Livonia Components

Site Location: **Livonia, Michigan**
EPA ID Number: **MID005356621**

The former GM Livonia Components facility ("Site") is located at 13000 Eckles Road in Livonia, Wayne County, Michigan, approximately 24 miles northwest of Detroit, Michigan. The Site occupies approximately 120 acres in a generally industrial area on the western edge of Livonia. A residential area is located to the southeast of the Site on the south side of Amrhein Road. The Township of Plymouth is located across Eckles Road to the west of the Site. (See Figure 1 for a Site Location Map.)[1]

Site Operations[2]:

The Site was purchased by General Motors Corporation (GM) in 1953 and was vacant or agricultural land prior to that time. Initial Site development began in 1953 with the construction of the spring and bumper building. Beginning in 1954, Site operations included the manufacture of vehicle bumpers, leaf springs, coil springs, and struts. Support activities included bumper plating, metal forming, heat treating, metal plating/finishing, assembly, recycling of quench/lubricating oils, degreasing and parts cleaning, and the use of sumps, pits, collection trenches, and vessels for spent materials recovery operations.

Between 1954 and 1998, the Site was operated by various divisions of GM. Historically the Site included 14 buildings comprising approximately 2.1 million square feet (See Figure 2 for a Historical Process and Building Locations Map). Bumper plating operations ended in 1993, and, in 1998, the majority of the Site was sold to Chasco Systems, Inc. (Chasco). In October 1998, the vacant property located at 38401 Amrhein Road (South Parcel) was conveyed from GM to Convington Center LLC and is no longer considered part of the Site.

Environmental decommissioning of the Site began in 1999 and continued through 2001. All on-site structures were demolished in 2001 with the exception of concrete floor slabs and a french drain groundwater collection and treatment system located on the southwest corner of the Site. (Decommissioning and demolition costs are not included in this analysis.)

The only continuing operations at the Site involve the collection and treatment of groundwater impacted primarily from the historical chrome plating operations at the Site (See Figure 3 for a Current Site Layout).

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[1] Current Conditions Report, 13000 Eckles Road Site (Livonia, Michigan), Volume I, Conestoga-Rovers & Associates (CRA), June 2002.
[2] *Ibid.*

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Regulatory History[3]:

In January 1992, PRC Environmental Management, Inc. prepared a Preliminary Assessment and Visual Site Inspection (PA/VSI) Report for the Site on behalf of the United States Environmental Protection Agency (USEPA). The PA/VSI Report identified and described 38 Areas of Interest (AOIs) at the Site. The USEPA and GM began discussions in early 2001 related to implementation of a Resource Conservation and Recovery Act (RCRA) corrective action program. These discussions ultimately concluded with a RCRA Corrective Action Agreement (the "Agreement") that became effective in October 2001 and is being implemented by a wholly-owned subsidiary of GM, Remediation and Liability Management Company, Inc. (REALM).

The Agreement provided the following scheduling deadlines:

- February 2002 – Complete Current Conditions Report (CCR)
- November 2003 - Satisfy human health environmental indicator (EI) requirements
- October 2004 - Satisfy groundwater EI requirements
- April 2005 - Submit final corrective measures proposal

Pursuant to the Agreement, GM submitted a CCR in June 2002. Based on additional environmental data collected at the Site subsequent to the 1992 PA/VSI, the CCR further described and defined the 38 AOIs and identified 18 AOIs that warranted additional investigation as part of a subsequent RCRA Facility Investigation (RFI).

Stages I through III of the RFI were completed in December 2003. Stages I through III of the RFI included subsurface investigation(s) within each of the 18 AOIs identified in the CCR as well as five additional AOIs identified during pre-RFI investigatory activities. In addition, interim measures, which included the excavation and off-site management of impacted soils, were completed in the Mud House Area (AOI 5) and the Former Fire Training Area (AOI 31) (See Figure 2).

Past Response Actions[4]:

Groundwater Collection and Treatment System

Between 1980 and 1981, GM installed a french drain groundwater collection system along the southern extent of the historical chrome plating operation (the "Former Chrome Plating Area") to address elevated levels of nickel and hexavalent chromium in the

[3] *Ibid.*
[4] *Ibid.*

groundwater. Collected groundwater was treated in an on-site treatment plant and subsequently discharged to the DWSD municipal sewer system as authorized by GM's wastewater permit. Operation of this system continues to date.

Polychlorinated Biphenyl (PCB)-contaminated Soil Removal from the Former Fire Training Area

The Former Fire Training Area historically operated in the southeastern portion of the property in support of on-site manufacturing operations, which began at the site in 1954. In June 1998, City Environmental Contracting, Inc. of Detroit, Michigan excavated approximately 520 cubic yards of PCB-contaminated soil from within the Former Fire Training Area. All excavated materials were transferred off-site for disposal.

Underground Storage Tank Removals

GM has removed ten underground storage tanks (USTs) historically present at the Site. Visibly impacted soil was excavated and disposed in conjunction with removal of the USTs. Those USTs where impacted soil was excavated are described below:

- UST No. 3 – UST No. 3 was a 500-gallon diesel fuel tank located adjacent to the incinerator building on the northern portion of the Site. UST No. 3 was installed at the Site in April 1955 and operated until 1975. The tank and all associated equipment, as well as visually impacted soil, were removed in 1993.

- USTs No. 4 and No. 5 – USTs No. 4 and No. 5 were 3,000-gallon gasoline and diesel USTs, respectively, that were located in the vicinity of the gate area on the western portion of the Site. Both tanks were removed from the Site in April 1990 along with approximately 730 cubic yards of contaminated soil and approximately 12,000 gallons of groundwater.

- UST No. 6 – UST No. 6 was a 3,000-gallon gasoline UST located in the northeast portion of the Site. The tank was removed in 1989 along with all ancillary equipment and approximately 360 cubic yards of impacted soil. Subsequent soil and groundwater samples identified petroleum-related volatile organic compounds (VOCs) and chlorinated VOCs in groundwater within the vicinity of UST No. 6. Initial Site and Final Assessment Reports (ISA and FAR) were submitted to the MDEQ in May 2001 and December 2001, respectively.

- USTs No. 7 and No. 8 – USTs No. 7 and No. 8 were 5,000-gallon gasoline and diesel USTs, respectively, located in the vicinity of UST No. 6 (described above). Both tanks were removed from the Site in October 2000. Due to the close proximity of these USTs to UST No. 6 and the associated groundwater

impacts associated with UST No. 6, USTs No. 7 and No. 8 were grouped together with UST No. 6 in the above-mentioned ISA and FAR.

- USTs No. 9 and No. 10 – USTs No. 9 and No. 10 were both 50,000-gallon fuel oil USTs located on the northern portion of the Site. Both tanks were removed in October/November 2000 along with approximately 650 cubic yards of contaminated soil.

Current Environmental Issues and Future Remedial Actions:

Future remedial activities at the Site include the completion of Stage IV of the RFI and the completion of interim measure pilot studies within the Former Chrome Plating Area and the Former Fire Training Area. In addition, potential future cleanup at the Site could include the expansion and continued operation of the groundwater collection and treatment system within the Former Chrome Plating Area, and the treatment of on- and off-site groundwater impacted by trichloroethylene (TCE) within and to the south of the Former Fire Training Area.

Former Chrome Plating Area

As discussed above, a french drain groundwater collection system was installed at the Site to address hexavalent chromium and nickel impacted groundwater within the southwestern portion of the Site. Groundwater collected by the french drain system is currently treated at a rate of approximately 70 gpm via pH adjustment and metals precipitation processes prior to discharge to the municipal sanitary sewer system. Groundwater data collected as part of the RFI indicates that nickel-contaminated groundwater has circumvented the french drain collection system and has migrated off-site to the south. Concentrations of nickel in off-site groundwater located to the south of the Site currently exceed applicable MDEQ industrial screening criteria.

To address off-site migration of contaminated groundwater, CRA has proposed the injection of sodium dithionate and molasses within the Former Chrome Plating Area to immobilize hexavalent chromium and nickel in the groundwater. Off-site groundwater extraction wells may be required to supplement the remediation.

Former Fire Training Area

Historical environmental investigations within the Former Fire Training Area have identified a plume of TCE-impacted groundwater beneath the Former Fire Training Area and beneath a residential area to the southeast of the Site. TCE is currently present in both on- and off-site groundwater above applicable MDEQ industrial and residential screening criteria (i.e., drinking water criteria).

CRA has proposed to treat the on-site TCE plume using an in-situ chemical oxidation technology – the subsurface injection of potassium permanganate. Because TCE has

migrated off-site and is currently present beneath a residential area at concentrations that exceed MDEQ residential screening criteria, GM could be required to address the off-site TCE plume through the expansion of the in-situ chemical oxidation remediation system.

Additional Environmental Issues:

Natural Resources:
Newburgh Lake, which is located approximately 2,000 feet south of the Site, has historically been impacted by industrial discharges from local facilities. PCBs were identified in Newburgh Lake fish in 1988. The Rouge River Watershed, which includes Newburgh Lake, has been the subject of a comprehensive restoration effort funded by USEPA grants. Related activities undertaken at Newburgh Lake included the excavation of approximately 390,000 cubic yards of PCB-contaminated sediment and the collection and disposal of PCB-contaminated wildlife.[5] GM anticipates reaching an approximately $500,000 settlement in regard to this matter with the City of Wayne.

Third Parties:
A plume of TCE-contaminated groundwater originating from the Site currently exists beneath a residential area located to the southeast of the Site. Based on groundwater samples collected from within this residential area during the RFI, TCE concentrations are above the MDEQ residential drinking water standard. Potential future third-party claims have not been quantified at this Site.

Remediation Costs:

From 1998 through December 2003, General Motors has incurred approximately $8 million in past costs.

GM's exposure to potential future costs for environmental remediation at the Site is estimated to be approximately $33.9 million[6], as shown in Attachment C.

[5] Current Conditions Report, 13000 Eckles Road Site (Livonia, Michigan), Volume I, Conestoga-Rovers & Associates (CRA), June 2002.
[6] Future costs presented here in nominal dollars (includes price inflation).

Attachment A: Site Figures

Figure 1 – Regional Site Location Map
Figure 2 – Historical Process and Building Locations Map
Figure 3 – Current Site Layout

Attachment B: Ongoing, Planned and Potential Future Remedial Actions

Attachment C: Supporting Cost Schedules

Attachment D: Information Sources

ATTACHMENT A
SITE FIGURES

ATTACHMENT B
ONGOING, PLANNED AND POTENTIAL FUTURE REMEDIAL ACTIONS

Area	Remedial Actions
Studies and Investigation	Complete the RFI and interim measures pilot studies. • Complete Stage IV of the RFI and all associated reporting requirements. • Complete sodium dithionite and molasses chemical injection pilot study within the Former Chrome Plating Area. • Complete an in-situ chemical oxidation pilot study within the on-site portion of the Former Fire Training Area TCE plume.
Groundwater - Former Chrome Plating Area	Expand the existing groundwater collection system and continue operation of the current groundwater treatment system. Expand the current groundwater collection system: • Install seven, 10-gpm groundwater extraction wells on the adjacent property to the south of the current french drain groundwater collection system. • Install underground piping to connect the new groundwater extraction wells to the existing groundwater treatment system located on the southwestern portion of the Site (approximately 700 feet). Operations and Maintenance: • Continue operation and maintenance of the existing groundwater treatment system. Long-term Groundwater Monitoring: • Semi-annual sampling of 20 existing groundwater monitoring wells located within the Former Chrome Plating Area and on the adjacent off-site property to the south. • Analysis and reporting of all collected groundwater samples for metals constituents

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Area	Remedial Actions
Groundwater - Former Fire Training Area	The remediation of the on- and off-site TCE plume via in-situ chemical oxidation. In-situ Chemical Oxidation: • Inject approximately 775,000 gallons of 2% (wt/wt) potassium permanganate solution into the subsurface via a series of groundwater injection wells distributed throughout the existing 400,000 square foot TCE plume. • Install 15 groundwater injection wells and all associated trenching and piping within the observed TCE plume. • Inject potassium permanganate solution at an average rate of 5 gpm over an approximately three-month period of time. • Biweekly sampling of 15 groundwater monitoring wells for VOCs. Long-term Ground Water Monitoring: • Quarterly monitoring of 40 existing on- and off-site groundwater monitoring wells for a period of 5 years. • Analysis and reporting of all collected groundwater samples for VOCs.

ATTACHMENT D
INFORMATION SOURCES

"Voluntary Corrective Action Agreement Between the United States Environmental Protection Agency and General Motors Corporation for Delphi Chassis Systems, Livonia, MI", United States Environmental Protection Agency (USEPA), October 2001.

"Current Conditions Report, 13000 Eckles Road Site (Livonia, Michigan), Volume I", Conestoga-Rovers & Associates (CRA), June 2002.