



Construction Services

April 30, 2004

Mr. Terry Walkington
Waste and Hazardous Materials Division
Michigan Department of Environmental Quality
503 N. Euclid Avenue
Bay City, MI 48706-2956

Subject: **GM Powertrain – Saginaw Metal Casting Operations Landfill
First Quarter 2004 Groundwater Monitoring Report**

Dear Mr. Walkington:

Enclosed is the First Quarter 2004 Groundwater Monitoring Report for the sampling of the General Motors Powertrain – Saginaw Metal Casting Operations (GMPT-SMCO) Landfill. The attached report contains the field notes and observations, laboratory analytical results, conclusions, and recommendations.

Gooslin Environmental Field Services, Inc. and URS Corporation performed the field sampling and Merit Laboratories analyzed the samples. URS Corporation compiled and evaluated the data, and prepared the report.

Monitoring was performed during this quarterly event in accordance with the approved License Condition Proposal submitted to the MDEQ on March 10, 2004 (approved on March 26, 2004). This proposal included a revised sampling program and installation/abandonment of selected GMPT-SMCO Landfill monitoring wells.

If you have any questions regarding this report or require any additional information, please contact Ms. Lori Hoevemeyer at (989) 757-1067, or me at (989) 636-8536.

Sincerely,

A handwritten signature in black ink, appearing to read "Kip Cosan".

Kip Cosan, PG
Sr. Consultant

cc: Saginaw County Health Department
L. Hoevemeyer, GMPT-SMCO

clr



**FIRST QUARTER 2004
GROUNDWATER MONITORING
REPORT**

**GENERAL MOTORS POWERTRAIN
SAGINAW METAL CASTING
OPERATIONS LANDFILL**

URS 80374503.7000

URS 80374503.7000

**FIRST QUARTER 2004
GROUNDWATER MONITORING REPORT**

**GENERAL MOTORS POWERTRAIN
SAGINAW METAL CASTING OPERATIONS
LANDFILL**

Prepared for:

General Motors Powertrain
Saginaw Metal Casting Operations
1629 N. Washington Avenue
Saginaw, Michigan 48605

Prepared by:

URS Corporation
Midland, Michigan

April 2004

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1.0 Introduction

Monitoring for the First Quarter 2004, January 1 to March 31, 2004, at the General Motors Powertrain – Saginaw Metal Casting Operations Landfill (GMPT-SMCO Landfill, or the Landfill), Saginaw, Michigan, has been completed. Gooslin Environmental Field Services, Inc. (Gooslin) collected groundwater and leachate samples at the Landfill on March 11, 2004. URS Corporation (URS) collected groundwater samples from wells MW-96080 and MW-97948, and static water levels from wells MW-90124, MW-93205, and MW-96939 on March 11, 2004. After samples were collected, they were submitted for analysis to Merit Laboratories (Merit), East Lansing, Michigan.

Groundwater monitoring at the Landfill was conducted as a requirement of Part 115 of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451 (Act 451), as amended, and the Solid Waste Disposal Area Operating License No. 8963 (issued September 3, 2003). On June 3, 1999, the Michigan Department of Environmental Quality (MDEQ) approved the *Hydrogeologic Monitoring Plan Amendment*¹, which was submitted to update the October 1995 *Hydrogeologic Monitoring Plan*². On September 3, 2003, GMPT-SMCO obtained a new Landfill Operating License with conditional approval. In response, GMPT-SMCO submitted a *License Condition Proposal*³ (the proposal) to the MDEQ on March 10, 2004, which included a revised sampling program and installation/abandonment of selected Landfill monitoring wells. On March 26, 2004, the MDEQ approved⁴ the proposal, with comments.

First Quarter 2004 monitoring was completed in accordance with the approved proposal. The approved sampling program consists of leachate, monitoring wells MW-05, MW-08, MW-09, MW-11B, MW-11C, MW-12, MW-13, MW-14, and MW-15 as well as up- and down-gradient bedrock wells MW-97948 and MW-96080, respectively for each parameter as listed in R 299.4450 through R 299.4454. All listed wells and leachate were also sampled for: formaldehyde, naphthalene, 2,4-dimethylphenol, Bis(2-ethylhexyl)adipate, pyrene, fluoranthene, m,p,& o-cresols, phenanthrene, and fluorine. Leachate was also analyzed for total metals.

This report presents the field methods, monitoring results, and any summaries or recommendations derived from the data generated during the First Quarter 2004. Fourth Quarter 2003 background sampling results of monitoring wells MW-14 and MW-15 (sampled October 3, 2003) were not available when the Second Semiannual 2003 Report was compiled; they are also included in this report.

2.0 Field Methods

The following sections present the field methods conducted during the sampling event at the Landfill. Static groundwater levels were measured in all of the monitoring wells approved for the revised monitoring program¹. The monitoring wells were properly evacuated and samples of the groundwater were collected from all wells except MW-11B and MW-11C. As in the past and according to the approved program¹, MW-11B and MW-11C were only used for hydraulic monitoring until a future date when the waste was to be placed closer to the wells⁵. During the license negotiations and in the proposal³ and approval⁴ letters, MW-11B and MW-11C were added to the list of wells to be sampled. They were inadvertently left off the list given to the field sampling crew, but will be sampled during the rest of the 2004 quarterly monitoring events. Samples were also obtained from the leachate collection system.

2.1 Static Groundwater Level Measurements

On March 10, 2004, Gooslin measured static groundwater levels in the nine Landfill groundwater monitoring wells (MW-05, MW-08, MW-09, MW-11B, MW-11C, MW-12, MW-13, MW-14, and MW-15). On March 11, 2004, URS measured static groundwater levels in the five Bedrock Aquifer monitoring wells (MW-96080, MW-97948, MW-90124, MW-93205, and MW-96939). On October 2, 2003, Gooslin measured static groundwater levels in MW-14 and MW-15 for the quarterly background sampling event. Copies of the field forms containing data obtained during the groundwater sampling events are included in Appendix A. The First Quarter 2004 static groundwater levels and groundwater elevations (calculated from surveyed top of casing data) are in Table 1.

All static groundwater measurements were taken to the nearest 0.01 foot, using a Keck or Solinst electronic water level meter, and were recorded on field forms. The water level meter was thoroughly rinsed with distilled water prior to and following each use to minimize the potential for cross-contamination of the monitoring wells.

2.2 Monitoring Well Evacuation

On March 10, 2004, Gooslin performed evacuation of the Landfill monitoring wells for the First Quarter 2004 monitoring event. On October 2, 2003, Gooslin performed monitoring well evacuation for the quarterly background sampling event.

Evacuation was accomplished by bailing, using dedicated stainless steel bailers in all

Landfill monitoring wells (except MW-11B and MW-11C). Based on the previously approved Amendment³ and experience at this site, sampling personnel attempted to avoid purging the wells to complete dryness and/or agitating the groundwater. The amount of groundwater purged during the sampling events were recorded on each of the field forms, copies of which are in Appendix A.

2.3 Groundwater Sample Collection

On March 11, 2004, Gooslin sampled the Landfill groundwater monitoring wells (except MW-11B and MW-11C) using dedicated stainless steel bailers for each well. MW-14 and MW-15 were also sampled on October 3, 2003 for the quarterly background sampling events. The pH, conductivity, and temperature measurements were taken on all samples. These measurements were recorded on each of the field forms, copies of which are in Appendix A.

On March 11, 2004, URS sampled two of the Bedrock Aquifer groundwater monitoring wells (MW-96080 and MW-97948) via low-flow method using a peristaltic pump with dedicated tubing for each well. Purge water was monitored via a Hydrolab[®] flow-through cell. Purging continued until parameters stabilized. Samples were collected immediately after purging was completed. Low-flow parameter measurements were recorded on field forms, copies of which are in Appendix A.

Samples obtained for dissolved metals were field filtered upon collection. Samples for all of the monitoring wells were preserved, if required, and were immediately placed on ice in coolers. An equipment blank and trip blank were prepared with deionized water for the sampling event. Upon completion of the sampling activities, the samples were transported to Merit. Proper chain of custody procedures were followed at all times. Appendix B contains copies of the chain of custody records for the First Quarter 2004 monitoring event.

2.4 Leachate Sample Collection

On March 11, 2004, Gooslin sampled the leachate collection system using a stainless steel bailer. The pH, conductivity, and temperature measurements were taken on the leachate sample and recorded on the field form, a copy of which is in Appendix A.

Upon completion of the leachate sampling, samples were placed on ice in a cooler and also transported to Merit. Proper chain of custody procedures were followed at all times. Appendix B contains a copy of the leachate chain of custody record.

3.0 Monitoring Results

The following sections contain the results from the First Quarter 2004 monitoring event. The samples were analyzed by Merit Laboratories. All quarterly analytical reports are located in Appendix C. Figures 1 and 2 were created to show the potentiometric gradient at the Landfill.

3.1 Potentiometric Surface Gradients and Velocities

3.1.1 Glacial Clay

A potentiometric surface gradient contour map (generated from the static groundwater level measurements) and the general direction of the potentiometric surface gradient (represented by the arrow) for the First Quarter 2004 monitoring event are presented in Figure 1. It should be noted a potentiometric surface is a pressure surface that applies to confined aquifers under artesian pressure. Static head measurements are a representative measurement of the equilibrium head in the confining clay, not a true potentiometric surface. Calculation of groundwater flow based on static head elevations in the confining clay do not necessarily comply with standard assumptions of the velocity calculation and may over estimate actual groundwater velocity. The direction of the gradient for this monitoring event (based on static groundwater elevations from all of the Landfill monitoring wells) was generally toward the northwest (Figure 1). The gradient from monitoring well MW-13 toward MW-15 was calculated to be 3.95×10^{-3} feet/feet. The flow velocity was calculated to be 1.40×10^{-4} feet/year based on an actual effective porosity of 22% and an actual hydraulic conductivity of 7.56×10^{-9} centimeters/second¹. Gradient and flow velocity are extremely slow across the site and there is very little groundwater movement in general across the clays at the site.

3.1.2 Bedrock Aquifer

A potentiometric surface gradient contour map (generated from the static groundwater level measurements) and the general direction of the potentiometric surface gradient (represented by the arrows) for the First Quarter 2004 monitoring event are presented in Figure 2. The direction of the gradient for this monitoring event (based on static groundwater elevations from all of the Bedrock Aquifer monitoring wells) was generally toward the north, following the contour of the Saginaw River (Figure 2). The gradient from monitoring well MW-97948 toward MW-96080 was calculated to be 3.78×10^{-4} feet/feet. The flow velocity was calculated to be 4.04 feet/year based on an effective porosity of 30% and an average hydraulic conductivity of 3.1×10^{-3} centimeters/second⁶.

3.2 Groundwater Analytical Results

The analytical results for the First Quarter 2004 monitoring event are included in Appendix C. As requested by the Michigan Department of Environmental Quality (MDEQ)⁷, the Quality Control (QC) data report provided by Merit will be maintained in the Operating Record at the Landfill.

In the past, groundwater analytical data was compared to Upper Tolerance Limits (UTLs) established in the *Hydrogeologic Monitoring Plan Amendment*¹. During the four quarters of 2004, all analytical data will be presented as the laboratory reports (Appendix C) and will not be checked for statistical exceedences. Instead, the data will be used as baseline for a proposed revised groundwater monitoring program, to be submitted by GMPT-SMCO at the end of 2004.

The Fourth Quarter 2003 sampling data for monitoring wells MW-14 and MW-15 is also presented in this report, in Appendix C, although discussion of these results will not occur until all background data (historical data and current short-term sampling program data) has been collected, received, and analyzed. As shown from the attached data, no questionable results were noted.

3.3 Leachate Analytical Results

No Volatile Organic Compounds (VOCs) were detected in the leachate samples. In addition, the inorganic parameters tested for in the leachate were in the same range as the historical results; no questionable results were noted.

4.0 Summary and Recommendations

Environmental monitoring for the First Quarter 2004 monitoring event of the GMPT-SMCO Landfill was performed on March 10-11, 2004. Static water levels were collected from the Landfill and Bedrock Aquifer monitoring wells. In addition, samples were collected from seven of the Landfill monitoring wells and two of the Bedrock Aquifer monitoring wells. Leachate samples were also collected.

Quarterly sampling will take place in 2004. In each of the quarterly reports, all analytical data will be presented as the laboratory reports (Appendix C) and will not be checked for statistical exceedences. Instead, the data will be used as baseline for a proposed revised groundwater monitoring program, to be submitted by GMPT-SMCO at the end of 2004, or earlier if sufficient data allows.

After completion of the proposed well maintenance, including the abandoning of MW-15 and replacement of MW-16, Second Quarter 2004 sampling will be performed. This should take place approximately mid-June.

5.0 References

1. *General Motors Powertrain, Hydrogeologic Monitoring Plan Amendment, Saginaw Metal Casting Operations Landfill*, prepared by Radian International, March 1999.
2. *General Motors Powertrain, Hydrogeologic Monitoring Plan, Saginaw Metal Casting Operations Landfill*, prepared by Radian International LLC, October 1995, revised October 1996 and January 1997.
3. "License Condition Proposal", letter prepared by Mr. Joseph S. Toth, GM Powertrain, March 10, 2004.
4. "Response to February 10, 2004 and March 10, 2004", letter prepared by Mr. Terry L. Walkington, Michigan Department of Environmental Quality, March 26, 2004.
5. "Hydrogeologic Monitoring Plan Amendment" (written correspondence), prepared by Mr. Robert Wolfe, Michigan Department of Environmental Quality, May 3, 1999.
6. *Phase 1A RCRA Facility Investigation [RFI] Report and Phase 1B RFI Workplan*, prepared by EMCON, April 19, 2000.
7. Telephone Conversation between Mr. Robert Wolfe, Michigan Department of Environmental Quality, and Ms. Kip Cosan, Radian International LLC, October 15, 1997.

Table 1

First Quarter 2004 Groundwater Elevations

Table 1
General Motors Powertrain
Saginaw Metal Casting Operations Landfill
First Quarter 2004 Groundwater Elevations

March 10, 2004

Landfill Monitoring Well	Top of Casting¹ (U.S.G.S. Datum)	Static Groundwater Level from Top of Casing (feet)	Groundwater Elevation (U.S.G.S. Datum)
MW-05	585.38	7.43	577.95
MW-08	587.14	5.14	582.00
MW-09	587.14	8.24	578.90
MW-11B	591.95	12.05	579.90
MW-11C	589.10	9.20	579.90
MW-12	598.04	11.67	586.37
MW-13	587.52	3.49	584.03
MW-14	589.54	8.80	580.74
MW-15	590.22	11.60	578.62

March 11, 2004

Bedrock Aquifer Monitoring Well	Top of Casing (U.S.G.S. Datum)	Static Groundwater Level from Top of Casing (feet)	Groundwater Elevation (U.S.G.S. Datum)
MW-90124	592.37	7.46	584.91
MW-93205	589.98	4.96	585.02
MW-96939	592.04	8.21	583.83
MW-96080	586.38	3.96	582.42
MW-97948	589.74	5.89	583.85

Note:

1. Top of Casing surveyed in May 2003 by Spicer Group.

Figure 1

**Glacial Clay Potentiometric Surface Gradient Map
First Quarter 2004**

General Motors Powertrain Saginaw Metal Casting Operations Landfill

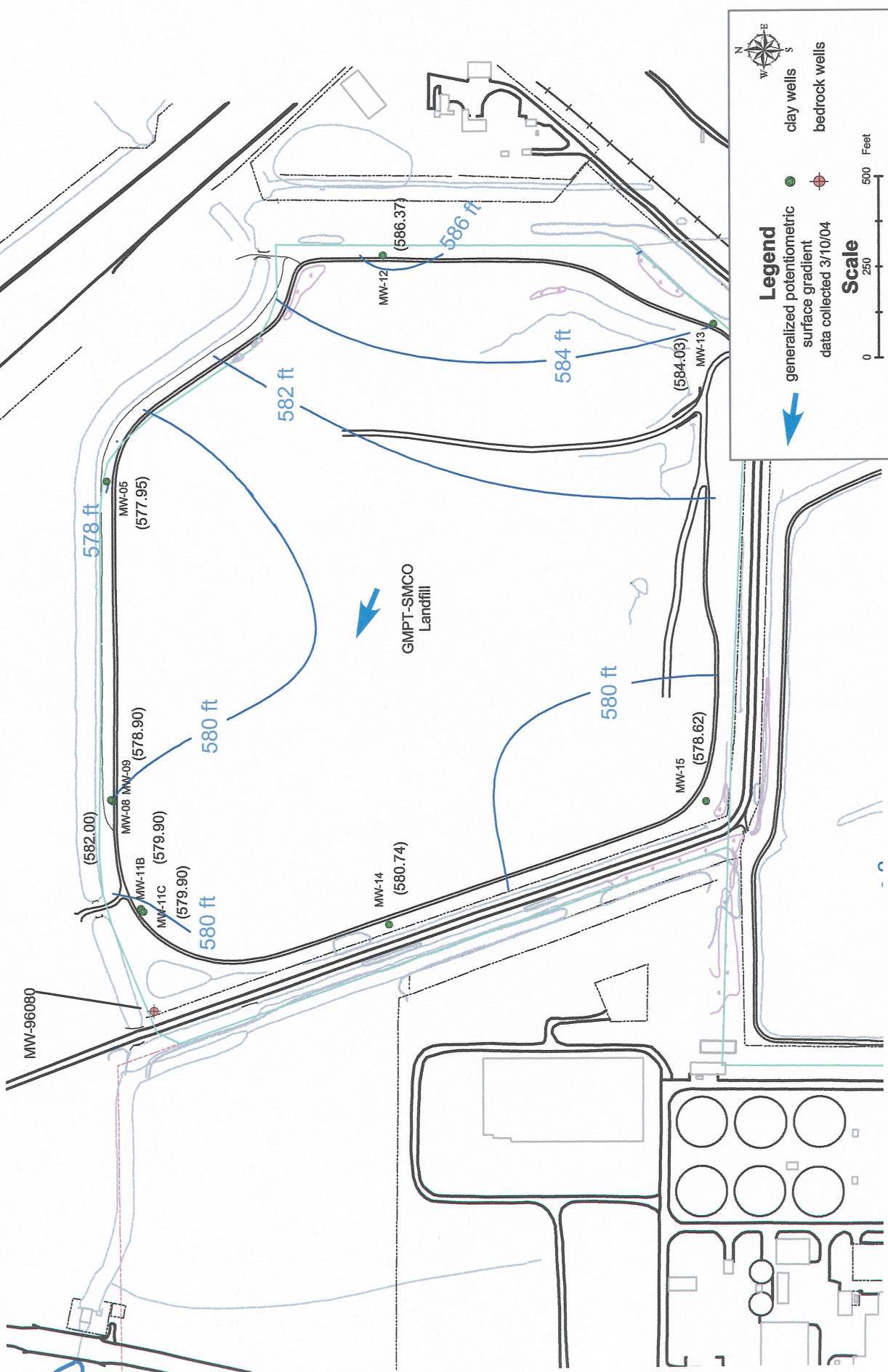
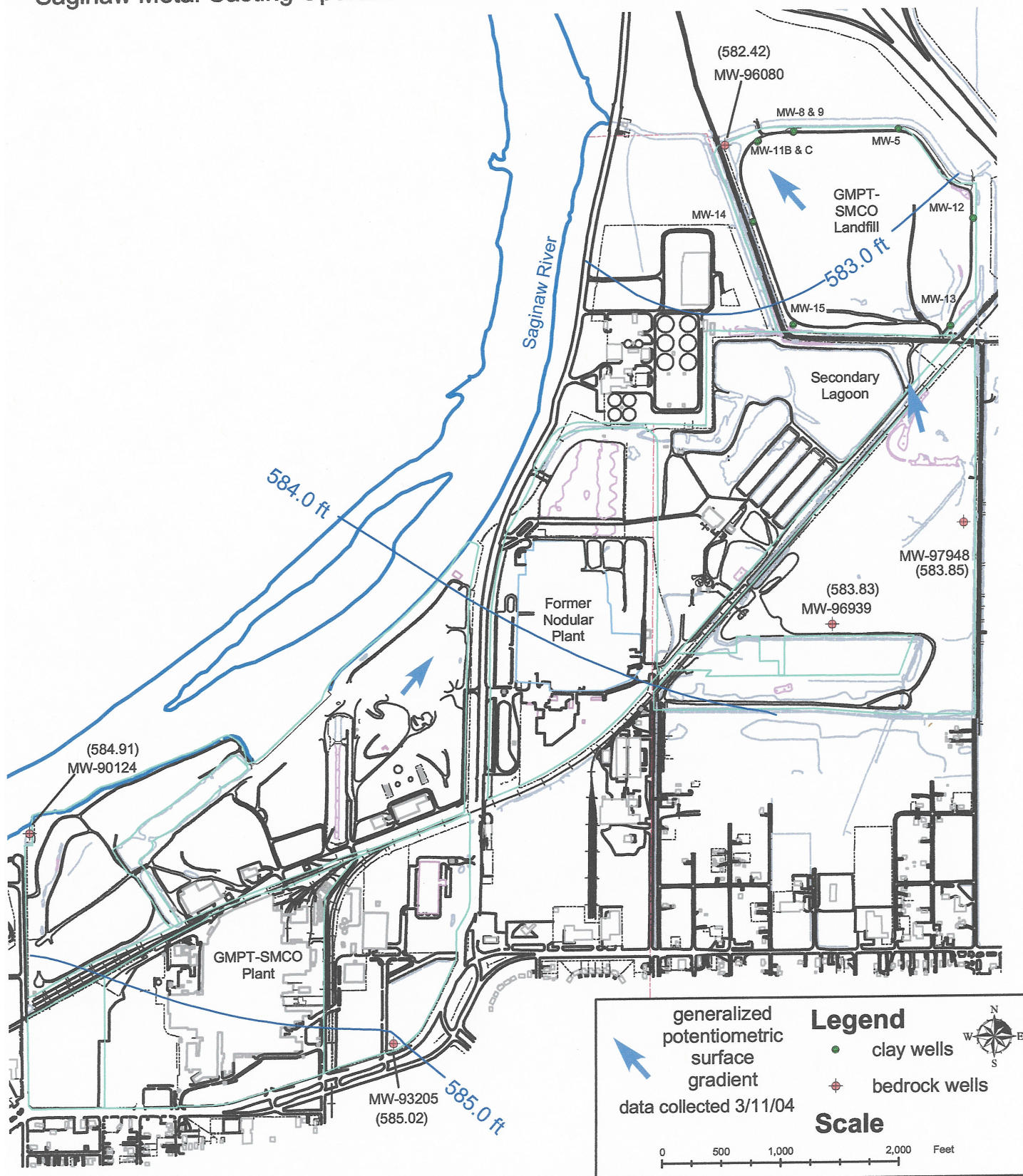


Figure 1. Glacial Clay Potentiometric Surface Gradient Map, First Quarter 2004

Figure 2

**Bedrock Aquifer Potentiometric Surface Gradient Map
First Quarter 2004**

General Motors Powertrain Saginaw Metal Casting Operations Landfill



File Path: C:\GIS\General Motors\Monitoring.mxd 3/30/04 MDC

Appendix A

Field Forms



Fax: (517) 332-6333

2

MONITORING WELL SAMPLING FORM

Job No. _____ Location: GMPT-SMCU Well ID: 05
 Top of Casing Elev 585.38 Project: Stky MW's

Purging

Date: 3-10-04
 Sampler(s): TG AS
 Static Water Level: 7.43
 Well Depth: 40.81
 Total Depth: 577.95
 Water Depth: 33.38
 Well Volume: 10.68
 Total Purged: 10.75

- NOTES: 1.) ²Three well volumes should be purged unless insufficient water is available.
 2.) Wells pumped to dryness should be sampled as soon as sufficient water is available, or 24 hours, whichever is sooner.
 3.) Three well volumes are not required for micro-purging

Comments: Well was recovering at 1x Volume
spoke with Lori H. informed me to
attempt 3x volume - we finished with 2x volume
with minor amount of H₂S left in well

Sampling

Date: 3-11-04
 Sampler(s): Re, AS
 Static Water Level: 7.58
 Analytes: See C.O.C

Comments: PVC - Well casing has cracked in top
of casing - also minor
PH = 7.05 Cond 1450 TEMP 8.5°

MONITORING WELL SAMPLING FORM

Job No. _____ Location: GMPT-SMCO Well ID: MW-08
Top of Casing Elev. 587.14 Project: Atty MW's

Purging

Date: 3-10-04
Sampler(s): TG, AS
Static Water Level: 5.14
Well Depth: 54.50
Total Depth: 582.00
Water Depth: 49.36
Well Volume: 7.89
Total Purged: 8.00

NOTES: 1.) Three well volumes should be purged unless insufficient water is available.

2.) Wells pumped to dryness should be sampled as soon as sufficient water is available, or 24 hours, whichever is sooner.

3.) Three well volumes are not required for micro-purging

Comments: _____

Sampling

Date: 3-11-04
Sampler(s): TG, AS
Static Water Level: 44.99
Analytes: MERIT Laboratories
HAVE ON E-MAIL FILES.
Comments: _____ GB

PH = 7.19 COND 1595 TEMP 10.4 °C

MONITORING WELL SAMPLING FORM

Job No. _____ Location: GNP+ - SMC0 Well ID: 09
Top of Casing Elev. 587.14 Project: Atty mws

Purging

Date: 3-10-04

Sampler(s): TG, AS

Static Water Level: 8.24

Well Depth: 23.40

Total Depth: 578.90

Water Depth: 15.16

Well Volume: 2.42

Total Purged: 2.25 gal

Comments: Well went dry at 2.25 gal

NOTES: 1.) ~~Three~~ well volumes should be purged unless insufficient water is available.

2.) Wells pumped to dryness should be sampled as soon as sufficient water is available, or 24 hours, whichever is sooner.

3.) Three well volumes are not required for micro-purging

Sampling

Date: 3-11-04

Sampler(s): TG, AS

Static Water Level: 8.49

Analytes: See C.O.C.

Comments: _____

PH = 8.17 Cond 1000 TEMP 8.1

MONITORING WELL SAMPLING FORM

Job No. _____ Location: GMP+ - SMCU Well ID: 12

Top of Casing Elev 598.04 Project: Stky MW's

Purging

Date: 3-10-04

Sampler(s): TG, AS

Static Water Level: 11.67

Well Depth: 50.20

Total Depth: 586.37

Water Depth: 38.53

Well Volume: 6.16

Total Purged: 6.25

Comments: _____

Sampling

Date: 3-11-04

Sampler(s): TG, AS

Static Water Level: 32.83

Analytes: See C.O.C.'s

Comments: _____

PH = 6.79 COND 1043 TEMP 8.3C

NOTES: 1.) ~~Three~~ well volumes should be purged unless insufficient water is available.

2.) Wells pumped to dryness should be sampled as soon as sufficient water is available, or 24 hours, whichever is sooner.

3.) Three well volumes are not required for micro-purging

MONITORING WELL SAMPLING FORM

Job No _____ Location: GMP+ - SMOO Well ID: 13

Top of Casing Elev 587.52 Project: Stly m.w.'s

Purging

Date: 3-10-04

Sampler(s): TG, AS

Static Water Level: 3.49

Well Depth: 40.50

Total Depth: 584.03

Water Depth: 37.01

Well Volume: 6.48

Total Purged: 6.50

Comments: _____

NOTES: 1.) ~~Three~~ well volumes should be purged unless insufficient water is available.

2.) Wells pumped to dryness should be sampled as soon as sufficient water is available, or 24 hours, whichever is sooner.

3.) Three well volumes are not required for micro-purging

Sampling

Date: 2-11-04

Sampler(s): TG, AS

Static Water Level: 3.41

Analytes: 200 C.O.C.

Comments: well recovered very good

PH = 7.18 COND 2310 TEMP 7.8 °C

MONITORING WELL SAMPLING FORM

Job No. _____ Location: GMPT-SMCO Well ID: 14
 Top of Casing Elev. 589.54 Project: Ally mws

Purging

Date: 3-10-04
 Sampler(s): TG, AS
 Static Water Level: 8.80
 Well Depth: 53.50
 Total Depth: 580.74
 Water Depth: 44.70
 Well Volume: 7.15
 Total Purged: 7.25

- NOTES: 1.) ~~These~~ well volumes should be purged unless insufficient water is available.
 2.) Wells pumped to dryness should be sampled as soon as sufficient water is available, or 24 hours, whichever is sooner.
 3.) Three well volumes are not required for micro-purging

Comments: _____

Sampling

Date: 3-11-04
 Sampler(s): DG, AS
 Static Water Level: 43.94
 Analytes: See C.O.C.

Comments: R₂ - Check PH in GM Lab = 7.20

PH = 7.00 Cond 1460 TEMP 10°C

MONITORING WELL SAMPLING FORM

Job No. _____ Location: GMP+ - SMCU Well ID: 15

Top of Casing Elev 540.22 Project: Atty Mui's

Purging

Date: 3-10-04

Sampler(s): TG AS

Static Water Level: 11.60

Well Depth: 47.60

Total Depth: 578.62

Water Depth: 36.00

Well Volume: 5.76

Total Purged: 6.00

Comments: _____

NOTE: 1.) Three well volumes should be purged unless insufficient water is available.

2.) Wells pumped to dryness should be sampled as soon as sufficient water is available, or 24 hours, whichever is sooner.

3.) Three well volumes are not required for micro-purging

Sampling

Date: 3-11-04

Sampler(s): Q6 AS

Static Water Level: 38.55

Analytes: See C.O.C

Comments: Re-check with GM Lab read 9.68 m

PH = 9.62 COND 815 TEMP 9.0°



Fire and Environmental
Consulting Laboratories

GMPT-SMCO Landfill Leachate Sump Sample Form

Sump # _____

Sample Date: 3-11-04

Time: 12³⁰

Weather/ Wind Direction: _____

Explosimeter Instrument: _____

Reading: _____

PID/FID Instrument: _____

Reading: _____

Field Measurement:

pH: 7.21

Conductivity ($\mu\text{mhos/cm}$) 2500 Temp.: 8.2^{°C}

Flow Measurement: _____

Sample Bottles Required for Site

Sample Container	# Needed	Preserve	Parameters	Sample Bottles Required	Actual Number Retrieved
1 L plastic	1	no	Inorganics		1
125 ml plastic	1 filter	HNO ₃	diss. metals		1
125 ml plastic	1 no filt.	HNO ₃	tot. metals		1
125 ml plastic	1	NaOH	cyanide		1
250 ml plastic	2	H ₂ SO ₄	Inorganics		1
40 ml glass, VOA	2	HCl	voas		2
125 ml amber glass	1	H ₂ SO ₄	phenolics		1
1 L amber glass	2	no	SVOCs		2

Sample Description: clean

Comments:

3/12/04 water level in the crack
- 4.0 ft. - below the tile
field inlet pipe.

Sampling Technician (s):

Tim J. R. [signature], al [signature]

URS

GROUNDWATER SAMPLING LOG (Micropurge)

WELL ID: 90-124 DATE: 3-11-04 NAME: Keenan

ELEVATION: 592.37 TOTAL PURGE: _____

SWL: 7.46 DEPTH TO TOS: _____

VOLUME: _____ PUMP SETTING: _____

Time 8:06 AM

PURGE DATA

TIME	VOLUME (liters)	TEMP (deg C)	DO (mg/L) (+/-10%)	Sp. Cond (+/-3%)	pH (+/-0.1)	REDOX (+/-10%)	SWL	RATE (mL/min)

COMMENTS----INCLUDE SAMPLE DESCRIPTION

SWL Only, No Sample Taken

URS

GROUNDWATER SAMPLING LOG (Micropurge)

WELL ID: 960-080

DATE: 3-11-04

NAME: Keenan

ELEVATION: 588.38

TOTAL PURGE: _____

SWL: 3.96

DEPTH TO TOS: _____

VOLUME: _____

PUMP SETTING: _____

PURGE DATA

TIME	VOLUME (liters)	TEMP (deg C)	DO (mg/L) (+/-10%)	Sp. Cond (+/-3%)	pH (+/-0.1)	REDOX (+/-10%)	SWL	RATE (mL/min)
9:25	4.0	9.0	0.16	3.45	7.53	229	3.96	350
9:28		9.2	0.38	3.46	7.56	183	3.96	350
9:31		9.2	0.37	3.45	7.52	175		350
9:34		9.3	0.33	3.44	7.54	159		
9:37		9.3	0.30	3.44	7.56	149		
9:40		9.2	0.27	3.44	7.56	127		
9:43		9.3	0.26	3.44	7.56	126		
9:46		9.3	0.25	3.44	7.57	120		
9:53		9.4	0.24	3.44	7.60	102		350
9:56		9.4	0.23	3.44	7.61	97		350
9:59		9.4	0.22	3.44	7.59	90		
10:10		9.5	0.23	3.44	7.69	63		350
10:20		9.5	0.29	3.44	7.71	50		350
10:30		9.5	0.31	3.45	7.72	34		350
10:33		9.6	0.35	3.45	7.72	30		350
10:36		9.6	0.37	3.47	7.71	26		350
10:39		9.6	0.36	3.47	7.73	24		350
10:42		9.3	0.24	3.48	7.74	20		250
10:45		9.2	0.19	3.48	7.74	15		250
11:03		9.1	0.17	3.50	7.77	-14		150
11:06		9.0	0.19	3.51	7.79	-17		150
11:09		8.9	0.18	3.51	7.77	-24		150
11:12		8.9	0.18	3.50	7.82	-27		150
11:15		8.8	0.18	3.51	7.82	-35		150
11:18		8.8	0.17	3.51	7.82	-39		150
11:21		8.8	0.16	3.51	7.83	-42		150
11:24		8.9	0.16	3.52	7.80	-46		150
11:27		8.9	0.17	3.51	7.84	-47		150
11:30		8.9	0.17	3.51	7.83	-48		150
11:33		8.9	0.17	3.51	7.84	-48		150
11:40	Sample							

COMMENTS INCLUDE SAMPLE DESCRIPTION

Well water appears clear & clean, no odor / weather overcast light breeze possible rain/snow
Purge tube approx 3' from bottom of well.

URS

GROUNDWATER SAMPLING LOG (Micropurge)

WELL ID: 97-948 DATE: 3-11-04 NAME: Keenan

ELEVATION: 589.74 TOTAL PURGE: _____

SWL: 5.89 DEPTH TO TOS: _____

VOLUME: _____ PUMP SETTING: _____

PURGE DATA

TIME	VOLUME (liters)	TEMP (deg C)	DO (mg/L) (+/-10%)	Sp. Cond (+/-3%)	pH (+/-0.1)	REDOX (+/-10%)	SWL	RATE (mL/min)
13:00		9.6	0.81	2.37	7.66	-317	6.39	350
13:10		9.6	0.51	2.38	7.58	-325	6.36	350
13:20		9.7	0.43	2.38	7.56	-329	6.36	350
13:30		9.6	0.37	2.38	7.54	-332	6.35	350
13:35		9.6	0.35	2.39	7.54	-333	6.35	350
13:40		9.3	0.39	2.40	7.54	-333	6.35	250
13:43		9.2	0.39	2.39	7.54	-332	6.35	250
13:46		9.2	0.40	2.37	7.53	-331	6.35	250
13:49		9.2	0.41	2.39	7.53	-332	6.35	250
13:52		9.1	0.42	2.41	7.53	-331	6.35	250
13:55	Sample							

COMMENTS----INCLUDE SAMPLE DESCRIPTION

Water looks clear, but has a strong odor.

FIELD NOTES
MONITORING WELL DATA SHEET

Client: GM-SMCU

Program: all

Field Personnel: Russell

Observers: _____

Date: 10-2-03 Weather: Cold 45° Time on Site: _____

Date: 10-3-03 Weather: 11 Time on Site: _____

[illegible]

Notes:



Fire and Environmental
Consulting Laboratories

GMPT-SMCO Landfill Groundwater Monitoring Well Sample and Purge Form

Sample Date 10-3-03
Sample Time 11:30

Purge Date 10-2-03
Purge Time 10:35

Well # 14

Weather/ Wind Direction

SE - 45°

Explosimeter Instrument

Reading

Date/Time

PID/FID Instrument

Reading

Date/Time

Water Level Meter

Sluiter No. 6000

Purge Method

Bailer ☒ PVC ☐ Stainless Steel ☐ Teflon ☐ Polyethylene
Pump ☐ Submersible ☐ Bladder

Sample Method

Bailer ☒ PVC ☒ Stainless Steel ☐ Teflon ☐ Polyethylene
Pump ☐ Submersible ☐ Bladder

Well Depth (a)

52.50 SWL (b) 12.71

(a-b=c)

Water Level

39.79

One Well Volume (gallons)

6.36

(x 3 =)

Estimate Vol to Purge

6.50

Note: 3 Well Volumes (gal) = $3 \times (\text{radius in ft})^2 (\text{water column ht. in ft}) (7.48 \text{ gal/ft}^3 \text{ water})$

Sample at (gal)

6.50

pH

7.65

Conc

1300

Temp

14.0 °C

Sample at (gal)

pH

Conc

Temp

Sample at (gal)

pH

Conc

Temp

Variance

pH (+/- 0.1)

Conc (+/- 10% min or cm)

Temp (+/- 0.5 °C)

Total Gallons Purged

6.50

Sample Bottles Required for Site

Sample Container	# Needed	Preserve	Parameters	Sample Bottles Required	Actual Number Retrieved
1 L plastic	1	no	inorganics		
125 ml plastic	1 filter	HNO3	diss. metals		
125 ml plastic	1 no filt	HNO3	tot metals		
125 ml plastic	1	NaOH	cyanide		
250 ml plastic	2	H2SO4	inorganics		
40 ml glass, VOA	2	HCl	voas		
125 ml amber glass	1	H2SO4	phenolics		
1 L amber glass	2	no	SVOCS		

Sample Description

Clean

Comments/Well Condition

OK

Sampling Technician (s)

Jerry J. Lualaba



Fire and Environmental
Consulting Laboratories

GMPT-SMCO Landfill Groundwater Monitoring Well Sample and Purge Form

Sample Date 10-3-03

Sample Time 12:00

Purge Date 10-2-03

Purge Time 11:20

Well # 15

Weather/ Wind Direction: SE-45°

Explosimeter Instrument _____

Reading _____

Date/Time _____

PID/FID Instrument _____

Reading _____

Date/Time _____

Water Level Meter Stable Pro 6000

Purge Method

Bailer ☒ PVC ☒ Stainless Steel ☐ Teflon ☐ Polyethylene
Pump ☐ Submersible ☐ Bladder

Sample Method

Bailer ☒ PVC ☒ Stainless Steel ☐ Teflon ☐ Polyethylene
Pump ☐ Submersible ☐ Bladder

Well Depth (a): 47.50

SWL (b) 17.08

(a-b=c) Water Rise 30.42

One Well Volume (gallons) 4.86

(x 3 =)

Estimate Vol to Purge 5.00

Note: 3 Well Volumes (gal) = $3 \times (\text{radius in ft})^2 (\text{water column ht. in ft}) (7.48 \text{ gal/ft}^3 \text{ water})$

Sample at (gal) 5.00

pH 10.09

Cond 865

Temp 12.8 °C

Sample at (gal) _____

pH _____

Cond _____

Temp _____

Sample at (gal) _____

pH _____

Cond _____

Temp _____

variance

pH (+/-0.1)

Cond (+/-10µmhos/cm)

Temp (+/-0.5)

Total Gallons Purged 5.00

Sample Bottles Required for Site

Sample Container	# Needed	Preserve	Parameters	Sample Bottles Required	Actual Number Retrieved
1 L plastic	1	no	inorganics	1	1
125 ml plastic	1 filter	HNO3	diss metals	1	1
125 ml plastic	1 no fill	HNO3	tot metals		
125 ml plastic	1	NaOH	cyanide		
250 ml plastic	2	H2SO4	inorganics	1	1
40 ml glass, VOA	2	HCl	voas		
125 ml amber glass	1	H2SO4	phenolics	1	1
1 L amber glass	2	no	SVOCs		

Sample Description CB

Comments/Well Condition OK

Sampling Technician (s) [Signature]

Appendix B

Chain of Custody Records

REPORT TO

CONTACT NAME

David Holmberg
GMP4-SMCO

COMPANY

10229 N Washington Ave
Lafayette

ADDRESS

PHONE NO.

817-557-1067

FAX NO.

PO NO.

QUOTE NO.

PROJECT NO. NAME

3005123, 111 Steve B

PLEASE PRINT NAME

SAMPLE COLLECTION
YEAR DATE TIME

3/11/04 12:30 Leach Lake

IDENTIFICATION-DESCRIPTION

OF BOTTLES

1

CHAIN OF CUSTODY RECORD

CONTACT NAME

COMPANY

ADDRESS

CITY

PHONE NO.

FAX NO.

STATE

ZIP CODE

INVOICE TO

CONTACT NAME

COMPANY

ADDRESS

CITY

PHONE NO.

FAX NO.

STATE

ZIP CODE

PRESERVATIVE CODE

REFRIGERATE

(Y/N)

BOTTLE TYPE

TYPE

SAMPLE TYPE

WATER

SOIL

OTHER

PRODUCT

SLUDGE

OTHER

RUSH ANALYSES

RUSH PICK-UP

DUE DATE

APPROVED BY:

ANALYSES

A=NONE

B=HIQ

C=H2SO4

D=NaOH

E=HCL

F=

Sent analysis to Lab; follow metal's
these will be analyzed metal's
on separate report

MDL

RECEIVED BY

DATE

TIME

3/11/04 12:30

RECEIVED BY

DATE

TIME

3/11/04 12:30

RECEIVED BY

DATE

TIME

RECEIVED BY

DATE

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TIME

PLEASE NOTE: SIGNING ACKNOWLEDGES ACCEPTANCE OF THIS & CANNOT BE USED ON REVERSE SIDE

Appendix C
Laboratory Analytical Results



Analytical Laboratory Report

Revised Report

Report ID: S16350.01(03)
Generated on 04/26/2004

Report to

Attention: Ms. Lori Hoevemeyer
GM-SMCO
1629 N. Washington Ave.
Saginaw, MI 48605

Phone: 989-757-1067 FAX: 989-757-1481

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): S16350.01-S16350.10
Project: 1st Qtly Monitoring Wells Sampling
Submitted Date/Time: 03/12/2004 12:30
Sampled by: T. Gooslin/A.S.
P.O. #: WFB0013

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.

A handwritten signature in cursive script that reads "Violetta F. Murshak".

Violetta F. Murshak
Laboratory Director



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.03
Sample Tag: MVV-5
Collected Date/Time: 03/11/2004 09:40
Matrix: Wastewater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	8	3
1	L Plastic	None	Yes	8	3
1	125ml Plastic	HNO3	Yes	8	3
1	125ml Plastic	NaOH	Yes	8	3
1	125ml Amber	H2SO4	Yes	8	3
1	250ml Plastic	H2SO4	Yes	8	3
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
----------	---------	-------	-----	--------	---------------	---------	-------	-------

Extraction / Prep.

BNA Extraction	Completed			3510C	03/15/04 13:00	SD		
Metal Digestion	Completed			3015A	03/18/04 14:00	MSH		

Inorganics

Carbonate Alkalinity	Not detected	mg/L	10	310.1	03/17/04 11:45	JKB		
Bicarbonate Alkalinity	270	mg/L	10	310.1	03/17/04 11:45	JKB		
Ammonia-N	0.1	mg/L	0.1	350.3	03/17/04 14:00	MJC		
Chloride	162	mg/L	1	300.0	03/13/04 08:07	JDP		
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	03/22/04 10:21	JDP	57-12-5	
Nitrate-N	Not detected	mg/L	0.2	300.0	03/13/04 08:07	JDP		
Nitrite-N	Not detected	mg/L	0.2	300.0	03/13/04 08:07	JDP		
Total Inorganic Nitrogen	0.1	mg/L	0.02	4500 d(1)	03/17/04 17:00	MJC		
TOC	3.0	mg/L	0.5	415.1	03/17/04 11:00	JDP		
Phenols	Not detected	mg/L	0.01	420.1	03/19/04 13:40	JKB		
Sulfate	195	mg/L	2	300.0	03/13/04 08:07	JDP		
Total Dissolved Solids	901	mg/L	20	160.1	03/17/04 22:59	LBR		
COD	32	mg/L	5	410.4	03/17/04 20:00	MJC		
Flourine	1.7	mg/L	0.2	340.1	03/13/04 08:07	JDP		
Conductivity	1,390	umhos/cm	N/A	120.1	03/18/04 10:25	JKB		

Metals

Antimony	0.007	mg/L	0.002	200.8	03/21/04 17:15	PER	7440-36-0	
Arsenic	Not detected	mg/L	0.001	200.8	03/21/04 17:15	PER	7440-38-2	
Barium	0.052	mg/L	0.005	200.8	03/21/04 17:15	PER	7440-39-3	
Beryllium	Not detected	mg/L	0.001	200.8	03/21/04 17:15	PER	7440-41-7	
Boron	0.29	mg/L	0.02	200.8	03/21/04 17:15	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0002	200.8	03/21/04 17:15	PER	7440-43-9	
Calcium	126	mg/L	1.0	200.8	03/22/04 14:34	PER	7440-70-2	
Chromium	Not detected	mg/L	0.002	200.8	03/21/04 17:15	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.015	200.8	03/21/04 17:15	PER	7440-48-4	
Copper	Not detected	mg/L	0.002	200.8	03/21/04 17:15	PER	7440-50-8	
Iron	0.13	mg/L	0.02	200.8	03/21/04 17:15	PER	7439-89-6	
Lead	Not detected	mg/L	0.001	200.8	03/21/04 17:15	PER	7439-92-1	
Magnesium	52.0	mg/L	1.0	200.8	03/22/04 14:34	PER	7439-95-4	
Manganese	0.231	mg/L	0.005	200.8	03/21/04 17:15	PER	7439-96-5	
Nickel	Not detected	mg/L	0.025	200.8	03/21/04 17:15	PER	7440-02-0	
Potassium	3.59	mg/L	0.10	200.8	03/22/04 14:34	PER	7440-09-7	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.03 (continued)

Sample Tag: MVV-5

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Metals (continued)								
Selenium	Not detected	mg/L	0.002	200.8	03/21/04 17:15	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	200.8	03/21/04 17:15	PER	7440-22-4	
Sodium	96.6	mg/L	1.0	200.8	03/22/04 14:34	PER	7440-23-5	
Thallium	Not detected	mg/L	0.002	200.8	03/21/04 17:15	PER	7440-28-0	
Vanadium	Not detected	mg/L	0.010	200.8	03/21/04 17:15	PER	7440-62-2	
Zinc	Not detected	mg/L	0.010	200.8	03/21/04 17:15	PER	7440-66-6	
Organics								
Formaldehyde	Completed			8315A	03/13/04 17:00	MJC		
Formaldehyde, HPLC	Not detected	mg/L	0.1	8315A	03/16/04 12:07	MJC		
SVOC								
p,m-Cresol	Not detected	ug/L	10	8270C	03/25/04 12:09	ARH	106-44-5	
o-Cresol	Not detected	ug/L	10	8270C	03/25/04 12:09	ARH	95-48-7	
2,4-Dimethylphenol	Not detected	ug/L	10	8270C	03/25/04 12:09	ARH	105-67-9	
Naphthalene	Not detected	ug/L	10	8270C	03/25/04 12:09	ARH	91-20-3	
bis(2-Ethylhexyl)adipate	Not detected	ug/L	10	8270C	03/25/04 12:09	ARH		
Pyrene	Not detected	ug/L	10	8270C	03/25/04 12:09	ARH	129-00-0	
Fluoranthene	Not detected	ug/L	10	8270C	03/25/04 12:09	ARH	206-44-0	
Phenanthrene	Not detected	ug/L	10	8270C	03/25/04 12:09	ARH	85-01-8	
Volatile Organics								
Benzene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 03:33	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 03:33	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 03:33	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 03:33	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	79-00-5	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.03 (continued)

Sample Tag: MW-5

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 03:33	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 03:33	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 03:33	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 03:33	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 03:33	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 03:33	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 03:33	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	74-97-5	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 03:33	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 03:33	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.04
Sample Tag: MW-8
Collected Date/Time: 03/11/2004 10:00
Matrix: Wastewater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	8	3
1	L Plastic	None	Yes	8	3
1	125ml Plastic	HNO3	Yes	8	3
1	125ml Plastic	NaOH	Yes	8	3
1	125ml Amber	H2SO4	Yes	8	3
1	250ml Plastic	H2SO4	Yes	8	3
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
----------	---------	-------	-----	--------	---------------	---------	-------	-------

Extraction / Prep.

BNA Extraction	Completed			3510C	03/15/04 13:00	SD		
Metal Digestion	Completed			3015A	03/18/04 14:00	MSH		

Inorganics

Carbonate Alkalinity	Not detected	mg/L	10	310.1	03/17/04 11:55	JKB		
Bicarbonate Alkalinity	35	mg/L	10	310.1	03/17/04 11:55	JKB		
Ammonia-N	0.4	mg/L	0.1	350.3	03/17/04 14:00	MJC		
Chloride	330	mg/L	1	300.0	03/13/04 10:11	JDP		
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	03/22/04 10:23	JDP	57-12-5	
Nitrate-N	Not detected	mg/L	0.2	300.0	03/13/04 08:19	JDP		
Nitrite-N	Not detected	mg/L	0.2	300.0	03/13/04 08:19	JDP		
Total Inorganic Nitrogen	0.4	mg/L	0.02	4500 d(1)	03/17/04 17:00	MJC		
TOC	2.4	mg/L	0.5	415.1	03/17/04 11:10	JDP		
Phenols	Not detected	mg/L	0.01	420.1	03/19/04 13:45	JKB		
Sulfate	178	mg/L	2	300.0	03/13/04 08:19	JDP		
Total Dissolved Solids	914	mg/L	20	160.1	03/17/04 22:59	LBR		
COD	57	mg/L	5	410.4	03/17/04 20:00	MJC		
Flourine	1.5	mg/L	0.2	340.1	03/13/04 08:19	JDP		
Conductivity	1,520	umhos/cm	N/A	120.1	03/18/04 10:30	JKB		

Metals

Antimony	0.008	mg/L	0.002	200.8	03/21/04 17:19	PER	7440-36-0	
Arsenic	Not detected	mg/L	0.001	200.8	03/21/04 17:19	PER	7440-38-2	
Barium	0.033	mg/L	0.005	200.8	03/21/04 17:19	PER	7440-39-3	
Beryllium	Not detected	mg/L	0.001	200.8	03/21/04 17:19	PER	7440-41-7	
Boron	0.34	mg/L	0.02	200.8	03/21/04 17:19	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0002	200.8	03/21/04 17:19	PER	7440-43-9	
Calcium	66.2	mg/L	1.0	200.8	03/22/04 14:36	PER	7440-70-2	
Chromium	Not detected	mg/L	0.002	200.8	03/21/04 17:19	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.015	200.8	03/21/04 17:19	PER	7440-48-4	
Copper	Not detected	mg/L	0.002	200.8	03/21/04 17:19	PER	7440-50-8	
Iron	0.06	mg/L	0.02	200.8	03/21/04 17:19	PER	7439-89-6	
Lead	Not detected	mg/L	0.001	200.8	03/21/04 17:19	PER	7439-92-1	
Magnesium	33.4	mg/L	1.0	200.8	03/22/04 14:36	PER	7439-95-4	
Manganese	0.010	mg/L	0.005	200.8	03/21/04 17:19	PER	7439-96-5	
Nickel	Not detected	mg/L	0.025	200.8	03/21/04 17:19	PER	7440-02-0	
Potassium	2.87	mg/L	0.10	200.8	03/22/04 14:36	PER	7440-09-7	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.04 (continued)

Sample Tag: MMV-8

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Metals (continued)								
Selenium	Not detected	mg/L	0.002	200.8	03/21/04 17:19	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	200.8	03/21/04 17:19	PER	7440-22-4	
Sodium	199	mg/L	1.0	200.8	03/22/04 15:13	PER	7440-23-5	
Thallium	Not detected	mg/L	0.002	200.8	03/21/04 17:19	PER	7440-28-0	
Vanadium	Not detected	mg/L	0.010	200.8	03/21/04 17:19	PER	7440-62-2	
Zinc	Not detected	mg/L	0.010	200.8	03/21/04 17:19	PER	7440-66-6	
Organics								
Formaldehyde	Completed			8315A	03/13/04 17:00	MJC		
Formaldehyde, HPLC	Not detected	mg/L	0.1	8315A	03/16/04 12:23	MJC		
SVOC								
p,m-Cresol	Not detected	ug/L	10	8270C	03/25/04 12:51	ARH	106-44-5	
o-Cresol	Not detected	ug/L	10	8270C	03/25/04 12:51	ARH	95-48-7	
2,4-Dimethylphenol	Not detected	ug/L	10	8270C	03/25/04 12:51	ARH	105-67-9	
Naphthalene	Not detected	ug/L	10	8270C	03/25/04 12:51	ARH	91-20-3	
bis(2-Ethylhexyl)adipate	Not detected	ug/L	10	8270C	03/25/04 12:51	ARH		
Pyrene	Not detected	ug/L	10	8270C	03/25/04 12:51	ARH	129-00-0	
Fluoranthene	Not detected	ug/L	10	8270C	03/25/04 12:51	ARH	206-44-0	
Phenanthrene	Not detected	ug/L	10	8270C	03/25/04 12:51	ARH	85-01-8	
Volatile Organics								
Benzene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 04:06	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 04:06	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 04:06	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 04:06	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	79-00-5	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.04 (continued)

Sample Tag: MW-8

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 04:06	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 04:06	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 04:06	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 04:06	JGH	78-93-3	
Carbon disulfide	1	ug/L	1	8260B	03/23/04 04:06	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 04:06	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 04:06	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 04:06	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	74-97-5	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 04:06	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 04:06	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.05
Sample Tag: MW-9
Collected Date/Time: 03/11/2004 10:20
Matrix: Wastewater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	8	3
1	L Plastic	None	Yes	8	3
1	125ml Plastic	HNO3	Yes	8	3
1	125ml Plastic	NaOH	Yes	8	3
1	125ml Amber	H2SO4	Yes	8	3
1	250ml Plastic	H2SO4	Yes	8	3
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

BNA Extraction	Completed			3510C	03/15/04 13:00	SD		
Metal Digestion	Completed			3015A	03/18/04 14:00	MSH		

Inorganics

Carbonate Alkalinity	Not detected	mg/L	10	310.1	03/17/04 12:00	JKB		
Bicarbonate Alkalinity	253	mg/L	10	310.1	03/17/04 12:00	JKB		
Ammonia-N	Not detected	mg/L	0.1	350.3	03/17/04 14:00	MJC		
Chloride	102	mg/L	1	300.0	03/13/04 08:30	JDP		
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	03/22/04 10:25	JDP	57-12-5	
Nitrate-N	Not detected	mg/L	0.2	300.0	03/13/04 08:30	JDP		
Nitrite-N	Not detected	mg/L	0.2	300.0	03/13/04 08:30	JDP		
Total Inorganic Nitrogen	Not detected	mg/L	0.02	4500 d(1)	03/17/04 17:00	MJC		
TOC	1.7	mg/L	0.5	415.1	03/17/04 11:20	JDP		
Phenols	Not detected	mg/L	0.01	420.1	03/19/04 13:55	JKB		
Sulfate	152	mg/L	2	300.0	03/13/04 08:30	JDP		
Total Dissolved Solids	597	mg/L	20	160.1	03/17/04 22:59	LBR		
COD	35	mg/L	5	410.4	03/17/04 20:00	MJC		
Flourine	1.6	mg/L	0.2	340.1	03/13/04 08:30	JDP		
Conductivity	1,100	umhos/cm	N/A	120.1	03/18/04 10:35	JKB		

Metals

Antimony	0.006	mg/L	0.002	200.8	03/21/04 17:23	PER	7440-36-0	
Arsenic	0.002	mg/L	0.001	200.8	03/21/04 17:23	PER	7440-38-2	
Barium	0.024	mg/L	0.005	200.8	03/21/04 17:23	PER	7440-39-3	
Beryllium	Not detected	mg/L	0.001	200.8	03/21/04 17:23	PER	7440-41-7	
Boron	0.31	mg/L	0.02	200.8	03/21/04 17:23	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0002	200.8	03/21/04 17:23	PER	7440-43-9	
Calcium	37.7	mg/L	1.0	200.8	03/22/04 14:39	PER	7440-70-2	
Chromium	Not detected	mg/L	0.002	200.8	03/21/04 17:23	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.015	200.8	03/21/04 17:23	PER	7440-48-4	
Copper	Not detected	mg/L	0.002	200.8	03/21/04 17:23	PER	7440-50-8	
Iron	0.03	mg/L	0.02	200.8	03/21/04 17:23	PER	7439-89-6	
Lead	Not detected	mg/L	0.001	200.8	03/21/04 17:23	PER	7439-92-1	
Magnesium	52.7	mg/L	1.0	200.8	03/22/04 14:39	PER	7439-95-4	
Manganese	0.006	mg/L	0.005	200.8	03/21/04 17:23	PER	7439-96-5	
Nickel	Not detected	mg/L	0.025	200.8	03/21/04 17:23	PER	7440-02-0	
Potassium	3.45	mg/L	0.10	200.8	03/22/04 14:39	PER	7440-09-7	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.05 (continued)

Sample Tag: MVV-9

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Metals (continued)								
Selenium	Not detected	mg/L	0.002	200.8	03/21/04 17:23	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	200.8	03/21/04 17:23	PER	7440-22-4	
Sodium	133	mg/L	1.0	200.8	03/22/04 14:39	PER	7440-23-5	
Thallium	Not detected	mg/L	0.002	200.8	03/21/04 17:23	PER	7440-28-0	
Vanadium	Not detected	mg/L	0.010	200.8	03/21/04 17:23	PER	7440-62-2	
Zinc	0.058	mg/L	0.010	200.8	03/21/04 17:23	PER	7440-66-6	
Organics								
Formaldehyde	Completed			8315A	03/13/04 17:00	MJC		
Formaldehyde, HPLC	Not detected	mg/L	0.1	8315A	03/16/04 12:41	MJC		
SVOC								
p,m-Cresol	Not detected	ug/L	10	8270C	03/25/04 13:33	ARH	106-44-5	
o-Cresol	Not detected	ug/L	10	8270C	03/25/04 13:33	ARH	95-48-7	
2,4-Dimethylphenol	Not detected	ug/L	10	8270C	03/25/04 13:33	ARH	105-67-9	
Naphthalene	Not detected	ug/L	10	8270C	03/25/04 13:33	ARH	91-20-3	
bis(2-Ethylhexyl)adipate	Not detected	ug/L	10	8270C	03/25/04 13:33	ARH		
Pyrene	Not detected	ug/L	10	8270C	03/25/04 13:33	ARH	129-00-0	
Fluoranthene	Not detected	ug/L	10	8270C	03/25/04 13:33	ARH	206-44-0	
Phenanthrene	Not detected	ug/L	10	8270C	03/25/04 13:33	ARH	85-01-8	
Volatile Organics								
Benzene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 04:39	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 04:39	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 04:39	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 04:39	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	79-00-5	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.05 (continued)

Sample Tag: MW-9

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 04:39	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 04:39	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 04:39	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 04:39	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 04:39	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 04:39	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 04:39	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	74-97-5	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 04:39	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 04:39	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.02
Sample Tag: MW-12
Collected Date/Time: 03/11/2004 09:20
Matrix: Wastewater
COC Reference: 019660

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	8	3
1	L Plastic	None	Yes	8	3
1	125ml Plastic	HNO3	Yes	8	3
1	125ml Plastic	NaOH	Yes	8	3
1	125ml Amber	H2SO4	Yes	8	3
1	250ml Plastic	H2SO4	Yes	8	3
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

BNA Extraction	Completed			3510C	03/15/04 13:00	SD		
Metal Digestion	Completed			3015A	03/18/04 14:00	MSH		

Inorganics

Carbonate Alkalinity	Not detected	mg/L	10	310.1	03/17/04 11:40	JKB		
Bicarbonate Alkalinity	223	mg/L	10	310.1	03/17/04 11:40	JKB		
Ammonia-N	Not detected	mg/L	0.1	350.3	03/17/04 14:00	MJC		
Chloride	14	mg/L	1	300.0	03/13/04 07:55	JDP		
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	03/22/04 10:17	JDP	57-12-5	
Nitrate-N	Not detected	mg/L	0.2	300.0	03/13/04 07:55	JDP		
Nitrite-N	Not detected	mg/L	0.2	300.0	03/13/04 07:55	JDP		
Total Inorganic Nitrogen	Not detected	mg/L	0.02	4500 d(1)	03/17/04 17:00	MJC		
TOC	2.8	mg/L	0.5	415.1	03/17/04 10:50	JDP		
Phenols	Not detected	mg/L	0.01	420.1	03/19/04 13:35	JKB		
Sulfate	262	mg/L	2	300.0	03/13/04 09:48	JDP		
Total Dissolved Solids	810	mg/L	20	160.1	03/17/04 22:59	LBR		
COD	38	mg/L	5	410.4	03/17/04 20:00	MJC		
Flourine	1.5	mg/L	0.2	340.1	03/13/04 07:55	JDP		
Conductivity	1,120	umhos/cm	N/A	120.1	03/18/04 10:20	JKB		

Metals

Antimony	0.004	mg/L	0.002	200.8	03/21/04 17:11	PER	7440-36-0	
Arsenic	Not detected	mg/L	0.001	200.8	03/21/04 17:11	PER	7440-38-2	
Barium	0.037	mg/L	0.005	200.8	03/21/04 17:11	PER	7440-39-3	
Beryllium	Not detected	mg/L	0.001	200.8	03/21/04 17:11	PER	7440-41-7	
Boron	0.33	mg/L	0.02	200.8	03/21/04 17:11	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0002	200.8	03/21/04 17:11	PER	7440-43-9	
Calcium	99.4	mg/L	1.0	200.8	03/22/04 14:31	PER	7440-70-2	
Chromium	0.003	mg/L	0.002	200.8	03/21/04 17:11	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.015	200.8	03/21/04 17:11	PER	7440-48-4	
Copper	Not detected	mg/L	0.002	200.8	03/21/04 17:11	PER	7440-50-8	
Iron	0.10	mg/L	0.02	200.8	03/21/04 17:11	PER	7439-89-6	
Lead	Not detected	mg/L	0.001	200.8	03/21/04 17:11	PER	7439-92-1	
Magnesium	47.6	mg/L	1.0	200.8	03/22/04 14:31	PER	7439-95-4	
Manganese	0.015	mg/L	0.005	200.8	03/21/04 17:11	PER	7439-96-5	
Nickel	Not detected	mg/L	0.025	200.8	03/21/04 17:11	PER	7440-02-0	
Potassium	2.78	mg/L	0.10	200.8	03/22/04 14:31	PER	7440-09-7	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.02 (continued)

Sample Tag: MW-12

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Metals (continued)								
Selenium	Not detected	mg/L	0.002	200.8	03/21/04 17:11	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	200.8	03/21/04 17:11	PER	7440-22-4	
Sodium	95.0	mg/L	1.0	200.8	03/22/04 14:31	PER	7440-23-5	
Thallium	Not detected	mg/L	0.002	200.8	03/21/04 17:11	PER	7440-28-0	
Vanadium	Not detected	mg/L	0.010	200.8	03/21/04 17:11	PER	7440-62-2	
Zinc	Not detected	mg/L	0.010	200.8	03/21/04 17:11	PER	7440-66-6	
Organics								
Formaldehyde	Completed			8315A	03/13/04 17:00	MJC		
Formaldehyde, HPLC	Not detected	mg/L	0.1	8315A	03/16/04 11:33	MJC		
SVOC								
p,m-Cresol	Not detected	ug/L	10	8270C	03/25/04 11:26	ARH	106-44-5	
o-Cresol	Not detected	ug/L	10	8270C	03/25/04 11:26	ARH	95-48-7	
2,4-Dimethylphenol	Not detected	ug/L	10	8270C	03/25/04 11:26	ARH	105-67-9	
Naphthalene	Not detected	ug/L	10	8270C	03/25/04 11:26	ARH	91-20-3	
bis(2-Ethylhexyl)adipate	Not detected	ug/L	10	8270C	03/25/04 11:26	ARH		
Pyrene	Not detected	ug/L	10	8270C	03/25/04 11:26	ARH	129-00-0	
Fluoranthene	Not detected	ug/L	10	8270C	03/25/04 11:26	ARH	206-44-0	
Phenanthrene	Not detected	ug/L	10	8270C	03/25/04 11:26	ARH	85-01-8	
Volatile Organics								
Benzene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 03:00	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 03:00	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 03:00	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 03:00	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	79-00-5	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.02 (continued)

Sample Tag: MW-12

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 03:00	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 03:00	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 03:00	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 03:00	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 03:00	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 03:00	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 03:00	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	74-97-5	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 03:00	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 03:00	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.01
Sample Tag: MW-13
Collected Date/Time: 03/11/2004 09:00
Matrix: Wastewater
COC Reference: 019660

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	8	3
1	L Plastic	None	Yes	8	3
1	125ml Plastic	HNO3	Yes	8	3
1	125ml Plastic	NaOH	Yes	8	3
1	125ml Amber	H2SO4	Yes	8	3
1	250ml Plastic	H2SO4	Yes	8	3
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

BNA Extraction	Completed			3510C	03/15/04 13:00	SD		
Metal Digestion	Completed			3015A	03/18/04 14:00	MSH		

Inorganics

Carbonate Alkalinity	Not detected	mg/L	10	310.1	03/17/04 11:20	JKB		
Bicarbonate Alkalinity	184	mg/L	10	310.1	03/17/04 11:20	JKB		
Ammonia-N	Not detected	mg/L	0.1	350.3	03/17/04 14:00	MJC		
Chloride	587	mg/L	1	300.0	03/13/04 09:36	JDP		
Chloride (Replicate 01)	589	mg/L	1	300.0	03/13/04 10:35	JDP		
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	03/22/04 10:13	JDP	57-12-5	
Nitrate-N	Not detected	mg/L	0.2	300.0	03/13/04 07:44	JDP		
Nitrite-N	Not detected	mg/L	0.2	300.0	03/13/04 07:44	JDP		
Total Inorganic Nitrogen	Not detected	mg/L	0.02	4500 d(1)	03/17/04 17:00	MJC		
TOC	4.6	mg/L	0.5	415.1	03/17/04 10:30	JDP		
Phenols	Not detected	mg/L	0.01	420.1	03/19/04 13:25	JKB		
Sulfate	240	mg/L	2	300.0	03/13/04 07:44	JDP		
Total Dissolved Solids	1,673	mg/L	20	160.1	03/17/04 22:59	LBR		
COD	90	mg/L	5	410.4	03/17/04 20:00	MJC		
Flourine	1.4	mg/L	0.2	340.1	03/13/04 07:44	JDP		
Conductivity	2,640	umhos/cm	N/A	120.1	03/18/04 10:15	JKB		

Metals

Antimony	0.009	mg/L	0.002	200.8	03/21/04 17:07	PER	7440-36-0	
Arsenic	0.001	mg/L	0.001	200.8	03/21/04 17:07	PER	7440-38-2	
Barium	0.019	mg/L	0.005	200.8	03/21/04 17:07	PER	7440-39-3	
Beryllium	Not detected	mg/L	0.001	200.8	03/21/04 17:07	PER	7440-41-7	
Boron	0.24	mg/L	0.02	200.8	03/21/04 17:07	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0002	200.8	03/21/04 17:07	PER	7440-43-9	
Calcium	234	mg/L	1.0	200.8	03/22/04 14:29	PER	7440-70-2	
Chromium	0.002	mg/L	0.002	200.8	03/21/04 17:07	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.015	200.8	03/21/04 17:07	PER	7440-48-4	
Copper	Not detected	mg/L	0.002	200.8	03/21/04 17:07	PER	7440-50-8	
Iron	0.30	mg/L	0.02	200.8	03/21/04 17:07	PER	7439-89-6	
Lead	Not detected	mg/L	0.001	200.8	03/21/04 17:07	PER	7439-92-1	
Magnesium	89.5	mg/L	1.0	200.8	03/22/04 14:29	PER	7439-95-4	
Manganese	0.297	mg/L	0.005	200.8	03/21/04 17:07	PER	7439-96-5	
Nickel	0.252	mg/L	0.025	200.8	03/21/04 17:07	PER	7440-02-0	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.01 (continued)

Sample Tag: MW-13

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Metals (continued)								
Potassium	3.54	mg/L	0.10	200.8	03/22/04 14:29	PER	7440-09-7	
Selenium	0.006	mg/L	0.002	200.8	03/21/04 17:07	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	200.8	03/21/04 17:07	PER	7440-22-4	
Sodium	161	mg/L	1.0	200.8	03/22/04 15:11	PER	7440-23-5	
Thallium	Not detected	mg/L	0.002	200.8	03/21/04 17:07	PER	7440-28-0	
Vanadium	Not detected	mg/L	0.010	200.8	03/21/04 17:07	PER	7440-62-2	
Zinc	Not detected	mg/L	0.010	200.8	03/21/04 17:07	PER	7440-66-6	
Organics								
Formaldehyde	Completed			8315A	03/13/04 17:00	MJC		
Formaldehyde, HPLC	Not detected	mg/L	0.1	8315A	03/16/04 10:59	MJC		
SVOC								
p,m-Cresol	Not detected	ug/L	10	8270C	03/25/04 10:44	ARH	106-44-5	
o-Cresol	Not detected	ug/L	10	8270C	03/25/04 10:44	ARH	95-48-7	
2,4-Dimethylphenol	Not detected	ug/L	10	8270C	03/25/04 10:44	ARH	105-67-9	
Naphthalene	Not detected	ug/L	10	8270C	03/25/04 10:44	ARH	91-20-3	
bis(2-Ethylhexyl)adipate	Not detected	ug/L	10	8270C	03/25/04 10:44	ARH		
Pyrene	Not detected	ug/L	10	8270C	03/25/04 10:44	ARH	129-00-0	
Fluoranthene	Not detected	ug/L	10	8270C	03/25/04 10:44	ARH	206-44-0	
Phenanthrene	Not detected	ug/L	10	8270C	03/25/04 10:44	ARH	85-01-8	
Volatile Organics								
Benzene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 02:27	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 02:27	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 02:27	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 02:27	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	71-55-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.01 (continued)

Sample Tag: MWV-13

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 02:27	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 02:27	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 02:27	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 02:27	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 02:27	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 02:27	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 02:27	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	74-97-5	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 02:27	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 02:27	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.06

Sample Tag: MW-14

Collected Date/Time: 03/11/2004 10:40

Matrix: Wastewater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	8	3
1	1 L Plastic	None	Yes	8	3
1	125ml Plastic	HNO3	Yes	8	3
1	125ml Plastic	NaOH	Yes	8	3
1	125ml Amber	H2SO4	Yes	8	3
1	250ml Plastic	H2SO4	Yes	8	3
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

BNA Extraction	Completed			3510C	03/15/04 13:00	SD		
Metal Digestion	Completed			3015A	03/18/04 14:00	MSH		

Inorganics

Carbonate Alkalinity	Not detected	mg/L	10	310.1	03/17/04 12:10	JKB		
Bicarbonate Alkalinity	103	mg/L	10	310.1	03/17/04 12:10	JKB		
Ammonia-N	0.2	mg/L	0.1	350.3	03/17/04 14:00	MJC		
Chloride	162	mg/L	1	300.0	03/13/04 08:42	JDP		
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	03/22/04 10:27	JDP	57-12-5	
Nitrate-N	Not detected	mg/L	0.2	300.0	03/13/04 08:42	JDP		
Nitrite-N	Not detected	mg/L	0.2	300.0	03/13/04 08:42	JDP		
Total Inorganic Nitrogen	0.2	mg/L	0.02	4500 d(1)	03/17/04 17:00	MJC		
TOC	2.7	mg/L	0.5	415.1	03/17/04 11:30	JDP		
Phenols	Not detected	mg/L	0.01	420.1	03/19/04 14:00	JKB		
Sulfate	314	mg/L	2	300.0	03/13/04 10:46	JDP		
Total Dissolved Solids	920	mg/L	20	160.1	03/17/04 22:59	LBR		
COD	84	mg/L	5	410.4	03/17/04 20:00	MJC		
Fluorine	1.6	mg/L	0.2	340.1	03/13/04 08:42	JDP		
Conductivity	1,420	umhos/cm	N/A	120.1	03/18/04 10:40	JKB		

Metals

Antimony	0.005	mg/L	0.002	200.8	03/21/04 17:27	PER	7440-36-0	
Arsenic	0.001	mg/L	0.001	200.8	03/21/04 17:27	PER	7440-38-2	
Barium	0.036	mg/L	0.005	200.8	03/21/04 17:27	PER	7440-39-3	
Beryllium	Not detected	mg/L	0.001	200.8	03/21/04 17:27	PER	7440-41-7	
Boron	0.36	mg/L	0.02	200.8	03/21/04 17:27	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0002	200.8	03/21/04 17:27	PER	7440-43-9	
Calcium	87.7	mg/L	1.0	200.8	03/22/04 14:41	PER	7440-70-2	
Chromium	Not detected	mg/L	0.002	200.8	03/21/04 17:27	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.015	200.8	03/21/04 17:27	PER	7440-48-4	
Copper	Not detected	mg/L	0.002	200.8	03/21/04 17:27	PER	7440-50-8	
Iron	0.09	mg/L	0.02	200.8	03/21/04 17:27	PER	7439-89-6	
Lead	Not detected	mg/L	0.001	200.8	03/21/04 17:27	PER	7439-92-1	
Magnesium	33.4	mg/L	1.0	200.8	03/22/04 14:41	PER	7439-95-4	
Manganese	0.062	mg/L	0.005	200.8	03/21/04 17:27	PER	7439-96-5	
Nickel	0.063	mg/L	0.025	200.8	03/21/04 17:27	PER	7440-02-0	
Potassium	3.54	mg/L	0.10	200.8	03/22/04 14:41	PER	7440-09-7	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.06 (continued)

Sample Tag: MWV-14

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Metals (continued)								
Selenium	Not detected	mg/L	0.002	200.8	03/21/04 17:27	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	200.8	03/21/04 17:27	PER	7440-22-4	
Sodium	171	mg/L	1.0	200.8	03/22/04 14:41	PER	7440-23-5	
Thallium	Not detected	mg/L	0.002	200.8	03/21/04 17:27	PER	7440-28-0	
Vanadium	Not detected	mg/L	0.010	200.8	03/21/04 17:27	PER	7440-62-2	
Zinc	Not detected	mg/L	0.010	200.8	03/21/04 17:27	PER	7440-66-6	
Organics								
Formaldehyde	Completed			8315A	03/13/04 17:00	MJC		
Formaldehyde, HPLC	Not detected	mg/L	0.1	8315A	03/16/04 12:58	MJC		
SVOC								
p,m-Cresol	Not detected	ug/L	10	8270C	03/25/04 14:16	ARH	106-44-5	
o-Cresol	Not detected	ug/L	10	8270C	03/25/04 14:16	ARH	95-48-7	
2,4-Dimethylphenol	Not detected	ug/L	10	8270C	03/25/04 14:16	ARH	105-67-9	
Naphthalene	Not detected	ug/L	10	8270C	03/25/04 14:16	ARH	91-20-3	
bis(2-Ethylhexyl)adipate	Not detected	ug/L	10	8270C	03/25/04 14:16	ARH		
Pyrene	Not detected	ug/L	10	8270C	03/25/04 14:16	ARH	129-00-0	
Fluoranthene	Not detected	ug/L	10	8270C	03/25/04 14:16	ARH	206-44-0	
Phenanthrene	Not detected	ug/L	10	8270C	03/25/04 14:16	ARH	85-01-8	
Volatile Organics								
Benzene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 05:12	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 05:12	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 05:12	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 05:12	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	79-00-5	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.06 (continued)

Sample Tag: MWV-14

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 05:12	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 05:12	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 05:12	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 05:12	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 05:12	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 05:12	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 05:12	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	74-97-5	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 05:12	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 05:12	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.07
Sample Tag: MVV-15
Collected Date/Time: 03/11/2004 11:00
Matrix: Wastewater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	8	3
1	L Plastic	None	Yes	8	3
1	125ml Plastic	HNO3	Yes	8	3
1	125ml Plastic	NaOH	Yes	8	3
1	125ml Amber	H2SO4	Yes	8	3
1	250ml Plastic	H2SO4	Yes	8	3
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

BNA Extraction	Completed			3510C	03/15/04 13:00	SD		
Metal Digestion	Completed			3015A	03/18/04 14:00	MSH		

Inorganics

Carbonate Alkalinity	30	mg/L	10	310.1	03/17/04 12:30	JKB		
Bicarbonate Alkalinity	33	mg/L	10	310.1	03/17/04 12:30	JKB		
Ammonia-N	0.5	mg/L	0.1	350.3	03/17/04 14:00	MJC		
Chloride	112	mg/L	1	300.0	03/13/04 08:54	JDP		
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	03/22/04 10:29	JDP	57-12-5	
Nitrate-N	Not detected	mg/L	0.2	300.0	03/13/04 08:54	JDP		
Nitrite-N	Not detected	mg/L	0.2	300.0	03/13/04 08:54	JDP		
Total Inorganic Nitrogen	0.5	mg/L	0.02	4500 d(1)	03/17/04 17:00	MJC		
TOC	4.2	mg/L	0.5	415.1	03/17/04 11:40	JDP		
Phenols	Not detected	mg/L	0.01	420.1	03/19/04 14:05	JKB		
Sulfate	127	mg/L	2	300.0	03/13/04 08:54	JDP		
Total Dissolved Solids	463	mg/L	20	160.1	03/17/04 22:59	LBR		
COD	125	mg/L	5	410.4	03/17/04 20:00	MJC		
Flourine	1.5	mg/L	0.2	340.1	03/13/04 08:54	JDP		
Conductivity	794	umhos/cm	N/A	120.1	03/18/04 10:45	JKB		

Metals

Antimony	0.008	mg/L	0.002	200.8	03/21/04 17:31	PER	7440-36-0	
Arsenic	Not detected	mg/L	0.001	200.8	03/21/04 17:31	PER	7440-38-2	
Barium	0.044	mg/L	0.005	200.8	03/21/04 17:31	PER	7440-39-3	
Beryllium	Not detected	mg/L	0.001	200.8	03/21/04 17:31	PER	7440-41-7	
Boron	0.28	mg/L	0.02	200.8	03/21/04 17:31	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0002	200.8	03/21/04 17:31	PER	7440-43-9	
Calcium	18.2	mg/L	1.0	200.8	03/22/04 14:44	PER	7440-70-2	
Chromium	Not detected	mg/L	0.002	200.8	03/21/04 17:31	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.015	200.8	03/21/04 17:31	PER	7440-48-4	
Copper	Not detected	mg/L	0.002	200.8	03/21/04 17:31	PER	7440-50-8	
Iron	Not detected	mg/L	0.02	200.8	03/21/04 17:31	PER	7439-89-6	
Lead	0.004	mg/L	0.001	200.8	03/21/04 17:31	PER	7439-92-1	
Magnesium	5.53	mg/L	1.0	200.8	03/22/04 14:44	PER	7439-95-4	
Manganese	Not detected	mg/L	0.005	200.8	03/21/04 17:31	PER	7439-96-5	
Nickel	Not detected	mg/L	0.025	200.8	03/21/04 17:31	PER	7440-02-0	
Potassium	5.58	mg/L	0.10	200.8	03/22/04 14:44	PER	7440-09-7	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.07 (continued)

Sample Tag: MW-15

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Metals (continued)								
Selenium	Not detected	mg/L	0.002	200.8	03/21/04 17:31	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	200.8	03/21/04 17:31	PER	7440-22-4	
Sodium	126	mg/L	1.0	200.8	03/22/04 14:44	PER	7440-23-5	
Thallium	Not detected	mg/L	0.002	200.8	03/21/04 17:31	PER	7440-28-0	
Vanadium	Not detected	mg/L	0.010	200.8	03/21/04 17:31	PER	7440-62-2	
Zinc	0.029	mg/L	0.010	200.8	03/21/04 17:31	PER	7440-66-6	
Organics								
Formaldehyde	Completed			8315A	03/13/04 17:00	MJC		
Formaldehyde, HPLC	Not detected	mg/L	0.1	8315A	03/16/04 13:15	MJC		
SVOC								
p,m-Cresol	Not detected	ug/L	10	8270C	03/25/04 14:58	ARH	106-44-5	
o-Cresol	Not detected	ug/L	10	8270C	03/25/04 14:58	ARH	95-48-7	
2,4-Dimethylphenol	Not detected	ug/L	10	8270C	03/25/04 14:58	ARH	105-67-9	
Naphthalene	Not detected	ug/L	10	8270C	03/25/04 14:58	ARH	91-20-3	
bis(2-Ethylhexyl)adipate	Not detected	ug/L	10	8270C	03/25/04 14:58	ARH		
Pyrene	Not detected	ug/L	10	8270C	03/25/04 14:58	ARH	129-00-0	
Fluoranthene	Not detected	ug/L	10	8270C	03/25/04 14:58	ARH	206-44-0	
Phenanthrene	Not detected	ug/L	10	8270C	03/25/04 14:58	ARH	85-01-8	
Volatile Organics								
Benzene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 05:45	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 05:45	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 05:45	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 05:45	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	79-00-5	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.07 (continued)

Sample Tag: MVV-15

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 05:45	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 05:45	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 05:45	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 05:45	JGH	78-93-3	
Carbon disulfide	8	ug/L	1	8260B	03/23/04 05:45	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 05:45	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 05:45	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 05:45	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	74-97-5	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 05:45	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 05:45	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.08
Sample Tag: Leachate
Collected Date/Time: 03/11/2004 12:30
Matrix: Wastewater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	8	3
1	L Plastic	None	Yes	8	3
1	125ml Plastic	HNO3	Yes	8	3
1	125ml Plastic	NaOH	Yes	8	3
1	125ml Amber	H2SO4	Yes	8	3
1	250ml Plastic	H2SO4	Yes	8	3
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst CAS #	Flags
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Extraction / Prep.

BNA Extraction	Completed			3510C	03/15/04 13:00	SD	
Metal Digestion	Completed			3015A	03/18/04 14:00	MSH	

Inorganics

Carbonate Alkalinity	Not detected	mg/L	10	310.1	03/17/04 13:00	JKB	
Bicarbonate Alkalinity	213	mg/L	10	310.1	03/17/04 13:00	JKB	
Ammonia-N	9.6	mg/L	0.1	350.3	03/17/04 14:00	MJC	
Chloride	322	mg/L	1	300.0	03/13/04 10:58	JDP	
Cyanide	0.020	mg/L	0.005	335.2 Lachat	03/22/04 10:31	JDP	57-12-5
Nitrate-N	12.0	mg/L	0.2	300.0	03/13/04 09:05	JDP	
Nitrite-N	Not detected	mg/L	0.2	300.0	03/13/04 09:05	JDP	
Total Inorganic Nitrogen	21.6	mg/L	0.02	4500 d(1)	03/17/04 17:00	MJC	
TOC	18.5	mg/L	0.5	415.1	03/17/04 11:50	JDP	
Phenols	0.04	mg/L	0.01	420.1	03/19/04 14:10	JKB	
Sulfate	524	mg/L	2	300.0	03/13/04 10:58	JDP	
Total Dissolved Solids	1,743	mg/L	20	160.1	03/17/04 22:59	LBR	
COD	73	mg/L	5	410.4	03/17/04 20:00	MJC	
Flourine	3.7	mg/L	0.2	340.1	03/13/04 09:05	JDP	
Conductivity	2,490	umhos/cm	N/A	120.1	03/18/04 10:50	JKB	

Metals (TOTAL)

Antimony	0.008	mg/L	0.002	200.8	03/21/04 17:35	PER	7440-36-0
Arsenic	0.009	mg/L	0.001	200.8	03/21/04 17:35	PER	7440-38-2
Barium	0.062	mg/L	0.005	200.8	03/21/04 17:35	PER	7440-39-3
Beryllium	Not detected	mg/L	0.001	200.8	03/21/04 17:35	PER	7440-41-7
Boron	0.91	mg/L	0.02	200.8	03/21/04 17:35	PER	7440-42-8
Cadmium	Not detected	mg/L	0.005	200.8	03/21/04 17:35	PER	7440-43-9
Calcium	233	mg/L	1.0	200.8	03/22/04 15:06	PER	7440-70-2
Chromium	Not detected	mg/L	0.020	200.8	03/21/04 17:35	PER	7440-47-3
Cobalt	Not detected	mg/L	0.015	200.8	03/21/04 17:35	PER	7440-48-4
Copper	Not detected	mg/L	0.010	200.8	03/21/04 17:35	PER	7440-50-8
Iron	0.33	mg/L	0.02	200.8	03/21/04 17:35	PER	7439-89-6
Lead	Not detected	mg/L	0.050	200.8	03/21/04 17:35	PER	7439-92-1
Magnesium	51.6	mg/L	1.0	200.8	03/22/04 15:06	PER	7439-95-4
Manganese	1.95	mg/L	0.005	200.8	03/21/04 17:35	PER	7439-96-5
Nickel	Not detected	mg/L	0.025	200.8	03/21/04 17:35	PER	7440-02-0
Potassium	32.2	mg/L	0.10	200.8	03/22/04 15:06	PER	7440-09-7



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.08 (continued)

Sample Tag: Leachate

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Metals (continued)								
Selenium	0.004	mg/L	0.002	200.8	03/21/04 17:35	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	200.8	03/21/04 17:35	PER	7440-22-4	
Sodium	206	mg/L	1.0	200.8	03/22/04 15:20	PER	7440-23-5	
Thallium	Not detected	mg/L	0.002	200.8	03/21/04 17:35	PER	7440-28-0	
Vanadium	Not detected	mg/L	0.010	200.8	03/21/04 17:35	PER	7440-62-2	
Zinc	0.138	mg/L	0.010	200.8	03/21/04 17:35	PER	7440-66-6	
Organics								
Formaldehyde	Completed			8315A	03/13/04 17:00	MJC		
Formaldehyde, HPLC	Not detected	mg/L	0.1	8315A	03/16/04 13:32	MJC		
SVOC								
p,m-Cresol	Not detected	ug/L	10	8270C	03/25/04 15:41	ARH	106-44-5	
o-Cresol	Not detected	ug/L	10	8270C	03/25/04 15:41	ARH	95-48-7	
2,4-Dimethylphenol	Not detected	ug/L	10	8270C	03/25/04 15:41	ARH	105-67-9	
Naphthalene	Not detected	ug/L	10	8270C	03/25/04 15:41	ARH	91-20-3	
bis(2-Ethylhexyl)adipate	Not detected	ug/L	10	8270C	03/25/04 15:41	ARH		
Pyrene	Not detected	ug/L	10	8270C	03/25/04 15:41	ARH	129-00-0	
Fluoranthene	Not detected	ug/L	10	8270C	03/25/04 15:41	ARH	206-44-0	
Phenanthrene	Not detected	ug/L	10	8270C	03/25/04 15:41	ARH	85-01-8	
Volatile Organics								
Benzene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 06:18	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 06:18	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 06:18	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 06:18	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	79-00-5	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.08 (continued)

Sample Tag: Leachate

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 06:18	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 06:18	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 06:18	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 06:18	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 06:18	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 06:18	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 06:18	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	74-97-5	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 06:18	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 06:18	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.09
Sample Tag: Equipment Blank
Collected Date/Time: 03/11/2004 12:20
Matrix: Wastewater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics								
Volatile Organics								
Benzene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 06:51	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 06:51	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 06:51	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 06:51	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 06:51	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 06:51	JGH	106-42-3	
Acetone	20	ug/L	20	8260B	03/23/04 06:51	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 06:51	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 06:51	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 06:51	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 06:51	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	74-97-5	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.09 (continued)

Sample Tag: Equipment Blank

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 06:51	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 06:51	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.10
Sample Tag: Trip Blank
Collected Date/Time: 03/10/2004 :
Matrix: Wastewater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
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Organics

Volatile Organics

Benzene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 07:24	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 07:24	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 07:24	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 07:24	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 07:24	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 07:24	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 07:24	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 07:24	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 07:24	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 07:24	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 07:24	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	74-97-5	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16350.10 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 07:24	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 07:24	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Report ID: S16351.01(02)
Generated on 04/26/2004

Report to

Attention: Ms. Lori Hoevemeyer
GM-SMCO
1629 N. Washington Ave.
Saginaw, MI 48605

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Report produced by

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2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S16351.01
Project: Qtly Leachate
Submitted Date/Time: 03/12/2004 12:00
Sampled by: T. Gooslin/A.S.
P.O. #: WFB00013

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.
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Violetta F. Murshak

Violetta F. Murshak
Laboratory Director



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16351.01
Sample Tag: Leachate
Collected Date/Time: 03/11/2004 12:30
Matrix: Wastewater
COC Reference: 19661

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/18/04 14:00	MSH		
Metals (Dissolved)								
Antimony	Not detected	mg/L	0.002	200.8	03/21/04 17:39	PER	7440-36-0	
Arsenic	0.009	mg/L	0.001	200.8	03/21/04 17:39	PER	7440-38-2	
Barium	0.060	mg/L	0.005	200.8	03/21/04 17:39	PER	7440-39-3	
Beryllium	Not detected	mg/L	0.001	200.8	03/21/04 17:39	PER	7440-41-7	
Cadmium	Not detected	mg/L	0.005	200.8	03/21/04 17:39	PER	7440-43-9	
Chromium	Not detected	mg/L	0.020	200.8	03/21/04 17:39	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.015	200.8	03/21/04 17:39	PER	7440-48-4	
Copper	Not detected	mg/L	0.010	200.8	03/21/04 17:39	PER	7440-50-8	
Lead	Not detected	mg/L	0.050	200.8	03/21/04 17:39	PER	7439-92-1	
Nickel	Not detected	mg/L	0.025	200.8	03/21/04 17:39	PER	7440-02-0	
Selenium	0.004	mg/L	0.002	200.8	03/21/04 17:39	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	200.8	03/21/04 17:39	PER	7440-22-4	
Thallium	Not detected	mg/L	0.002	200.8	03/21/04 17:39	PER	7440-28-0	
Vanadium	Not detected	mg/L	0.010	200.8	03/21/04 17:39	PER	7440-62-2	
Zinc	0.326	mg/L	0.010	200.8	03/21/04 17:39	PER	7440-66-6	



Analytical Laboratory Report

Revised Report

Report ID: S16367.01(02)
Generated on 04/27/2004

Report to

Attention: Ms. Lori Hoevenmeyer
GM-SMCO
1629 N. Washington Ave.
Saginaw, MI 48605

Phone: 989-757-1067 FAX: 989-757-1481

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): S16367.01-S16367.04
Project: 1st Qtly Monitoring Wells Sampling
Submitted Date/Time: 03/12/2004 12:30
Sampled by: Rich Keenan
P.O. #: WFB0013

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.
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Violetta F. Murshak

Violetta F. Murshak
Laboratory Director



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16367.01
 Sample Tag: 96080
 Collected Date/Time: 03/11/2004 11:40
 Matrix: Groundwater
 COC Reference: 019658

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	8	3
1	L Plastic	None	Yes	8	3
1	125ml Plastic	HNO3	Yes	8	3
1	125ml Plastic	NaOH	Yes	8	3
1	125ml Amber	H2SO4	Yes	8	3
1	250ml Plastic	H2SO4	Yes	8	3
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

BNA Extraction	Completed			3510C	03/18/04 12:00	SD		
Metal Digestion	Completed			3015A	03/18/04 14:00	MSH		

Inorganics

Carbonate Alkalinity	Not detected	mg/L	10	310.1	03/17/04 13:15	JKB		
Bicarbonate Alkalinity	119	mg/L	10	310.1	03/17/04 13:15	JKB		
Ammonia-N	1.6	mg/L	0.1	350.3	03/17/04 14:00	MJC		
Chloride	890	mg/L	1	300.0	03/13/04 11:59	JDP		
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	03/22/04 10:34	JDP	57-12-5	
Nitrate-N	Not detected	mg/L	0.2	300.0	03/13/04 11:09	JDP		
Nitrite-N	Not detected	mg/L	0.2	300.0	03/13/04 11:09	JDP		
Total Inorganic Nitrogen	1.6	mg/L	0.02	4500 d(1)	03/17/04 17:00	MJC		
TOC	1.5	mg/L	0.5	415.1	03/17/04 12:20	JDP		
Phenols	Not detected	mg/L	0.01	420.1	03/19/04 14:15	JKB		
Sulfate	238	mg/L	2	300.0	03/13/04 11:09	JDP		
Total Dissolved Solids	2,855	mg/L	20	160.1	03/18/04 22:09	LBR		
COD	65	mg/L	5	410.4	03/17/04 20:00	MJC		
Flourine	1.5	mg/L	0.2	340.1	03/13/04 11:09	JDP		
Conductivity	3,560	umhos/cm	N/A	120.1	03/18/04 10:55	JKB		

Metals

Antimony	0.008	mg/L	0.002	200.8	03/21/04 18:22	PER	7440-36-0	
Arsenic	0.007	mg/L	0.001	200.8	03/21/04 18:22	PER	7440-38-2	
Barium	0.035	mg/L	0.005	200.8	03/21/04 18:22	PER	7440-39-3	
Beryllium	Not detected	mg/L	0.001	200.8	03/21/04 18:22	PER	7440-41-7	
Boron	0.65	mg/L	0.02	200.8	03/21/04 18:22	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0002	200.8	03/21/04 18:22	PER	7440-43-9	
Calcium	124	mg/L	1.0	200.8	03/22/04 15:35	PER	7440-70-2	
Chromium	0.004	mg/L	0.002	200.8	03/21/04 18:22	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.015	200.8	03/21/04 18:22	PER	7440-48-4	
Copper	Not detected	mg/L	0.002	200.8	03/21/04 18:22	PER	7440-50-8	
Iron	0.59	mg/L	0.02	200.8	03/21/04 18:22	PER	7439-89-6	
Lead	Not detected	mg/L	0.001	200.8	03/21/04 18:22	PER	7439-92-1	
Magnesium	40.9	mg/L	1.0	200.8	03/22/04 15:35	PER	7439-95-4	
Manganese	0.078	mg/L	0.005	200.8	03/21/04 18:22	PER	7439-96-5	
Nickel	Not detected	mg/L	0.025	200.8	03/21/04 18:22	PER	7440-02-0	
Potassium	6.96	mg/L	0.10	200.8	03/22/04 15:35	PER	7440-09-7	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16367.01 (continued)

Sample Tag: 96080

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Metals (continued)								
Selenium	Not detected	mg/L	0.002	200.8	03/21/04 18:22	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	200.8	03/21/04 18:22	PER	7440-22-4	
Sodium	569	mg/L	1.0	200.8	03/22/04 15:45	PER	7440-23-5	
Thallium	Not detected	mg/L	0.002	200.8	03/21/04 18:22	PER	7440-28-0	
Vanadium	Not detected	mg/L	0.010	200.8	03/21/04 18:22	PER	7440-62-2	
Zinc	Not detected	mg/L	0.010	200.8	03/21/04 18:22	PER	7440-66-6	
Organics								
Formaldehyde	Completed			8315A	03/15/04 16:00	MJC		
Formaldehyde, HPLC	Not detected	mg/L	0.1	8315A	03/16/04 13:48	MJC		
SVOC								
p,m-Cresol	Not detected	ug/L	10	8270C	03/25/04 23:24	ARH	106-44-5	
o-Cresol	Not detected	ug/L	10	8270C	03/25/04 23:24	ARH	95-48-7	
2,4-Dimethylphenol	Not detected	ug/L	10	8270C	03/25/04 23:24	ARH	105-67-9	
Naphthalene	Not detected	ug/L	10	8270C	03/25/04 23:24	ARH	91-20-3	
bis(2-Ethylhexyl)adipate	Not detected	ug/L	10	8270C	03/25/04 23:24	ARH		
Pyrene	Not detected	ug/L	10	8270C	03/25/04 23:24	ARH	129-00-0	
Fluoranthene	Not detected	ug/L	10	8270C	03/25/04 23:24	ARH	206-44-0	
Phenanthrene	Not detected	ug/L	10	8270C	03/25/04 23:24	ARH	85-01-8	
Volatile Organics								
Benzene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 07:57	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 07:57	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 07:57	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 07:57	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	100-42-5	
~~1,1,2,2-Tetrachloroethane~~	~~Not detected~~	~~ug/L~~	~~1~~	~~8260B~~	~~03/23/04 07:57~~	~~JGH~~	~~79-34-5~~	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	79-00-5	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16367.01 (continued)

Sample Tag: 96080

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 07:57	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 07:57	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 07:57	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 07:57	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 07:57	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 07:57	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 07:57	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	74-97-5	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 07:57	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 07:57	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16367.02
Sample Tag: Dup
Collected Date/Time: 03/11/2004 11:40
Matrix: Groundwater
COC Reference: 019658

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	8	3
1	L Plastic	None	Yes	8	3
1	125ml Plastic	HNO3	Yes	8	3
1	125ml Plastic	NaOH	Yes	8	3
1	125ml Amber	H2SO4	Yes	8	3
1	250ml Plastic	H2SO4	Yes	8	3
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

BNA Extraction	Completed			3510C	03/18/04 12:00	SD		
Metal Digestion	Completed			3015A	03/18/04 14:00	MSH		

Inorganics

Carbonate Alkalinity	Not detected	mg/L	10	310.1	03/17/04 13:10	JKB		
Bicarbonate Alkalinity	123	mg/L	10	310.1	03/17/04 13:10	JKB		
Ammonia-N	1.6	mg/L	0.1	350.3	03/17/04 14:00	MJC		
Chloride	879	mg/L	1	300.0	03/13/04 12:11	JDP		
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	03/22/04 10:36	JDP	57-12-5	
Nitrate-N	Not detected	mg/L	0.2	300.0	03/13/04 11:21	JDP		
Nitrite-N	Not detected	mg/L	0.2	300.0	03/13/04 11:21	JDP		
Total Inorganic Nitrogen	1.6	mg/L	0.02	4500 d(1)	03/17/04 17:00	MJC		
TOC	Not detected	mg/L	0.5	415.1	03/17/04 12:40	JDP		
Phenols	Not detected	mg/L	0.01	420.1	03/19/04 14:20	JKB		
Sulfate	236	mg/L	2	300.0	03/13/04 11:21	JDP		
Total Dissolved Solids	2,854	mg/L	20	160.1	03/18/04 22:09	LBR		
COD	53	mg/L	5	410.4	03/17/04 20:00	MJC		
Flourine	1.5	mg/L	0.2	340.1	03/13/04 11:21	JDP		
Conductivity	3,570	umhos/cm	N/A	120.1	03/18/04 11:00	JKB		

Metals

Antimony	0.002	mg/L	0.002	200.8	03/21/04 18:25	PER	7440-36-0	
Arsenic	0.007	mg/L	0.001	200.8	03/21/04 18:25	PER	7440-38-2	
Barium	0.032	mg/L	0.005	200.8	03/21/04 18:25	PER	7440-39-3	
Beryllium	Not detected	mg/L	0.001	200.8	03/21/04 18:25	PER	7440-41-7	
Boron	0.62	mg/L	0.02	200.8	03/21/04 18:25	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0002	200.8	03/21/04 18:25	PER	7440-43-9	
Calcium	124	mg/L	1.0	200.8	03/22/04 15:37	PER	7440-70-2	
Chromium	0.004	mg/L	0.002	200.8	03/21/04 18:25	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.015	200.8	03/21/04 18:25	PER	7440-48-4	
Copper	Not detected	mg/L	0.002	200.8	03/21/04 18:25	PER	7440-50-8	
Iron	0.59	mg/L	0.02	200.8	03/21/04 18:25	PER	7439-89-6	
Lead	0.001	mg/L	0.001	200.8	03/21/04 18:25	PER	7439-92-1	
Magnesium	40.7	mg/L	1.0	200.8	03/22/04 15:37	PER	7439-95-4	
Manganese	0.071	mg/L	0.005	200.8	03/21/04 18:25	PER	7439-96-5	
Nickel	Not detected	mg/L	0.025	200.8	03/21/04 18:25	PER	7440-02-0	
Potassium	6.87	mg/L	0.10	200.8	03/22/04 15:37	PER	7440-09-7	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16367.02 (continued)

Sample Tag: Dup

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Metals (continued)								
Selenium	Not detected	mg/L	0.002	200.8	03/21/04 18:25	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	200.8	03/21/04 18:25	PER	7440-22-4	
Sodium	575	mg/L	1.0	200.8	03/22/04 15:47	PER	7440-23-5	
Thallium	Not detected	mg/L	0.002	200.8	03/21/04 18:25	PER	7440-28-0	
Vanadium	Not detected	mg/L	0.010	200.8	03/21/04 18:25	PER	7440-62-2	
Zinc	Not detected	mg/L	0.010	200.8	03/21/04 18:25	PER	7440-66-6	
Organics								
Formaldehyde	Completed			8315A	03/15/04 16:00	MJC		
Formaldehyde, HPLC	Not detected	mg/L	0.1	8315A	03/16/04 14:05	MJC		
SVOC								
p,m-Cresol	Not detected	ug/L	10	8270C	03/26/04 00:07	ARH	106-44-5	
o-Cresol	Not detected	ug/L	10	8270C	03/26/04 00:07	ARH	95-48-7	
2,4-Dimethylphenol	Not detected	ug/L	10	8270C	03/26/04 00:07	ARH	105-67-9	
Naphthalene	Not detected	ug/L	10	8270C	03/26/04 00:07	ARH	91-20-3	
bis(2-Ethylhexyl)adipate	Not detected	ug/L	10	8270C	03/26/04 00:07	ARH		
Pyrene	Not detected	ug/L	10	8270C	03/26/04 00:07	ARH	129-00-0	
Fluoranthene	Not detected	ug/L	10	8270C	03/26/04 00:07	ARH	206-44-0	
Phenanthrene	Not detected	ug/L	10	8270C	03/26/04 00:07	ARH	85-01-8	
Volatile Organics								
Benzene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 08:30	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 08:30	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 08:30	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 08:30	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	79-00-5	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16367.02 (continued)

Sample Tag: Dup

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 08:30	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 08:30	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 08:30	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 08:30	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 08:30	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 08:30	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 08:30	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	74-97-5	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 08:30	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 08:30	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16367.03
Sample Tag: Equipment Blank
Collected Date/Time: 03/11/2004 12:55
Matrix: Groundwater
COC Reference: 019658

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics								
Volatile Organics								
Benzene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 09:03	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 09:03	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 09:03	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 09:03	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 09:03	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 09:03	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 09:03	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	5	8260B	03/23/04 09:03	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 09:03	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 09:03	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 09:03	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	74-97-5	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16367.03 (continued)

Sample Tag: Equipment Blank

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 09:03	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 09:03	JGH	630-20-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16367.04
Sample Tag: 97948
Collected Date/Time: 03/11/2004 13:55
Matrix: Groundwater
COC Reference: 019658

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	8	3
1	L Plastic	None	Yes	8	3
1	125ml Plastic	HNO3	Yes	8	3
1	125ml Plastic	NaOH	Yes	8	3
1	125ml Amber	H2SO4	Yes	8	3
1	250ml Plastic	H2SO4	Yes	8	3
2	40 ml Glass	HCL	Yes	8	3

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

3NA Extraction	Completed			3510C	03/18/04 12:00	SD		
Metals Digestion	Completed			3015A	03/18/04 14:00	MSH		

Inorganics

Carbonate Alkalinity	Not detected	mg/L	10	310.1	03/17/04 13:20	JKB		
Bicarbonate Alkalinity	259	mg/L	10	310.1	03/17/04 13:20	JKB		
Ammonia-N	1.1	mg/L	0.1	350.3	03/17/04 14:00	MJC		
Chloride	533	mg/L	1	300.0	03/13/04 12:23	JDP		
Cyanide	Not detected	mg/L	0.005	335.2 Lachat	03/22/04 10:40	JDP	57-12-5	
Nitrate-N	Not detected	mg/L	0.2	300.0	03/13/04 11:33	JDP		
Nitrite-N	Not detected	mg/L	0.2	300.0	03/13/04 11:33	JDP		
Total Inorganic Nitrogen	1.1	mg/L	0.02	4500 d(1)	03/17/04 17:00	MJC		
DOC	179	mg/L	0.5	415.1	03/17/04 13:00	JDP		
Phenols	0.12	mg/L	0.01	420.1	03/19/04 14:25	JKB		
Sulfate	18	mg/L	2	300.0	03/13/04 11:33	JDP		
Total Dissolved Solids	1,995	mg/L	20	160.1	03/18/04 22:09	LBR		
COD	604	mg/L	5	410.4	03/17/04 20:00	MJC		
Fluorine	Not detected	mg/L	0.2	340.1	03/13/04 11:33	JDP		
Conductivity	2,410	umhos/cm	N/A	120.1	03/18/04 11:05	JKB		

Metals

Antimony	0.004	mg/L	0.002	200.8	03/21/04 18:29	PER	7440-36-0	
Arsenic	Not detected	mg/L	0.001	200.8	03/21/04 18:29	PER	7440-38-2	
Barium	0.048	mg/L	0.005	200.8	03/21/04 18:29	PER	7440-39-3	
Beryllium	Not detected	mg/L	0.001	200.8	03/21/04 18:29	PER	7440-41-7	
Boron	0.61	mg/L	0.02	200.8	03/21/04 18:29	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0002	200.8	03/21/04 18:29	PER	7440-43-9	
Calcium	99.8	mg/L	1.0	200.8	03/22/04 15:40	PER	7440-70-2	
Chromium	0.004	mg/L	0.002	200.8	03/21/04 18:29	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.015	200.8	03/21/04 18:29	PER	7440-48-4	
Copper	Not detected	mg/L	0.002	200.8	03/21/04 18:29	PER	7440-50-8	
Copper	0.11	mg/L	0.02	200.8	03/21/04 18:29	PER	7439-89-6	
Cadmium	Not detected	mg/L	0.001	200.8	03/21/04 18:29	PER	7439-92-1	
Magnesium	35.1	mg/L	1.0	200.8	03/22/04 15:40	PER	7439-95-4	
Manganese	0.142	mg/L	0.005	200.8	03/21/04 18:29	PER	7439-96-5	
Nickel	Not detected	mg/L	0.025	200.8	03/21/04 18:29	PER	7440-02-0	
Potassium	6.57	mg/L	0.10	200.8	03/22/04 15:40	PER	7440-09-7	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16367.04 (continued)

Sample Tag: 97948

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Metals (continued)								
Selenium	0.011	mg/L	0.002	200.8	03/21/04 18:29	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	200.8	03/21/04 18:29	PER	7440-22-4	
Sodium	362	mg/L	1.0	200.8	03/22/04 15:49	PER	7440-23-5	
Thallium	Not detected	mg/L	0.002	200.8	03/21/04 18:29	PER	7440-28-0	
Vanadium	Not detected	mg/L	0.010	200.8	03/21/04 18:29	PER	7440-62-2	
Zinc	Not detected	mg/L	0.010	200.8	03/21/04 18:29	PER	7440-66-6	
Organics								
Formaldehyde	Completed			8315A	03/15/04 16:00	MJC		
Formaldehyde, HPLC	Not detected	mg/L	0.1	8315A	03/16/04 14:22	MJC		
SVOC								
p,m-Cresol	Not detected	ug/L	70	8270C	03/29/04 06:33	ARH	106-44-5	X
o-Cresol	Not detected	ug/L	70	8270C	03/29/04 06:33	ARH	95-48-7	X
2,4-Dimethylphenol	Not detected	ug/L	70	8270C	03/29/04 06:33	ARH	105-67-9	X
Naphthalene	Not detected	ug/L	70	8270C	03/29/04 06:33	ARH	91-20-3	X
bis(2-Ethylhexyl)adipate	Not detected	ug/L	70	8270C	03/29/04 06:33	ARH		X
Pyrene	Not detected	ug/L	70	8270C	03/29/04 06:33	ARH	129-00-0	X
Fluoranthene	Not detected	ug/L	70	8270C	03/29/04 06:33	ARH	206-44-0	X
Phenanthrene	Not detected	ug/L	70	8270C	03/29/04 06:33	ARH	85-01-8	X
Volatile Organics								
Benzene	2	ug/L	1	8260B	03/23/04 09:36	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/23/04 09:36	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/23/04 09:36	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/23/04 09:36	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	95-50-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	8260B	03/23/04 09:36	JGH	75-09-2	
Styrene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	71-55-6	

X-Elevated reporting limit due to matrix interference



Analytical Laboratory Report

Revised Report

Lab Sample ID: S16367.04 (continued)

Sample Tag: 97948

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics (continued)								
Volatile Organics (continued)								
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	75-01-4	
o-Xylene	Not detected	ug/L	2	8260B	03/23/04 09:36	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/23/04 09:36	JGH	106-42-3	
Acetone	Not detected	ug/L	20	8260B	03/23/04 09:36	JGH	67-64-1	
2-Butanone (MEK)	11	ug/L	5	8260B	03/23/04 09:36	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	5	8260B	03/23/04 09:36	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	5	8260B	03/23/04 09:36	JGH	108-10-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH		
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	75-69-4	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	96-18-4	
Acrylonitrile	Not detected	ug/L	5	8260B	03/23/04 09:36	JGH	107-13-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	74-97-5	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/23/04 09:36	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	106-93-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH		
Dibromomethane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	74-95-3	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/23/04 09:36	JGH	630-20-6	



Analytical Laboratory Report

Report ID: S14653.01(01)
Generated on 11/10/2003

Report to

Attention: Ms. Lori Gandy
GM-SMCO
1629 N. Washington Ave.
Saginaw, MI 48605

Phone: 517-757-1067 FAX: 517-757-1481

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): S14653.01-S14653.02
Project: Quarterly Wells
Submitted Date/Time: 10/06/2003 17:00
Sampled by: T. Gooslin
P.O. #: WFB00013

Report Notes

Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
Results relate only to items tested.
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A handwritten signature in cursive script that reads "Violetta F. Murshak".

Violetta F. Murshak

Laboratory Director



Analytical Laboratory Report

Lab Sample ID: S14653.01
 Sample Tag: MW-14
 Collected Date/Time: 10/03/2003 11:30
 Matrix: Groundwater
 COC Reference: 019454

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	L Plastic	None	Yes	4	1
1	125ml Plastic	HNO3	Yes	4	1
1	250ml Plastic	H2SO4	Yes	4	1
1	125ml Plastic	NaOH	Yes	4	1

Analysis	Results	Units	RDL	Method	Date Run	Analyst	CAS #	Flags
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Extraction / Prep.

Metal Digestion	Completed			3015A	11/10/03	PER		
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Inorganics

pH	7.65	STD Units	0.01	150.1	10/03/03	TG		
Ammonia-N	Not detected	mg/L	0.1	350.3	10/09/03	MJC		
Chloride	167	mg/L	1	300.0	10/06/03	JDP		
Nitrate-N	4.9	mg/L	0.1	300.0	10/06/03	JDP		
Nitrite-N	Not detected	mg/L	0.1	300.0	10/06/03	JDP		
Total Inorganic Nitrogen	4.9	mg/L	0.1	4500 d(1)	10/09/03	JDP		
TOC	2.1	mg/L	1.0	415.1	10/08/03	JDP		
Phenols	Not detected	mg/L	0.01	420.1	10/13/03	JDP		
Sulfate	335	mg/L	1	300.0	10/06/03	JDP		
Field Temperature	57.2	oF	1	170.1	10/03/03	TG		
Conductivity	1,300	umhos/cm	N/A	120.1	10/03/03	TG		

Metals

Aluminum	Not detected	mg/L	0.01	200.8	11/10/03	PER	7429-90-5
Arsenic	Not detected	mg/L	0.001	200.8	11/10/03	PER	7440-38-2
Calcium	70.7	mg/L	0.20	200.8	11/10/03	PER	7440-70-2
Iron	0.06	mg/L	0.02	200.8	11/10/03	PER	7439-89-6
Manganese	0.052	mg/L	0.005	200.8	11/10/03	PER	7439-96-5
Potassium	4.30	mg/L	0.10	200.8	11/10/03	PER	7440-09-7
Sodium	152	mg/L	0.20	200.8	11/10/03	PER	7440-23-5



Analytical Laboratory Report

Lab Sample ID: S14653.02
Sample Tag: MW-15
Collected Date/Time: 10/03/2003 12:00
Matrix: Groundwater
COC Reference: 019454

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	L Plastic	None	Yes	4	1
1	125ml Plastic	HNO3	Yes	4	1
1	250ml Plastic	H2SO4	Yes	4	1
1	125ml Plastic	NaOH	Yes	4	1

Analysis	Results	Units	RDL	Method	Date Run	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	11/10/03	PER		
Inorganics								
pH	10.09	STD Units	0.01	150.1	10/03/03	TG		
Ammonia-N	0.4	mg/L	0.1	350.3	10/09/03	MJC		
Chloride	114	mg/L	1	300.0	10/06/03	JDP		
Nitrate-N	Not detected	mg/L	0.1	300.0	10/06/03	JDP		
Nitrite-N	Not detected	mg/L	0.1	300.0	10/06/03	JDP		
Total Inorganic Nitrogen	0.4	mg/L	0.1	4500 d(1)	10/09/03	JDP		
TOC	2.4	mg/L	1.0	415.1	10/08/03	JDP		
Phenols	0.02	mg/L	0.01	420.1	10/13/03	JDP		
Sulfate	154	mg/L	1	300.0	10/06/03	JDP		
Field Temperature	53.6	oF	1	170.1	10/03/03	TG		
Conductivity	865	umhos/cm	N/A	120.1	10/03/03	TG		
Metals								
Aluminum	0.04	mg/L	0.01	200.8	11/10/03	PER	7429-90-5	
Arsenic	Not detected	mg/L	0.001	200.8	11/10/03	PER	7440-38-2	
Calcium	16.6	mg/L	0.20	200.8	11/10/03	PER	7440-70-2	
Iron	0.03	mg/L	0.02	200.8	11/10/03	PER	7439-89-6	
Manganese	Not detected	mg/L	0.005	200.8	11/10/03	PER	7439-96-5	
Potassium	5.57	mg/L	0.10	200.8	11/10/03	PER	7440-09-7	
Sodium	132	mg/L	0.20	200.8	11/10/03	PER	7440-23-5	