

## ENCORE PROJECT SUMMARY FORM

Revision No. 6 Revision Date: 6/3/08
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**GENERAL INFORMATION**

**Site Name:** General Motors Powertrain - Saginaw Malleable Iron Plant

**Site No.:** 128

**Site Address:** 77 West Center Street  
Saginaw, Michigan

**Site Type:**       Superfund                       Inactive/Sold  
 Operating Plant                       Closed Plant  
 Other

**Site Program:**       Federal                       State  
 Voluntary                       Transaction Agreement  
 Other

**Regulatory Oversight:**       Yes                       No

**GM Program Manager:**

Name: Ed Peterson

Phone No.: (248) 753-5849

E-mail: ed.e.peterson@gm.com

**GM Project Manager:**

Name: Cheryl Hiatt

Phone No.: (248) 753-5799

E-mail: Cheryl.r.hiatt@gm.com

**Other GM Personnel****Working on Project:**

Name: Ken Gembel

Phone No.: (248) 753-5678

E-mail: ken.gembel@gm.com

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Name: Anthony Thrubis  
 Phone No.: (313) 665-4768  
 E-mail: Anthony.p.thrubis@gm.com

Name: Chris Horezniak  
 Phone No.: (248) 753-5823  
 E-mail: Chris.horezniak@gm.com

**Consultant (If Any):**

Firm Name: Conestoga-Rovers & Associates  
 Address: 651 Colby Drive  
 Waterloo, Ontario N2V 1C2  
 Contact Name: Michael Tomka  
 Phone No.: (519) 884-0510  
 E-mail: Mtomka@croworld.com

Firm Name: ARCADIS BBL  
 Address: 6723 Towpath Rd. P.O. Box 66  
 Syracuse, New York 13214  
 Contact Name: Lisa Coffey  
 Phone No.: (315) 446-9120  
 E-mail: lisa.coffey@arcadis-us.com

Firm Name: Environ  
 Address: 214 Carnegie Center  
 Princeton NJ 08536  
 Contact Name: Mark Nielsen  
 Phone No.: (315) 446-9120  
 E-mail: mnielsen@environcorp.com

**Contractor (If Any):**

Firm Name: Champagne & Marx (no current contract)  
 Address: 1445 Liberty Road  
 Saginaw, Michigan 48604  
 Contact Name: Dave Marx  
 Phone No.: 989-755-8971

Firm Name: Fisher Contracting Company (no current contract)  
 Address: 614 S. Jefferson Avenue, P.O. Box 1787  
 Midland, Michigan 48641-1787  
 Contact Name: Mike Yenior  
 Phone No.: 989-835-7771

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Firm Name: Young's Environmental Cleanup, Inc. (no current contract)

Address: G-5305 North Dort Hwy,  
Flint, Michigan 48505

Contact Name: Toni Roda

Phone No.: 810-789-7155

Firm Name: K&D Industries Inc. (no current contract)

Address: 2962 Venture Drive  
Midland, Michigan 48640

Contact Name: Larry Shudark

Phone No.: 989-839-0650

***Agency Contact:***

Agency Name: Michigan Department of Environmental Quality - R&RD

Address: 506 N. Euclid Ave  
Bay City, Michigan 48706

Contact Name: Sue Kaelber-Matlock

Phone No.: (989) 686-8025 x8303

E-mail: matlocks@michigan.gov

Agency Name: City of Saginaw

Address: 1315 S. Washington Ave.  
Saginaw, Michigan 48601

Contact Name: Jason Casteel

Phone No.: JCasteel@saginaw-mi.com

Agency Name: U.S. EPA

Address: 77 West Jackson Boulevard  
Chicago, IL 60604-3507

Contact Name: Hak K. Cho

Phone No.: (312) 886-0988

Agency Name: U.S. EPA

Address: 77 West Jackson Boulevard

Contact Name: Alan Debus

Phone No.: (312) 886-6186

E-mail: Debus.allen@epamail.epa.gov

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*Consultant ENCORE Contact:*

Name:	Ian Richardson
Phone No.:	(519) 884-0510
E-mail:	Irichardson@croworld.com

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## END OF GENERAL INFORMATION

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The SMI Plant Property consists of approximately 160 acres located along the Saginaw River adjacent to the southern boundary of the City of Saginaw, Michigan. The REALM Green Point Landfill Property adjoins the site to the south. The main manufacturing facility occupies an area of approximately 1 million square feet. Operations at the facility consisted of activities associated with casting and heat-treating iron. Sands were combined with resins and formed into molds; molten iron was then poured into the molds, and the molds were then disassembled. The resultant castings were then heat treated and quenched to develop malleability.

The SMI Plant ceased operations on April 20, 2007.

***Current Owner/Operator:***

Company Name: General Motors Corporation  
 Address: PCC Central, 2000 Centerpoint Parkway  
Mail Code 483-520-190, Pontiac, MI 48341  
 Contact Name: Cheryl Hiatt Phone No.: (248) 753-5799

***ENCORE Contractual Responsibilities: (if not owned by GM/ENCORE)***

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***Property Description: (Attach Site Map)***

Size: 156 acres Zoning: Industrial

***Surrounding Landuse/Zoning: (Attach Map, if available)***

North: Residential/Industrial  
 South: REALM vacant land  
 East: River (Saginaw River)  
 West: Industrial/Vacant land

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GENERAL INFORMATION (CONTINUED)

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END OF SITE INFORMATION

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The area is generally flat with the exception of two closed Type III landfills that rise approximately 20 to 30 feet above grade. A 16-acre Secondary Settling Pond that was formerly part of the Plant's process Water Recirculation System occupies the southeast corner of the property.

**Geologic Description:** (include General Geological Column Schematic)

Overburden:

Fill - a mixture of foundry sand and rubble from construction debris with slag and metal pieces also present.

Upper Silty Clay - soft gray silty clay and silt.

Upper and Lower Sand - fine to coarse sand 10-35 feet thick, thickening toward the River. Units merge to the west.

Discontinuous coarse sand and gravel at the base of the sand, 2-10 feet thick.

Middle Silty Clay - clay between the Upper and Lower Sand.

Lower Silty Clay/Glacial Clay Till.

Cross-sections are provided as attachments.

Bedrock:  
(If Appropriate)

Saginaw Formation gray shale and coal, approximately 80-90 feet below grade.

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Overburden:

Unconfined water table conditions with two upper sand units, which merge into one unit and then pinches out to the west. There is a thick clay aquitard beneath the sand and shale beneath the clay. Flow is radial from the Green Point Landfill on REALM property and to the east regionally.

Fill  $K=1.54 \times 10^{-3}$  cm/secSilt  $K=1.05 \times 10^{-3}$  cm/secUpper Sand  $K=1.41 \times 10^{-3}$  cm/secLower Sand  $K=3.86 \times 10^{-3}$  cm/secUpper Clay  $K=1.07 \times 10^{-6}$  cm/secLower Clay  $K=2.83 \times 10^{-6}$  cm/secBedrock:  
(If Appropriate)

Shale (unknown).

***Groundwater Usage:***Site Usage:  
(If Any)

None.

Regional Usage:  
(If Any)

None known - City of Saginaw pumps from Lake Huron.

***Hydrologic Description:*** (include Map if appropriate)

Drainage toward the wetlands and drainage ditches.

**END OF REGIONAL INFORMATION**

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<i>Area/Unit of Concern Project Description</i>	<i>Team Players</i>		
	<i>Name</i>	<i>Company</i>	<i>Role</i>
SMI Facility	Cheryl Hiatt	GM	Project Manager
	Edward Peterson	GM	Program Director
	Ian Richardson	CRA	ENCORE LLC
	Michael Tomka	CRA	Investigation & Engineering
	Lisa Coffey	ARCADIS BBL	Investigation & Engineering
	Anthony Thrubis	GM	GM Legal
	Mark Nielsen	ENVIRON	CA 725 Environmental Indicator

(COPY AND COMPLETE ABOVE FOR EACH AREA/UNIT OF CONCERN)

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**END OF OVERALL PROJECT TEAM ORGANIZATION/RESPONSIBILITIES**

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AREA/UNIT OF CONCERN (COMPLETE FOR EACH SEPARATE AREA OR UNIT AT THE SITE)

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## NAME OF AREA/UNIT OF CONCERN:

*Area/Unit Status:*

- |   |   |
|---|---|
| <input type="checkbox"/> Inactive                   |   |
| <input type="checkbox"/> Due Diligence              |   |
| <input checked="" type="checkbox"/> Investigation   | <ul style="list-style-type: none"> <li>• PCBs in Sewers</li> <li>• Site-wide RI/FS</li> <li>• Concrete slab investigation</li> </ul>  |
| <input checked="" type="checkbox"/> Remedial Design | <ul style="list-style-type: none"> <li>• Plant Decommissioning and Demolition</li> <li>• Site stormwater management following demolition</li> </ul>   |
| <input checked="" type="checkbox"/> Remedial Action | <ul style="list-style-type: none"> <li>• Monitored natural attenuation of UST 7 - ongoing</li> <li>• PCB oil recovery from LNAPL system - ongoing</li> <li>• PCB oil recovery from Quench Pit system - ongoing</li> <li>• Installation of Ferret In-Well Separator at Inverted Siphon</li> <li>• Closed ditches previously used for plant process water</li> <li>• Closed primary settling pond. Installed Recycle water treatment plant</li> <li>• Lined stormwater pond</li> <li>• Excavated manganese impacted soil from berm and used soil as fill during ditch filling</li> <li>• Removed PCB impacted soils during Melting area remediation. Remaining soils capped.</li> </ul> |
| <input checked="" type="checkbox"/> O&M             | <ul style="list-style-type: none"> <li>• LNAPL Recovery Systems (South of Plant and in Quench Pit Area) - ongoing</li> <li>• Former UST #7 MNA monitoring program - ongoing</li> <li>• Plant Oil-Water Separator - ongoing</li> <li>• Inverted Siphon System - anticipated O&amp;M</li> <li>• BUSS Tunnel Treatment System Cleanout</li> <li>• Pumping water from stormwater pond to secondary pond</li> </ul>  |
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(Attach Figure)

Activities have been completed on Site to deal with historic PCB usage, including capacitor and transformer replacement and excavation beneath capacitor rooms. An RI/FS/RAP is currently being conducted at the site. **Note that the ongoing RI/FS activities have been completed for the combined SMI Plant Property and REALM Green Point Landfill Property, and that RI/FS project activities and costs have been tracked as part of the separate REALM Green Point Landfill project.**

LNAPL recovery is ongoing in two areas of the site (south of plant building and in former quench pit area).

A sewer investigation and numerous sewer remedial activities have been completed to address detection of PCB in the compliance point for the Plant. Sewers were cleaned, abandoned, or re-lined as appropriate. There is a Consent Agreement currently between the Plant and the City of Saginaw.

The CA 725 Environmental Indicator was submitted to U.S. EPA on July 31, 2007.

Monitoring of the mitigation wetland was completed in 2006.

The SMI Plant ceased operations on April 20, 2007, decommissioning and demolition activities have been ongoing since. As part of the decommissioning, GM is working with the City to separate the City sewers from the GM sewers.

*High Priority Issues/  
Action Items:*

- Continuing to remove PCB oil from the LNAPL and Quench Pit areas.
- Evaluate sewers discharging to SWP to eliminate oil from

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- entering the SWP.
  - City of Saginaw Consent Order Activities.
  - Separate GM sewers from City sewers
  - Develop Concrete Slab Risk Based Work Plan
  - Develop Concrete Slab Self-Implementing Work Plan
  - Develop Facility Closure Plan including post-closure Stormwater Management Plan.
  - Finalize RAP
  - Address Ammonia exceedances of FAV
  - Plant Decommissioning and Demolition
  
  - Separate sewer system from City sewers.
  - Realize synergies with Greenpoint Landfill activities
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Continue to improve remove PCB oil at LNAPL area and at Quench Pit area.  
 Implement Concrete Slab Risk Based Work Plan. Implement Concrete Slab Self-Implementing Work Plan.  
 Implement Facility Closure Plan including post-closure Stormwater Management Plan including Cover for concrete slab, overland stormwater control, and Stormwater pond creation.  
 Address ammonia exceedances of FAV in groundwater.  
 Finalize RAP.  
 Plant demolition.  
 Separate GM's sewer system from the City sewers.  
 Realize synergies with Greenpoint Landfill activities

*- Stretch:*

Evaluate excavation of LNAPL and Quench Pit areas. This would remove the need to recover oil long term and minimize long term monitoring. Seal off the sewers from Delphi as potential source of current PCB (may require assisting the City with changing the sewer connection to the Center Street sewer from Delphi).

*Strategy to Achieve Long-Term Goals:*

Complete a design to separate the sewers and obtain City approval to implement.  
 Consider design options (as appropriate) to optimize LNAPL removal.  
 Consider post-closure stormwater management options.

*Schedule:* (attach Figure, if appropriate)

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AREA/UNIT OF CONCERN (CONTINUED)

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## ENCORE PROJECT SUMMARY FORM

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Improve rate of LNAPL recovery.  
 Eliminate oil from entering SWP.  
 Groundwater sampling along river.  
 Well abandonment.  
 UST 7 sampling and reporting.  
 Development of plan for LNAPL System.  
 Plant decommissioning support.  
 City of Saginaw Consent Order Activities.  
 Installation of sewer for discharge from LNAPL system.  
 Development and implementation of Risk Based Disposal Work Plan.  
 Development and implementation of Concrete Slab Self-Implementing Work Plan.  
 Development and implementation of Stormwater Management Plan.  
 Mixing Zone analysis for constituents exceeding relevant GSI criteria  
 Address ammonia exceedances of FAV in groundwater.  
 Finalize RAP.  
 Plant demolition.  
 Separate GM's sewer system from the City sewers.  
 Realize synergies with Greenpoint Landfill activities

*- Stretch:*

Plant Demolition.  
  
 Separate GM's sewer system from the City sewers.  
  
 Submit Risk Based Disposal Work Plan to U.S. EPA

*Strategy to Achieve Short-Term Goals:*

Consider design modifications to LNAPL recovery system south of plant to improve recovery rate.  
  
 Continue evaluation of single pump LNAPL recovery operation in quench pit area and install additional recovery pumps as appropriate.  
  
 Complete a design to separate the sewers and obtain City approval to implement.  
  
 Consider the options of leaving the concrete slab in place (Risk based and Self-implementing approach) and the Stormwater Management options.

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*Schedule (attach Figure, if appropriate):*

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***Summary of Work Activities Planned for Next Year:***

Monitor LNAPL system per plants discharge permit, and sample sewers per Consent Agreement with the City of Saginaw.

O&M of LNAPL Recovery Systems (South of Plant and in Quench Pit Area), , and anticipated O&M of the Inverted Siphon System.

Plant decommissioning.

Plant demolition and post-closure activities.

Negotiate with City to separate sewer system.

Finish RAP.

Groundwater sampling.

Submit Risk Based Disposal Work Plan to U.S. EPA.

Coordinating groundwater sampling with Greenpoint Landfill closure sampling.

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### *Financial Assurance*

1. Is financial assurance required for this project? Yes  No   
If No, proceed to next section.

**FINANCIAL ASSURANCE IS NOT CURRENTLY REQUIRED FOR THE SITE; HOWEVER, IT WILL BE REQUIRED AS PART OF THE FINAL SITE REMEDIAL ACTION PLAN.**

2. Confirm that the detailed cost estimate associated with the financial assurance requirements was reviewed during this past year to determine whether revisions (other than adjustments for inflation made by WFG Finance) are appropriate.  
Yes  No

If revisions are appropriate, please refer to "Preparation of Cost Estimates for REALM and ENCORE Projects" Section in the REALM APM and ENCORE APM.

3. Provide the date of the most current agency approved cost estimate associated with financial assurance and the title and date of the document that contains it.

Cost estimate amount: \_\_\_\_\_

Date of cost estimate: \_\_\_\_\_

Title of document: \_\_\_\_\_

Date of document: \_\_\_\_\_

4. Provide the title and date of the agency approval document for the above referenced cost estimate.

Title of document: \_\_\_\_\_

Date of document: \_\_\_\_\_

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**AREA/UNIT OF CONCERN (CONTINUED)**

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*Potential Concerns/Factors Influencing Project Completion/Cost*

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*Other (Needs/Wants/Resources and Schedules, etc.)*

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**AREA/UNIT OF CONCERN (CONTINUED)**

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<b>Work Activities:</b> Planned for Upcoming Year	<b>Activity</b>	<b>Time Period</b>	<b>Bid Date</b>
	Plant decommissioning	Ongoing	_____
	O&M	Ongoing	_____
	Finish RAP	Ongoing	_____
	Groundwater Sampling	Ongoing	_____

<b>Activities Where:</b> Synergies with Other Sites may Exist for Upcoming Year	<b>Activity</b>	<b>Time Period</b>	<b>Other Site(s)</b>
	Greenpoint Landfill Closure Sampling	Ongoing	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

**END OF AREA/UNIT OF CONCERN**

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