



**Worldwide Facilities Group  
Environmental Services**

Ms. Jeanette Best  
Mr. Jason Casteel  
City of Saginaw Waste Water Treatment Division  
Environmental Compliance  
2406 Veterans Memorial Parkway  
Saginaw, MI 48601

October 3, 2008

RE: Consent Order Quarterly Monitoring and Semi-Annual Monitoring at Outfalls CFD-01 and CFD-02 for September 2008, GMPT Saginaw Malleable Iron (SMI), Saginaw, MI.

Dear Ms. Best and Mr. Casteel

The City of Saginaw/General Motors Consent Order Section 11.a requires General Motors to submit a quarterly report containing the PCB monitoring data. Therefore, enclosed are the requested Consent Order quarterly monitoring analytical results for samples collected from Outfalls CFD-01 and CFD-02. These analytical results represent sampling for the quarter beginning June 2008. In addition, enclosed are the Semi-annual analytical results for SMI's Industrial Wastewater Discharge Permit. Samples were collected on the 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> of September. The laboratory (Merit) reports are attached for your review. The laboratory detection limit for PCBs is 0.1µg/L. The following table lists the PCB analytical results.

Date	Sample Time	CFD-01 (µg/L)	CFD-02 (µg/L)	Flow* (gpd)
Sept 9	12:00, 11:30	<0.1	<0.1	NA
Sept 10	12:00, 11:30	<0.1	<0.1	NA
Sept 11	12:00, 11:30	<0.1	<0.1	NA

\*Flow at CFD-02 was too low to obtain accurate reading

All samples at CFD-02 are in compliance or are deemed to be in compliance.

If you have any questions or require clarification on the above information please feel free to contact me at 248-753-5799.

Sincerely,

Cheryl Hiatt

Attachment

Cc: Tony Thrubis – GM Legal  
Cheryl Hiatt – GM Remediation  
Tom Darnell – City of Saginaw, City Manager  
Mike Tomka - CRA



# Analytical Laboratory Report

Report ID: S38091.01(01)  
Generated on 09/16/2008

Report to  
Attention: Steve Hoevemeyer  
GM SMI  
77 W. Center  
MC: 486-577-008  
Saginaw, Michigan 48605

Phone: 989-757-0920 FAX: 989-757-0707  
Email: shoevemeyer@croworld.com

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): S38091.01-S38091.02  
Project: S.A. & Qtly 02&01 0078787-06-601025  
Collected Date: 09/09/2008  
Submitted Date/Time: 09/09/2008 15:00  
Sampled by: Terry Gooslin  
P.O. #:

## Report Notes

Results relate only to items tested as received by the laboratory.  
Methods may be modified for improved performance.  
Results reported on a dry weight basis where applicable.  
"Not detected" indicates that parameter was not found at a level equal to or greater than the RDL.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

## Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S38091.01	02	Liquid	09/09/2008 11:30
S38091.02	01	Liquid	09/09/2008 12:00



# Analytical Laboratory Report

Lab Sample ID: S38091.01  
 Sample Tag: 02  
 Collected Date/Time: 09/09/2008 11:30  
 Matrix: Liquid  
 COC Reference: 46003

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	4.2	IR
1	32 oz Glass	HCL	Yes	4.2	IR
1	L Plastic	None	Yes	4.2	IR
1	250ml Plastic	H2SO4	Yes	4.2	IR
1	125ml Amber	H2SO4	Yes	4.2	IR
1	125ml Plastic	HNO3	Yes	4.2	IR
1	125ml Plastic	NaOH	Yes	4.2	IR
2	40 ml Glass	HCL	Yes	4.2	IR

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

BNA Extraction	Completed			3510C	09/11/08 22:54	EMR		
Extraction, PCB	Completed			3510C	09/10/08 11:37	TAS		
Mercury Digestion	Completed			7470A	09/10/08 13:00	JRT		
Metal Digestion	Completed			3015A	09/12/08 12:00	SLS		

### Inorganics

Amenable Cyanide	Not detected	mg/L	0.005	335.4/4500-CN-E	09/11/08 11:12	JDP		
Ammonia-N	1.07	mg/L	0.02	4500-NH3 D	09/10/08 14:00	MJC	30	
COD	33	mg/L	1	410.4	09/11/08 14:00	MJC		
Field pH	7.75	STD Units	0.01	4500-H+ B	09/09/08 11:30	TG	6.0-10.5	
Field Temperature	60	oF	1	2550 B	09/09/08 11:30	TG		
Flow, Field	No Flow	gpd			09/09/08 11:30	TG	580,000	
Oil & Grease	Not detected	mg/L	1	413.1	09/16/08 14:06	CEM	100	
Phenols	Not detected	mg/L	0.01	420.1	09/16/08 14:40	JKB		
TBOD5	7	mg/L	1	5210B	09/11/08 13:09-09/16/08	DJS	150	
Total Dissolved Solids	480	mg/L	1	2540C	09/12/08 15:00	DJS		
Total Phosphorus	0.19	mg/L	0.01	4500-PE	09/09/08 19:00	MJC	3	
Total Suspended Solids	11	mg/L	1	2540 D	09/10/08 17:00	DJS	350	

### Metals

Arsenic	0.002	mg/L	0.002	200.8	09/12/08 14:19	PER	0.473	
Cadmium	Not detected	mg/L	0.0005	200.8	09/12/08 14:19	PER	0.11	
Chromium	Not detected	mg/L	0.005	200.8	09/12/08 14:19	PER	2.77	
Copper	Not detected	mg/L	0.005	200.8	09/12/08 14:19	PER	1.184	
Lead	Not detected	mg/L	0.003	200.8	09/12/08 14:19	PER	0.377	
Mercury	Not detected	mg/L	0.0002	245.1	09/10/08 16:00	JRT	0.0002	
Molybdenum	0.008	mg/L	0.005	200.8	09/12/08 14:19	PER		
Nickel	Not detected	mg/L	0.005	200.8	09/12/08 14:19	PER	1.786	
Selenium	Not detected	mg/L	0.005	200.8	09/12/08 14:19	PER	0.083	
Silver	Not detected	mg/L	0.0005	200.8	09/12/08 14:19	PER		
Zinc	0.082	mg/L	0.005	200.8	09/12/08 14:19	PER	1.162	

### Organics - PCBs/Pesticides

#### PCB

PCB-1016	Not detected	ug/L	0.1	608	09/10/08 14:08	JANB		
PCB-1221	Not detected	ug/L	0.1	608	09/10/08 14:08	JANB		



# Analytical Laboratory Report

Lab Sample ID: S38091.01 (continued)

Sample Tag: 02

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	Limits	Flags
<b>Organics - PCBs/Pesticides (continued)</b>								
<b>PCB (continued)</b>								
PCB-1232	Not detected	ug/L	0.1	608	09/10/08 14:08	JANB		
PCB-1242	Not detected	ug/L	0.1	608	09/10/08 14:08	JANB		
PCB-1248	Not detected	ug/L	0.1	608	09/10/08 14:08	JANB		
PCB-1254	Not detected	ug/L	0.1	608	09/10/08 14:08	JANB		
PCB-1260	Not detected	ug/L	0.1	608	09/10/08 14:08	JANB		
PCB, Total	Not detected	ug/L	0.1	608	09/10/08 14:08	JANB	0.2	
<b>Organics - Semi-Volatiles</b>								
<b>Semi-Volatile Organics GM-SMI 02 TTO</b>								
Acenaphthene	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Acenaphthylene	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Anthracene	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Benzo(a)anthracene	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Butyl benzyl phthalate	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Chrysene	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
di-n-Butyl phthalate	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
2,4-Dichlorophenol	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Diethyl phthalate	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Dimethyl phthalate	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
2,4-Dimethylphenol	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Fluoranthene	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Fluorene	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Naphthalene	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Pentachlorophenol	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Phenol	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Pyrene	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
Phenanthrene	Not detected	ug/L	10	625	09/12/08 17:36	ARH		
<b>Organics - Volatiles</b>								
Total BTEX	Not detected	ug/L	5	624	09/11/08 15:45	JGH		
<b>Volatile Organics-GM-SMI 02 VOC TTO List</b>								
Methylene chloride	Not detected	ug/L	5	624	09/11/08 15:45	JGH		
Chloroform	Not detected	ug/L	1	624	09/11/08 15:45	JGH		
Benzene	Not detected	ug/L	1	624	09/11/08 15:45	JGH	500	
Toluene	Not detected	ug/L	1	624	09/11/08 15:45	JGH	1,000	
Ethylbenzene	Not detected	ug/L	1	624	09/11/08 15:45	JGH	1,000	
o-Xylene	Not detected	ug/L	1	624	09/11/08 15:45	JGH	1,000	
p,m-Xylene	Not detected	ug/L	1	624	09/11/08 15:45	JGH	1,000	



# Analytical Laboratory Report

Lab Sample ID: S38091.02  
 Sample Tag: 01  
 Collected Date/Time: 09/09/2008 12:00  
 Matrix: Liquid  
 COC Reference: 46003

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	4.2	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	Limits	Flags
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**Extraction / Prep.**

Extraction, PCB	Completed			3510C	09/10/08 11:37	TAS		
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**Organics - PCBs/Pesticides**

**PCB**

PCB-1016	Not detected	ug/L	0.1	608	09/10/08 14:19	JANB		
PCB-1221	Not detected	ug/L	0.1	608	09/10/08 14:19	JANB		
PCB-1232	Not detected	ug/L	0.1	608	09/10/08 14:19	JANB		
PCB-1242	Not detected	ug/L	0.1	608	09/10/08 14:19	JANB		
PCB-1248	Not detected	ug/L	0.1	608	09/10/08 14:19	JANB		
PCB-1254	Not detected	ug/L	0.1	608	09/10/08 14:19	JANB		
PCB-1260	Not detected	ug/L	0.1	608	09/10/08 14:19	JANB		
PCB, Total	Not detected	ug/L	0.1	608	09/10/08 14:19	JANB		



2680 East Lansing Dr., East Lansing, MI 48823  
 Phone (517) 332-0167 Fax (517) 332-6333  
 www.meritlabs.com

C.O.C. PAGE # \_\_\_\_\_ OF \_\_\_\_\_

46003

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME: *Steve Hoeweneyer - Cheryl Hyatt*

COMPANY: *GM-SMI (CRA)*

ADDRESS: *77 W. Center Rd*

CITY: *Stuyvesant* STATE: *MI* ZIP CODE: *48802*

PHONE NO. \_\_\_\_\_ FAX NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_

E-MAIL ADDRESS \_\_\_\_\_ QUOTE NO. \_\_\_\_\_

CONTACT NAME: \_\_\_\_\_ SAME

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_

PHONE NO. \_\_\_\_\_ FAX NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_

**ANALYSIS (ATTACH LIST IF MORE SPACE REQUIRED)**

PROJECT NO. NAME: *SA-02 02101*

SAMPLE(S) - PLEASE PRINT/SIGN NAME: *6003/W*

TURNAROUND TIME REQUIRED:  24 HR  48 HR  72 HR  STANDARD  OTHER

DELIVERABLES REQUIRED:  STANDARD  LEVEL II  LEVEL III  OTHER

*See attached*

SPECIAL INSTRUCTIONS/NOTES

MATRIX CODE: GW-GROUNDWATER SL-SLUDGE WW-WASTEWATER O-OIL S-SOIL A-AIR L-LIQUID W-WASTE SD-SOLID M-MISC

# Containers & Preservatives

MERIT LAB NO.	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCL	HNO3	H2SO4	H2O2	MACH	MACH	OTHER
	DATE	TIME											
38091.01	9-5-08	11:30	02	L	1								
.02	-	12:00	01	L	2								X

*02 - Level of H2O too low to go over Flow Sensor No Flow Reading R*

RELINQUISHED BY: *[Signature]* DATE: *9-5-08* TIME: \_\_\_\_\_

RECEIVED BY: *[Signature]* DATE: *9-9-08* TIME: *1:00*

RELINQUISHED BY: *[Signature]* DATE: *9-5-08* TIME: *15:00*

RECEIVED BY: *[Signature]* DATE: *9-9-08* TIME: *15:00*

SEAL NO. \_\_\_\_\_ SEAL INTACT YES  NO  INITIALS \_\_\_\_\_

NOTES: \_\_\_\_\_ TEMP. ON ARRIVAL: *4.2*

PLEASE NOTE: SIGNING ACKNOWLEDGES ACCEPTANCE OF TERMS & CONDITIONS ON REVERSE SIDE



# Analytical Laboratory Report

Report ID: S38123.01(01)  
Generated on 09/17/2008

Report to

Attention: Steve Hoevemeyer  
GM SMI  
77 W. Center  
MC: 486-577-008  
Saginaw, Michigan 48605

Phone: 989-757-0920 FAX: 989-757-0707  
Email: shoevemeyer@croworld.com

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): S38123.01-S38123.02  
Project: S.A. & Qtly 02&01 0078787-06-601025  
Collected Date: 09/10/2008  
Submitted Date/Time: 09/10/2008 15:30  
Sampled by: Terry Gooslin  
P.O. #:

Report Notes

Results relate only to items tested as received by the laboratory.  
Methods may be modified for improved performance.  
Results reported on a dry weight basis where applicable.  
"Not detected" indicates that parameter was not found at a level equal to or greater than the RDL.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

## Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S38123.01	02	Liquid	09/10/2008 11:30
S38123.02	01	Liquid	09/10/2008 12:00



# Analytical Laboratory Report

Lab Sample ID: S38123.01  
 Sample Tag: 02  
 Collected Date/Time: 09/10/2008 11:30  
 Matrix: Liquid  
 COC Reference: 46005

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	4.3	IR
1	32 oz Glass	HCL	Yes	4.3	IR
1	L Plastic	None	Yes	4.3	IR
1	250ml Plastic	H2SO4	Yes	4.3	IR
1	125ml Amber	H2SO4	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
1	125ml Plastic	NaOH	Yes	4.3	IR
2	40 ml Glass	HCL	Yes	4.3	IR

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

BNA Extraction	Completed			3510C	09/11/08 22:54	EMR		
Extraction, PCB	Completed			3510C	09/11/08 13:00	CEM		
Mercury Digestion	Completed			7470A	09/11/08 12:00	JRT		
Metal Digestion	Completed			3015A	09/12/08 12:00	SLS		

### Inorganics

Amenable Cyanide	Not detected	mg/L	0.005	335.4/4500-CN-E	09/16/08 12:10	JDP		
Ammonia-N	1.30	mg/L	0.02	4500-NH3 D	09/10/08 17:00	MJC	30	
COD	37	mg/L	1	410.4	09/11/08 20:00	MJC		
Field pH	7.50	STD Units	0.01	4500-H+ B	09/10/08 11:30	TG	6.0-10.5	
Field Temperature	59	oF	1	2550 B	09/10/08 11:30	TG		
Flow, Field	No Flow	gpd			09/10/08 11:30	TG	580,000	
Oil & Grease	1	mg/L	1	413.1	09/16/08 14:06	CEM	100	
Phenols	Not detected	mg/L	0.01	420.1	09/16/08 14:45	JKB		
TBOD5	7	mg/L	1	5210B	09/12/08 13:40-09/17/08	DJS	150	
Total Dissolved Solids	656	mg/L	1	2540C	09/12/08 15:00	DJS		
Total Phosphorus	0.15	mg/L	0.01	4500-PE	09/16/08 12:00	MJC	3	
Total Suspended Solids	5	mg/L	1	2540 D	09/10/08 17:00	DJS	350	

### Metals

Arsenic	0.002	mg/L	0.002	200.8	09/12/08 14:24	PER	0.473	
Cadmium	Not detected	mg/L	0.0005	200.8	09/12/08 14:24	PER	0.11	
Chromium	Not detected	mg/L	0.005	200.8	09/12/08 14:24	PER	2.77	
Copper	Not detected	mg/L	0.005	200.8	09/12/08 14:24	PER	1.184	
Lead	Not detected	mg/L	0.003	200.8	09/12/08 14:24	PER	0.377	
Mercury	Not detected	mg/L	0.0002	245.1	09/11/08 15:27	JRT	0.0002	
Molybdenum	0.011	mg/L	0.005	200.8	09/12/08 14:24	PER		
Nickel	Not detected	mg/L	0.005	200.8	09/12/08 14:24	PER	1.786	
Selenium	Not detected	mg/L	0.005	200.8	09/12/08 14:24	PER	0.083	
Silver	Not detected	mg/L	0.0005	200.8	09/12/08 14:24	PER		
Zinc	0.036	mg/L	0.005	200.8	09/12/08 14:24	PER	1.162	

### Organics - PCBs/Pesticides

#### PCB

PCB-1016	Not detected	ug/L	0.1	608	09/12/08 11:45	JANB		
PCB-1221	Not detected	ug/L	0.1	608	09/12/08 11:45	JANB		



# Analytical Laboratory Report

Lab Sample ID: S38123.01 (continued)

Sample Tag: 02

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	Limits	Flags
<b>Organics - PCBs/Pesticides (continued)</b>								
<b>PCB (continued)</b>								
PCB-1232	Not detected	ug/L	0.1	608	09/12/08 11:45	JANB		
PCB-1242	Not detected	ug/L	0.1	608	09/12/08 11:45	JANB		
PCB-1248	Not detected	ug/L	0.1	608	09/12/08 11:45	JANB		
PCB-1254	Not detected	ug/L	0.1	608	09/12/08 11:45	JANB		
PCB-1260	Not detected	ug/L	0.1	608	09/12/08 11:45	JANB		
PCB, Total	Not detected	ug/L	0.1	608	09/12/08 11:45	JANB	0.2	
<b>Organics - Semi-Volatiles</b>								
<b>Semi-Volatile Organics GM-SMI 02 TTO</b>								
Acenaphthene	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Acenaphthylene	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Anthracene	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Benzo(a)anthracene	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Butyl benzyl phthalate	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Chrysene	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
di-n-Butyl phthalate	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
2,4-Dichlorophenol	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Diethyl phthalate	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Dimethyl phthalate	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
2,4-Dimethylphenol	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Fluoranthene	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Fluorene	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Naphthalene	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Pentachlorophenol	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Phenol	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Pyrene	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
Phenanthrene	Not detected	ug/L	10	625	09/12/08 18:45	ARH		
<b>Organics - Volatiles</b>								
Total BTEX	Not detected	ug/L	5	624	09/16/08 16:25	JGH		
<b>Volatile Organics-GM-SMI 02 VOC TTO List</b>								
Methylene chloride	Not detected	ug/L	5	624	09/16/08 16:25	JGH		
Chloroform	Not detected	ug/L	1	624	09/16/08 16:25	JGH		
Benzene	Not detected	ug/L	1	624	09/16/08 16:25	JGH	500	
Toluene	Not detected	ug/L	1	624	09/16/08 16:25	JGH	1,000	
Ethylbenzene	Not detected	ug/L	1	624	09/16/08 16:25	JGH	1,000	
o-Xylene	Not detected	ug/L	1	624	09/16/08 16:25	JGH	1,000	
p,m-Xylene	Not detected	ug/L	1	624	09/16/08 16:25	JGH	1,000	



# Analytical Laboratory Report

Lab Sample ID: S38123.02  
Sample Tag: 01  
Collected Date/Time: 09/10/2008 12:00  
Matrix: Liquid  
COC Reference: 46005

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	4.3	IR

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

Extraction, PCB	Completed			3510C	09/11/08 13:00	CEM		
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### **Organics - PCBs/Pesticides**

#### **PCB**

PCB-1016	Not detected	ug/L	0.1	608	09/12/08 11:55	JANB		
PCB-1221	Not detected	ug/L	0.1	608	09/12/08 11:55	JANB		
PCB-1232	Not detected	ug/L	0.1	608	09/12/08 11:55	JANB		
PCB-1242	Not detected	ug/L	0.1	608	09/12/08 11:55	JANB		
PCB-1248	Not detected	ug/L	0.1	608	09/12/08 11:55	JANB		
PCB-1254	Not detected	ug/L	0.1	608	09/12/08 11:55	JANB		
PCB-1260	Not detected	ug/L	0.1	608	09/12/08 11:55	JANB		
PCB, Total	Not detected	ug/L	0.1	608	09/12/08 11:55	JANB		





# Analytical Laboratory Report

Report ID: S38136.01(01)  
Generated on 09/18/2008

Report to  
Attention: Steve Hoevemeyer  
GM SMI  
77 W. Center  
MC: 486-577-008  
Saginaw, Michigan 48605

Phone: 989-757-0920 FAX: 989-757-0707  
Email: shoevemeyer@croworld.com

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): S38136.01-S38136.02  
Project: S.A. & Qtly 02&01 0078787-06-601025  
Collected Date: 09/11/2008  
Submitted Date/Time: 09/11/2008 16:00  
Sampled by: Terry Gooslin  
P.O. #:

## Report Notes

Results relate only to items tested as received by the laboratory.  
Methods may be modified for improved performance.  
Results reported on a dry weight basis where applicable.  
"Not detected" indicates that parameter was not found at a level equal to or greater than the RDL.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

## Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S38136.01	02	Liquid	09/11/2008 11:30
S38136.02	01	Liquid	09/11/2008 12:00



# Analytical Laboratory Report

Lab Sample ID: S38136.01  
 Sample Tag: 02  
 Collected Date/Time: 09/11/2008 11:30  
 Matrix: Liquid  
 COC Reference: 46008

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	4.3	IR
1	32 oz Glass	HCL	Yes	4.3	IR
1	L Plastic	None	Yes	4.3	IR
1	250ml Plastic	H2SO4	Yes	4.3	IR
1	125ml Amber	H2SO4	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
1	125ml Plastic	NaOH	Yes	4.3	IR
2	40 ml Glass	HCL	Yes	4.3	IR

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

BNA Extraction	Completed			3510C	09/11/08 22:54	EMR		
Extraction, PCB	Completed			3510C	09/15/08 13:00	CEM		
Mercury Digestion	Completed			7470A	09/12/08 11:30	JRT		
Metal Digestion	Completed			3015A	09/12/08 12:00	SLS		

### Inorganics

Amenable Cyanide	Not detected	mg/L	0.005	335.4/4500-CN-E	09/16/08 12:20	JDP		
Ammonia-N	1.58	mg/L	0.04	4500-NH3 D	09/17/08 17:00	MJC	30	
COD	33	mg/L	1	410.4	09/11/08 20:00	MJC		
Field pH	8.09	STD Units	0.01	4500-H+ B	09/11/08 11:30	TG	6.0-10.5	
Field Temperature	59	oF	1	2550 B	09/11/08 11:30	TG		
Flow, Field	No Flow	gpd			09/11/08 11:30	TG	580,000	
Oil & Grease	Not detected	mg/L	1	413.1	09/16/08 14:06	CEM	100	
Phenols	Not detected	mg/L	0.01	420.1	09/16/08 14:50	JKB		
TBOD5	8	mg/L	1	5210B	09/12/08 13:40-09/17/08	DJS	150	
Total Dissolved Solids	724	mg/L	1	2540C	09/12/08 15:00	DJS		
Total Phosphorus	0.16	mg/L	0.01	4500-PE	09/16/08 15:00	MJC	3	
Total Suspended Solids	6	mg/L	1	2540 D	09/16/08 15:00	DJS	350	

### Metals

Arsenic	0.002	mg/L	0.002	200.8	09/12/08 14:32	PER	0.473	
Cadmium	Not detected	mg/L	0.0005	200.8	09/12/08 14:32	PER	0.11	
Chromium	Not detected	mg/L	0.005	200.8	09/12/08 14:32	PER	2.77	
Copper	Not detected	mg/L	0.005	200.8	09/12/08 14:32	PER	1.184	
Lead	Not detected	mg/L	0.003	200.8	09/12/08 14:32	PER	0.377	
Mercury	Not detected	mg/L	0.0002	245.1	09/12/08 15:18	JRT	0.0002	
Molybdenum	0.008	mg/L	0.005	200.8	09/12/08 14:32	PER		
Nickel	Not detected	mg/L	0.005	200.8	09/12/08 14:32	PER	1.786	
Selenium	Not detected	mg/L	0.005	200.8	09/12/08 14:32	PER	0.083	
Silver	Not detected	mg/L	0.0005	200.8	09/12/08 14:32	PER		
Zinc	0.073	mg/L	0.005	200.8	09/12/08 14:32	PER	1.162	

### Organics - PCBs/Pesticides

#### PCB

PCB-1016	Not detected	ug/L	0.1	608	09/15/08 16:47	JANB		
PCB-1221	Not detected	ug/L	0.1	608	09/15/08 16:47	JANB		



# Analytical Laboratory Report

Lab Sample ID: S38136.01 (continued)

Sample Tag: 02

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	Limits	Flags
<b>Organics - PCBs/Pesticides (continued)</b>								
<b>PCB (continued)</b>								
PCB-1232	Not detected	ug/L	0.1	608	09/15/08 16:47	JANB		
PCB-1242	Not detected	ug/L	0.1	608	09/15/08 16:47	JANB		
PCB-1248	Not detected	ug/L	0.1	608	09/15/08 16:47	JANB		
PCB-1254	Not detected	ug/L	0.1	608	09/15/08 16:47	JANB		
PCB-1260	Not detected	ug/L	0.1	608	09/15/08 16:47	JANB		
PCB, Total	Not detected	ug/L	0.1	608	09/15/08 16:47	JANB	0.2	
<b>Organics - Semi-Volatiles</b>								
<b>Semi-Volatile Organics GM-SMI 02 TTO</b>								
Acenaphthene	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Acenaphthylene	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Anthracene	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Benzo(a)anthracene	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Butyl benzyl phthalate	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Chrysene	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
di-n-Butyl phthalate	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
2,4-Dichlorophenol	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Diethyl phthalate	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Dimethyl phthalate	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
2,4-Dimethylphenol	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Fluoranthene	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Fluorene	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Naphthalene	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Pentachlorophenol	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Phenol	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Pyrene	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
Phenanthrene	Not detected	ug/L	10	625	09/15/08 14:36	ARH		
<b>Organics - Volatiles</b>								
Total BTEX	Not detected	ug/L	5	624	09/16/08 18:14	JGH		
<b>Volatile Organics-GM-SMI 02 VOC TTO List</b>								
Methylene chloride	Not detected	ug/L	5	624	09/16/08 18:14	JGH		
Chloroform	Not detected	ug/L	1	624	09/16/08 18:14	JGH		
Benzene	Not detected	ug/L	1	624	09/16/08 18:14	JGH	500	
Toluene	Not detected	ug/L	1	624	09/16/08 18:14	JGH	1,000	
Ethylbenzene	Not detected	ug/L	1	624	09/16/08 18:14	JGH	1,000	
o-Xylene	Not detected	ug/L	1	624	09/16/08 18:14	JGH	1,000	
p,m-Xylene	Not detected	ug/L	1	624	09/16/08 18:14	JGH	1,000	



# Analytical Laboratory Report

Lab Sample ID: S38136.02  
Sample Tag: 01  
Collected Date/Time: 09/11/2008 12:00  
Matrix: Liquid  
COC Reference: 46008

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1 L Amber	None	Yes	4.3	IR

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

Extraction, PCB	Completed			3510C	09/15/08 13:00	CEM		
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### **Organics - PCBs/Pesticides**

#### **PCB**

PCB-1016	Not detected	ug/L	0.1	608	09/15/08 16:57	JANB		
PCB-1221	Not detected	ug/L	0.1	608	09/15/08 16:57	JANB		
PCB-1232	Not detected	ug/L	0.1	608	09/15/08 16:57	JANB		
PCB-1242	Not detected	ug/L	0.1	608	09/15/08 16:57	JANB		
PCB-1248	Not detected	ug/L	0.1	608	09/15/08 16:57	JANB		
PCB-1254	Not detected	ug/L	0.1	608	09/15/08 16:57	JANB		
PCB-1260	Not detected	ug/L	0.1	608	09/15/08 16:57	JANB		
PCB, Total	Not detected	ug/L	0.1	608	09/15/08 16:57	JANB		



2680 East Lansing Dr., East Lansing, MI 48823  
 Phone (517) 332-0167 Fax (517) 332-6333  
 www.meritlabs.com

C.O.C. PAGE # \_\_\_\_\_ OF \_\_\_\_\_

46008

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME: *Steve Howeney - Cheryl Hyatt*  
 COMPANY: *GRA - GMA - SMI*  
 ADDRESS: *77 W. Carle*  
 CITY: *Saginaw* STATE: *MI* ZIP CODE: \_\_\_\_\_  
 PHONE NO. \_\_\_\_\_ FAX NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_  
 E-MAIL ADDRESS \_\_\_\_\_ QUOTE NO. \_\_\_\_\_

CONTACT NAME \_\_\_\_\_ LI SAME \_\_\_\_\_  
 COMPANY \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_  
 PHONE NO. \_\_\_\_\_ FAX NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_

**ANALYSIS (ATTACH LIST IF MORE SPACE REQUIRED)**

PROJECT NO./NAME: *SA outfall 02-01 Day 3* SAMPLE NO.: *56001-2* *Day 3/3*  
 TURNAROUND TIME REQUIRED:  24 HR  48 HR  72 HR  STANDARD  OTHER  
 DELIVERABLES REQUIRED:  STANDARD  LEVEL II  LEVEL III  OTHER

MERIT LAB NO.	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives							OTHER					
	DATE	TIME				NDAVE	HCL	HNO3	H2SO4	NaOH	MeOH							
38136.01	11-09	11:30	02	L 10	1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
02	12	12:00	01	L 2	1	Y												

RELINQUISHED BY: *[Signature]* DATE: *9-11-08* TIME: \_\_\_\_\_  
 RECEIVED BY: *[Signature]* DATE: *9-11-08* TIME: *1:00*

RELINQUISHED BY: *[Signature]* DATE: *9-11-08* TIME: *1:00*  
 RECEIVED BY: *Barbara Rhead* DATE: *9-11-08* TIME: *1:00*  
 SEAL NO. \_\_\_\_\_ SEAL INTACT YES: NO: INITIALS \_\_\_\_\_ NOTES \_\_\_\_\_ TEMP. ON ARRIVAL: *73*

PLEASE NOTE: SIGNING ACKNOWLEDGES ACCEPTANCE OF TERMS & CONDITIONS ON REVERSE SIDE