clay	4.00	5.00
Blue-Clay-Gravely	29.00	34.00
Sand & Gravel-W/Clay	6.00	40.00
Sand & Gravel-W/Stones	6.00	46.00
Sandstone-Broken	4.00	50.00
Sandstone	15.00	65.00
White-Sandstone	8.00	73.00
Sandstone-Hard	4.00	77.00
Shale	5.00	82.00
Sandstone	41.00	123.00
Shale	3.00	126.00
Sandstone	105.00	231.00
Shale	1.00	232.00
Limestone & Sandstone-Brown	2.00	234.00
Sandstone	33.00	267.00
Limestone	3.00	270.00
Sandstone	10.00	280.00
Shale	9.00	289.00
Sandstone & Shale	2.00	291.00
Limestone	2.00	293.00
Shale	19.00	312.00
Sandstone	1.00	313.00
Shale	3.00	316.00
Sandstone	2.00	318.00
Shale	2.00	320.00
Sandstone	1.00	321.00
Shale	2.00	323.00
Sandstone	1.00	324.00
Shale	4.00	328.00
Sandstone	84.00	412.00
Sandstone & Shale	3.00	415.00

(Continued on Page 2)

ATTENTION WELL OWNER: FILE WITH DEED

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006178

Failure to comply is a misdemeanor.

Import ID: 33040207304

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NE¼ SE¼ NW¼	7	04N 02W		3770

Well ID: 33000006178

Elevation: 840 ft

Latitude: 42.7509101546

Longitude: -84.5929687846

Distance and Direction from Road Intersection: WSSN 03770;100' N OF SNOWGLEN LN. 100' E OF BOYNTON DR.

Well Name: LANSING TWP WELL #6

Well Owner: Lansing Township

Well Address:	**Owner Address**:
LANSING TWP WELL #6 LANSING MI	LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom
Gray-Sandstone	5.00	420.00
Sandstone	21.00	441.00

Geology Remarks: 1. [TOP SOIL] [1] [1] 2. [BLUE CLAY] [5] [4] 3. [GRAVELY BLUE CLAY] [34] [29] 4. [SAND, GRAVEL, SOME CLAY] [40] [6] 5. [SAND, GRAVEL & STONE] [46] [6] 6. [BROKEN SANDSTONE] [50] [4] 7. [SANDSTONE] [65] [15] 8. [SANDSTONE - WHITE] [73] [8] 9. [SANDSTONE - DARK - HARD] [77] [4] 10. [SHALE] [82] [5] 11. [SANDSTONE] [123] [41] 12. [SHALE] [126] [3] 13. [SANDSTONE] [231] [105] 14. [SHALE] [232] [1] 15. [LIMESTONE & BROWN SANDSTONE] [234] [2] 16. [SANDSTONE] [267] [33] 17. [LIMESTONE] [270] [3] 18. [SANDSTONE] [280] [10] 19. [SHALE] [289] [9] 20. [SANDSTONE & SHALE] [291] [2] 21. [LIMESTONE] [293] [2] 22. [SHALE] [312] [19] 23. [SANDSTONE] [313] [1] 24. [SHALE] [316] [3] 25. [SANDSTONE] [318] [2] 26. [SHALE] [320] [2] 27. [SANDSTONE] [321] [1] 28. [SHALE] [323] [2] 29. [SANDSTONE] [324] [1] 30. [SHALE] [328] [4] 31. [SANDSTONE] [412] [84] 32. [SANDSTONE & SHALE] [415] [3] 33. [GRAY SANDSTONE] [420] [5] 34. [SANDSTONE] [441] [21]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 07004; LANSING MUNICIPAL WELL #6. LANSING TOWNSHIP-WESTSIDE WATER. HOLE 20 & 15" DIAMETER. REVERSE CIRC. DRILLING.

OTHER REMARKS **Drilling Method**: Drilling Method unknown **Pump Manufacturer**: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006179 Failure to comply is a misdemeanor. **Import ID**: 33040207305

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006179

Elevation: 808 ft

Latitude: 42.7538336691

Longitude: -84.598662007

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
NE¼ NW¼ NW¼	7	04N 02W		3770

Distance and Direction from Road Intersection: WSSN 03770; 135'N OF BOYNTON DR. 1150' E OF WAVERLY RD.

Well Name: LANSING TWP WELL #7

Well Owner: Lansing Township

Well Address:	Owner Address:
LANSING TWP WELL #7 LANSING MI	LANSING MI 48933

Drilling Method: Other

Well Depth: 405.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 3/7/1967

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 16.00 in. to 54.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 1.00 ft. above grade
Casing Fitting: None

Static Water Level: 999.99 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
118.00 ft. after 24.00 hrs. pumping at 754.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Other **Pump Type**: Unknown
Model Number: **Pump Capacity**:
Length of Drop Pipe: 0.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Topsoil	1.00	1.00
Clay	5.00	6.00
Sand & Gravel	28.00	34.00
Shale	6.00	40.00
Sandstone	2.00	42.00
Shale	1.00	43.00
Sandstone	13.00	56.00
Sandstone-W/Shale	6.00	62.00
Shale	3.00	65.00
Sandstone	4.00	69.00
Shale	2.00	71.00
Sandstone	18.00	89.00
Shale	3.00	92.00
Sandstone	111.00	203.00
Sandstone	25.00	228.00
Limestone	12.00	240.00
Sandstone	18.00	258.00
Limestone	1.00	259.00
Shale	5.00	264.00
Sandstone	3.00	267.00
Shale	3.00	270.00
Sandstone	3.00	273.00
Shale	52.00	325.00
Sandstone	1.00	326.00
Shale	1.00	327.00
Sandstone	46.00	373.00
Sandstone-W/Shale	18.00	391.00
Limestone	1.00	392.00
Sandstone	11.00	403.00
Green-Limestone	2.00	405.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006179 Failure to comply is a misdemeanor. **Import ID**: 33040207305

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
NE¼ NW¼ NW¼	7	04N 02W		3770

Well ID: 33000006179

Elevation: 808 ft

Latitude: 42.7538336691

Longitude: -84.598662007

Distance and Direction from Road Intersection: WSSN 03770; 135'N OF BOYNTON DR. 1150' E OF WAVERLY RD.

Well Name: LANSING TWP WELL #7

Well Owner: Lansing Township

Well Address:	Owner Address:
LANSING TWP WELL #7 LANSING MI	LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

Geology Remarks: 1. [TOP SOIL] [1] [1] 2. [CLAY] [6] [5] 3. [SAND & GRAVEL] [34] [28] 4. [SHALE] [40] [6] 5. [SANDSTONE] [42] [2] 6. [SHALE] [43] [1] 7. [SANDSTONE] [56] [13] 8. [SANDSTONE, SHALE STRIPS] [62] [6] 9. [SHALE] [65] [3] 10. [SANDSTONE] [69] [4] 11. [SHALE] [71] [2] 12. [SANDSTONE] [89] [18] 13. [SHALE] [92] [3] 14. [SANDSTONE] [203] [111] 15. [SANDSTONE, DARK] [228] [25] 16. [LIMESTONE] [240] [12] 17. [SANDSTONE] [258] [18] 18. [LIMESTONE] [259] [1] 19. [SHALE] [264] [5] 20. [SANDSTONE] [267] [3] 21. [SHALE] [270] [3] 22. [SANDSTONE] [273] [3] 23. [SHALE] [325] [52] 24. [SANDSTONE] [326] [1] 25. [SHALE] [327] [1] 26. [SANDSTONE] [373] [46] 27. [SANDSTONE, TRACE OF SHALE] [391] [18] 28. [LIMESTONE] [392] [1] 29. [SANDSTONE] [403] [11] 30. [LIMESTONE, GREEN] [405] [2]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 07005; LANSING MUNICIPAL WELL #7. CHARTER TOWNSHIP OF LANSING. DRILLER: L.D. COONROD. REVERSE CIRC. DRILLING.

OTHER REMARKS **Drilling Method**: Drilling Method unknown **Pump Manufacturer**: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006180 Failure to comply is a misdemeanor. **Import ID**: 33040208007

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
NE¼ NW¼ NW¼	8	04N 02W		3760

Distance and Direction from Road Intersection: 350' E OF SUNSET AVE. 2050' N OF WILLOW ST.

Well ID: 33000006180

Elevation: 830 ft

Latitude: 42.7536640898

Longitude: -84.5780108849

Well Name:

Well Owner: Board Of Water & Light

Well Address:
10-12
LANSING MI

Owner Address:
123 W. OTTAWA ST.
LANSING MI 48933

Drilling Method: Cable tool

Well Depth: 436.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 4/12/1945

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 13.25 in. to 0.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 55.58 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**:
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Topsoil-W/Clay	20.00	20.00
Sand-Fine-W/Silt	15.00	35.00
Sand-Medium	10.00	45.00
Sand-Medium	5.00	50.00
Sand & Gravel-Medium	15.00	65.00
Sand & Gravel	31.00	96.00
Sand & Gravel-Wet/Moist	2.00	98.00
Sandstone	17.00	115.00
Blue-Shale & Sandstone	15.00	130.00
Sandstone	30.00	160.00
Sandstone	60.00	220.00
Gray-Shale	10.00	230.00
Sandstone	185.00	415.00
Black-Shale	5.00	420.00
Limestone	16.00	436.00

(Continued on Page 2)

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006180 Failure to comply is a misdemeanor. **Import ID**: 33040208007

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006180

Elevation: 830 ft

Latitude: 42.7536640898

Longitude: -84.5780108849

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
NE¼ NW¼ NW¼	8	04N 02W		3760

Distance and Direction from Road Intersection: 350' E OF SUNSET AVE. 2050' N OF WILLOW ST.

Well Name:

Well Owner: Board Of Water & Light

Well Address: 10-12 LANSING MI

Owner Address: 123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

Geology Remarks: 1. [TOPSOIL AND CLAY] [20] [20] 2. [FINE SAND - DIRTY] [35] [15] 3. [MEDIUM SAND] [45] [10] 4. [MEDIUM SAND] [50] [5] 5. [MEDIUM SAND AND GRAVEL] [65] [15] 6. [SAND AND GRAVEL] [96] [31] 7. [MUDDY SAND AND GRAVEL] [98] [2] 8. [SAND ROCK] [115] [17] 9. [BLUE SHALE AND SANDROCK STRIPS] [130] [15] 10. [SANDROCK] [160] [30] 11. [SANDROCK] [220] [60] 12. [GRAY SHALE] [230] [10] 13. [SANDROCK] [415] [185] 14. [BLACK SHALE] [420] [5] 15. [LIMESTONE-(STRONG ODOR)] [436] [16]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: CITY OF LANSING. STOPPED DRILLING IN LIMESTONE. TOTAL DEPTH OF DRILLING 436'. STATIC MEASURED WHEN DRILLING STOPPED. DRILLERS: BARRETT & PRAMER.

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006183 **Import ID:** 33040208301

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SW¼ SE¼ SW¼	8	04N 02W		3760

Well ID: 33000006183

Elevation: 862.35 ft

Latitude: 42.7413606887

Longitude: -84.5750431662

Distance and Direction from Road Intersection: WSSN 03760; 150' W OF COMFORT ST., 100' N OF E BOUND SA

Well Name: BWL WELL 10-06

Well Owner: Board Of Water & Light

Well Address:	Owner Address:
BWL WELL 10-06 LANSING MI 48915	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 427.00 ft. **Well Use:** Type I public

Well Type: Replacement **Date Completed:** 4/4/1946

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 14.00 in. to 0.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 999.99 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake:** Unknown
Filter Packed:
Screen Diameter: **Length:**
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method:** Unknown
No. of Bags: **Additives:** None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only:**
Pump Installation date: **HP:**
Manufacturer: **Pump Type:**
Model Number: **Pump Capacity:**
Length of Drop Pipe: **Id of Well:**
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Topsoil-W/Clay	45.00	45.00
Sandstone-Coarse	45.00	90.00
Sandstone-Very Fine	55.00	145.00
Shale	30.00	175.00
Sandstone-Fine To Medium	110.00	285.00
Shale	15.00	300.00
Sandstone-Fine	15.00	315.00
Shale	30.00	345.00
Sandstone-Fine	65.00	410.00
Shale	17.00	427.00

Geology Remarks: 1. [TOP SOIL (CLAY)] [45] [45] 2. [COARSE SANDSTONE] [90] [45] 3. [VERY FINE SANDSTONE] [145] [55] 4. [SHALE] [175] [30] 5. [FINE TO MEDIUM SANDSTONE] [285] [110] 6. [SHALE] [300] [15] 7. [FINE SANDSTONE] [315] [15] 8. [SHALE] [345] [30] 9. [FINE SANDSTONE] [410] [65] 10. [SHALE] [427] [17]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 08001; CASING IS 14" O.D. 13.25" I.D. WELL DYNAMITED AND CLEANED OUT 4-15-46 TO 5-2-46. REMOVED 12 YD. MATERIAL.

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006184 Failure to comply is a misdemeanor. **Import ID**: 33040208302

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006184

Elevation: 860 ft

Latitude: 42.7446905406

Longitude: -84.5738525758

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ NE¼ SW¼	8	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 150' E OF COMFORT ST., 100' S OF HYLAND ST.

Well Name: BWL WELL 10-07

Well Owner: Board Of Water & Light

Well Address:	Owner Address:
BWL WELL 10-07 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 443.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 10/16/1946

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 999.99 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown, From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**:
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Clay	5.00	5.00
Gravel-Fine	30.00	35.00
Shale	45.00	80.00
Sandstone-Fine	20.00	100.00
Shale	70.00	170.00
Sandstone	90.00	260.00
Sand	5.00	265.00
Sandstone	25.00	290.00
Shale	10.00	300.00
Sandstone	5.00	305.00
Shale	10.00	315.00
Sandstone-W/Shale	15.00	330.00
Shale	20.00	350.00
Sandstone-W/Shale	30.00	380.00
Shale	10.00	390.00
Sandstone-W/Shale	25.00	415.00
Shale	28.00	443.00

(Continued on Page 2)

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006184

Import ID: 33040208302

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SE¼ NE¼ SW¼	8	04N 02W		3760

Well ID: 33000006184

Elevation: 860 ft

Latitude: 42.7446905406

Longitude: -84.5738525758

Distance and Direction from Road Intersection: WSSN 03760; 150' E OF COMFORT ST., 100' S OF HYLAND ST.

Well Name: BWL WELL 10-07

Well Owner: Board Of Water & Light

Well Address:
BWL WELL 10-07
LANSING MI

Owner Address:
123 W. OTTAWA ST.
LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

Geology Remarks: 1. [CLAY] [5] [5] 2. [FINE GRAVEL] [35] [30] 3. [SHALE] [80] [45] 4. [FINE SANDSTONE] [100] [20] 5. [SHALE] [170] [70] 6. [SANDSTONE] [260] [90] 7. [SAND] [265] [5] 8. [SANDSTONE] [290] [25] 9. [SHALE] [300] [10] 10. [SANDSTONE] [305] [5] 11. [SHALE] [315] [10] 12. [SHALEY SANDSTONE] [330] [15] 13. [SHALE] [350] [20] 14. [SHALEY SANDSTONE] [380] [30] 15. [SHALE] [390] [10] 16. [SHALEY SANDSTONE] [415] [25] 17. [SHALE] [443] [28]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 08002; WELL DYNAMITED & CLEANED OUT 10-2-46 TO 10-16-46. TOTAL MATERIAL REMOVED 8 YD.

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006185 **Import ID**: 33040208303

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006185

Elevation: 857.63 ft

Latitude: 42.7497888576

Longitude: -84.5763053441

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SW¼ SE¼ NW¼	8	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 400' W OF COMFORT ST., 500' N OF WILLOW ST.

Well Name: BWL WELL 10-08

Well Owner: Board Of Water & Light

Well Address:
BWL WELL 10-08
LANSING MI

Owner Address:
123 W. OTTAWA ST.
LANSING MI 48933

Drilling Method: Cable tool

Well Depth: 422.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 6/6/1945

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 104.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name: JOHN JOHNSON

Employment: Unknown

Pump Installed: No **Pump Installation only**:
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Sand & Gravel	10.00	10.00
Gravel-Wet/Moist	25.00	35.00
Sand & Gravel	40.00	75.00
White-Sand	4.00	79.00
Blue-Sand & Silt-Wet/Moist	34.00	113.00
White-Sand	22.00	135.00
Blue-Shale	25.00	160.00
White-Sand	5.00	165.00
Blue-Shale	5.00	170.00
White-Sand	100.00	270.00
Blue-Shale	15.00	285.00
White-Sand	115.00	400.00
Blue-Shale	22.00	422.00

Geology Remarks: 1. [SAND & GRAVEL] [10] [10] 2. [MUD AND GRAVEL] [35] [25] 3. [SAND AND GRAVEL] [75] [40] 4. [WHITE SAND] [79] [4] 5. [BLUE MUD] [113] [34] 6. [SAND WHITE] [135] [22] 7. [BLUE SHALE] [160] [25] 8. [WHITE SAND] [165] [5] 9. [BLUE SHALE] [170] [5] 10. [SAND WHITE] [270] [100] 11. [SHALE BLUE] [285] [15] 12. [SAND WHITE] [400] [1 15] 13. [BLUE SHALE] [422] [22]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 08003; CITY OF LANSING. RAN SIZER TO BOTTOM - MR. WRIGHT WITNESSED. TURNED SAMPLES OVER TO MR. WRIGHT. PIPE LEFT IN HOLE 123'3".

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006186

Failure to comply is a misdemeanor.

Import ID: 33040208304

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006186

Elevation: 846 ft

Latitude: 42.7529703739

Longitude: -84.575454385

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SW¼ NE¼ NW¼	8	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 1800' N OF WILLOW ST. 200' W OF COMFORT ST.

Well Name: BWL WELL 10-09

Well Owner: Board Of Water & Light

Well Address:	Owner Address:
BWL WELL 10-09 LANSING MI 48915	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 435.00 ft. **Well Use:** Type I public

Well Type: Replacement **Date Completed:** 11/3/1952

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 999.99 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake:** Unknown
Filter Packed:
Screen Diameter: **Length:**
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method:** Unknown
No. of Bags: **Additives:** None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only:**
Pump Installation date: **HP:**
Manufacturer: **Pump Type:**
Model Number: **Pump Capacity:**
Length of Drop Pipe: **Id of Well:**
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Clay	35.00	35.00
Gravel	20.00	55.00
Sandstone	45.00	100.00
Shale	15.00	115.00
Sandstone	10.00	125.00
Shale	35.00	160.00
Sandstone	55.00	215.00
Sandstone-W/Shale	30.00	245.00
Shale	10.00	255.00
Sandstone	20.00	275.00
Shale	20.00	295.00
Sandstone	125.00	420.00
Shale	15.00	435.00

Geology Remarks: 1. [CLAY] [35] [35] 2. [GRAVEL] [55] [20] 3. [SANDSTONE] [100] [45] 4. [SHALE] [115] [15] 5. [SANDSTONE] [125] [10] 6. [SHALE] [160] [35] 7. [SANDSTONE] [215] [55] 8. [SHALEY SANDSTONE] [245] [30] 9. [SHALE] [255] [10] 10. [SANDSTONE] [275] [20] 11. [SHALE] [295] [20] 12. [SANDSTONE] [420] [125] 13. [SHALE] [435] [15]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 08004;

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006187 Failure to comply is a misdemeanor. **Import ID**: 33040208305

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006187

Elevation: 855 ft

Latitude: 42.7487958876

Longitude: -84.57832713

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ SW¼ NW¼	8	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760;250' N OF WILLOW ST. 1000' W OF COMFORT ST.

Well Name: BWL WELL 10-10

Well Owner: Board Of Water & Light

Well Address:
BWL WELL 10-10
LANSING MI

Owner Address:
123 W. OTTAWA ST.
LANSING MI 48933

Drilling Method: Unknown

Well Depth: 410.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 3/22/1945

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 73.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name: RONALD HANSEN & HARRY WEBS
Employment: Unknown

Pump Installed: No **Pump Installation only**:
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Topsoil	1.00	1.00
Yellow-Clay	35.00	36.00
Blue-Clay-Soft	9.00	45.00
Brown-Clay	15.00	60.00
Gray-Clay-Soft-W/Stones	5.00	65.00
Blue-Clay-Very Hard	12.00	77.00
Blue-Shale	21.00	98.00
Black-Shale	6.00	104.00
Brown-Shale-Hard	2.00	106.00
Gray-Sandstone-Soft	7.00	113.00
Shale-W/Sandstone	48.00	161.00
Shale & Sandstone	14.00	175.00
Sandstone	105.00	280.00
Shale & Sandstone	15.00	295.00
Black-Shale-W/Sand-Wet/Moist	5.00	300.00
Sandstone-W/Shale	50.00	350.00
Sandstone & Shale	45.00	395.00
Shale & Sandstone	15.00	410.00

(Continued on Page 2)

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006187 Failure to comply is a misdemeanor. **Import ID**: 33040208305

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ SW¼ NW¼	8	04N 02W		3760

Well ID: 33000006187

Elevation: 855 ft

Latitude: 42.7487958876

Longitude: -84.57832713

Distance and Direction from Road Intersection: WSSN 03760;250' N OF WILLOW ST. 1000' W OF COMFORT ST.

Well Name: BWL WELL 10-10

Well Owner: Board Of Water & Light

Well Address:	Owner Address:
BWL WELL 10-10 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

Geology Remarks: 1. [TOPSOIL] [1] [1] 2. [YELLOW CLAY, MEDIUM HARD] [36] [35] 3. [BLUE CLAY SOFT] [45] [9] 4. [BROWNISH CLAY] [60] [15] 5. [GRAY CLAY, GRITTY SOFT] [65] [5] 6. [BLUE CLAY, VERY HARD] [77] [12] 7. [BLUE SHALE] [98] [21] 8. [DARK SHALE, NEAR BLACK] [104] [6] 9. [BROWN SHALE, HARD] [106] [2] 10. [GRAY SANDSTONE, SOFT] [113] [7] 11. [SHALE, STRIPS SANDSTONE MIXED] [161] [48] 12. [SHALE SANDROCK] [175] [14] 13. [SANDROCK] [280] [105] 14. [SHALE SANDROCK] [295] [15] 15. [BLACK SHALE STICKY MUDDY STRIPS] [300] [5] 16. [SANDROCK, NOT CLEAN STRIPS OF SHALE] [350] [50] 17. [SANDROCK AND SHALE MUDDY STRIPS] [395] [45] 18. [SHALE AND SANDROCK] [410] [15]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 08005; CITY OF LANSING.

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006188

Import ID: 33040208306

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006188

Elevation: 845 ft

Latitude: 42.7511851773

Longitude: -84.57865638

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
NE¼ SW¼ NW¼	8	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 250' E OF SUNSET AVE. 1050' N OF WILLOW ST.

Well Name: BWL WELL 10-11

Well Owner: Board Of Water & Light

Well Address:
BWL WELL 10-11
LANSING MI

Owner Address:
123 W. OTTAWA ST.
LANSING MI 48933

Drilling Method: Unknown

Well Depth: 451.00 ft. | **Well Use**: Type I public

Well Type: Replacement | **Date Completed**: 3/22/1945

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 79.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No | **Well Intake**: Unknown
Filter Packed:
Screen Diameter: | **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes | **Grouting Method**: Unknown
No. of Bags: | **Additives**: None
Grouting Materials:
Unknown | From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name: RONALD HANSON & JOHN JOHNSON
Employment: Unknown

Pump Installed: No | **Pump Installation only**:
Pump Installation date: | **HP**:
Manufacturer: | **Pump Type**:
Model Number: | **Pump Capacity**:
Length of Drop Pipe: | **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Yellow-Clay-Hard	8.00	8.00
Clay-Sandy-Hard	2.00	10.00
Sand-Fine-Wet/Moist	10.00	20.00
Clay-Sandy	19.00	39.00
Gravel-Wet/Moist	3.00	42.00
Gravel & Sand-Fine To Medium	17.00	59.00
Clay-Hard	7.00	66.00
Sandstone-Soft	12.00	78.00
Sandstone-Medium-Hard	13.00	91.00
Sandstone-W/Shale	98.00	189.00
Shale-Soft	1.00	190.00
White-Sandstone-W/Shale	71.00	261.00
Blue-Shale-Soft	5.00	266.00
Blue-Shale-Hard-Black	5.00	271.00
Black-Shale-Hard	5.00	276.00
White-Sandstone-W/Shale	65.00	341.00
Blue-Shale-Soft	2.00	343.00
White-Sandstone-Soft	88.00	431.00
Blue-Shale	20.00	451.00

(Continued on Page 2)

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006188

Import ID: 33040208306

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006188

Elevation: 845 ft

Latitude: 42.7511851773

Longitude: -84.57865638

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
NE¼ SW¼ NW¼	8	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 250' E OF SUNSET AVE. 1050' N OF WILLOW ST.

Well Name: BWL WELL 10-11

Well Owner: Board Of Water & Light

Well Address:
BWL WELL 10-11
LANSING MI

Owner Address:
123 W. OTTAWA ST.
LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

Geology Remarks: 1. [CLAY, YELLOW HARD] [8] [8] 2. [SANDY CLAY, MEDIUM HARD] [10] [2] 3. [SAND, MUDDY FINE] [20] [10] 4. [SANDY CLAY] [39] [19] 5. [GRAVEL, MUDDY] [42] [3] 6. [GRAVEL & SAND MEDIUM FINE] [59] [17] 7. [GRITTY CLAY, HARD] [66] [7] 8. [SANDSTONE, SOFT] [78] [12] 9. [SANDSTONE, MEDIUM HARD] [91] [13] 10. [SANDSTONE, SHALE MIXED] [189] [98] 11. [SOFT SHALE] [190] [1] 12. [WHITE SANDSTONE, SOME SHALE STRIPS] [261] [71] 13. [BLUE SHALE, SOFT] [266] [5] 14. [BLUE BLACK SHALE, MEDIUM HARD] [271] [5] 15. [BLACK SHALE, HARD] [276] [5] 16. [WHITE SANDSTONE, VERY LITTLE SHALE] [341] [65] 17. [BLUE SHALE, SOFT] [343] [2] 18. [SANDSTONE WHITE SOFT] [431] [88] 19. [BLUE SHALE, MUDDY] [451] [20]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 08006; CITY OF LANSING.

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006189

Import ID: 33040208308

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006189

Elevation: 850 ft

Latitude: 42.7464030622

Longitude: -84.5648164439

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
NW¼ NE¼ SE¼	8	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 4800' W OF S BND CEDAR ST. 1300' N OF W BND

Well Name: BWL WELL 15-06

Well Owner: Board Of Water & Light

Well Address:
BWL WELL 15-06
LANSING MI

Owner Address:
123 W. OTTAWA ST.
LANSING MI 48933

Drilling Method: Unknown

Well Depth: 445.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**:

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 60.67 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
126.00 ft. after 0.00 hrs. pumping at 599.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**:
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Light Brown-Clay	50.00	50.00
Gray-Shale	15.00	65.00
Light Gray-Sandstone-Medium	5.00	70.00
Gray-Shale-Sandy-Soft	20.00	90.00
Gray-Sandstone-Fine-Silty	45.00	135.00
Light Gray-Sandstone-Fine-Wet/Moist	65.00	200.00
Gray-Shale-Wet/Moist	5.00	205.00
Light Gray-Sandstone-Fine To Coarse-W/Silt	45.00	250.00
Brown-Sandstone-Wet/Moist	15.00	265.00
Light Gray-Sandstone-Fine-Wet/Moist	105.00	370.00
Gray-Shale-Wet/Moist	15.00	385.00
Sandstone-W/Silt	10.00	395.00
Light Gray-Sandstone-Fine To Medium-Wet/Moist	35.00	430.00
Dark Gray-Shale-Wet/Moist	15.00	445.00

(Continued on Page 2)

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006189

Import ID: 33040208308

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006189

Elevation: 850 ft

Latitude: 42.7464030622

Longitude: -84.5648164439

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
NW¼ NE¼ SE¼	8	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 4800' W OF S BND CEDAR ST. 1300' N OF W BND

Well Name: BWL WELL 15-06

Well Owner: Board Of Water & Light

Well Address:
BWL WELL 15-06
LANSING MI

Owner Address:
123 W. OTTAWA ST.
LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

Geology Remarks: 1. [CLAY LIGHT BROWN] [50] [50] 2. [SHALE, GRAY MUDDY] [65] [15] 3. [SANDSTONE, LIGHT GRAY, MEDIUM GRAINED] [70] [5] 4. [SHALE, GRAY, SANDY, MICACEOUS, SOFT] [90] [20] 5. [SANDSTONE, GRAY, FINE GRAINED, SILTY] [135] [45] 6. [SANDSTONE, LIGHT GRAY, FINE MICACEOUS - WITH SOME MUD] [200] [65] 7. [SHALE, GRAY, MUDDY] [205] [5] 8. [SANDSTONE, LIGHT GRAY, FINE TO MEDIUM GRAINED; SOME SILT] [250] [45] 9. [SANSTONE, BROWNISH GRAY, FINE GRAINED - WITH MUD] [265] [15] 10. [SANDSTONE, LIGHT GRAY, FINE - WITH MUD] [370] [105] 11. [SHALE, GRAY, MUDDY] [385] [15] 12. [SANDSTONE & SILT] [395] [10] 13. [SANDSTONE, LIGHT GRAY FINE TO MEDIUM GRAINED WITH MUD] [430] [35] 14. [SHALE, DARK GRAY, MUDDY] [445] [15]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 08008;

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006190 Failure to comply is a misdemeanor. **Import ID**: 33040208309

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ NW¼ SE¼	8	04N 02W		3760

Well ID: 33000006190

Elevation: 859 ft

Latitude: 42.7461631203

Longitude: -84.5678343849

Distance and Direction from Road Intersection: WSSN 03760; 100' N OF MAPLE ST. 100' W OF LOGAN ST.

Well Name: BWL WELL 15-07

Well Owner: Board Of Water & Light

Well Address:
BWL WELL 15-07
LANSING MI

Owner Address:
123 W. OTTAWA ST.
LANSING MI 48933

Drilling Method: Unknown

Well Depth: 430.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**:

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 47.01 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
107.00 ft. after 0.00 hrs. pumping at 585.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**:
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Gray-Clay	40.00	40.00
Gray-Sandstone-Fine To Medium-Wet/Moist	30.00	70.00
Gray-Sandstone-Coarse-W/Limestone	4.00	74.00
Coal	1.00	75.00
Gray-Sandstone-Fine-Wet/Moist	5.00	80.00
Gray-Shale-Wet/Moist-Soft	20.00	100.00
Shale-Sandy-Wet/Moist	35.00	135.00
Gray-Shale-Wet/Moist	30.00	165.00
Light Gray-Sandstone-Wet/Moist	30.00	195.00
Gray-Shale-Sandy-Soft	30.00	225.00
Light Gray-Sandstone-Wet/Moist	70.00	295.00
Gray-Shale-Wet/Moist	5.00	300.00
Sandstone-W/Shale	5.00	305.00
Light Gray-Sandstone-Fine	60.00	365.00
Sandstone-Fine To Medium	25.00	390.00
Light Gray-Sandstone-Fine To Medium-W/Limestone	30.00	420.00
Dark Gray-Shale-Wet/Moist	5.00	425.00
Light Gray-Shale-Wet/Moist	5.00	430.00

(Continued on Page 2)

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006190 Failure to comply is a misdemeanor. **Import ID:** 33040208309

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ NW¼ SE¼	8	04N 02W		3760

Well ID: 33000006190

Elevation: 859 ft

Latitude: 42.7461631203

Longitude: -84.5678343849

Distance and Direction from Road Intersection: WSSN 03760; 100' N OF MAPLE ST. 100' W OF LOGAN ST.

Well Name: BWL WELL 15-07

Well Owner: Board Of Water & Light

Well Address:	Owner Address:
BWL WELL 15-07 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

Geology Remarks: 1. [CLAY, GRAY - BROWN TO GRAY] [40] [40] 2. [SANDSTONE GRAY, FINE TO MEDIUM GRAINED WITH MUD] [70] [30] 3. [SANDSTONE, GRAY COARSE GRAINED, LIMY] [74] [4] 4. [COAL] [75] [1] 5. [SANDSTONE, GRAY, FINE GRAINED - WITH MUD] [80] [5] 6. [SHALE, GRAY, MUDDY SOFT; A LITTLE MICA] [100] [20] 7. [SHALE, LIGHT, SANDY, MUDDY] [135] [35] 8. [SHALE, GRAY, MUDDY] [165] [30] 9. [SANDSTONE, LIGHT GRAY, WITH MUD] [195] [30] 10. [SHALE, GRAY MUDDY AND SOME SANDY SOFT SHALE] [225] [30] 11. [SANDSTONE, LIGHT GRAY - WITH MUD] [295] [70] 12. [SHALE, GRAY, MUDDY] [300] [5] 13. [SANDSTONE, AND SHALE] [305] [5] 14. [SANDSTONE, LIGHT GRAY, FINE GRAINED] [365] [60] 15. [SANDSTONE, GRAY, MEDIUM TO FINE GRAINED] [390] [25] 16. [SANDSTONE, LIGHT GRAY, MEDIUM TO FINE GRAINED - SLIGHTLY LIMY] [420] [30] 17. [SHALE, DARK GRAY, MUDDY] [425] [5] 18. [SHALE, LIGHT GRAY, MUDDY] [430] [5]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 08009;

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006191 Failure to comply is a misdemeanor. **Import ID**: 33040208310

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006191

Elevation: 857 ft

Latitude: 42.7462443079

Longitude: -84.5735291278

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ NE¼ SW¼	8	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 100' N OF MAPLE ST. 200' W OF JENNISON ST.

Well Name: BWL WELL 15-08

Well Owner: Board Of Water & Light

Well Address:	Owner Address:
BWL WELL 15-08 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Cable tool

Well Depth: 430.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 7/26/1945

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 13.25 in. to 0.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 80.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**:
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Clay & Gravel	10.00	10.00
Gravel & Clay	15.00	25.00
Gravel	10.00	35.00
White-Sand	5.00	40.00
Gravel	5.00	45.00
Blue-Shale	25.00	70.00
Coal	1.00	71.00
Gray-Shale	19.00	90.00
Sand-Broken	50.00	140.00
Blue-Shale	5.00	145.00
Sandstone	260.00	405.00
Shale	25.00	430.00

Geology Remarks: 1. [CLAY AND GRAVEL] [10] [10] 2. [GRAVEL AND CLAY] [25] [15] 3. [GRAVEL] [35] [10] 4. [SAND WHITE] [40] [5] 5. [GRAVEL] [45] [5] 6. [SHALE - BLUE] [70] [25] 7. [COAL] [71] [1] 8. [GRAY SHALE] [90] [19] 9. [SAND BROKEN] [140] [50] 10. [BLUE SHALE] [145] [5] 11. [SANDSTONE] [405] [260] 12. [SHALE] [430] [25]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 08010; 430' FROM CASING TOP. PIPE LEFT IN HOLE 97'6". DRILLER: JOHN A. JOHNSON

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006192 — Failure to comply is a misdemeanor. — **Import ID**: 33040208311

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SW¼ NE¼ NE¼	8	04N 02W		3760

Well ID: 33000006192

Elevation: 850 ft

Latitude: 42.7524775688

Longitude: -84.5663443955

Distance and Direction from Road Intersection: WSSN 03760; 400' E OF LOGAN ST. 3600' N OF W BOUND OAKL

Well Name: BWL WELL 20-03

Well Owner: Board Of Water & Light

Well Address:	Owner Address:
BWL WELL 20-03 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 430.00 ft. — **Well Use**: Type I public

Well Type: Replacement — **Date Completed**: 9/28/1959

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 75.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No — **Well Intake**: Unknown
Filter Packed:
Screen Diameter: — **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes — **Grouting Method**: Unknown
No. of Bags: — **Additives**: None
Grouting Materials:
Unknown — From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance Direction
Unknown	0.00 ft.
Unknown	

Drilling Machine Operator Name: COGLEY

Employment: Unknown

Pump Installed: Yes — **Pump Installation only**: No
Pump Installation date: — **HP**:
Manufacturer: Other — **Pump Type**: Unknown
Model Number: — **Pump Capacity**:
Length of Drop Pipe: 78.00 ft. — **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Sand	15.00	15.00
Gravel-Medium	5.00	20.00
Clay & Gravel	8.00	28.00
Hardpan-W/Gravel	2.00	30.00
Gravel-Medium	15.00	45.00
Gravel-Coarse	5.00	50.00
Clay-Sandy	10.00	60.00
Boulders	2.00	62.00
Coal	8.00	70.00
Shale	4.00	74.00
Sandstone-W/Shale	11.00	85.00
Shale	8.00	93.00
Sandstone-Coarse	7.00	100.00
Sandstone-Medium	1.00	101.00
Sandstone-Coarse	19.00	120.00
Sandstone-Coarse-W/Shale	5.00	125.00
Shale	37.00	162.00
Limestone	3.00	165.00
Shale	45.00	210.00
Sandstone-Medium	10.00	220.00
Sandstone-Coarse	10.00	230.00
Sandstone-Medium	5.00	235.00
Sandstone-Fine	5.00	240.00
Sandstone-Fine-W/Shale	5.00	245.00
Sandstone-Medium-W/Shale	10.00	255.00
Sandstone-Fine	15.00	270.00
Shale	10.00	280.00
Sandstone-Hard-Medium	10.00	290.00
Sandstone-Coarse-W/Shale	5.00	295.00
Sandstone-Medium-W/Shale	5.00	300.00
Sandstone-Coarse	25.00	325.00
Sandstone-Medium-W/Shale	5.00	330.00

(Continued on Page 2)

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006192

Failure to comply is a misdemeanor.

Import ID: 33040208311

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006192

Elevation: 850 ft

Latitude: 42.7524775688

Longitude: -84.5663443955

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SW¼ NE¼ NE¼	8	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 400' E OF LOGAN ST. 3600' N OF W BOUND OAKL

Well Name: BWL WELL 20-03

Well Owner: Board Of Water & Light

Well Address:	Owner Address:
BWL WELL 20-03 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom
Sandstone-Coarse	25.00	355.00
Shale-W/Sandstone-Coarse	25.00	380.00
Sandstone-Medium-W/Shale	15.00	395.00
Sandstone-Fine-W/Shale	5.00	400.00
Sandstone-Hard-Medium	10.00	410.00
Sandstone-Fine	5.00	415.00
Sandstone-Coarse-Hard	5.00	420.00
Shale	10.00	430.00

Geology Remarks: 1. [SAND] [15] [15] 2. [MEDIUM GRAVEL] [20] [5] 3. [CLAY & GRAVEL] [28] [8] 4. [HARD PAN GRAVEL] [30] [2] 5. [MEDIUM GRAVEL] [45] [15] 6. [COARSE GRAVEL] [50] [5] 7. [SANDY CLAY] [60] [10] 8. [BOULDER] [62] [2] 9. [COAL] [70] [8] 10. [SHALE] [74] [4] 11. [VERY SHALEY SAND ROCK] [85] [11] 12. [SHALE] [93] [8] 13. [COARSE SAND ROCK] [100] [7] 14. [MEDIUM SAND ROCK] [101] [1] 15. [COARSE SAND ROCK] [120] [19] 16. [COARSE SHALEY SAND ROCK] [125] [5] 17. [SHALE] [162] [37] 18. [LIMESTONE] [165] [3] 19. [SHALE] [210] [45] 20. [MEDIUM SAND ROCK] [220] [10] 21. [COARSE SAND ROCK] [230] [10] 22. [MEDIUM SAND ROCK] [235] [5] 23. [FINE SAND ROCK] [240] [5] 24. [FINE SHALEY SAND ROCK] [245] [5] 25. [MEDIUM SHALEY SAND ROCK] [255] [10] 26. [FINE SAND ROCK] [270] [15] 27. [SHALE] [280] [10] 28. [HARD MEDIUM SAND ROCK] [290] [10] 29. [COARSE SHALEY SAND ROCK] [295] [5] 30. [MEDIUM SHALEY SAND ROCK] [300] [5] 31. [COARSE SAND ROCK] [325] [25] 32. [MEDIUM SHALEY SAND ROCK] [330] [5] 33. [COARSE SAND ROCK] [355] [25] 34. [SHALEY COARSE SAND ROCK] [380] [25] 35. [SHALEY MEDIUM SAND ROCK] [395] [15] 36. [FINE SHALEY SAND ROCK] [400] [5] 37. [HARD MEDIUM SAND ROCK] [410] [10] 38. [FINE SAND ROCK] [415] [5] 39. [COARSE SAND ROCK, VERY HARD] [420] [5] 40. [SHALE] [430] [10]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 08011;

OTHER REMARKS **Pump Manufacturer**: Pump Manufacturer unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006194 **Import ID**: 33040209302

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006194

Elevation: 851 ft

Latitude: 42.7529068585

Longitude: -84.5505412889

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ NW¼ NE¼	9	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 250' W OF TURNER ST. 500' N OF GRAND RIVER

Well Name: BWL WELL 25-21

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-21 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 443.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 1/10/1951

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 116.08 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Clay & Sand	15.00	15.00
Clay & Gravel	9.00	24.00
Hardpan W/Gravel	3.00	27.00
Gravel Fine	5.00	32.00
Gravel Coarse	12.00	44.00
Red Clay	6.00	50.00
Hardpan W/Gravel	6.00	56.00
Gray Shale	11.00	67.00
Sandstone	3.00	70.00
Sandstone W/Shale	12.00	82.00
Coal W/Sand W/Boulders	2.00	84.00
Coal	1.00	85.00
Gray Shale	46.00	131.00
Gray Unidentified Consolidated Fm Hard	5.00	136.00
Gray Shale	7.00	143.00
Sandstone Medium W/Shale	9.00	152.00
Sandstone Fine W/Shale	30.00	182.00
Sandstone Fine To Medium	18.00	200.00
Sandstone Medium	12.00	212.00
Brown Sandstone Coarse	18.00	230.00
Sandstone Medium	21.00	251.00
Light Brown Sandstone	6.00	257.00
Sandstone Fine	14.00	271.00
Sandstone Fine To Medium	6.00	277.00
Light Brown Sandstone	3.00	280.00
Light Brown Sandstone Coarse	8.00	288.00
Sandstone Medium	7.00	295.00
Sandstone Fine To Medium	3.00	298.00
Sandstone Coarse	7.00	305.00
Gray Shale	37.00	342.00
Sandstone Fine	30.00	372.00
Sandstone Fine	3.00	375.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006194

Import ID: 33040209302

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006194

Elevation: 851 ft

Latitude: 42.7529068585

Longitude: -84.5505412889

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SW¼ NW¼ NE¼	9	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 250' W OF TURNER ST. 500' N OF GRAND RIVER

Well Name: BWL WELL 25-21

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-21 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom
Sandstone Medium To Coarse	3.00	378.00
Sandstone Coarse	10.00	388.00
Sandstone Medium To Coarse	2.00	390.00
Sandstone Coarse	7.00	397.00
Sandstone Coarse W/Shale	6.00	403.00
Sandstone Fine W/Shale	24.00	427.00
Gray Shale	16.00	443.00

(Continued from Page 1)

Geology Remarks: 1. [CLAY & SAND] [15] [15] 2. [CLAY & GRAVEL] [24] [9] 3. [HARD PAN GRAVEL] [27] [3] 4. [FINE GRAVEL] [32] [5] 5. [COARSE GRAVEL] [44] [12] 6. [LIGHT RED CLAY] [50] [6] 7. [HARD PAN GRAVEL] [56] [6] 8. [GRAY SHALE ROCK] [67] [11] 9. [SAND ROCK] [70] [3] 10. [SHALEY SAND ROCK] [82] [12] 11. [COAL, SAND ROCK MIXED] [84] [2] 12. [COAL] [85] [1] 13. [GRAY SHALE] [131] [46] 14. [GRAY HARD ROCK] [136] [5] 15. [GRAY SHALE] [143] [7] 16. [MEDIUM SHALEY SAND ROCK] [152] [9] 17. [FINE SHALEY SAND ROCK] [182] [30] 18. [FINE TO MEDIUM SAND ROCK] [200] [18] 19. [MEDIUM SAND ROCK] [212] [12] 20. [DARK BROWN COARSE SAND ROCK] [230] [18] 21. [LIGHT COLOR MEDIUM SAND ROCK] [251] [21] 22. [LIGHT BROWN MEDIUM SAND ROCK] [257] [6] 23. [LIGHT COLOR FINE SAND ROCK] [271] [14] 24. [FINE TO MEDIUM SAND ROCK] [277] [6] 25. [LIGHT BROWN MEDIUM SAND ROCK] [280] [3] 26. [LIGHT BROWN VERY COARSE SAND ROCK] [288] [8] 27. [LIGHT COLOR MEDIUM SAND ROCK] [295] [7] 28. [FINE TO MEDIUM SAND ROCK] [298] [3] 29. [VERY COARSE SAND ROCK] [305] [7] 30. [GRAY SHALE] [342] [37] 31. [LIGHT COLOR FINE SAND ROCK] [372] [30] 32. [FINE SAND ROCK] [375] [3] 33. [MEDIUM TO COARSE SAND ROCK] [378] [3] 34. [VERY COARSE SAND ROCK] [388] [10] 35. [MEDIUM TO COARSE SAND ROCK] [390] [2] 36. [COARSE SAND ROCK] [397] [7] 37. [COARSE SHALEY SAND ROCK] [403] [6] 38. [FINE SHALEY SAND ROCK] [427] [24] 39. [GRAY SHALE] [443] [16]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 09002;

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006199 **Import ID**: 33040209307

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ NW¼ SW¼	9	04N 02W		3760

Well ID: 33000006199

Elevation: 851.84 ft

Latitude: 42.7464196001

Longitude: -84.561369159

Distance and Direction from Road Intersection: WSSN 03760; 4000' W OF S BND CEDAR ST. 1100' N OF W BND

Well Name: BWL WELL 15-04

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 15-04 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 437.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**:

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 47.33 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
51.00 ft. after 0.00 hrs. pumping at 842.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Sand W/Silt Gravely	20.00	20.00
Sand & Clay	5.00	25.00
Gravel & Clay	5.00	30.00
Gravel & Clay Fine	5.00	35.00
Sand & Clay Very Fine Silty	5.00	40.00
Sandstone Very Fine Silty	5.00	45.00
Gray Shale	10.00	55.00
Coal	5.00	60.00
Shale Fine Sandy	25.00	85.00
Sandstone Fine W/Shale	15.00	100.00
Gray Sandstone Fine	20.00	120.00
Sandstone Fine W/Shale	35.00	155.00
Sandstone Fine	20.00	175.00
Sandstone Medium	30.00	205.00
Sandstone Fine	65.00	270.00
White Sandstone Fine	20.00	290.00
Gray Sandstone Medium	25.00	315.00
Gray Sandstone Medium To Coarse	5.00	320.00
Gray Sandstone Medium	5.00	325.00
Gray Sandstone Fine	5.00	330.00
Gray Sandstone Medium	5.00	335.00
Gray Sandstone Fine	15.00	350.00
Gray Sandstone Medium To Coarse	15.00	365.00
Gray Sandstone Medium	5.00	370.00
Gray Sandstone Medium	15.00	385.00
Gray Sandstone Fine	30.00	415.00
Limestone	1.00	416.00
Gray Limestone	5.00	421.00
Gray Shale	16.00	437.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006199

Import ID: 33040209307

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006199

Elevation: 851.84 ft

Latitude: 42.7464196001

Longitude: -84.561369159

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ NW¼ SW¼	9	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 4000' W OF S BND CEDAR ST. 1100' N OF W BND

Well Name: BWL WELL 15-04

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 15-04 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

(Continued from Page 1)

Geology Remarks: 1. [SAND, DIRTY, GRAVELLY] [20] [20] 2. [SAND & CLAY] [25] [5] 3. [GRAVEL & CLAY] [30] [5] 4. [FINE GRAVEL & CLAY] [35] [5] 5. [SAND, VERY FINE, SILTY & CLAY] [40] [5] 6. [SANDSTONE, VERY FINE & SILTY] [45] [5] 7. [SHALE, GRAY] [55] [10] 8. [COAL] [60] [5] 9. [SHALE, FINE, SANDY] [85] [25] 10. [SANDSTONE, VERY FINE, SHALEY, GRAY] [100] [15] 11. [SANDSTONE, FINE, CLEAN, GRAY] [120] [20] 12. [SANDSTONE, FINE, SHALEY GRAY] [155] [35] 13. [SANDSTONE, FINE, CLEAR] [175] [20] 14. [SANDSTONE, MEDIUM, CLEAR, BUFF] [205] [30] 15. [SANDSTONE, FINE, CLEAR, BUFF] [270] [65] 16. [SANDSTONE, FINE, WHITE, CLEAR] [290] [20] 17. [SANDSTONE, MEDIUM, GRAY, CLEAR] [315] [25] 18. [SANDSTONE, MEDIUM TO MEDIUM COARSE, GRAY] [320] [5] 19. [SANDSTONE, MEDIUM, GRAY] [325] [5] 20. [SANDSTONE, FINE, GRAY] [330] [5] 21. [SANDSTONE, MEDIUM, GRAY] [335] [5] 22. [SANDSTONE, FINE, GRAY] [350] [15] 23. [SANDSTONE, MEDIUM COARSE, GRAY] [365] [15] 24. [SANDSTONE, MEDIUM, GRAY] [370] [5] 25. [SANDSTONE, MEDIUM, GRAY] [385] [15] 26. [SANDSTONE, FINE, GRAY] [415] [30] 27. [LIMESTONE, PYRITIFEROUS] [416] [1] 28. [LIMESTONE, GRAY] [421] [5] 29. [SHALE, GRAY] [437] [16]

Contractor Type: Unknown
Registration Number: 729
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 09007;

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:25

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006200 **Import ID**: 33040209308

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ NW¼ SW¼	9	04N 02W		3760

Well ID: 33000006200

Elevation: 847.14 ft

Latitude: 42.7462946669

Longitude: -84.5623705131

Distance and Direction from Road Intersection: 4300' W OF S BND CEDAR ST. 1000' N OF W BND OAKLAND AVE

Well Name:

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 15-05 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Unknown

Well Depth: 425.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**:

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 46.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
69.00 ft. after 0.00 hrs. pumping at 780.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Sand Fine	15.00	15.00
Sand & Gravel Fine	10.00	25.00
Gravel Coarse W/Sand	5.00	30.00
Clay W/Gravel	5.00	35.00
Gray Shale Wet/Moist	5.00	40.00
Light Gray Shale Wet/Moist Sandy	20.00	60.00
Light Gray Shale Sandy Wet/Moist	25.00	85.00
Light Gray Shale Wet/Moist	15.00	100.00
Light Gray Sandstone Fine	25.00	125.00
Light Gray Sandstone Cemented	5.00	130.00
Light Gray Sandstone Very Fine W/Silt	55.00	185.00
Light Gray Sandstone Coarse W/Silt	5.00	190.00
Sandstone Fine To Coarse	5.00	195.00
Gray Sandstone Fine Silty	180.00	375.00
Gray Shale Wet/Moist	10.00	385.00
Light Gray Sandstone Very Fine W/Silt	30.00	415.00
Black Shale Soft	10.00	425.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006200 **Import ID**: 33040209308

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006200

Elevation: 847.14 ft

Latitude: 42.7462946669

Longitude: -84.5623705131

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ NW¼ SW¼	9	04N 02W		3760

Distance and Direction from Road Intersection: 4300' W OF S BND CEDAR ST. 1000' N OF W BND OAKLAND AVE

Well Name:

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 15-05 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006208 **Import ID**: 33040209316

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006208

Elevation: 855 ft

Latitude: 42.7506711064

Longitude: -84.550380816

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ SW¼ NE¼	9	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 250' W OF TURNER ST., 300' S OF NORTH ST.

Well Name: BWL WELL 25-20

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-20 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

Drilling Method: Cable Tool

Well Depth: 443.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 1/2/1946

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 13.25 in. to 0.00 ft. depth

Bore Diameter 1:
Bore Diameter 2:
Bore Diameter 3:
Height: 2.60 ft. above grade
Casing Fitting: None

Static Water Level: 999.99 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Clay	12.00	12.00
Sand	3.00	15.00
Gravel	40.00	55.00
Gravel Fine	9.00	64.00
Blue Shale	3.00	67.00
White Sand	19.00	86.00
Gravel Fine To Coarse	41.00	127.00
White Sand Fine	94.00	221.00
Gray Limestone	5.00	226.00
White Sand	54.00	280.00
Sand W/Shale Broken	90.00	370.00
White Sand Coarse	20.00	390.00
White Sand Fine	39.00	429.00
Gray Shale	14.00	443.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006208 **Import ID**: 33040209316

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006208

Elevation: 855 ft

Latitude: 42.7506711064

Longitude: -84.550380816

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NW¼ SW¼ NE¼	9	04N 02W		3760

Distance and Direction from Road Intersection: WSSN 03760; 250' W OF TURNER ST., 300' S OF NORTH ST.

Well Name: BWL WELL 25-20

Well Owner: Board Of Water & Light

Well Address:	**Owner Address**:
BWL WELL 25-20 LANSING MI	123 W. OTTAWA ST. LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006278 **Import ID**: 33040218004

Tax No: 330118352028	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006278

Elevation: 880 ft

Latitude: 42.7283772518

Longitude: -84.5985788011

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ SW¼ SW¼	18	04N 02W		

Distance and Direction from Road Intersection: 110FT W OF STONER, 480FT S OF KALAMAZOO

Well Name:

Well Owner: John Eaton

Well Address:	Owner Address:
514 STONER LANSING MI	514 STONER LANSING MI

Drilling Method: Rotary

Well Depth: 225.00 ft. **Well Use**: Irrigation

Well Type: New **Date Completed**: 2/18/1990

Casing Type: PVC plastic
Casing Joint: Welded
Diameter: 5.00 in. to 129.00 ft. depth

Bore Diameter 1: 8.00 in. to 129.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height: 1.50 ft. above grade
Casing Fitting: None

Static Water Level: 85.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
120.00 ft. after 0.00 hrs. pumping at 60.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Bedrock Well
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Bentonite slurry From 0.00 ft. to 129.00 ft.

Well Head Completion: Pitless adapter

Nearest source of possible contamination:

Type	Distance	Direction
Sewer line	80.00 ft.	East

Drilling Machine Operator Name: PETES WELL DRILLING

Employment: Unknown

Pump Installed: No **Pump Installation only**:
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Brown-Clay	5.00	5.00
Black-Topsoil	4.00	9.00
Gray-Clay	10.00	19.00
Black & Gray-Clay	30.00	49.00
Clay & Stones-Sandy	16.00	65.00
Red-Clay-Soft	30.00	95.00
Red-Shale	10.00	105.00
Red-Sandstone-Soft	20.00	125.00
White-Sandstone	15.00	140.00
Gray-Sandstone	22.00	162.00
White-Sandstone	23.00	185.00
Gray-Shale	15.00	200.00
Gray-Sandstone-White	25.00	225.00

Geology Remarks: 1. [BROWN CLAY , DEBRIS] [5] [5] 2. [BLACK DIRT] [9] [4] 3. [GRAY CLAY] [19] [10] 4. [BLACK & GRAY CLAY] [49] [30] 5. [SANDY CLAY & STONES] [65] [16] 6. [SOFT & RED CLAY] [95] [30] 7. [GREASY RED SHALE] [105] [10] 8. [SOFT RED SANDROCK] [125] [20] 9. [WHITE SANDROCK] [140] [15] 10. [GRAY SANDROCK] [162] [22] 11. [WHITE SANDROCK] [185] [23] 12. [GRAY SHALE] [200] [15] 13. [GRAY , WHITE SANDROCK] [225] [25]

Contractor Type: Unknown
Registration Number: 2003
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks:
OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:27

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006279 Failure to comply is a misdemeanor. **Import ID**: 33040218301

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006279

Elevation: 880 ft

Latitude: 42.7322673821

Longitude: -84.5934278857

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
NE¼ NE¼ SW¼	18	04N 02W		3770

Distance and Direction from Road Intersection: WSSN 03770; 500' S OF MICHIGAN AVE. 1200' W OF GRACE ST

Well Name: LANSING TWP WELL #1

Well Owner: Lansing Township

Well Address:
LANSING TWP WELL #1
LANSING MI

Owner Address:
LANSING MI 48933

Drilling Method: Cable tool

Well Depth: 404.00 ft. **Well Use**: Type I public

Well Type: Replacement **Date Completed**: 9/17/1945

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1: 13.25 in. to 0.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 80.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**:
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Black-Loam	4.00	4.00
Blue-Clay	38.00	42.00
Shale-Sandy	13.00	55.00
Sand & Gravel	20.00	75.00
Blue-Shale	36.00	111.00
White-Sand-Coarse	59.00	170.00
Sand-W/Shale	50.00	220.00
White-Sand	70.00	290.00
Blue-Shale	12.00	302.00
Sand	4.00	306.00
Gray-Shale	17.00	323.00
White-Sand	80.00	403.00
Gray-Limestone	1.00	404.00

Geology Remarks: 1. [BLACK LOAM] [4] [4] 2. [BLUE CLAY] [42] [38] 3. [SANDY SHALE] [55] [13] 4. [SAND & GRAVEL] [75] [20] 5. [BLUE SHALE] [111] [36] 6. [SAND WHITE, COARSE] [170] [59] 7. [SAND STREAKED WITH SHALE] [220] [50] 8. [SAND WHITE] [290] [70] 9. [BLUE SHALE] [302] [12] 10. [SAND] [306] [4] 11. [GRAY SHALE] [323] [17] 12. [SAND WHITE] [403] [80] 13. [LIME GREY] [404] [1]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 18001;

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:27

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006280

Import ID: 33040218302

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ NE¼ SW¼	18	04N 02W		3770

Well ID: 33000006280

Elevation: 880 ft

Latitude: 42.7313686621

Longitude: -84.5936984266

Distance and Direction from Road Intersection: WSSN 03770; 850' S OF MICHIGAN AVE. 1300' W OF GRACE ST

Well Name: LANSING TWP WELL #2

Well Owner: Lansing Township

Well Address:
LANSING TWP WELL #2
LANSING MI

Owner Address:
LANSING MI 48933

Drilling Method: Cable tool

Well Depth: 417.00 ft.

Well Use: Type I public

Well Type: Replacement

Date Completed: 10/8/1945

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 0.00 in. to 143.80 ft. depth

Bore Diameter 1: 13.25 in. to 0.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 77.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No
Well Intake: Unknown
Filter Packed:
Screen Diameter:
Length:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes
Grouting Method: Unknown
No. of Bags:
Additives: None
Grouting Materials:
Unknown
From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name: F. C. CULLY

Employment: Unknown

Pump Installed: No
Pump Installation only:
Pump Installation date:
HP:
Manufacturer:
Pump Type:
Model Number:
Pump Capacity:
Length of Drop Pipe:
Id of Well:
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Clay-Sandy	5.00	5.00
Sand-W/Shale	60.00	65.00
Sand & Gravel	15.00	80.00
Coal	2.00	82.00
Sand	13.00	95.00
Shale	24.00	119.00
White-Sand	4.00	123.00
Sand-Broken	17.00	140.00
White-Sand	30.00	170.00
Shale & Sandstone	65.00	235.00
White-Sand	45.00	280.00
Black-Shale	13.00	293.00
Sand-Broken	51.00	344.00
White-Sand	61.00	405.00
Gray-Limestone	11.00	416.00
Gray-Shale	1.00	417.00

(Continued on Page 2)

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:27

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 33000006280 Failure to comply is a misdemeanor. **Import ID**: 33040218302

Tax No:	Permit No:	County: Ingham	Township: Lansing

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
SE¼ NE¼ SW¼	18	04N 02W		3770

Well ID: 33000006280

Elevation: 880 ft

Latitude: 42.7313686621

Longitude: -84.5936984266

Distance and Direction from Road Intersection: WSSN 03770; 850' S OF MICHIGAN AVE. 1300' W OF GRACE ST

Well Name: LANSING TWP WELL #2

Well Owner: Lansing Township

Well Address:	Owner Address:
LANSING TWP WELL #2 LANSING MI	LANSING MI 48933

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

Geology Remarks: 1. [SANDY CLAY] [5] [5] 2. [SAND AND SHALE] [65] [60] 3. [SAND AND GRAVEL] [80] [15] 4. [COAL] [82] [2] 5. [SAND] [95] [13] 6. [SHALE] [119] [24] 7. [SAND WHITE] [123] [4] 8. [SAND BROKEN] [140] [17] 9. [SAND WHITE] [170] [30] 10. [SHALE AND SAND] [235] [65] 11. [SAND WHITE] [280] [45] 12. [SHALE BLACK] [293] [13] 13. [SAND BROKEN] [344] [51] 14. [SAND WHITE] [405] [61] 15. [LIME GRAY] [416] [11] 16. [SHALE GRAY] [417] [1]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 18002; TESTED 10-12-45.

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:27

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006281

Import ID: 33040218303

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000006281

Elevation: 860 ft

Latitude: 42.7368222311

Longitude: -84.5944557074

Fraction:	Section:	Town/Range:	French Claim:	WSSN:
NE¼ SE¼ NW¼	18	04N 02W		3770

Distance and Direction from Road Intersection: WSSN 03770; 1500' S OF SAGINAW ST. 100' W OF BONAIR ST.

Well Name: LANSING TWP WELL #3

Well Owner: Lansing Township

Well Address:
LANSING TWP WELL #3
LANSING MI

Owner Address:
LANSING MI 48933

Drilling Method: Cable tool

Well Depth: 399.00 ft. **Well Use:** Type I public

Well Type: Replacement **Date Completed:** 9/6/1945

Casing Type: Unknown
Casing Joint: Unknown
Diameter: 14.00 in. to 102.80 ft. depth

Bore Diameter 1: 13.25 in. to 0.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: Drive shoe

Static Water Level: 999.99 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake:** Unknown
Filter Packed:
Screen Diameter: **Length:**
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method:** Unknown
No. of Bags: **Additives:** None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	Distance	Direction
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name: JOHN JOHNSTON

Employment: Unknown

Pump Installed: No **Pump Installation only:**
Pump Installation date: **HP:**
Manufacturer: **Pump Type:**
Model Number: **Pump Capacity:**
Length of Drop Pipe: **Id of Well:**
Diameter of Drop Pipe:
Draw Down Seal Used:

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number:

Formation Description	Thickness	Depth to Bottom
Topsoil-W/Clay	6.00	6.00
Sand & Gravel-Wet/Moist	40.00	46.00
Shale-Sandy	53.00	99.00
White-Sandstone	101.00	200.00
Gray-Shale	5.00	205.00
White-Sandstone	70.00	275.00
Blue-Shale	40.00	315.00
Sandstone	74.00	389.00
Shale-Sandy	10.00	399.00

Geology Remarks: 1. [TOP SOIL, CLAY] [6] [6] 2. [SAND & GRAVEL MUDDY] [46] [40] 3. [SANDY SHALE] [99] [53] 4. [WHITE SANDSTONE] [200] [101] 5. [SHALE GRAY] [205] [5] 6. [WHITE SANDSTONE] [275] [70] 7. [SHALE BLUE] [315] [40] 8. [SANDSTONE] [389] [74] 9. [SANDY DARK SHALE] [399] [10]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: ORIGINAL WELLID# WAS 18003; 6" LENGTH OF DRIVE SHOE. 402' FROM TOP OF FOUNDATION.

OTHER REMARKS

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:27

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000006313 **Import ID**: 33040221001

Tax No:	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000006313

Elevation: 832 ft

Latitude: 42.7226602846

Longitude: -84.5530132808

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
NE¼ SE¼ NW¼	21	04N 02W		

Distance and Direction from Road Intersection: 200' S OF HAZEL ST. 150' W OF WASHINGTON AVE.

Well Name:

Well Owner: Reed & Noyce

Well Address:
LANSING MI

Owner Address:

Drilling Method: Cable Tool

Well Depth: 40.00 ft. **Well Use**: Other

Well Type: Replacement **Date Completed**: 8/24/1967

Casing Type: Unknown
Casing Joint: Unknown
Diameter:

Bore Diameter 1: 16.00 in. to 0.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height: 0.00 ft. above grade
Casing Fitting: None

Static Water Level: 15.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
36.00 ft. after 0.00 hrs. pumping at 411.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Unknown
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Unknown From 0.00 ft. to 0.00 ft.

Well Head Completion: Unknown

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name:

Employment: Unknown

Pump Installed: No **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: **Pump Type**:
Model Number: **Pump Capacity**:
Length of Drop Pipe: **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Debris	1.00	1.00
Brown Clay	15.00	16.00
Blue Clay & Gravel	13.00	29.00
Sand & Gravel Coarse	9.00	38.00
Clay & Gravel W/Shale	2.00	40.00

Geology Remarks: 1. [STREET TOP] [1] [1] 2. [BROWN CLAY] [16] [15] 3. [BLUE CLAY & GRAVEL] [29] [13] 4. [SAND & GRAVEL - COARSE GRAVEL] [38] [9] 5. [CLAY & GRAVEL - SHALE] [40] [2]

Contractor Type: Unknown
Registration Number: 550
Business Name:
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signature of Registered Representative **Date**

General Remarks: THIS WAS DRILLED AS A DEWATERING WALL ON SEWER CONSTRUCTION. ALL MATERIAL TO BE SALVAGED. MADE 16 X 10 GRAVEL WALL CONSTRUCTION. DRILLER: J.H. WESS

OTHER REMARKS **Well Use**: Type Use Unknown

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

2/17/2000 10:27

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000010343 **Import ID**: 33040220007

Tax No: 330110301001	**Permit No**:	**County**: Ingham	**Township**: Lansing

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SE¼ SW¼ NW¼	20	04N 02W		

Well ID: 33000010343

Elevation: 850 ft

Latitude: 42.7196120656

Longitude: -84.5802434199

Distance and Direction from Road Intersection: 600'E OF WEST SEC. LINE; 2700'N OF SOUTH SEC. LINE

Well Name:

Well Owner: Country Club Of Lansing

Well Address:
2200 MOORES RIVER DR.
LANSING MI 48910

Owner Address:
2200 MOORES RIVER DR.
LANSING MI 48910

Drilling Method: Rotary

Well Depth: 370.00 ft. **Well Use**: Irrigation

Well Type: New **Date Completed**: 2/8/1995

Casing Type: PVC plastic
Casing Joint: Unknown
Diameter: 12.00 in. to 55.00 ft. depth

Bore Diameter 1: 15.50 in. to 55.00 ft. depth
Bore Diameter 2:
Bore Diameter 3:
Height: 1.00 ft. above grade
Casing Fitting: None

Static Water Level: 36.00 ft. Below Grade(Not Flowing)
Yield Test Method: Unknown
Measurement Taken During Pump Test:
132.00 ft. after 8.00 hrs. pumping at 350.00 GPM

Abandoned Well Plugged: No
Reason for not plugging Well:

Abandoned well ID:

Screen Installed: No **Well Intake**: Bedrock Well
Filter Packed:
Screen Diameter: **Length**:
Screen Material Type:
Slot:
Blank:
Fittings:

Well Grouted: Yes **Grouting Method**: Unknown
No. of Bags: **Additives**: None
Grouting Materials:
Bentonite slurry From 0.00 ft. to 55.00 ft.

Well Head Completion: 12 inches above grade

Nearest source of possible contamination:

Type	**Distance**	**Direction**
Unknown	0.00 ft.	
Unknown		

Drilling Machine Operator Name: STANLEY BROWN;BROWN DRILLING

Employment: Unknown

Pump Installed: Yes **Pump Installation only**: No
Pump Installation date: **HP**:
Manufacturer: Unknown **Pump Type**: Submersible
Model Number: **Pump Capacity**: 0.00 GPM
Length of Drop Pipe: 0.00 ft. **Id of Well**:
Diameter of Drop Pipe:
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Tank Type:
Manufacturer:
Model Number : **Tank Capacity** : Gallons
Pressure Relief Valve Installed : No

Formation Description	Thickness	Depth to Bottom
Brown Clay	25.00	25.00
Gray Clay & Gravel	10.00	35.00
Shale Soft	10.00	45.00
Shale Hard	5.00	50.00
Black Shale	10.00	60.00
Gray Shale	15.00	75.00
Sandstone	70.00	145.00
Shale & Sandstone	15.00	160.00
Sandstone	45.00	205.00
Sandstone Hard W/Shale	20.00	225.00
Limestone & Sandstone	5.00	230.00
Sandstone	80.00	310.00
Shale & Sandstone	15.00	325.00
Sandstone	15.00	340.00
Sandstone & Shale	5.00	345.00
Sandstone	15.00	360.00
Gray Sandstone W/Shale	5.00	365.00
Black & Gray Shale	5.00	370.00

(Continued on Page 2)

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Well ID: 33000010343 **Import ID**: 33040220007

Tax No: 330110301001	**Permit No**:	**County**: Ingham	**Township**: Lansing

Well ID: 33000010343

Elevation: 850 ft

Latitude: 42.7196120656

Longitude: -84.5802434199

Fraction:	**Section**:	**Town/Range**:	**French Claim**:	**WSSN**:
SE¼ SW¼ NW¼	20	04N 02W		

Distance and Direction from Road Intersection: 600'E OF WEST SEC. LINE; 2700'N OF SOUTH SEC. LINE

Well Name:

Well Owner: Country Club Of Lansing

Well Address:	**Owner Address**:
2200 MOORES RIVER DR. LANSING MI 48910	2200 MOORES RIVER DR. LANSING MI 48910

(Continued from Page 1)

Formation Description	Thickness	Depth to Bottom

ARCADIS

Appendix C

November 2005 Site Assessment
Support Data

ARCADIS

November 2005 Site Assessment Summary

Introduction

In November of 2005, Blasland, Bouck & Lee, Inc. (BBL) conducted an initial Site Assessment soil investigation to investigate potential releases of hazardous constituents that may be associated with areas of interest (AOIs) at Plant 6. Groundwater sampling and analysis were not included in this investigation. The Plant 6 Site Assessment Work Plan (SAWP) (BBL, 2005) was provided to the Michigan Department of Environmental Quality (MDEQ) in December of 2005.

Sampling Program Rationale and Approach

The site assessment sampling program used for the 2005 site assessment investigation was designed to assess the presence and nature of hazardous constituents in soil at the Facility; develop the data necessary to assess human health and ecological risks associated with exposure scenarios based on current and reasonably expected future land use at and around the Facility. The site assessment sampling program is described in the SAWP, and in more detail in the Plant 6 Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP) (BBL, October 2005). Sampling and analysis activities were performed in accordance with the SAWP, FSP, and QAPP.

Soil Sample Collection

At each AOI location, soil samples were collected continuously in 4 or 5-foot sections for geological and visual classification. Soil samples were screened at 2-foot intervals with a photoionization detector (PID) for the presence of organic vapors, as well as visual observations to assess the presence of staining. In areas where caustic substances were stored, soil samples were screened for pH with litmus paper. If there was visual evidence of staining in a particular 2-foot interval, an OIL-IN-SOILTM shake test was performed to verify the presence or absence of oil in the soil. The samples submitted to the laboratory were analyzed according to the following criteria:

- Target Compound List (TCL) volatile organic compounds (VOCs) – a sample was collected if the PID reading ≥ 10 ppm (if more than one reading is ≥ 10 ppm, then the highest PID reading within the boring was collected);

- TCL semivolatile organic compounds (SVOCs) – a sample was collected if a positive result from the OIL-IN-SOILTM shake test is found (if multiple intervals exhibit a positive result, then the interval that visually appears most impacted was collected);

- Target Analyte List (TAL) metals (including cyanide and lead (coarse and fractional) per MDEQ OP Memo 1, October 22, 2004) – a sample was collected if analyzing for VOCs and/or SVOCs, or if metals were indicated as a potential contaminant of concern (COC);

- PCBs – a sample was collected if analyzing for SVOCs and if indicated as a potential COC; and

- If none of the samples within the boring had a PID reading ≥ 10 ppm and there was no visual evidence of oil, then a sample from the 2-foot interval below the approximate depth of interest for the appropriate COCs was submitted. If the above conditions existed and there were no COCs indicated, no samples were submitted.

This sample collection methodology is graphically shown on Figure C-1 attached to this appendix.

Soil Sample Results

Results of the pH, PID and OIL-IN-SOILTM shake test are summarized in Table C-1 and shown on the boring logs included in Appendix I. Results of the sample analysis are included in Sections 11 and 12 of this CCR. Results of the Site Assessment soil samples as well as results of historical data are shown on Figures 27 through 43. Laboratory data sheets and laboratory validation reports are included attached to this appendix.

References

BBL. 2005. Site Assessment Work Plan. Prepared for General Motors Corporation, Lansing Plant #6, Lansing MI (October 28, 2005).

For every 2–foot interval, examine soils visually for evidence of oil and screen with a PID.

Perform an OIL–IN–SOIL™ shake test **IF** there is visual evidence of oil.

Collect soil samples according to the following:

VOCs

- if PID reading ≥10 ppm

(if more than one reading is ≥10 ppm, then the highest PID reading within the boring will be collected)

SVOCs

- if positive result from OIL–IN–SOIL™ shake test

(if multiple intervals exhibit a positive result, then collect the interval that appears most impacted)

Metals *

- if analyzing for VOCs and/or SVOCs

or

- if indicated on AOI concern table

PCBs

- if analyzing for SVOCs

and

- if indicated on AOI concern table

Ethylene Glycol *

- if indicated on AOI concern table

* **IF** none of the samples within the boring have a PID reading ≥10 ppm **AND** there is no visual evidence of oil, **THEN** submit a sample from the 2–foot interval below the approximate depth of interest for the appropriate COCs as indicated on the AOI concern table (if the boring is not listed on the AOI concern table, then no samples will be submitted.)

GENERAL MOTORS CORPORATION
LANSING, MICHIGAN
PLANTS 2, 3, AND 6
CURRENT CONDITIONS REPORT
APPENDIX D

PLANT 6 NOVEMBER 2005 SITE ASSESSMENT SOIL SAMPLING METHODOLOGY

ARCADIS

FIGURE
C-1

CITY:BRIGHTON DIV/GROUP:85 DB:ADF LD:(Opt) PIC:(Opt) PM:(Req'd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
J:\2008\B00644811\0000\0300\DWG\64481N01.dwg LAYOUT: C-1 SAVED: 7/28/2008 1:49 PM ACADVER: 17.1S (LMS TECH) PAGESETUP: ---PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 7/28/2008 1:50 PM BY: FOX, AARON
XREFS: IMAGES: PROJECTNAME: ---
64429X01

TABLE C-1
GM LANSING PLANT 6
HISTORICAL AND SITE ASSESSMENT DATA SUMMARY

CURRENT CONDITIONS REPORT
GENERAL MOTORS CORPORATION

AOI #	Title	Site Assessment Soil Boring IDs	Site Assessment Boring Installation Date	Site Assessment Boring Installation Depth (Feet)	PID > 10 PPM Detected in Field Screening (Boring ID)	LNAPL Detected in Field Screening (Boring ID)	Low (<6.5) or High (>8.5) pH Detected in Field Screening (Boring ID)
6-3	SWMU 3 - Current Hazardous Waste Storage Area	SA7-7	11/7/2005	16	No	No	No
		SA7-8	11/7/2005	16	No	No	No
		SA7-9	11/7/2005	16	No	No	No
		SA8-1	11/9/2005	16	No	No	Yes (High)
		SA8-2	11/9/2005	16	No	No	ND
		SA8-3	11/8/2005	16	No	No	No
		SA8-4	11/8/2005	16	No	No	No
		SA8-5	11/8/2005	16	No	No	No
		SA8-6	11/7/2005	16	No	No	Yes (High)
6-19	Process Waste Tunnel	SA7-6	11/7/2005	16	No	No	No
		SA7-7	11/7/2005	16	No	No	No
		SA10-2	11/3/2005	16	No	No	Yes (High)
		SA10-3	11/7/2005	16	No	No	No
		SA10-4	11/4/2005	16	No	No	No
6-21	Former solder repair pit - 1.5' deep	SA26-3	11/10/2006	16	No	No	No
6-30	New weld pit - 18x50x4	SA29-2	11/9/2005	10	No	No	No
6-31	New drive unit pit - 7' deep	SA29-1	11/9/2005	10	No	No	No
6-40	Solvent tank	SA1-5	11/11/2005	12	No	No	No
6-41	5 hoists	SA1-6	11/11/2005	11	No	No	No
6-42	Storm ceptor spill structure	SA4-1	11/11/2005	16	No	Yes	Yes (High)
6-43	Storm ceptor	SA13-1	11/8/2005	16	No	No	No
		SA13-2	11/8/2005	16	No	No	No
6-44	Gasoline tank #7	SA12-1	11/2/2005	16	No	No	No
		SA12-2	11/2/2005	16	No	No	No
		SA12-3	11/2/2005	16	No	No	No
		SA12-4	11/3/2005	16	Yes	Yes	No
6-47	Leaking Industrial Waste Line	SA4-4	11/10/2005	16	No	No	No
6-48	Former Coal Pile	SA6-1	11/3/2005	10	No	No	No
		SA6-2	11/3/2005	10	No	No	Yes (High)
		SA6-3	11/3/2005	10	No	No	No
		SA6-4	11/3/2005	10	Yes	No	No
		SA6-5	11/3/2005	10	No	No	No
		SA6-6	11/3/2005	10	No	No	No
		SA6-7	11/3/2005	10	No	No	No
		SA6-8	11/2/2005	10	No	No	No
		SA6-9	11/2/2005	10	No	No	No
		SA6-10	11/3/2005	16	No	No	No
		SA6-11	11/4/2005	10	No	No	No
		SA6-12	11/4/2005	10	No	No	Yes (High)
6-49	2nd Lacquer Booth	SA22-2	11/2/2005	10	No	No	No
		SA22-3	11/2/2005	10	No	No	No
6-59	Stormceptor	SA3-1	11/11/2005	16	No	No	No
		SA3-2	11/11/2005	16	No	No	No
6-60	Paint Mix Room	SA5-1	11/10/2005	10	No	No	No
		SA5-4	11/10/2005	4	No	No	No
		SA5-5	11/10/2005	10	Yes	No	No

TABLE C-1
GM LANSING PLANT 6
HISTORICAL AND SITE ASSESSMENT DATA SUMMARY

CURRENT CONDITIONS REPORT
GENERAL MOTORS CORPORATION

AOI #	Title	Site Assessment Soil Boring IDs	Site Assessment Boring Installation Date	Site Assessment Boring Installation Depth (Feet)	PID > 10 PPM Detected in Field Screening (Boring ID)	LNAPL Detected in Field Screening (Boring ID)	Low (<6.5) or High (>8.5) pH Detected in Field Screening (Boring ID)
6-63	Sump	SA32-1	11/9/2005	10	No	No	Yes (High)
		SA32-2	11/9/2005	4	No	No	No
6-66	Sump						
6-68	Sump	SA29-3	11/9/2005	7	No	No	No
6-78	Former PCB Transformers	SA7-9	11/7/2005	16	No	No	No
6-81	Former Paint Shop Area	SA11-1	11/2/2005	10	No	No	No
		SA11-2	11/1/2005	10	No	No	No
		SA11-3	10/31/2005	7.5	No	No	ND
		SA11-4	10/31/2005	10	No	No	No
		SA11-5	10/31/2005	10	No	No	No
		SA11-6	10/31/2005	10	No	No	No
		SA11-7	10/31/2005	10	No	No	No
		SA11-8	10/31/2005	10	No	No	No
		SA11-9	11/2/2005	10	No	No	Yes (High)
		SA11-10	11/2/2005	10	No	No	No
		SA11-11	11/1/2005	10	No	No	No
		SA11-12	11/1/2005	10	No	No	No
		SA11-14	11/1/2005	10	No	No	No
		SA11-15	11/1/2005	10	No	No	No
		SA11-16	11/1/2005	10	No	No	No
		SA11-17	11/1/2005	10	No	No	No
		SA11-18	11/1/2005	10	No	No	No
6-82	Former Coal Shoot Building (Basement filed with water)	SA20-1	11/4/2005	16	No	No	No
		SA20-2	11/4/2005	16	No	No	Yes (High)
		SA20-3	11/4/2005	16	No	No	No
		SA20-4	11/4/2005	16	Yes	No	Yes
6-83	Power Plant (Sumps, Pits, Trenches, Old WWTP)	SA7-1	11/8/2005	16	No	No	No
		SA7-2	11/8/2005	16	No	No	No
		SA7-3	11/8/2005	16	No	No	No
		SA7-4	11/8/2005	16	No	No	No
		SA7-5	11/7/2005	16	No	No	No
		SA7-6	11/7/2005	16	No	No	No
		SA7-7	11/7/2005	16	No	No	No
		SA7-8	11/7/2005	16	No	No	No
		SA7-9	11/7/2005	16	No	No	No
		SA7-10	11/7/2005	16	No	No	No

ND = Not Done

ARCADIS

November 2005 Site Assessment
Merit – Laboratory Data Sheets

Analytical Laboratory Report

Report ID: S24673.01(01)
Generated on 11/18/2005

Report to

Attention: Amy Hoeksema/ Jim Heading
Blasland, Bouck & Lee, Inc.
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-229-8594 FAX: 810-229-8837

Report produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S24673.01-S24673.09
Project: 64430.200/Plant 6 SSOW# E220002
Submitted Date/Time: 11/07/2005 16:30
Sampled by: Michael Mathiah
P.O. #: 412463

Report Notes

Results relate only to items tested.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
"Not detected" indicates that parameter was not found at a level equal to or greater than the RDL.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Violetta F. Murshak
Laboratory Director

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S24673.01
Sample Tag: SA7-6 (14-16)
Collected Date/Time: 11/07/2005 09:05
Matrix: Soil
COC Reference: 02581

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 13:34	JDP	57-12-5	
Metals								
% Coarse by Weight	88.3	%			11/10/05 12:00	SLS		
% Fine by Weight	11.7	%			11/10/05 12:00	SLS		
Total Solids	88	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 14:29	SLS	7440-36-0	
Arsenic	0.95	mg/kg	0.10	6020	11/14/05 14:29	SLS	7440-38-2	
Barium	59.3	mg/kg	1.0	6020	11/14/05 14:29	SLS	7440-39-3	
Beryllium	0.23	mg/kg	0.50	6020	11/14/05 17:36	SLS	7440-41-7	b
Cadmium	0.13	mg/kg	0.20	6020	11/14/05 14:29	SLS	7440-43-9	b
Chromium	20.8	mg/kg	2.0	6020	11/14/05 14:29	SLS	7440-47-3	
Cobalt	7.38	mg/kg	0.50	6020	11/14/05 14:29	SLS	7440-48-4	
Copper	11.0	mg/kg	1.0	6020	11/14/05 14:29	SLS	7440-50-8	
Lead, Coarse	3.1	mg/kg	1.0	6020	11/16/05 13:55	PER		
Lead, Fine	18.2	mg/kg	1.0	6020	11/16/05 15:05	PER		
Lead, Total Calculated	4.86	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	6.4	mg/kg	1.0	6020	11/14/05 14:29	SLS	7439-92-1	
Manganese	352	mg/kg	1.0	6020	11/14/05 14:29	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:24	JRT	7439-97-6	b
Nickel	22.3	mg/kg	1.0	6020	11/14/05 14:29	SLS	7440-02-0	
Selenium	0.92	mg/kg	0.20	6020	11/14/05 14:29	SLS	7782-49-2	
Silver	0.02	mg/kg	0.10	6020	11/14/05 14:29	SLS	7440-22-4	b
Thallium	0.07	mg/kg	0.50	6020	11/14/05 14:29	SLS	7440-28-0	b
Vanadium	14.7	mg/kg	1.0	6020	11/14/05 14:29	SLS	7440-62-2	
Zinc	35.4	mg/kg	1.0	6020	11/14/05 14:29	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24673.02
Sample Tag: SA7-5 (12-14)
Collected Date/Time: 11/07/2005 09:35
Matrix: Soil
COC Reference: 02581

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 13:36	JDP	57-12-5	
Metals								
% Coarse by Weight	85.8	%			11/10/05 12:00	SLS		
% Fine by Weight	14.2	%			11/10/05 12:00	SLS		
Total Solids	88	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 14:33	SLS	7440-36-0	
Arsenic	1.01	mg/kg	0.10	6020	11/14/05 14:33	SLS	7440-38-2	
Barium	50.0	mg/kg	1.0	6020	11/14/05 14:33	SLS	7440-39-3	
Beryllium	0.22	mg/kg	0.50	6020	11/14/05 17:38	SLS	7440-41-7	b
Cadmium	0.12	mg/kg	0.20	6020	11/14/05 14:33	SLS	7440-43-9	b
Chromium	18.5	mg/kg	2.0	6020	11/14/05 14:33	SLS	7440-47-3	
Cobalt	7.50	mg/kg	0.50	6020	11/14/05 14:33	SLS	7440-48-4	
Copper	11.7	mg/kg	1.0	6020	11/14/05 14:33	SLS	7440-50-8	
Lead, Coarse	4.2	mg/kg	1.0	6020	11/16/05 13:56	PER		
Lead, Fine	16.8	mg/kg	1.0	6020	11/16/05 15:06	PER		
Lead, Total Calculated	5.98	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	6.1	mg/kg	1.0	6020	11/14/05 14:33	SLS	7439-92-1	
Manganese	282	mg/kg	1.0	6020	11/14/05 14:33	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:26	JRT	7439-97-6	b
Nickel	20.0	mg/kg	1.0	6020	11/14/05 14:33	SLS	7440-02-0	
Selenium	0.89	mg/kg	0.20	6020	11/14/05 14:33	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/14/05 14:33	SLS	7440-22-4	
Thallium	0.06	mg/kg	0.50	6020	11/14/05 14:33	SLS	7440-28-0	b
Vanadium	14.3	mg/kg	1.0	6020	11/14/05 14:33	SLS	7440-62-2	
Zinc	34.5	mg/kg	1.0	6020	11/14/05 14:33	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24673.03
Sample Tag: SA10-3 (14-16)
Collected Date/Time: 11/07/2005 11:05
Matrix: Soil
COC Reference: 02581

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 13:38	JDP	57-12-5	
Metals								
% Coarse by Weight	90.2	%			11/10/05 12:00	SLS		
% Fine by Weight	9.8	%			11/10/05 12:00	SLS		
Total Solids	90	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 14:36	SLS	7440-36-0	
Arsenic	1.01	mg/kg	0.10	6020	11/14/05 14:36	SLS	7440-38-2	
Barium	79.6	mg/kg	1.0	6020	11/14/05 14:36	SLS	7440-39-3	
Beryllium	0.15	mg/kg	0.50	6020	11/14/05 17:40	SLS	7440-41-7	b
Cadmium	0.08	mg/kg	0.20	6020	11/14/05 14:36	SLS	7440-43-9	b
Chromium	14.7	mg/kg	2.0	6020	11/14/05 14:36	SLS	7440-47-3	
Cobalt	6.44	mg/kg	0.50	6020	11/14/05 14:36	SLS	7440-48-4	
Copper	10.2	mg/kg	1.0	6020	11/14/05 14:36	SLS	7440-50-8	
Lead, Coarse	4.1	mg/kg	1.0	6020	11/16/05 13:57	PER		
Lead, Fine	42.5	mg/kg	1.0	6020	11/16/05 15:07	PER		
Lead, Total Calculated	7.86	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	4.4	mg/kg	1.0	6020	11/14/05 14:36	SLS	7439-92-1	
Manganese	253	mg/kg	1.0	6020	11/14/05 14:36	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:27	JRT	7439-97-6	b
Nickel	16.0	mg/kg	1.0	6020	11/14/05 14:36	SLS	7440-02-0	
Selenium	0.63	mg/kg	0.20	6020	11/14/05 14:36	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/14/05 14:36	SLS	7440-22-4	
Thallium	0.05	mg/kg	0.50	6020	11/14/05 14:36	SLS	7440-28-0	b
Vanadium	14.2	mg/kg	1.0	6020	11/14/05 14:36	SLS	7440-62-2	
Zinc	27.8	mg/kg	1.0	6020	11/14/05 14:36	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S24673.04
Sample Tag: SA7-9 (7-9)
Collected Date/Time: 11/07/2005 11:45
Matrix: Soil
COC Reference: 02581

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 13:40	JDP	57-12-5	
Metals								
% Coarse by Weight	87.5	%			11/10/05 12:00	SLS		
% Fine by Weight	12.5	%			11/10/05 12:00	SLS		
Total Solids	89	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 14:40	SLS	7440-36-0	
Arsenic	0.91	mg/kg	0.10	6020	11/14/05 14:40	SLS	7440-38-2	
Barium	43.8	mg/kg	1.0	6020	11/14/05 14:40	SLS	7440-39-3	
Beryllium	0.18	mg/kg	0.50	6020	11/14/05 17:43	SLS	7440-41-7	b
Cadmium	0.09	mg/kg	0.20	6020	11/14/05 14:40	SLS	7440-43-9	b
Chromium	17.1	mg/kg	2.0	6020	11/14/05 14:40	SLS	7440-47-3	
Cobalt	7.03	mg/kg	0.50	6020	11/14/05 14:40	SLS	7440-48-4	
Copper	10.6	mg/kg	1.0	6020	11/14/05 14:40	SLS	7440-50-8	
Lead, Coarse	4.2	mg/kg	1.0	6020	11/16/05 13:58	PER		
Lead, Fine	19.2	mg/kg	1.0	6020	11/16/05 15:08	PER		
Lead, Total Calculated	6.07	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	5.7	mg/kg	1.0	6020	11/14/05 14:40	SLS	7439-92-1	
Manganese	280	mg/kg	1.0	6020	11/14/05 14:40	SLS	7439-96-5	
Mercury	0.02	mg/kg	0.050	245.1M	11/10/05 15:29	JRT	7439-97-6	b
Nickel	20.2	mg/kg	1.0	6020	11/14/05 14:40	SLS	7440-02-0	
Selenium	0.58	mg/kg	0.20	6020	11/14/05 14:40	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/14/05 14:40	SLS	7440-22-4	
Thallium	0.06	mg/kg	0.50	6020	11/14/05 14:40	SLS	7440-28-0	b
Vanadium	14.2	mg/kg	1.0	6020	11/14/05 14:40	SLS	7440-62-2	
Zinc	29.8	mg/kg	1.0	6020	11/14/05 14:40	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S24673.05
Sample Tag: SA7-7 (9-11)
Collected Date/Time: 11/07/2005 12:20
Matrix: Soil
COC Reference: 02581

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 13:42	JDP	57-12-5	
Metals								
% Coarse by Weight	92.4	%			11/10/05 12:00	SLS		
% Fine by Weight	7.6	%			11/10/05 12:00	SLS		
Total Solids	89	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 14:44	SLS	7440-36-0	
Arsenic	1.06	mg/kg	0.10	6020	11/14/05 14:44	SLS	7440-38-2	
Barium	71.3	mg/kg	1.0	6020	11/14/05 14:44	SLS	7440-39-3	
Beryllium	0.19	mg/kg	0.50	6020	11/14/05 17:45	SLS	7440-41-7	b
Cadmium	0.10	mg/kg	0.20	6020	11/14/05 14:44	SLS	7440-43-9	b
Chromium	18.3	mg/kg	2.0	6020	11/14/05 14:44	SLS	7440-47-3	
Cobalt	10.6	mg/kg	0.50	6020	11/14/05 14:44	SLS	7440-48-4	
Copper	12.7	mg/kg	1.0	6020	11/14/05 14:44	SLS	7440-50-8	
Lead, Coarse	4.5	mg/kg	1.0	6020	11/16/05 13:59	PER		
Lead, Fine	75.2	mg/kg	1.0	6020	11/16/05 15:09	PER		
Lead, Total Calculated	9.87	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	7.0	mg/kg	1.0	6020	11/14/05 14:44	SLS	7439-92-1	
Manganese	655	mg/kg	1.0	6020	11/14/05 14:44	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:31	JRT	7439-97-6	b
Nickel	24.2	mg/kg	1.0	6020	11/14/05 14:44	SLS	7440-02-0	
Selenium	0.40	mg/kg	0.20	6020	11/14/05 14:44	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/14/05 14:44	SLS	7440-22-4	
Thallium	0.09	mg/kg	0.50	6020	11/14/05 14:44	SLS	7440-28-0	b
Vanadium	14.7	mg/kg	1.0	6020	11/14/05 14:44	SLS	7440-62-2	
Zinc	33.1	mg/kg	1.0	6020	11/14/05 14:44	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24673.06
Sample Tag: SA7-8 (10-12)
Collected Date/Time: 11/07/2005 14:05
Matrix: Soil
COC Reference: 02581

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 13:44	JDP	57-12-5	
Metals								
% Coarse by Weight	88.8	%			11/10/05 12:00	SLS		
% Fine by Weight	11.2	%			11/10/05 12:00	SLS		
Total Solids	89	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 14:47	SLS	7440-36-0	
Arsenic	0.95	mg/kg	0.10	6020	11/14/05 14:47	SLS	7440-38-2	
Barium	40.1	mg/kg	1.0	6020	11/14/05 14:47	SLS	7440-39-3	
Beryllium	0.19	mg/kg	0.50	6020	11/14/05 17:47	SLS	7440-41-7	b
Cadmium	0.10	mg/kg	0.20	6020	11/14/05 14:47	SLS	7440-43-9	b
Chromium	18.1	mg/kg	2.0	6020	11/14/05 14:47	SLS	7440-47-3	
Cobalt	5.76	mg/kg	0.50	6020	11/14/05 14:47	SLS	7440-48-4	
Copper	13.2	mg/kg	1.0	6020	11/14/05 14:47	SLS	7440-50-8	
Lead, Coarse	4.5	mg/kg	1.0	6020	11/16/05 14:00	PER		
Lead, Fine	35.1	mg/kg	1.0	6020	11/16/05 15:10	PER		
Lead, Total Calculated	7.92	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	4.9	mg/kg	1.0	6020	11/14/05 14:47	SLS	7439-92-1	
Manganese	256	mg/kg	1.0	6020	11/14/05 14:47	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:33	JRT	7439-97-6	b
Nickel	17.7	mg/kg	1.0	6020	11/14/05 14:47	SLS	7440-02-0	
Selenium	0.94	mg/kg	0.20	6020	11/14/05 14:47	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/14/05 14:47	SLS	7440-22-4	
Thallium	0.03	mg/kg	0.50	6020	11/14/05 14:47	SLS	7440-28-0	b
Vanadium	16.9	mg/kg	1.0	6020	11/14/05 14:47	SLS	7440-62-2	
Zinc	32.9	mg/kg	1.0	6020	11/14/05 14:47	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24673.07
Sample Tag: SA7-10 (4-6)
Collected Date/Time: 11/07/2005 14:25
Matrix: Soil
COC Reference: 02581

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 13:46	JDP	57-12-5	
Metals								
% Coarse by Weight	90.2	%			11/10/05 12:00	SLS		
% Fine by Weight	9.8	%			11/10/05 12:00	SLS		
Total Solids	90	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 14:51	SLS	7440-36-0	
Arsenic	0.94	mg/kg	0.10	6020	11/14/05 14:51	SLS	7440-38-2	
Barium	42.3	mg/kg	1.0	6020	11/14/05 14:51	SLS	7440-39-3	
Beryllium	0.19	mg/kg	0.50	6020	11/14/05 17:49	SLS	7440-41-7	b
Cadmium	0.09	mg/kg	0.20	6020	11/14/05 14:51	SLS	7440-43-9	b
Chromium	13.8	mg/kg	2.0	6020	11/14/05 14:51	SLS	7440-47-3	
Cobalt	4.54	mg/kg	0.50	6020	11/14/05 14:51	SLS	7440-48-4	
Copper	8.4	mg/kg	1.0	6020	11/14/05 14:51	SLS	7440-50-8	
Lead, Coarse	4.3	mg/kg	1.0	6020	11/16/05 14:01	PER		
Lead, Fine	44.5	mg/kg	1.0	6020	11/16/05 15:11	PER		
Lead, Total Calculated	8.23	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	4.4	mg/kg	1.0	6020	11/14/05 14:51	SLS	7439-92-1	
Manganese	223	mg/kg	1.0	6020	11/14/05 14:51	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:35	JRT	7439-97-6	b
Nickel	12.4	mg/kg	1.0	6020	11/14/05 14:51	SLS	7440-02-0	
Selenium	0.78	mg/kg	0.20	6020	11/14/05 14:51	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/14/05 14:51	SLS	7440-22-4	
Thallium	0.03	mg/kg	0.50	6020	11/14/05 14:51	SLS	7440-28-0	b
Vanadium	11.0	mg/kg	1.0	6020	11/14/05 14:51	SLS	7440-62-2	
Zinc	21.6	mg/kg	1.0	6020	11/14/05 14:51	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24673.08
Sample Tag: SA8-6 (12-14)
Collected Date/Time: 11/07/2005 15:15
Matrix: Soil
COC Reference: 02581

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 13:48	JDP	57-12-5	
Metals								
% Coarse by Weight	85.9	%			11/10/05 12:00	SLS		
% Fine by Weight	14.1	%			11/10/05 12:00	SLS		
Total Solids	91	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 14:55	SLS	7440-36-0	
Arsenic	0.95	mg/kg	0.10	6020	11/14/05 14:55	SLS	7440-38-2	
Barium	39.0	mg/kg	1.0	6020	11/14/05 14:55	SLS	7440-39-3	
Beryllium	0.13	mg/kg	0.50	6020	11/14/05 17:51	SLS	7440-41-7	b
Cadmium	0.09	mg/kg	0.20	6020	11/14/05 14:55	SLS	7440-43-9	b
Chromium	12.4	mg/kg	2.0	6020	11/14/05 14:55	SLS	7440-47-3	
Cobalt	5.74	mg/kg	0.50	6020	11/14/05 14:55	SLS	7440-48-4	
Copper	10.4	mg/kg	1.0	6020	11/14/05 14:55	SLS	7440-50-8	
Lead, Coarse	3.9	mg/kg	1.0	6020	11/16/05 14:02	PER		
Lead, Fine	12.2	mg/kg	1.0	6020	11/16/05 15:12	PER		
Lead, Total Calculated	5.07	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	4.0	mg/kg	1.0	6020	11/14/05 14:55	SLS	7439-92-1	
Manganese	226	mg/kg	1.0	6020	11/14/05 14:55	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:36	JRT	7439-97-6	b
Nickel	14.1	mg/kg	1.0	6020	11/14/05 14:55	SLS	7440-02-0	
Selenium	0.28	mg/kg	0.20	6020	11/14/05 14:55	SLS	7782-49-2	
Silver	0.02	mg/kg	0.10	6020	11/14/05 14:55	SLS	7440-22-4	b
Thallium	0.04	mg/kg	0.50	6020	11/14/05 14:55	SLS	7440-28-0	b
Vanadium	11.3	mg/kg	1.0	6020	11/14/05 14:55	SLS	7440-62-2	
Zinc	30.8	mg/kg	1.0	6020	11/14/05 14:55	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24673.09
Sample Tag: Dup-5
Collected Date/Time: 11/07/2005 :
Matrix: Soil
COC Reference: 02581

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 12:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 13:50	JDP	57-12-5	
Metals								
% Coarse by Weight	89.9	%			11/11/05 12:00	JRT		
% Fine by Weight	10.1	%			11/11/05 12:00	JRT		
Total Solids	90	%	1	160.3	11/11/05 12:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/16/05 15:09	SLS	7440-36-0	
Arsenic	1.64	mg/kg	0.10	6020	11/16/05 15:09	SLS	7440-38-2	
Barium	38.0	mg/kg	1.0	6020	11/16/05 15:09	SLS	7440-39-3	
Beryllium	0.17	mg/kg	0.50	6020	11/16/05 15:09	SLS	7440-41-7	b
Cadmium	0.15	mg/kg	0.20	6020	11/16/05 15:09	SLS	7440-43-9	b
Chromium	8.0	mg/kg	2.0	6020	11/16/05 15:09	SLS	7440-47-3	
Cobalt	3.65	mg/kg	0.50	6020	11/16/05 15:09	SLS	7440-48-4	
Copper	6.7	mg/kg	1.0	6020	11/16/05 15:09	SLS	7440-50-8	
Lead, Coarse	3.9	mg/kg	1.0	6020	11/16/05 14:03	PER		
Lead, Fine	22.2	mg/kg	1.0	6020	11/16/05 15:13	PER		
Lead, Total Calculated	5.74	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	4.6	mg/kg	1.0	6020	11/16/05 15:09	SLS	7439-92-1	
Manganese	245	mg/kg	1.0	6020	11/16/05 15:09	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:39	JRT	7439-97-6	b
Nickel	8.2	mg/kg	1.0	6020	11/16/05 15:09	SLS	7440-02-0	
Selenium	0.48	mg/kg	0.20	6020	11/16/05 15:09	SLS	7782-49-2	
Silver	0.08	mg/kg	0.10	6020	11/16/05 15:09	SLS	7440-22-4	b
Thallium	0.06	mg/kg	0.50	6020	11/16/05 15:09	SLS	7440-28-0	b
Vanadium	8.0	mg/kg	1.0	6020	11/16/05 15:09	SLS	7440-62-2	
Zinc	14.8	mg/kg	1.0	6020	11/16/05 15:09	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

GM REALM ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

ID # Nº 02581

SSOW Ref. Code: E 220002

Required Client Information:

Company: BBL	Report To: CRA
Address: 10559 Citation Dr. Ste 100 Brighton, MI 48116	Copy To: Jim Heading
	Invoice To: CRA
	P.O.:
Phone: 810 229 8594	Project Name: GM Lansing Plt 6
Fax: 810 229 8837	Project Number: 64430
E-mail:	

Laboratory:	Merit
Laboratory Location:	Lansing, MI
Laboratory Contact:	Maya Murshak
Requested Due Date:	TAT: Standard
QA/QC Requirements:	To be determined

Valid Matrix Codes: WG Groundwater; WB Borehole Water; WS Surface Water; SO Soil; SE Sediment; See Back for Additional Codes

Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Preservative: Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	Analysis and Method: (PAL) Metals	Remarks/Lab ID
1. SA 7-6 (14-16)	SO	11/7/05	0905	1	X						X	PID 0.1 (ppm)
2. SA 7-5 (12-14)			0935	1	X						X	0.0
3. SA 10-3 (14-16)			1105	1	X						X	0.5
4. SA 7-9 (7-9)			1145	1	X						X	0.1
5. SA 7-7 (9-11)			1220	1	X						X	0.1
6. SA 7-8 (10-12)			1405	1	X						X	0.2
7. SA 7-10 (4-6)			1425	1	X						X	0.0
8. SA 8-6 (12-14)			1515	1	X						X	0.0
9. Dup-5			—	1	X						X	
10.												
11.												
12.												
13.												
14.												
15.												
TOTAL NUMBER OF CONTAINERS				9								

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
hand deliv	1	[signature] / BBL	11/7/05	1645	Anne Drake	11/7/05	1630
AIRBILL NO. —							

Sample Condition

Temp in °C	4.1
Received on Ice	Y / N
Sealed Cooler	Y / N
Samples Intact	Y / N

Additional Comments:

Sampler Name: Michael Matthys

Sampler Signature: [signature] Date: 11-7-05

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

REV. 0 (6/04)

Analytical Laboratory Report

Report ID: S24603.01(01)
Generated on 11/15/2005

Report to

Attention: Amy Hoeksema/ Jim Heading
Blasland, Bouck & Lee, Inc.
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-229-8594 FAX: 810-229-8837

Report produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S24603.01-S24603.10
Project: 64430.200/Plant 6 SSOW# E220002
Submitted Date/Time: 11/02/2005 16:55
Sampled by: Michael Mathiah
P.O. #: 412463

Report Notes

Results relate only to items tested.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
"Not detected" indicates that parameter was not found at a level equal to or greater than the RDL.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Violetta F. Murshak
Laboratory Director

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S24603.01
Sample Tag: SA22-3 (2-4)
Collected Date/Time: 11/02/2005 08:10
Matrix: Soil
COC Reference: 02578

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/09/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/09/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/09/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/08/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/07/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/15/05 12:40	JDP	57-12-5	
Metals								
% Coarse by Weight	88.0	%			11/09/05 12:00	SLS		
% Fine by Weight	12.0	%			11/09/05 12:00	SLS		
Total Solids	86	%	1	160.3	11/09/05 12:00	SLS		
Antimony	Not detected	mg/kg	0.30	6020	11/09/05 13:49	SLS	7440-36-0	
Arsenic	1.79	mg/kg	0.10	6020	11/09/05 13:49	SLS	7440-38-2	
Barium	142	mg/kg	1.0	6020	11/09/05 13:49	SLS	7440-39-3	
Beryllium	0.39	mg/kg	0.50	6020	11/09/05 13:49	SLS	7440-41-7	b
Cadmium	0.16	mg/kg	0.20	6020	11/09/05 13:49	SLS	7440-43-9	b
Chromium	10.6	mg/kg	2.0	6020	11/09/05 13:49	SLS	7440-47-3	
Cobalt	5.50	mg/kg	0.50	6020	11/09/05 13:49	SLS	7440-48-4	
Copper	8.4	mg/kg	1.0	6020	11/09/05 13:49	SLS	7440-50-8	
Lead, Coarse	5.5	mg/kg	1.0	6020	11/10/05 15:53	PER		
Lead, Fine	14.9	mg/kg	1.0	6020	11/10/05 16:49	PER		
Lead, Total Calculated	6.62	mg/kg	1.0	6020	11/10/05 17:30	PER	7439-92-1C	
Lead	5.9	mg/kg	1.0	6020	11/09/05 13:49	SLS	7439-92-1	
Manganese	368	mg/kg	1.0	6020	11/09/05 13:49	SLS	7439-96-5	
Mercury	0.02	mg/kg	0.050	245.1M	11/08/05 15:28	JRT	7439-97-6	b
Nickel	10.0	mg/kg	1.0	6020	11/09/05 13:49	SLS	7440-02-0	
Selenium	0.17	mg/kg	0.20	6020	11/09/05 13:49	SLS	7782-49-2	b
Silver	0.02	mg/kg	0.10	6020	11/09/05 13:49	SLS	7440-22-4	b
Thallium	Not detected	mg/kg	0.50	6020	11/09/05 13:49	SLS	7440-28-0	
Vanadium	14.5	mg/kg	1.0	6020	11/09/05 13:49	SLS	7440-62-2	
Zinc	25.4	mg/kg	1.0	6020	11/09/05 13:49	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24603.02
Sample Tag: SA22-2 (2-4)
Collected Date/Time: 11/02/2005 09:05
Matrix: Soil
COC Reference: 02578

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/09/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/09/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/09/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/08/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/07/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/15/05 12:42	JDP	57-12-5	
Metals								
% Coarse by Weight	86.7	%			11/09/05 12:00	SLS		
% Fine by Weight	13.3	%			11/09/05 12:00	SLS		
Total Solids	84	%	1	160.3	11/09/05 12:00	SLS		
Antimony	0.09	mg/kg	0.30	6020	11/09/05 13:58	SLS	7440-36-0	b
Arsenic	1.12	mg/kg	0.10	6020	11/09/05 13:58	SLS	7440-38-2	
Barium	100	mg/kg	1.0	6020	11/09/05 13:58	SLS	7440-39-3	
Beryllium	0.42	mg/kg	0.50	6020	11/09/05 13:58	SLS	7440-41-7	b
Cadmium	0.32	mg/kg	0.20	6020	11/09/05 13:58	SLS	7440-43-9	
Chromium	5.8	mg/kg	2.0	6020	11/09/05 13:58	SLS	7440-47-3	
Cobalt	4.32	mg/kg	0.50	6020	11/09/05 13:58	SLS	7440-48-4	
Copper	7.0	mg/kg	1.0	6020	11/09/05 13:58	SLS	7440-50-8	
Lead, Coarse	7.5	mg/kg	1.0	6020	11/10/05 15:54	PER		
Lead, Fine	20.7	mg/kg	1.0	6020	11/10/05 16:50	PER		
Lead, Total Calculated	9.25	mg/kg	1.0	6020	11/10/05 17:30	PER	7439-92-1C	
Lead	7.9	mg/kg	1.0	6020	11/09/05 13:58	SLS	7439-92-1	
Manganese	98.2	mg/kg	1.0	6020	11/09/05 13:58	SLS	7439-96-5	
Mercury	0.04	mg/kg	0.050	245.1M	11/08/05 15:30	JRT	7439-97-6	b
Nickel	5.1	mg/kg	1.0	6020	11/09/05 13:58	SLS	7440-02-0	
Selenium	1.01	mg/kg	0.20	6020	11/09/05 13:58	SLS	7782-49-2	
Silver	0.14	mg/kg	0.10	6020	11/09/05 13:58	SLS	7440-22-4	
Thallium	0.15	mg/kg	0.50	6020	11/09/05 13:58	SLS	7440-28-0	b
Vanadium	9.5	mg/kg	1.0	6020	11/09/05 13:58	SLS	7440-62-2	
Zinc	18.5	mg/kg	1.0	6020	11/09/05 13:58	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24603.03
Sample Tag: SA11-9 (8-10)
Collected Date/Time: 11/02/2005 09:45
Matrix: Soil
COC Reference: 02578

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/09/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/09/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/09/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/08/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/07/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/15/05 12:44	JDP	57-12-5	
Metals								
% Coarse by Weight	94.2	%			11/09/05 12:00	SLS		
% Fine by Weight	5.8	%			11/09/05 12:00	SLS		
Total Solids	89	%	1	160.3	11/09/05 12:00	SLS		
Antimony	Not detected	mg/kg	0.30	6020	11/09/05 14:02	SLS	7440-36-0	
Arsenic	0.80	mg/kg	0.10	6020	11/09/05 14:02	SLS	7440-38-2	
Barium	60.9	mg/kg	1.0	6020	11/09/05 14:02	SLS	7440-39-3	
Beryllium	0.33	mg/kg	0.50	6020	11/09/05 14:02	SLS	7440-41-7	b
Cadmium	0.10	mg/kg	0.20	6020	11/09/05 14:02	SLS	7440-43-9	b
Chromium	19.3	mg/kg	2.0	6020	11/09/05 14:02	SLS	7440-47-3	
Cobalt	6.39	mg/kg	0.50	6020	11/09/05 14:02	SLS	7440-48-4	
Copper	9.6	mg/kg	1.0	6020	11/09/05 14:02	SLS	7440-50-8	
Lead, Coarse	3.9	mg/kg	1.0	6020	11/10/05 15:55	PER		
Lead, Fine	12.8	mg/kg	1.0	6020	11/10/05 16:51	PER		
Lead, Total Calculated	4.41	mg/kg	1.0	6020	11/10/05 17:30	PER	7439-92-1C	
Lead	5.2	mg/kg	1.0	6020	11/09/05 14:02	SLS	7439-92-1	
Manganese	340	mg/kg	1.0	6020	11/09/05 14:02	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/08/05 15:32	JRT	7439-97-6	b
Nickel	20.3	mg/kg	1.0	6020	11/09/05 14:02	SLS	7440-02-0	
Selenium	0.65	mg/kg	0.20	6020	11/09/05 14:02	SLS	7782-49-2	
Silver	0.02	mg/kg	0.10	6020	11/09/05 14:02	SLS	7440-22-4	b
Thallium	0.08	mg/kg	0.50	6020	11/09/05 14:02	SLS	7440-28-0	b
Vanadium	14.0	mg/kg	1.0	6020	11/09/05 14:02	SLS	7440-62-2	
Zinc	28.0	mg/kg	1.0	6020	11/09/05 14:02	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24603.04
Sample Tag: SA11-10 (3-5)
Collected Date/Time: 11/02/2005 11:15
Matrix: Soil
COC Reference: 02578

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/09/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/09/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/09/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/08/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/07/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/15/05 12:46	JDP	57-12-5	
Metals								
% Coarse by Weight	93.3	%			11/09/05 12:00	SLS		
% Fine by Weight	6.7	%			11/09/05 12:00	SLS		
Total Solids	86	%	1	160.3	11/09/05 12:00	SLS		
Antimony	Not detected	mg/kg	0.30	6020	11/09/05 14:05	SLS	7440-36-0	
Arsenic	1.06	mg/kg	0.10	6020	11/09/05 14:05	SLS	7440-38-2	
Barium	31.2	mg/kg	1.0	6020	11/09/05 14:05	SLS	7440-39-3	
Beryllium	0.34	mg/kg	0.50	6020	11/09/05 14:05	SLS	7440-41-7	b
Cadmium	0.16	mg/kg	0.20	6020	11/09/05 14:05	SLS	7440-43-9	b
Chromium	7.1	mg/kg	2.0	6020	11/09/05 14:05	SLS	7440-47-3	
Cobalt	3.58	mg/kg	0.50	6020	11/09/05 14:05	SLS	7440-48-4	
Copper	7.3	mg/kg	1.0	6020	11/09/05 14:05	SLS	7440-50-8	
Lead, Coarse	8.9	mg/kg	1.0	6020	11/10/05 15:56	PER		
Lead, Fine	26.9	mg/kg	1.0	6020	11/10/05 16:52	PER		
Lead, Total Calculated	10.1	mg/kg	1.0	6020	11/10/05 17:30	PER	7439-92-1C	
Lead	6.7	mg/kg	1.0	6020	11/09/05 14:05	SLS	7439-92-1	
Manganese	282	mg/kg	1.0	6020	11/09/05 14:05	SLS	7439-96-5	
Mercury	0.03	mg/kg	0.050	245.1M	11/08/05 15:34	JRT	7439-97-6	b
Nickel	8.3	mg/kg	1.0	6020	11/09/05 14:05	SLS	7440-02-0	
Selenium	0.29	mg/kg	0.20	6020	11/09/05 14:05	SLS	7782-49-2	
Silver	0.03	mg/kg	0.10	6020	11/09/05 14:05	SLS	7440-22-4	b
Thallium	Not detected	mg/kg	0.50	6020	11/09/05 14:05	SLS	7440-28-0	
Vanadium	8.1	mg/kg	1.0	6020	11/09/05 14:05	SLS	7440-62-2	
Zinc	19.1	mg/kg	1.0	6020	11/09/05 14:05	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24603.05
Sample Tag: SA11-1 (3-5)
Collected Date/Time: 11/02/2005 13:10
Matrix: Soil
COC Reference: 02578

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/09/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/09/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/09/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/08/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/07/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/15/05 12:48	JDP	57-12-5	
Metals								
% Coarse by Weight	96.4	%			11/09/05 12:00	SLS		
% Fine by Weight	3.6	%			11/09/05 12:00	SLS		
Total Solids	83	%	1	160.3	11/09/05 12:00	SLS		
Antimony	Not detected	mg/kg	0.30	6020	11/09/05 14:09	SLS	7440-36-0	
Arsenic	1.44	mg/kg	0.10	6020	11/09/05 14:09	SLS	7440-38-2	
Barium	180	mg/kg	1.0	6020	11/09/05 14:09	SLS	7440-39-3	
Beryllium	0.84	mg/kg	0.50	6020	11/09/05 14:09	SLS	7440-41-7	
Cadmium	0.28	mg/kg	0.20	6020	11/09/05 14:09	SLS	7440-43-9	
Chromium	18.3	mg/kg	2.0	6020	11/09/05 14:09	SLS	7440-47-3	
Cobalt	8.08	mg/kg	0.50	6020	11/09/05 14:09	SLS	7440-48-4	
Copper	18.1	mg/kg	1.0	6020	11/09/05 14:09	SLS	7440-50-8	
Lead, Coarse	6.4	mg/kg	1.0	6020	11/10/05 15:59	PER		
Lead, Fine	14.1	mg/kg	1.0	6020	11/10/05 16:55	PER		
Lead, Total Calculated	6.67	mg/kg	1.0	6020	11/10/05 17:30	PER	7439-92-1C	
Lead	6.9	mg/kg	1.0	6020	11/09/05 14:09	SLS	7439-92-1	
Manganese	671	mg/kg	1.0	6020	11/09/05 14:09	SLS	7439-96-5	
Mercury	0.061	mg/kg	0.050	245.1M	11/08/05 15:35	JRT	7439-97-6	
Nickel	18.4	mg/kg	1.0	6020	11/09/05 14:09	SLS	7440-02-0	
Selenium	0.27	mg/kg	0.20	6020	11/09/05 14:09	SLS	7782-49-2	
Silver	0.03	mg/kg	0.10	6020	11/09/05 14:09	SLS	7440-22-4	b
Thallium	Not detected	mg/kg	0.50	6020	11/09/05 14:09	SLS	7440-28-0	
Vanadium	20.2	mg/kg	1.0	6020	11/09/05 14:09	SLS	7440-62-2	
Zinc	55.0	mg/kg	1.0	6020	11/09/05 14:09	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24603.06
Sample Tag: SA12-1 (9-11)
Collected Date/Time: 11/02/2005 14:00
Matrix: Soil
COC Reference: 02578

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/09/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/09/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/09/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/08/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/07/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/15/05 12:50	JDP	57-12-5	
Metals								
% Coarse by Weight	91.7	%			11/09/05 12:00	SLS		
% Fine by Weight	8.3	%			11/09/05 12:00	SLS		
Total Solids	83	%	1	160.3	11/09/05 12:00	SLS		
Antimony	Not detected	mg/kg	0.30	6020	11/09/05 14:13	SLS	7440-36-0	
Arsenic	0.76	mg/kg	0.10	6020	11/09/05 14:13	SLS	7440-38-2	
Barium	104	mg/kg	1.0	6020	11/09/05 14:13	SLS	7440-39-3	
Beryllium	0.74	mg/kg	0.50	6020	11/09/05 14:13	SLS	7440-41-7	
Cadmium	0.22	mg/kg	0.20	6020	11/09/05 14:13	SLS	7440-43-9	
Chromium	22.8	mg/kg	2.0	6020	11/09/05 14:13	SLS	7440-47-3	
Cobalt	17.4	mg/kg	0.50	6020	11/09/05 14:13	SLS	7440-48-4	
Copper	16.3	mg/kg	1.0	6020	11/09/05 14:13	SLS	7440-50-8	
Lead, Coarse	5.9	mg/kg	1.0	6020	11/10/05 16:00	PER		
Lead, Fine	11.7	mg/kg	1.0	6020	11/10/05 16:56	PER		
Lead, Total Calculated	6.38	mg/kg	1.0	6020	11/10/05 17:30	PER	7439-92-1C	
Lead	8.6	mg/kg	1.0	6020	11/09/05 14:13	SLS	7439-92-1	
Manganese	548	mg/kg	1.0	6020	11/09/05 14:13	SLS	7439-96-5	
Mercury	0.02	mg/kg	0.050	245.1M	11/08/05 15:37	JRT	7439-97-6	b
Nickel	31.5	mg/kg	1.0	6020	11/09/05 14:13	SLS	7440-02-0	
Selenium	0.26	mg/kg	0.20	6020	11/09/05 14:13	SLS	7782-49-2	
Silver	0.03	mg/kg	0.10	6020	11/09/05 14:13	SLS	7440-22-4	b
Thallium	0.02	mg/kg	0.50	6020	11/09/05 14:13	SLS	7440-28-0	b
Vanadium	15.9	mg/kg	1.0	6020	11/09/05 14:13	SLS	7440-62-2	
Zinc	44.0	mg/kg	1.0	6020	11/09/05 14:13	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24603.07
Sample Tag: SA12-2 (10-12)
Collected Date/Time: 11/02/2005 15:00
Matrix: Soil
COC Reference: 02578

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/09/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/09/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/09/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/08/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/07/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/15/05 12:52	JDP	57-12-5	
Metals								
% Coarse by Weight	98.1	%			11/09/05 12:00	SLS		
% Fine by Weight	1.9	%			11/09/05 12:00	SLS		
Total Solids	79	%	1	160.3	11/09/05 12:00	SLS		
Antimony	Not detected	mg/kg	0.30	6020	11/09/05 14:17	SLS	7440-36-0	
Arsenic	1.01	mg/kg	0.10	6020	11/09/05 14:17	SLS	7440-38-2	
Barium	140	mg/kg	1.0	6020	11/09/05 14:17	SLS	7440-39-3	
Beryllium	1.19	mg/kg	0.50	6020	11/09/05 14:17	SLS	7440-41-7	
Cadmium	0.18	mg/kg	0.20	6020	11/09/05 14:17	SLS	7440-43-9	b
Chromium	25.7	mg/kg	2.0	6020	11/09/05 14:17	SLS	7440-47-3	
Cobalt	22.8	mg/kg	0.50	6020	11/09/05 14:17	SLS	7440-48-4	
Copper	11.9	mg/kg	1.0	6020	11/09/05 14:17	SLS	7440-50-8	
Lead, Coarse	17.5	mg/kg	1.0	6020	11/10/05 16:01	PER		
Lead, Fine	49.6	mg/kg	1.0	6020	11/10/05 16:57	PER		
Lead, Total Calculated	18.1	mg/kg	1.0	6020	11/10/05 17:30	PER	7439-92-1C	
Lead	13.9	mg/kg	1.0	6020	11/09/05 14:17	SLS	7439-92-1	
Manganese	191	mg/kg	1.0	6020	11/09/05 14:17	SLS	7439-96-5	
Mercury	0.076	mg/kg	0.050	245.1M	11/08/05 15:39	JRT	7439-97-6	
Nickel	17.3	mg/kg	1.0	6020	11/09/05 14:17	SLS	7440-02-0	
Selenium	0.40	mg/kg	0.20	6020	11/09/05 14:17	SLS	7782-49-2	
Silver	0.04	mg/kg	0.10	6020	11/09/05 14:17	SLS	7440-22-4	b
Thallium	0.03	mg/kg	0.50	6020	11/09/05 14:17	SLS	7440-28-0	b
Vanadium	23.4	mg/kg	1.0	6020	11/09/05 14:17	SLS	7440-62-2	
Zinc	53.2	mg/kg	1.0	6020	11/09/05 14:17	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24603.08
Sample Tag: SA12-3 (10-12)
Collected Date/Time: 11/02/2005 15:50
Matrix: Soil
COC Reference: 02578

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/09/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/09/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/09/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/08/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/07/05 12:00	SLS		
Inorganics								
Cyanide	0.35	mg/kg	0.1	9010B	11/15/05 12:54	JDP	57-12-5	
Metals								
% Coarse by Weight	77.3	%			11/09/05 12:00	SLS		
% Fine by Weight	22.7	%			11/09/05 12:00	SLS		
Total Solids	87	%	1	160.3	11/09/05 12:00	SLS		
Antimony	0.10	mg/kg	0.30	6020	11/09/05 14:20	SLS	7440-36-0	b
Arsenic	1.34	mg/kg	0.10	6020	11/09/05 14:20	SLS	7440-38-2	
Barium	50.7	mg/kg	1.0	6020	11/09/05 14:20	SLS	7440-39-3	
Beryllium	0.18	mg/kg	0.50	6020	11/09/05 14:20	SLS	7440-41-7	b
Cadmium	0.17	mg/kg	0.20	6020	11/09/05 14:20	SLS	7440-43-9	b
Chromium	6.4	mg/kg	2.0	6020	11/09/05 14:20	SLS	7440-47-3	
Cobalt	2.36	mg/kg	0.50	6020	11/09/05 14:20	SLS	7440-48-4	
Copper	7.7	mg/kg	1.0	6020	11/09/05 14:20	SLS	7440-50-8	
Lead, Coarse	24.5	mg/kg	1.0	6020	11/10/05 16:02	PER		
Lead, Fine	39.2	mg/kg	1.0	6020	11/10/05 16:58	PER		
Lead, Total Calculated	27.8	mg/kg	1.0	6020	11/10/05 17:30	PER	7439-92-1C	
Lead	23.6	mg/kg	1.0	6020	11/09/05 14:20	SLS	7439-92-1	
Manganese	199	mg/kg	1.0	6020	11/09/05 14:20	SLS	7439-96-5	
Mercury	0.03	mg/kg	0.050	245.1M	11/08/05 15:45	JRT	7439-97-6	b
Nickel	4.0	mg/kg	1.0	6020	11/09/05 14:20	SLS	7440-02-0	
Selenium	0.32	mg/kg	0.20	6020	11/09/05 14:20	SLS	7782-49-2	
Silver	0.03	mg/kg	0.10	6020	11/09/05 14:20	SLS	7440-22-4	b
Thallium	0.03	mg/kg	0.50	6020	11/09/05 14:20	SLS	7440-28-0	b
Vanadium	6.3	mg/kg	1.0	6020	11/09/05 14:20	SLS	7440-62-2	
Zinc	20.9	mg/kg	1.0	6020	11/09/05 14:20	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24603.09
Sample Tag: SA12-3 (10-12) MS
Collected Date/Time: 11/02/2005 15:50
Matrix: Soil
COC Reference: 02578

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/09/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/09/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/09/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/08/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/07/05 12:00	SLS		
Inorganics								
Cyanide	2.68	mg/kg	0.1	9010B	11/15/05 12:56	JDP	57-12-5	
Metals								
% Coarse by Weight	77.3	%			11/09/05 12:00	SLS		
% Fine by Weight	22.7	%			11/09/05 12:00	SLS		
Total Solids	87	%	1	160.3	11/09/05 12:00	SLS		
Antimony	23.6	mg/kg	0.30	6020	11/09/05 14:24	SLS	7440-36-0	
Arsenic	25.6	mg/kg	0.10	6020	11/09/05 14:24	SLS	7440-38-2	
Barium	75.8	mg/kg	1.0	6020	11/09/05 14:24	SLS	7440-39-3	
Beryllium	22.6	mg/kg	0.50	6020	11/09/05 14:24	SLS	7440-41-7	
Cadmium	23.02	mg/kg	0.20	6020	11/09/05 14:24	SLS	7440-43-9	
Chromium	30.8	mg/kg	2.0	6020	11/09/05 14:24	SLS	7440-47-3	
Cobalt	25.8	mg/kg	0.50	6020	11/09/05 14:24	SLS	7440-48-4	
Copper	30.4	mg/kg	1.0	6020	11/09/05 14:24	SLS	7440-50-8	
Lead, Coarse	60.1	mg/kg	1.0	6020	11/10/05 16:03	PER		
Lead, Fine	91.9	mg/kg	1.0	6020	11/10/05 16:59	PER		
Lead, Total Calculated	67.3	mg/kg	1.0	6020	11/10/05 17:30	PER	7439-92-1C	
Lead	47.4	mg/kg	1.0	6020	11/09/05 14:24	SLS	7439-92-1	
Manganese	218	mg/kg	1.0	6020	11/09/05 14:24	SLS	7439-96-5	
Mercury	0.148	mg/kg	0.050	245.1M	11/08/05 15:46	JRT	7439-97-6	
Nickel	26.3	mg/kg	1.0	6020	11/09/05 14:24	SLS	7440-02-0	
Selenium	22.6	mg/kg	0.20	6020	11/09/05 14:24	SLS	7782-49-2	
Silver	22.16	mg/kg	0.10	6020	11/09/05 14:24	SLS	7440-22-4	
Thallium	24.6	mg/kg	0.50	6020	11/09/05 14:24	SLS	7440-28-0	
Vanadium	32.0	mg/kg	1.0	6020	11/09/05 14:24	SLS	7440-62-2	
Zinc	42.0	mg/kg	1.0	6020	11/09/05 14:24	SLS	7440-66-6	

Analytical Laboratory Report

Lab Sample ID: S24603.10
Sample Tag: SA12-3 (10-12) MSD
Collected Date/Time: 11/02/2005 15:50
Matrix: Soil
COC Reference: 02578

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/09/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/09/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/09/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/08/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/07/05 12:00	SLS		
Inorganics								
Cyanide	2.56	mg/kg	0.1	9010B	11/15/05 12:58	JDP	57-12-5	
Metals								
% Coarse by Weight	77.3	%			11/09/05 12:00	SLS		
% Fine by Weight	22.7	%			11/09/05 12:00	SLS		
Total Solids	87	%	1	160.3	11/09/05 12:00	SLS		
Antimony	24.2	mg/kg	0.30	6020	11/09/05 14:28	SLS	7440-36-0	
Arsenic	26.0	mg/kg	0.10	6020	11/09/05 14:28	SLS	7440-38-2	
Barium	78.0	mg/kg	1.0	6020	11/09/05 14:28	SLS	7440-39-3	
Beryllium	22.6	mg/kg	0.50	6020	11/09/05 14:28	SLS	7440-41-7	
Cadmium	23.22	mg/kg	0.20	6020	11/09/05 14:28	SLS	7440-43-9	
Chromium	31.2	mg/kg	2.0	6020	11/09/05 14:28	SLS	7440-47-3	
Cobalt	25.2	mg/kg	0.50	6020	11/09/05 14:28	SLS	7440-48-4	
Copper	29.8	mg/kg	1.0	6020	11/09/05 14:28	SLS	7440-50-8	
Lead, Coarse	64.1	mg/kg	1.0	6020	11/10/05 16:04	PER		
Lead, Fine	95.3	mg/kg	1.0	6020	11/10/05 17:00	PER		
Lead, Total Calculated	71.1	mg/kg	1.0	6020	11/10/05 17:30	PER	7439-92-1C	
Lead	46.8	mg/kg	1.0	6020	11/09/05 14:28	SLS	7439-92-1	
Manganese	225	mg/kg	1.0	6020	11/09/05 14:28	SLS	7439-96-5	
Mercury	0.147	mg/kg	0.050	245.1M	11/08/05 15:48	JRT	7439-97-6	
Nickel	25.5	mg/kg	1.0	6020	11/09/05 14:28	SLS	7440-02-0	
Selenium	23.4	mg/kg	0.20	6020	11/09/05 14:28	SLS	7782-49-2	
Silver	22.52	mg/kg	0.10	6020	11/09/05 14:28	SLS	7440-22-4	
Thallium	24.5	mg/kg	0.50	6020	11/09/05 14:28	SLS	7440-28-0	
Vanadium	31.4	mg/kg	1.0	6020	11/09/05 14:28	SLS	7440-62-2	
Zinc	42.1	mg/kg	1.0	6020	11/09/05 14:28	SLS	7440-66-6	

GM REALM ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

ID # Nº 02578

SSOW Ref. Code: ~~E088008-WP~~ E 220002

Required Client Information:

Company: BBL	Report To: CRA
Address: 10559 Citation Dr Brighton MI 48116	Copy To: Jim Heading
	Invoice To: CRA
	P.O.:
Phone: (810)-229-8594	Project Name: Lansing Plant 6
Fax: (810)-229-8837	Project Number: 64480.200
E-mail: Jheading@BBL-Inc.com	

Laboratory: Merit	
Laboratory Location: East Lansing Michigan	
Laboratory Contact: Maya Murshaich	
Requested Due Date:	TAT: Standard
QA/QC Requirements: To be determined	

Valid Matrix Codes: WG Groundwater; WB Borehole Water; WS Surface Water; SO Soil; SE Sediment; See Back for Additional Codes

Analysis and Method

Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Preservative: Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	PAL Metals	PID	Remarks/Lab ID
24603 .01 1. SA 22-3 (2-4)	SO	11/2/05	0840	1	1						X	4.2	
.02 2. SA 22-2 (2-4)			0905									4.1	
.03 3. SA 11-9 (8-10)			0945									3.6	
.04 4. SA 11-10 (3-5)			1115									1.9	
.05 5. SA 11-1 (3-5)			1310									0.9	
.06 6. SA 12-1 (9-11)			1400									0.9	
.07 7. SA 12-2 (10-12)			1500									0.6	
.08 8. SA 12-3 (10-12)			1550									0.4	MS/MSD
9.													
10.													
11.													
12.													
13.													
14.													
15.													
TOTAL NUMBER OF CONTAINERS													

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
BBL Drop off	1	Wayne [illegible] / BBL	11-2-05	1655	Anne Stakie Merit	11-2-05	1655
AIRBILL NO.							

Sample Condition

Temp in °C	3.7
Received on Ice	Y / N
Sealed Cooler	Y / N
Samples Intact	Y / N

Additional Comments:

Sampler Name: Michael Mathis

Sampler Signature: [signature] Date: 11-2-05

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

REV. 0 (6/04)

Analytical Laboratory Report

Report ID: S24738.01(01)
Generated on 11/29/2005

Report to

Attention: Amy Hoeksema/ Jim Heading
Blasland, Bouck & Lee, Inc.
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-229-8594 FAX: 810-229-8837

Report produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S24738.01-S24738.09
Project: 64430.200/Plant 6 SSOW# E220002
Submitted Date/Time: 11/10/2005 16:15
Sampled by: Wayne Patterson
P.O. #: 412463

Report Notes

Results relate only to items tested.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
""Not detected"" indicates that parameter was not found at a level equal to or greater than the RDL.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Violetta F. Murshak
Laboratory Director

Analytical Laboratory Report

Lab Sample ID: S24738.01
Sample Tag: SA26-3 (3-5)
Collected Date/Time: 11/10/2005 08:40
Matrix: Soil
COC Reference: 02585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.7	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/18/05 13:10	JDP	57-12-5	
Metals								
% Coarse by Weight	32.4	%			11/11/05 13:00	JRT		
% Fine by Weight	67.6	%			11/11/05 13:00	JRT		
Total Solids	91	%	1	160.3	11/11/05 13:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/17/05 15:42	SLS	7440-36-0	
Arsenic	0.89	mg/kg	0.10	6020	11/17/05 15:42	SLS	7440-38-2	
Barium	7.0	mg/kg	1.0	6020	11/17/05 15:42	SLS	7440-39-3	
Beryllium	0.05	mg/kg	0.50	6020	11/17/05 15:42	SLS	7440-41-7	b
Cadmium	0.05	mg/kg	0.20	6020	11/17/05 15:42	SLS	7440-43-9	b
Chromium	1.8	mg/kg	2.0	6020	11/17/05 15:42	SLS	7440-47-3	b
Cobalt	1.39	mg/kg	0.50	6020	11/17/05 15:42	SLS	7440-48-4	
Copper	2.5	mg/kg	1.0	6020	11/17/05 15:42	SLS	7440-50-8	
Lead, Coarse	3.0	mg/kg	1.0	6020	11/18/05 15:31	PER		
Lead, Fine	3.6	mg/kg	1.0	6020	11/18/05 16:23	PER		
Lead, Total Calculated	3.40	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	2.2	mg/kg	1.0	6020	11/17/05 15:42	SLS	7439-92-1	
Manganese	121	mg/kg	1.0	6020	11/17/05 15:42	SLS	7439-96-5	
Mercury	Not detected	mg/kg	0.050	245.1M	11/15/05 15:08	JRT	7439-97-6	
Nickel	2.8	mg/kg	1.0	6020	11/17/05 15:42	SLS	7440-02-0	
Selenium	Not detected	mg/kg	0.20	6020	11/17/05 15:42	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/17/05 15:42	SLS	7440-22-4	
Thallium	Not detected	mg/kg	0.50	6020	11/17/05 15:42	SLS	7440-28-0	
Vanadium	2.6	mg/kg	1.0	6020	11/17/05 15:42	SLS	7440-62-2	
Zinc	5.5	mg/kg	1.0	6020	11/17/05 15:42	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24738.02
Sample Tag: SA5-5 (8-10)
Collected Date/Time: 11/10/2005 09:10
Matrix: Soil
COC Reference: 02585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.7	IR
1	40 ml Glass	MeOH	Yes	4.7	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/18/05 13:18	JDP	57-12-5	
Metals								
% Coarse by Weight	70.7	%			11/11/05 13:00	JRT		
% Fine by Weight	29.3	%			11/11/05 13:00	JRT		
Total Solids	97	%	1	160.3	11/11/05 13:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/17/05 15:46	SLS	7440-36-0	
Arsenic	0.80	mg/kg	0.10	6020	11/17/05 15:46	SLS	7440-38-2	
Barium	6.0	mg/kg	1.0	6020	11/17/05 15:46	SLS	7440-39-3	
Beryllium	0.04	mg/kg	0.50	6020	11/17/05 15:46	SLS	7440-41-7	b
Cadmium	0.06	mg/kg	0.20	6020	11/17/05 15:46	SLS	7440-43-9	b
Chromium	1.8	mg/kg	2.0	6020	11/17/05 15:46	SLS	7440-47-3	b
Cobalt	1.01	mg/kg	0.50	6020	11/17/05 15:46	SLS	7440-48-4	
Copper	3.9	mg/kg	1.0	6020	11/17/05 15:46	SLS	7440-50-8	
Lead, Coarse	1.5	mg/kg	1.0	6020	11/18/05 15:32	PER		
Lead, Fine	4.9	mg/kg	1.0	6020	11/18/05 16:24	PER		
Lead, Total Calculated	2.49	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	2.3	mg/kg	1.0	6020	11/17/05 15:46	SLS	7439-92-1	
Manganese	132	mg/kg	1.0	6020	11/17/05 15:46	SLS	7439-96-5	
Mercury	Not detected	mg/kg	0.050	245.1M	11/15/05 15:09	JRT	7439-97-6	
Nickel	2.3	mg/kg	1.0	6020	11/17/05 15:46	SLS	7440-02-0	
Selenium	0.36	mg/kg	0.20	6020	11/17/05 15:46	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/17/05 15:46	SLS	7440-22-4	
Thallium	Not detected	mg/kg	0.50	6020	11/17/05 15:46	SLS	7440-28-0	
Vanadium	2.0	mg/kg	1.0	6020	11/17/05 15:46	SLS	7440-62-2	
Zinc	6.9	mg/kg	1.0	6020	11/17/05 15:46	SLS	7440-66-6	
Organics - Volatiles								
TCL Volatile Organics 5035/8260								
Acetone	25,200	ug/kg	800	5035/8260B	11/22/05 13:18	JGH	67-64-1	E
2-Butanone (MEK)	Not detected	ug/kg	1,500	5035/8260B	11/22/05 13:18	JGH	78-93-3	X
Benzene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	71-43-2	

b-Value detected less than reporting limit, but greater than MDL
E-Concentration exceeds calibration range
X-Elevated reporting limit due to matrix interference

Lab Sample ID: S24738.02 (continued)

Sample Tag: SA5-5 (8-10)

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (continued)								
Bromodichloromethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	75-27-4	
Bromoform	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	75-25-2	
Bromomethane	Not detected	ug/kg	300	5035/8260B	11/22/05 13:18	JGH	74-83-9	
Carbon disulfide	Not detected	ug/kg	300	5035/8260B	11/22/05 13:18	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	56-23-5	
Chlorobenzene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	108-90-7	
Chloroethane	Not detected	ug/kg	300	5035/8260B	11/22/05 13:18	JGH	75-00-3	
Chloroform	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	67-66-3	
Chloromethane	Not detected	ug/kg	300	5035/8260B	11/22/05 13:18	JGH	74-87-3	
Cyclohexane	40	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	110-82-7	J
1,1-Dichloroethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/kg	20	5035/8260B	11/22/05 13:18	JGH	106-93-4	M
1,2-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	156-59-2	
cis-1,3-Dichloropropene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	10061-01-5	
Dibromochloromethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	156-60-5	
trans-1,3-Dichloropropene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	10061-02-6	
Ethylbenzene	5,630	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	100-41-4	
2-Hexanone	Not detected	ug/kg	3,000	5035/8260B	11/22/05 13:18	JGH	591-78-6	
Isopropylbenzene	110	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	98-82-8	
Methyl Acetate	Not detected	ug/kg	3,000	5035/8260B	11/22/05 13:18	JGH	79-20-9	
4-Methyl-2-pentanone (MIBK)	2,000	ug/kg	3,000	5035/8260B	11/22/05 13:18	JGH	108-10-1	J
tert-Methyl butyl ether (MTBE)	Not detected	ug/kg	300	5035/8260B	11/22/05 13:18	JGH	1634-04-4	
Methyl cyclohexane	6	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	108-87-2	J
Methylene chloride	Not detected	ug/kg	300	5035/8260B	11/22/05 13:18	JGH	75-09-2	
Styrene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	79-34-5	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/kg	100	5035/8260B	11/22/05 13:18	JGH	76-13-1	
1,1,2-Trichloroethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/kg	100	5035/8260B	11/22/05 13:18	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	127-18-4	
Toluene	390	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	108-88-3	
Trichloroethene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/kg	100	5035/8260B	11/22/05 13:18	JGH	75-69-4	
Vinyl chloride	Not detected	ug/kg	100	5035/8260B	11/22/05 13:18	JGH	75-01-4	
o-Xylene	5,200	ug/kg	50	5035/8260B	11/22/05 13:18	JGH	95-47-6	
p,m-Xylene	17,500	ug/kg	50	5035/8260B	11/22/05 13:18	JGH		

J-Estimated value less than reporting limit, but greater than MDL

M-Result reported to MDL not RDL

Lab Sample ID: S24738.02 (continued)

Sample Tag: SA5-5 (8-10)

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (Replicate 01)								
Acetone	35,000	ug/kg	7,000	5035/8260B	11/24/05 19:46	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/kg	7,000	5035/8260B	11/24/05 19:46	JGH	78-93-3	
Benzene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	75-27-4	
Bromoform	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	75-25-2	
Bromomethane	Not detected	ug/kg	2,000	5035/8260B	11/24/05 19:46	JGH	74-83-9	
Carbon disulfide	Not detected	ug/kg	2,000	5035/8260B	11/24/05 19:46	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	56-23-5	
Chlorobenzene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	108-90-7	
Chloroethane	Not detected	ug/kg	2,000	5035/8260B	11/24/05 19:46	JGH	75-00-3	
Chloroform	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	67-66-3	
Chloromethane	Not detected	ug/kg	2,000	5035/8260B	11/24/05 19:46	JGH	74-87-3	
Cyclohexane	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/kg	200	5035/8260B	11/24/05 19:46	JGH	106-93-4	
1,2-Dichlorobenzene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	156-59-2	
cis-1,3-Dichloropropene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	10061-01-5	
Dibromochloromethane	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	156-60-5	
trans-1,3-Dichloropropene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	10061-02-6	
Ethylbenzene	6,100	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	100-41-4	
2-Hexanone	Not detected	ug/kg	20,000	5035/8260B	11/24/05 19:46	JGH	591-78-6	
Isopropylbenzene	100	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	98-82-8	J
Methyl Acetate	Not detected	ug/kg	20,000	5035/8260B	11/24/05 19:46	JGH	79-20-9	
4-Methyl-2-pentanone (MIBK)	3,000	ug/kg	20,000	5035/8260B	11/24/05 19:46	JGH	108-10-1	J
tert-Methyl butyl ether (MTBE)	Not detected	ug/kg	2,000	5035/8260B	11/24/05 19:46	JGH	1634-04-4	
Methyl cyclohexane	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	108-87-2	
Methylene chloride	Not detected	ug/kg	2,000	5035/8260B	11/24/05 19:46	JGH	75-09-2	
Styrene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	79-34-5	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/kg	1,000	5035/8260B	11/24/05 19:46	JGH	76-13-1	
1,1,2-Trichloroethane	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/kg	1,000	5035/8260B	11/24/05 19:46	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	127-18-4	
Toluene	500	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	108-88-3	BJ
Trichloroethene	Not detected	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/kg	1,000	5035/8260B	11/24/05 19:46	JGH	75-69-4	
Vinyl chloride	Not detected	ug/kg	1,000	5035/8260B	11/24/05 19:46	JGH	75-01-4	

J-Estimated value less than reporting limit, but greater than MDL

B-Compound also found in associated method blank

Lab Sample ID: S24738.02 (continued)

Sample Tag: SA5-5 (8-10)

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (Replicate 01) (continued)								
o-Xylene	5,700	ug/kg	500	5035/8260B	11/24/05 19:46	JGH	95-47-6	
p,m-Xylene	28,800	ug/kg	500	5035/8260B	11/24/05 19:46	JGH		

Analytical Laboratory Report

Lab Sample ID: S24738.03
Sample Tag: SA5-1 (8-10)
Collected Date/Time: 11/10/2005 09:30
Matrix: Soil
COC Reference: 02585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.7	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/18/05 13:20	JDP	57-12-5	
Metals								
% Coarse by Weight	94.3	%			11/11/05 13:00	JRT		
% Fine by Weight	5.7	%			11/11/05 13:00	JRT		
Total Solids	89	%	1	160.3	11/11/05 13:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/17/05 15:50	SLS	7440-36-0	
Arsenic	1.16	mg/kg	0.10	6020	11/17/05 15:50	SLS	7440-38-2	
Barium	36.4	mg/kg	1.0	6020	11/17/05 15:50	SLS	7440-39-3	
Beryllium	0.17	mg/kg	0.50	6020	11/17/05 15:50	SLS	7440-41-7	b
Cadmium	0.08	mg/kg	0.20	6020	11/17/05 15:50	SLS	7440-43-9	b
Chromium	5.9	mg/kg	2.0	6020	11/17/05 15:50	SLS	7440-47-3	
Cobalt	3.89	mg/kg	0.50	6020	11/17/05 15:50	SLS	7440-48-4	
Copper	6.2	mg/kg	1.0	6020	11/17/05 15:50	SLS	7440-50-8	
Lead, Coarse	3.3	mg/kg	1.0	6020	11/18/05 15:33	PER		
Lead, Fine	26.0	mg/kg	1.0	6020	11/18/05 16:25	PER		
Lead, Total Calculated	4.59	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	3.9	mg/kg	1.0	6020	11/17/05 15:50	SLS	7439-92-1	
Manganese	276	mg/kg	1.0	6020	11/17/05 15:50	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/15/05 15:11	JRT	7439-97-6	b
Nickel	9.4	mg/kg	1.0	6020	11/17/05 15:50	SLS	7440-02-0	
Selenium	0.35	mg/kg	0.20	6020	11/17/05 15:50	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/17/05 15:50	SLS	7440-22-4	
Thallium	0.04	mg/kg	0.50	6020	11/17/05 15:50	SLS	7440-28-0	b
Vanadium	6.9	mg/kg	1.0	6020	11/17/05 15:50	SLS	7440-62-2	
Zinc	13.9	mg/kg	1.0	6020	11/17/05 15:50	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24738.04
Sample Tag: Dup-6
Collected Date/Time: 11/10/2005 :
Matrix: Soil
COC Reference: 02585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.7	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/18/05 13:22	JDP	57-12-5	
Metals								
% Coarse by Weight	94.0	%			11/11/05 13:00	JRT		
% Fine by Weight	6.0	%			11/11/05 13:00	JRT		
Total Solids	89	%	1	160.3	11/11/05 13:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/17/05 15:53	SLS	7440-36-0	
Arsenic	1.22	mg/kg	0.10	6020	11/17/05 15:53	SLS	7440-38-2	
Barium	34.1	mg/kg	1.0	6020	11/17/05 15:53	SLS	7440-39-3	
Beryllium	0.17	mg/kg	0.50	6020	11/17/05 15:53	SLS	7440-41-7	b
Cadmium	0.08	mg/kg	0.20	6020	11/17/05 15:53	SLS	7440-43-9	b
Chromium	5.5	mg/kg	2.0	6020	11/17/05 15:53	SLS	7440-47-3	
Cobalt	3.72	mg/kg	0.50	6020	11/17/05 15:53	SLS	7440-48-4	
Copper	6.1	mg/kg	1.0	6020	11/17/05 15:53	SLS	7440-50-8	
Lead, Coarse	3.9	mg/kg	1.0	6020	11/18/05 15:34	PER		
Lead, Fine	22.4	mg/kg	1.0	6020	11/18/05 16:26	PER		
Lead, Total Calculated	5.00	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	4.0	mg/kg	1.0	6020	11/17/05 15:53	SLS	7439-92-1	
Manganese	235	mg/kg	1.0	6020	11/17/05 15:53	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/15/05 15:13	JRT	7439-97-6	b
Nickel	8.0	mg/kg	1.0	6020	11/17/05 15:53	SLS	7440-02-0	
Selenium	0.17	mg/kg	0.20	6020	11/17/05 15:53	SLS	7782-49-2	b
Silver	Not detected	mg/kg	0.10	6020	11/17/05 15:53	SLS	7440-22-4	
Thallium	0.03	mg/kg	0.50	6020	11/17/05 15:53	SLS	7440-28-0	b
Vanadium	6.7	mg/kg	1.0	6020	11/17/05 15:53	SLS	7440-62-2	
Zinc	13.1	mg/kg	1.0	6020	11/17/05 15:53	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24738.05
Sample Tag: SA4-5 (9-11)
Collected Date/Time: 11/10/2005 10:30
Matrix: Soil
COC Reference: 02585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.7	IR
1	40 ml Glass	MeOH	Yes	4.7	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/18/05 13:24	JDP	57-12-5	
Metals								
% Coarse by Weight	84.9	%			11/11/05 13:00	JRT		
% Fine by Weight	15.1	%			11/11/05 13:00	JRT		
Total Solids	95	%	1	160.3	11/11/05 13:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/17/05 15:57	SLS	7440-36-0	
Arsenic	1.42	mg/kg	0.10	6020	11/17/05 15:57	SLS	7440-38-2	
Barium	8.8	mg/kg	1.0	6020	11/17/05 15:57	SLS	7440-39-3	
Beryllium	0.07	mg/kg	0.50	6020	11/17/05 15:57	SLS	7440-41-7	b
Cadmium	0.05	mg/kg	0.20	6020	11/17/05 15:57	SLS	7440-43-9	b
Chromium	3.2	mg/kg	2.0	6020	11/17/05 15:57	SLS	7440-47-3	
Cobalt	1.92	mg/kg	0.50	6020	11/17/05 15:57	SLS	7440-48-4	
Copper	6.0	mg/kg	1.0	6020	11/17/05 15:57	SLS	7440-50-8	
Lead, Coarse	5.2	mg/kg	1.0	6020	11/18/05 15:35	PER		
Lead, Fine	17.7	mg/kg	1.0	6020	11/18/05 16:26	PER		
Lead, Total Calculated	7.08	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	4.2	mg/kg	1.0	6020	11/17/05 15:57	SLS	7439-92-1	
Manganese	195	mg/kg	1.0	6020	11/17/05 15:57	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/15/05 15:15	JRT	7439-97-6	b
Nickel	4.2	mg/kg	1.0	6020	11/17/05 15:57	SLS	7440-02-0	
Selenium	0.28	mg/kg	0.20	6020	11/17/05 15:57	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/17/05 15:57	SLS	7440-22-4	
Thallium	0.03	mg/kg	0.50	6020	11/17/05 15:57	SLS	7440-28-0	b
Vanadium	3.5	mg/kg	1.0	6020	11/17/05 15:57	SLS	7440-62-2	
Zinc	11.7	mg/kg	1.0	6020	11/17/05 15:57	SLS	7440-66-6	
Organics - Volatiles								
TCL Volatile Organics 5035/8260								
Acetone	Not detected	ug/kg	800	5035/8260B	11/22/05 13:34	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/kg	800	5035/8260B	11/22/05 13:34	JGH	78-93-3	
Benzene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	75-27-4	
Bromoform	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	75-25-2	

b-Value detected less than reporting limit, but greater than MDL

Lab Sample ID: S24738.05 (continued)

Sample Tag: SA4-5 (9-11)

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (continued)								
Bromomethane	Not detected	ug/kg	300	5035/8260B	11/22/05 13:34	JGH	74-83-9	
Carbon disulfide	Not detected	ug/kg	300	5035/8260B	11/22/05 13:34	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	56-23-5	
Chlorobenzene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	108-90-7	
Chloroethane	Not detected	ug/kg	300	5035/8260B	11/22/05 13:34	JGH	75-00-3	
Chloroform	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	67-66-3	
Chloromethane	Not detected	ug/kg	300	5035/8260B	11/22/05 13:34	JGH	74-87-3	
Cyclohexane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/kg	20	5035/8260B	11/22/05 13:34	JGH	106-93-4	M
1,2-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	156-59-2	
cis-1,3-Dichloropropene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	10061-01-5	
Dibromochloromethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	156-60-5	
trans-1,3-Dichloropropene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	10061-02-6	
Ethylbenzene	550	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	100-41-4	
2-Hexanone	Not detected	ug/kg	3,000	5035/8260B	11/22/05 13:34	JGH	591-78-6	
Isopropylbenzene	1,180	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	98-82-8	
Methyl Acetate	Not detected	ug/kg	3,000	5035/8260B	11/22/05 13:34	JGH	79-20-9	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/kg	3,000	5035/8260B	11/22/05 13:34	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/kg	300	5035/8260B	11/22/05 13:34	JGH	1634-04-4	
Methyl cyclohexane	1,160	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	108-87-2	
Methylene chloride	Not detected	ug/kg	300	5035/8260B	11/22/05 13:34	JGH	75-09-2	
Styrene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	79-34-5	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/kg	100	5035/8260B	11/22/05 13:34	JGH	76-13-1	
1,1,2-Trichloroethane	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/kg	100	5035/8260B	11/22/05 13:34	JGH	120-82-1	
Tetrachloroethene	40	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	127-18-4	J
Toluene	50	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	108-88-3	
Trichloroethene	Not detected	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/kg	100	5035/8260B	11/22/05 13:34	JGH	75-69-4	
Vinyl chloride	Not detected	ug/kg	100	5035/8260B	11/22/05 13:34	JGH	75-01-4	
o-Xylene	30	ug/kg	50	5035/8260B	11/22/05 13:34	JGH	95-47-6	J
p,m-Xylene	260	ug/kg	50	5035/8260B	11/22/05 13:34	JGH		

M-Result reported to MDL not RDL

J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24738.06
Sample Tag: SA4-3 (12-14)
Collected Date/Time: 11/10/2005 14:00
Matrix: Soil
COC Reference: 02585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.7	IR
1	40 ml Glass	HCL	Yes	4.7	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/18/05 13:26	JDP	57-12-5	
Metals								
% Coarse by Weight	89.6	%			11/11/05 13:00	JRT		
% Fine by Weight	10.4	%			11/11/05 13:00	JRT		
Total Solids	87	%	1	160.3	11/11/05 13:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/17/05 16:08	SLS	7440-36-0	
Arsenic	1.11	mg/kg	0.10	6020	11/17/05 16:08	SLS	7440-38-2	
Barium	4.5	mg/kg	1.0	6020	11/17/05 16:08	SLS	7440-39-3	
Beryllium	0.07	mg/kg	0.50	6020	11/17/05 16:08	SLS	7440-41-7	b
Cadmium	0.06	mg/kg	0.20	6020	11/17/05 16:08	SLS	7440-43-9	b
Chromium	1.8	mg/kg	2.0	6020	11/17/05 16:08	SLS	7440-47-3	b
Cobalt	1.37	mg/kg	0.50	6020	11/17/05 16:08	SLS	7440-48-4	
Copper	4.7	mg/kg	1.0	6020	11/17/05 16:08	SLS	7440-50-8	
Lead, Coarse	44.5	mg/kg	1.0	6020	11/18/05 15:36	PER		
Lead, Fine	28.6	mg/kg	1.0	6020	11/18/05 16:27	PER		
Lead, Total Calculated	42.8	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	3.0	mg/kg	1.0	6020	11/17/05 16:08	SLS	7439-92-1	
Manganese	126	mg/kg	1.0	6020	11/17/05 16:08	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/15/05 15:17	JRT	7439-97-6	b
Nickel	2.9	mg/kg	1.0	6020	11/17/05 16:08	SLS	7440-02-0	
Selenium	0.44	mg/kg	0.20	6020	11/17/05 16:08	SLS	7782-49-2	
Silver	0.03	mg/kg	0.10	6020	11/17/05 16:08	SLS	7440-22-4	b
Thallium	0.08	mg/kg	0.50	6020	11/17/05 16:08	SLS	7440-28-0	b
Vanadium	2.5	mg/kg	1.0	6020	11/17/05 16:08	SLS	7440-62-2	
Zinc	10.0	mg/kg	1.0	6020	11/17/05 16:08	SLS	7440-66-6	
Organics - Volatiles								
TCL Volatile Organics 5035/8260								
Acetone	Not detected	ug/kg	8,000	5035/8260B	11/22/05 17:51	JGH	67-64-1	Y
2-Butanone (MEK)	Not detected	ug/kg	8,000	5035/8260B	11/22/05 17:51	JGH	78-93-3	Y
Benzene	200	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	71-43-2	JY

b-Value detected less than reporting limit, but greater than MDL
Y-Elevated reporting limit due to high target concentration
J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S24738.06 (continued)

Sample Tag: SA4-3 (12-14)

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (continued)								
Bromodichloromethane	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	75-27-4	Y
Bromoform	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	75-25-2	Y
Bromomethane	Not detected	ug/kg	3,000	5035/8260B	11/22/05 17:51	JGH	74-83-9	Y
Carbon disulfide	Not detected	ug/kg	3,000	5035/8260B	11/22/05 17:51	JGH	75-15-0	Y
Carbon tetrachloride	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	56-23-5	Y
Chlorobenzene	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	108-90-7	Y
Chloroethane	Not detected	ug/kg	3,000	5035/8260B	11/22/05 17:51	JGH	75-00-3	Y
Chloroform	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	67-66-3	Y
Chloromethane	Not detected	ug/kg	3,000	5035/8260B	11/22/05 17:51	JGH	74-87-3	Y
Cyclohexane	1,400	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	110-82-7	Y
1,1-Dichloroethane	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	75-34-3	Y
1,1-Dichloroethene	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	75-35-4	Y
1,2-Dibromo-3-chloropropane	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	96-12-8	Y
1,2-Dibromoethane	Not detected	ug/kg	200	5035/8260B	11/22/05 17:51	JGH	106-93-4	MY
1,2-Dichlorobenzene	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	95-50-1	Y
1,2-Dichloroethane	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	107-06-2	Y
1,2-Dichloropropane	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	78-87-5	Y
1,3-Dichlorobenzene	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	541-73-1	Y
1,4-Dichlorobenzene	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	106-46-7	Y
cis-1,2-Dichloroethene	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	156-59-2	Y
cis-1,3-Dichloropropene	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	10061-01-5	Y
Dibromochloromethane	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	124-48-1	Y
Dichlorodifluoromethane	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	75-71-8	Y
trans-1,2-Dichloroethene	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	156-60-5	Y
trans-1,3-Dichloropropene	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	10061-02-6	Y
Ethylbenzene	23,500	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	100-41-4	Y
2-Hexanone	Not detected	ug/kg	30,000	5035/8260B	11/22/05 17:51	JGH	591-78-6	Y
Isopropylbenzene	38,900	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	98-82-8	Y
Methyl Acetate	Not detected	ug/kg	30,000	5035/8260B	11/22/05 17:51	JGH	79-20-9	Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/kg	30,000	5035/8260B	11/22/05 17:51	JGH	108-10-1	Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/kg	3,000	5035/8260B	11/22/05 17:51	JGH	1634-04-4	Y
Methyl cyclohexane	59,300	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	108-87-2	Y
Methylene chloride	Not detected	ug/kg	3,000	5035/8260B	11/22/05 17:51	JGH	75-09-2	Y
Styrene	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	100-42-5	Y
1,1,1-Trichloroethane	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	71-55-6	Y
1,1,2,2-Tetrachloroethane	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	79-34-5	Y
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/kg	1,000	5035/8260B	11/22/05 17:51	JGH	76-13-1	Y
1,1,2-Trichloroethane	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	79-00-5	Y
1,2,4-Trichlorobenzene	Not detected	ug/kg	1,000	5035/8260B	11/22/05 17:51	JGH	120-82-1	Y
Tetrachloroethene	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	127-18-4	Y
Toluene	500	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	108-88-3	BJY
Trichloroethene	Not detected	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	79-01-6	Y
Trichlorofluoromethane	Not detected	ug/kg	1,000	5035/8260B	11/22/05 17:51	JGH	75-69-4	Y
Vinyl chloride	Not detected	ug/kg	1,000	5035/8260B	11/22/05 17:51	JGH	75-01-4	Y
o-Xylene	52,800	ug/kg	600	5035/8260B	11/22/05 17:51	JGH	95-47-6	Y
p,m-Xylene	84,400	ug/kg	600	5035/8260B	11/22/05 17:51	JGH		Y

Y-Elevated reporting limit due to high target concentration

M-Result reported to MDL not RDL

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24738.07
Sample Tag: SA4-4 (14-16)
Collected Date/Time: 11/10/2005 14:40
Matrix: Soil
COC Reference: 02585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.7	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/18/05 13:28	JDP	57-12-5	
Metals								
% Coarse by Weight	92.0	%			11/11/05 13:00	JRT		
% Fine by Weight	8.0	%			11/11/05 13:00	JRT		
Total Solids	84	%	1	160.3	11/11/05 13:00	JRT		
Antimony	0.09	mg/kg	0.30	6020	11/17/05 16:12	SLS	7440-36-0	b
Arsenic	1.07	mg/kg	0.10	6020	11/17/05 16:12	SLS	7440-38-2	
Barium	31.6	mg/kg	1.0	6020	11/17/05 16:12	SLS	7440-39-3	
Beryllium	0.27	mg/kg	0.50	6020	11/17/05 16:12	SLS	7440-41-7	b
Cadmium	0.38	mg/kg	0.20	6020	11/17/05 16:12	SLS	7440-43-9	
Chromium	7.2	mg/kg	2.0	6020	11/17/05 16:12	SLS	7440-47-3	
Cobalt	3.06	mg/kg	0.50	6020	11/17/05 16:12	SLS	7440-48-4	
Copper	13.4	mg/kg	1.0	6020	11/17/05 16:12	SLS	7440-50-8	
Lead, Coarse	7.2	mg/kg	1.0	6020	11/18/05 15:41	PER		
Lead, Fine	20.0	mg/kg	1.0	6020	11/18/05 16:32	PER		
Lead, Total Calculated	8.22	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	7.3	mg/kg	1.0	6020	11/17/05 16:12	SLS	7439-92-1	
Manganese	43.1	mg/kg	1.0	6020	11/17/05 16:12	SLS	7439-96-5	
Mercury	0.03	mg/kg	0.050	245.1M	11/15/05 15:19	JRT	7439-97-6	b
Nickel	13.6	mg/kg	1.0	6020	11/17/05 16:12	SLS	7440-02-0	
Selenium	1.03	mg/kg	0.20	6020	11/17/05 16:12	SLS	7782-49-2	
Silver	0.41	mg/kg	0.10	6020	11/17/05 16:12	SLS	7440-22-4	
Thallium	0.11	mg/kg	0.50	6020	11/17/05 16:12	SLS	7440-28-0	b
Vanadium	11.4	mg/kg	1.0	6020	11/17/05 16:12	SLS	7440-62-2	
Zinc	36.1	mg/kg	1.0	6020	11/17/05 16:12	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24738.08
Sample Tag: Dup-7
Collected Date/Time: 11/10/2005 :
Matrix: Soil
COC Reference: 02585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.7	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/18/05 13:30	JDP	57-12-5	
Metals								
% Coarse by Weight	92.3	%			11/11/05 13:00	JRT		
% Fine by Weight	7.7	%			11/11/05 13:00	JRT		
Total Solids	68	%	1	160.3	11/11/05 13:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/17/05 16:16	SLS	7440-36-0	
Arsenic	2.17	mg/kg	0.10	6020	11/17/05 16:16	SLS	7440-38-2	
Barium	46.2	mg/kg	1.0	6020	11/17/05 16:16	SLS	7440-39-3	
Beryllium	0.33	mg/kg	0.50	6020	11/17/05 16:16	SLS	7440-41-7	b
Cadmium	0.34	mg/kg	0.20	6020	11/17/05 16:16	SLS	7440-43-9	
Chromium	8.9	mg/kg	2.0	6020	11/17/05 16:16	SLS	7440-47-3	
Cobalt	5.00	mg/kg	0.50	6020	11/17/05 16:16	SLS	7440-48-4	
Copper	21.6	mg/kg	1.0	6020	11/17/05 16:16	SLS	7440-50-8	
Lead, Coarse	7.9	mg/kg	1.0	6020	11/18/05 15:43	PER		
Lead, Fine	23.0	mg/kg	1.0	6020	11/18/05 16:34	PER		
Lead, Total Calculated	9.06	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	7.7	mg/kg	1.0	6020	11/17/05 16:16	SLS	7439-92-1	
Manganese	169	mg/kg	1.0	6020	11/17/05 16:16	SLS	7439-96-5	
Mercury	0.02	mg/kg	0.050	245.1M	11/15/05 15:20	JRT	7439-97-6	b
Nickel	17.1	mg/kg	1.0	6020	11/17/05 16:16	SLS	7440-02-0	
Selenium	1.26	mg/kg	0.20	6020	11/17/05 16:16	SLS	7782-49-2	
Silver	0.07	mg/kg	0.10	6020	11/17/05 16:16	SLS	7440-22-4	b
Thallium	0.10	mg/kg	0.50	6020	11/17/05 16:16	SLS	7440-28-0	b
Vanadium	15.6	mg/kg	1.0	6020	11/17/05 16:16	SLS	7440-62-2	
Zinc	35.7	mg/kg	1.0	6020	11/17/05 16:16	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24738.09
Sample Tag: TB-111005
Collected Date/Time: 11/10/2005 :
Matrix: Water Quality
COC Reference: 02585

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40 ml Glass	MeOH	Yes	4.7	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles								
TCL Volatile Organics 5035/8260								
Acetone	Not detected	ug/kg	800	5035/8260B	11/23/05 13:10	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/kg	800	5035/8260B	11/23/05 13:10	JGH	78-93-3	
Benzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	75-27-4	
Bromoform	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	75-25-2	
Bromomethane	Not detected	ug/kg	300	5035/8260B	11/23/05 13:10	JGH	74-83-9	
Carbon disulfide	Not detected	ug/kg	300	5035/8260B	11/23/05 13:10	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	56-23-5	
Chlorobenzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	108-90-7	
Chloroethane	Not detected	ug/kg	300	5035/8260B	11/23/05 13:10	JGH	75-00-3	
Chloroform	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	67-66-3	
Chloromethane	Not detected	ug/kg	300	5035/8260B	11/23/05 13:10	JGH	74-87-3	
Cyclohexane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/kg	20	5035/8260B	11/23/05 13:10	JGH	106-93-4	M
1,2-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	156-59-2	
cis-1,3-Dichloropropene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	10061-01-5	
Dibromochloromethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	156-60-5	
trans-1,3-Dichloropropene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	100-41-4	
2-Hexanone	Not detected	ug/kg	3,000	5035/8260B	11/23/05 13:10	JGH	591-78-6	
Isopropylbenzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	98-82-8	
Methyl Acetate	Not detected	ug/kg	3,000	5035/8260B	11/23/05 13:10	JGH	79-20-9	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/kg	3,000	5035/8260B	11/23/05 13:10	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/kg	300	5035/8260B	11/23/05 13:10	JGH	1634-04-4	
Methyl cyclohexane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	108-87-2	
Methylene chloride	Not detected	ug/kg	300	5035/8260B	11/23/05 13:10	JGH	75-09-2	
Styrene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	79-34-5	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/kg	100	5035/8260B	11/23/05 13:10	JGH	76-13-1	
1,1,2-Trichloroethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	79-00-5	

M-Result reported to MDL not RDL

Lab Sample ID: S24738.09 (continued)

Sample Tag: TB-111005

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/kg	100	5035/8260B	11/23/05 13:10	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	127-18-4	
Toluene	20	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	108-88-3	BJ
Trichloroethene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/kg	100	5035/8260B	11/23/05 13:10	JGH	75-69-4	
Vinyl chloride	Not detected	ug/kg	100	5035/8260B	11/23/05 13:10	JGH	75-01-4	
o-Xylene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH	95-47-6	
p,m-Xylene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:10	JGH		

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

GM REALM ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

ID # Nº 02585

SSOW Ref. Code: E220002

Required Client Information:

Company: BBL	Report To: CRA
Address: 10559 Citation	Copy To: Jim Keading
DR. STE 100	Invoice To: CRA
Brighton, MI 48116	P.O.:
Phone: 810-229-	Project Name:
Fax: 810-229	Project Number: 64430
E-mail:	

Laboratory: Mes, t	
Laboratory Location: Lansing, MI	
Laboratory Contact: Maya Murshak	
Requested Due Date:	TAT: Standard
QA/QC Requirements: To be determined	

Analysis and Method

Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Preservative: Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	PAL metals	VOCs	PID	Remarks/Lab ID
1. SA26-3 (3-5)	SO		0846	1							X		0.0	
2. SA 5-5 (8-10)			0910	2							X	X	631	
3. SA 5-1 (8-10)			0930	1							X		0.3	
4. 11/10 Dup-6			—	1							X		—	
5. ~~SA 5-~~ (MS/MSD)														
6. 11/10 SA 4-5 (9-11)	SO		1030	2							X	X	169	
7. SA 4-3 (12-14)	SO		1400	2							X	X	700	
8. SA 4-4 (14-16)	SO		1440	1							X		6.1	
9. Dup-7	SO		—	1							X		—	
10. TB-111005	WQ		—	1								X	—	
11.														
12.														
13.														
14.														
15.														
TOTAL NUMBER OF CONTAINERS				12										

Valid Matrix Codes: WG Groundwater; WB Borehole Water; WS Surface Water; SO Soil; SE Sediment; See Back for Additional Codes

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
Drop off	1		11-10-05	1615		11-10-05	1615
AIRBILL NO.							

Sample Condition

Temp in °C	
Received on Ice	Y / N
Sealed Cooler	Y / N
Samples Intact	Y / N

Additional Comments:

Sampler Name: Michael Mathial

Sampler Signature: Date: 11-10-05

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

REV. 0 (6/04)

Analytical Laboratory Report

Report ID: S24707.01(01)
Generated on 11/21/2005

Report to

Attention: Amy Hoeksema/ Jim Heading
Blasland, Bouck & Lee, Inc.
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-229-8594 FAX: 810-229-8837

Report produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S24707.01-S24707.07
Project: 64430.200/Plant 6 SSOW# E220002
Submitted Date/Time: 11/09/2005 16:15
Sampled by: Wayne Patterson
P.O. #: 412463

Report Notes

Results relate only to items tested.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
""Not detected"" indicates that parameter was not found at a level equal to or greater than the RDL.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Violetta F. Murshak
Laboratory Director

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S24707.01
Sample Tag: SA8-1 (9-11)
Collected Date/Time: 11/09/2005 09:05
Matrix: Soil
COC Reference: 02583

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:10	JDP	57-12-5	
Metals								
% Coarse by Weight	94.3	%			11/11/05 13:00	JRT		
% Fine by Weight	5.7	%			11/11/05 13:00	JRT		
Total Solids	88	%	1	160.3	11/11/05 13:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/17/05 16:41	SLS	7440-36-0	
Arsenic	1.31	mg/kg	0.10	6020	11/17/05 16:41	SLS	7440-38-2	
Barium	35.0	mg/kg	1.0	6020	11/17/05 16:41	SLS	7440-39-3	
Beryllium	0.18	mg/kg	0.50	6020	11/17/05 16:41	SLS	7440-41-7	b
Cadmium	0.09	mg/kg	0.20	6020	11/17/05 16:41	SLS	7440-43-9	b
Chromium	6.1	mg/kg	2.0	6020	11/17/05 16:41	SLS	7440-47-3	
Cobalt	4.07	mg/kg	0.50	6020	11/17/05 16:41	SLS	7440-48-4	
Copper	7.9	mg/kg	1.0	6020	11/17/05 16:41	SLS	7440-50-8	
Lead, Coarse	3.6	mg/kg	1.0	6020	11/18/05 15:23	PER		
Lead, Fine	44.0	mg/kg	1.0	6020	11/18/05 16:14	PER		
Lead, Total Calculated	5.90	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	4.2	mg/kg	1.0	6020	11/17/05 16:41	SLS	7439-92-1	
Manganese	359	mg/kg	1.0	6020	11/17/05 16:41	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/15/05 14:55	JRT	7439-97-6	b
Nickel	9.5	mg/kg	1.0	6020	11/17/05 16:41	SLS	7440-02-0	
Selenium	0.33	mg/kg	0.20	6020	11/17/05 16:41	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/17/05 16:41	SLS	7440-22-4	
Thallium	0.03	mg/kg	0.50	6020	11/17/05 16:41	SLS	7440-28-0	b
Vanadium	7.1	mg/kg	1.0	6020	11/17/05 16:41	SLS	7440-62-2	
Zinc	14.8	mg/kg	1.0	6020	11/17/05 16:41	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24707.02
Sample Tag: SA8-1 (9-11) MS
Collected Date/Time: 11/09/2005 09:05
Matrix: Soil
COC Reference: 02583

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	0.093	mg/kg	0.01	9010B	11/17/05 07:14	JDP	57-12-5	
Metals								
% Coarse by Weight	94.3	%			11/11/05 13:00	JRT		
% Fine by Weight	5.7	%			11/11/05 13:00	JRT		
Total Solids	88	%	1	160.3	11/11/05 13:00	JRT		
Antimony	25.0	mg/kg	0.30	6020	11/17/05 16:45	SLS	7440-36-0	
Arsenic	26.8	mg/kg	0.10	6020	11/17/05 16:45	SLS	7440-38-2	
Barium	61.6	mg/kg	1.0	6020	11/17/05 16:45	SLS	7440-39-3	
Beryllium	22.3	mg/kg	0.50	6020	11/17/05 16:45	SLS	7440-41-7	
Cadmium	24.26	mg/kg	0.20	6020	11/17/05 16:45	SLS	7440-43-9	
Chromium	31.2	mg/kg	2.0	6020	11/17/05 16:45	SLS	7440-47-3	
Cobalt	28.3	mg/kg	0.50	6020	11/17/05 16:45	SLS	7440-48-4	
Copper	30.5	mg/kg	1.0	6020	11/17/05 16:45	SLS	7440-50-8	
Lead, Coarse	47.6	mg/kg	1.0	6020	11/18/05 15:23	PER		
Lead, Fine	85.3	mg/kg	1.0	6020	11/18/05 16:15	PER		
Lead, Total Calculated	49.7	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	27.2	mg/kg	1.0	6020	11/17/05 16:45	SLS	7439-92-1	
Manganese	379	mg/kg	1.0	6020	11/17/05 16:45	SLS	7439-96-5	
Mercury	0.148	mg/kg	0.050	245.1M	11/15/05 14:57	JRT	7439-97-6	
Nickel	32.6	mg/kg	1.0	6020	11/17/05 16:45	SLS	7440-02-0	
Selenium	24.5	mg/kg	0.20	6020	11/17/05 16:45	SLS	7782-49-2	
Silver	24.83	mg/kg	0.10	6020	11/17/05 16:45	SLS	7440-22-4	
Thallium	23.7	mg/kg	0.50	6020	11/17/05 16:45	SLS	7440-28-0	
Vanadium	33.3	mg/kg	1.0	6020	11/17/05 16:45	SLS	7440-62-2	
Zinc	35.1	mg/kg	1.0	6020	11/17/05 16:45	SLS	7440-66-6	

Analytical Laboratory Report

Lab Sample ID: S24707.03
Sample Tag: SA8-1 (9-11) MSD
Collected Date/Time: 11/09/2005 09:05
Matrix: Soil
COC Reference: 02583

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	0.096	mg/kg	0.01	9010B	11/17/05 07:16	JDP	57-12-5	
Metals								
% Coarse by Weight	94.3	%			11/11/05 13:00	JRT		
% Fine by Weight	5.7	%			11/11/05 13:00	JRT		
Total Solids	88	%	1	160.3	11/11/05 13:00	JRT		
Antimony	25.0	mg/kg	0.30	6020	11/17/05 16:49	SLS	7440-36-0	
Arsenic	26.9	mg/kg	0.10	6020	11/17/05 16:49	SLS	7440-38-2	
Barium	61.1	mg/kg	1.0	6020	11/17/05 16:49	SLS	7440-39-3	
Beryllium	22.3	mg/kg	0.50	6020	11/17/05 16:49	SLS	7440-41-7	
Cadmium	24.41	mg/kg	0.20	6020	11/17/05 16:49	SLS	7440-43-9	
Chromium	30.8	mg/kg	2.0	6020	11/17/05 16:49	SLS	7440-47-3	
Cobalt	28.2	mg/kg	0.50	6020	11/17/05 16:49	SLS	7440-48-4	
Copper	31.5	mg/kg	1.0	6020	11/17/05 16:49	SLS	7440-50-8	
Lead, Coarse	48.4	mg/kg	1.0	6020	11/18/05 15:24	PER		
Lead, Fine	83.6	mg/kg	1.0	6020	11/18/05 16:16	PER		
Lead, Total Calculated	50.4	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	27.1	mg/kg	1.0	6020	11/17/05 16:49	SLS	7439-92-1	
Manganese	375	mg/kg	1.0	6020	11/17/05 16:49	SLS	7439-96-5	
Mercury	0.146	mg/kg	0.050	245.1M	11/15/05 14:58	JRT	7439-97-6	
Nickel	32.4	mg/kg	1.0	6020	11/17/05 16:49	SLS	7440-02-0	
Selenium	25.4	mg/kg	0.20	6020	11/17/05 16:49	SLS	7782-49-2	
Silver	24.83	mg/kg	0.10	6020	11/17/05 16:49	SLS	7440-22-4	
Thallium	23.7	mg/kg	0.50	6020	11/17/05 16:49	SLS	7440-28-0	
Vanadium	32.6	mg/kg	1.0	6020	11/17/05 16:49	SLS	7440-62-2	
Zinc	36.1	mg/kg	1.0	6020	11/17/05 16:49	SLS	7440-66-6	

Analytical Laboratory Report

Lab Sample ID: S24707.04
Sample Tag: SA8-2 (14-16)
Collected Date/Time: 11/09/2005 09:30
Matrix: Soil
COC Reference: 02583

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:18	JDP	57-12-5	
Metals								
% Coarse by Weight	83.8	%			11/11/05 13:00	JRT		
% Fine by Weight	16.2	%			11/11/05 13:00	JRT		
Total Solids	91	%	1	160.3	11/11/05 13:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/17/05 16:27	SLS	7440-36-0	
Arsenic	1.05	mg/kg	0.10	6020	11/17/05 16:27	SLS	7440-38-2	
Barium	19.9	mg/kg	1.0	6020	11/17/05 16:27	SLS	7440-39-3	
Beryllium	0.12	mg/kg	0.50	6020	11/17/05 16:27	SLS	7440-41-7	b
Cadmium	0.08	mg/kg	0.20	6020	11/17/05 16:27	SLS	7440-43-9	b
Chromium	3.6	mg/kg	2.0	6020	11/17/05 16:27	SLS	7440-47-3	
Cobalt	2.54	mg/kg	0.50	6020	11/17/05 16:27	SLS	7440-48-4	
Copper	7.4	mg/kg	1.0	6020	11/17/05 16:27	SLS	7440-50-8	
Lead, Coarse	3.4	mg/kg	1.0	6020	11/18/05 15:27	PER		
Lead, Fine	24.1	mg/kg	1.0	6020	11/18/05 16:19	PER		
Lead, Total Calculated	6.75	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	3.2	mg/kg	1.0	6020	11/17/05 16:27	SLS	7439-92-1	
Manganese	205	mg/kg	1.0	6020	11/17/05 16:27	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/15/05 14:51	JRT	7439-97-6	b
Nickel	5.7	mg/kg	1.0	6020	11/17/05 16:27	SLS	7440-02-0	
Selenium	0.24	mg/kg	0.20	6020	11/17/05 16:27	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/17/05 16:27	SLS	7440-22-4	
Thallium	0.04	mg/kg	0.50	6020	11/17/05 16:27	SLS	7440-28-0	b
Vanadium	4.6	mg/kg	1.0	6020	11/17/05 16:27	SLS	7440-62-2	
Zinc	10.4	mg/kg	1.0	6020	11/17/05 16:27	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24707.05
Sample Tag: SA14-1 (8-10)
Collected Date/Time: 11/09/2005 10:00
Matrix: Soil
COC Reference: 02583

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:20	JDP	57-12-5	
Metals								
% Coarse by Weight	81.8	%			11/11/05 13:00	JRT		
% Fine by Weight	18.2	%			11/11/05 13:00	JRT		
Total Solids	90	%	1	160.3	11/11/05 13:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/17/05 16:30	SLS	7440-36-0	
Arsenic	0.90	mg/kg	0.10	6020	11/17/05 16:30	SLS	7440-38-2	
Barium	18.9	mg/kg	1.0	6020	11/17/05 16:30	SLS	7440-39-3	
Beryllium	0.12	mg/kg	0.50	6020	11/17/05 16:30	SLS	7440-41-7	b
Cadmium	0.10	mg/kg	0.20	6020	11/17/05 16:30	SLS	7440-43-9	b
Chromium	2.8	mg/kg	2.0	6020	11/17/05 16:30	SLS	7440-47-3	
Cobalt	1.54	mg/kg	0.50	6020	11/17/05 16:30	SLS	7440-48-4	
Copper	4.8	mg/kg	1.0	6020	11/17/05 16:30	SLS	7440-50-8	
Lead, Coarse	15.6	mg/kg	1.0	6020	11/18/05 15:28	PER		
Lead, Fine	38.0	mg/kg	1.0	6020	11/18/05 16:20	PER		
Lead, Total Calculated	19.6	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	15.9	mg/kg	1.0	6020	11/17/05 16:30	SLS	7439-92-1	
Manganese	125	mg/kg	1.0	6020	11/17/05 16:30	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/15/05 14:53	JRT	7439-97-6	b
Nickel	3.1	mg/kg	1.0	6020	11/17/05 16:30	SLS	7440-02-0	
Selenium	Not detected	mg/kg	0.20	6020	11/17/05 16:30	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/17/05 16:30	SLS	7440-22-4	
Thallium	0.02	mg/kg	0.50	6020	11/17/05 16:30	SLS	7440-28-0	b
Vanadium	3.4	mg/kg	1.0	6020	11/17/05 16:30	SLS	7440-62-2	
Zinc	14.4	mg/kg	1.0	6020	11/17/05 16:30	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24707.06
Sample Tag: SA32-1 (8-10)
Collected Date/Time: 11/09/2005 13:50
Matrix: Soil
COC Reference: 02583

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:22	JDP	57-12-5	
Metals								
% Coarse by Weight	94.7	%			11/11/05 13:00	JRT		
% Fine by Weight	5.3	%			11/11/05 13:00	JRT		
Total Solids	85	%	1	160.3	11/11/05 13:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/17/05 16:34	SLS	7440-36-0	
Arsenic	1.34	mg/kg	0.10	6020	11/17/05 16:34	SLS	7440-38-2	
Barium	58.1	mg/kg	1.0	6020	11/17/05 16:34	SLS	7440-39-3	
Beryllium	0.26	mg/kg	0.50	6020	11/17/05 16:34	SLS	7440-41-7	b
Cadmium	0.09	mg/kg	0.20	6020	11/17/05 16:34	SLS	7440-43-9	b
Chromium	9.0	mg/kg	2.0	6020	11/17/05 16:34	SLS	7440-47-3	
Cobalt	6.25	mg/kg	0.50	6020	11/17/05 16:34	SLS	7440-48-4	
Copper	9.2	mg/kg	1.0	6020	11/17/05 16:34	SLS	7440-50-8	
Lead, Coarse	5.2	mg/kg	1.0	6020	11/18/05 15:29	PER		
Lead, Fine	31.6	mg/kg	1.0	6020	11/18/05 16:21	PER		
Lead, Total Calculated	6.59	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	5.5	mg/kg	1.0	6020	11/17/05 16:34	SLS	7439-92-1	
Manganese	350	mg/kg	1.0	6020	11/17/05 16:34	SLS	7439-96-5	
Mercury	0.02	mg/kg	0.050	245.1M	11/15/05 15:04	JRT	7439-97-6	b
Nickel	13.1	mg/kg	1.0	6020	11/17/05 16:34	SLS	7440-02-0	
Selenium	0.49	mg/kg	0.20	6020	11/17/05 16:34	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/17/05 16:34	SLS	7440-22-4	
Thallium	0.05	mg/kg	0.50	6020	11/17/05 16:34	SLS	7440-28-0	b
Vanadium	10.1	mg/kg	1.0	6020	11/17/05 16:34	SLS	7440-62-2	
Zinc	18.4	mg/kg	1.0	6020	11/17/05 16:34	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24707.07
Sample Tag: SA29-2 (8-10)
Collected Date/Time: 11/09/2005 14:20
Matrix: Soil
COC Reference: 02583

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 13:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/16/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:24	JDP	57-12-5	
Metals								
% Coarse by Weight	86.1	%			11/11/05 13:00	JRT		
% Fine by Weight	13.9	%			11/11/05 13:00	JRT		
Total Solids	88	%	1	160.3	11/11/05 13:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/17/05 16:38	SLS	7440-36-0	
Arsenic	1.05	mg/kg	0.10	6020	11/17/05 16:38	SLS	7440-38-2	
Barium	26.1	mg/kg	1.0	6020	11/17/05 16:38	SLS	7440-39-3	
Beryllium	0.15	mg/kg	0.50	6020	11/17/05 16:38	SLS	7440-41-7	b
Cadmium	0.09	mg/kg	0.20	6020	11/17/05 16:38	SLS	7440-43-9	b
Chromium	5.6	mg/kg	2.0	6020	11/17/05 16:38	SLS	7440-47-3	
Cobalt	3.29	mg/kg	0.50	6020	11/17/05 16:38	SLS	7440-48-4	
Copper	5.6	mg/kg	1.0	6020	11/17/05 16:38	SLS	7440-50-8	
Lead, Coarse	3.7	mg/kg	1.0	6020	11/18/05 15:30	PER		
Lead, Fine	24.3	mg/kg	1.0	6020	11/18/05 16:22	PER		
Lead, Total Calculated	6.56	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	3.6	mg/kg	1.0	6020	11/17/05 16:38	SLS	7439-92-1	
Manganese	190	mg/kg	1.0	6020	11/17/05 16:38	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/15/05 15:06	JRT	7439-97-6	b
Nickel	6.8	mg/kg	1.0	6020	11/17/05 16:38	SLS	7440-02-0	
Selenium	0.29	mg/kg	0.20	6020	11/17/05 16:38	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/17/05 16:38	SLS	7440-22-4	
Thallium	0.02	mg/kg	0.50	6020	11/17/05 16:38	SLS	7440-28-0	b
Vanadium	6.2	mg/kg	1.0	6020	11/17/05 16:38	SLS	7440-62-2	
Zinc	12.4	mg/kg	1.0	6020	11/17/05 16:38	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

GM REALM ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

ID # Nº 02583

SSOW Ref. Code: E220002

Required Client Information:

Company: BBL	Report To: CRA
Address: 10559 Citation Dr. Ste 100 Brighton, MI 48116	Copy To: Jim Heading
	Invoice To: CRA
	P.O.:
Phone: 810-229-8594	Project Name: GM Lansing 11f6
Fax: 810-229-8837	Project Number: 64430
E-mail:	

Laboratory: MVTL	
Laboratory Location: Lansing, MI	
Laboratory Contact: Mayd Murshak	
Requested Due Date:	TAT: standard
QA/QC Requirements:	To be determined

Valid Matrix Codes:
WG Groundwater
WB Borehole Water
WS Surface Water
SO Soil
SE Sediment
See Back for Additional Codes

Analysis and Method

Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Preservative: Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	PAL Metals	PID	Remarks/Lab ID
1. SA 8-1 (9-11)	SO	11/9/05	0905	3	X						X	0.2	MS/MSD
2. SA 8-2 (14-16)	↓	↓	0930	1	↓						↓	0.4	
3. SA 14-1 (8-10)			1000	1								5.5	
4. SA 32-1 (8-10)			1350	1								8.4	
5. SA 29-2 (8-10)	↓	↓	1420	↓							↓	8.1	
6.													
7.													
8.													
9.													
10.													
11.													
12.													
13.													
14.													
15.													
TOTAL NUMBER OF CONTAINERS				7									

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
hand deliver	1	Wayne Patterson / BBL	11/9/05		Paula [illegible]	11-9-05	1615
AIRBILL NO. —							

Sample Condition

Temp in °C	3.7
Received on Ice	Y / N
Sealed Cooler	Y / N
Samples Intact	Y / N

Additional Comments:

Sampler Name: Wayne Patterson

Sampler Signature: Wayne Patterson Date: 11/9/05

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

REV. 0 (6/04)

Analytical Laboratory Report

Report ID: S24759.01(01)
Generated on 11/29/2005

Report to

Attention: Amy Hoeksema/ Jim Heading
Blasland, Bouck & Lee, Inc.
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-229-8594 FAX: 810-229-8837

Report produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S24759.01-S24759.07
Project: 64430.200/Plant 6 SSOW# E220002
Submitted Date/Time: 11/11/2005 16:00
Sampled by: Michael Mathiah
P.O. #: 412463

Report Notes

Results relate only to items tested.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
"Not detected" indicates that parameter was not found at a level equal to or greater than the RDL.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Violetta F. Murshak
Laboratory Director

Analytical Laboratory Report

Lab Sample ID: S24759.01
Sample Tag: SA34-6 (6-8)
Collected Date/Time: 11/11/2005 10:00
Matrix: Soil
COC Reference: 02554

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.2	IR
1	40 ml Glass	MeOH	Yes	3.2	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/22/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/15/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/22/05 12:00	PER		
Mercury Digestion	Completed			7471A	11/17/05 13:00	JRT		
Metal Digestion	Completed			3050B	11/17/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/23/05 07:44	JDP	57-12-5	
Metals								
% Coarse by Weight	92.6	%			11/15/05 12:00	SLS		
% Fine by Weight	7.4	%			11/15/05 12:00	SLS		
Total Solids	46	%	1	160.3	11/15/05 12:00	SLS		
Antimony	30.0	mg/kg	0.30	6020	11/21/05 14:09	SLS	7440-36-0	
Arsenic	1.24	mg/kg	0.10	6020	11/21/05 14:09	SLS	7440-38-2	
Barium	119	mg/kg	1.0	6020	11/21/05 14:09	SLS	7440-39-3	
Beryllium	0.57	mg/kg	0.50	6020	11/21/05 14:09	SLS	7440-41-7	
Cadmium	2.60	mg/kg	0.20	6020	11/21/05 14:09	SLS	7440-43-9	
Chromium	9.9	mg/kg	2.0	6020	11/21/05 14:09	SLS	7440-47-3	
Cobalt	0.98	mg/kg	0.50	6020	11/21/05 14:09	SLS	7440-48-4	
Copper	6.3	mg/kg	1.0	6020	11/21/05 14:09	SLS	7440-50-8	
Lead, Coarse	147	mg/kg	1.0	6020	11/23/05 11:55	PER		
Lead, Fine	158	mg/kg	1.0	6020	11/23/05 13:06	PER		
Lead, Total Calculated	147	mg/kg	1.0	6020	11/23/05 14:15	PER	7439-92-1C	
Lead	22.2	mg/kg	1.0	6020	11/21/05 14:09	SLS	7439-92-1	
Manganese	12.7	mg/kg	1.0	6020	11/21/05 14:09	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/17/05 16:34	JRT	7439-97-6	b
Nickel	11.9	mg/kg	1.0	6020	11/21/05 14:09	SLS	7440-02-0	
Selenium	1.09	mg/kg	0.20	6020	11/21/05 14:09	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/21/05 14:09	SLS	7440-22-4	
Thallium	Not detected	mg/kg	0.50	6020	11/21/05 14:09	SLS	7440-28-0	
Vanadium	9.6	mg/kg	1.0	6020	11/21/05 14:09	SLS	7440-62-2	
Zinc	18.9	mg/kg	1.0	6020	11/21/05 14:09	SLS	7440-66-6	
Organics - Volatiles								
TCL Volatile Organics 5035/8260								
Acetone	Not detected	ug/kg	1,000	5035/8260B	11/23/05 13:43	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/kg	1,000	5035/8260B	11/23/05 13:43	JGH	78-93-3	
Benzene	160	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	75-27-4	
Bromoform	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	75-25-2	

b-Value detected less than reporting limit, but greater than MDL

Lab Sample ID: S24759.01 (continued)

Sample Tag: SA34-6 (6-8)

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (continued)								
Bromomethane	Not detected	ug/kg	400	5035/8260B	11/23/05 13:43	JGH	74-83-9	
Carbon disulfide	Not detected	ug/kg	400	5035/8260B	11/23/05 13:43	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	56-23-5	
Chlorobenzene	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	108-90-7	
Chloroethane	Not detected	ug/kg	400	5035/8260B	11/23/05 13:43	JGH	75-00-3	
Chloroform	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	67-66-3	
Chloromethane	Not detected	ug/kg	400	5035/8260B	11/23/05 13:43	JGH	74-87-3	
Cyclohexane	110	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/kg	30	5035/8260B	11/23/05 13:43	JGH	106-93-4	M
1,2-Dichlorobenzene	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	156-59-2	
cis-1,3-Dichloropropene	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	10061-01-5	
Dibromochloromethane	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	156-60-5	
trans-1,3-Dichloropropene	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	10061-02-6	
Ethylbenzene	1,230	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	100-41-4	
2-Hexanone	Not detected	ug/kg	4,000	5035/8260B	11/23/05 13:43	JGH	591-78-6	
Isopropylbenzene	350	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	98-82-8	
Methyl Acetate	Not detected	ug/kg	4,000	5035/8260B	11/23/05 13:43	JGH	79-20-9	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/kg	4,000	5035/8260B	11/23/05 13:43	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/kg	400	5035/8260B	11/23/05 13:43	JGH	1634-04-4	
Methyl cyclohexane	740	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	108-87-2	
Methylene chloride	Not detected	ug/kg	400	5035/8260B	11/23/05 13:43	JGH	75-09-2	
Styrene	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	79-34-5	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/kg	200	5035/8260B	11/23/05 13:43	JGH	76-13-1	
1,1,2-Trichloroethane	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/kg	200	5035/8260B	11/23/05 13:43	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	127-18-4	
Toluene	2,630	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	108-88-3	
Trichloroethene	Not detected	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/kg	200	5035/8260B	11/23/05 13:43	JGH	75-69-4	
Vinyl chloride	Not detected	ug/kg	200	5035/8260B	11/23/05 13:43	JGH	75-01-4	
o-Xylene	1,760	ug/kg	80	5035/8260B	11/23/05 13:43	JGH	95-47-6	
p,m-Xylene	6,350	ug/kg	80	5035/8260B	11/23/05 13:43	JGH		

M-Result reported to MDL not RDL

Analytical Laboratory Report

Lab Sample ID: S24759.02
Sample Tag: SA4-1 (9-11)
Collected Date/Time: 11/11/2005 11:25
Matrix: Soil
COC Reference: 02554

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.2	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/22/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/15/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/22/05 12:00	PER		
Mercury Digestion	Completed			7471A	11/17/05 13:00	JRT		
Metal Digestion	Completed			3050B	11/17/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/23/05 07:46	JDP	57-12-5	
Metals								
% Coarse by Weight	61.4	%			11/15/05 12:00	SLS		
% Fine by Weight	38.6	%			11/15/05 12:00	SLS		
Total Solids	91	%	1	160.3	11/15/05 12:00	SLS		
Antimony	0.08	mg/kg	0.30	6020	11/21/05 14:12	SLS	7440-36-0	b
Arsenic	0.60	mg/kg	0.10	6020	11/21/05 14:12	SLS	7440-38-2	
Barium	9.4	mg/kg	1.0	6020	11/21/05 14:12	SLS	7440-39-3	
Beryllium	0.05	mg/kg	0.50	6020	11/21/05 14:12	SLS	7440-41-7	b
Cadmium	Not detected	mg/kg	0.20	6020	11/21/05 14:12	SLS	7440-43-9	
Chromium	1.6	mg/kg	2.0	6020	11/21/05 14:12	SLS	7440-47-3	b
Cobalt	1.33	mg/kg	0.50	6020	11/21/05 14:12	SLS	7440-48-4	
Copper	1.9	mg/kg	1.0	6020	11/21/05 14:12	SLS	7440-50-8	
Lead, Coarse	6.5	mg/kg	1.0	6020	11/23/05 11:55	PER		
Lead, Fine	4.1	mg/kg	1.0	6020	11/23/05 13:07	PER		
Lead, Total Calculated	5.57	mg/kg	1.0	6020	11/23/05 14:15	PER	7439-92-1C	
Lead	7.7	mg/kg	1.0	6020	11/21/05 14:12	SLS	7439-92-1	
Manganese	118	mg/kg	1.0	6020	11/21/05 14:12	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/17/05 16:35	JRT	7439-97-6	b
Nickel	3.1	mg/kg	1.0	6020	11/21/05 14:12	SLS	7440-02-0	
Selenium	0.17	mg/kg	0.20	6020	11/21/05 14:12	SLS	7782-49-2	b
Silver	Not detected	mg/kg	0.10	6020	11/21/05 14:12	SLS	7440-22-4	
Thallium	Not detected	mg/kg	0.50	6020	11/21/05 14:12	SLS	7440-28-0	
Vanadium	2.2	mg/kg	1.0	6020	11/21/05 14:12	SLS	7440-62-2	
Zinc	4.5	mg/kg	1.0	6020	11/21/05 14:12	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24759.03
Sample Tag: SA3-1 (14-16)
Collected Date/Time: 11/11/2005 11:50
Matrix: Soil
COC Reference: 02554

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.2	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/22/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/15/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/22/05 12:00	PER		
Mercury Digestion	Completed			7471A	11/17/05 13:00	JRT		
Metal Digestion	Completed			3050B	11/17/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/23/05 07:48	JDP	57-12-5	
Metals								
% Coarse by Weight	83.6	%			11/15/05 12:00	SLS		
% Fine by Weight	16.4	%			11/15/05 12:00	SLS		
Total Solids	90	%	1	160.3	11/15/05 12:00	SLS		
Antimony	Not detected	mg/kg	0.30	6020	11/21/05 14:16	SLS	7440-36-0	
Arsenic	2.25	mg/kg	0.10	6020	11/21/05 14:16	SLS	7440-38-2	
Barium	23.3	mg/kg	1.0	6020	11/21/05 14:16	SLS	7440-39-3	
Beryllium	0.14	mg/kg	0.50	6020	11/21/05 14:16	SLS	7440-41-7	b
Cadmium	0.11	mg/kg	0.20	6020	11/21/05 14:16	SLS	7440-43-9	b
Chromium	3.8	mg/kg	2.0	6020	11/21/05 14:16	SLS	7440-47-3	
Cobalt	3.07	mg/kg	0.50	6020	11/21/05 14:16	SLS	7440-48-4	
Copper	9.5	mg/kg	1.0	6020	11/21/05 14:16	SLS	7440-50-8	
Lead, Coarse	4.6	mg/kg	1.0	6020	11/23/05 11:56	PER		
Lead, Fine	33.5	mg/kg	1.0	6020	11/23/05 13:10	PER		
Lead, Total Calculated	9.33	mg/kg	1.0	6020	11/23/05 14:15	PER	7439-92-1C	
Lead	4.4	mg/kg	1.0	6020	11/21/05 14:16	SLS	7439-92-1	
Manganese	231	mg/kg	1.0	6020	11/21/05 14:16	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/17/05 16:37	JRT	7439-97-6	b
Nickel	7.8	mg/kg	1.0	6020	11/21/05 14:16	SLS	7440-02-0	
Selenium	0.68	mg/kg	0.20	6020	11/21/05 14:16	SLS	7782-49-2	
Silver	0.02	mg/kg	0.10	6020	11/21/05 14:16	SLS	7440-22-4	b
Thallium	0.06	mg/kg	0.50	6020	11/21/05 14:16	SLS	7440-28-0	b
Vanadium	5.0	mg/kg	1.0	6020	11/21/05 14:16	SLS	7440-62-2	
Zinc	18.4	mg/kg	1.0	6020	11/21/05 14:16	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24759.04
Sample Tag: SA3-2 (9-11)
Collected Date/Time: 11/11/2005 13:40
Matrix: Soil
COC Reference: 02554

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.2	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/22/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/15/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/22/05 12:00	PER		
Mercury Digestion	Completed			7471A	11/17/05 13:00	JRT		
Metal Digestion	Completed			3050B	11/17/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/23/05 07:50	JDP	57-12-5	
Metals								
% Coarse by Weight	83.3	%			11/15/05 12:00	SLS		
% Fine by Weight	16.7	%			11/15/05 12:00	SLS		
Total Solids	90	%	1	160.3	11/15/05 12:00	SLS		
Antimony	Not detected	mg/kg	0.30	6020	11/21/05 14:20	SLS	7440-36-0	
Arsenic	0.52	mg/kg	0.10	6020	11/21/05 14:20	SLS	7440-38-2	
Barium	25.3	mg/kg	1.0	6020	11/21/05 14:20	SLS	7440-39-3	
Beryllium	0.12	mg/kg	0.50	6020	11/21/05 14:20	SLS	7440-41-7	b
Cadmium	0.09	mg/kg	0.20	6020	11/21/05 14:20	SLS	7440-43-9	b
Chromium	3.5	mg/kg	2.0	6020	11/21/05 14:20	SLS	7440-47-3	
Cobalt	2.51	mg/kg	0.50	6020	11/21/05 14:20	SLS	7440-48-4	
Copper	5.5	mg/kg	1.0	6020	11/21/05 14:20	SLS	7440-50-8	
Lead, Coarse	3.9	mg/kg	1.0	6020	11/23/05 11:57	PER		
Lead, Fine	18.5	mg/kg	1.0	6020	11/23/05 13:11	PER		
Lead, Total Calculated	6.33	mg/kg	1.0	6020	11/23/05 14:15	PER	7439-92-1C	
Lead	3.0	mg/kg	1.0	6020	11/21/05 14:20	SLS	7439-92-1	
Manganese	188	mg/kg	1.0	6020	11/21/05 14:20	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/17/05 16:39	JRT	7439-97-6	b
Nickel	6.1	mg/kg	1.0	6020	11/21/05 14:20	SLS	7440-02-0	
Selenium	0.61	mg/kg	0.20	6020	11/21/05 14:20	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/21/05 14:20	SLS	7440-22-4	
Thallium	0.02	mg/kg	0.50	6020	11/21/05 14:20	SLS	7440-28-0	b
Vanadium	4.8	mg/kg	1.0	6020	11/21/05 14:20	SLS	7440-62-2	
Zinc	10.9	mg/kg	1.0	6020	11/21/05 14:20	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24759.05
Sample Tag: SA1-5 (3-5)
Collected Date/Time: 11/11/2005 14:20
Matrix: Soil
COC Reference: 02554

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.2	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/22/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/15/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/22/05 12:00	PER		
Mercury Digestion	Completed			7471A	11/17/05 13:00	JRT		
Metal Digestion	Completed			3050B	11/17/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/23/05 07:52	JDP	57-12-5	
Metals								
% Coarse by Weight	41.3	%			11/15/05 12:00	SLS		
% Fine by Weight	58.7	%			11/15/05 12:00	SLS		
Total Solids	91	%	1	160.3	11/15/05 12:00	SLS		
Antimony	Not detected	mg/kg	0.30	6020	11/21/05 14:24	SLS	7440-36-0	
Arsenic	0.59	mg/kg	0.10	6020	11/21/05 14:24	SLS	7440-38-2	
Barium	11.2	mg/kg	1.0	6020	11/21/05 14:24	SLS	7440-39-3	
Beryllium	0.07	mg/kg	0.50	6020	11/21/05 14:24	SLS	7440-41-7	b
Cadmium	Not detected	mg/kg	0.20	6020	11/21/05 14:24	SLS	7440-43-9	
Chromium	1.4	mg/kg	2.0	6020	11/21/05 14:24	SLS	7440-47-3	b
Cobalt	1.48	mg/kg	0.50	6020	11/21/05 14:24	SLS	7440-48-4	
Copper	2.1	mg/kg	1.0	6020	11/21/05 14:24	SLS	7440-50-8	
Lead, Coarse	4.6	mg/kg	1.0	6020	11/23/05 11:58	PER		
Lead, Fine	5.1	mg/kg	1.0	6020	11/23/05 13:12	PER		
Lead, Total Calculated	4.89	mg/kg	1.0	6020	11/23/05 14:15	PER	7439-92-1C	
Lead	2.5	mg/kg	1.0	6020	11/21/05 14:24	SLS	7439-92-1	
Manganese	125	mg/kg	1.0	6020	11/21/05 14:24	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/17/05 16:13	JRT	7439-97-6	b
Nickel	2.3	mg/kg	1.0	6020	11/21/05 14:24	SLS	7440-02-0	
Selenium	0.16	mg/kg	0.20	6020	11/21/05 14:24	SLS	7782-49-2	b
Silver	Not detected	mg/kg	0.10	6020	11/21/05 14:24	SLS	7440-22-4	
Thallium	Not detected	mg/kg	0.50	6020	11/21/05 14:24	SLS	7440-28-0	
Vanadium	2.3	mg/kg	1.0	6020	11/21/05 14:24	SLS	7440-62-2	
Zinc	3.9	mg/kg	1.0	6020	11/21/05 14:24	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24759.06
Sample Tag: TB-111105
Collected Date/Time: 11/11/2005 :
Matrix: Water Quality
COC Reference: 02554

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40 ml Glass	MeOH	Yes	3.2	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles								
TCL Volatile Organics 5035/8260								
Acetone	Not detected	ug/kg	800	5035/8260B	11/23/05 13:26	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/kg	800	5035/8260B	11/23/05 13:26	JGH	78-93-3	
Benzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	75-27-4	
Bromoform	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	75-25-2	
Bromomethane	Not detected	ug/kg	300	5035/8260B	11/23/05 13:26	JGH	74-83-9	
Carbon disulfide	Not detected	ug/kg	300	5035/8260B	11/23/05 13:26	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	56-23-5	
Chlorobenzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	108-90-7	
Chloroethane	Not detected	ug/kg	300	5035/8260B	11/23/05 13:26	JGH	75-00-3	
Chloroform	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	67-66-3	
Chloromethane	Not detected	ug/kg	300	5035/8260B	11/23/05 13:26	JGH	74-87-3	
Cyclohexane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/kg	20	5035/8260B	11/23/05 13:26	JGH	106-93-4	M
1,2-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	156-59-2	
cis-1,3-Dichloropropene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	10061-01-5	
Dibromochloromethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	156-60-5	
trans-1,3-Dichloropropene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	100-41-4	
2-Hexanone	Not detected	ug/kg	3,000	5035/8260B	11/23/05 13:26	JGH	591-78-6	
Isopropylbenzene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	98-82-8	
Methyl Acetate	Not detected	ug/kg	3,000	5035/8260B	11/23/05 13:26	JGH	79-20-9	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/kg	3,000	5035/8260B	11/23/05 13:26	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/kg	300	5035/8260B	11/23/05 13:26	JGH	1634-04-4	
Methyl cyclohexane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	108-87-2	
Methylene chloride	Not detected	ug/kg	300	5035/8260B	11/23/05 13:26	JGH	75-09-2	
Styrene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	79-34-5	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/kg	100	5035/8260B	11/23/05 13:26	JGH	76-13-1	
1,1,2-Trichloroethane	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	79-00-5	

M-Result reported to MDL not RDL

Lab Sample ID: S24759.06 (continued)

Sample Tag: TB-111105

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/kg	100	5035/8260B	11/23/05 13:26	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	127-18-4	
Toluene	20	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	108-88-3	BJ
Trichloroethene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/kg	100	5035/8260B	11/23/05 13:26	JGH	75-69-4	
Vinyl chloride	Not detected	ug/kg	100	5035/8260B	11/23/05 13:26	JGH	75-01-4	
o-Xylene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH	95-47-6	
p,m-Xylene	Not detected	ug/kg	50	5035/8260B	11/23/05 13:26	JGH		

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S24759.07
Sample Tag: WC(111105)
Collected Date/Time: 11/11/2005 15:30
Matrix: Soil
COC Reference: 02554

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	32 oz Glass	None	Yes	3.2	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Extraction, PCB	Completed			3550B	11/17/05 16:43	JES		
Mercury Digestion	Completed			7470A	11/17/05 10:00	JRT		
Metal Digestion	Completed			3015A	11/18/05 12:00	SLS		
TCLP Zero Headspace Ext.	Completed			1311	11/15/05 08:00	LBR		
TCLP/SPLP BNA Extraction	Completed			3510C	11/17/05 13:57	EMR		
TCLP Extraction								
% Solids	100			1311	11/15/05 08:00	LBR		
Sample Used g	100			1311	11/15/05 08:00	LBR		
Final Volume mL	2,000			1311	11/15/05 08:00	LBR		
Final Extract pH	5.68			1311	11/15/05 08:00	LBR		
Inorganics								
Flashpoint for Solids	Negative	mm/sec	2.2	1030	11/18/05 14:30	LBR		
pH	9.22	STD Units	0.01	9045D	11/18/05 16:49	LBR		
Releasable Cyanide	Not detected	mg/kg	0.1	9010B	11/23/05 07:54	JDP	57-12-5	
Releasable Sulfide	Not detected	mg/kg	0.5	9030B	11/23/05 10:10	JDP		
Total Solids	88	%	1	160.3	11/14/05 12:31	LBR		
Metals								
Arsenic, TCLP	Not detected	mg/L	0.001	200.8	11/18/05 15:08	SLS	7440-38-2	
Barium, TCLP	0.930	mg/L	0.01	200.8	11/18/05 15:08	SLS	7440-39-3	
Cadmium, TCLP	0.0035	mg/L	0.0005	200.8	11/18/05 15:08	SLS	7440-43-9	
Chromium, TCLP	0.036	mg/L	0.005	200.8	11/18/05 15:08	SLS	7440-47-3	
Lead, TCLP	0.019	mg/L	0.003	200.8	11/18/05 15:08	SLS	7439-92-1	
Mercury, TCLP	Not detected	mg/L	0.0002	245.1M	11/17/05 15:32	JRT	7439-97-6	
Selenium, TCLP	0.011	mg/L	0.005	200.8	11/18/05 15:08	SLS	7782-49-2	
Silver, TCLP	0.0003	mg/L	0.0002	200.8	11/18/05 15:08	SLS	7440-22-4	
Organics - PCBs/Pesticides								
TCL PCB List (Column 1)								
PCB-1016	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	12674-11-2	
PCB-1242	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	53469-21-9	
PCB-1221	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	11104-28-2	
PCB-1232	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	11141-16-5	
PCB-1248	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	12672-29-6	
PCB-1254	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	11097-69-1	
PCB-1260	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	11096-82-5	
TCL PCB List (Column 2)								
PCB-1016	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	12674-11-2	
PCB-1242	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	53469-21-9	
PCB-1221	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	11104-28-2	

Lab Sample ID: S24759.07 (continued)
Sample Tag: WC(111105)

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - PCBs/Pesticides (continued)								
TCL PCB List (Column 2) (continued)								
PCB-1232	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	11141-16-5	
PCB-1248	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	12672-29-6	
PCB-1254	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	11097-69-1	
PCB-1260	Not detected	ug/kg	330	8082	11/17/05 16:43	JANB	11096-82-5	
Organics - Semi-Volatiles								
TCLP/SPLP Semi Volatiles								
o-Cresol	Not detected	ug/L	1,000	8270C	11/22/05 13:43	ARH	95-48-7	
p,m-Cresol	Not detected	ug/L	1,000	8270C	11/22/05 13:43	ARH	106-44-5	
Pentachlorophenol	Not detected	ug/L	1,000	8270C	11/22/05 13:43	ARH	87-86-5	
2,4,5-Trichlorophenol	Not detected	ug/L	1,000	8270C	11/22/05 13:43	ARH	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	1,000	8270C	11/22/05 13:43	ARH	88-06-2	
2,4-Dinitrotoluene	Not detected	ug/L	90	8270C	11/22/05 13:43	ARH	121-14-2	
Hexachlorobenzene	Not detected	ug/L	90	8270C	11/22/05 13:43	ARH	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	100	8270C	11/22/05 13:43	ARH	87-68-3	
Hexachloroethane	Not detected	ug/L	100	8270C	11/22/05 13:43	ARH	67-72-1	
Nitrobenzene	Not detected	ug/L	100	8270C	11/22/05 13:43	ARH	98-95-3	
Pyridine	Not detected	ug/L	100	8270C	11/22/05 13:43	ARH	110-86-1	
Organics - Volatiles								
TCLP/SPLP Volatiles								
Benzene	Not detected	ug/L	100	8260B	11/22/05 15:46	JGH	71-43-2	
Carbon tetrachloride	Not detected	ug/L	100	8260B	11/22/05 15:46	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	100	8260B	11/22/05 15:46	JGH	108-90-7	
Chloroform	Not detected	ug/L	100	8260B	11/22/05 15:46	JGH	67-66-3	
1,4-Dichlorobenzene	Not detected	ug/L	100	8260B	11/22/05 15:46	JGH	106-46-7	
1,2-Dichloroethane	Not detected	ug/L	100	8260B	11/22/05 15:46	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	100	8260B	11/22/05 15:46	JGH	75-35-4	
2-Butanone (MEK)	Not detected	ug/L	1,000	8260B	11/22/05 15:46	JGH	78-93-3	
Tetrachloroethene	Not detected	ug/L	100	8260B	11/22/05 15:46	JGH	127-18-4	
Trichloroethene	Not detected	ug/L	100	8260B	11/22/05 15:46	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	100	8260B	11/22/05 15:46	JGH	75-01-4	

GM REALM ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

ID # Nº 02554

SSOW Ref. Code: F220002

Required Client Information:

Company: BBL	Report To: CRA
Address: 10559 Citation Dr Ste 100	Copy To: Jim Heading
Brighton MI 48116	Invoice To: CRA
Phone: (810) 229-8594	P.O.:
Fax: (810) 229-8837	Project Name: Plant 6 Lansing
E-mail:	Project Number: 64430

Laboratory: Merit	
Laboratory Location: Lansing MI	
Laboratory Contact: Maria Mostak	
Requested Due Date: Standard	TAT:
QA/QC Requirements:	

Valid Matrix Codes: WG Groundwater; WB Borehole Water; WS Surface Water; SO Soil; SE Sediment; See Back for Additional Codes

Analysis and Method

Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Preservative: Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	VOC's	BAL Metals	TCLP VOC	TCLP SVOCs	TCLP RCRA metals	RCI	PCBs				Remarks/Lab ID
24759.01 1. SA 34-6 (6-8)	SO	11-11-05	1000	2	X	X				X	X	X								6.7	PID (ppm)
.02 2. SA 4-1 (9-11)	SO	11-11-05	1125	1	X							X								0.2	
.03 3. SA 3-1 (14-16)	SO	11-11-05	1150	1	X							X								0.0	
.04 4. SA 3-2 (9-11)	SO	11-11-05	1340	1	X							X								0.4	
.05 5. SA 1-5 (3-5)	SO	11-11-05	1420	1	X							X								0.0	
.06 6. TB - 111105	WQ	11-11-05	—	1						X	X									—	
.07 7. WC (111105)	SO	11-11-05	1530	2	X								X	X	X	X	X				
8.																					
9.																					
10.																					
11.																					
12.																					
13.																					
14.																					
15.																					
TOTAL NUMBER OF CONTAINERS																					

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
BBL Dropoff	1		11-11-05			11-11-05	1600
AIRBILL NO.							

Sample Condition

Temp in °C	3.6
Received on Ice	Y / N
Sealed Cooler	Y / N
Samples Intact	Y / N

Additional Comments:

Sampler Name: Michael Mathiak

Sampler Signature: Date: 11-11-05

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

REV. 0 (6/04)

Analytical Laboratory Report

Report ID: S24651.01(01)
Generated on 11/17/2005

Report to

Attention: Amy Hoeksema/ Jim Heading
Blasland, Bouck & Lee, Inc.
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-229-8594 FAX: 810-229-8837

Report produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S24651.01-S24651.11
Project: 64430.200/Plant 6 SSOW# E220002
Submitted Date/Time: 11/04/2005 16:00
Sampled by: Wayne Patterson
P.O. #: 412463

Report Notes

Results relate only to items tested.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
"Not detected" indicates that parameter was not found at a level equal to or greater than the RDL.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Violetta F. Murshak
Laboratory Director

Analytical Laboratory Report

Lab Sample ID: S24651.01
Sample Tag: SA6-11 (8-10)
Collected Date/Time: 11/04/2005 08:50
Matrix: Soil
COC Reference: 02568

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 06:25	JDP	57-12-5	
Metals								
% Coarse by Weight	87.5	%			11/10/05 12:00	SLS		
% Fine by Weight	12.5	%			11/10/05 12:00	SLS		
Total Solids	87	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 13:44	SLS	7440-36-0	
Arsenic	1.06	mg/kg	0.10	6020	11/14/05 13:44	SLS	7440-38-2	
Barium	26.3	mg/kg	1.0	6020	11/14/05 13:44	SLS	7440-39-3	
Beryllium	Not detected	mg/kg	0.50	6020	11/14/05 16:06	SLS	7440-41-7	
Cadmium	0.06	mg/kg	0.20	6020	11/14/05 13:44	SLS	7440-43-9	b
Chromium	4.5	mg/kg	2.0	6020	11/14/05 13:44	SLS	7440-47-3	
Cobalt	1.51	mg/kg	0.50	6020	11/14/05 13:44	SLS	7440-48-4	
Copper	4.9	mg/kg	1.0	6020	11/14/05 13:44	SLS	7440-50-8	
Lead, Coarse	3.7	mg/kg	1.0	6020	11/16/05 13:38	PER		
Lead, Fine	11.6	mg/kg	1.0	6020	11/16/05 14:47	PER		
Lead, Total Calculated	4.68	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	3.2	mg/kg	1.0	6020	11/14/05 13:44	SLS	7439-92-1	
Manganese	164	mg/kg	1.0	6020	11/14/05 13:44	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:02	JRT	7439-97-6	b
Nickel	5.4	mg/kg	1.0	6020	11/14/05 13:44	SLS	7440-02-0	
Selenium	0.37	mg/kg	0.20	6020	11/14/05 13:44	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/14/05 13:44	SLS	7440-22-4	
Thallium	Not detected	mg/kg	0.50	6020	11/14/05 13:44	SLS	7440-28-0	
Vanadium	5.5	mg/kg	1.0	6020	11/14/05 13:44	SLS	7440-62-2	
Zinc	10.5	mg/kg	1.0	6020	11/14/05 13:44	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24651.02
Sample Tag: SA20-3 (7-9)
Collected Date/Time: 11/04/2005 09:05
Matrix: Soil
COC Reference: 02568

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 06:29	JDP	57-12-5	
Metals								
% Coarse by Weight	95.6	%			11/10/05 12:00	SLS		
% Fine by Weight	4.4	%			11/10/05 12:00	SLS		
Total Solids	85	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 13:48	SLS	7440-36-0	
Arsenic	1.19	mg/kg	0.10	6020	11/14/05 13:48	SLS	7440-38-2	
Barium	96.8	mg/kg	1.0	6020	11/14/05 13:48	SLS	7440-39-3	
Beryllium	Not detected	mg/kg	0.50	6020	11/14/05 16:08	SLS	7440-41-7	
Cadmium	0.26	mg/kg	0.20	6020	11/14/05 13:48	SLS	7440-43-9	
Chromium	16.1	mg/kg	2.0	6020	11/14/05 13:48	SLS	7440-47-3	
Cobalt	7.21	mg/kg	0.50	6020	11/14/05 13:48	SLS	7440-48-4	
Copper	11.5	mg/kg	1.0	6020	11/14/05 13:48	SLS	7440-50-8	
Lead, Coarse	8.8	mg/kg	1.0	6020	11/16/05 13:39	PER		
Lead, Fine	66.2	mg/kg	1.0	6020	11/16/05 14:49	PER		
Lead, Total Calculated	11.3	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	10.9	mg/kg	1.0	6020	11/14/05 13:48	SLS	7439-92-1	
Manganese	283	mg/kg	1.0	6020	11/14/05 13:48	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:04	JRT	7439-97-6	b
Nickel	18.9	mg/kg	1.0	6020	11/14/05 13:48	SLS	7440-02-0	
Selenium	0.52	mg/kg	0.20	6020	11/14/05 13:48	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/14/05 13:48	SLS	7440-22-4	
Thallium	0.06	mg/kg	0.50	6020	11/14/05 13:48	SLS	7440-28-0	b
Vanadium	14.1	mg/kg	1.0	6020	11/14/05 13:48	SLS	7440-62-2	
Zinc	32.1	mg/kg	1.0	6020	11/14/05 13:48	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24651.03
Sample Tag: SA20-1 (4-6)
Collected Date/Time: 11/04/2005 09:40
Matrix: Soil
COC Reference: 02568

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 06:31	JDP	57-12-5	
Metals								
% Coarse by Weight	96.1	%			11/10/05 12:00	SLS		
% Fine by Weight	3.9	%			11/10/05 12:00	SLS		
Total Solids	87	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 13:52	SLS	7440-36-0	
Arsenic	1.31	mg/kg	0.10	6020	11/14/05 13:52	SLS	7440-38-2	
Barium	45.2	mg/kg	1.0	6020	11/14/05 13:52	SLS	7440-39-3	
Beryllium	Not detected	mg/kg	0.50	6020	11/14/05 16:10	SLS	7440-41-7	
Cadmium	0.10	mg/kg	0.20	6020	11/14/05 13:52	SLS	7440-43-9	b
Chromium	13.7	mg/kg	2.0	6020	11/14/05 13:52	SLS	7440-47-3	
Cobalt	7.90	mg/kg	0.50	6020	11/14/05 13:52	SLS	7440-48-4	
Copper	10.4	mg/kg	1.0	6020	11/14/05 13:52	SLS	7440-50-8	
Lead, Coarse	7.2	mg/kg	1.0	6020	11/16/05 13:40	PER		
Lead, Fine	24.7	mg/kg	1.0	6020	11/16/05 14:50	PER		
Lead, Total Calculated	7.88	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	5.7	mg/kg	1.0	6020	11/14/05 13:52	SLS	7439-92-1	
Manganese	326	mg/kg	1.0	6020	11/14/05 13:52	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:06	JRT	7439-97-6	b
Nickel	17.4	mg/kg	1.0	6020	11/14/05 13:52	SLS	7440-02-0	
Selenium	0.84	mg/kg	0.20	6020	11/14/05 13:52	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/14/05 13:52	SLS	7440-22-4	
Thallium	0.05	mg/kg	0.50	6020	11/14/05 13:52	SLS	7440-28-0	b
Vanadium	12.8	mg/kg	1.0	6020	11/14/05 13:52	SLS	7440-62-2	
Zinc	26.7	mg/kg	1.0	6020	11/14/05 13:52	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24651.04
Sample Tag: SA20-2 (14-16)
Collected Date/Time: 11/04/2005 10:20
Matrix: Soil
COC Reference: 02568

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 06:33	JDP	57-12-5	
Metals								
% Coarse by Weight	90.2	%			11/10/05 12:00	SLS		
% Fine by Weight	9.8	%			11/10/05 12:00	SLS		
Total Solids	90	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 13:55	SLS	7440-36-0	
Arsenic	0.62	mg/kg	0.10	6020	11/14/05 13:55	SLS	7440-38-2	
Barium	36.8	mg/kg	1.0	6020	11/14/05 13:55	SLS	7440-39-3	
Beryllium	Not detected	mg/kg	0.50	6020	11/14/05 16:12	SLS	7440-41-7	
Cadmium	0.09	mg/kg	0.20	6020	11/14/05 13:55	SLS	7440-43-9	b
Chromium	11.9	mg/kg	2.0	6020	11/14/05 13:55	SLS	7440-47-3	
Cobalt	5.09	mg/kg	0.50	6020	11/14/05 13:55	SLS	7440-48-4	
Copper	8.0	mg/kg	1.0	6020	11/14/05 13:55	SLS	7440-50-8	
Lead, Coarse	3.4	mg/kg	1.0	6020	11/16/05 13:43	PER		
Lead, Fine	21.7	mg/kg	1.0	6020	11/16/05 14:53	PER		
Lead, Total Calculated	5.19	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	3.7	mg/kg	1.0	6020	11/14/05 13:55	SLS	7439-92-1	
Manganese	252	mg/kg	1.0	6020	11/14/05 13:55	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:07	JRT	7439-97-6	b
Nickel	13.0	mg/kg	1.0	6020	11/14/05 13:55	SLS	7440-02-0	
Selenium	1.01	mg/kg	0.20	6020	11/14/05 13:55	SLS	7782-49-2	
Silver	0.02	mg/kg	0.10	6020	11/14/05 13:55	SLS	7440-22-4	b
Thallium	0.06	mg/kg	0.50	6020	11/14/05 13:55	SLS	7440-28-0	b
Vanadium	11.4	mg/kg	1.0	6020	11/14/05 13:55	SLS	7440-62-2	
Zinc	21.9	mg/kg	1.0	6020	11/14/05 13:55	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24651.05
Sample Tag: SA20-4 (10-12)
Collected Date/Time: 11/04/2005 11:20
Matrix: Soil
COC Reference: 02568

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR
1	40 ml Glass	MeOH	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 06:35	JDP	57-12-5	
Metals								
% Coarse by Weight	83.6	%			11/10/05 12:00	SLS		
% Fine by Weight	16.4	%			11/10/05 12:00	SLS		
Total Solids	84	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/16/05 16:27	SLS	7440-36-0	
Arsenic	2.41	mg/kg	0.10	6020	11/16/05 16:27	SLS	7440-38-2	
Barium	24.0	mg/kg	1.0	6020	11/16/05 16:27	SLS	7440-39-3	
Beryllium	0.19	mg/kg	0.50	6020	11/16/05 16:27	SLS	7440-41-7	b
Cadmium	0.07	mg/kg	0.20	6020	11/16/05 16:27	SLS	7440-43-9	b
Chromium	4.1	mg/kg	2.0	6020	11/16/05 16:27	SLS	7440-47-3	
Cobalt	2.59	mg/kg	0.50	6020	11/16/05 16:27	SLS	7440-48-4	
Copper	6.2	mg/kg	1.0	6020	11/16/05 16:27	SLS	7440-50-8	
Lead, Coarse	7.2	mg/kg	1.0	6020	11/16/05 13:44	PER		
Lead, Fine	20.8	mg/kg	1.0	6020	11/16/05 14:54	PER		
Lead, Total Calculated	9.43	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	3.9	mg/kg	1.0	6020	11/16/05 16:27	SLS	7439-92-1	
Manganese	277	mg/kg	1.0	6020	11/16/05 16:27	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:15	JRT	7439-97-6	b
Nickel	5.6	mg/kg	1.0	6020	11/16/05 16:27	SLS	7440-02-0	
Selenium	0.67	mg/kg	0.20	6020	11/16/05 16:27	SLS	7782-49-2	
Silver	0.02	mg/kg	0.10	6020	11/16/05 16:27	SLS	7440-22-4	b
Thallium	0.07	mg/kg	0.50	6020	11/16/05 16:27	SLS	7440-28-0	b
Vanadium	7.1	mg/kg	1.0	6020	11/16/05 16:27	SLS	7440-62-2	
Zinc	14.9	mg/kg	1.0	6020	11/16/05 16:27	SLS	7440-66-6	
Organics - Volatiles								
TCL Volatile Organics 5035/8260								
Acetone	Not detected	ug/kg	900	5035/8260B	11/09/05 19:24	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/kg	900	5035/8260B	11/09/05 19:24	JGH	78-93-3	
Benzene	30	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	71-43-2	J
Bromodichloromethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	75-27-4	

b-Value detected less than reporting limit, but greater than MDL
J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S24651.05 (continued)

Sample Tag: SA20-4 (10-12)

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (continued)								
Bromoform	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	75-25-2	
Bromomethane	Not detected	ug/kg	300	5035/8260B	11/09/05 19:24	JGH	74-83-9	
Carbon disulfide	Not detected	ug/kg	300	5035/8260B	11/09/05 19:24	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	56-23-5	
Chlorobenzene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	108-90-7	
Chloroethane	Not detected	ug/kg	300	5035/8260B	11/09/05 19:24	JGH	75-00-3	
Chloroform	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	67-66-3	
Chloromethane	Not detected	ug/kg	300	5035/8260B	11/09/05 19:24	JGH	74-87-3	
Cyclohexane	30	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	110-82-7	J
1,1-Dichloroethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/kg	20	5035/8260B	11/09/05 19:24	JGH	106-93-4	M
1,2-Dichlorobenzene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	156-59-2	
cis-1,3-Dichloropropene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	10061-01-5	
Dibromochloromethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	156-60-5	
trans-1,3-Dichloropropene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	10061-02-6	
Ethylbenzene	30	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	100-41-4	J
2-Hexanone	Not detected	ug/kg	3,000	5035/8260B	11/09/05 19:24	JGH	591-78-6	
Isopropylbenzene	10	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	98-82-8	J
Methyl Acetate	Not detected	ug/kg	3,000	5035/8260B	11/09/05 19:24	JGH	79-20-9	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/kg	3,000	5035/8260B	11/09/05 19:24	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/kg	300	5035/8260B	11/09/05 19:24	JGH	1634-04-4	
Methyl cyclohexane	110	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	108-87-2	
Methylene chloride	80	ug/kg	300	5035/8260B	11/09/05 19:24	JGH	75-09-2	BJ
Styrene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	79-34-5	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/kg	100	5035/8260B	11/09/05 19:24	JGH	76-13-1	
1,1,2-Trichloroethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/kg	100	5035/8260B	11/09/05 19:24	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	127-18-4	
Toluene	120	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	108-88-3	
Trichloroethene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/kg	100	5035/8260B	11/09/05 19:24	JGH	75-69-4	
Vinyl chloride	Not detected	ug/kg	100	5035/8260B	11/09/05 19:24	JGH	75-01-4	
o-Xylene	60	ug/kg	60	5035/8260B	11/09/05 19:24	JGH	95-47-6	
p,m-Xylene	120	ug/kg	60	5035/8260B	11/09/05 19:24	JGH		

J-Estimated value less than reporting limit, but greater than MDL

M-Result reported to MDL not RDL

B-Compound also found in associated method blank

Analytical Laboratory Report

Lab Sample ID: S24651.06
Sample Tag: SA20-4 (10-12) MS
Collected Date/Time: 11/04/2005 11:20
Matrix: Soil
COC Reference: 02568

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR
1	40 ml Glass	MeOH	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	0.088	mg/kg	0.01	9010B	11/16/05 06:37	JDP	57-12-5	
Metals								
% Coarse by Weight	83.6	%			11/10/05 12:00	SLS		
% Fine by Weight	16.4	%			11/10/05 12:00	SLS		
Total Solids	84	%	1	160.3	11/10/05 10:30	JRT		
Antimony	25.2	mg/kg	0.30	6020	11/16/05 16:35	SLS	7440-36-0	
Arsenic	27.8	mg/kg	0.10	6020	11/16/05 16:35	SLS	7440-38-2	
Barium	50.2	mg/kg	1.0	6020	11/16/05 16:35	SLS	7440-39-3	
Beryllium	22.5	mg/kg	0.50	6020	11/16/05 16:35	SLS	7440-41-7	
Cadmium	24.64	mg/kg	0.20	6020	11/16/05 16:35	SLS	7440-43-9	
Chromium	30.7	mg/kg	2.0	6020	11/16/05 16:35	SLS	7440-47-3	
Cobalt	28.0	mg/kg	0.50	6020	11/16/05 16:35	SLS	7440-48-4	
Copper	28.5	mg/kg	1.0	6020	11/16/05 16:35	SLS	7440-50-8	
Lead, Coarse	44.1	mg/kg	1.0	6020	11/16/05 13:45	PER		
Lead, Fine	69.2	mg/kg	1.0	6020	11/16/05 14:55	PER		
Lead, Total Calculated	48.2	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	26.3	mg/kg	1.0	6020	11/16/05 16:35	SLS	7439-92-1	
Manganese	307	mg/kg	1.0	6020	11/16/05 16:35	SLS	7439-96-5	
Mercury	0.133	mg/kg	0.050	245.1M	11/10/05 15:16	JRT	7439-97-6	
Nickel	28.8	mg/kg	1.0	6020	11/16/05 16:35	SLS	7440-02-0	
Selenium	25.1	mg/kg	0.20	6020	11/16/05 16:35	SLS	7782-49-2	
Silver	24.48	mg/kg	0.10	6020	11/16/05 16:35	SLS	7440-22-4	
Thallium	23.4	mg/kg	0.50	6020	11/16/05 16:35	SLS	7440-28-0	
Vanadium	35.8	mg/kg	1.0	6020	11/16/05 16:35	SLS	7440-62-2	
Zinc	34.8	mg/kg	1.0	6020	11/16/05 16:35	SLS	7440-66-6	
Organics - Volatiles								
TCL Volatile Organics 5035/8260								
Acetone	1,000	ug/kg	900	5035/8260B	11/09/05 22:06	JGH	67-64-1	1
2-Butanone (MEK)	3,500	ug/kg	900	5035/8260B	11/09/05 22:06	JGH	78-93-3	1
Benzene	3,020	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	71-43-2	1
Bromodichloromethane	3,170	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	75-27-4	1
Bromoform	3,050	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	75-25-2	1

1-Spiked at 2.5mg/kg

Lab Sample ID: S24651.06 (continued)

Sample Tag: SA20-4 (10-12) MS

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (continued)								
Bromomethane	1,200	ug/kg	300	5035/8260B	11/09/05 22:06	JGH	74-83-9	1
Carbon disulfide	1,600	ug/kg	300	5035/8260B	11/09/05 22:06	JGH	75-15-0	1
Carbon tetrachloride	2,980	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	56-23-5	1
Chlorobenzene	3,120	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	108-90-7	1
Chloroethane	1,200	ug/kg	300	5035/8260B	11/09/05 22:06	JGH	75-00-3	1
Chloroform	3,070	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	67-66-3	1
Chloromethane	1,900	ug/kg	300	5035/8260B	11/09/05 22:06	JGH	74-87-3	1
Cyclohexane	3,160	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	110-82-7	1
1,1-Dichloroethane	3,060	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	75-34-3	1
1,1-Dichloroethene	2,110	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	75-35-4	1
1,2-Dibromo-3-chloropropane	3,730	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	96-12-8	1
1,2-Dibromoethane	3,360	ug/kg	20	5035/8260B	11/09/05 22:06	JGH	106-93-4	1M
1,2-Dichlorobenzene	3,180	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	95-50-1	1
1,2-Dichloroethane	2,820	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	107-06-2	1
1,2-Dichloropropane	2,940	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	78-87-5	1
1,3-Dichlorobenzene	3,110	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	541-73-1	1
1,4-Dichlorobenzene	3,030	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	106-46-7	1
cis-1,2-Dichloroethene	3,070	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	156-59-2	1
cis-1,3-Dichloropropene	3,000	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	10061-01-5	1
Dibromochloromethane	3,280	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	124-48-1	1
Dichlorodifluoromethane	2,010	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	75-71-8	1
trans-1,2-Dichloroethene	2,900	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	156-60-5	1
trans-1,3-Dichloropropene	3,190	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	10061-02-6	1
Ethylbenzene	3,100	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	100-41-4	1
2-Hexanone	4,000	ug/kg	3,000	5035/8260B	11/09/05 22:06	JGH	591-78-6	1
Isopropylbenzene	3,500	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	98-82-8	1
Methyl Acetate	2,000	ug/kg	3,000	5035/8260B	11/09/05 22:06	JGH	79-20-9	J1
4-Methyl-2-pentanone (MIBK)	3,000	ug/kg	3,000	5035/8260B	11/09/05 22:06	JGH	108-10-1	1
tert-Methyl butyl ether (MTBE)	3,200	ug/kg	300	5035/8260B	11/09/05 22:06	JGH	1634-04-4	1
Methyl cyclohexane	3,210	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	108-87-2	1
Methylene chloride	2,000	ug/kg	300	5035/8260B	11/09/05 22:06	JGH	75-09-2	B1
Styrene	3,330	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	100-42-5	1
1,1,1-Trichloroethane	3,130	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	71-55-6	1
1,1,2,2-Tetrachloroethane	3,810	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	79-34-5	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2,200	ug/kg	100	5035/8260B	11/09/05 22:06	JGH	76-13-1	1
1,1,2-Trichloroethane	3,230	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	79-00-5	1
1,2,4-Trichlorobenzene	3,300	ug/kg	100	5035/8260B	11/09/05 22:06	JGH	120-82-1	1
Tetrachloroethene	2,880	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	127-18-4	1
Toluene	3,070	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	108-88-3	1
Trichloroethene	2,930	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	79-01-6	1
Trichlorofluoromethane	1,900	ug/kg	100	5035/8260B	11/09/05 22:06	JGH	75-69-4	1
Vinyl chloride	1,500	ug/kg	100	5035/8260B	11/09/05 22:06	JGH	75-01-4	1
o-Xylene	3,240	ug/kg	60	5035/8260B	11/09/05 22:06	JGH	95-47-6	1
p,m-Xylene	6,480	ug/kg	60	5035/8260B	11/09/05 22:06	JGH		1

1-Spiked at 2.5mg/kg

M-Result reported to MDL not RDL

J-Estimated value less than reporting limit, but greater than MDL

B-Compound also found in associated method blank

Analytical Laboratory Report

Lab Sample ID: S24651.07
Sample Tag: SA20-4 (10-12) MSD
Collected Date/Time: 11/04/2005 11:20
Matrix: Soil
COC Reference: 02568

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR
1	40 ml Glass	MeOH	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	0.087	mg/kg	0.01	9010B	11/16/05 06:39	JDP	57-12-5	
Metals								
% Coarse by Weight	83.6	%			11/10/05 12:00	SLS		
% Fine by Weight	16.4	%			11/10/05 12:00	SLS		
Total Solids	84	%	1	160.3	11/10/05 10:30	JRT		
Antimony	25.2	mg/kg	0.30	6020	11/16/05 16:31	SLS	7440-36-0	
Arsenic	27.6	mg/kg	0.10	6020	11/16/05 16:31	SLS	7440-38-2	
Barium	49.6	mg/kg	1.0	6020	11/16/05 16:31	SLS	7440-39-3	
Beryllium	22.4	mg/kg	0.50	6020	11/16/05 16:31	SLS	7440-41-7	
Cadmium	24.46	mg/kg	0.20	6020	11/16/05 16:31	SLS	7440-43-9	
Chromium	30.1	mg/kg	2.0	6020	11/16/05 16:31	SLS	7440-47-3	
Cobalt	27.4	mg/kg	0.50	6020	11/16/05 16:31	SLS	7440-48-4	
Copper	28.3	mg/kg	1.0	6020	11/16/05 16:31	SLS	7440-50-8	
Lead, Coarse	43.8	mg/kg	1.0	6020	11/16/05 13:46	PER		
Lead, Fine	69.2	mg/kg	1.0	6020	11/16/05 14:56	PER		
Lead, Total Calculated	47.9	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	25.9	mg/kg	1.0	6020	11/16/05 16:31	SLS	7439-92-1	
Manganese	316	mg/kg	1.0	6020	11/16/05 16:31	SLS	7439-96-5	
Mercury	0.130	mg/kg	0.050	245.1M	11/10/05 15:18	JRT	7439-97-6	
Nickel	28.3	mg/kg	1.0	6020	11/16/05 16:31	SLS	7440-02-0	
Selenium	24.5	mg/kg	0.20	6020	11/16/05 16:31	SLS	7782-49-2	
Silver	24.16	mg/kg	0.10	6020	11/16/05 16:31	SLS	7440-22-4	
Thallium	23.2	mg/kg	0.50	6020	11/16/05 16:31	SLS	7440-28-0	
Vanadium	34.8	mg/kg	1.0	6020	11/16/05 16:31	SLS	7440-62-2	
Zinc	34.9	mg/kg	1.0	6020	11/16/05 16:31	SLS	7440-66-6	
Organics - Volatiles								
TCL Volatile Organics 5035/8260								
Acetone	900	ug/kg	900	5035/8260B	11/09/05 22:22	JGH	67-64-1	1
2-Butanone (MEK)	3,700	ug/kg	900	5035/8260B	11/09/05 22:22	JGH	78-93-3	1
Benzene	3,150	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	71-43-2	1
Bromodichloromethane	3,330	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	75-27-4	1
Bromoform	3,030	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	75-25-2	1

1-Spiked at 2.5mg/kg

Lab Sample ID: S24651.07 (continued)

Sample Tag: SA20-4 (10-12) MSD

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (continued)								
Bromomethane	1,200	ug/kg	300	5035/8260B	11/09/05 22:22	JGH	74-83-9	1
Carbon disulfide	1,600	ug/kg	300	5035/8260B	11/09/05 22:22	JGH	75-15-0	1
Carbon tetrachloride	3,040	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	56-23-5	1
Chlorobenzene	3,150	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	108-90-7	1
Chloroethane	1,300	ug/kg	300	5035/8260B	11/09/05 22:22	JGH	75-00-3	1
Chloroform	3,220	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	67-66-3	1
Chloromethane	1,900	ug/kg	300	5035/8260B	11/09/05 22:22	JGH	74-87-3	1
Cyclohexane	3,170	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	110-82-7	1
1,1-Dichloroethane	3,200	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	75-34-3	1
1,1-Dichloroethene	2,120	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	75-35-4	1
1,2-Dibromo-3-chloropropane	3,810	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	96-12-8	1
1,2-Dibromoethane	3,480	ug/kg	20	5035/8260B	11/09/05 22:22	JGH	106-93-4	1M
1,2-Dichlorobenzene	3,250	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	95-50-1	1
1,2-Dichloroethane	2,950	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	107-06-2	1
1,2-Dichloropropane	3,160	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	78-87-5	1
1,3-Dichlorobenzene	3,130	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	541-73-1	1
1,4-Dichlorobenzene	3,150	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	106-46-7	1
cis-1,2-Dichloroethene	3,210	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	156-59-2	1
cis-1,3-Dichloropropene	3,200	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	10061-01-5	1
Dibromochloromethane	3,350	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	124-48-1	1
Dichlorodifluoromethane	1,980	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	75-71-8	1
trans-1,2-Dichloroethene	2,820	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	156-60-5	1
trans-1,3-Dichloropropene	3,370	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	10061-02-6	1
Ethylbenzene	3,100	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	100-41-4	1
2-Hexanone	4,000	ug/kg	3,000	5035/8260B	11/09/05 22:22	JGH	591-78-6	1
Isopropylbenzene	3,500	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	98-82-8	1
Methyl Acetate	3,000	ug/kg	3,000	5035/8260B	11/09/05 22:22	JGH	79-20-9	J1
4-Methyl-2-pentanone (MIBK)	4,000	ug/kg	3,000	5035/8260B	11/09/05 22:22	JGH	108-10-1	1
tert-Methyl butyl ether (MTBE)	3,300	ug/kg	300	5035/8260B	11/09/05 22:22	JGH	1634-04-4	1
Methyl cyclohexane	3,210	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	108-87-2	1
Methylene chloride	2,000	ug/kg	300	5035/8260B	11/09/05 22:22	JGH	75-09-2	B1
Styrene	3,370	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	100-42-5	1
1,1,1-Trichloroethane	3,170	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	71-55-6	1
1,1,2,2-Tetrachloroethane	3,860	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	79-34-5	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2,100	ug/kg	100	5035/8260B	11/09/05 22:22	JGH	76-13-1	1
1,1,2-Trichloroethane	3,370	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	79-00-5	1
1,2,4-Trichlorobenzene	3,400	ug/kg	100	5035/8260B	11/09/05 22:22	JGH	120-82-1	1
Tetrachloroethene	3,030	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	127-18-4	1
Toluene	3,200	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	108-88-3	1
Trichloroethene	3,050	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	79-01-6	1
Trichlorofluoromethane	1,900	ug/kg	100	5035/8260B	11/09/05 22:22	JGH	75-69-4	1
Vinyl chloride	1,500	ug/kg	100	5035/8260B	11/09/05 22:22	JGH	75-01-4	1
o-Xylene	3,260	ug/kg	60	5035/8260B	11/09/05 22:22	JGH	95-47-6	1
p,m-Xylene	6,580	ug/kg	60	5035/8260B	11/09/05 22:22	JGH		1

1-Spiked at 2.5mg/kg

M-Result reported to MDL not RDL

J-Estimated value less than reporting limit, but greater than MDL

B-Compound also found in associated method blank

Analytical Laboratory Report

Lab Sample ID: S24651.08
Sample Tag: SA6-12 (8-10)
Collected Date/Time: 11/04/2005 13:20
Matrix: Soil
COC Reference: 02568

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 06:41	JDP	57-12-5	
Metals								
% Coarse by Weight	91.5	%			11/10/05 12:00	SLS		
% Fine by Weight	8.5	%			11/10/05 12:00	SLS		
Total Solids	89	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 13:59	SLS	7440-36-0	
Arsenic	1.08	mg/kg	0.10	6020	11/14/05 13:59	SLS	7440-38-2	
Barium	43.6	mg/kg	1.0	6020	11/14/05 13:59	SLS	7440-39-3	
Beryllium	Not detected	mg/kg	0.50	6020	11/14/05 16:15	SLS	7440-41-7	
Cadmium	0.06	mg/kg	0.20	6020	11/14/05 13:59	SLS	7440-43-9	b
Chromium	16.1	mg/kg	2.0	6020	11/14/05 13:59	SLS	7440-47-3	
Cobalt	8.35	mg/kg	0.50	6020	11/14/05 13:59	SLS	7440-48-4	
Copper	9.3	mg/kg	1.0	6020	11/14/05 13:59	SLS	7440-50-8	
Lead, Coarse	4.1	mg/kg	1.0	6020	11/16/05 13:47	PER		
Lead, Fine	27.3	mg/kg	1.0	6020	11/16/05 14:57	PER		
Lead, Total Calculated	6.07	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	5.0	mg/kg	1.0	6020	11/14/05 13:59	SLS	7439-92-1	
Manganese	352	mg/kg	1.0	6020	11/14/05 13:59	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:09	JRT	7439-97-6	b
Nickel	18.5	mg/kg	1.0	6020	11/14/05 13:59	SLS	7440-02-0	
Selenium	0.56	mg/kg	0.20	6020	11/14/05 13:59	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/14/05 13:59	SLS	7440-22-4	
Thallium	0.04	mg/kg	0.50	6020	11/14/05 13:59	SLS	7440-28-0	b
Vanadium	12.7	mg/kg	1.0	6020	11/14/05 13:59	SLS	7440-62-2	
Zinc	26.8	mg/kg	1.0	6020	11/14/05 13:59	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24651.09
Sample Tag: Dup-4
Collected Date/Time: 11/04/2005 :
Matrix: Soil
COC Reference: 02568

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR
1	40 ml Glass	MeOH	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 06:43	JDP	57-12-5	
Metals								
% Coarse by Weight	83.2	%			11/10/05 12:00	SLS		
% Fine by Weight	16.8	%			11/10/05 12:00	SLS		
Total Solids	87	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 14:03	SLS	7440-36-0	
Arsenic	1.56	mg/kg	0.10	6020	11/14/05 14:03	SLS	7440-38-2	
Barium	29.2	mg/kg	1.0	6020	11/14/05 14:03	SLS	7440-39-3	
Beryllium	Not detected	mg/kg	0.50	6020	11/14/05 16:17	SLS	7440-41-7	
Cadmium	0.08	mg/kg	0.20	6020	11/14/05 14:03	SLS	7440-43-9	b
Chromium	9.0	mg/kg	2.0	6020	11/14/05 14:03	SLS	7440-47-3	
Cobalt	4.63	mg/kg	0.50	6020	11/14/05 14:03	SLS	7440-48-4	
Copper	10.0	mg/kg	1.0	6020	11/14/05 14:03	SLS	7440-50-8	
Lead, Coarse	12.2	mg/kg	1.0	6020	11/16/05 13:48	PER		
Lead, Fine	29.0	mg/kg	1.0	6020	11/16/05 14:58	PER		
Lead, Total Calculated	15.0	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	4.5	mg/kg	1.0	6020	11/14/05 14:03	SLS	7439-92-1	
Manganese	250	mg/kg	1.0	6020	11/14/05 14:03	SLS	7439-96-5	
Mercury	Not detected	mg/kg	0.050	245.1M	11/10/05 15:11	JRT	7439-97-6	
Nickel	10.6	mg/kg	1.0	6020	11/14/05 14:03	SLS	7440-02-0	
Selenium	0.87	mg/kg	0.20	6020	11/14/05 14:03	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/14/05 14:03	SLS	7440-22-4	
Thallium	0.03	mg/kg	0.50	6020	11/14/05 14:03	SLS	7440-28-0	b
Vanadium	9.1	mg/kg	1.0	6020	11/14/05 14:03	SLS	7440-62-2	
Zinc	19.1	mg/kg	1.0	6020	11/14/05 14:03	SLS	7440-66-6	
Organics - Volatiles								
TCL Volatile Organics 5035/8260								
Acetone	Not detected	ug/kg	800	5035/8260B	11/09/05 19:41	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/kg	800	5035/8260B	11/09/05 19:41	JGH	78-93-3	
Benzene	10	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	71-43-2	J
Bromodichloromethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	75-27-4	

b-Value detected less than reporting limit, but greater than MDL
J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S24651.09 (continued)

Sample Tag: Dup-4

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (continued)								
Bromoform	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	75-25-2	
Bromomethane	Not detected	ug/kg	300	5035/8260B	11/09/05 19:41	JGH	74-83-9	
Carbon disulfide	Not detected	ug/kg	300	5035/8260B	11/09/05 19:41	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	56-23-5	
Chlorobenzene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	108-90-7	
Chloroethane	Not detected	ug/kg	300	5035/8260B	11/09/05 19:41	JGH	75-00-3	
Chloroform	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	67-66-3	
Chloromethane	Not detected	ug/kg	300	5035/8260B	11/09/05 19:41	JGH	74-87-3	
Cyclohexane	20	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	110-82-7	J
1,1-Dichloroethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/kg	20	5035/8260B	11/09/05 19:41	JGH	106-93-4	M
1,2-Dichlorobenzene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	156-59-2	
cis-1,3-Dichloropropene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	10061-01-5	
Dibromochloromethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	156-60-5	
trans-1,3-Dichloropropene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	10061-02-6	
Ethylbenzene	10	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	100-41-4	J
2-Hexanone	Not detected	ug/kg	3,000	5035/8260B	11/09/05 19:41	JGH	591-78-6	
Isopropylbenzene	8	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	98-82-8	J
Methyl Acetate	Not detected	ug/kg	3,000	5035/8260B	11/09/05 19:41	JGH	79-20-9	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/kg	3,000	5035/8260B	11/09/05 19:41	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/kg	300	5035/8260B	11/09/05 19:41	JGH	1634-04-4	
Methyl cyclohexane	50	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	108-87-2	J
Methylene chloride	90	ug/kg	300	5035/8260B	11/09/05 19:41	JGH	75-09-2	BJ
Styrene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	79-34-5	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/kg	100	5035/8260B	11/09/05 19:41	JGH	76-13-1	
1,1,2-Trichloroethane	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/kg	100	5035/8260B	11/09/05 19:41	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	127-18-4	
Toluene	50	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	108-88-3	J
Trichloroethene	Not detected	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/kg	100	5035/8260B	11/09/05 19:41	JGH	75-69-4	
Vinyl chloride	Not detected	ug/kg	100	5035/8260B	11/09/05 19:41	JGH	75-01-4	
o-Xylene	30	ug/kg	60	5035/8260B	11/09/05 19:41	JGH	95-47-6	J
p,m-Xylene	50	ug/kg	60	5035/8260B	11/09/05 19:41	JGH		J

J-Estimated value less than reporting limit, but greater than MDL

M-Result reported to MDL not RDL

B-Compound also found in associated method blank

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S24651.10
Sample Tag: SA10-4 (8-10)
Collected Date/Time: 11/04/2005 14:45
Matrix: Soil
COC Reference: 02568

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/15/05 13:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/10/05 12:00	SLS		
Lead, Fine Digestion	Completed			3050B	11/15/05 15:00	PER		
Mercury Digestion	Completed			7471A	11/10/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/10/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/16/05 06:45	JDP	57-12-5	
Metals								
% Coarse by Weight	94.7	%			11/10/05 12:00	SLS		
% Fine by Weight	5.3	%			11/10/05 12:00	SLS		
Total Solids	89	%	1	160.3	11/10/05 10:30	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/14/05 14:07	SLS	7440-36-0	
Arsenic	1.05	mg/kg	0.10	6020	11/14/05 14:07	SLS	7440-38-2	
Barium	52.9	mg/kg	1.0	6020	11/14/05 14:07	SLS	7440-39-3	
Beryllium	Not detected	mg/kg	0.50	6020	11/14/05 16:19	SLS	7440-41-7	
Cadmium	0.09	mg/kg	0.20	6020	11/14/05 14:07	SLS	7440-43-9	b
Chromium	13.9	mg/kg	2.0	6020	11/14/05 14:07	SLS	7440-47-3	
Cobalt	6.55	mg/kg	0.50	6020	11/14/05 14:07	SLS	7440-48-4	
Copper	9.9	mg/kg	1.0	6020	11/14/05 14:07	SLS	7440-50-8	
Lead, Coarse	4.4	mg/kg	1.0	6020	11/16/05 13:49	PER		
Lead, Fine	30.5	mg/kg	1.0	6020	11/16/05 14:59	PER		
Lead, Total Calculated	5.78	mg/kg	1.0	6020	11/16/05 15:30	PER	7439-92-1C	
Lead	4.9	mg/kg	1.0	6020	11/14/05 14:07	SLS	7439-92-1	
Manganese	335	mg/kg	1.0	6020	11/14/05 14:07	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/10/05 15:13	JRT	7439-97-6	b
Nickel	16.0	mg/kg	1.0	6020	11/14/05 14:07	SLS	7440-02-0	
Selenium	0.78	mg/kg	0.20	6020	11/14/05 14:07	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/14/05 14:07	SLS	7440-22-4	
Thallium	0.05	mg/kg	0.50	6020	11/14/05 14:07	SLS	7440-28-0	b
Vanadium	12.7	mg/kg	1.0	6020	11/14/05 14:07	SLS	7440-62-2	
Zinc	25.6	mg/kg	1.0	6020	11/14/05 14:07	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24651.11
Sample Tag: TB-110405
Collected Date/Time: 11/04/2005 :
Matrix: Soil
COC Reference: 02568

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40 ml Glass	MeOH	Yes	3.8	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles								
TCL Volatile Organics 5035/8260								
Acetone	Not detected	ug/kg	800	5035/8260B	11/09/05 19:57	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/kg	800	5035/8260B	11/09/05 19:57	JGH	78-93-3	
Benzene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	75-27-4	
Bromoform	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	75-25-2	
Bromomethane	Not detected	ug/kg	300	5035/8260B	11/09/05 19:57	JGH	74-83-9	
Carbon disulfide	Not detected	ug/kg	300	5035/8260B	11/09/05 19:57	JGH	75-15-0	
Carbon tetrachloride	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	56-23-5	
Chlorobenzene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	108-90-7	
Chloroethane	Not detected	ug/kg	300	5035/8260B	11/09/05 19:57	JGH	75-00-3	
Chloroform	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	67-66-3	
Chloromethane	Not detected	ug/kg	300	5035/8260B	11/09/05 19:57	JGH	74-87-3	
Cyclohexane	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	110-82-7	
1,1-Dichloroethane	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	75-34-3	
1,1-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/kg	20	5035/8260B	11/09/05 19:57	JGH	106-93-4	M
1,2-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	95-50-1	
1,2-Dichloroethane	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	107-06-2	
1,2-Dichloropropane	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	78-87-5	
1,3-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	106-46-7	
cis-1,2-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	156-59-2	
cis-1,3-Dichloropropene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	10061-01-5	
Dibromochloromethane	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	124-48-1	
Dichlorodifluoromethane	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	75-71-8	
trans-1,2-Dichloroethene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	156-60-5	
trans-1,3-Dichloropropene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	100-41-4	
2-Hexanone	Not detected	ug/kg	3,000	5035/8260B	11/09/05 19:57	JGH	591-78-6	
Isopropylbenzene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	98-82-8	
Methyl Acetate	Not detected	ug/kg	3,000	5035/8260B	11/09/05 19:57	JGH	79-20-9	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/kg	3,000	5035/8260B	11/09/05 19:57	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/kg	300	5035/8260B	11/09/05 19:57	JGH	1634-04-4	
Methyl cyclohexane	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	108-87-2	
Methylene chloride	70	ug/kg	300	5035/8260B	11/09/05 19:57	JGH	75-09-2	BJ
Styrene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	100-42-5	
1,1,1-Trichloroethane	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	79-34-5	
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/kg	100	5035/8260B	11/09/05 19:57	JGH	76-13-1	

M-Result reported to MDL not RDL
B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S24651.11 (continued)

Sample Tag: TB-110405

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 5035/8260 (continued)								
1,1,2-Trichloroethane	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	79-00-5	
1,2,4-Trichlorobenzene	Not detected	ug/kg	100	5035/8260B	11/09/05 19:57	JGH	120-82-1	
Tetrachloroethene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	127-18-4	
Toluene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	108-88-3	
Trichloroethene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	79-01-6	
Trichlorofluoromethane	Not detected	ug/kg	100	5035/8260B	11/09/05 19:57	JGH	75-69-4	
Vinyl chloride	Not detected	ug/kg	100	5035/8260B	11/09/05 19:57	JGH	75-01-4	
o-Xylene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH	95-47-6	
p,m-Xylene	Not detected	ug/kg	50	5035/8260B	11/09/05 19:57	JGH		

GM REALM ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

ID # Nº 02568

SSOW Ref. Code: E220002

Required Client Information:

Company: BBL	Report To: CRA	Laboratory: Merit	
Address: 10559 Citation Dr. Ste 100	Copy To: Jim Heading	Laboratory Location: Lansing	
Brighton MI 48116	Invoice To: CRA	Laboratory Contact: Mayd Murshak	
Phone: 810-229-8594	P.O.:	Requested Due Date:	TAT: Standard
Fax: 810-229-8837	Project Name: GM Lansing P146	QA/QC Requirements: To be determined	
E-mail: jheading@bbl-inc.com	Project Number: 64430		

24651

Valid Matrix Codes: WG Groundwater, WB Borehole Water, WS Surface Water, SO Soil, SE Sediment, See Back for Additional Codes

Analysis and Method

	Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Preservative: Unpreserved	HCl	H2SO4	HNO3	NaOH	Other: meoH	PAL Metals	VOCs	PID	Remarks/Lab ID
01.	SA 6-11 (8-10)	SO	11/4/05	0850	1	1						X		0.5	
02.	SA 20-3 (7-9)			0905										0.7	
03.	SA 20-1 (4-6)			0940										0.3	
04.	SA 20-2 (14-16)			1020										0.5	
05.	SA 20-4 (10-12)			1120	6	3					3	X	X	13.3	MS/MSD
06.	SA 6-12 (8-10)			1320	1	1						X		0.4	
07.	DUP-4			-	2	1					1	X	X	-	
08.	SA 10-4 (8-10)			1445	1	1						X		0.3	
09.	TB-110405	WQ			2								X	-	
10.															
11.															
12.															
13.															
14.															
15.															
	TOTAL NUMBER OF CONTAINERS				15										

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
hand deliver	1	Wayne Patterson / BBL	11/4/05	1535	[illegible]	11/4/05	1600
AIRBILL NO. —							

Sample Condition

Temp in °C	3.8
Received on Ice	Y / N
Sealed Cooler	Y / N
Samples Intact	Y / N

Additional Comments:

Sampler Name: Wayne Patterson

Sampler Signature: Wayne Patterson Date: 11/4/05

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

REV. 0 (6/04)

Analytical Laboratory Report

Report ID: S24686.01(01)
Generated on 11/21/2005

Report to

Attention: Amy Hoeksema/ Jim Heading
Blasland, Bouck & Lee, Inc.
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-229-8594 FAX: 810-229-8837

Report produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S24686.01-S24686.09
Project: 64430.200/Plant 6 SSOW# E220002
Submitted Date/Time: 11/08/2005 16:25
Sampled by: Wayne Patterson
P.O. #: 412463

Report Notes

Results relate only to items tested.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
"Not detected" indicates that parameter was not found at a level equal to or greater than the RDL.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Violetta F. Murshak
Laboratory Director

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S24686.01
Sample Tag: SA7-4 (8-10)
Collected Date/Time: 11/08/2005 09:15
Matrix: Soil
COC Reference: 02580

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 12:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/14/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:38	JDP	57-12-5	
Metals								
% Coarse by Weight	96.2	%			11/11/05 12:00	JRT		
% Fine by Weight	3.8	%			11/11/05 12:00	JRT		
Total Solids	87	%	1	160.3	11/11/05 12:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/16/05 15:54	SLS	7440-36-0	
Arsenic	1.53	mg/kg	0.10	6020	11/16/05 15:54	SLS	7440-38-2	
Barium	35.0	mg/kg	1.0	6020	11/16/05 15:54	SLS	7440-39-3	
Beryllium	0.20	mg/kg	0.50	6020	11/16/05 15:54	SLS	7440-41-7	b
Cadmium	0.11	mg/kg	0.20	6020	11/16/05 15:54	SLS	7440-43-9	b
Chromium	7.9	mg/kg	2.0	6020	11/16/05 15:54	SLS	7440-47-3	
Cobalt	3.58	mg/kg	0.50	6020	11/16/05 15:54	SLS	7440-48-4	
Copper	10.1	mg/kg	1.0	6020	11/16/05 15:54	SLS	7440-50-8	
Lead, Coarse	4.8	mg/kg	1.0	6020	11/18/05 15:13	PER		
Lead, Fine	57.8	mg/kg	1.0	6020	11/18/05 16:05	PER		
Lead, Total Calculated	6.81	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	4.1	mg/kg	1.0	6020	11/16/05 15:54	SLS	7439-92-1	
Manganese	224	mg/kg	1.0	6020	11/16/05 15:54	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/14/05 16:04	JRT	7439-97-6	b
Nickel	10.6	mg/kg	1.0	6020	11/16/05 15:54	SLS	7440-02-0	
Selenium	1.31	mg/kg	0.20	6020	11/16/05 15:54	SLS	7782-49-2	
Silver	0.04	mg/kg	0.10	6020	11/16/05 15:54	SLS	7440-22-4	b
Thallium	0.09	mg/kg	0.50	6020	11/16/05 15:54	SLS	7440-28-0	b
Vanadium	9.3	mg/kg	1.0	6020	11/16/05 15:54	SLS	7440-62-2	
Zinc	17.9	mg/kg	1.0	6020	11/16/05 15:54	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24686.02
Sample Tag: SA7-3 (7-9)
Collected Date/Time: 11/08/2005 09:50
Matrix: Soil
COC Reference: 02580

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 12:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/14/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:40	JDP	57-12-5	
Metals								
% Coarse by Weight	95.5	%			11/11/05 12:00	JRT		
% Fine by Weight	4.5	%			11/11/05 12:00	JRT		
Total Solids	89	%	1	160.3	11/11/05 12:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/16/05 15:57	SLS	7440-36-0	
Arsenic	1.50	mg/kg	0.10	6020	11/16/05 15:57	SLS	7440-38-2	
Barium	50.6	mg/kg	1.0	6020	11/16/05 15:57	SLS	7440-39-3	
Beryllium	0.21	mg/kg	0.50	6020	11/16/05 15:57	SLS	7440-41-7	b
Cadmium	0.11	mg/kg	0.20	6020	11/16/05 15:57	SLS	7440-43-9	b
Chromium	7.9	mg/kg	2.0	6020	11/16/05 15:57	SLS	7440-47-3	
Cobalt	7.29	mg/kg	0.50	6020	11/16/05 15:57	SLS	7440-48-4	
Copper	8.2	mg/kg	1.0	6020	11/16/05 15:57	SLS	7440-50-8	
Lead, Coarse	3.8	mg/kg	1.0	6020	11/18/05 15:15	PER		
Lead, Fine	72.1	mg/kg	1.0	6020	11/18/05 16:07	PER		
Lead, Total Calculated	6.87	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	5.3	mg/kg	1.0	6020	11/16/05 15:57	SLS	7439-92-1	
Manganese	363	mg/kg	1.0	6020	11/16/05 15:57	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/14/05 16:06	JRT	7439-97-6	b
Nickel	11.9	mg/kg	1.0	6020	11/16/05 15:57	SLS	7440-02-0	
Selenium	0.81	mg/kg	0.20	6020	11/16/05 15:57	SLS	7782-49-2	
Silver	0.02	mg/kg	0.10	6020	11/16/05 15:57	SLS	7440-22-4	b
Thallium	0.07	mg/kg	0.50	6020	11/16/05 15:57	SLS	7440-28-0	b
Vanadium	9.1	mg/kg	1.0	6020	11/16/05 15:57	SLS	7440-62-2	
Zinc	25.8	mg/kg	1.0	6020	11/16/05 15:57	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24686.03
Sample Tag: SA7-2 (4-6)
Collected Date/Time: 11/08/2005 10:15
Matrix: Soil
COC Reference: 02580

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 12:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/14/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:42	JDP	57-12-5	
Metals								
% Coarse by Weight	94.6	%			11/11/05 12:00	JRT		
% Fine by Weight	5.4	%			11/11/05 12:00	JRT		
Total Solids	88	%	1	160.3	11/11/05 12:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/16/05 16:01	SLS	7440-36-0	
Arsenic	1.43	mg/kg	0.10	6020	11/16/05 16:01	SLS	7440-38-2	
Barium	36.0	mg/kg	1.0	6020	11/16/05 16:01	SLS	7440-39-3	
Beryllium	0.19	mg/kg	0.50	6020	11/16/05 16:01	SLS	7440-41-7	b
Cadmium	0.09	mg/kg	0.20	6020	11/16/05 16:01	SLS	7440-43-9	b
Chromium	7.5	mg/kg	2.0	6020	11/16/05 16:01	SLS	7440-47-3	
Cobalt	4.06	mg/kg	0.50	6020	11/16/05 16:01	SLS	7440-48-4	
Copper	7.2	mg/kg	1.0	6020	11/16/05 16:01	SLS	7440-50-8	
Lead, Coarse	3.6	mg/kg	1.0	6020	11/18/05 15:16	PER		
Lead, Fine	30.0	mg/kg	1.0	6020	11/18/05 16:08	PER		
Lead, Total Calculated	5.02	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	4.6	mg/kg	1.0	6020	11/16/05 16:01	SLS	7439-92-1	
Manganese	275	mg/kg	1.0	6020	11/16/05 16:01	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/14/05 16:08	JRT	7439-97-6	b
Nickel	9.5	mg/kg	1.0	6020	11/16/05 16:01	SLS	7440-02-0	
Selenium	0.55	mg/kg	0.20	6020	11/16/05 16:01	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/16/05 16:01	SLS	7440-22-4	
Thallium	0.05	mg/kg	0.50	6020	11/16/05 16:01	SLS	7440-28-0	b
Vanadium	8.9	mg/kg	1.0	6020	11/16/05 16:01	SLS	7440-62-2	
Zinc	15.6	mg/kg	1.0	6020	11/16/05 16:01	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24686.04
Sample Tag: SA7-1 (9-11)
Collected Date/Time: 11/08/2005 10:45
Matrix: Soil
COC Reference: 02580

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 12:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/14/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:44	JDP	57-12-5	
Metals								
% Coarse by Weight	88.0	%			11/11/05 12:00	JRT		
% Fine by Weight	12.0	%			11/11/05 12:00	JRT		
Total Solids	89	%	1	160.3	11/11/05 12:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/16/05 16:05	SLS	7440-36-0	
Arsenic	1.65	mg/kg	0.10	6020	11/16/05 16:05	SLS	7440-38-2	
Barium	42.5	mg/kg	1.0	6020	11/16/05 16:05	SLS	7440-39-3	
Beryllium	0.20	mg/kg	0.50	6020	11/16/05 16:05	SLS	7440-41-7	b
Cadmium	0.08	mg/kg	0.20	6020	11/16/05 16:05	SLS	7440-43-9	b
Chromium	10.3	mg/kg	2.0	6020	11/16/05 16:05	SLS	7440-47-3	
Cobalt	4.11	mg/kg	0.50	6020	11/16/05 16:05	SLS	7440-48-4	
Copper	9.5	mg/kg	1.0	6020	11/16/05 16:05	SLS	7440-50-8	
Lead, Coarse	4.0	mg/kg	1.0	6020	11/18/05 15:17	PER		
Lead, Fine	25.5	mg/kg	1.0	6020	11/18/05 16:09	PER		
Lead, Total Calculated	6.58	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	4.5	mg/kg	1.0	6020	11/16/05 16:05	SLS	7439-92-1	
Manganese	366	mg/kg	1.0	6020	11/16/05 16:05	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/14/05 16:09	JRT	7439-97-6	b
Nickel	11.4	mg/kg	1.0	6020	11/16/05 16:05	SLS	7440-02-0	
Selenium	0.65	mg/kg	0.20	6020	11/16/05 16:05	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/16/05 16:05	SLS	7440-22-4	
Thallium	0.04	mg/kg	0.50	6020	11/16/05 16:05	SLS	7440-28-0	b
Vanadium	10.9	mg/kg	1.0	6020	11/16/05 16:05	SLS	7440-62-2	
Zinc	18.6	mg/kg	1.0	6020	11/16/05 16:05	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24686.05
Sample Tag: SA9-2 (8-10)
Collected Date/Time: 11/08/2005 12:20
Matrix: Soil
COC Reference: 02580

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 12:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/14/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:46	JDP	57-12-5	
Metals								
% Coarse by Weight	93.1	%			11/11/05 12:00	JRT		
% Fine by Weight	6.9	%			11/11/05 12:00	JRT		
Total Solids	89	%	1	160.3	11/11/05 12:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/16/05 16:09	SLS	7440-36-0	
Arsenic	1.40	mg/kg	0.10	6020	11/16/05 16:09	SLS	7440-38-2	
Barium	50.4	mg/kg	1.0	6020	11/16/05 16:09	SLS	7440-39-3	
Beryllium	0.19	mg/kg	0.50	6020	11/16/05 16:09	SLS	7440-41-7	b
Cadmium	0.10	mg/kg	0.20	6020	11/16/05 16:09	SLS	7440-43-9	b
Chromium	7.7	mg/kg	2.0	6020	11/16/05 16:09	SLS	7440-47-3	
Cobalt	4.34	mg/kg	0.50	6020	11/16/05 16:09	SLS	7440-48-4	
Copper	7.2	mg/kg	1.0	6020	11/16/05 16:09	SLS	7440-50-8	
Lead, Coarse	3.7	mg/kg	1.0	6020	11/18/05 15:18	PER		
Lead, Fine	45.6	mg/kg	1.0	6020	11/18/05 16:10	PER		
Lead, Total Calculated	6.59	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	3.7	mg/kg	1.0	6020	11/16/05 16:09	SLS	7439-92-1	
Manganese	250	mg/kg	1.0	6020	11/16/05 16:09	SLS	7439-96-5	
Mercury	0.01	mg/kg	0.050	245.1M	11/14/05 16:11	JRT	7439-97-6	b
Nickel	10.3	mg/kg	1.0	6020	11/16/05 16:09	SLS	7440-02-0	
Selenium	0.51	mg/kg	0.20	6020	11/16/05 16:09	SLS	7782-49-2	
Silver	0.02	mg/kg	0.10	6020	11/16/05 16:09	SLS	7440-22-4	b
Thallium	0.06	mg/kg	0.50	6020	11/16/05 16:09	SLS	7440-28-0	b
Vanadium	8.8	mg/kg	1.0	6020	11/16/05 16:09	SLS	7440-62-2	
Zinc	16.6	mg/kg	1.0	6020	11/16/05 16:09	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24686.06
Sample Tag: SA8-5 (7-9)
Collected Date/Time: 11/08/2005 12:35
Matrix: Soil
COC Reference: 02580

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 12:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/14/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:48	JDP	57-12-5	
Metals								
% Coarse by Weight	85.3	%			11/11/05 12:00	JRT		
% Fine by Weight	14.7	%			11/11/05 12:00	JRT		
Total Solids	86	%	1	160.3	11/11/05 12:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/16/05 16:12	SLS	7440-36-0	
Arsenic	0.76	mg/kg	0.10	6020	11/16/05 16:12	SLS	7440-38-2	
Barium	29.5	mg/kg	1.0	6020	11/16/05 16:12	SLS	7440-39-3	
Beryllium	0.13	mg/kg	0.50	6020	11/16/05 16:12	SLS	7440-41-7	b
Cadmium	0.09	mg/kg	0.20	6020	11/16/05 16:12	SLS	7440-43-9	b
Chromium	6.2	mg/kg	2.0	6020	11/16/05 16:12	SLS	7440-47-3	
Cobalt	3.21	mg/kg	0.50	6020	11/16/05 16:12	SLS	7440-48-4	
Copper	6.9	mg/kg	1.0	6020	11/16/05 16:12	SLS	7440-50-8	
Lead, Coarse	7.2	mg/kg	1.0	6020	11/18/05 15:19	PER		
Lead, Fine	28.9	mg/kg	1.0	6020	11/18/05 16:10	PER		
Lead, Total Calculated	10.3	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	3.2	mg/kg	1.0	6020	11/16/05 16:12	SLS	7439-92-1	
Manganese	417	mg/kg	1.0	6020	11/16/05 16:12	SLS	7439-96-5	
Mercury	0.02	mg/kg	0.050	245.1M	11/14/05 16:13	JRT	7439-97-6	b
Nickel	7.7	mg/kg	1.0	6020	11/16/05 16:12	SLS	7440-02-0	
Selenium	0.63	mg/kg	0.20	6020	11/16/05 16:12	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/16/05 16:12	SLS	7440-22-4	
Thallium	0.05	mg/kg	0.50	6020	11/16/05 16:12	SLS	7440-28-0	b
Vanadium	6.9	mg/kg	1.0	6020	11/16/05 16:12	SLS	7440-62-2	
Zinc	13.8	mg/kg	1.0	6020	11/16/05 16:12	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24686.07
Sample Tag: SA8-3 (14-16)
Collected Date/Time: 11/08/2005 13:30
Matrix: Soil
COC Reference: 02580

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 12:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/14/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:50	JDP	57-12-5	
Metals								
% Coarse by Weight	92.2	%			11/11/05 12:00	JRT		
% Fine by Weight	7.8	%			11/11/05 12:00	JRT		
Total Solids	90	%	1	160.3	11/11/05 12:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/16/05 16:16	SLS	7440-36-0	
Arsenic	0.61	mg/kg	0.10	6020	11/16/05 16:16	SLS	7440-38-2	
Barium	21.5	mg/kg	1.0	6020	11/16/05 16:16	SLS	7440-39-3	
Beryllium	0.12	mg/kg	0.50	6020	11/16/05 16:16	SLS	7440-41-7	b
Cadmium	0.18	mg/kg	0.20	6020	11/16/05 16:16	SLS	7440-43-9	b
Chromium	4.4	mg/kg	2.0	6020	11/16/05 16:16	SLS	7440-47-3	
Cobalt	2.66	mg/kg	0.50	6020	11/16/05 16:16	SLS	7440-48-4	
Copper	7.2	mg/kg	1.0	6020	11/16/05 16:16	SLS	7440-50-8	
Lead, Coarse	3.2	mg/kg	1.0	6020	11/18/05 15:20	PER		
Lead, Fine	26.2	mg/kg	1.0	6020	11/18/05 16:11	PER		
Lead, Total Calculated	4.99	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	3.2	mg/kg	1.0	6020	11/16/05 16:16	SLS	7439-92-1	
Manganese	227	mg/kg	1.0	6020	11/16/05 16:16	SLS	7439-96-5	
Mercury	Not detected	mg/kg	0.050	245.1M	11/14/05 16:15	JRT	7439-97-6	
Nickel	6.8	mg/kg	1.0	6020	11/16/05 16:16	SLS	7440-02-0	
Selenium	0.52	mg/kg	0.20	6020	11/16/05 16:16	SLS	7782-49-2	
Silver	0.02	mg/kg	0.10	6020	11/16/05 16:16	SLS	7440-22-4	b
Thallium	0.06	mg/kg	0.50	6020	11/16/05 16:16	SLS	7440-28-0	b
Vanadium	5.8	mg/kg	1.0	6020	11/16/05 16:16	SLS	7440-62-2	
Zinc	22.6	mg/kg	1.0	6020	11/16/05 16:16	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S24686.08
Sample Tag: SA13-1 (7-9)
Collected Date/Time: 11/08/2005 14:10
Matrix: Soil
COC Reference: 02580

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 12:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/14/05 12:00	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:52	JDP	57-12-5	
Metals								
% Coarse by Weight	70.5	%			11/11/05 12:00	JRT		
% Fine by Weight	29.5	%			11/11/05 12:00	JRT		
Total Solids	97	%	1	160.3	11/11/05 12:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/16/05 16:20	SLS	7440-36-0	
Arsenic	1.26	mg/kg	0.10	6020	11/16/05 16:20	SLS	7440-38-2	
Barium	8.4	mg/kg	1.0	6020	11/16/05 16:20	SLS	7440-39-3	
Beryllium	0.06	mg/kg	0.50	6020	11/16/05 16:20	SLS	7440-41-7	b
Cadmium	0.05	mg/kg	0.20	6020	11/16/05 16:20	SLS	7440-43-9	b
Chromium	5.5	mg/kg	2.0	6020	11/16/05 16:20	SLS	7440-47-3	
Cobalt	2.77	mg/kg	0.50	6020	11/16/05 16:20	SLS	7440-48-4	
Copper	4.1	mg/kg	1.0	6020	11/16/05 16:20	SLS	7440-50-8	
Lead, Coarse	2.5	mg/kg	1.0	6020	11/18/05 15:21	PER		
Lead, Fine	11.3	mg/kg	1.0	6020	11/18/05 16:12	PER		
Lead, Total Calculated	5.09	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	3.1	mg/kg	1.0	6020	11/16/05 16:20	SLS	7439-92-1	
Manganese	144	mg/kg	1.0	6020	11/16/05 16:20	SLS	7439-96-5	
Mercury	Not detected	mg/kg	0.050	245.1M	11/14/05 15:49	JRT	7439-97-6	
Nickel	3.5	mg/kg	1.0	6020	11/16/05 16:20	SLS	7440-02-0	
Selenium	0.29	mg/kg	0.20	6020	11/16/05 16:20	SLS	7782-49-2	
Silver	0.34	mg/kg	0.10	6020	11/16/05 16:20	SLS	7440-22-4	
Thallium	0.03	mg/kg	0.50	6020	11/16/05 16:20	SLS	7440-28-0	b
Vanadium	3.0	mg/kg	1.0	6020	11/16/05 16:20	SLS	7440-62-2	
Zinc	7.9	mg/kg	1.0	6020	11/16/05 16:20	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S24686.09
Sample Tag: SA13-2 (9-11)
Collected Date/Time: 11/08/2005 14:50
Matrix: Soil
COC Reference: 02580

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	8oz. Glass	None	Yes	4.1	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Lead, Coarse Digestion	Completed			3050B	11/18/05 12:00	PER		
Lead, Fine and Coarse Prep	Completed			3050B	11/11/05 12:00	JRT		
Lead, Fine Digestion	Completed			3050B	11/18/05 13:00	PER		
Mercury Digestion	Completed			7471A	11/15/05 12:30	JRT		
Metal Digestion	Completed			3050B	11/14/05 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/kg	0.1	9010B	11/17/05 07:54	JDP	57-12-5	
Metals								
% Coarse by Weight	72.3	%			11/11/05 12:00	JRT		
% Fine by Weight	27.7	%			11/11/05 12:00	JRT		
Total Solids	94	%	1	160.3	11/11/05 12:00	JRT		
Antimony	Not detected	mg/kg	0.30	6020	11/16/05 16:23	SLS	7440-36-0	
Arsenic	0.67	mg/kg	0.10	6020	11/16/05 16:23	SLS	7440-38-2	
Barium	5.5	mg/kg	1.0	6020	11/16/05 16:23	SLS	7440-39-3	
Beryllium	0.05	mg/kg	0.50	6020	11/16/05 16:23	SLS	7440-41-7	b
Cadmium	0.06	mg/kg	0.20	6020	11/16/05 16:23	SLS	7440-43-9	b
Chromium	1.9	mg/kg	2.0	6020	11/16/05 16:23	SLS	7440-47-3	b
Cobalt	1.31	mg/kg	0.50	6020	11/16/05 16:23	SLS	7440-48-4	
Copper	3.5	mg/kg	1.0	6020	11/16/05 16:23	SLS	7440-50-8	
Lead, Coarse	1.9	mg/kg	1.0	6020	11/18/05 15:22	PER		
Lead, Fine	8.3	mg/kg	1.0	6020	11/18/05 16:13	PER		
Lead, Total Calculated	3.67	mg/kg	1.0	6020	11/18/05 18:00	PER	7439-92-1C	
Lead	1.9	mg/kg	1.0	6020	11/16/05 16:23	SLS	7439-92-1	
Manganese	123	mg/kg	1.0	6020	11/16/05 16:23	SLS	7439-96-5	
Mercury	Not detected	mg/kg	0.050	245.1M	11/15/05 14:41	JRT	7439-97-6	
Nickel	3.0	mg/kg	1.0	6020	11/16/05 16:23	SLS	7440-02-0	
Selenium	0.30	mg/kg	0.20	6020	11/16/05 16:23	SLS	7782-49-2	
Silver	Not detected	mg/kg	0.10	6020	11/16/05 16:23	SLS	7440-22-4	
Thallium	0.02	mg/kg	0.50	6020	11/16/05 16:23	SLS	7440-28-0	b
Vanadium	3.7	mg/kg	1.0	6020	11/16/05 16:23	SLS	7440-62-2	
Zinc	7.7	mg/kg	1.0	6020	11/16/05 16:23	SLS	7440-66-6	

b-Value detected less than reporting limit, but greater than MDL

GM REALM ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

ID # Nº 02580

SSOW Ref. Code: E220002

Required Client Information:

Company: BBL	Report To: CRA	Laboratory: Merit	
Address: 10559 Citation Dr. STE 100	Copy To: Jim Harding	Laboratory Location: Lansing, MI	
Brighton, MI 48116	Invoice To: CRA	Laboratory Contact: Maya/Murshat	
Phone: 810-229-8594	P.O.:	Requested Due Date:	TAT: Standard
Fax: 810-229-8837	Project Name: GM Lansing 9146	QA/QC Requirements: To be determined	
E-mail:	Project Number: 64430		

Analysis and Method

Preservative

Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	TAL mets/S	Remarks/Lab ID
24686.01 1. SA7-4 (8-10)	SO	11/8/05	0915	1	X						X	PID PDM (0.0)
.02 2. SA7-3 (7-9)			0950									(0.0)
.03 3. SA7-2 (4-6)			1015									(0.0)
.04 4. SA7-1 (9-11)			1045									(0.0)
.05 5. SA9-2 (8-10)			1220									(5.2)
.06 6. SA8-5 (7-9)			1235									(6.6)
.07 7. SA8-3 (14-16)			1330									(3.4)
.08 8. SA13-1 (7-9)			1410									(1.0)
.09 9. SA13-2 (9-11)			1450									(0.5)
10.												
11.												
12.												
13.												
14.												
15.												
TOTAL NUMBER OF CONTAINERS												

Valid Matrix Codes: WG Groundwater; WB Borehole Water; WS Surface Water; SO Soil; SE Sediment; See Back for Additional Codes

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
hand deliv	1	Wayne Patterson / BBL	11/9/05		[signature]	11-8-05	1625
AIRBILL NO. —							

Sample Condition

Temp in °C	4.1
Received on Ice	Y / N
Sealed Cooler	Y / N
Samples Intact	Y / N

Additional Comments:

Sampler Name: Wayne Patterson

Sampler Signature: [signature] Date: 11/8/05

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

REV. 0 (6/04)

ARCADIS

November 2005 Site Assessment
CRA – Laboratory Validation
Report

CONESTOGA-ROVERS & ASSOCIATES

2055 Niagara Falls Blvd., Suite #3
Niagara Falls, New York 14304
Telephone: (716) 297-6150 Fax: (716) 297-2265
www.CRAworld.com

MEMORANDUM

TO: Amy Hoeksema

REF. NO.: 17307-220002

FROM: Chris Hollingsworth/jbh/7

DATE: January 4, 2006

E-Mail and U.S. Mail

RE: Data Quality Assessment and Validation
Lansing Plant 6 – Subsurface Investigation of Manufacturing Facility
General Motors
Lansing, Michigan

The following details a quality assessment and validation of the analytical data resulting from the collection of 81 soil samples (excluding quality control [QC] samples) from the General Motors – Lansing Plant 6 Site (Site) in Lansing, Michigan, from October 31 to November 11, 2005. The sample summary detailing sample identification, sample location, QC samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Merit Laboratories, Inc. in East Lansing, Michigan (Merit), in accordance with the methodologies presented in Table 2. The QC criteria used to assess the data were established by the methods and following documents:

i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99/008, October 1999;

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 540/R-94-013, February 1994; and

iii) "Innovative Approaches to Data Validation", USEPA Region III, June 1995.

Full Contract Laboratory Program (CLP)-equivalent raw data deliverables were provided by the laboratory for approximately 10 percent of the data. The data quality assessment and validation presented in the following subsections were performed based on the sample results and supporting quality assurance/quality control (QA/QC) provided.

For the remaining 90 percent (approximate) of the analytical data, a reduced validation (verification) was performed. The reduced validation of the data was based on information obtained from the Chain of Custody forms, finished report forms, blank data, duplicate data, and recovery data for matrix, laboratory control, surrogate spikes, and internal standards.

Holding Time Period and Sample Analysis – ***Full and Reduced Validations***

The holding time periods are presented in the analytical methods. All samples were properly cooled after collection and upon receipt at the laboratory. In addition, all samples were prepared and analyzed within the method-required holding times and no qualification was required.

Gas Chromatography/Mass Spectrometer (GC/MS) Mass Calibration – ***Full Validation Only***

Prior to analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the volatile organic compound (VOC) and semi-volatile organic compound (SVOC) methods require the analysis of the specific tuning compounds bromofluorobenzene (BFB) and decafluorotriphenylphosphine (DFTPP), respectively. The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 12 hours throughout sample analysis to ensure the continued optimization of the instrument.

Instrument tuning data were reviewed. Tuning compounds were analyzed at the required frequency throughout the VOC and SVOC analysis periods. All tuning criteria were met for the analyses, indicating proper optimization of the instrumentation.

Initial Calibration – Organic Analyses, GC/MS – ***Full Validation Only***

To quantify compounds of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a minimum of a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range.

Calibration data were reviewed for all samples. Linearity of the calibration curve and instrument sensitivity were evaluated against the following criteria:

i) all relative response factors (RRFs) must be greater than or equal to 0.05; and

ii) percent relative standard deviation (%RSD) values must not exceed 30 percent or if quadratic/linear regression is used, the correlation coefficient (R^2) value must be at least 0.995/0.990, respectively.

Initial calibration standards were analyzed as required and all data showed acceptable sensitivity and linearity for VOCs. For SVOCs most data showed acceptable sensitivity and linearity; however, the following compounds had %RSDs above 30: pyrene; indeno(1,2,3-c,d)pyrene; dibenzo(a,h)anthracene; and benzo(g,h,i)perylene. All associated data were qualified as estimated (see Table 3).

Initial Calibration - Organics, GC – ***Full Validation Only***

To quantify compounds of interest, calibration of the GC over a specific concentration range must be performed. The initial calibration for polychlorinated biphenyls (PCBs) requires only three Aroclors be calibrated using multiple points. A minimum of a five-point calibration curve is analyzed for Aroclors 1264, 1016, and 1260, while the remaining Aroclors are calibrated using a single point. Linearity of the calibration curves are acceptable if %RSD values are less than or equal to 20 percent or if the correlation coefficient is greater than 0.995. Retention time windows are also calculated from the initial calibration analyses. These windows are then used to identify all compounds of interest in subsequent analyses.

Initial calibration standards were analyzed at the required frequencies. All retention time and linearity criteria were satisfied.

Inductively Coupled Plasma/Mass Spectrometer (ICP/MS) –
Mass Calibration and Resolution Checks – Metal Analyses – ***Full Validation Only***

To ensure adequate mass resolution, identification, and to some degree, sensitivity; the performance of each ICP/MS instrument used for metals analyses was checked prior to calibration before initiating an analysis sequence through the analysis of a tuning solution. The results of the tuning solution analysis were reviewed against the following criteria:

i) analyze tuning solution a minimum of four times with a %RSD of less than or equal to five for the analytes contained in the tuning solution; and

ii) the mass resolution must be within 0.1 amu of the true value over the analytical range.

Instrument performance check data were reviewed. The tuning solution was analyzed at the required frequency throughout the analyses. The results of all instrument performance checks were within the acceptance criteria indicating acceptable instrument performance.

Initial Calibration – Inorganic Analyses – ***Full Validation Only***

Initial calibration of the instruments ensures that they are capable of producing satisfactory quantitative data at the beginning of a series of analyses. For ICP and ICP/MS analyses, a calibration blank, and at least one standard must be analyzed at each wavelength to establish the analytical curve. For cold vapor atomic absorption (CVAA) and instrumental wet chemistry analyses, a calibration blank and a minimum of four standards must be analyzed to establish the analytical curve. Resulting correlation coefficients for curves consisting of a blank and four or more standards must be at least 0.995.

After the analyses of the calibration curves, an initial calibration verification (ICV) standard must be analyzed to verify the analytical accuracy of the calibration curves. All analyte recoveries from the analyses of the ICVs must be within the following control limits:

Analytical Method	*Inorganic Species*	*Control Limits (Percent)*
ICP and ICP/MS	Metals	90 – 110
CVAA	Mercury	90 – 110
Instrumental Wet Chemistry	Cyanide	90 - 110

Upon review of the data, it was determined that all inorganic calibration curves and ICVs were analyzed at the proper frequencies and that all of the above-specified criteria were met. The laboratory effectively demonstrated that instrumentation used for these analyses was properly calibrated prior to sample analyses.

Continuing Calibration - Organics, GC/MS – ***Full Validation Only***

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 12 hours.

The following criteria were employed to evaluate continuing calibration data:

i) all RRF values must be greater than or equal to 0.05; and

ii) percent difference (%D) values must not exceed 25 percent.

Initial calibration standards were analyzed as required and all data showed acceptable sensitivity and linearity for VOCs and SVOCs.

Continuing Calibration - Organics, GC – ***Full Validation Only***

To ensure that the calibration of the instrument is valid throughout the sample analysis period, continuing calibration standards are analyzed and evaluated on a regular basis. To evaluate the continued linearity of the calibration, %D values are calculated for each compound in all continuing standards and assessed against an acceptance criterion of 15 percent.

To ensure that compound retention times do not vary over the analysis period, all retention times must fall within the established retention time windows.

Continuing calibration standards were analyzed at the required frequency and all method criteria were met for analyte linearity.

Continuing Calibration – Inorganics – ***Full Validation Only***

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration verification (CCV) standards are analyzed on a regular basis. Each CCV is deemed acceptable if all analyte recoveries are within the control limits specified above for the ICVs. If some of the CCV analyte recoveries are outside the control limits, samples analyzed before and after the CCV, up until the previous and proceeding CCV analyses, are affected.

For this study, CCVs were analyzed at the proper frequency. All analyte recoveries reported for the CCVs were within the specified limits.

Method Blank Samples – ***Full and Reduced Validations***

The purpose of assessing the results of laboratory blank analyses is to determine the existence and magnitude of sample contamination introduced during analysis. Laboratory blanks are prepared from de-ionized water and analyzed as samples.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch.

In accordance with the "Guidelines", all sample results greater than the method detection limit (MDL) but less than five times the amount detected in the associated blank were qualified as non-detect. The blank results were non-detect for the analytes of interest with the exception of metals and VOCs. All associated results for metals and VOCs were qualified as non-detect (see Table 4). Investigative samples associated with contaminated laboratory blanks that yielded either non-detect concentrations or concentrations greater than five times the associated laboratory blank concentrations for the analytes of interest required no qualification.

Surrogate Compound Percent Recoveries – Organics – ***Full and Reduced Validations***

In accordance with the methods employed, all samples, blanks, and standards analyzed for VOCs, SVOCs, and PCBs, were spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against method control limits. For the SVOC method, it is acceptable for one surrogate recovery per fraction (base neutral or acid phenolic) to fall outside of these limits, provided it is greater than 10 percent.

All surrogate recoveries were within the laboratory specified control limits demonstrating acceptable analytical accuracy and no qualification was required.

Internal Standard (IS) Summaries – Organics – ***Full and Reduced Validations***

To correct for changes in GC/MS response and sensitivity, IS compounds are added to investigative samples and QC samples prior to VOC and SVOC analyses. All results are calculated as a ratio of the IS response. The criteria by which the IS results are assessed are as follows:

i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard; and

ii) the retention time of the IS must not vary more than ±30 seconds from the associated calibration standard.

All sample IS results met the above criteria and all were correctly used to calculate sample results.

Laboratory Control Sample (LCS) Analysis – ***Full and Reduced Validations***

The LCS serves as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch.

LCSs were prepared and analyzed for all parameters. The LCS recoveries were within the laboratory specified control limits for all analytes of interest with the exception of some VOC and SVOC recoveries. For VOCs, the compound acetone demonstrated a recovery of <10 percent and all associated acetone results were qualified as reject. All remaining VOC and SVOC results associated with non-compliant LCS recoveries were qualified as estimated (see Table 5).

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses – ***Full and Reduced Validations***

MS/MSD samples are prepared for each parameter and analyzed with each sample batch for the organic parameters. MS/MSD samples are prepared and analyzed with the samples for each metal and inorganic analyte. The recoveries of spike analyses are used to assess the analytical accuracy achieved on individual sample matrices. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as shown in Table 1. The laboratory performed additional analyses internally. All MS/MSD recoveries were within laboratory control limits demonstrating acceptable overall

analytical accuracy and precision. No qualification was performed when only the MS or MSD was slightly outside of control limits.

Field Duplicate Sample Analyses – ***Full and Reduced Validations***

Analytical precision is also evaluated based on the analysis of duplicate samples. The samples selected for duplicate analyses are identified in Table 1. The laboratory performed additional analyses internally. Most duplicate analyses performed were acceptable, demonstrating good analytical precision. For metals analyses, several field duplicates demonstrated non-compliant RPDs, therefore, these sample results were qualified as estimated (see Table 6).

Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Analysis – ***Full Validation Only***

To verify that proper inter-element and background correction factors have been established by the laboratory, ICSs are analyzed. These samples contain high concentrations of aluminum, calcium, magnesium, and iron and are analyzed at the beginning and end of each sample analysis period.

ICS analysis results were evaluated for all samples. All ICS recoveries were within the established control limits of 80 to 120 percent.

Serial Dilution – ICP/MS Analyses – ***Full Validation Only***

The serial dilution determines whether significant physical or chemical interferences exist due to sample matrix. A minimum of one per 20 investigative samples is analyzed at a five-fold dilution. For samples with sufficient analyte concentrations, the serial dilution results must agree within 10 percent of the original results.

Serial dilution analyses were performed and the results were acceptable.

Target Compound Identification – ***Full Validation Only***

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organics reported adhered to the specified identification criteria.

Trip Blanks – VOCs – ***Full and Reduced Validations***

Trip blanks are transported, stored, and analyzed with the investigative samples to identify potential cross-contamination of VOCs. Trip blanks were collected at the proper frequency, and all results were non-detect for the analytes of interest.

Calibration Range Exceedances- ***Full and Reduced Validations***

For all analytes (organic and inorganic), instrument-determined values must be within the calibrated range of analytes demonstrated during the initial calibration of the instrument. All analytes were within this calibration range.

System Performance – ***Full Validation Only***

System performance between various QC checks was evaluated to monitor for changes that may have caused the degradation of data quality. The samples identified in Table 1 were reviewed. No technical problems or chromatographic anomalies were observed which require qualification of the data.

Overall Assessment

Based on the assessment detailed in the foregoing, the data produced by Merit were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used as reported with the specific qualifications noted within.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SUBSURFACE INVESTIGATION OF MANUFACTURING FACILITY
GENERAL MOTORS - LANSING PLANT 6
LANSING, MICHIGAN
NOVEMBER 2005

						Analysis/Parameters									
Sample ID	*Location ID*	*Start Depth (ft bgs)*	*End Depth (ft bgs)*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*VOCs*	*TCLP VOC*	*TCLP SVOC*	*TCLP RCRA Metals*	*RCI*	*SVOCs*	*Site TAL Metals(Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Ag, Tl, V, Zn)*	*PCBs*	*Cyanide*	*Comments*
SA 11-5 (0.7-2.7)	SA 11-5	0.7	2.7	10/31/05	13:50							X		X	
SA 11-3 (5.5-7.5)	SA 11-3	5.5	7.5	10/31/05	16:00							X		X	
SA 11-7 (4-6)	SA 11-7	4	6	10/31/05	12:00							X		X	
SA 11-8 (8-10)	SA 11-8	8	10	10/31/05	11:25							X		X	
SA 11-6 (2-4)	SA 11-6	2	4	10/31/05	13:10							X		X	
SA 11-4 (8-10)	SA 11-4	8	10	10/31/05	14:40							X		X	
SA 11-2 (6-8)	SA 11-2	6	8	11/01/05	8:00							X		X	
SA 11-17 (4-6)	SA 11-17	4	6	11/01/05	9:10							X		X	
SA 11-15 (0-2)	SA 11-15	0	2	11/01/05	10:25							X		X	
SA 11-14 (8-10)	SA 11-14	8	10	11/01/05	11:25							X		X	
SA 11-18 (6-8)	SA 11-18	6	8	11/01/05	13:20							X		X	
SA 11-11 (4-6)	SA 11-11	4	6	11/01/05	14:10							X		X	
SA 11-12 (2-4)	SA 11-12	2	4	11/01/05	14:50							X		X	
SA 11-16 (2-4)	SA 11-16	2	4	11/01/05	9:55							X		X	
DUP-01	SA 11-15	0	2	11/01/05	10:25							X		X	Duplicate of SA 11-15 (0-2)
SA22-3 (2-4)	SA 22-3	2	4	11/02/05	8:10							X		X	
SA22-2 (2-4)	SA 22-2	2	4	11/02/05	9:05							X		X	
SA11-9 (8-10)	SA 11-9	8	10	11/02/05	9:45							X		X	
SA11-10 (3-5)	SA 11-10	3	5	11/02/05	11:15							X		X	
SA11-1 (3-5)	SA 11-1	3	5	11/02/05	13:10							X		X	
SA12-1 (9-11)	SA 12-1	9	11	11/02/05	14:00							X		X	
SA12-2 (10-12)	SA 12-2	10	12	11/02/05	15:00							X		X	
SA12-3 (10-12)	SA 12-3	10	12	11/02/05	15:50							X		X	MS/MSD
SA12-4 (11-13)	SA 12-4	11	13	11/03/05	8:25	X					X	X		X	
SA6-10 (14-16)	SA 6-10	14	16	11/03/05	9:25							X		X	
SA6-9 (6-8)	SA 6-9	6	8	11/03/05	9:50							X		X	
SA10-2 (2-4)	SA 10-2	2	4	11/03/05	10:20							X		X	
SA6-8 (3-5)	SA 6-8	3	5	11/03/05	10:50							X		X	
SA6-7 (4-6)	SA 6-7	4	6	11/03/05	11:15							X		X	
SA6-6 (3-5)	SA 6-6	3	5	11/03/05	12:35							X		X	
SA6-5 (3-5)	SA 6-5	3	5	11/03/05	13:10							X		X	
SA6-1 (2.5-4.5)	SA 6-1	2.5	4.5	11/03/05	14:05							X		X	
SA6-2 (4-6)	SA 6-2	4	6	11/03/05	14:45							X		X	
SA6-3 (3-5)	SA 6-3	3	5	11/03/05	15:00							X		X	MS/MSD
SA6-4 (8-10)	SA 6-4	8	10	11/03/05	15:25	X						X		X	
TB-110305	TB-110305	-	-	11/03/05	NA	X									
Dup-2	SA 6-2	4	6	11/03/05	14:45							X		X	Duplicate of SA 6-2 (4-6)
Dup-3	SA 6-4	8	10	11/03/05	15:25	X						X		X	Duplicate of SA 6-4 (8-10)
SA 6-11 (8-10)	SA 6-11	8	10	11/04/05	8:50							X		X	
SA 20-3 (7-9)	SA 20-3	7	9	11/04/05	9:05							X		X	
SA 20-1 (4-6)	SA 20-1	4	6	11/04/05	9:40							X		X	
SA 20-2 (14-16)	SA 20-2	14	16	11/04/05	10:20							X		X	
SA 20-4 (10-12)	SA 20-4	10	12	11/04/05	11:20	X						X		X	MS/MSD
SA 6-12 (8-10)	SA 6-12	8	10	11/04/05	13:20							X		X	
DUP-4	SA 20-4	10	12	11/04/05		X						X		X	Duplicate of SA 20-4 (10-12)
SA 10-4 (8-10)	SA 10-4	8	10	11/04/05	14:45							X		X	
TB-110405		-	-	11/04/05		X									
SA 7-6 (14-16)	SA 7-6	14	16	11/07/05	9:05							X		X	
SA 7-5 (12-14)	SA 7-5	12	14	11/07/05	9:35							X		X	
SA 10-3 (14-16)	SA 10-3	14	16	11/07/05	11:05							X		X	
SA 7-9 (7-9)	SA 7-9	7	9	11/07/05	11:45							X		X	
SA 7-7 (9-11)	SA 7-7	9	11	11/07/05	12:20							X		X	
SA 7-8 (10-12)	SA 7-8	10	12	11/07/05	14:05							X		X	
SA 7-10 (4-6)	SA 7-10	4	6	11/07/05	14:25							X		X	
SA 8-6 (12-14)	SA 8-6	12	14	11/07/05	15:15							X		X	
DUP-5	SA 8-6	12	14	11/07/05								X		X	Duplicate of SA 8-6 (12-14)
SA 7-4 (8-10)	SA 7-4	8	10	11/08/05	9:15							X		X	
SA 7-3 (7-9)	SA 7-3	7	9	11/08/05	9:50							X		X	
SA 7-2 (4-6)	SA 7-2	4	6	11/08/05	10:15							X		X	

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SUBSURFACE INVESTIGATION OF MANUFACTURING FACILITY
GENERAL MOTORS - LANSING PLANT 6
LANSING, MICHIGAN
NOVEMBER 2005

						Analysis/Parameters									
Sample ID	*Location ID*	*Start Depth (ft bgs)*	*End Depth (ft bgs)*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*VOCs*	*TCLP VOC*	*TCLP SVOC*	*TCLP RCRA Metals*	*RCI*	*SVOCs*	*Site TAL Metals(Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Ag, Tl, V, Zn)*	*PCBs*	*Cyanide*	*Comments*
SA 7-1 (9-11)	SA 7-1	9	11	11/08/05	10:45							X		X	
SA 9-2 (8-10)	SA 9-2	8	10	11/08/05	12:20							X		X	
SA 8-5 (7-9)	SA 8-5	7	9	11/08/05	12:35							X		X	
SA 8-3 (14-16)	SA 8-3	14	16	11/08/05	13:30							X		X	
SA 13-1 (7-9)	SA 13-1	7	9	11/08/05	14:10							X		X	
SA 13-2 (9-11)	SA 13-2	9	11	11/08/05	14:50							X		X	
SA 8-1 (9-11)	SA 8-1	9	11	11/09/05	9:05							X		X	MS/MSD
SA 8-2 (14-16)	SA 8-2	14	16	11/09/05	9:30							X		X	
SA 14-1 (8-10)	SA 14-1	8	10	11/09/05	10:00							X		X	
SA 32-1 (8-10)	SA 32-1	8	10	11/09/05	13:50							X		X	
SA 29-2 (8-10)	SA 29-2	8	10	11/09/05	14:20							X		X	
SA 26-3 (3-5)	SA 26-3	3	5	11/10/05	8:40							X		X	
SA 5-5 (8-10)	SA 5-5	8	10	11/10/05	9:10	X						X		X	
SA 5-1 (8-10)	SA 5-1	8	10	11/10/05	9:30							X		X	
Dup-6	SA 5-1	8	10	11/10/05								X		X	Duplicate of SA 5-1 (8-10)
SA 4-5 (9-11)	SA 4-5	9	11	11/10/05	10:30	X						X		X	
SA 4-3 (12-14)	SA 4-3	12	14	11/10/05	14:00	X						X		X	
SA 4-4 (14-16)	SA 4-4	14	16	11/10/05	14:40							X		X	
Dup-7	SA 4-4	14	16	11/10/05								X		X	Duplicate of SA 4-4 (14-16)
SA 34-6 (6-8)	SA 34-6	6	8	11/11/05	10:00							X		X	
SA 4-1 (9-11)	SA 4-1	9	11	11/11/05	11:25							X		X	
SA 3-1 (14-16)	SA 3-1	14	16	11/11/05	11:50							X		X	
SA 3-2 (9-11)	SA 3-2	9	11	11/11/05	13:40							X		X	
SA 1-5 (3-5)	SA 1-5	3	5	11/11/05	14:20							X		X	
TB - 111105	Trip Blank	-	-	11/11/05											
WC (111105)		-	-	11/11/05	15:30		X	X	X	X			X		

Notes:

-	Not applicable.
Ag	Silver.
As	Arsenic.
Ba	Barium.
Be	Beryllium.
Cd	Cadmium.
Co	Cobalt.
Cr	Chromium.
Cu	Copper.
ft bgs	Feet Below Ground Surface.
Hg	Mercury.
Mn	Manganese.
MS	Matrix Spike.
MSD	Matrix Spike Duplicate.
Ni	Nickel.
Pb	Lead.
PCBs	Polychlorinated Biphenyls.
RCI	Reactivity, Corrosivity, and Ignitability.
Sb	Antimony.
Se	Selenium.
SVOC	Semi-Volatile Organic Compounds.
T1	Thallium.
TAL	Target Analyte List.
TCLP	Toxicity Characteristic Leaching Procedure.
V	Vanadium.
VOCs	Volatile Organic Compounds.
Zn	Zinc.

TABLE 2

SUMMARY OF ANALYTICAL METHODOLOGIES
SUBSURFACE INVESTIGATION OF MANUFACTURING FACILITY
GENERAL MOTORS - LANSING PLANT 6
LANSING, MICHIGAN
NOVEMBER 2005

Parameter	*Method*
TCL Volatile Organic Compounds (VOCs)	SW-846 8260[1]
TCL Semi-Volatile Organic Compounds (SVOCs)	SW-846 8270[1]
SSPL Metals	SW-846 6020/7471[1]
Cyanide	SW-846 9010B[1]
PolyChlorinated Biphenyls (PCBs)	SW-846 8082[1]
Coarse & Fractional Lead	SW-846 6020[1]
TCLP Volatile Organic Compounds (VOCs)	SW-846 1311/8260[1]
TCLP Semi-Volatile Organic Compounds (SVOCs)	SW-846 1311/8270[1]
TCLP Metals	SW-846 1311/6010/7470/7471[1]
Reactivity, Corrosivity, Ignitability (RCI)	SW-846 Chapter 7[1]

Notes:

[1] "Test Methods for Solid Waste Physical/Chemical Methods", SW-846, 3rd Edition, September 1986 (with subsequent revisions).

[2] Multi-Media, Multi-Concentration, Inorganic Analysis, (ILM05.3), March 2004. Referenced from "Methods for the Chemical Analysis of Water and Wastes", (MCAWW), EPA-600/4-79-020, March 1983 and subsequent revisions.

TAL Target Analyte List.

TCL Target Compound List.

SSPL Site Specific Parameter List

TCLP Toxicity Characteristic Leaching Procedure

TABLE 3

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING INITIAL CALIBRATION RESULTS
SUBSURFACE INVESTIGATION OF MANUFACTURING FACILITY
GENERAL MOTORS - LANSING PLANT 6
LANSING, MICHIGAN
NOVEMBER 2005

Parameter	*Compound*	*Calibration Date*	*%D*	*Associated Sample ID*	*Sample Results*	*Units*	*Qualifier*
SVOC	Pyrene	10/19/05	34.65	SA12-4 (11-13)	330 U	µg/kg	UJ
SVOC	Indeno(1,2,3-cd)pyrene	10/19/05	43.43	SA12-4 (11-13)	80 J	µg/kg	J
SVOC	Dibenz(a,h)anthracene	10/19/05	42.01	SA12-4 (11-13)	80 J	µg/kg	J
SVOC	Benzo(g,h,i)perylene	10/19/05	38.43	SA12-4 (11-13)	90 J	µg/kg	J

Notes:
%D Percent Difference.
J Estimated.
SVOC Semi-Volatile Organic Compounds.
U Non-detect at associated value.
UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
SUBSURFACE INVESTIGATION OF MANUFACTURING FACILITY
GENERAL MOTORS - LANSING PLANT 6
LANSING, MICHIGAN
NOVEMBER 2005

Parameter	*Analysis Date*	*Analyte*	*Blank Result*	*Sample ID*	*Sample Result*	*Qualified Result*	*Units*
VOC	11/09/05	Methylene chloride	85.5	Dup-3	90 J	300 U	µg/kg
VOC	11/09/05	Methylene chloride	85.5	SA20-4 (10-12)	80 J	300 U	µg/kg
				Dup-4	90 J	300 U	µg/kg
				TB-110405	70 J	300 U	µg/kg
VOC	11/22/05	Toluene	28	SA4-5 (9-11)	50	50 U	µg/kg
VOC	11/23/05	Toluene	25	TB-111005	20 J	50 U	µg/kg
VOC	11/23/05	Toluene	25	TB-111105	20 J	50 U	µg/kg
Metals	11/09/05	Silver	0.03	SA6-10 (14-16)	0.02 J	0.10 U	mg/Kg
				SA6-8 (3-5)	0.02 J	0.10 U	mg/Kg
				SA6-2 (4-6)	0.09 J	0.10 U	mg/Kg
Metals	11/09/05	Beryllium	0.03	SA6-10 (14-16)	0.13 J	0.50 U	mg/Kg
				SA10-2 (2-4)	0.04 J	0.50 U	mg/Kg
				SA6-6 (3-5)	0.08 J	0.50 U	mg/Kg
				SA6-5 (3-5)	0.10 J	0.50 U	mg/Kg
				SA6-2 (4-6)	0.09 J	0.50 U	mg/Kg
				SA6-3 (3-5)	0.11 J	0.50 U	mg/Kg
				Dup-2	0.06 J	0.50 U	mg/Kg
Metals	11/09/05	Antimony	0.08	Dup-3	0.10 J	0.30 U	mg/Kg
Metals	11/09/05	Selenium	0.29	SA12-4 (11-13)	0.34	0.34 U	mg/Kg
				SA6-10 (14-16)	0.22	0.22 U	mg/Kg
				SA6-9 (6-8)	0.29	0.29 U	mg/Kg
				SA6-8 (3-5)	0.29	0.29 U	mg/Kg
				SA6-7 (4-6)	0.60	0.60 U	mg/Kg
				SA6-6 (3-5)	0.12 J	0.20 U	mg/Kg
				SA6-5 (3-5)	0.33	0.33 U	mg/Kg
				SA6-3 (3-5)	0.28	0.28 U	mg/Kg
				SA6-4 (8-10)	0.32	0.32 U	mg/Kg
				Dup-2	0.11 J	0.20 U	mg/Kg
				Dup-3	0.16 J	0.20 U	mg/Kg
			0.52	SA6-1 (2.5-4.5)	1.76	1.76 U	mg/Kg
Metals	11/09/05	Thallium	0.08	SA12-4 (11-13)	0.04 J	0.50 U	mg/Kg
				SA6-10 (14-16)	0.04 J	0.50 U	mg/Kg
				SA6-9 (6-8)	0.03 J	0.50 U	mg/Kg
				SA6-8 (3-5)	0.11 J	0.50 U	mg/Kg
				SA6-7 (4-6)	0.06 J	0.50 U	mg/Kg
				SA6-6 (3-5)	0.03 J	0.50 U	mg/Kg
				SA6-5 (3-5)	0.06 J	0.50 U	mg/Kg
				SA6-1 (2.5-4.5)	0.30 J	0.50 U	mg/Kg
				SA6-2 (4-6)	0.05 J	0.50 U	mg/Kg
				SA6-3 (3-5)	0.18 J	0.50 U	mg/Kg
				SA6-4 (8-10)	0.04 J	0.50 U	mg/Kg
				Dup-2	0.05 J	0.50 U	mg/Kg
				Dup-3	0.05 J	0.50 U	mg/Kg

Notes:
J Estimated.
U Non-detect at associated value.
VOCs Volatile Organic Compounds.

TABLE 5

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LABORATORY CONTROL SAMPLE RESULTS
SUBSURFACE INVESTIGATION OF MANUFACTURING FACILITY
GENERAL MOTORS - LANSING PLANT 6
LANSING, MICHIGAN
NOVEMBER 2005

Parameter	*Compound*	*Percent Recovery*	*Control Limits (percent)*	*Associated Sample ID*	*Sample Results*	*Units*	*Qualifier*
SVOC	N-Nitrosodiphenylamine	26.4	38.9 - 137.5	SA12-4 (11-13)	330 U	µg/kg	UJ
VOC	Methyl acetate	64.6	67.7 - 136.9	TB-111005	3000 U	µg/kg	UJ
VOC	Acetone	8.3	13.2 - 200.8	SA4-5 (9-11)	800 U	µg/kg	R
				SA4-3 (12-14)	8000 U	µg/kg	R
VOC	Carbon disulfide	40.1	43.3 - 120	SA4-5 (9-11)	300 U	µg/kg	UJ
				SA4-3 (12-14)	3000 U	µg/kg	UJ
VOC	Methyl acetate	63.6	67.7 - 136.9	SA4-5 (9-11)	3000 U	µg/kg	UJ
				SA4-3 (12-14)	30000 U	µg/kg	UJ
VOC	1,1-Dichloroethene	55.6	59 - 172	SA4-5 (9-11)	50 U	µg/kg	UJ
				SA4-3 (12-14)	600 U	µg/kg	UJ
VOC	Trifluorotrichloroethane (Freon 113)	55.9	56.5 - 120	SA4-5 (9-11)	100 U	µg/kg	UJ
				SA4-3 (12-14)	1000 U	µg/kg	UJ
VOC	Methyl acetate	64.7	67.7 - 136.9	SA34-6 (6-8)	4000 U	µg/kg	UJ
				TB-111105	3000 U	µg/kg	UJ

Notes:
R Rejected.
U Non-detect at associated value.
UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
VOC Volatile Organic Compounds.

TABLE 6

QUALIFIED SAMPLE RESULTS DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS
SUBSURFACE INVESTIGATION OF MANUFACTURING FACILITY
GENERAL MOTORS - LANSING PLANT 6
LANSING, MICHIGAN
NOVEMBER 2005

Parameter	*Analyte*	*Original Sample ID*	*Original Result*	*Duplicate Sample ID*	*Duplicate Result*	*RPD*	*Units*	*Qualifier* [(1)]
Metals	Selenium	SA11-15 (0-2)	0.71	Dup-01	0.20U	112	mg/kg	J/UJ
Metals	Manganese	SA4-4 (14-16)	43.1	Dup-7	169	118.7	mg/kg	J
	Silver		0.41		0.07J	141.7	mg/kg	J
Metals	Arsenic	SA6-2 (4-6)	1.15	Dup-2	1.97	53	mg/Kg	J
	Lead - Coarse Fraction		159		55.3	97	mg/Kg	J
	Lead - Fine Fraction		240		83.2	97	mg/Kg	J
	Lead - Total (Calculated)		172		62.5	93	mg/Kg	J
	Zinc		188		74.6	86	mg/Kg	J
Metals	Manganese	SA6-4 (8-10)	373	Dup-3	68.1	138	mg/Kg	J

Notes:
(1) Qualifer is associated with both the original and duplicate samples.
J Estimated.
RPD Relative Percent Difference.
UJ The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.

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Appendix D

Summary of Historical Sanborn Maps and Aerial Photographs

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Aerial Photograph and Sandborn® Map Summaries

Aerial Photograph Summary

Aerial photographs were reviewed to document the general development of the Facility and properties in the vicinity of the Facility and to identify potential on-Site solid waste disposal areas. Aerial photographs of the Facility and surrounding areas were obtained from Environmental Data Resources, Inc. (EDR) for the years 1938, 1955, 1963, 1970, 1981, and 1993. An aerial photograph for the year 1998 was obtained from the Terraserver.com internet website. The aerial photographs discussed below are included with this appendix.

1938 Aerial Photograph

The 1938 aerial photograph depicts that Plant 2 had previously been constructed on the Facility. Plant 3 had not yet been constructed. This area was vacant with the exception of two small buildings. The land appears to have been used for agricultural purposes. Small roads are depicted throughout the area. Plant 6 had also been previously constructed on the Facility. Disturbed soil is depicted outside the northwest portion of Plant 6. Saginaw Street is depicted north of Plants 2 and 6. CSX railroad is depicted east of Plant 2 and west of Plant 6 running north to south with spurs running to each plant. West Michigan Avenue is depicted south of the Facility, beyond which residences, vacant properties, and wooded land are depicted. North Rosemary Avenue is depicted west of the Facility, beyond which vacant/agricultural land and residences are depicted.

1955 Aerial Photograph

The 1955 aerial photograph shows that a large addition had been constructed onto the north and west sides of Plant 2. Several small buildings had also been constructed along the CSX railroad on the west side of Plant 2. Plant 3 and its associated parking lots had been constructed north of Plant 2 beyond Saginaw Street. Several small buildings had also been constructed north of Saginaw Street along the CSX railroad. Three aboveground storage tanks (ASTs) are depicted northeast of Plant 3. An addition had been constructed onto the southwest portion of Plant 6 and parking lots constructed to the north of Plant 6. Several small buildings had been constructed west of Plant 6. Further residential development had occurred east, south, and west of the Facility. A high school had been constructed south of Plant 6 beyond West Michigan Avenue. A baseball diamond and a running track had been constructed east of Plant 3 beyond the CSX railroad.

1963 Aerial Photograph

The 1963 aerial photograph depicts disturbed soil north and northwest of Plant 2. An AST is depicted near the northwest corner of Plant 2. Several small buildings had been demolished and one small building had been constructed southwest of Plant 2. The wooded land south of Plant 2 had been cleared and a parking lot constructed. An addition had been constructed onto a small building near the CSX railroad east of Plant 3. One AST had been removed from northeast of Plant 3 and several small buildings had been demolished from the east side of Plant 3. An addition was constructed onto the south side of Plant 6 over a former parking lot. No significant discernable changes were observed on surrounding properties from the 1955 aerial photograph.

1970 Aerial Photograph

The 1970 aerial photograph depicts that the parking lot north of Plant 2 had been reshaped and expanded due to the rerouting of Saginaw Street. A large building had been constructed northeast of Plant 2 and another large building had been constructed west of Plant 2. A large building had also been constructed west of Plant 3. The parking lot located north of Plant 6 had been expanded. No significant discernable changes were observed on surrounding properties from the 1963 aerial photograph.

1981 Aerial Photograph

The 1981 aerial photograph depicts that an addition had been constructed on the north and east sides of the building located west of Plant 2. The Plant 2 parking lots had been reshaped and parking lots had been constructed south of the Plant 2 buildings. The AST is no longer depicted northeast of Plant 2. An addition was constructed onto the west side of a small building located northeast of Plant 3 and the parking lots south of Plant 3 had been expanded. An addition had been constructed onto the west side of the northeast portion of Plant 6. No significant discernable changes were observed on surrounding properties from the 1970 aerial photograph.

1993 Aerial Photograph

The 1993 aerial photograph depicts that a wastewater treatment plant had been installed and an addition constructed onto the south side of Plant 2. No other significant discernable changes were observed on the Facility or surrounding properties from the 1981 aerial photograph.

1998 Aerial Photograph

The 1998 aerial photograph depicts that a building had been constructed on the west side of Plant 3. No other significant discernable changes were observed on the Facility or surrounding properties from the 1993 aerial photograph.

Sanborn® Fire Insurance Map Summary

Sanborn® Fire Insurance Maps assist in the identification of historical land use and commonly indicate the existence and location of ASTs and underground storage tanks (USTs), structures, improvements, and Facility operations. Sanborn® Maps were reported to be available for the vicinities of Plants 2 and 6 for the years 1951, 1953, and 1966. Sanborn® Map coverage does not exist in the vicinity of Plant 3. The Sanborn® Maps discussed below are included with this appendix.

1951 Sanborn® Map

The 1951 Sanborn® Map indicated that Plant 2 ("To Be General Motors Corporation Olds Motor Works Division Heaving Stampings and Forge Shop") existed on-Site. No ASTs or USTs were identified in association with Plant 2. The area to the north of Plant 2 was not described, as it was "outside of corporate limits." The property to the south of Plant 2 is depicted as vacant and undeveloped. The property to the west of Plant 2 is not depicted on the map.

Plant 6 ("Fisher Body, Lansing Division, General Motors Corporation") was also identified on the 1951 Sanborn® Map, located east of Plant 2. Plant 6 had been constructed in 1921 with an addition to the north side of the plant constructed in 1928. The Sanborn® Map identifies building uses including welding, assembly, and final touch-up. Two butane ASTs are depicted outside the northwest corner of the building. Several small buildings are depicted west of Plant 6, including an incinerator building and storage buildings. A 25,000-gallon AST, coal pile, and power plant are also depicted west of Plant 6. An acetylene plant is noted in the southwestern portion of Plant 6. No USTs were identified in association with Plant 6 on the map. Osborn Road is depicted north of Plant 6, beyond which residences and vacant properties are depicted. Verlinden Avenue is depicted to the east and Michigan Avenue is depicted to the south of Plant 6. Railroad tracks are depicted west of Plant 6, beyond which Plant 2 and residences are depicted.

1953 Sanborn® Map

The 1953 Sanborn® Map depicts that the "To Be" portion of the label for Plant 2 had been deleted from the map. No other significant discernable changes were observed on the Facility or surrounding properties from the 1951 Sanborn® Map.

1966 Sanborn® Map

The 1966 Sanborn® Map depicts no significant discernable changes to the Facility or surrounding properties from the 1953 Sanborn® Map. However, it is noted that the map had not been corrected in the vicinity of Plant 2 since December 1965.

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Aerial Photos

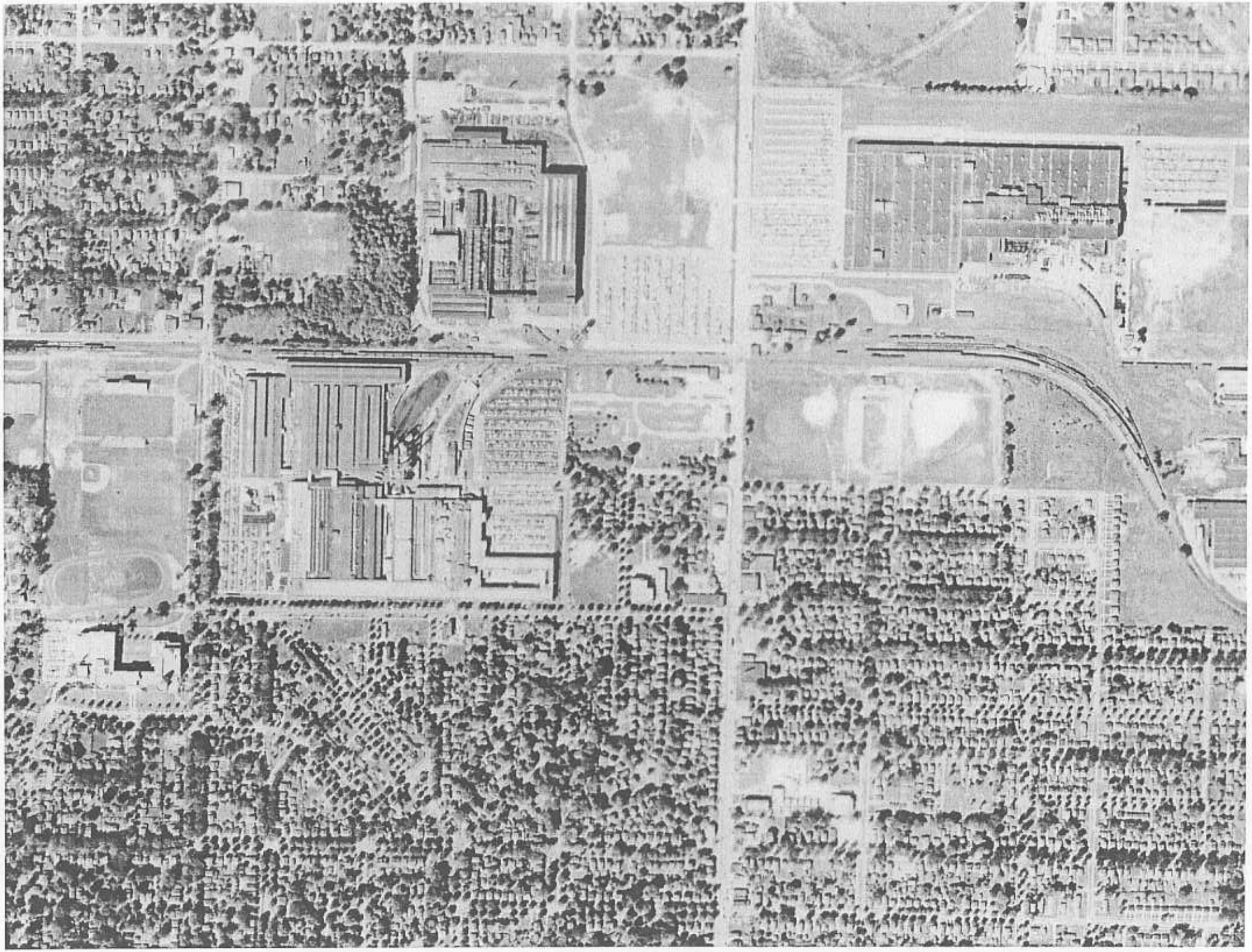
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Aerial Photo – 1938



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Aerial Photo – 1955



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Aerial Photo – 1963



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Aerial Photo – 1970



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Aerial Photo – 1981


USDA

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Aerial Photo – 1993



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Aerial Photo – 1998

TerraServer Aerial Photo, USGS, 1998 N ↑



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Sanborn Maps

"Linking Technology with Tradition"

Sanborn® Map Report

Ship To: Brad Saunders
EEC
455 E. Eisenhower
Ann Arbor, MI 48108

Order Date: 1/26/2004 **Completion Date:** 1/27/2004
Inquiry #: 1118335.5s
P.O. #: EEC Commercial
Site Name: Vacant Lot
Address: NE Corner Stanley St/Drexel Rd
City/State: Lansing, MI 48921
Cross Streets:

Customer Project: 64436.087
1232387DPM 734-668-1133

Based on client-supplied information, fire insurance maps for the following years were identified

1951 - 1 Map
1953 - 1 Map
1966 - 1 Map

Limited Permission to Photocopy

Total Maps: 3

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USER'S GUIDE

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Organization of Electronic Sanborn Image File

- First Page Sanborn Map Report, listing years of coverage
- Second Page Electronic Sanborn Map Images USER'S GUIDE
- Third Page Oldest Sanborn Map Image
- Last Page Most recent Sanborn Map Image

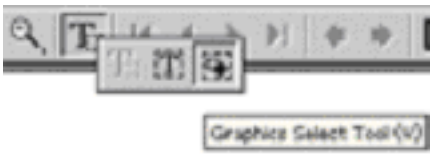
Navigating the Electronic Sanborn Image File

- Open file on screen.
- Identify TP (Target Property) on the most recent map.
- Find TP on older printed images.
- Using Acrobat, zoom to 250% in order to view more clearly.
  - 200-250% is the approximate equivalent scale of hardcopy Sanborn Maps.
- Zooming in on an image:
  - On the menu bar, click "View" and then zoom.
  - Use the magnifying tool and drag a box around the TP area.

Printing a Sanborn Map from the Electronic File

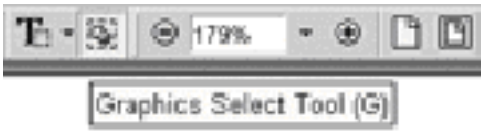
- EDR recommends printing all images at 300 dpi (300 dpi prints faster than 600 dpi).
- To print only the TP area, cut and paste the area from Adobe Acrobat to your word processor.

Acrobat Version 4



- Go to the Menu bar
- Press and hold the "T" button
- Choose the Graphics Select Tool
- Draw a box around the area selected
- Go to "Menu"
- Hightlight "Edit"
- Hightlight "Copy"
- Go to a word processor such as Microsoft Word, paste and print.

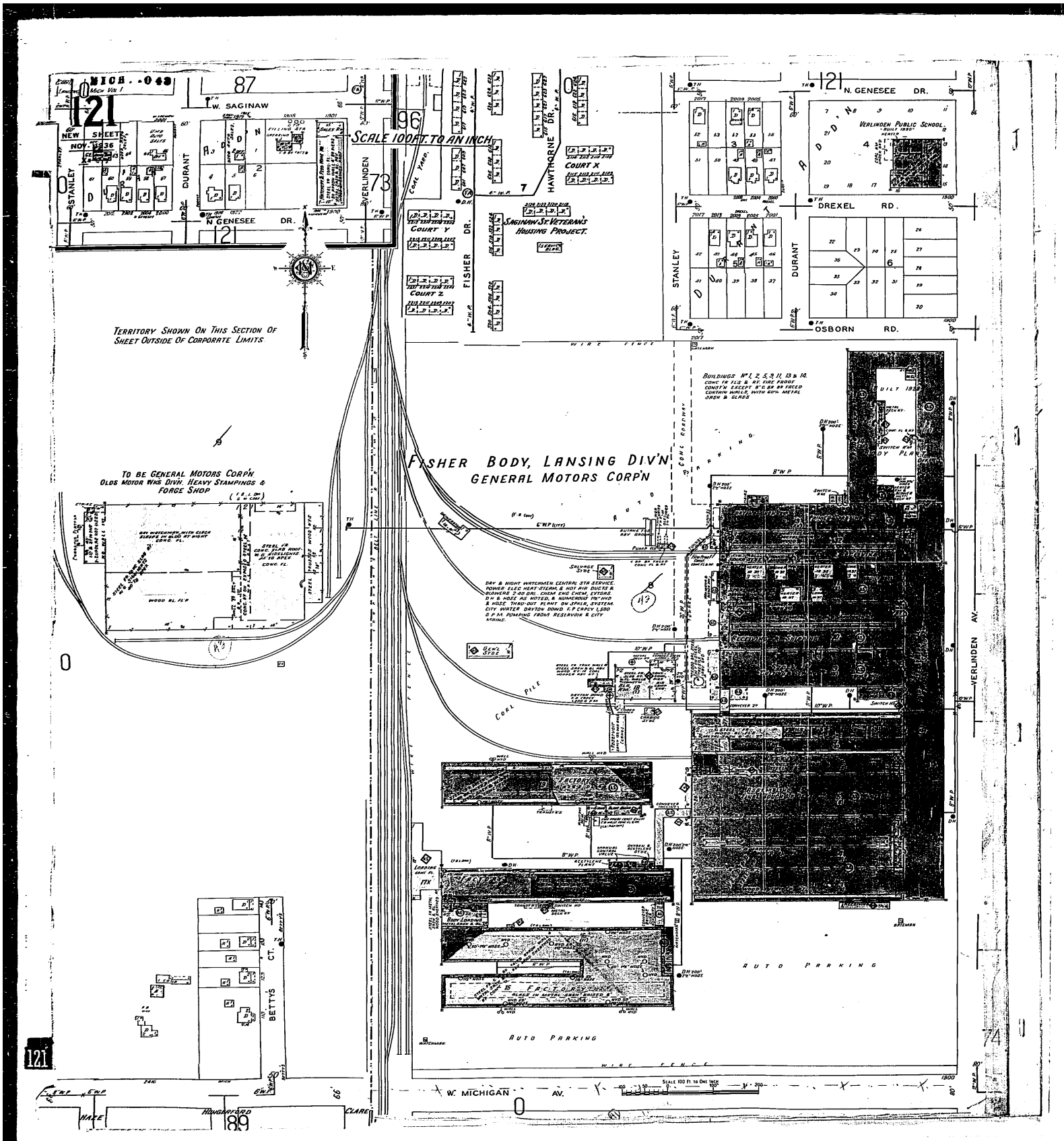
Acrobat Version 5



- Go to the Menu bar
- Click the "Graphics Select Tool"
- Draw a box around the area selected
- Go to "Menu"
- Highlight "Edit"
- Highlight "Copy"
- Go to a word processor such as Microsoft Word, paste and print.

Important Information about Email Delivery of Electronic

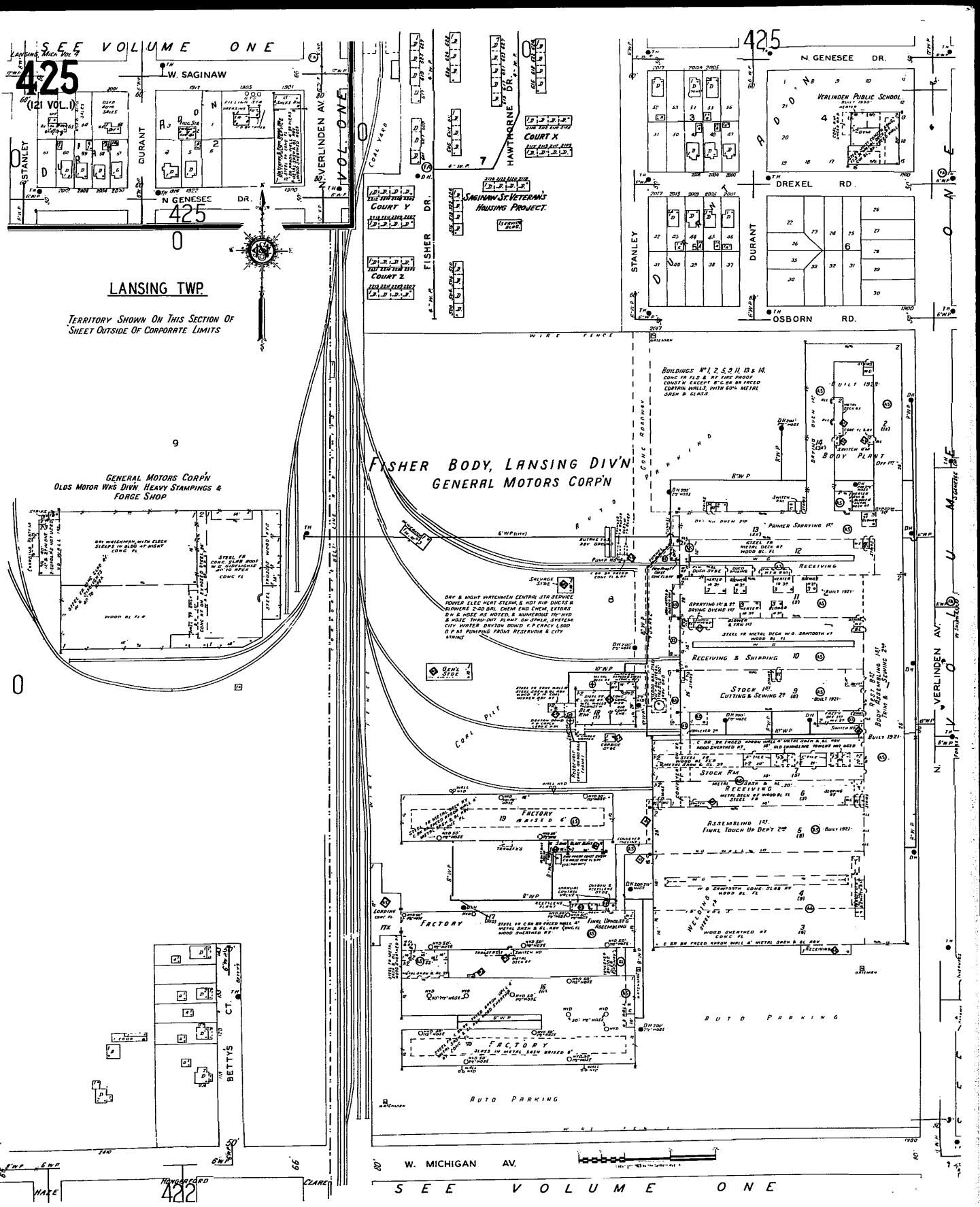
- Images are grouped intro one file, up to 2MB.
- In cases where in excess of 6-7 map years are available, the file size typically exceeds 2MB. In these cases, you will receive multiple files, labeled as 1 of 3, 2 of 3, etc. including all available map years.
- Due to file size limitations, certain ISPs, including AOL, may occasionally delay or decline to deliver files. Please contact your ISP to identify their specific file size limitations.



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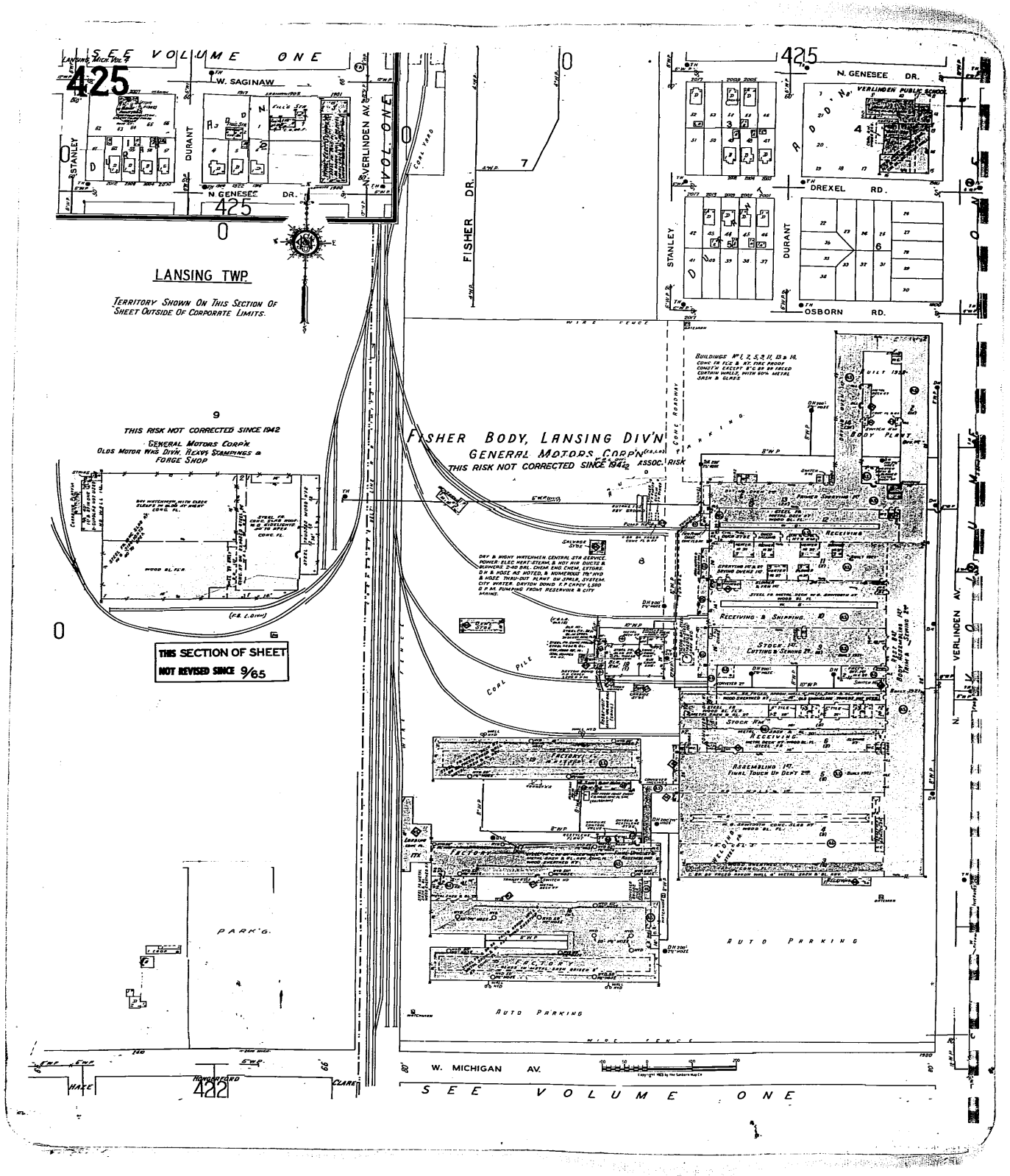
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Appendix E

Plant 2 Production Well Logs

1 W E L L

Location - Building #220 at Saginaw Street
Installed - 2-3-44
Hole #2 - Total Depth - 427 ft.
Casing 80 ft. of 12" pipe
Static Water Level - 62 ft.
Pumping Level - 190 ft. at 450 GPM
Pump Data: Peerless - 10 stage bowls - Type 10MA
Bronze Impellers - 9-1/2" diameter
Motor - 60 HP, 1760 RPM, 440 volt, 3 phase
Pumping Test - 400 GPM at 350 ft. total head
Pump Length - 200'-0" Column
7'-6" Bowls
20'-0" Suction
227'-6" Total
2'-0" Strainer

Work performed on Pump and Well:

Job	Description	Date	Contractor
F44-210	20 ft. of column added	2-23-44	Ohio Drilling
F50-230	Dynamite well and repair pump	9-22-50	Ohio Drilling
F55-210	Repair column, install 40 ft. additional drop pipe, new 9-stage bowl assembly and new plastic air line. Type of pump 10RKHC Layne, bronze impellers, size of pump 10", 9-stages 5RK17, Impeller 4 full field performance 525 GPM, 370 ft. hd., 80% eff., 62 HP. non-reverse ratchet removed.	2- 6-56	Layne Northern
F56-144	Pull pump and repair break in drop pipe, 2-10 ft. lengths of column replaced	10-16-56	
F56-151	Pull pump, install new carbon shafting, S.S. couplings and 2-10' lengths of 8" column, 260' of 1½" OD carbon steel shafting with Monel sleeves, new motor drive shaft, 20' of 8" column pipe.	11-28-56	
F56-101	Repair broken column pipe: 2-10' lengths of column & line shaft 3-10' lengths of line shaft 1 new motor shaft 1 new impeller shaft 1 bronze bushing and rubber bearing	5-21-58	
F62-117	Run Pumping Test 9-9-64 Layne Northern says pump length 291 ft., no suction pipe. figures 229'-6" + 20'-0" + 40'-0" = 289'-6" with 20' of suction	5-14-62	

Job	Description	Date	Contractor
F-65-107	Rebuild pump. Replace 205 ft. of 8" Layne Column with couplings and shaft and rubber bearings new column at bottom of well old suction pipe reused.	3-16-65	LAYNE NORTHERN

f-9-41-KBCo.

THE OHIO DRILLING CO.

INCORPORATED

MASSILLON, OHIO

well #1

DRILLED FOR Oldsmobile Division, General Motors Corporation
Lansing, Michigan

HOLE NO. 2 - 12"

DRILLED BY The Ohio Drilling Company DRILLER
Massillon, Ohio

COMPLETED February 3, 1944

LOCATION Northeast corner of property

THICKNESS OF STRATA	STRATA	TOTAL DEPTH	HEAVED	WATER FROM SURFACE
70 ft.	Drift	70 ft.	—	
8 ft.	Shale	78 ft.		
6 ft.	Sandrock	84 ft.		
40 ft.	Shale & sandrock	124 ft.		
22 ft.	Shale	146 ft.		
129 ft.	Sandrock	275 ft.		62 ft.
3 ft.	Brown lime	278 ft.		" "
40 ft.	Lime & shale	318 ft.		" "
102 ft.	Sand rock	420 ft.		" "
7 ft.	Shale	427 ft.		" "
	Well cased with 80 ft. of 12" -51 lb. steel drive pipe,			
	threaded & coupled, with steel drive shoe on bottom.			
	Static water level 62 ft.			
	Pumped well for 10 hours . At 350 GPM, pumping level 172 ft.			
	At 450 GPM, pumping level 190 ft.			

Layne-Northern Company, Inc.
401 S. DeLorenzi Ave.,
Mishawaka, Indiana

PUMP INSTALLATION REPORT

Date April 27 19 65

Layne Pump No. 33260

Sales Order No. L-31202

OWNER Oldsmobile Forge CITY Lansing STATE Michigan

LOCATION OF WELL Forge Plant

MOTOR Make US Type CFU Frame 950 Ser.No. 390807

HP 60 Volts 220/440 Phase 3 Cycles 60 RPM 1800 Hollowshaft

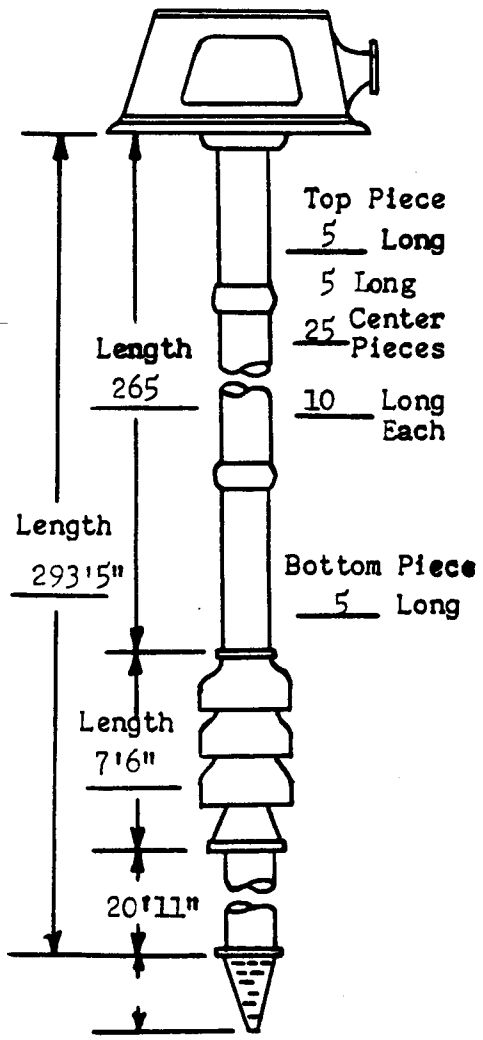
Bearing Nos. Upper _____ Lower _____

GEAR DRIVE Make _____ Type _____

STARTER Make _____ Type _____ Ser.No. _____

HP _____ Volts _____ Phase _____ Cycles _____ Operated by _____

CONTROL Make _____ Type _____ Ser.No. _____ Range _____ to _____ Ft. psi



PUMP HEAD Type Peerless
Discharge Pipe Size 8
Flanged x Threaded _____
Separate Base Plate,? No

COLUMN Pipe Size 8
Flanged _____ Coupled x
Tubing Size _____
Zinc Sleeves _____ Inside _____ Outside
Shaft Size 1-1/2"
~~Stainless~~ Carbon

PUMP BOWL Type RKHC
Diameter 10
No. of Stages 9
Drain Ports Open _____
Impellers - Bronze ~~Stainless~~
Shaft - ~~Stainless~~ Carbon
SUCTION PIPE Size 6"
Length 20'11"
Threads on Bottom? Yes
STRAINER? No Size _____

WELL
Owners Well No. 1.
Layne Well No. _____
Inside Dia. 12 " to 406'8" ft.
then _____ " Dia. to _____ ft.
Total depth from top of the foundation 406'8" ft.
Static Water Level from top of foundation 152'7" ft.
Foundation top above natural ground level 3 ft.
AIR LINE Material 1/4 Pipe XH
Size 1/4 Length 265
GAUGE - Direct Reading Feet
Altitude _____
OILER Essex Electric
Water Lubricated
PUMPING TEST Pumped _____ GPM after _____ hours with pumping level _____ ft. below pump base. Pressure at pump head was _____ lbs.

REMARKS: 205' New Layne Column Complete - 15# HTH

Make report for each new pump set and each time an old pump is repaired. Sign and mail to office.

#1 Well 7/1/58

Layne-Northern Company, Inc.
401 S. DeLorenzi Ave.,
Mishawaka, Indiana

PUMP INSTALLATION REPORT

Date 7/6/ 1958

Layne Pump No. 33260

Sales Order No. L- 9720

OWNER Olds Forge Plant CITY Lansing STATE Michigan

LOCATION OF WELL

MOTOR Make U.S. Type CRU Frame 950 Ser.No. 390807

HP 60 Volts 440/220 Phase 3 Cycles 60 RPM 1800 Solid Hollowshaft

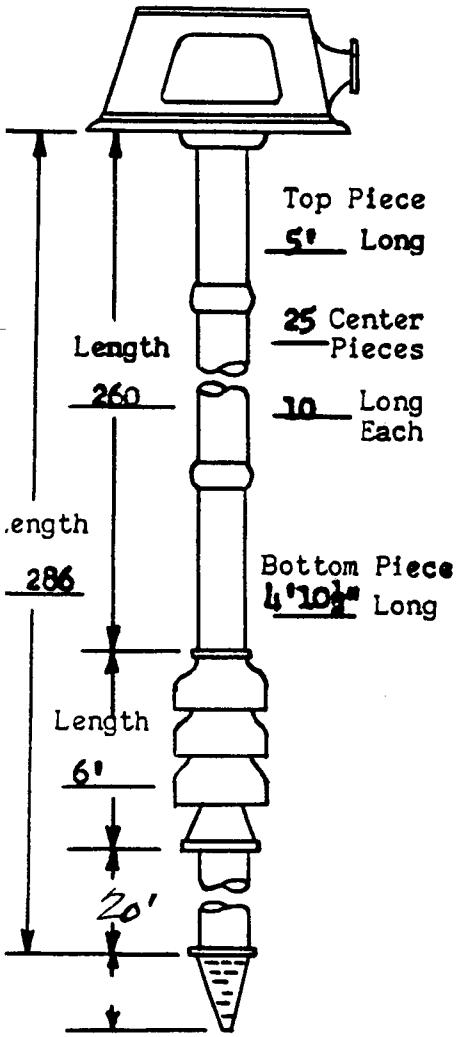
Bearing Nos. Upper Lower

GEAR DRIVE Make Type

STARTER Make Type Ser.No.

HP Volts Phase Cycles Operated by

CONTROL Make Type Ser.No. Range to Ft. psi



PUMP HEAD Type Peerless
Discharge Pipe Size 8"
Flanged x Threaded
Separate Base Plate,? no

COLUMN Pipe Size 8"
Flanged Coupled x
Tubing Size
Zinc Sleeves Inside Outside
Shaft Size 1⅛
Stainless or Carbon

PUMP BOWL Type RKHC
Diameter 10"
No. of Stages 9
Drain Ports Open
Impellers - Bronze or Iron
Shaft - Stainless or Carbon
SUCTION PIPE Size 6"
Length 20'
Threads on Bottom? x
STRAINER? Size

WELL
Owners Well No. Along Saginaw Street
Layne Well No.
Inside Dia. 12" to 401 ft.
then " Dia.to ft.
Total depth from top of the foundation 403 ft.
Static Water Level from top of foundation 126 ft.
Foundation top above natural ground level 2 ft.

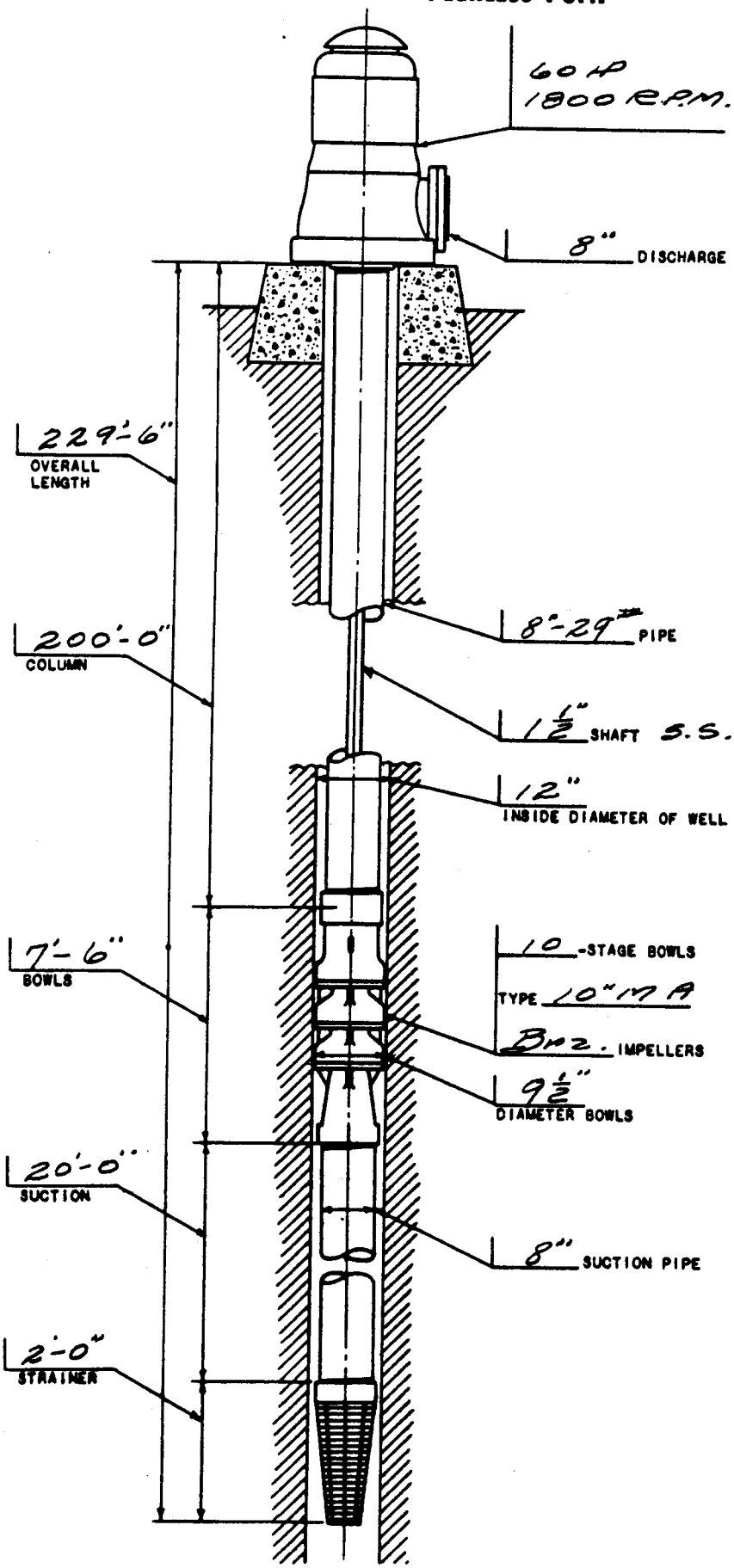
AIR LINE Material Plastic
Size 1/4 Length 260
GAUGE - Direct Reading x
Altitude
OILER Essex Electric
Hand Water Lubricated
PUMPING TEST Pumped GPM after hours with pumping level ft. below pump base. Pressure at pump head was lbs.

REMARKS: Note: Only bowls are Layne, balance of pump is Peerless column. Pump was pulled because of column separation at 200' depth level. Replaced two lengths of column.

Make report for each new pump set and each time an old pump is repaired. Sign and mail to office.

Oldsmobile Div., G.M. Corp.

PEERLESS PUMP



400 G.P.M.

350' TOTAL HEAD

1760 R.P.M.

60 H.P. REQUIRED

PEERLESS PUMP DIVISION

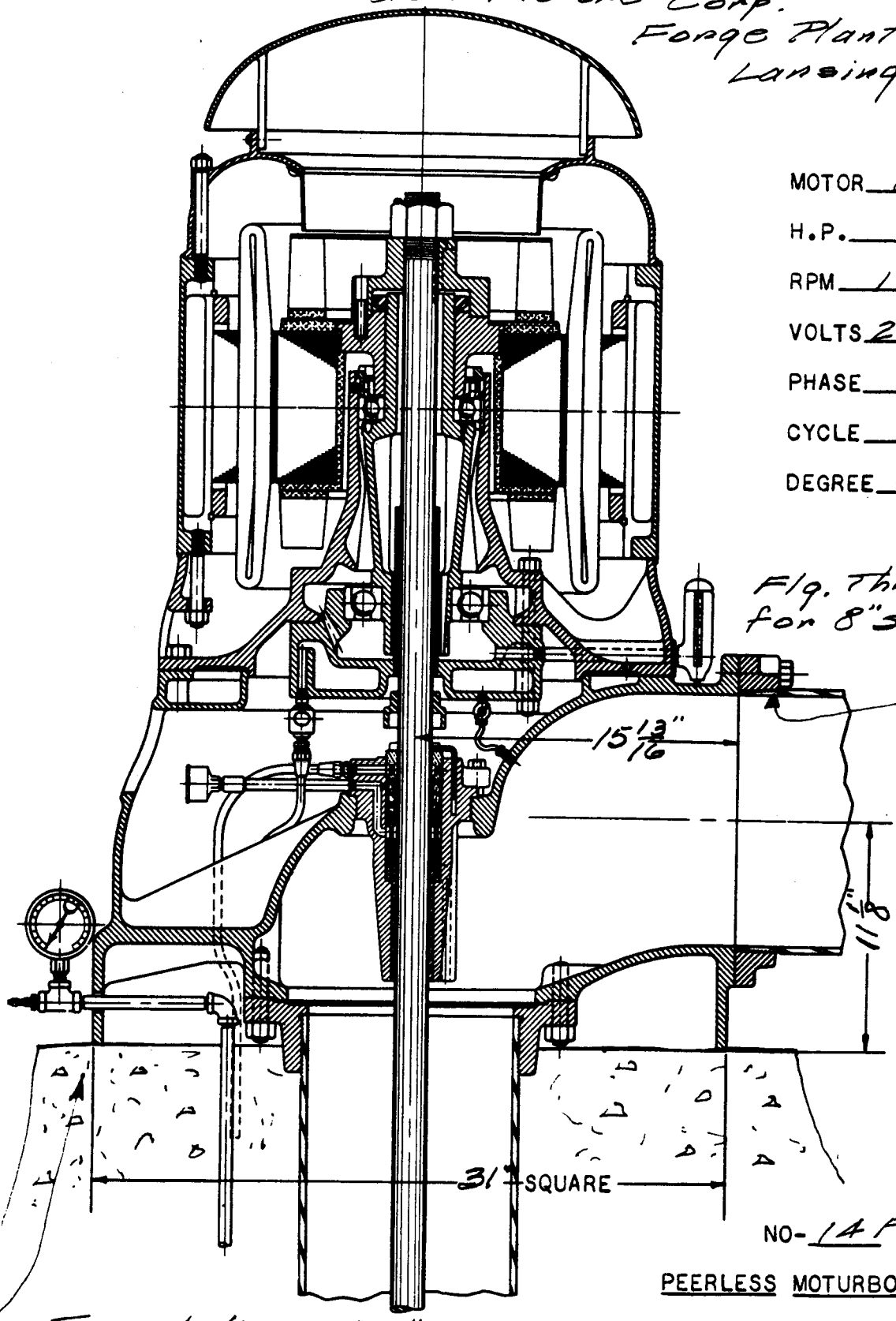
FOOD MACHINERY CORPORATION

Canton ~~MASSILLON~~ OHIO

R-L CO

MS-1430

Oldsmobile Division
Gen Motors Corp.
Forge Plant
Lansing



MOTOR U.S.

H.P. 60

RPM 1800

VOLTS 220-440

PHASE 3

CYCLE 60

DEGREE 40

Flg. Threaded for 8" Steel Pipe

NO-14A

PEERLESS MOTURBO HEAD

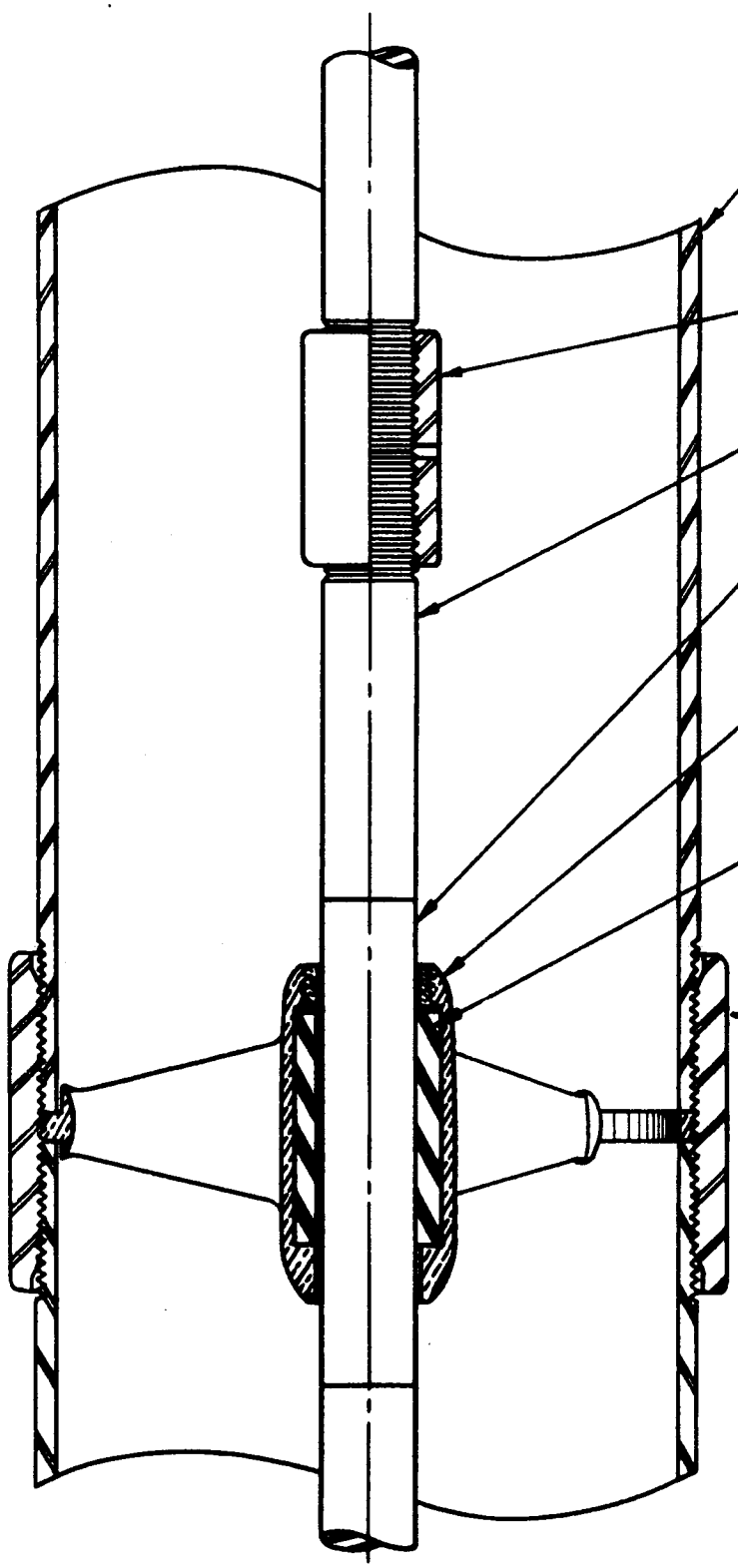
SURFACE DISCHARGE

OPEN LINE SHAFT

Foundation 42" Square

R-L CO

MS-1451



COLUMN PIPE 8"-29#
LENGTHS 10'-0"

SHAFT COUPLING

DRIVE SHAFT S.S.
LENGTHS 10'-0"

STAINLESS SHAFT SLEEVE
(FLUSH TYPE)

BRONZE BEARING SPIDER

CUTLESS RUBBER BEARING
SPACED EACH 10 FEET

COLUMN PIPE COUPLING

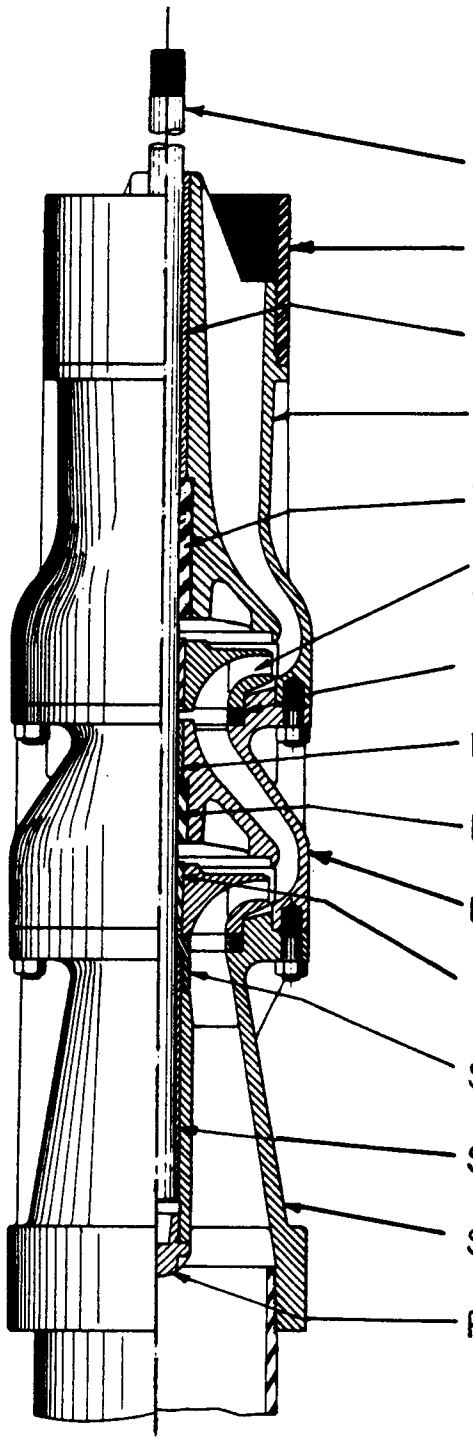
PEERLESS PUMP COLUMN

SCREWED COUPLINGS

OPEN LINE SHAFT

R-L CO

MS-1452A



STAINLESS STEEL SHAFT

COLUMN PIPE COUPLING

TOP BOWL BUSHING

TOP BOWL

TOP BOWL RUBBER BEARING

Bronze IMPELLER

LATERAL SEAL RING

BOWL BUSHING

BOWL RUBBER BEARING

BOWL

IMPELLER LOCK

SAND COLLAR

SUCTION MANIFOLD BUSHING

SUCTION MANIFOLD

PLUG

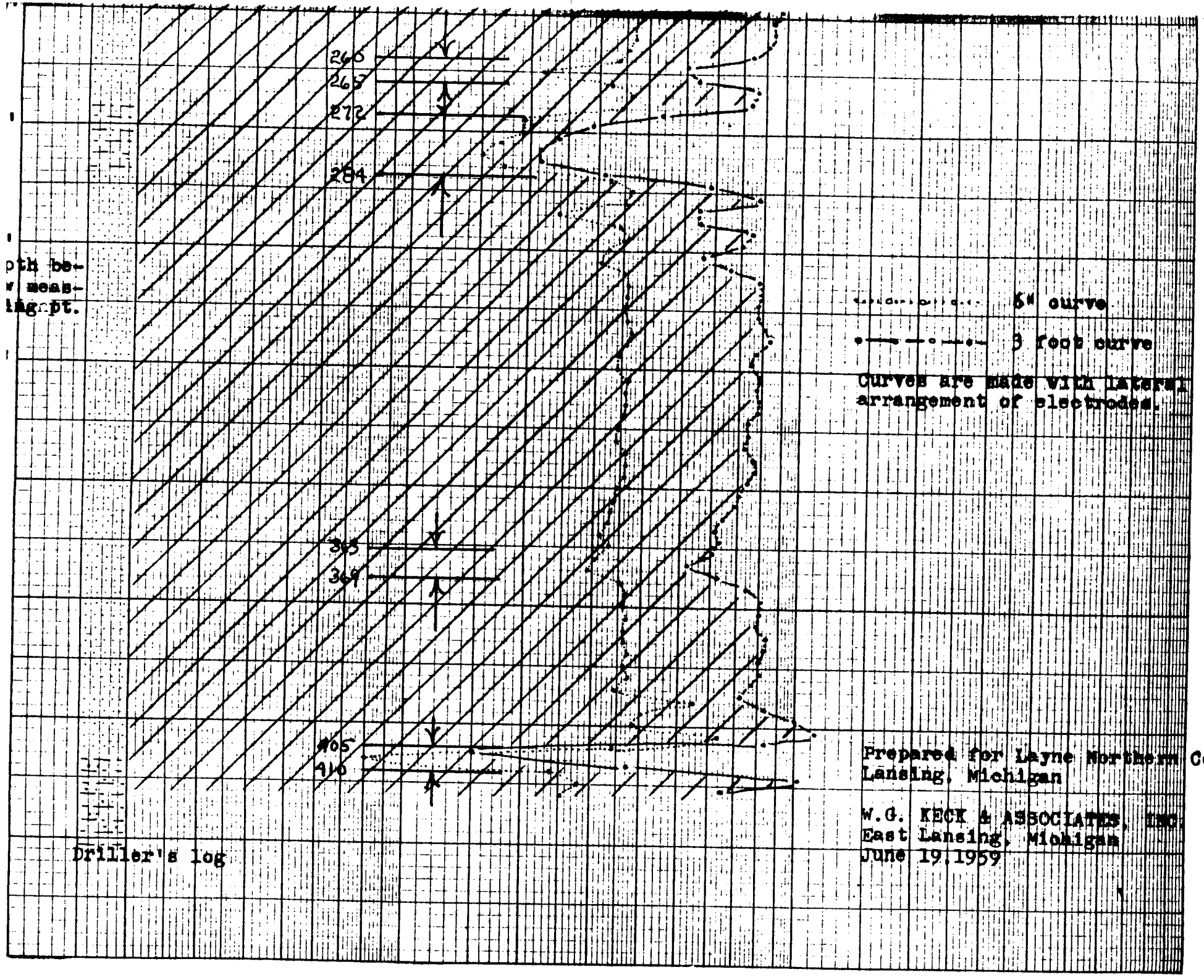
10 STAGE-TYPE 10" MA

PEERLESS PUMP BOWLS

OPEN LINE SHAFT

R-L CO

MS-1453


260
265
272
284
305
349
405
410
16" curve
3 foot curve
Curves are made with lateral arrangement of electrodes.
Prepared for Layne Northern Co
Lansing, Michigan
W.G. KECK & ASSOCIATES, INC.
East Lansing, Michigan
June 19,1959
Driller's log

2 W E L L

Location - Building #221, Rosemary at Genesee
Installed - 3-3-44
Hole #3 - Total depth - 425 ft.
Casing 82 ft. of 12" pipe
Static Water Level - 50 ft.
Pumping level - 165 ft.
Pump Data: Peerless - 10 stage bowls - type MA, all bronze, bronze impellers, 10" diameter
Motor - 60 HP, 1800 RPM, 440 volt, 3 phase
Pumping Test - 575 GPM - 350' total head
Pump Length - 200'-0" Column
6'-0" Bowls
20'-0" Suction
226'-0" Total
2'-0" Strainer

Work performed on Pump and Well:

Job	Description	Date	Contractor
F44-210	20 ft. of column added	2-23-44	Ohio Drilling
F46-138	Relocate #2 pump, bring back pump from Fisher Body #4 well	10-29-46	
F59-106	Run step drawdown test on #2 well	3- 3-59	
F60-108	Dynamite #2 well (1) 10' line shaft (2) 1½" line couplings	3-17-60	
F62-117	Pumping test #2 well	5-14-62	
F63-114	Repair #2 pump 1 bottom line shaft 21-10' lengths of line shaft 1 head shaft 22 rubber bearings 3 line shaft couplings 280 ft. of plastic air line 170 ft. of plastic air line 5-10 ft. lengths of column added	7-29-63	

9-9-64 - Layne Northern statement 297'-6" including 20'-0" suction, figures 228'-0" + 20'-0" + 50'-0" = 298'-0" including 20'-0" suction

M-9-41-KBCo.

THE OHIO DRILLING CO.

INCORPORATED

MASSILLON, OHIO

Well # 2

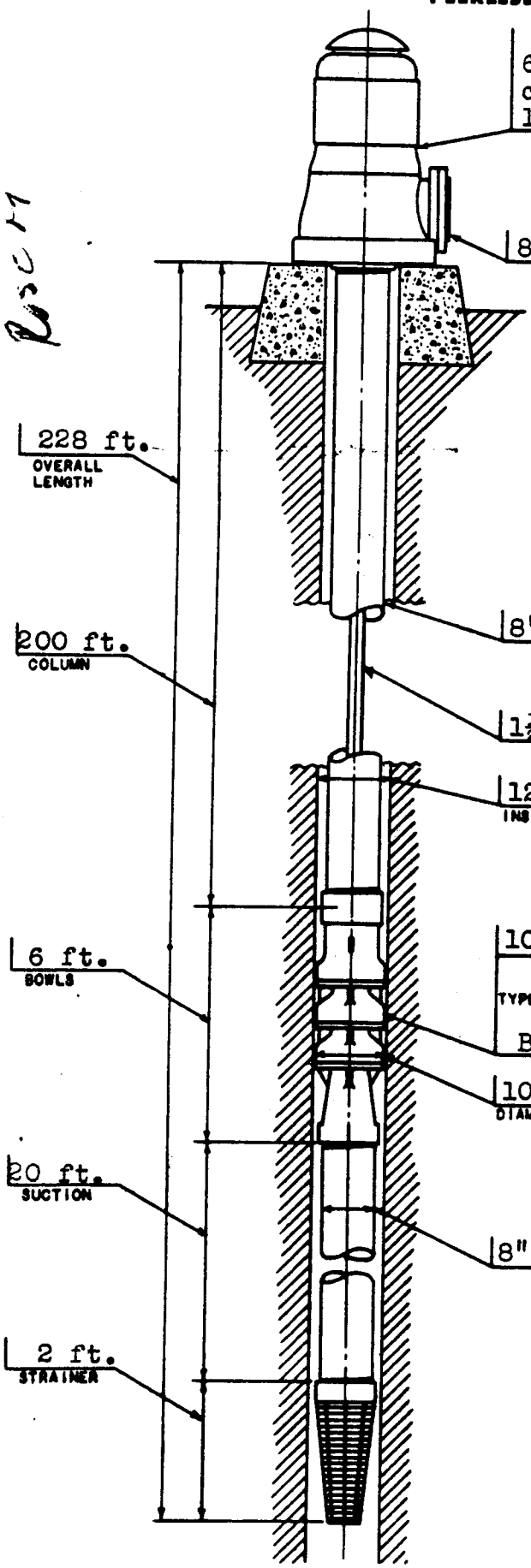
DRILLED FOR Oldsmobile Division, General Motors Corporation, Lansing, Michigan HOLE NO. 3 - 12" Well

DRILLED BY The Ohio Drilling Company Massillon, Ohio DRILLER COMPLETED March 3, 19 44

LOCATION In southwest corner of property

THICKNESS OF STRATA	STRATA	TOTAL DEPTH	HEAVED	WATER FROM SURFACE
60 ft.	Drift	60 ft.		
8 ft.	Sandrock	68 ft.		
12 ft.	Soft Shale	80 ft.		
15 ft.	Sandrock & shale	95 ft.		
90 ft.	Sandrock	185 ft.		50 ft.
5 ft.	Limeshell	190 ft.		50 ft.
90 ft.	Sandrock	280 ft.		50 ft.
7 ft.	Shale	287 ft.		50 ft.
123 ft.	Sandrock	410 ft.		50 ft.
15 ft.	Shale	425 ft.		50 ft.
	Total depth - 425 ft.			
	Well cased with 82 ft. of 12"-51 lb. steel drive pipe			
	threaded and coupled, with steel drive shoe on bottom.			
	Static Water Level - 50 ft.			
	Pumped well at 500 GPM for 10 hours at 500 GPM at pumping level			
	of 165 ft.			

PEERLESS PUMP



60 HP, 220/440 volt, 3 phase, 60 cycle, 1800 RPM, U. S. Motor on 14-A Pump Head.

Oldsmobile Division
General Motors Corp.
Lansing, Michigan

8" Std. DISCHARGE

575 G.P.M.

350 ft. TOTAL HEAD

1760 R.P.M.

65.5 H.P.REQUIRED

8"-29 lb PIPE

Pump No. 21413

$1\frac{1}{2}$"SS SHAFT

This is pump installed in No. 3 Well

12" INSIDE DIAMETER OF WELL

Length of 1/4" copper airline is 202 ft.

Pump installed May, 1944.

10 -STAGE BOWLS

TYPE MA - All Bronze

Bronze IMPELLERS

10" DIAMETER BOWLS

8"-29# SUCTION PIPE

PEERLESS PUMP DIVISION
FOOD MACHINERY CORPORATION
MASSILLON OHIO

R-L CO

MS-1430

60 H.P 220/440 Volt
3 phase, 60 cycle, 1800 R.P.M.
U.S. Motor on 14-A Pump Head.
500 G.P.M.

HOLE NO. 2-12"

60 HP, 220/440 Volt
3 phase, 60 cycle, 1800 R.P.M.,
U.S. Motor on 14-A Pump Head.
575 G.P.M.
350 ft. Total head.
1760 R.P.M.
65.5 H.P. Required.
8" Standard Discharge

12"-51 lbs. Steel Drive pipe.
70' Drift.
8"-29 lb. pipe.
Overall Length 228'.
1½" S.S. Shaft.
8' Shale.
6' Sandrock.
40' Shale and Sandrock.
12" Inside diam. of well.
22' Shale.
200' Column.
129' Sandrock.
6' Bowls
20' Suction
2' Strainer.
8 stage bowls type MA-all bronze. Bronze Impellers. 10" diam. bowls.
8"-29 lb. Suction pipe.
3' Brown Lime.
40' Lime & Shale.
102' Sand rock.
7' Shale.

HOLE NO. 3-12"

60HP, 220/440 Volt
3 phase, 60 cycle, 1800 R.P.M.
U.S. Motor on 14-A Pump Head
575 G.P.M
350 ft. Total head.
1760 R.P.M.
65.5 H.P. Required.
8" Standard Discharge.

12"-51 lbs. Steel Drive pipe.
60' Drift.
8"-29 lb. pipe.
1½" S.S. Shaft.
8' Sandrock.
12' Soft Shale.
15' Sandrock and Shale.
12" Inside diam. of well.
90' Sandrock.
5' Limeshell.
10 stage bowls type MA. all bronze. Bronze Impell'r
90' Sandrock.
8"-29 lb. Suction pipe.
7' Shale.
123' Sandrock.
15' Shale.

3 W E L L

Location - Building #222
Installed - 6-18-41
Hole #1 - Total Depth - 425 ft.
Casing 80 ft. of 14" pipe
Static Water Level - 48 ft.
Pumping Level - 189 ft.

Pump Data:

Motor - 60 HP, 1760 RPM, 440 volt, 3 phase
Pumping Tests - 530 GPM - 189 ft. level, 330' total head
Pump length - 180'-0" Column
7'-0" Bowls
20'-0" Suction
207'-0" Total
2'-0" Strainer

Work performed on Pump and Well

Job	Description	Date	Contractor
F44-210	40 ft. of column added	2-23-44	Ohio Drilling
F55-177	40 ft. of column added New 9-stage 10RKHC Layne Pump Bowl 23 new rubber bearings 20 ft. of new suction 6" pipe 30 ft. of column replaced by 35 ft.	8-30-55	Layne Northern
F59-106	Step drawdown pumping test	3-3-59	
F59-126	Pull pump, run electric log-dynamite well	5-15-59	
F63-109	Repair #3 well pump Replace motor guide bearing	5-23-63	

9-9-64 Layne Northern statement - 292'-0" with 20 ft. suction. figures 207 + 40 + 40 + 5 = 292'-0" with 20 ft. suction

F63-109 Top motor shaft metalized

227 W. EDWARDS AVENUE
INDIANAPOLIS 27, INDIANA
PHONES: 784-4597, 784-5980

LAYNE-NORTHERN CO., INC.
P. O. BOX 299 – MISHAWAKA, INDIANA
PHONE: 259-5234

2000 N. TURNER STREET
LANSING 5, MICHIGAN
PHONES: 484-0929, 484-2971

To Mr. C. M. Wygant Subject _____

_____ Order No. _____ Pump No. _____

Attached is your copy of Pump Installers Report on Layne Pump 33260.

Date 6-22-65 From Layne Northern Co. J. Stahl

10M

W. G. KECK & ASSOCIATES, INC.
CONSULTANTS IN GEOPHYSICS
BOX 107
EAST LANSING, MICHIGAN

June 19, 1959

SPECIALISTS
GROUNDWATER
INSTRUMENTATION
RESEARCH

OFFICES
OKEMOS P.O. BLDG.
TEL ED 7-1420

Mr Ervin Stahl
Layne Northern Company, Inc.
2000 Turner Street
Lansing, Michigan

Subject: Electrical log of well #3, Forge Plant, Oldsmobile Div., G.M.C., Lansing, Mich.

Layne Northern , as part of a rejuvenation program on well #3, has made an electrical log of the well bore. The log in turn has been submitted to us for analysis and interpretation.

The purpose of the electrical log is to guide the dynamiting of the well's bore so that shale zones can be avoided. By not "shooting" the shale clean out time might be reduced and the overall restoration of production may be improved. While it is true that a driller's log is available on the well it will be shown later that he was unable to detect all the shaly zones penetrated. This should not cast reflection on the driller since in the drilling operation it is very difficult to detect some of the very thin shale beds.

The electrical log is ably suited to differentiate between shale and sandstone because of the response these materials have to the flow of electrical current. Specifically each of these materials will exhibit a characteristic range of resistivity values. Sandstone will be high resistive, ranging from 500- 1500 ohm-feet and shale will be low resistive, ranging from 20-250 ohm-feet. The values quoted are for

water saturated materials containing water within the chemical range of potability. Mixtures of the materials will of course have intermediate values. It follows that by making a graph of the electrical resistivity up the bore of a well the shale and sandstone should be quite easily differentiated. Such a graph has been made on well #3 and is included at the end of this report. The resistivity, in ohm-feet, is plotted on the horizontal coordinate and the depth, below the top of the well casing, is plotted on the vertical coordinate. Additionally a columnar section, prepared from the driller's log, is included on the margin of the electrical log.

Examination of the electrical log shows the material to be predominantly sandstone except for five relatively thin shale zones. These shale zones, which we have marked with red pencil on the graph, are of course the zones to be avoided in your dynamiting operation. The depths of the shale breaks are;

132-142 feet	363-369 feet
260-265 feet	405-410 feet
272-284 feet	

Since the driller indicated the material to be strippy below 405 feet we would not recommend shooting below this level. We have not located the bottom of the casing with the electrical log because the static water level was at about 112 feet, which is below the casing. The driller reported the first rock at 67 feet and so this is most likely the depth of the bottom of the casing. There of course would be no point in shooting above the water table, in fact the driller's log indicates shale from 105-114 feet so you should not plan on working above 114 feet.

In summary we may say there is good agreement between the electrical log and drillers log. The only exceptions are the thin shale breaks from 260-265 and 363-369 feet were not detected in the drilling operation. Additionally the driller did not log the full thickness of the shale zone between 132-142 feet. Hence the electrical log has provided new, and very useful, information on the well.

Respectfully submitted,

W.G. KECK & ASSOCIATES, INC.

Charles J. Linck

Charles J. Linck

copies furn (4)

K+E SEMI-LOGARITHMIC 359-71LG
KEUFFEL & ESSER CO. MADE IN U.S.A.
3 CYCLES X 150 DIVISIONS

ELECTRICAL LOG OF PERMANENT WELL #3, 14" ROCK WELL (Bldg. #222)
for
OLDSMOBILE DIVISION- GENERAL MOTORS CORPORATION
FORGE PLANT, LANSING, MICHIGAN

Resistivity in ohm-feet

30 100 300 1000

72"

14"

Location:
1575 ft south of W. Saginaw
235 ft east of C Hathaway
Street extended.
NE¼, Sec. 18, T4N, R2W

Logged by Layne Northern Co.

Measurements are from the top of the well casing.

Top of casing is about 2 feet above general ground level.

Ingham County Health Department
P.O. Box 30161
Lansing, Michigan 48909
Phone: (517) 887-4312
Fax: (517) 887-4560

FAX COVER SHEET

FAX NUMBER TRANSMITTED TO: 810 - 229 8837

To: Lena Ciccelli
Of:
From: B. Marvin
Date: 2/15/08

DOCUMENTS	NUMBER OF PAGES* 4
reply letter	1
info	3

COMMENTS:

* NOT COUNTING COVER SHEET. IF YOU DO NOT RECEIVE ALL PAGES, PLEASE TELEPHONE US IMMEDIATELY AT ~~(517) 887-4342~~.

Dean G. Sienko, M.D., M.S., Health Officer, Medical Director

ingham county health department

Environmental Health
Telephone: (517) 887-4312

February 15, 2008

Lena Cicchelli
ARCADIS
FAX # 810-229-8837

RE Freedom of Information Act ("FOIA") Request #R-2243-08

Dear Ms. Cicchelli,

This is in response to your Freedom of Information Act (FOIA) request received in this office on February 13,2008, by fax. Your request was all and any information for:

General Motors – 920 Townsend Street
2801 West Saginaw Street
2800 West Saginaw Street
401 N Verlinden Street

To the extent the documents exist, your request is granted.

Sincerely,

Pat Marrison

Pat Marrison
Community Health Rep. III
Bureau of Environmental Health

Enclosures

cc: Ingham County Controller
Cohl, Stoker & Toskey & McGlinchey

Single-Page Report

ABANDONED WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Well ID: 33000007641

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000007641

Elevation: 860 ft
Latitude: 42.74109239
Longitude: -84.58756053

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
NE¼ NE¼ NE¼	18	04N 02W		

Distance and Direction from Road Intersection: Bldg 220 GM Lansing Craft Center

Well Owner: Ron Mccarty / Gm Plant #2

Well Address:
2801 W. Saginaw
Lansing MI 48915

Owner Address:
920 Townsend / Mail Stop 489-002-008
Lansing MI 48921

Drilling Method: Unknown

Date of Well Plugging: 11/14/1997

Well Use: Type I public

Well Construction Type: Unknown

Date Well Constructed:

Casing Type: Steel - black
Diameter: 12.00 in. to 80.00 ft. depth

Note: Cutting Casing off 4 feet below grade is recommended.

Measured Well Depth: 393.00 ft.

Casing Status After Plugging: 2.00 ft. Above Grade
Reason for Abandoning Well: Public water connection
Abandonment Method: Pumped through grout pipe
Active Well Id:

Pumping Equipment Removed: Yes
Equipment Removed: Drop pipe, Other

Reference Point:
Direction: **Distance:**

Plugging Material	From(ft)	To(ft)	Quantity	Quantity Unit
Neat cement	0.00	393.00	980.00	Bags

Plugging Remarks:

Note:Plugging from well bottom up to ground surface is required

Certification: Water well drilling contractor
Registration Number: 1997
Registered Contractor: Lawrence Wright

Business Name: Layne Northern
Address: 3126 N. MLK Blvd, Lansing, MI 48906

General Remarks:
Equipment Removed: pump

WATER WELL CONTRACTOR'S CERTIFICATION:

This well was plugged under my supervision and this report is true to the best of my knowledge and belief

Signature of Registered Contractor **Date**

EQP 2044C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

7/31/2000 13:39

Single-Page Report

ABANDONED WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Well ID: 33000007640

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000007640

Elevation: 860 ft

Latitude: 42.74109239

Longitude: -84.58756053

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
NE¼ NE¼ NE¼	18	04N 02W		

Distance and Direction from Road Intersection: Bldg 221 GM Lansing Craft Center

Well Owner: Ron Mccarty / Gm Plant #2

Well Address:
2801 W. Saginaw
Lansing MI 48915

Owner Address:
920 Townsend / Mail Stop 489-002-008
Lansing MI 48921

Drilling Method: Unknown

Date of Well Plugging: 11/14/1997

Well Use: Type I public

Well Construction Type: Unknown

Date Well Constructed:

Casing Type: Steel - black
Diameter: 12.00 in. to 82.00 ft. depth

Note: Cutting Casing off 4 feet below grade is recommended.

Measured Well Depth: 398.00 ft.

Casing Status After Plugging: 2.00 ft. Above Grade
Reason for Abandoning Well: Public water connection
Abandonment Method: Poured through grout pipe
Active Well Id:

Pumping Equipment Removed: Yes
Equipment Removed: Drop pipe, Other

Reference Point:
Direction: **Distance:**

Plugging Material	From(ft)	To(ft)	Quantity	Quantity Unit
Neat cement	0.00	398.00	1,163.00	Bags

Plugging Remarks:

Note:Plugging from well bottom up to ground surface is required

Certification: Water well drilling contractor
Registration Number: 1997
Registered Contractor: Lawrence Wright

Business Name: Layne Northern
Address: 3126 N. MLK Jr Blvd, Lansing, MI 48906

General Remarks:
Equipment Removed: pump

WATER WELL CONTRACTOR'S CERTIFICATION:

This well was plugged under my supervision and this report is true to the best of my knowledge and belief

Signature of Registered Contractor **Date**

EQP 2044C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

7/31/2000 13:33

Single-Page Report

ABANDONED WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Well ID: 33000007639

Tax No:	Permit No:	County: Ingham	Township: Lansing

Well ID: 33000007639

Elevation: 860 ft
Latitude: 42.74109239
Longitude: -84.58756053

Fraction:	Section:	Town/Range:	WSSN:	Source ID/Well No:
NE¼ NE¼ NE¼	18	04N 02W		

Distance and Direction from Road Intersection: Bldg 222 GM Lansing Craft Center

Well Owner: Ron Mccarty/ Gm Plant # 2

Well Address:
2801 W. Saginaw
Lansing MI 48915

Owner Address:
920 Townsend / Mail Stop 489-002-008
Lansing MI 48921

Drilling Method: Unknown

Date of Well Plugging: 11/14/1997

Well Use: Type I public

Well Construction Type: Unknown

Date Well Constructed:

Casing Type: Steel - black
Diameter: 10.00 in. to 80.00 ft. depth

Note: Cutting Casing off 4 feet below grade is recommended.

Measured Well Depth: 293.00 ft.

Casing Status After Plugging: 0.10 ft. Above Grade
Reason for Abandoning Well: Public water connection
Abandonment Method: Poured through grout pipe
Active Well Id:

Pumping Equipment Removed: Yes
Equipment Removed: Drop pipe, Other

Reference Point:
Direction: **Distance:**

Plugging Material	From(ft)	To(ft)	Quantity	Quantity Unit
Neat cement	0.00	293.00	984.00	Bags

Plugging Remarks:

Note:Plugging from well bottom up to ground surface is required

Certification: Water well drilling contractor
Registration Number: 1997
Registered Contractor: Lawrence Wright

Business Name: Layne Northern
Address: 3126 N. MLK Jr. Blvd. Lansing, MI 48906

General Remarks:
Equipment Removed: pump

WATER WELL CONTRACTOR'S CERTIFICATION:

This well was plugged under my supervision and this report is true to the best of my knowledge and belief

Signature of Registered Contractor **Date**

EQP 2044C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

7/31/2000 13:29

P.

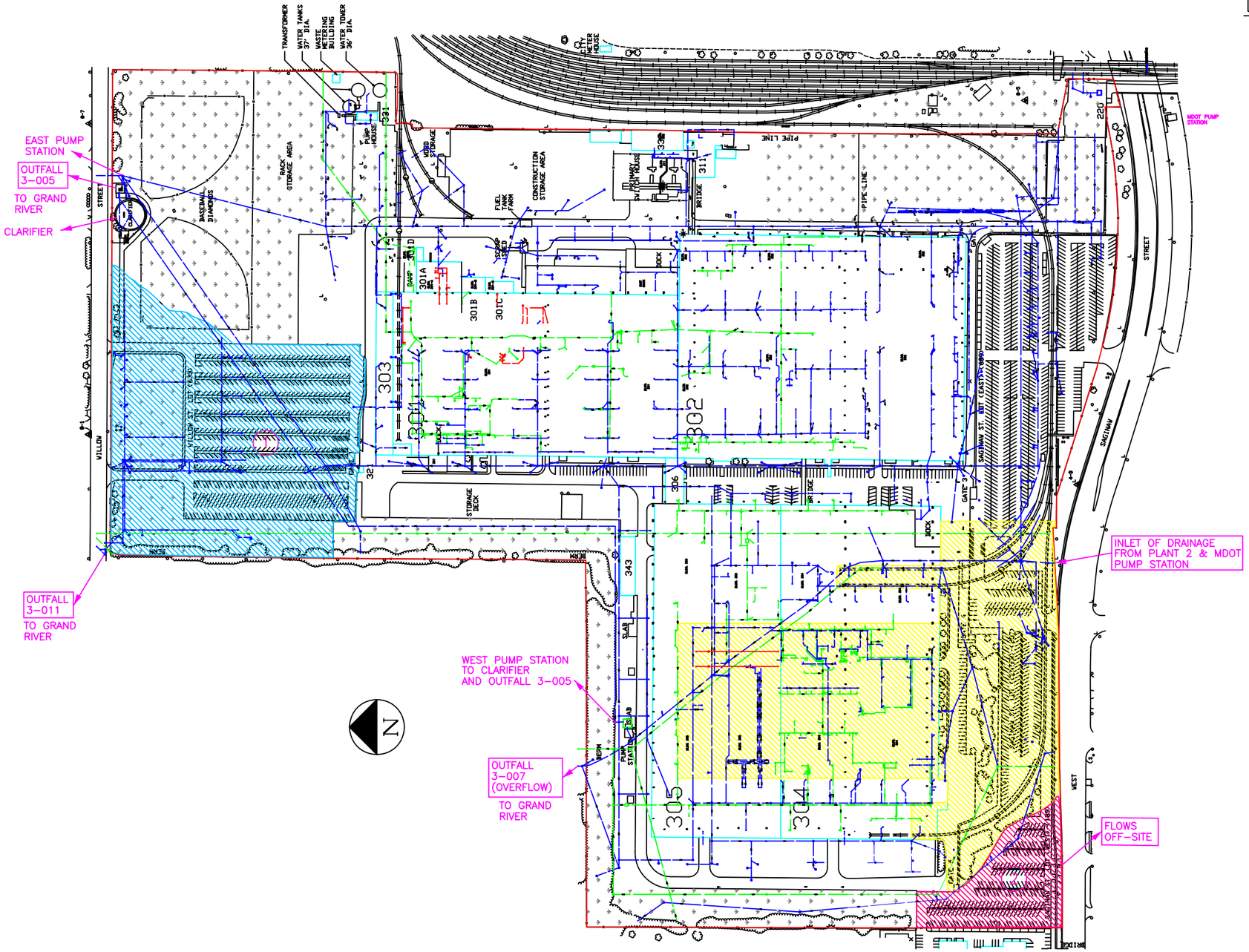
ARCADIS

Appendix F

Plants 2, 3 and 6 Storm Water Flow Maps

ARCADIS

Plant 2 Storm Water Flow Map to be provided at a later date



LEGEND

- AREA OF VEGETATION (ALL OTHER AREAS IMPERVIOUS)
- AREA COVERED UNDER EXISTING NPDES PERMIT NO. M10001554 (DRAINAGE AREA 1)
- AREA COVERED UNDER EXISTING NPDES PERMIT NO. MI0001554 (DRAINAGE AREA 2)
- AREA COVERED UNDER GENERAL STORMWATER PERMIT (DRAINAGE AREA 3)
- AREA COVERED UNDER GENERAL STORMWATER PERMIT (DRAINAGE AREA 4)
- PROPERTY LINE
- SANITARY LINE
- STORM LINE
- PROCESS LINE
- (1) NORTHWEST EMPLOYEE PARKING LOT
- (2) SOUTHWEST EMPLOYEE PARKING LOT

3131 South State Street
Ann Arbor MI 48108

DESIGNED HAM	CHECKED TJK
SCALE 1"=300'	CADD DATE 10-1-96 SMJ
PART O:/MS/0011/0860/PL/SITES.DWG	

LET.	CHANGE	BY	BAY	DATE	W.O.R.

REVISIONS

GENERAL MOTORS CORPORATION
LANSING, MICHIGAN

LANSING METAL FABRICATION (PLANT 3) PLANT ENGINEERING

LANSING METAL FABRICATION (PLANT 3)

SHOP ORDER NO.	WORK ORDER NO.	DRAWING NUMBER
DRAWN BY	DATE	
AP'V'D BY	SCALE	

SHEET NO. OF

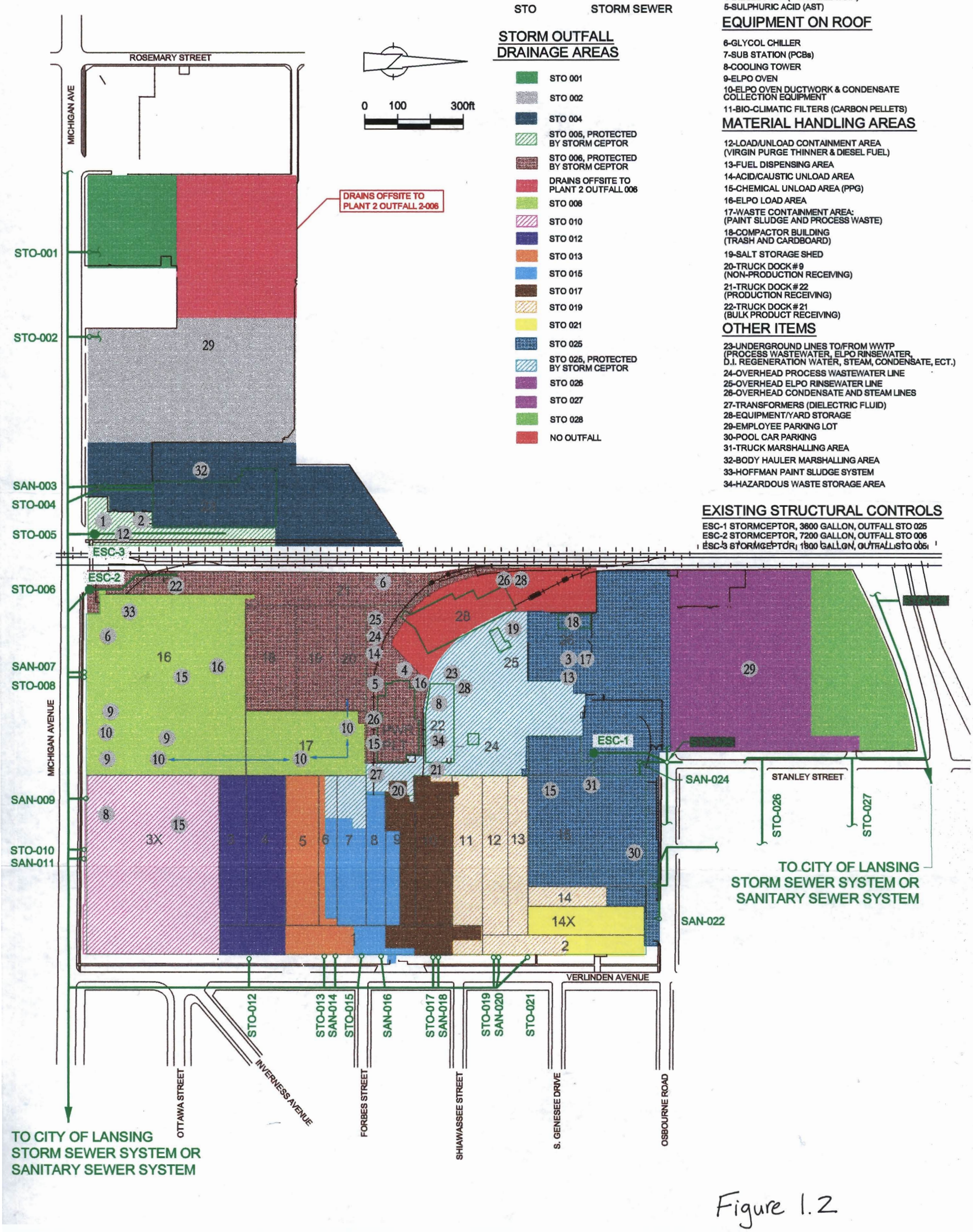

LEGEND
STORM CEPTORS
SAN SANITARY SEWER
STO STORM SEWER
STORM OUTFALL DRAINAGE AREAS
STO 001
STO 002
STO 004
STO 005, PROTECTED BY STORM CEPTOR
STO 006, PROTECTED BY STORM CEPTOR
DRAINS OFFSITE TO PLANT 2 OUTFALL 006
STO 008
STO 010
STO 012
STO 013
STO 015
STO 017
STO 019
STO 021
STO 025
STO 025, PROTECTED BY STORM CEPTOR
STO 026
STO 027
STO 028
NO OUTFALL
STORAGE TANKS
1-VIRGIN PURGE THINNER (UST)
2-DIESEL FUEL (UST)
3-UNLEADED GASOLINE AST
4-DIESEL FUEL (PORTABLE TANK)
5-SULPHURIC ACID (AST)
EQUIPMENT ON ROOF
6-GLYCOL CHILLER
7-SUB STATION (PCBs)
8-COOLING TOWER
9-ELPO OVEN
10-ELPO OVEN DUCTWORK & CONDENSATE COLLECTION EQUIPMENT
11-BIO-CLIMATIC FILTERS (CARBON PELLETS)
MATERIAL HANDLING AREAS
12-LOAD/UNLOAD CONTAINMENT AREA (VIRGIN PURGE THINNER & DIESEL FUEL)
13-FUEL DISPENSING AREA
14-ACID/CAUSTIC UNLOAD AREA
15-CHEMICAL UNLOAD AREA (PPG)
16-ELPO LOAD AREA
17-WASTE CONTAINMENT AREA: (PAINT SLUDGE AND PROCESS WASTE)
18-COMPACTOR BUILDING (TRASH AND CARDBOARD)
19-SALT STORAGE SHED
20-TRUCK DOCK #9 (NON-PRODUCTION RECEIVING)
21-TRUCK DOCK #22 (PRODUCTION RECEIVING)
22-TRUCK DOCK #21 (BULK PRODUCT RECEIVING)
OTHER ITEMS
23-UNDERGROUND LINES TO/FROM WWTP (PROCESS WASTEWATER, ELPO RINSEWATER, D.I. REGENERATION WATER, STEAM, CONDENSATE, ECT.)
24-OVERHEAD PROCESS WASTEWATER LINE
25-OVERHEAD ELPO RINSEWATER LINE
26-OVERHEAD CONDENSATE AND STEAM LINES
27-TRANSFORMERS (DIELECTRIC FLUID)
28-EQUIPMENT/YARD STORAGE
29-EMPLOYEE PARKING LOT
30-POOL CAR PARKING
31-TRUCK MARSHALLING AREA
32-BODY HAULER MARSHALLING AREA
33-HOFFMAN PAINT SLUDGE SYSTEM
34-HAZARDOUS WASTE STORAGE AREA
EXISTING STRUCTURAL CONTROLS
ESC-1 STORMCEPTOR, 3600 GALLON, OUTFALL STO 025
ESC-2 STORMCEPTOR, 7200 GALLON, OUTFALL STO 006
ESC-3 STORMCEPTOR, 1800 GALLON, OUTFALL STO 005
0 100 300ft
ROSEMARY STREET
MICHIGAN AVE
DRAINS OFFSITE TO PLANT 2 OUTFALL 2-006
STO-001
STO-002
SAN-003
STO-004
STO-005
ESC-3
ESC-2
STO-006
SAN-007
STO-008
MICHIGAN AVENUE
SAN-009
STO-010
SAN-011
ESC-1
SAN-024
STANLEY STREET
STO-026
STO-027
SAN-022
TO CITY OF LANSING STORM SEWER SYSTEM OR SANITARY SEWER SYSTEM
VERLINDEN AVENUE
STO-012
STO-013
SAN-014
STO-015
SAN-016
STO-017
SAN-018
STO-019
SAN-020
STO-021
OTTAWA STREET
INVERNESS AVENUE
FORBES STREET
SHIAWASSEE STREET
S. GENESEE DRIVE
OSBOURNE ROAD
TO CITY OF LANSING STORM SEWER SYSTEM OR SANITARY SEWER SYSTEM

Figure 1.2

ARCADIS

Appendix G

AOI and Miscellaneous Item Visual Inspection Forms and Pictures

AOI Visual Inspection Forms

ARCADIS BBL Visual Inspections

Area of Interest Visual Inspection Form

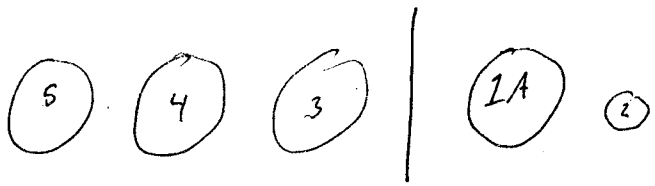
Data and Time	4/13/07 0900
Inspector	Anna H. Ben
AOI Number	2-4 + 2-67
AOI Description	AST Farm
AOI Location	
AOI Condition	Secondary containment in good condition. No evidence of cracking

Photo Log

Photo Number	Photo Description	Direction Facing
20	Views of ~~west~~ north side of AST Farm	E
21	View of south side of AST Farm	E
22	N. Side Secondary containment	N
23	S. Side Secondary containment	NE

AOI Sketch

Tank #2 : 6000-gal Unleaded gas. } South side
Tank 2A : 15,000-gal Used oil }
Tank #3 : 6000-gal Anti-freeze/coolant
Tank #4 : 6000-gal Transmission fluid/combustible liquid
Tank #5 : 6000-gal "idle"





Photograph 20: AOI 2-4 & 2-67. View of north side ASTs, facing east.



Photograph 21: AOI 2-4 & 2-67. View of south side ASTs, facing east.



Photograph 22: AOI 2-4 and 2-67. View of secondary containment of north side ASTs, facing north.



Photograph 23: AOI 2-4 & 2-67. View of secondary containment of south side ASTs, facing northeast.

Miscellaneous Item Visual Inspection Forms

ARCADIS BBL Visual Inspections

Area of Interest Visual Inspection Form

Data and Time	4/12/07 0750
Inspector	Jim H. Anna H. Ben
AOI Number	3-18
AOI Description	Drum Storage
AOI Location	302 N8-9 N7-8

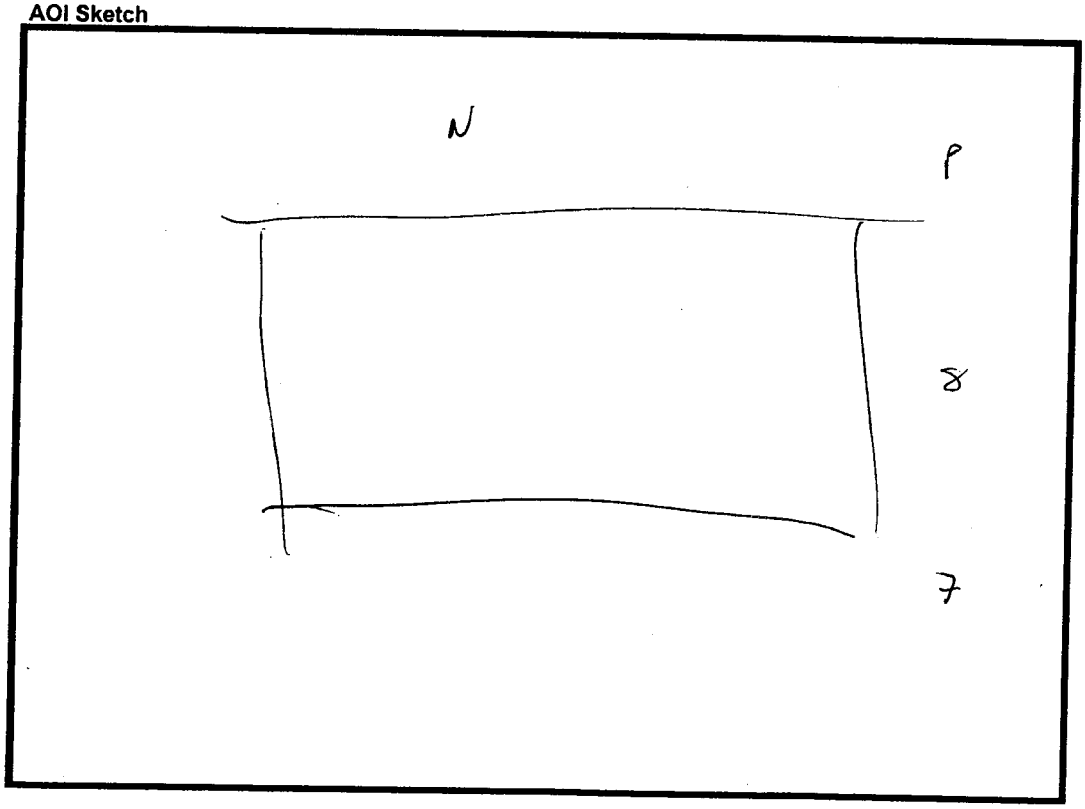
AOI Condition

- Cracks present
- Concrete repairing present

Photo Log

Photo Number	Photo Description	Direction Facing
1	Patched Concrete	S
2	Drum	W

AOI Sketch



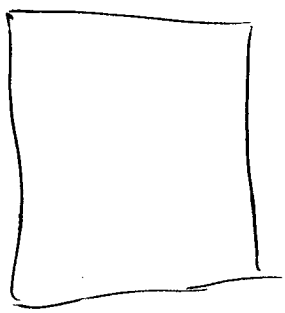
Area of Interest Visual Inspection Form

Data and Time	4/12/07 0915
Inspector	Anne H Jim H Ben
AOI Number	3-26
AOI Description	Repair area parts washer
AOI Location	302 E2
AOI Condition	Small surface type cracking No evidence of concrete markings of location

Photo Log

Photo Number	Photo Description	Direction Facing
3	General E2 Area	N
5	Cracked Concrete	

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time	4/12/07 0830
Inspector	Anna H. Jim H. Ben
AOI Number	3-30
AOI Description	Paint Booth
AOI Location	~~Hood~~ J-13 302
AOI Condition	- Paint booth not present. Used as tool cri - Floor looks original - Some patched concrete

Photo Log

Photo Number	Photo Description	Direction Facing
6	Patched concrete	S
7	Entire AOI area	W

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	4/12/07 1030
Inspector	Anna H Jim H Ben
AOI Number	3-4
AOI Description	Machining Residue Storage Area
AOI Location	Outside E of 301
AOI Condition	Concrete/pavement patching in some areas; otherwise, intact. - some cracks

Photo Log

Photo Number	Photo Description	Direction Facing
8	Far away view of AOI	S
9	View of pavement of AOI	E

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	4/12/07 1035
Inspector	Anna H Jim H Ben
AOI Number	3-58
AOI Description	LADD Washer
AOI Location	304 E13 - E14
AOI Condition	Floor staining. Small amount of small cracks

Photo Log

Photo Number	Photo Description	Direction Facing
10	Bays E14 - E13	E
11	Close-up of staining and bolts for mounting	E

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	4/12/07 1040
Inspector	Anna H Jim H. Ben.
AOI Number	3-52
AOI Description	Battery Charging Area
AOI Location	F6-F7

AOI Condition

Epoxy coated floor
- Charging equipment gone
- no cracks
- no patches

Photo Log

Photo Number	Photo Description	Direction Facing
12	View of floor + S. wall	S
13	View of floor + S. wall	S

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	4/12/07 @ 1400
Inspector	Anna H Jim H Ben
AOI Number	2-10
AOI Description	~~Paint Mix Room~~ Thinner Tanks
AOI Location	206 D13
AOI Condition	Secondary containment in good condition + epoxy-coated

Photo Log

Photo Number	Photo Description	Direction Facing
14	Secondary containment	S
15	Secondary containment	S
16	View of entire room	S

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	4/12/07 @ 1410
Inspector	Anna H Jim H Ben
AOI Number	2-X
AOI Description	Paint mix Room
AOI Location	206 13D
AOI Condition	Floor in good condition, but lots of paint spilled on the floor.

Photo Log

Photo Number	Photo Description	Direction Facing
17	View of paint on floor	SE
18	Paint on floor	SW
19	view of entire room	S

AOI Sketch



Photograph 1: AOI 3-18. View of patched concrete, facing south.



Photograph 2: AOI 3-18. View of drum storage, facing west.



Photograph 6: AOI 3-30. View of patched concrete, facing south.



Photograph 7: AOI 3-30. View of entire area, facing west.



Photograph 8: AOI 3-4. View of entire area, facing south.



Photograph 9: AOI 3-4. View of pavement, facing east.



Photograph 10: AOI 3-58. View of entire area, facing east.



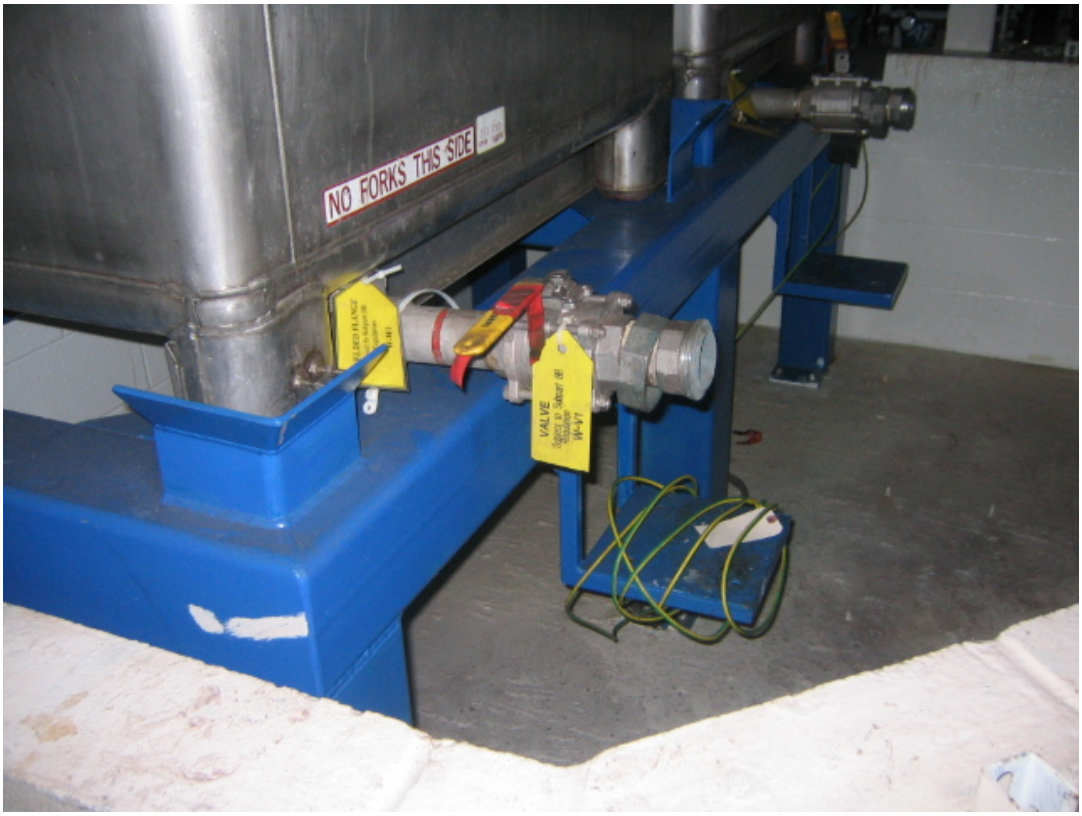
Photograph 11: AOI 3-58. View of staining and bolts for machine mounting.



Photograph 12: AOI 3-52. View of floor and south wall, facing south.



Photograph 13: AOI 3-52. View of floor and south wall, facing south.



Photograph 14: AOI 2-10. View of secondary containment, facing south.



Photograph 15: AOI 2-10. View of secondary containment, facing south.



Photograph 16: AOI 2-10. View of entire room, facing south.



Photograph 17: AOI 2-XX. View of paint on floor, facing southeast.



Photograph 18: AOI 2-XX. View of paint on floor, facing southwest.



Photograph 19: AOI 2-XX. View of entire room, facing south.



Photograph 3: AOI 3-26. View of general area, facing north.



Photograph 5: AOI 3-26. View of cracked concrete.

O’Brien & Gere Visual Inspections

Area of Interest Visual Inspection Form

Data and Time	6/5/06 11:12
Inspector	Dale Gross OBG
AOI Grouping Number	SA-1
AOI Number	26
AOI Description	Sump Pit

AOI Condition

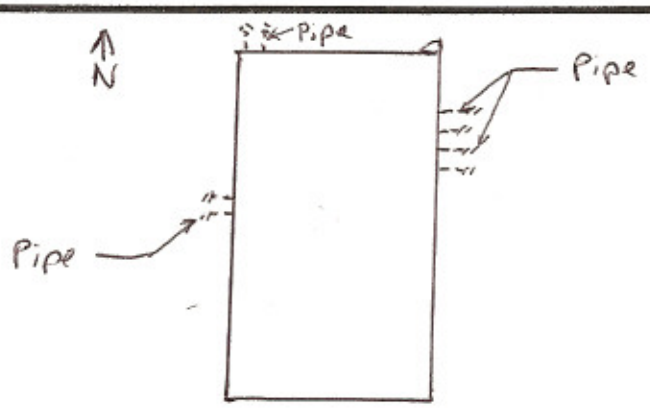
No apparent cracks in poured concrete sump. @ Damage to concrete around pipe at top of pump sump observed

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0549	Sump pit S. wall & floor	S
HPIM0550	Sump pit W. wall note pipes	W
HPIM0551	Sump pit N wall & floor	N
HPIM0552	Sump pit E wall & floor note pipes	E
HPIM0553	Pipe - Concrete not sealed around pipe	N

AOI Sketch

3'W x 6'L x 7'D



Area of Interest Visual Inspection Form

Data and Time	6/15/06 11:40
Inspector	Dale Gross OBG
AOI Grouping Number	SA-1
AOI Number	28
AOI Description	Trench

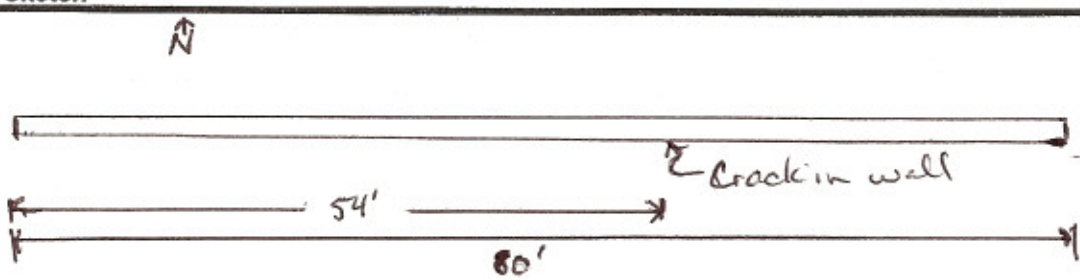
AOI Condition

One crack observed in South wall of trench, otherwise apparently intact. Noted 2 pipe openings in floor of trench. 80'L x 1'D x 1'W. Crack at 54' measuring from east end

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM 0554	Trench	West
HPIM 0555	Trench	West
HPIM 0556	Trench	West
HPIM 0557	Trench	West
HPIM 0558	Trench	West
HPIM 0559	Trench	West
HPIM 0560	Trench - Note crack in wall	West
HPIM 0561	Trench	West
HPIM 0562	Trench	West
HPIM 0563	Trench - west end	West
HPIM 0564	Crack in South sidewall of Trench	South

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time 6/15/06 13:15

Inspector Dave Gross OBG

AOI Grouping Number SA-1

AOI Number 69

AOI Description Sump - Note: actual location H/17 determine from Fig 3 BBL Site Assesment Data Rpt.

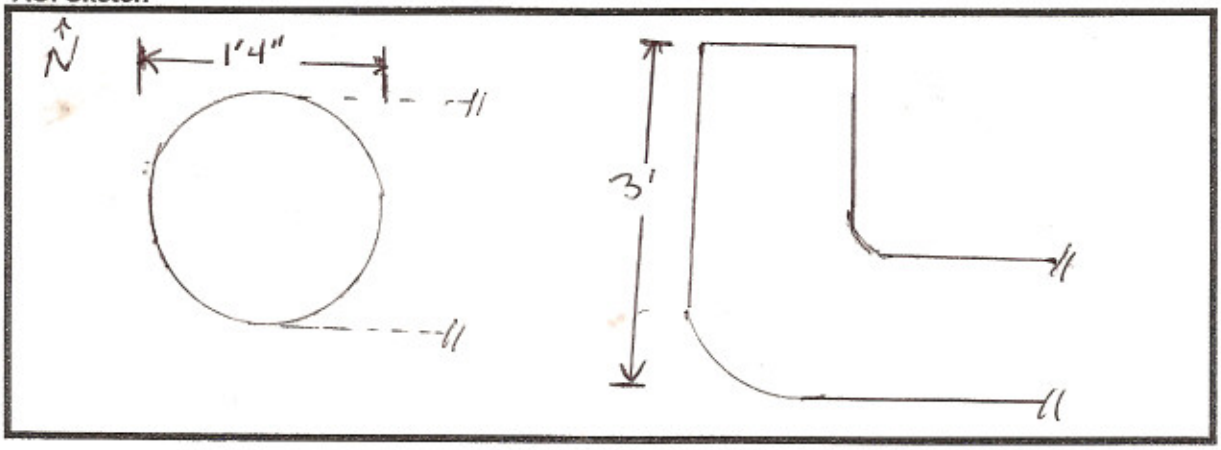
AOI Condition

Water infiltrating into sump
1'4" diam 3' deep clay tile construction, numerous cracks observed. Sump elbows to east

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0565	Sump - clay tile construction	South
HPIM0566	Sump - 90° elbow to horizontal	East
HPIM0567	Sump - 90° elbow to horizontal	East
HPIM0569	Sump - note cracks	North

AOI Sketch



Area of Interest Visual Inspection Form

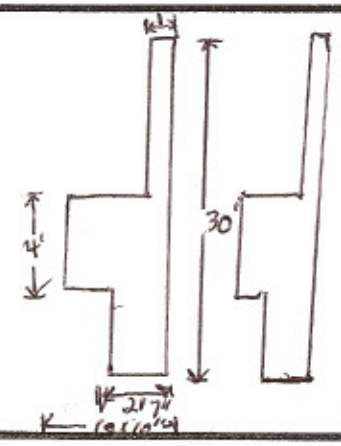
Data and Time	6/15/06 14:05
Inspector	Dave Gross OBG
AOI Grouping Number	SA-1
AOI Number	27
AOI Description	Trench - Actual 2 trenches/pits east/west
AOI Condition	No apparent cracks in poured concrete trenches

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0570	East Trench north end	South
HPIM0571	East Trench middle	East
HPIM0572	East Trench South end	South
HPIM0573	West Trench South end	South
HPIM0574	West Trench middle	East
HPIM0575	West Trench north end	South

AOI Sketch

1'5" deep x 2'7" W x 30' L
6'5" W x 4' L
1' W x



Area of Interest Visual Inspection Form

Data and Time	6/5/16 14:35
Inspector	Dale Gross ORG
AOI Grouping Number	SA-1
AOI Number	29
AOI Description	Trench

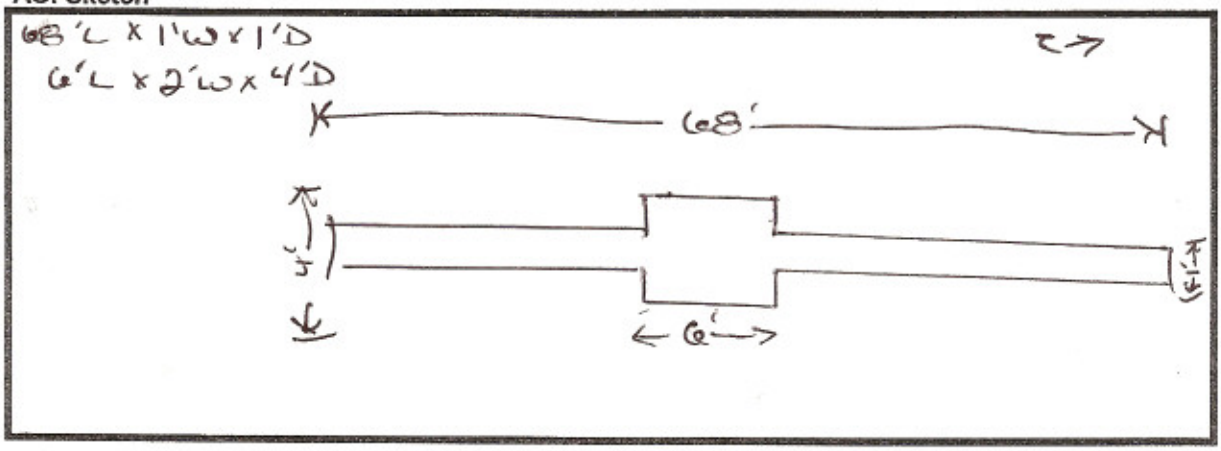
AOI Condition

Crack observed in trench 30' from North End of trench on east wall

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0576	Crack in trench east wall	East
HPIM0577	North end of trench	South
HPIM0578	Northend of trench	South
HPIM0579	Northend of trench	South
	~~North end of trench~~	
HPIM0580	Sump portion of trench - note pipe	East
HPIM0581	Sump portion of trench	West
HPIM0582	Sump portion of trench	North
HPIM0583	Sump portion of trench	South
HPIM0584	Southend of trench	South
HPIM0585	Southend of trench	South

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time 6/13/06 13:15
Inspector Dale Gross
AOI Grouping Number SA-14
AOI Number 3
AOI Description Truck dock levelers & trench

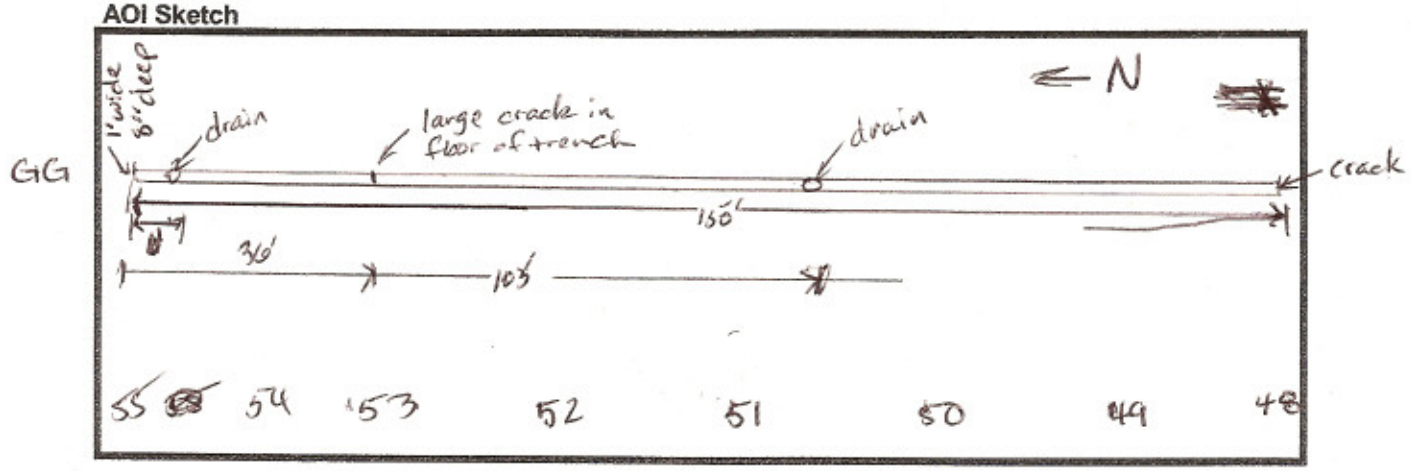
AOI Condition

Note hairline cracks at ends of trench, other wise trench appears to be in good condition except expansion crack 36' from N end. Trench drains are ~ 2.5' deep and appear to run west to connect with sanitary sewer. Concrete is oil stained

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0591	Trench drain (south)	Down
HPIM0592	Trench drain (north)	Down
HPIM0593	Southend of trench small crack at pen point	South east
HPIM0594	Northend of trench note small cracks	Northeast
HPIM0595	Expansion crack 36' from N end of trench	East
HPIM0596	General view of trench	South
HPIM0597	General view of trench	North
HPIM0598	Crack between top of trench & dockwall	East

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time	06/20/06 9:30
Inspector	Dale Gross
AOI Grouping Number	SA-5
AOI Number	21
AOI Description	Truck leveler process storage tank
AOI Condition	Unable to assess, tanks beneath leveler plate

Photo Log

Photo Number	Photo Description	Direction Facing

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time 06/20/06 09:50
Inspector Dale Gross OBG
AOI Grouping Number SA-5
AOI Number ~~19~~ 20
AOI Description Truck leveler pits / trench drain

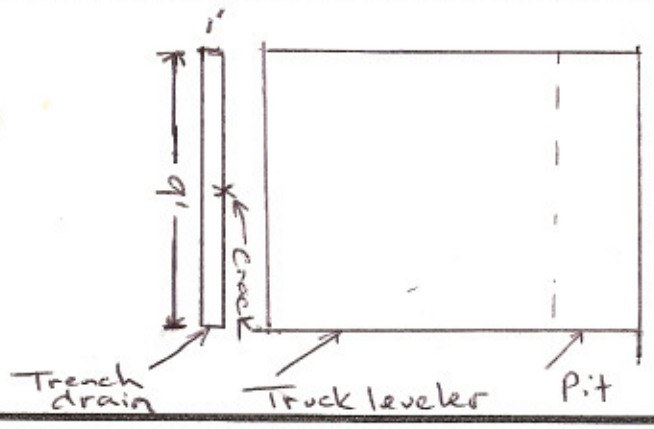
AOI Condition

Trench - Crack in ~~on~~ north wall of trench ~~drain~~
Leveler - Pit not assessed

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0607	Trench drain	~~East~~
HPIM0608	Trench drain	West
HPIM0609	Crack in north wall of trench ~~drain~~	North

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time	6/20/06 10:20
Inspector	Dale Cross OBG
AOI Grouping Number	SA-5
AOI Number	~~20~~ 19
AOI Description	Truck leveler pit

AOI Condition

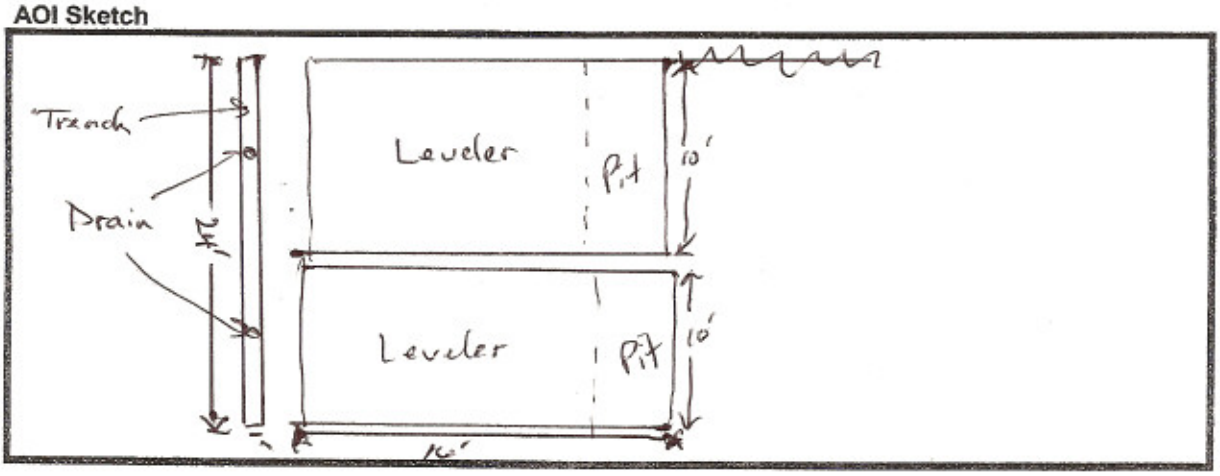
Trench - No Cracks observed 2 drains in trench

Pit not assessed

Photo Log

Photo Number	Photo Description	Direction Facing
HPIMO6610	Trench - no apparent cracks	West
	drain clogged	
HPIMO6611	Trench - no apparent cracks	East
HPIMO6612	Drain in trench	Down

AOI Sketch



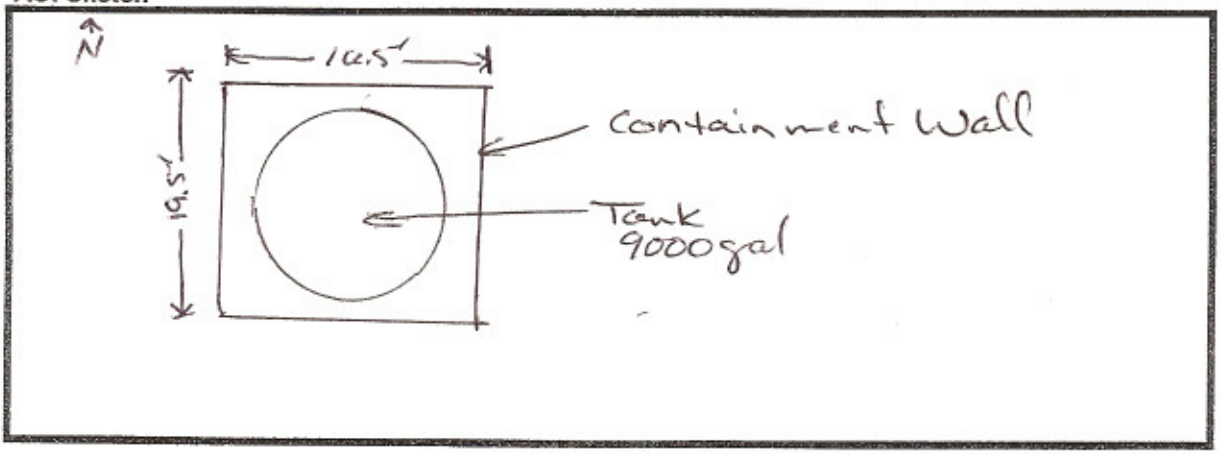
Area of Interest Visual Inspection Form

Data and Time	06/20/06 10:30
Inspector	Dale Cross OBG
AOI Grouping Number	SA-5
AOI Number	33
AOI Description	Waste thinner tank
AOI Condition	No apparent cracks observed in containment floor or walls

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0613	Exterior containment wall west end north side	Southwest
HPIM0614	Exterior containment wall middle north side	Southeast
HPIM0615	Exterior containment wall east end north side	South
HPIM0616	Exterior containment wall north end east side	West
HPIM0617	Exterior containment wall & floor south end east side	West
HPIM0618	Exterior containment wall & floor	West
HPIM0619	Interior containment	East
HPIM0620	Interior containment	South
HPIM0621	Interior containment	West

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time	6/20/06 15:00
Inspector	Dale Gross OBG
AOI Grouping Number	SA-4
AOI Number	37
AOI Description	Paint Sludge Trenches

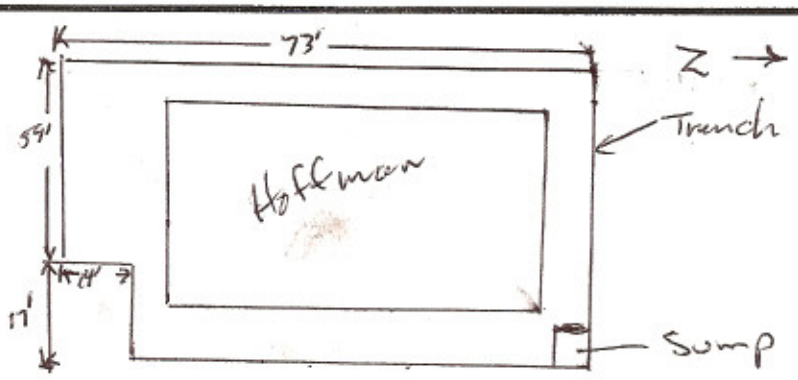
AOI Condition

Trenches – No cracks observed. Trenches gravity drain into sump. Sump contained water, unable to assess sump. Trench 0.5' to 1.5' deep draining toward sump

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0622	East trench	North
HPIM0623	South trench, north wall	North
HPIM0624	South trench	West
HPIM0625	West trench	North
HPIM0626	Sump containing water	Down

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time	6/20/06 15:45
Inspector	Dale Gross OBG
AOI Grouping Number	SA-4
AOI Number	24
AOI Description	Filter pit w/ Sump

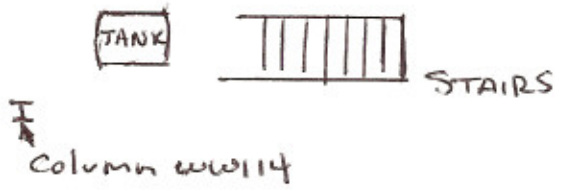
AOI Condition

No filter pit observed at location. Tank present instead

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM 0627	Tank present at location of AOI	South

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time	6/20/06 16:05
Inspector	Dale Gross OBG
AOI Grouping Number	SA-16
AOI Number	43
AOI Description	Trash Compactor

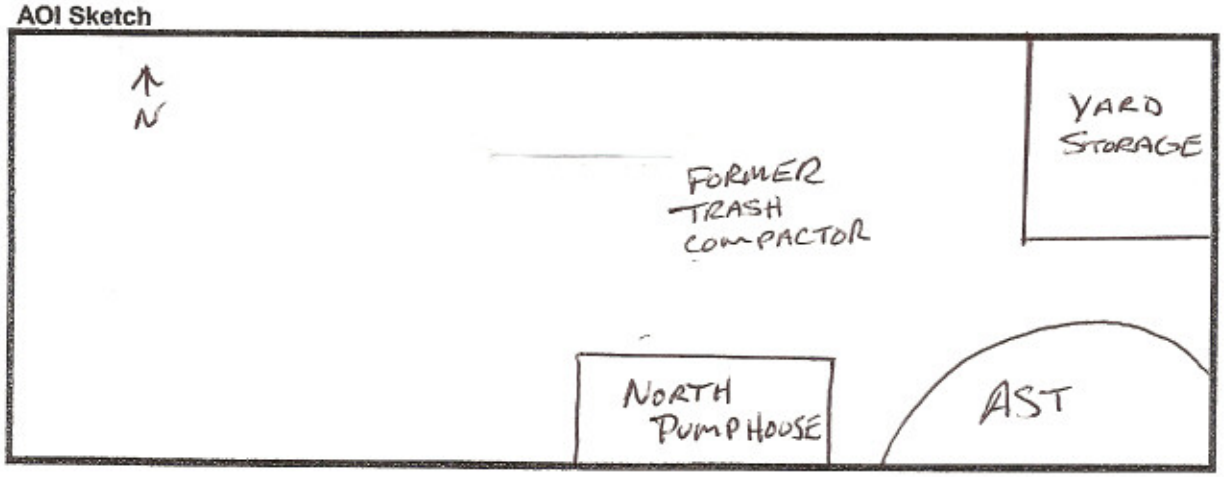
AOI Condition

Patched Asphalt pavement

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0628	Location of former trash compactor	North

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time	6/20/06 16:15
Inspector	Dale Gross OBG
AOI Grouping Number	SA-160
AOI Number	174
AOI Description	2 Trash Compactors

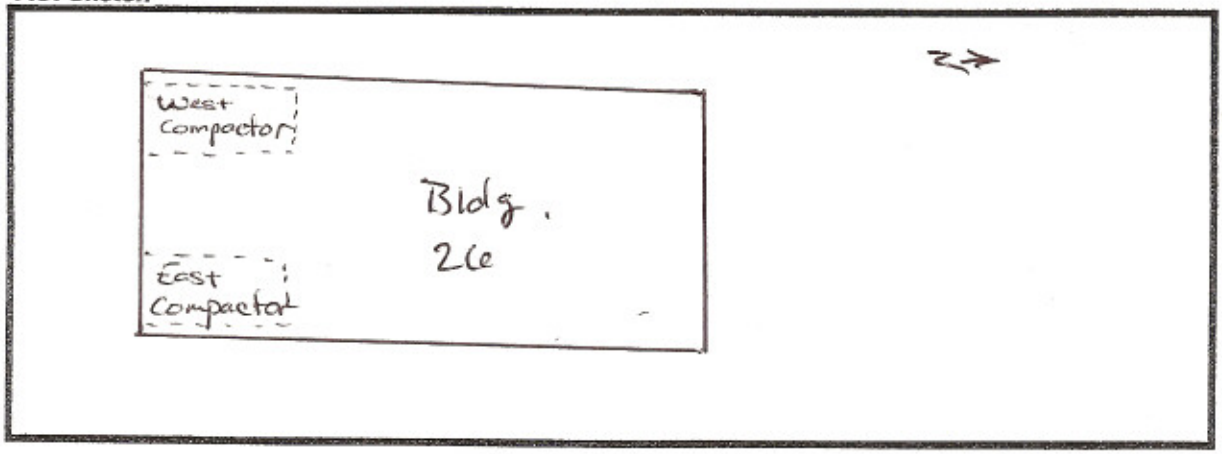
AOI Condition

* Concrete in fairly good condition Expansion crack & 1 hairline crack in pavement observed. Concrete is oil stained from hydraulics leaking on trash compactors

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0629	West compactor location note stains on concrete pavement	North
HPIM0630	East compactor location note stains on concrete pavement	South North

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time	4/21/06 11:30
Inspector	Dale Gross OBG
AOI Grouping Number	SA-17
AOI Number	44
AOI Description	Weld Pit

AOI Condition

Unable to assess, covered by steel plate

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0637	Steel plate covering pit location	South

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	10/21/06 12:50
Inspector	Dale Gross OBG
AOI Grouping Number	SA-17
AOI Number	45
AOI Description	Weld Pit

AOI Condition

Concrete slab at location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0636	Concrete slab at Pit location	North

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/21/06 12:05
Inspector	Dale Gross OBG
AOI Grouping Number	SA-17
AOI Number	46
AOI Description	Drive Unit Pit

AOI Condition

Concrete Slab at Location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0637	Concrete Slab at location, column C105 in background	West

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/21/06 12:13
Inspector	Dale Gross OBG
AOI Grouping Number	SA-17
AOI Number	47
AOI Description	Solder Grind Pit
AOI Condition	Concrete Slab at location

Photo Log

Photo Number	Photo Description	Direction Facing
HPM0638	Concrete Slab at pit location	South

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/21/06 12:19
Inspector	Dale Gross OBG
AOI Grouping Number	SA-17
AOI Number	48
AOI Description	Solder Grind Pit

AOI Condition

Concrete slab at location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0639	Concrete slab at Pit location	Northwest

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	06/21/06 13:30
Inspector	Dale Gross OBG
AOI Grouping Number	SA-17
AOI Number	49
AOI Description	Torch Solder Pit
AOI Condition	Concrete slab at location with conveyor trench

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0640	Concrete slab at location	Southeast

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/24/06 13:40
Inspector	Dale Gross
AOI Grouping Number	3A-17
AOI Number	51
AOI Description	Tunnel (9' deep)

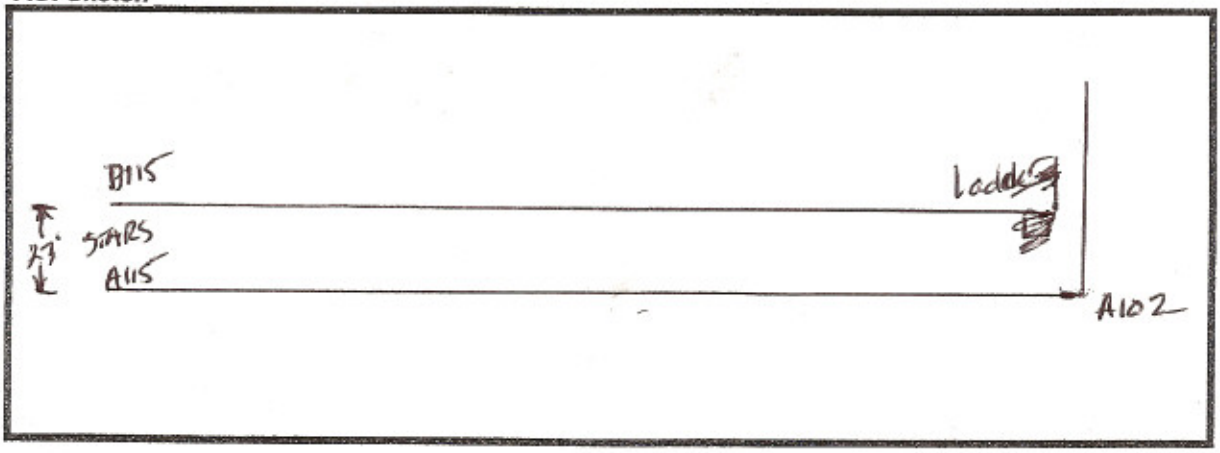
AOI Condition

No tunnel observed at location, asphalt composite block floor. Tunnel is present at ~~Hole~~ A-B115 - A-B102, then heads north. Fire protection work area note numerous cracks in walls & floor

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0641	Composite block floor at location of	South
	tunnel	
HPIM0642	General view of tunnel	East
HPIM0643	Crack in South wall of tunnel	South
HPIM0644	Crack in floor of tunnel	Down
HPIM0645	Crack in North wall of tunnel	North

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time	6/21/06 14:05
Inspector	Dale Cross OBG
AOI Grouping Number	SA-17
AOI Number	SS
AOI Description	Process Pit

AOI Condition

Process pit not observed in column location. Column location actually in Bldg 1. Conveyor trench in location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0646	General view	North

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/21/06 15:24
Inspector	Dale Gross OBG
AOI Grouping Number	SA-18
AOI Number	50
AOI Description	Drive Unit Pit
AOI Condition	No pit observed at location, concrete slab

Photo Log

Photo Number	Photo Description	Direction Facing
HP1M0ce47	Concrete slab at pit location	South

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/24/060 15:30
Inspector	Dale Gloss OBG
AOI Grouping Number	SA-19
AOI Number	~~50~~ 72
AOI Description	Washer Sump

AOI Condition

Unable to assess, still contains water

Photo Log

Photo Number	Photo Description	Direction Facing

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/22/06 13:30
Inspector	Dave Gress OBG
AOI Grouping Number	SA-23
AOI Number	13
AOI Description	New Weld Pit
AOI Condition	Concrete slab & Composite Block floor ~~in area~~ at location. Equipment also present

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0654	Concrete slab & block floor at pit location	North

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/22/06 13:40
Inspector	Dale Gross OBG
AOI Grouping Number	SA-23
AOI Number	16
AOI Description	Existing Drive Unit Pit
AOI Condition	Concrete slab and composite block floor at location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0655	Concrete slab & block floor at Pit location	North

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/22/06 13:45
Inspector	Dale Gross OBG
AOI Grouping Number	SA-24
AOI Number	12
AOI Description	Solder grind booth - sanitary & storm run underneath
AOI Condition	Concrete slab at location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0605	Concrete slab at location	South

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/22/06 13:50
Inspector	Dale Gross OBG
AOI Grouping Number	SA-24
AOI Number	14
AOI Description	New advancing conveyor pit
AOI Condition	Concrete ~~slab~~ slab & composite block floor at location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0657	Concrete slab & composite block floor at location	East

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/22/06 13:58
Inspector	Dale Gross OBG
AOI Grouping Number	SA-24
AOI Number	15
AOI Description	New Drive Unit Pit
AOI Condition	Concrete slab at location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0658	Concrete slab at location	West

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/21/06 15:42
Inspector	Dale Gross OBG
AOI Grouping Number	SA-25
AOI Number	71
AOI Description	Washer Sump

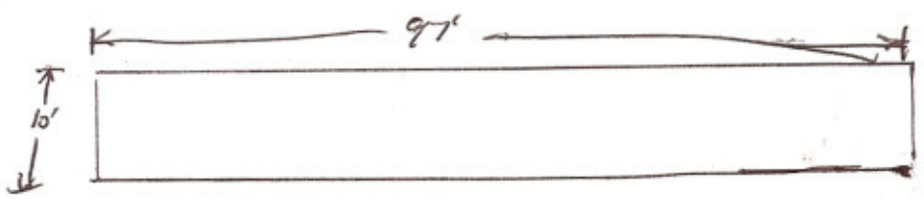
AOI Condition

Unable to totally assess because equipment in sump; Areas observed were in good condition. Did not observe any cracks ~~or~~ or spalling

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0648	West wall & floor of sump	Down
HPIM0649	South wall & floor of sump	Down

AOI Sketch



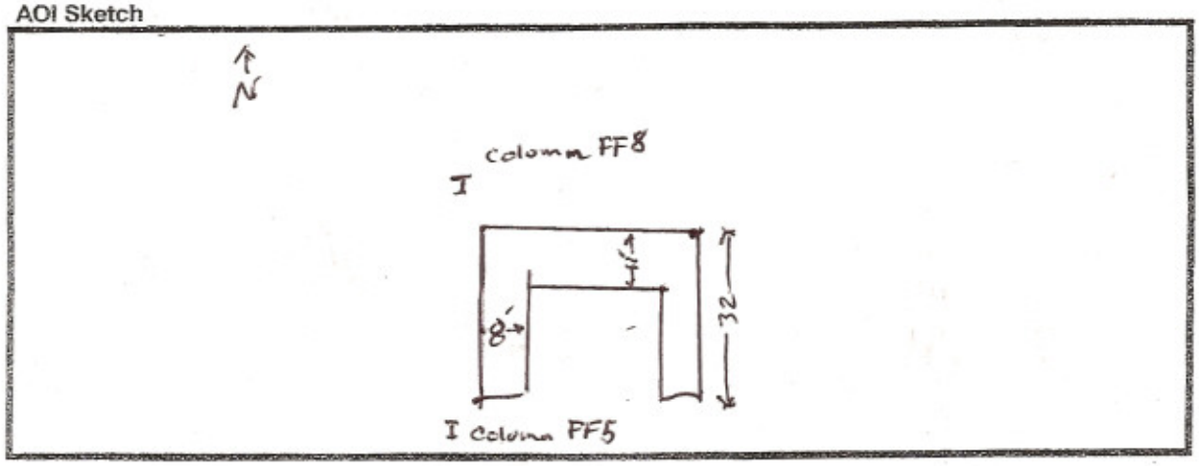
Area of Interest Visual Inspection Form

Data and Time	6/22/06 15:42
Inspector	Dale Gross
AOI Grouping Number	SA-26
AOI Number	9
AOI Description	New Transfer can pit
AOI Condition	Pit/Trench in good condition no staining/ cracks observed

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM06604	Bottom of pit/trench	west/down
HPIM06605	South wall & floor	East
HPIM06606	Floor of pit	~~North~~ South
HPIM06607	West wall & floor	North
HPIM0653	General view	West

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time	6/22/06 10:06
Inspector	Dale Gross OBG
AOI Grouping Number	SA-26
AOI Number	CC3
AOI Description	Weld Pit

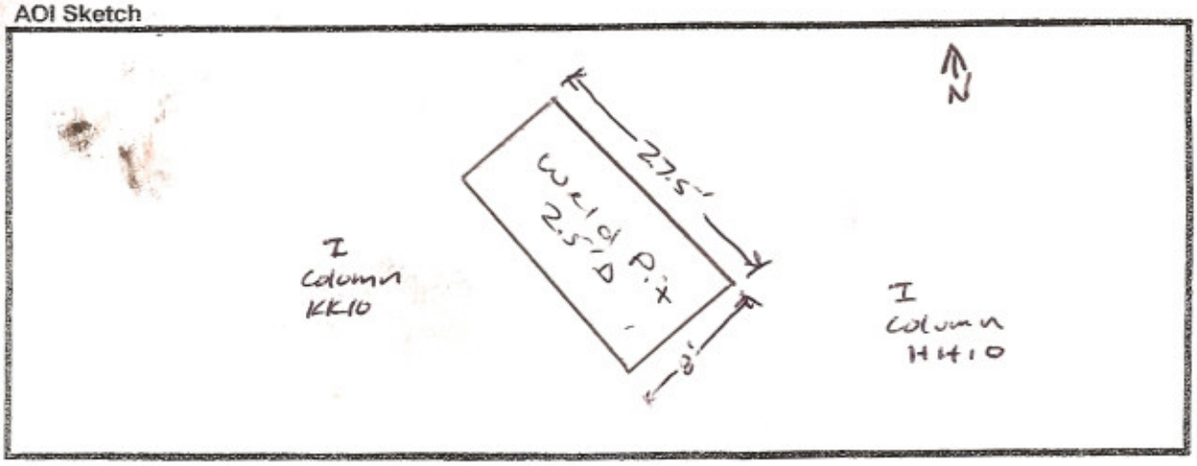
AOI Condition

Pit is in good condition. No cracks, spalling or staining observed

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0668	Northeast ~~west~~ wall of pit	North
HPIM0669	Southwest wall of pit	Northwest
HPIM0670	Floor of pit	Southeast
HPIM0671	Floor of pit	Down

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time	6/23/06 13:58
Inspector	Dale Gross 089
AOI Grouping Number	SA-29
AOI Number	6
AOI Description	Industrial Waste treatment pit
AOI Condition	Unable to assess, pit contains liquid

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0078	Grating to industrial waste treatment pit	Down

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/23/06 13:30 10/19/06 09:38
Inspector	Dale Gross OBG
AOI Grouping Number	SA-30
AOI Number	56
AOI Description	Sump

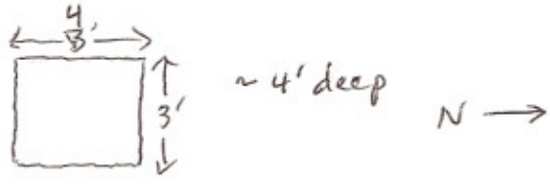
AOI Condition

~~Unable to inspect, covered with debris~~
Sump appears to be in good condition, no cracks observed, some staining

Photo Log

Photo Number	Photo Description	Direction Facing
~~HPIM0675~~	Cover of sump. Note debris	~~East~~
HPIM0813	Sump	Down

AOI Sketch



Area of Interest Visual Inspection Form

Data and Time	10/23/06 13:44
Inspector	Dale Gross OBG
AOI Grouping Number	SA-30
AOI Number	58
AOI Description	Sump

AOI Condition

Concrete slab at sump location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0676	Concrete slab at sump location	East

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/23/06 13:50
Inspector	Dale Gross ORG
AOI Grouping Number	SA-30
AOI Number	59
AOI Description	Sump

AOI Condition

Concrete slab at location of sump.
Column location given is in Bldg 79

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0777	Concrete slab at sump location	West

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	12/22/06 14:05
Inspector	Dale Gress OBG
AOI Grouping Number	SA-31
AOI Number	10
AOI Description	New weld pit
AOI Condition	Concrete slab & electrical panels at location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0059	Concrete slab & electrical panels	South

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/22/06 14:10
Inspector	Dale Gross
AOI Grouping Number	SA-31
AOI Number	11
AOI Description	Existing drive unit pit
AOI Condition	Concrete slab and car track at location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0606	Concrete slab & car track	~~South~~ North

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	09/22/06 14:16
Inspector	Dale Gross OBG
AOI Grouping Number	SA-31
AOI Number	004
AOI Description	Sump

AOI Condition

Concrete slab at sump location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM 0606	Concrete slab at sump location	South

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/22/06 14:25
Inspector	Dale Gross OBG
AOI Grouping Number	30-31
AOI Number	05
AOI Description	Sump

AOI Condition

Concrete slab at sump location

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0606Z	Concrete slab at sump location	North

AOI Sketch

Area of Interest Visual Inspection Form

Data and Time	6/22/06 14:31
Inspector	Dale Gross OBG
AOI Grouping Number	SA-31
AOI Number	0006
AOI Description	Sump

AOI Condition

Concrete slab at sump location & equipment

Photo Log

Photo Number	Photo Description	Direction Facing
HPIM0006(3	Concrete slab & equipment	West

AOI Sketch



HPIM0549



HPIM0550



HPIM0551



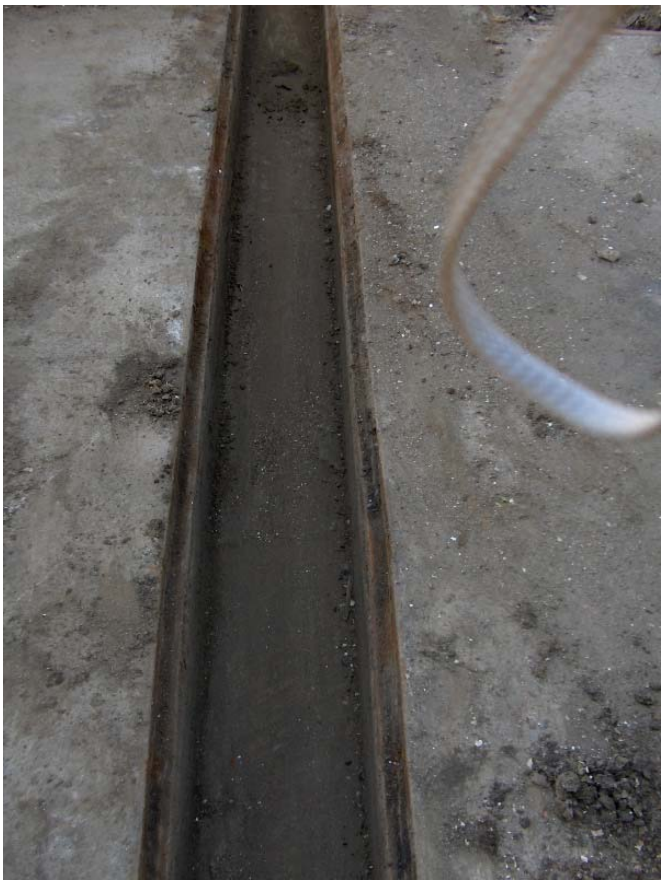
HPIM0552



HPIM0553



HPIM0554



HPIM0555



HPIM0556



HPIM0557



HPIM0558



HPIM0559



HPIM0560



HPIM0561



HPIM0562



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HPIM0567



HPIM0569



HPIM0570



HPIM0571



HPIM0572



HPIM0573



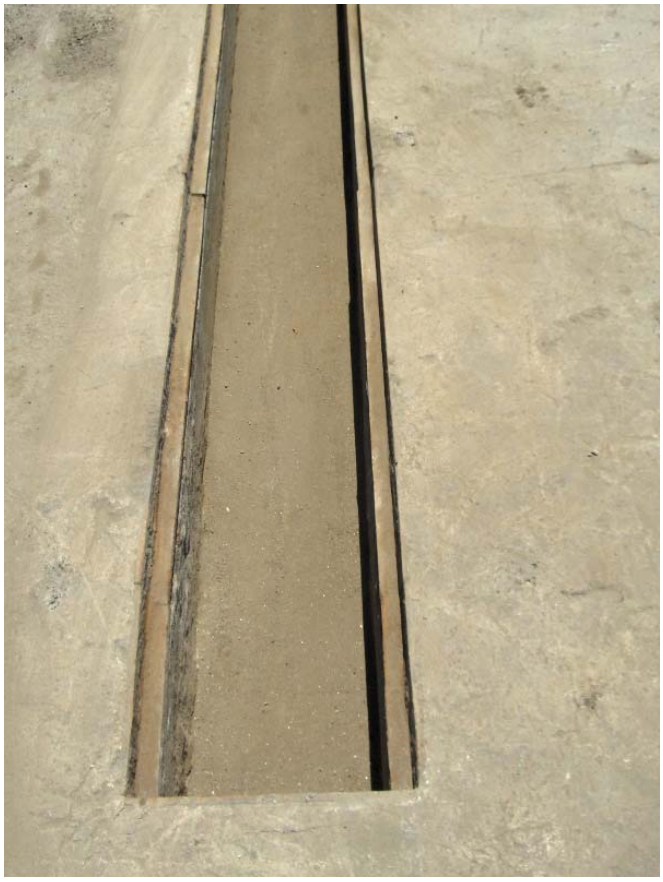
HPIM0574



HPIM0575



HPIM0576



HPIM0577



HPIM0578



HPIM0579



HPIM0580



HPIM0581



HPIM0582



HPIM0583



HPIM0584



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HPIM0636



HPIM0637



HPIM0638



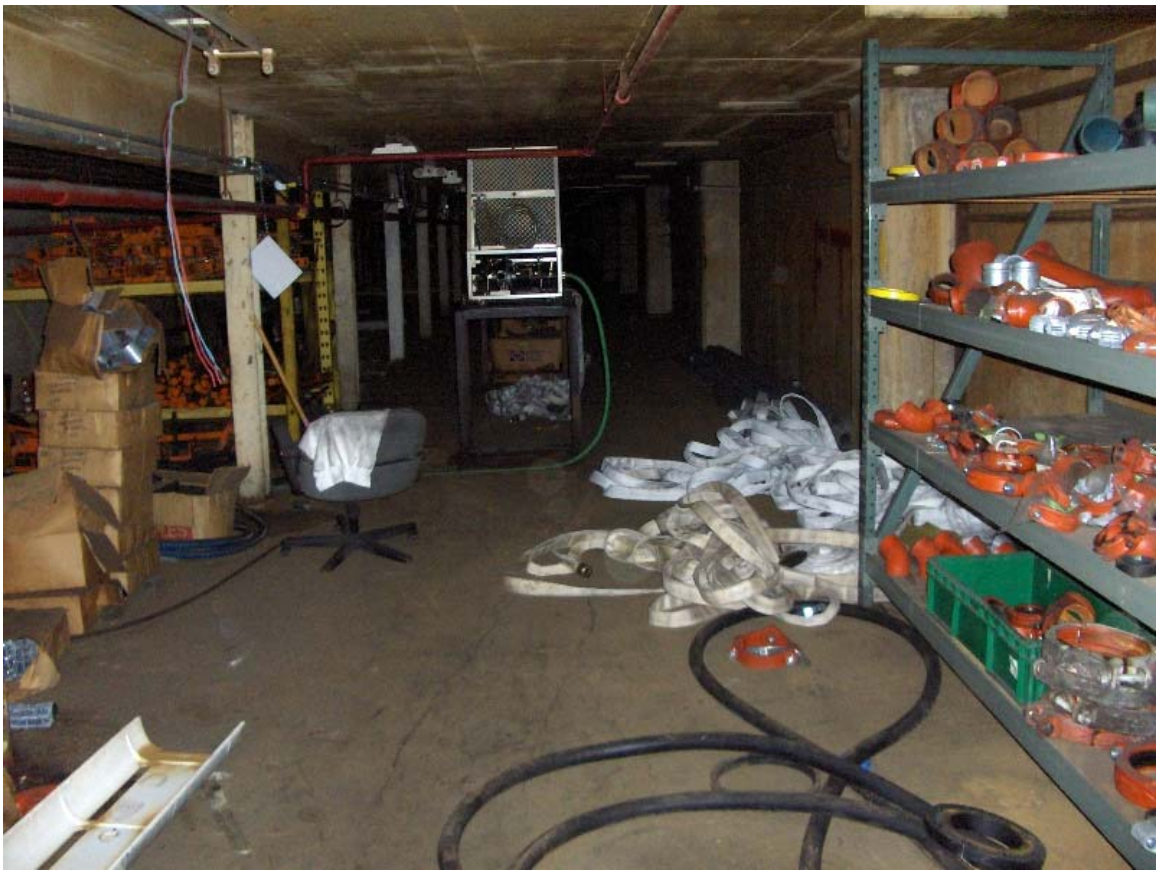
HPIM0639



HPIM0640



HPIM0641



HPIM0642



HPIM0643



HPIM0644



HPIM0645



HPIM0646



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HPIM0653



HPIM0654



HPIM0655



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HPIM0670



HPIM0671



HPIM0675



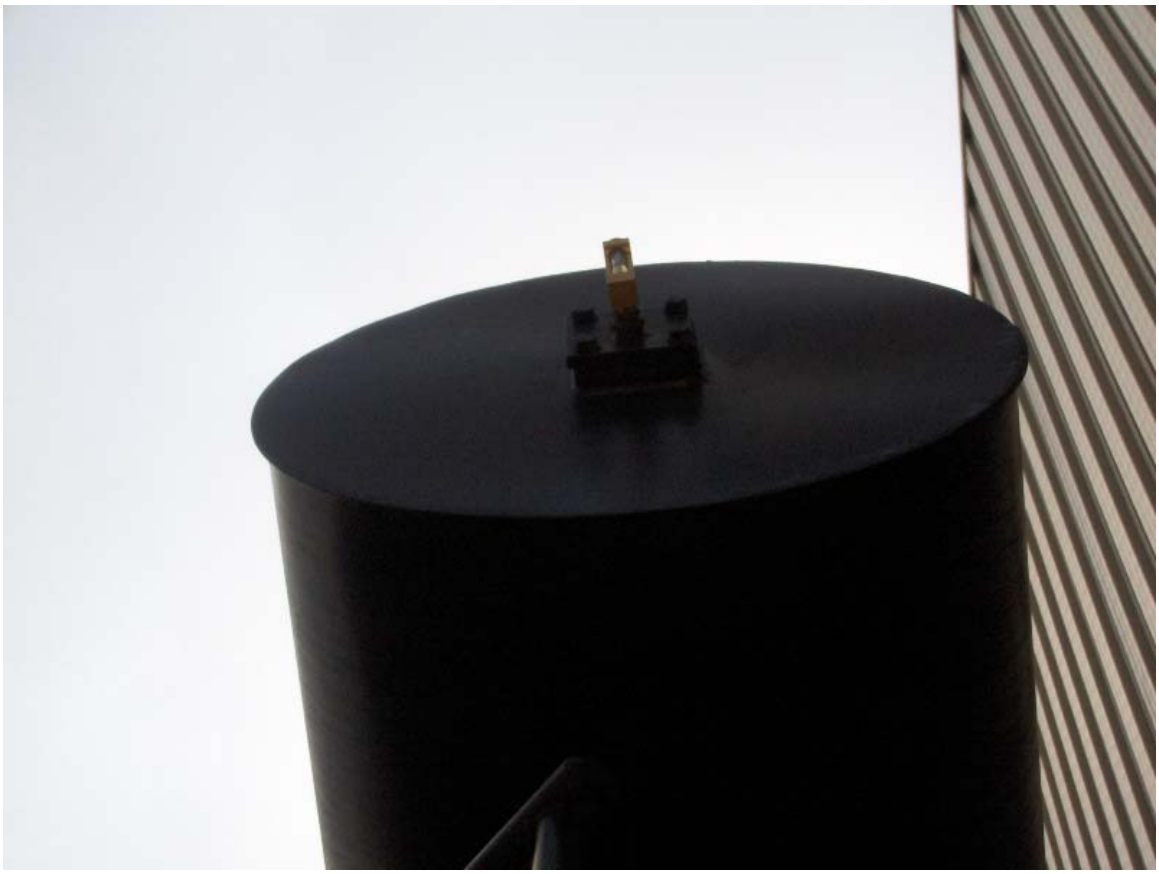
HPIM0676



HPIM0677



HPIM0678



HPIM0704