REMEDIAL ACTION DESIGN REPORT

ROCK RIVER SEDIMENT REMOVAL PROJECT

FORMER GM ASSEMBLY PLANT

JANESVILLE, WISCONSIN

BRRTS Activity # 02-54-577951

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EXECUTIVE SUMMARY

The Former General Motors (GM) Assembly Plant (the Site) located in Janesville (Rock County), Wisconsin has been assigned WDNR Bureau for Remediation and Redevelopment Tracking System (BRRTS) Number (#) 02-54-577951. A Site Location Map and a Site Plan Aerial are provided as **Figures 1 and 2**. The Site sits near the Rock River, and sediments impacted by contaminants of concern, including polycyclic aromatic hydrocarbons (PAHs), lead, mercury, and polychlorinated biphenyls (PCBs), were identified near the Adjacent Outfall where storm water from the former plant discharged along Delavan Drive in Janesville. Multiple site investigations and remedial evaluations were conducted by GM consultants and documented in the *Sediment Investigation* R*eport* (GHD Report No. 21, May 2016), the *Rock River Site Investigation Report* (GHD Report No. 30, May 2017), and the *Remedial Action Options Report* (GHD Report No. 32, May 2017). Additional information regarding the sedimentation in the affected reach of the Rock River has previously been presented in studies completed for the City as part of the Monterey Dam demolition planning (Inter-Fluve, Inc., 2015).

The project objectives put forth in this report revolve around removing potential threats (associated with impacted sediment) to the benthic invertebrate community in the vicinity of a Site-related storm water outfall that empties into a small stretch of the Rock River and lays out a plan to re-establish native vegetation along the post-remedial shoreline.

This Remedial Action Design Report (RADR) presents the project approach for removal of approximately 15,000 to 20,000 cubic yards (cys) of impacted sediment from a designated Remedial Action Area (see **Figure 3**). This Remedial Action Area covers approximately two acres within the Rock River in the pool upstream from the Monterey Dam near the Adjacent Outfall. Sediment thickness varies from between 2 to 7 feet and is located under 3 to 8 feet of water, depending on location and river elevation (**Figures 4a through 4d**).

The project approach, as visualized on **Figure 3**, involves hydraulically dredging the impacted material out of the river in a slurry of river water and sediment. The slurry will then be conveyed through temporary piping installed through the Adjacent Outfall channel leading back to the grit chamber at the Site (with a contingency for the operation of a booster pump near the grit chamber). The slurry will then be injected with polymer additives to assist with dewatering activities (binding the particulates in an effort to aid them dropping out of solution). Polymer dosing will be based upon results of bench-scale studies currently in process. The polymerized slurry will then be pumped into geotextile tubes. The tubes are designed to allow water to flow out of them while retaining the solids (impacted sediments, in this case) inside the tubes. The geotextile tubes will be placed north of the former tire building along Delavan Drive. Geotextile filter tubes provide a high volume, high flowrate solution for sediment dewatering that is a proven technology utilized at multiple contaminated sediment dredging sites across the nation. Once dewatered, dried sediments from each filter tube will be characterized for proper re-use onsite or final disposal offsite. Previous analytical results from sediment and porewater samples indicate the dried sediments may provide beneficial re-use as fill materials during redevelopment of the Site. A stockpile will be created south of the grit chamber and best management practices (i.e., silt fence) will be utilized for storm water runoff protection in accordance with local and State law. Erosion protections will be constructed extending from the Adjacent Outfall to the new

channel after dam removal, and the shoreline will be restored with native vegetation in consideration of the future observable high-water mark (based on elevations expected post-demolition of the Monterey Dam). The project is anticipated to begin mid-summer of 2018 and dredging operations should be completed within approximately 3 to 4 months from date of start. Site restoration will be completed in coordination with the City's activities along the northern shore during the spring of 2019 (**Figures 5 and 6**).

All work will be conducted in accordance with permits from the Wisconsin Department of Natural Resources (WDNR), the Army Corps of Engineers (ACOE), and in coordination with the City of Janesville. A pre-application meeting (docket # INF-SC-2018-54-00686) was held with the WDNR and City of Janesville at the WDNR office in Janesville on March 1, 2018 to review the conceptual approach, determine draft remedial action design components for this report, review permit application requirements, and coordinate project timelines for approval and implementation. Meeting minutes were kept and a copy is included as **Attachment A**.

1.0 INTRODUCTION

The Site is the Former General Motors Assembly Plant located in Janesville (Rock County), Wisconsin, and has been assigned WDNR Bureau for Remediation and Redevelopment Tracking System (BRRTS) Number (#) 02-54-577951. Sediment impacts in the Rock River were identified near the outfall of the plant's storm water discharge pipe located north of the former Assembly Facility, and immediately north of the electrical substation in Janesville as documented in the *Site Investigation Report Rock River* (RM 178.5 to 180.5) dated May 31, 2017. A *Remedial Action Options Report Rock River* (RM 178.5 to 180.5) per ch. NR 722.07 (RAOR) dated September 28, 2017 was submitted by General Motors LLC (GM). A meeting with GM, its consultants, and representatives of Jaines, LLC was held at the local WDNR office on October 24th, 2017. The Department subsequently accepted the RAOR report in a letter dated November 10, 2017. All of these documents and other resources were utilized in preparation of this Remedial Action Design Report (RADR).

A pre-application meeting (docket # INF-SC-2018-54-00686) was held with the WDNR and the City of Janesville at the local WDNR office on March 1, 2018 to review the conceptual approach, determine draft remedial action design components of the report, discuss permit application requirements, and coordinate project timelines for approval and implementation. Meeting minutes were kept and a copy is included as Attachment A.

This RADR presents the project approach and objectives for removal of approximately 15,000 to 20,000 cubic yards of impacted sediment from a designated remedial action area covering approximately two acres within the Rock River in the pool upstream from the Monterey Dam.

1.1 Contacts

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1.2 Background

The Site, located at 1000 General Motors Drive in Janesville (Property), comprises approximately 145 acres of land, including approximately 4.8 million square feet (ft) of floor space located in the Main Assembly Building (Plant Building), as well as several ancillary structures. Storm water was conveyed to the Rock River via the Adjacent Outfall and Northeast Outfall #1. The Site Location is presented on **Figure 1**. GM sold the Property to Jaines, LLC in December 2017.

The Monterey Dam, constructed in 1846, is located approximately ¼-mile downstream of the Site and contains two spillways. The City of Janesville approved the removal of the Monterey Dam on March 27, 2017; however, legal actions by local parties are anticipated to delay that project, possibly into 2019 or beyond. The City approved the dam demolition contracts at its City Council meeting on March 12, 2018. EnviroAnalytics Group, on behalf of Jaines, LLC, has requested the City defer the start of the pool draw down for dam demolition until at least the fourth quarter of 2018 so that sediment removal activities can be completed.

1.3 Site Setting

Storm water collected from the main assembly plant portion of the Property discharged to the Rock River via a permitted outfall, (Outfall 010, located north of the former GM Facility and north of the electrical substation. It is permitted under Wisconsin Pollutant Discharge Elimination System [WPDES] – Tier 2 General Permit No. WI-S067857-4. Discharge from Outfall 010 combines with storm water from other properties in the vicinity of the Site and discharges to the Rock River via an outfall referred to in this Report as the Adjacent Outfall (see **Figure 2**). Storm water runoff from other parts of the Property and the WWTP discharge water combine with runoff from other properties in the vicinity and discharge to the Rock River via outfalls located east (City Northeast Outfall 1) and west (City West Outfall) of the Property. The segment of the Rock River near the Site flows from east to west and ranges in width, depending on location, between 500 ft to 800 ft wide.

1.4 Nature and extent of contamination in sediments

A study of sediment quality upstream of the Monterey Dam was performed by Inter-Fluve, Incorporated in 2015 (Inter-Fluve, Inc., 2015) and GM's consultant, GHD. GM consultants performed further investigations of the sediment conditions immediately around the Adjacent Outfall. Sediment composition is described as silt with fine sand and organics, underlain by gravel and cobbles. The *Sediment Investigation Report* (GHD Report No. 21, May 2016) and *Rock River (Mile 178.5 to 180.5) Site Investigation Report*

(GHD Report No. 30, 2017) document the collection of samples and evaluation of analytical results of the Site Investigation activities. Surface water, porewater, and sediment data were collected to determine whether discharges to the Rock River from the three storm water outfalls in the Adjacent Area have affected surface water and/or sediment quality, and, if so, to then define the nature and extent of the impact.

The results from the Site Investigation showed sediment impacts have potential ecological concerns localized near the Adjacent Outfall. The highest sediment concentrations of polycyclic aromatic hydrocarbons (PAHs), metals (e.g., lead), and polychlorinated biphenyls (PCBs) are focused within an approximately 1.7-acre area around the Adjacent Outfall (as presented on Figure 6.1 of the Site Investigation Report but is not included in this document). The concentrations of chemicals of potential concern (COPCs)/chemicals of potential ecological concern (COPECs) in sediment outside this area are generally similar to concentrations found in the upstream and downstream sediment data collected during the field investigation. These results indicate that the investigations have adequately characterized the quality of sediments in the project area with respect to the extent of the COPCs/COPECs.

The potential for unacceptable ecological risk was assessed using methods and assumptions based on WDNR and USEPA ecological risk assessment guidance, incorporating site-specific data from the field investigation, and professional judgment. The majority of sediment samples were collected as "surface" sediments from 0 to 0.5 ft. Samples were also collected from 0.5 to 2.0 ft and composite samples of the two intervals were also submitted for several locations. Additional deeper samples were collected at several locations throughout the sediment thickness until refusal was reached. USEPA considers the top one foot of sediment as the biologically active zone. Inclusion of the two-foot sample is conservative and consistent with intervals to evaluate both ecological and human health risks. The potential impacts were evaluated through the column of sediment/soil in and below the biologically active zone near the Adjacent Outfall. The evaluation indicated only one ecological "risk driver" as being *potential impacts to the benthic invertebrate community*. The ecological risk analysis considered the presence of PAHs and metals in sediments, as well as the cumulative effects of the PAH and metals mixture under both current and future scenarios. Generally, while many samples were of no concern (Level 1), certain site-specific locations met criteria as a Level 2 Concerns (on a scale of 1 to 4, 1 being the lowest level of concern and 4 being the highest level of concern) when the result exceed the Threshold Effect Concentration (TEC) but was below the mid-point effect concentration (MEC). There were no observed or measurable affects to biota in the sample population collected. PAH toxicity to benthic organisms is likely at only one location, SS-5 (location seen on **Figure 3**). Metal concentrations in sediments typically controlled the sensitivity

of risk predictions. Methyl mercury was found in one porewater sample; however, its duplicate sample was reported as non-detect. Any adverse ecological impacts are localized with no evidence of wider impacts. Locations approaching the Probable Effects Concentration (PEC) are addressed by this remedial plan.

Human health risks from exposures to COPCs/COPECs in the Rock River sediments near the Adjacent Outfall are expected to be within acceptable WDNR limits, whether the Monterey Dam remains or is removed. The only potential ecological risk posed is potential impacts to benthic organisms that occur within a 1.7-acre area around the Adjacent Outfall. The Remedial Action Area proposed herein conservatively represents an expanded 2.1-acre area as "over-excavation" to capture two additional sample locations (SS-15 and T-8), as shown on **Figure 3**. The risks at three other sample locations (SS-10, SS-11, and SS-17) were initially considered uncertain, but contained elevated total organic carbon (TOC), and were excluded after normalizing the data for TOC in accordance with standard practices and DNR guidance.

1.5 Rock River Hydrodynamics

The Site is located along the southern shoreline in the pool approximately 2,400 feet southeast of the Monterey Dam. The river pool width in this area ranges from 500 to 800 feet across to the northern shoreline. The depth of water in the Remedial Action Area ranges from two to nine feet with an average depth of approximately four feet. The average monthly flowrate of the Rock River in the channel is approximately 4,000 cubic feet per second (cfs) with seasonal wet-weather peaks ranging from 7,000 to 9,000 cfs, and seasonal troughs (winter) around 1,000 cfs. There are no wetlands in the immediate vicinity of the Site surrounding the Remedial Action Area.

1.6 Threatened and Endangered Species Review

GM's consultant, Rambol Environ, previously submitted a Threatened and Endangered Species review in Appendix H of its *Site Investigation Report Rock River* dated May 31, 2017. Their summary is excerpted below. References are included in the cited document.

Threatened and endangered species potentially occurring in Rock County, Wisconsin, were reviewed to identify any such species that might live in or feed from the impounded portion of the Rock River upstream of the Monterey Dam in Janesville, Wisconsin. Relevant information was obtained from federal and state web sites. Rock County, Wisconsin, has three species that are federally listed under the Endangered Species Act, according to the United States Fish and Wildlife Service (U.S. FWS), as of April 2016 (U.S.

FWS 2016a). These include the eastern prairie fringed orchid (Platanthera leucophaea), prairie bush-clover (Lespedeza leptostachya), and the northern long- eared bat (Myotis septentrionalis). Two species (eastern prairie fringed orchid and prairie bush-clover) are terrestrial plant species and, therefore, do not occur in the Rock River. The northern long-eared bat is listed as federally threatened but is unlikely to occur in the Study Area given its habitat requirements. These bats require large caves or abandoned mines to overwinter, and they roost in cavities or crevices of live trees and hunt in mature forests during the summer. These habitats are not present in close proximity to the Site.

The U.S. FWS is also proposing to list the Eastern massasauga rattlesnake (Sistrurus catenatus catenatus) as a threatened species. The whooping crane (Grus americana) is currently being reintroduced to the eastern United States and is listed as a nonessential experimental population. These two species are not likely to utilize the Rock River impoundment for critical portions of their life histories due to the lack of preferred natural habitat and frequency of human disturbances.

The State of Wisconsin lists 45 species in Rock County as threatened or endangered as of April 2016. Of these 45 species, 4 of the species might possibly occur in the Monterey Dam impoundment, including 3 fish species (pallid shiner [Hybopsis amnis], black buffalo [Ictiobus niger], redfin shiner [Lythrurus umbratilis]) and 1 mussel species (purple wartyback [Cyclonaias tuberculata]). The presence of these species cannot be definitively excluded; however, they are unlikely to occur in the area of interest. WDNR maps of the distribution of Wisconsin fish species indicate the pallid shiner, black buffalo, and redfin shiner have not been observed in Rock County over the record of their data collection, which goes back as far as 1875 in some cases. Unionid mussels, including the purple wartyback, are experiencing declines and extirpation from waterbodies around the country due to habitat modifications and water pollution. Construction of the Monterey Dam and subsequent impoundment of the Rock River is a habitat modification that could have potentially resulted in mussel population decline in the impounded area. Additionally, some Unionid mussels are highly sensitive to water pollution, including urban runoff that is typically ubiquitous near population centers such as Janesville. Unionid mussels were collected from the Monterey Dam impoundment as part of biological tissue sampling efforts. Normandeau staff identified all mussels captured. Fourteen individuals were identified as giant floaters (Pyganodon grandis), and two individuals were identified as fatmuckets (Lampsilis siliquoidea). Both species are considered widespread and common with no threatened or endangered designations. Purple wartybacks were not encountered.

2.0 DESIGN APPROACH

Remedial Action Objectives (RAOs) were developed to address the potential risks to benthic invertebrates within a 1.7-acre area around the Adjacent Outfall for current conditions (Figure 5.11 of the Rock River Investigation Report, GHD, 2017) see **Appendix H**). The project RAOs address both current and future scenarios for sediment. The RAOs are also stated to address the potential for mobilization of COPCs/COPECs in surface water and sediment either during or after remedial actions. RAOs for the impacted Rock River sediments include:

- Reduce risks to acceptable levels for environmental receptors from exposure to COPECs in sediments in the proposed remedial action area.
- Minimize the potential for COPECs in sediments to migrate from the proposed remedial action area to areas where potential unacceptable ecological exposures may occur.

As referenced earlier in this report, the proposed remedial action area is approximately 2.1 acres, as seen on **Figure 3**. The remedial action area was determined based on a review of the concentrations of COPECs and the potential for benthic invertebrate community risk at multiple depths as presented on Figures 6.1 and 6.2 in the Site Investigation Report (GHD, 2017) (not included in this report). This area has been marginally expanded from the initial 1.7-acre area identified in the ecological risk analysis. It was expanded such that it now includes two additional sample locations based on consideration of chemical concentrations in subsurface sediment (below the biologically active zone, whether sediment or soil). It was also expanded for practical purposes based on proximity to other locations characterized as having "likely" risk to benthic invertebrates. Additionally, the likelihood of toxicity is "uncertain" for two surface sediment samples collected in the immediate vicinity of the City West Outfall, but the spatial extent of "uncertain" risk in this area is very limited. Also, one of the "uncertain" samples was included in the sediment toxicity testing that was recently completed, and it was found to not be toxic. Results classified as “uncertain” initially were considered during an ecological risk assessment within and below the biologically active zone, resulting in the expanded 2.1-acre area designated as the RAA. Based on these results, only the area in the vicinity of the Adjacent Outfall (Figure 6.1 of RRIR, GHD 2016, see **Appendix H**) requires risk management.

The Observable High Water Mark will change after dam removal, and therefore some sediments that exist now will be considered soil in the future, after dam removal. Published data were used to evaluate the bioaccumulation and bioavailability of metals in soil to rule out significant risks to plants, invertebrates, and wildlife in a future terrestrial habitat. Similarly, human health risks from exposure to COPC/COPECs in the Rock River near the Adjacent Outfall are expected to be within the WDNR limits, whether evaluated as sediment or soil (i.e., before or after dam removal). The remedy was designed to be effective in either scenario, independent of the future of the Monterey Dam.
This plan proposes to remove all practicably recoverable sediments within the Remedial Action Area

boundaries, shown on **Figure 2,** down to the gravel bed. This approach conservatively and effectively over-excavates the sediments that have been determined to be a potential threat to benthic invertebrates, both laterally and vertically.

The estimated total volume of impacted sediments within the remedial action area is approximately 15,000 to 20,000 cubic yards (cys). The volume estimate was determined based on the remedial action area, the most recent bathymetric surface, and the estimated sediment thickness (based on typical depth of refusal at approximately 5 to 6 ft) as presented in the *Site Investigation Report* (GHD, 2017). Figures 4a through 4d provide bathymetry data and various cross-sections of the river that were used. The actual volume of material removed may vary based upon more current bathymetry which will be completed immediately before and after dredging activities. There will be some volume of slough that will creep into the RAA external boundaries during the dredging process, thus making it difficult to more accurately predict the total volume of sediments that will be captured. This approach is intended to remediate former discharges attributed to GM via the Adjacent Outfall.

2.1 Remedial Design Plan

The removal of sediments within the remedial action area will be accomplished through hydraulic dredging (with contingency for mechanical dredging to take place after dam demolition, as necessary) and dewatering of removed sediments. The dredged sediments will be conveyed via piping to the Site and dewatered by filtration through geotextile tubes (and/or mobile filter-presses, if the tubes do not prove productive). Dried sediments will be characterized for re-use onsite or transported offsite as commercial non-hazardous landfill (pending characterization results and need of onsite grading needs). Mobilization of sediments outside the removal area will be minimized using a silt curtain and silt fence surrounding the dried sediment stockpile. A 12-inch layer of habitat-suitable media (i.e., sand) will be placed as bedding in the Rock River upon completion of dredging activities. Shoreline restoration in riparian areas above the observable high-water mark will consist of organic-rich soil fill in order to re-establish native vegetation. Erosional control features are incorporated into the restoration plan for the area below the Adjacent Outfall. Restoration activities will be completed in the Spring of 2019. A conceptual cross-section of the completed sediment removal and site restoration is shown on **Figure 3**.

2.1.1 *Preliminary testing for project performance standards*

The project objectives were developed to remove potential threats to the benthic invertebrate community in the vicinity of the Adjacent Outfall and re-establish native vegetation along the post-remedial shoreline.

An additional round of sediment sampling was completed to conduct laboratory

analysis of filtered carriage water and to evaluate potential polymers that might be used to aid in solids settlement during the proposed dewatering process. A hanging bag test was conducted on March 14, 2018 to collect samples of ellutraint draining from a sample of the geotextile filter material. Two discrete and one composite sample of raw or "neat" filtered water were collected and sent to Pace Laboratories for analyses of total suspended solids (TSS), PCBs, PAHs, and RCRA metals (plus Zinc and methyl mercury). Analytical results are pending and will be forwarded to WDNR upon receipt and review by EAG.

2.1.2 *Remedial Action Alternatives Evaluation and Selected Approach*

GM submitted a RAOR that outlined several viable remedial approaches to address residual contamination in Rock River sediments. The RAOR included consideration of the Monterey Dam removal project with respect to timing of sediment removal.

We understand the dam removal has been challenged through a contested case hearing at DNR and legal action has been threatened by local opposition to dam removal that could delay the City's demolition of the Monterey Dam. EAG, on behalf of Jaines, LLC, has requested the City defer draw down of the pol behind the dam until the fourth quarter of 2018 to allow completion of the sediment removal project, as proposed herein.

EAG considered each of the remedial alternatives presented and has selected hydraulic dredging with onsite dewatering using geotextile filters as the least disruptive and cleanest method to complete this project.

2.2 Regulatory Permit Process

Jaines, LLC has prepared permit applications in accordance with WDNR requirements. Preliminarily WDNR approval must be procured for the sediment removal activities, discharge of dewatering fluids, and onsite deposition of dried sediments.

2.2.1 Waterway Resources Permit for Dredging

EAG has prepared an online application (Form 3500-053) that includes joint approval by the WDNR and ACOE. A copy of the permit is included in **Attachment F** of the document.

2.2.2 *General permit for storm water*

EAG has prepared a Notice of Intent (NOI) associated with storm water management during the project and includes a site-specific Storm Water Pollution Prevention Plan (SWPPP). Copies are provided in **Appendix F**.

2.3 Public Participation

Project documents will be made available via a local repository at the library. Public comments will be solicited through a Public Notice prepared by DNR. Notices may also be sent to owners of property (riparian areas) adjacent to the project, if required. An informational meeting may be held to answer any questions, should the community stake-holders strongly desire one. A Fact Sheet will be made available upon request, and a public hearing will be scheduled to hear any concerns related to implementation of the project. Public participation activities will be conducted to satisfy NR 714 requirements.

2.4 Contractor Selection

A Request For Proposal, including project objectives and constraints for sediment removal, dewatering, and management of carriage water shall be solicited from qualified contractors. A site walk will be conducted immediately after the public hearing and further discussion with DNR regarding timeline and conditions of approval. Contractor(s) shall be selected based upon their qualifications and experience, resource availability to meet project schedules, and total cost(s) for project completion.

2.5 Coordination with City of Janesville for Monterey Dam Removal

The project specifications and scheduling shall be coordinated with the City of Janesville to meet project objectives for project completion in consideration of the Monterey Dam removal project as approved by the City.

2.6 Project Schedule

Significant project planning, approvals, and preparations are anticipated as part of the project mobilization phase. Access to the Rock River may necessitate both agreements and construction of temporary facilities. Project design and permitting is anticipated to take approximately two to three months. Contractor selection and mobilization will require an additional one to two months. The fieldwork for sediment removal, treatment, and management is expected to take two to four months. Project documentation and closeout will be completed approximately three to four months from start of sediment removal activities. The overall project is planned for completion within 12 to 18 months. The project schedule is estimated below and shall be updated periodically as the permit applications are processed, contractor(s) selected, and fieldwork is initiated.

Activity	Estimated Start Date	Duration (days)	Estimated Completion Date	Comments
Remedial Action Design Report and Permit applications prepared by EAG and submitted to DNR	1/19/18	60	3/16/18	Work-in-process
Public Notice by DNR	3/23/18	30	4/23/18	Cover all applications
Information meeting	3/30/18	1	3/30/18	Optional, *as needed*
Public Hearing	4/30/18	1	4/30/18	
DNR approval(s)	4/30/18	30	5/29/18	
Contractor(s) selection by EAG	3/19/18	75	6/8/18	
Contractor Mobilization - Silt curtains - Conveyance system - SW controls	7/5/18	14	7/19/18	* *Conflicts w/City plan* in-stream via outfalls on-site
Dredging commences	7/23/18	80 - 100	10/26/18	Weather dependent
Contractor demobilized	10/26/18	30	11/23/18	
Sediment dewatering	7/30/18	100 - 150	12/31/18	Weather dependent
Dried sediment management	9/3/18	180	3/29/19	
Shoreline restoration	10/1/18	240	5/31/19	Per City/DNR consensus
Project documentation to DNR	3/16/18	180	6/28/19	
BRRTS Closure granted by DNR	7/2/19	60	8/30/19	
GIS Registry complete	7/2/19	90	9/27/19	

3.0 REMEDIAL ACTIONS

3.1 Hydraulic Dredging for Sediment Removal

A hydraulic dredge shall be utilized to complete the sediment removal project.

3.1.1 *Surveys*

Marker buoys will be placed to delineate the Remedial Action Area. A preliminary bathymetric survey of the area shall be conducted to establish the initial contours of the stream bed surface. Periodic surveys will be conducted throughout the project to ascertain removal of the sediment down to the river bed. The bathymetric survey shall be finalized upon completion of the project to document sediment volumes removed. The results of the survey efforts will be documented and informally shared with DNR on a regular basis, and then formally submitted to DNR in the final report.

3.1.2 Access

The dredge can be launched into the river along the northern shoreline across from the Site. A crane may need to be utilized in order to transfer the dredge from a truck to the river. A shallow draft, typically less than 3 ft, is required to access the impacted area.

A temporary floating walkway, anchored to the shore at the nearby park to the east of the Site, may be deployed to facilitate safe refueling of the dredge, if necessary. No permanent subsurface structures (wood, gravel, or concrete) are planned to support this project. Photo documentation of project activities will be collected.

3.1.3 Silt Curtains

Silt curtains shall generally conform to DNR Conservation Standard 1070 and be deployed to control the release of suspended solids and reduce or mitigate turbidity resulting from dredging operations in the RAA. The silt curtains shall extend from the water surface to the bottom of the river at the locations shown on **Figure 2**.

3.1.4 Water Quality Monitoring

Surface water quality monitoring shall be conducted throughout the duration of the project. Field instruments shall be utilized to monitor turbidity of the water upstream and downstream of the RAA during dredging operations.

3.1.5 Conveyance System and Routing

Piping will be prefabricated and inserted in the Adjacent Outfall and extend through the onsite grit chamber where it will daylight to the ground surface. The piping will be connected by fusion welding and/or bolted couplings. Eight-inch piping and hoses will be configured in a manifolded header system to allow filling of the geotextile filter bags in the dewatering area.

3.2 Sediment Dewatering

The sediments in the project area were characterized by previous consultants that included grain-size distribution testing. Sediments are made of silts and fine sands with some clay and significant organic matter. Geotextile filter socks in lengths of 100-ft and circumference of 60 ft shall be utilized as a proven technology to remove solids from dredged sediment slurry.

3.2.1 Site Preparations for Secondary Containment

The primary dewatering site is located in the parking area located north of the former tire building as shown on **Figure 2**. The site of dewatering operations shall be prepared by placement of an earthen secondary containment berm around and between rows of geotextile tubes and lined with overlapping 10-mil plastic sheeting. Geotextile tubes shall be staged in pairs with access from either side for filling from the header pipe manifold. Multiple bags may be filled simultaneously. An additional tube will be stacked on each pair. Each tube will be monitored for drying by periodically collecting core samples through the fill ports to test for moisture content. Dried sediments will be managed in accordance with Section 3.3. An additional area is available west of the former tire building to place additional geotextile tubes, if needed, based upon the total volume of sediment recovered, rate of daily production, and rate of drying for initial tubes filled.

3.2.2 Drainage and Carriage Water Conveyance

Effluent from the geotextile tubes in the primary dewatering area shall flow overland by gravity drainage into the centrally located storm inlet. The discharge piping from the inlet shall be plugged to allow use of the manhole as a sump for collection of carriage water (effluent). A pump and in-line flow meter

will be utilized to convey the collected carriage water to the Rock River discharge point, via the former grit chamber, and through the Adjacent Outfall.

This plan includes a contingency to place additional geotextile tubes in the park located east of Industrial Court in the event the rate of production overlaps the drying period for dewater sediment, as discussed in **Section 3.4,** below. Earthen berms and liners shall be placed to return carriage water directly back into the Rock River via overland gravity flow. The area shall be protected by temporary fencing and signage to limit access and warn the public of potential hazards.

This plan also includes a contingency for polymer dosing pumps may be deployed near this location, if necessary, to stimulate flocculation of suspended solids in the sediment slurry. The chemical formulation will be forwarded to DNR for review upon completion of the bench-scale screening tests.

3.2.3 Discharge Monitoring

The WDNR permit shall include provisions for monitoring effluent from the dewatering operations. An inline flow totalizer will be placed in the discharge line and read daily. The effluent monitoring will be conducted daily during the first two days, plus one additional sample during the first week. Grab samples will be collected for field turbidity, total suspended solids, and the primary contaminants of concern; including, polychlorinated biphenyls (PCBs), inorganics/metals (arsenic, lead, methyl mercury, and zinc), and polycyclic aromatic hydrocarbons (PAHs), along with the recording of the flow volume. Samples for laboratory analyses will be requested on a “rush” turn-around basis; typically, within 24 hours of sample receipt at the laboratory. The sampling frequency will be reduced to one per week thereafter on a normal lab turn-around time.

The Total Maximum Daily Load (TMDL) for the Rock River targets an average total suspended solids concentration of 30 milligrams per liter (mg/L), or less. Discharge limits for other parameters of concern will be established in the permit by DNR.

3.2.4 Contingency for Wastewater Treatment

This plan includes a contingency for discharge of effluent to the City of Janesville Waste Water Treatment Plant (WWTP). A sanitary manhole is located in close proximity to the primary dewatering area on the north side of the former tire building. The City’s WWTP has the capacity to accept up to 1 MGD and sewer lines are suitable for such conveyance. The project has been discussed with the City WWTP plant operators and they are amenable to receipt, if needed.

3.3 Sediment Management

Recovered sediments shall be allowed to dry until no free liquids are present. Each tube will be monitored for drying by periodically collecting core samples through the fill ports to test for moisture content. A stockpile will be created south of the grit chamber and best management practices (i.e., silt fence) will be utilized for storm water runoff protection. Previous analytical characterization indicated that sediments meet human health risk criteria for soil. Each filter tube will be sampled for characterization analyses to determine proper management.

Based upon the existing data, it is assumed that dried sediments will meet criteria for beneficial re-use as fill materials onsite, assuming appropriate consent of the WDNR is granted.

This plan includes a contingency for disposal, likely as daily cover, to the Waste Management Landfill(s) located in Sun Prairie (Madison Prairie Landfill) or Watertown (Deer Track Park Landfill), Wisconsin.

3.4 Site Restoration

The area of sediment removal will be graded with a layer of granular material in-stream to provide habitat and meet erosional protection specifications for bank stabilization. Organic rich topsoil shall be placed above the water line to re-establish natural vegetation, possibly augmented by native plantings, at and above the high-water mark. Details of site restoration components will be coordinated with the City of Janesville to provide acceptable integration with their ongoing riverfront improvements.

4.0 WDNR Closure Deliverables

The sediment removal project activities will be documented in daily logs, photos, monitoring data, and sediment management records. Documentation shall be compiled into a final report for submittal to the WDNR.

4.1 Closure Request Form with Documentation

Jaines, LLC shall request a closure letter from the WDNR upon project completion to close out the applicable BRRTS number. The associated report will summarize the previous reports, site information and history, site conditions, investigation data, document remedial actions, and residual closure levels. The report will also provide continuing obligations, if any, maps and figures, and other relevant closure documentation.

4.2 GIS Registry

The final Site conditions and any associated restrictions shall be documented on appropriate forms (4400-202) and memorialized via the WDNR GIS Registry.

5.0 REFERENCES

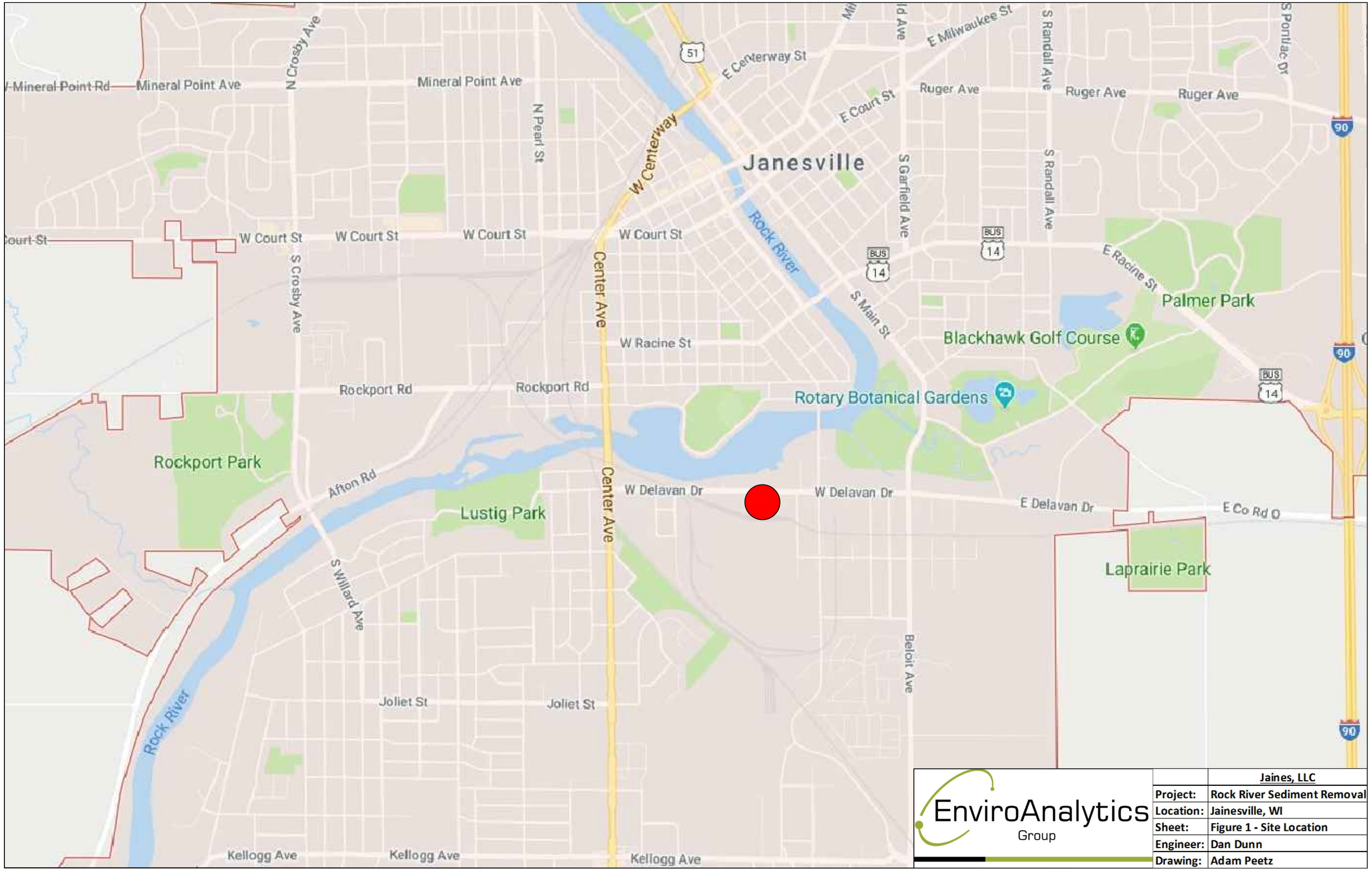
1 GHD, 2017. Remedial Action Options Report (RAOR), Rock River outflow of storm sewer pipe located north of the former GM LLC Assembly Plant, BRRTS # 02-54-577951.

2 GHD, 2017. Rock River (RM 178.5 to 180.5) Site Investigation Report, GM Janesville Assembly Plant, 1000 General Motors Drive, Janesville. May 31, 2017.

3 GHD, 2016. Phase II Environmental Site Assessment (ESA) Work Plan, GM Janesville Assembly Plant, 1000 General Motors Drive, Janesville, Wisconsin. Memorandum to Kim Tucker-Billingslea, GM. January 4.

4 Inter-Fluve, Inc., 2015. Monterey Dam Impoundment Sediment Report. December 22, 2015.

FIGURES



EnviroAnalytics Group

	Jaines, LLC
Project:	Rock River Sediment Removal
Location:	Jainesville, WI
Sheet:	Figure 1 - Site Location
Engineer:	Dan Dunn
Drawing:	Adam Peetz

EnviroAnalytics Group

	Jaines, LLC
Project:	Rock River Sediment Removal
Location:	Jainesville, WI
Sheet:	Figure 2 - Site Aerial
Engineer:	Dan Dunn
Drawing:	Adam Peetz

Boat Ramp Located Up River

Fencing

Berm

Sump

Pump for Sump

Geotubes

Water Return Line

Floating Walkway

Access Route

Dredge Sediment Line

Injection Pump

Silt Curtian

Marker Buoys

Remedial Action Area

Temporary Access Road (if needed)

Dredging Boat

Floating Hose

Adjacent Outfall

Temporary HDPE Piping

Clarifying Treatment (Contingency)

Injection Pump

Discharge Pumps

Containment Berm

Storm Inlets/Sumps

Lined Dewatering Area

Grit Chamber

Temporary Booster Pump

Above Ground Piping to Geotubes

Dried Sediment Stockpile

WisDOT Silt Fence

Geotubes

Riverside St

Park Ave

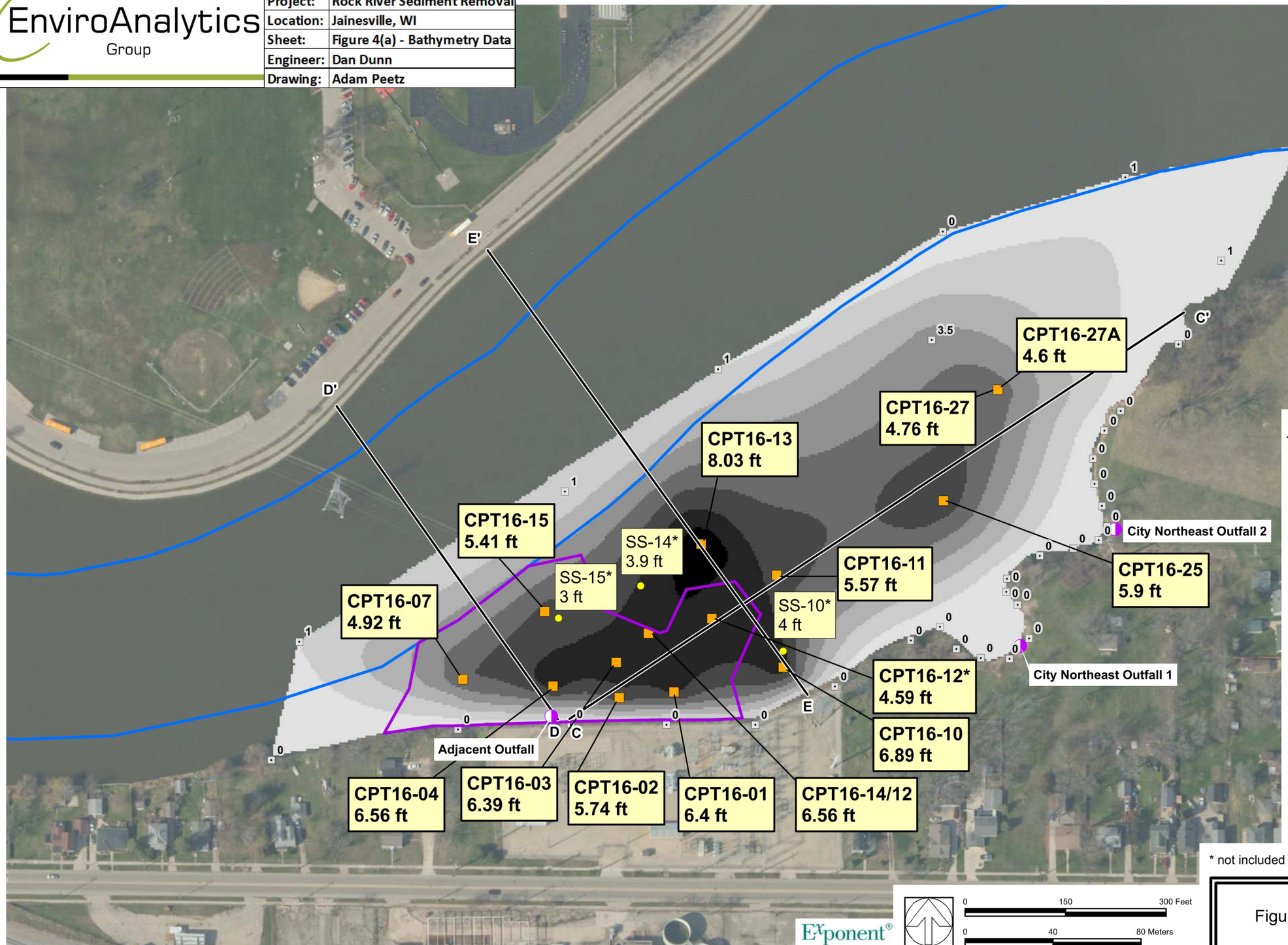
Industrial Ct

EnviroAnalytics Group

	Jaines, LLC
Project:	Rock River Sediment Removal
Location:	Jainesville, WI
Sheet:	Figure 3 - Project Layout
Engineer:	Dan Dunn
Drawing:	Adam Peetz

EnviroAnalytics Group

	Jaines, LLC
Project:	Rock River Sediment Removal
Location:	Jainesville, WI
Sheet:	Figure 4(a) - Bathymetry Data
Engineer:	Dan Dunn
Drawing:	Adam Peetz



* not included in sediment thickness interpolation

Exponent®

Figure 6.2. Estimated sediment thickness with remedial action area

May 30, 2017 | P:\16\1601395_GM_Janesville\GIS\projects\Janesville - Investigation Fig 6.2.mxd

EnviroAnalytics Group

	Jaines, LLC
Project:	Rock River Sediment Removal
Location:	Jainesville, WI
Sheet:	Figure 4(b) Cross section
Engineer:	Dan Dunn
Drawing:	Adam Peetz

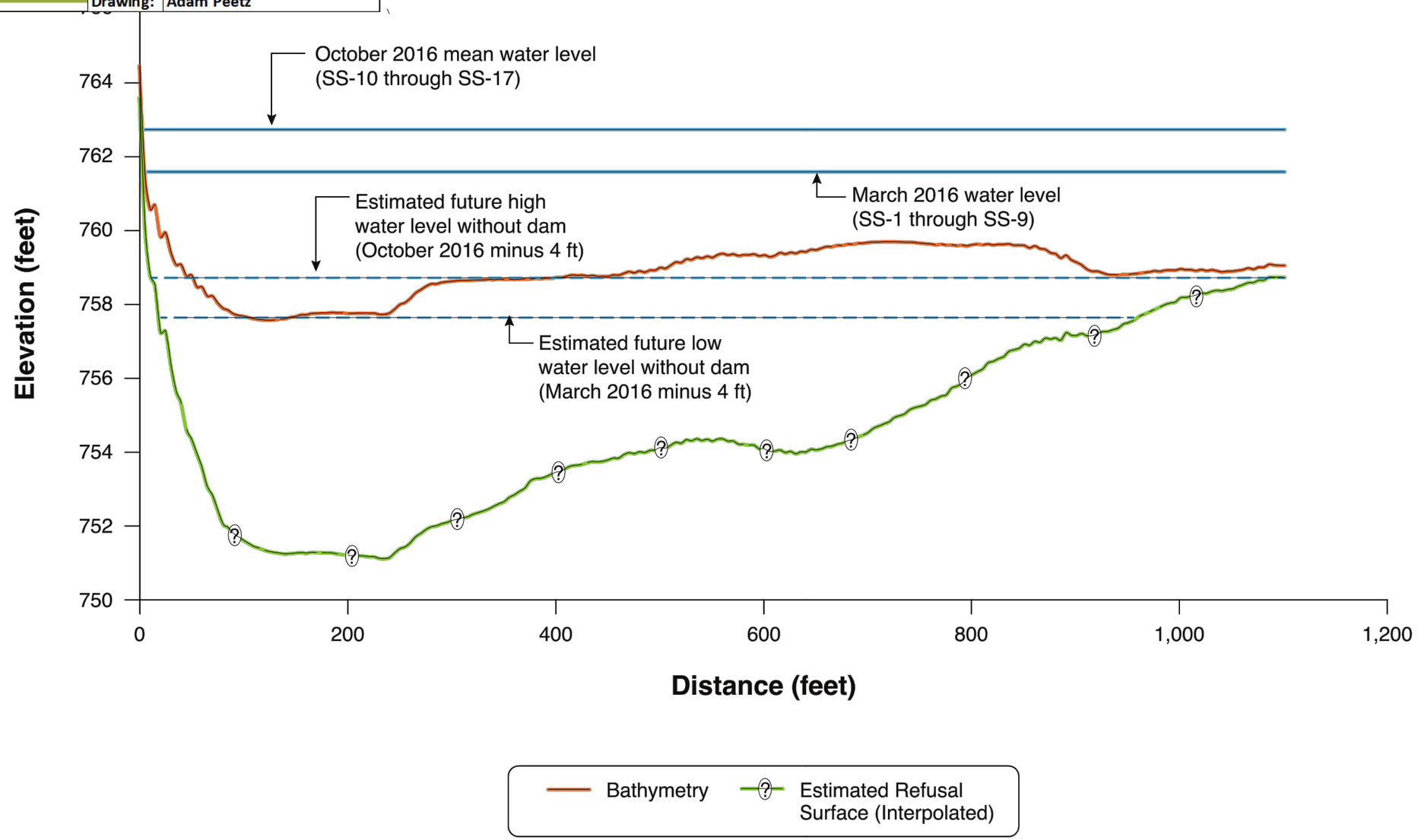


Figure 6.3. South Shore Section C–C'

EnviroAnalytics Group

	Jaines, LLC
Project:	Rock River Sediment Removal
Location:	Jainesville, WI
Sheet:	Figure 4(c) Cross section
Engineer:	Dan Dunn
Drawing:	Adam Peetz

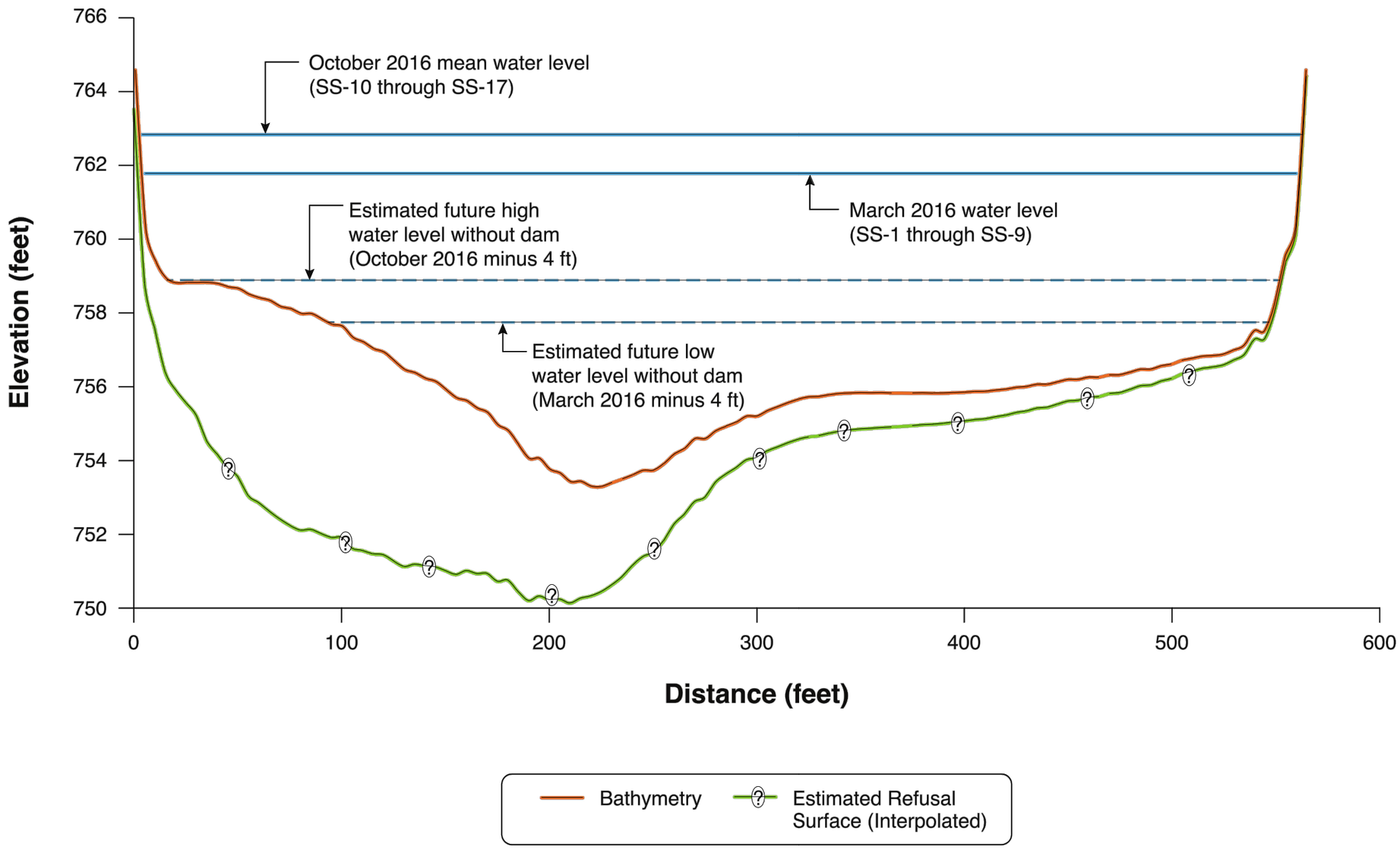


Figure 6.4. South Shore Section D–D'

EnviroAnalytics Group

	Jaines, LLC
Project:	Rock River Sediment Removal
Location:	Jainesville, WI
Sheet:	Figure 4(d) Cross section
Engineer:	Dan Dunn
Drawing:	Adam Peetz

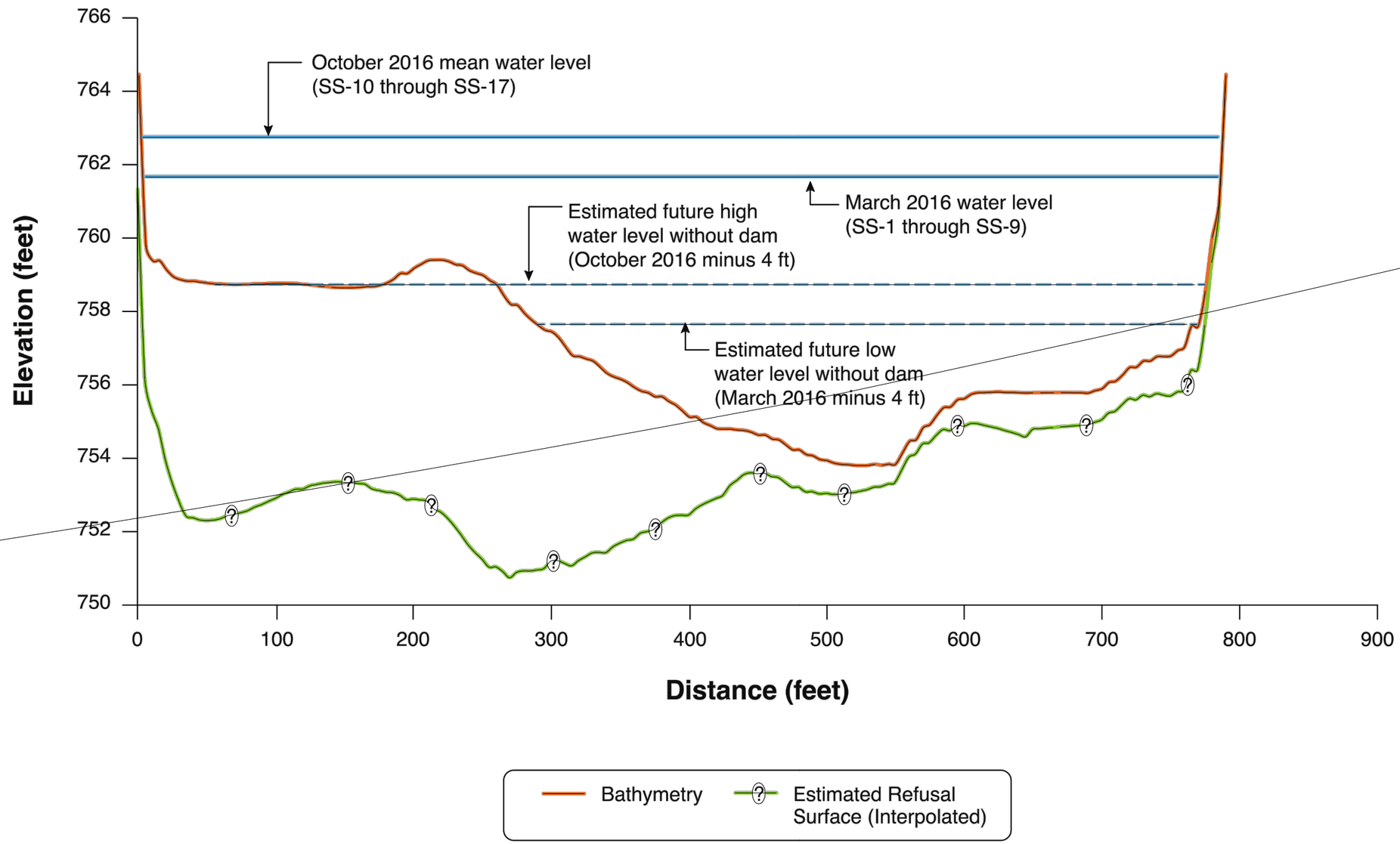


Figure 6.5. South Shore Section E–E'

Site Access

Via north shore
Contingency for park off Industrial Ct.

Project Controls

Bathymetric survey
RAA marker bouys
Silt curtians
Turbidity monitoring

Hydraulic Dredging

Sediment Conveyance

8" HDPE piping through adjacent outfall

Sediment Dewatering

Beneficial reuse of dried sediment
Contingency for offsite disposal

Effluent Discharge Monitoring

Discharge via adjacent outfall
Contingency for discharge via WWTP
Erosion controls at adjacent outfall

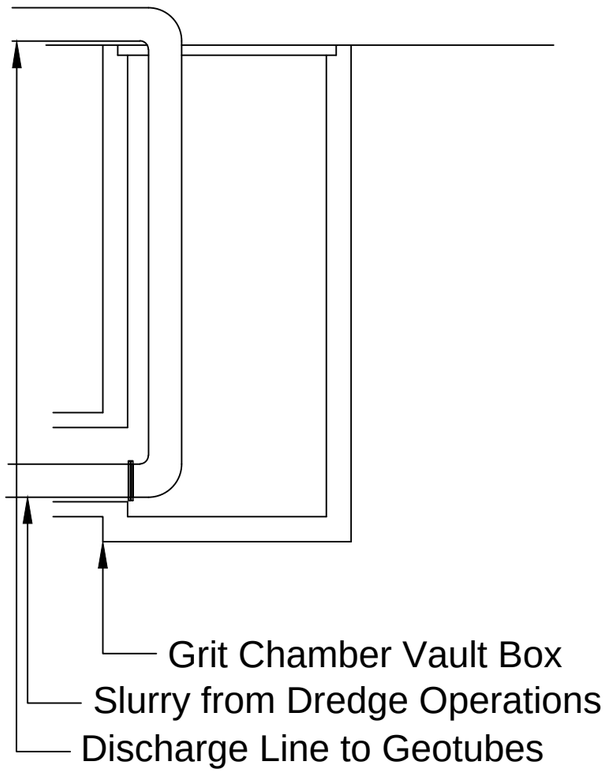
Site Restoration

Closure Documentation

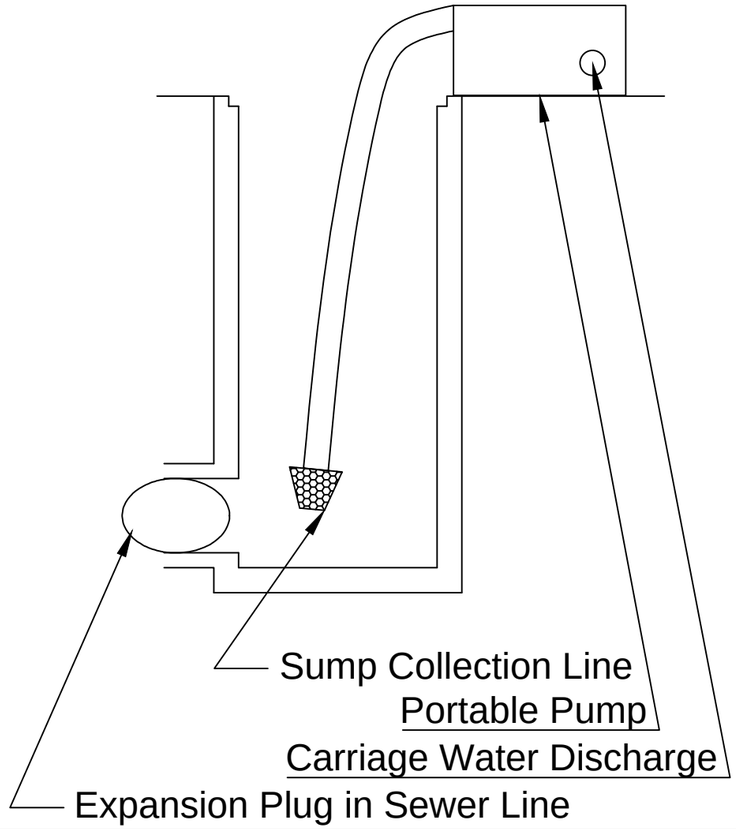
EnviroAnalytics Group

	Jaines, LLC
Project:	Rock River Sediment Removal
Location:	Jainesville, WI
Sheet:	Figure 5 - Process Flow Diagram
Engineer:	Dan Dunn
Drawing:	Adam Peetz

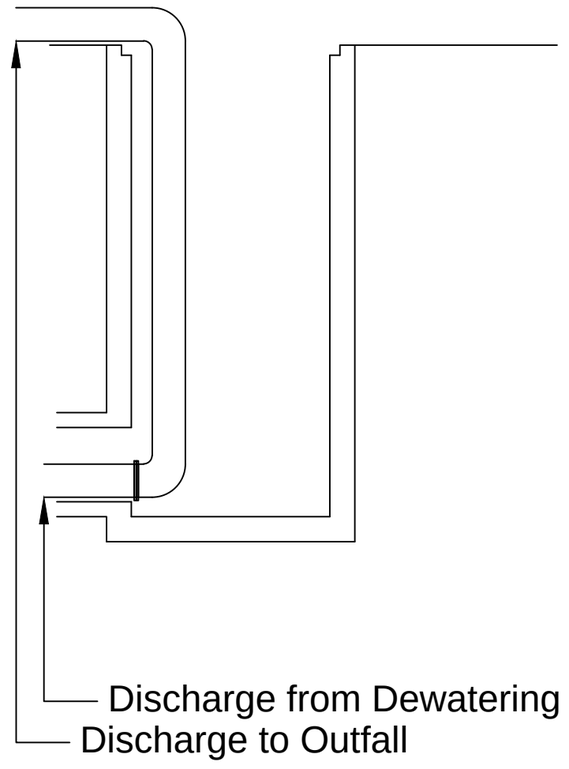
Sediment Discharge to Geotube Header



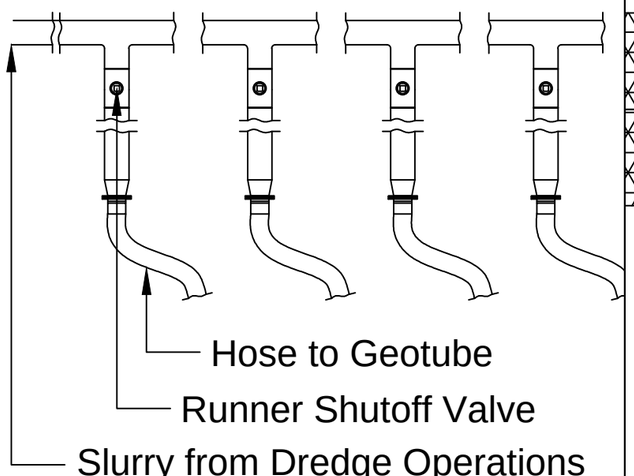
Carriage Water Collection Sump to Grit Chamber



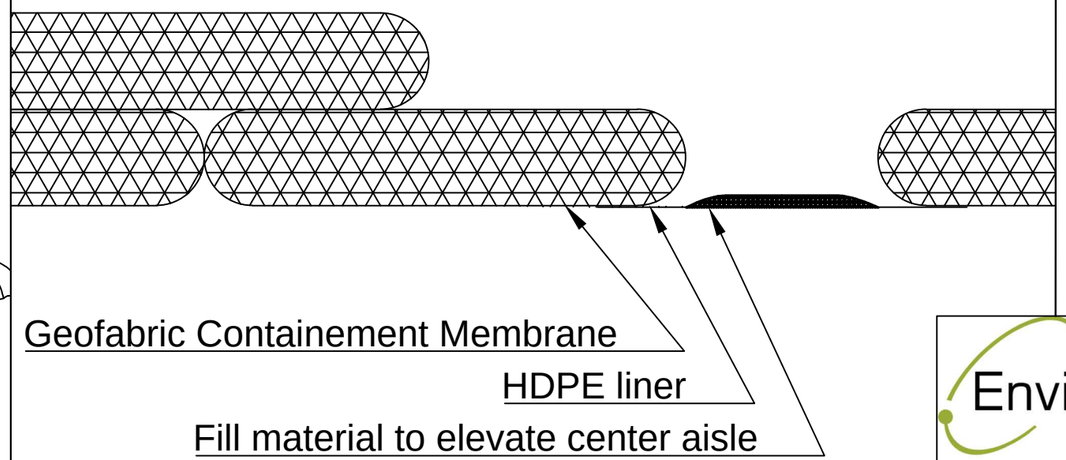
Grit Chamber Discharge to Adjacent Outfall



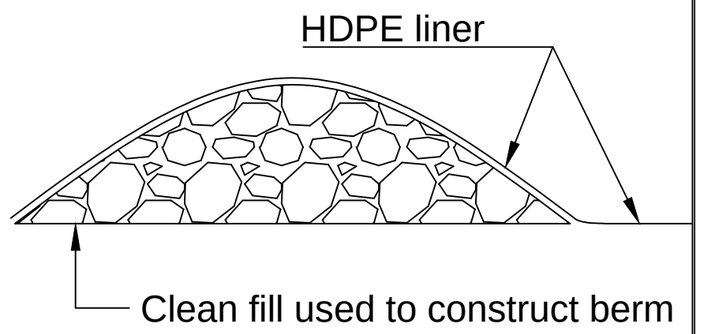
HDPE Distribution Header



Geofabric Membrane Cross Section



Berm Cross-section



EnviroAnalytics Group

	Jaines, LLC
Project:	Rock River Sediment Removal
Location:	Jainesville, WI
Sheet:	Figure 6 - System Details
Engineer:	Dan Dunn
Drawing:	Adam Peetz

ATTACHMENTS

A	March 1, 2018 Meeting Minutes
B	Preliminary treatability studies
B-1	Hanging bag test procedure (lab results pending)
B-2	Example Polymer screening bench-scale study
C	Dewatering Methods by geotextile filter bags
D	Carriage Water Discharge Monitoring Plan
E	Dried Sediment Characterization Plan
F	Permit Application forms
F-1	Waterway Resource – Dredging in a Waterway Form (on-line) (*includes WPDES for discharge of carriage water*)
F-2	WRAPP - Storm water NOI Construction (< 5 acres) and SWPPP
G	DNR Guidelines and equipment specifications
H	**Tables and Figures (from GHD RRIR, 2017, *included for convenience*)**
Fig. 5.11	*Spatial Distribution of Metal-PAH Mixtures and Toxicity Predictions*
Fig 6.1	*Sediment area for potential remedial action*
Table 2	*Sediment Analyses*
Table 2.7	*Rock River (surface water) data*
Table 2.8	*Core sediment data*
Table 2.9	*Surface Sediment data*
Table 2.10	*Porewater data*
Table 3.1B	*Sediment screening – PAHs*
Table 3.1C	*Sediment screening – Normalized for TOC*

A March 1, 2018 Meeting Minutes

Jaines, LLC Rock River Sediment Removal RAP, DNR Janesville Office
Meeting Minutes
March 1, 2018

Attendees: Dan Dunn, EnviroAnalytics Group
Tim Whitaker, City of Janesville, by phone
Steve Ales, Bill Fitzpatrick, Susan Eichelkraut (by phone), Jeff Schure, Dan Bekta: WDNR

Dan D- Background summary. Previous contractors prepared the SI and RAOR. Reports were accepted by WDNR. Two-acre sediment deposit near adjacent outfall. COCs: PAHs, lead, mercury, PCBs. Goal is unencumbered closure without continuing obligations.

Dan D is working on RAP, elements of the plan:

- Hydraulic dredging of all sediment identified in the SI, down to gravel
- Silt curtains and turbidity monitoring
- Dredge measurements and performance standards including pre- and post-bathymetry and confirmation sounding and sampling.
- Pipeline via storm sewer to processing area north of former tire building.
- Dewatering via geotextile tubes in parking lot
- Return of carriage water via city storm water outfall (id'd in the meeting handouts as City Northeast Outfall 1)
- Contingency plan for waste water including secondary filtering, storage, monitoring.
- Dewatered sediment sampling and beneficial reuse as fill.

Dan B- industrial storm water permit will be necessary

Susan E- waste water will require startup sampling prior to discharge to the river, initial parameter list will be all parameters in sediment > TEC. Input from regional biologist and others may expand the parameter list. TSS limits will be imposed.

Water treatment additives must be approved prior to use. Suggest listing all potential additives in permit application for staff review, saving time during implementation if contingency use is needed.

Dan D- he has tanks on the site that can be used to store waste water.

Dan D- boat access: the primary plan is for access at the ramp on north shore above the 2 bridges upstream of the site. The timber foot bridge may have clearance issues. A backup plan is for crane launch from shoreline of park east of the site on the south shore.

Tim W- City may allow crane launching from Riverside Street at Monterey Park. That location has advantages.

Jeff S- reminder that any structure placed in the water will need a permit, e.g., boat ramp.

Dan D- no structure is proposed for launching.

Dan D- RAP will propose to dig to gravel, remove all targeted sediment, he had no plan to sample the river bed post dredging. The RAP will coordinate restoration with city's plan for the area. Dan estimated the volume to be removed at 15-20,000 cu yds.

Tim W- The city plan for the area is to establish vegetation and stabilization of the outfall culvert channel. City wants a planting medium for vegetation. The city has an anticipated OHWM post dam removal from InterFluve that can be used to predict what part of the area will be above water post dam removal.

Bill F- The DNR will want post-removal verification sampling. The RAP should explain the reason behind a proposed removal boundary. The purple line boundary shown on the meeting handout page 6, Figure 3 – Project Layout seems to exclude past sample areas with elevated COCs.

Dan D- The RAP will make the case for the removal areas. Figure 3 – Project Layout mistakenly excluded areas the RAP intended to be in the removal boundary. This will be corrected in the RAP. He doesn't intend to sample post removal because there will be nothing to sample.

Bill F- If there is no sediment remaining the RAP should have a plan to document and demonstrate this. The lack of sediment can be demonstrated with soundings and a grab sampler. If it can be shown that all sediment has been removed then sediment chemistry is not necessary. If it is possible to sample, the DNR will want chemistry to document the removal work. A residual management plan is encouraged. Residuals remaining following hydraulic dredging is common. Residuals can be addressed with a sediment cover to attain project goals.

Steve A- The site post-dredging will have a mixture of areas above and below the water. The OHWM defines the boundary between sediment and soil. We need the project to achieve the most protective endpoint between sediment and soil for future conditions with or without the dam.

Jeff S- what is the contingency if the dam is down and the water level is down?

Dan D- He will need to rebid the construction.

Jeff S- the project will need a waterway IP which will require public notice and may require a public meeting. The timeline is tight.

Dan D- He will try for 2 weeks to submit the permit application.

April 30 was suggested for a public meeting/ information session, with a April 23 public notice

Susan E- a public meeting is not needed for the WPDES permit. She will need 30 days for a plan review.

Steve A- NR 714 public participation needs can be addressed at the public meeting/ information session.

Tim W- the city's schedule is to award the bid for dam removal on March 12, July 16 start the drawdown.

Jeff S- he will start archeological review and coordinate with Mark D. The existing NHI from GM may cover the dredging project. He doesn't expect Corps review delay; Rachel from the Waukesha office may be the reviewer.

Susan E- she is emailing the WPDES forms to Dan D.

Dan D- dewatered sediment will be characterized in the geotextile tubes for decisions on disposition of the sediment after drying. He expects 7000 tons of sediment after drying. Each tube will hold 250 cu yds. He expects 30-32 tubes total. He intends to beneficially reuse the dewatered sediment.

Steve A- NR 700 has sampling specifications by volume. (The reference is NR 718.12)

Bill F- The RAP should call out testing and the decision process for the reuse of the dewatered sediment.

Jeff S- The dredging permit application must include a stabilization plan for the storm water outfall post dredging.

The meeting handouts from Dan Dunn provide additional details including project schedules for submittals, permits, and construction.

Minutes prepared by Bill Fitzpatrick

B Preliminary treatability studies

B-1 Hanging bag test procedure (lab results pending)

B-2 Example Polymer screening bench-scale study

HANGING BAG TEST

A sample of the geotextile filter material was obtained from U.S. Filter (i.e., Eco-tube) with dimensions of 30-inch diameter and 30- length. Five buckets of sediment with some Rock River water were mixed using a paddle-mixer and electric drill to create a slurry, simulating pumping. The slurry was then poured through the filter bag. The carriage water was allowed to drip into a 30-gallon trash can lined with two heavy duty HDPE Contractor bags.

A discrete sample of filtered ellutraint was collected at the beginning of the test directly from the dripping stream into the lab provided containers. A second discrete sample was collected near the end of the test and a "composite" sample representing all fluids by dipping an unpreserved amber glass bottle into the fluids collected. Sample containers (one for metals with HNO3, and methyl mercury had HCL) with preservatives were filled first from the unpreserved bottle.

Samples were labeled and shipped via overnight courier to Pace Analytical for:

- Total suspended solids
- PCBs
- PAHs
- RCRA metals plus Zinc and methyl mercury

Additionally, a hanging bag filter, two 5-gallon pails of sediment and four pails of Rock River water were delivered to Infrastructure Alternatives, Inc for a polymer screening test. Pace Analytical is providing them with containers to collect an additional sample of filter ellutraint using sediment with the optimized polymer dosing resulting from the tests.

Analytical results will be shared with DNR upon receipt.

INFRASTRUCTURE ALTERNATIVES

TREATABILITY TEST REPORT, Revision 1

7888 Childsdale Ave NE | Rockford, MI 49341
616-866-1600 | www.infralt.com

INFRASTRUCTURE ALTERNATIVES

CONTENTS

INFRASTRUCTURE ALTERNATIVES

1 OVERVIEW

Infrastructure Alternatives was contracted by Geosynthec to perform geotextile tube treatability testing on sediment from Ada Pond. Preliminary polymer screening and cone tests were performed by on the sediment sample provided by on Oct. 16. A polymer jar test and Geotube® Dewatering Test (GDT) were then performed by Infrastructure Alternatives on Oct. 29. Data collected during these tests are presented in the following report.

2 SAMPLES

Sediment and water samples were supplied by Geosynthec. A portion of the sediment and water samples were retained, for preliminary polymer screening and cone tests, and the remaining sediment and water were used by Infrastructure Alternatives for the GDT.

3 TESTS

The following testing regimen were selected:

1. Preliminary polymer screen and cone test
2. Geotube® Dewatering Test or GDT
3. GDT filtrate flow and suspended solids (SM 2540D)
4. Percent solids of in-situ sediment and dewatered solids in the GDT container (SM 2540G)

3.1 Preliminary Polymer Screen

5.3 lbs./dry ton. (The complete is included in Attachment A, along with a Safety Data Sheet for Solve-9248.)

3.2 Cone Test

formed a cone test on the sediment sample to evaluate geotextile fabric performance. TenCate GT-500D fabric was used and produced a favorable result. Results of the cone test are presented in Table 1.

Table 1: Cone Test Results

Parameter	Result	Units
In-situ sample percent solids	27.1	%
Slurry percent solids	15.0	%
Cake solids @ 60 min. drying time	30.4	%
Filtrate TSS	25	mg/L
Filtrate turbidity	20	NTU

3.3 Geotube® Dewatering Test (GDT)

A GDT was performed according to the manufacturer's recommended procedure.

Photo 1 (included in Attachment B, Photo Log) shows the setup of the GDT container and filtrate collection tub.

3.3.1 Slurry Preparation

Each sediment sample was diluted with surface water from the site, at a ratio of 3:1 to create a slurry, like that produced by a hydraulic dredge or sediment pumping operation. The sediment-water mixture was mixed with a mechanical paddle mixer to homogenize the slurry prior to polymer application. Photo 2 in Attachment B shows the slurry being mixed.

A total of fifteen gallons of slurry were prepared for the test.

3.3.2 Polymer Application

After laboratory jar testing, a target dose of 4.63 lbs./dry ton of Solve-9248 was chosen for the GDT.

A 0.5% solution of Solve-9248 was prepared according to the following method: mix a measured volume of tap water using a paddle mixer or stir plate; inject a measured volume of neat polymer emulsion into the vortex of the water as it is being mixed; mix for 20 – 30 seconds; stop mixer, and allow polymer to age for at least 20 minutes before use.

The dilute, aged polymer solution was then applied to buckets of slurry. Polymer was added slowly to each bucket of sediment slurry, then the buckets were poured back and forth to completely mix the polymer and slurry and create floc.

Photos 3, 4 and 5 in Attachment B show the flocculant solution being added to the prepared sediment samples and the mixing process.

Floc formation in each bucket was observed carefully, to achieve good flocculation of solids. Good flocculation is characterized by clear (not cloudy) separated water, with no straggler floc particles; and large, well-formed floc, that does not shear (break apart) upon mixing.

INFRASTRUCTURE ALTERNATIVES

3.3.3 Filtrate Flow and Suspended Solids

The buckets of slurry-polymer mixture were poured in the GDT container (Photo 6 in Attachment B).

Filtrate was collected in a tub below the GDT container. The first blush of filtrate through the GDT was discarded, then samples were collected and shipped overnight to!

Filtrate flow rate is presented in Table 2, below.

Table 2: GDT Filtrate Flow Rates

Time	Filtrate volume, mL	Time elapsed, sec.	Filtrate flow, mL/sec	Filtrate flow, mL/sq. in. fabric
Test start - 5 min.	30320	300	101.07	0.131597222
5 - 15 min.	5000	600	8.33	0.010850694
15 - 60 min.	1000	2700	0.37	0.000482253

Photos 7 - 12 in Attachment B show filtrate water draining from the GDT and filtrate samples.

3.3.4 Dewatered Solids Analysis

Samples of the dewatered material inside the GDT container was collected after one hour, 24 hours, and 7 days, following the beginning of the GDT. A percent solids analysis (SM 2540G) was completed on the samples; results of the percent solids tests are presented in Table 3. Moisture content calculations were also performed (ASTM D2216); results are presented in Table 4.

Table 3: GDT Percent Solids Results

Parameter	Results	Units
In-situ sample	26.8	%
Dilute slurry	6.13	%
Dewatered solids @ 1 hour	27.9	%
Dewatered solids @ 24 hours	29.3	%
Dewatered solids @ 7 days	33.2	%

Table 4: GDT Moisture Content Results

Sample	Dish weight (g)	Dish + wet weight (g)	Wet weight (g)	Dish + dry weight (g)	Dry weight (g)	Moisture content (%)
In-situ sediment	2.36	37.52	35.16	11.78	9.42	73.21%
GDT slurry	2.32	25.16	22.84	3.72	1.4	93.87%
GDT contents @ 1 hr.	2.3	41.94	39.64	13.36	11.06	72.10%
GDT contents @ 24 hrs.	2.18	47.7	45.52	15.52	13.34	70.69%
GDT contents @ 96 hrs.	2.36	45.98	43.62	16.48	14.12	67.63%
GDT contents @ 7 days	2.3	42.76	40.46	15.74	13.44	66.78%

Paint filter tests (Method 9095A) were also performed on the dewatered solids after 24 hours and 7 days, following the beginning of the GDT, using a medium mesh paint filter. Results of the paint filter tests are presented in Table 3.

Table 5: GDT Paint Filter Test Results

Parameter	Results @ 5 min.	First release of water
Dewatered solids @ 24 hours	Pass	5 min. 25 sec.
Dewatered solids @ 7 days	Pass	28 min. 30 sec.

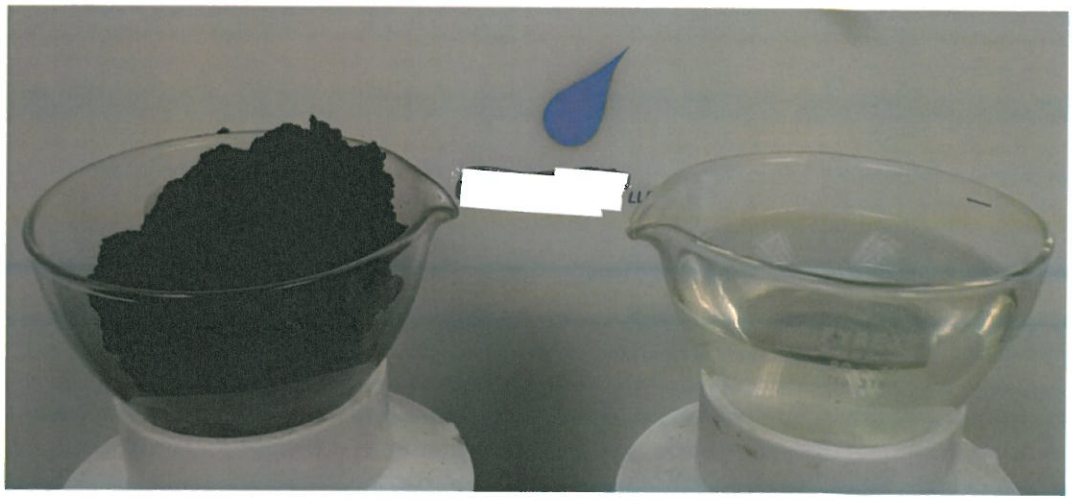
Photos 13 – 16 in Attachment B show dewatered solids in the GDT one hour after the beginning of the test, and preparations for the paint filter test and percent solids test.

4 SUMMARY

- A single product application of Solve-9248 at a dose of 4.63 lbs./dry ton, and TenCate GT500D geotextile fabric, produced an acceptable dewatering result in the GDT: large, sturdy floc, with clear filtrate, and cake solids dewatered to greater than in-situ solids content within 24 hours.
- Similar dewatering performance could reasonably be expected in the full-scale pilot test.

Appendix B

One hundred fifty milliliters of diluted sample prior to conditioning (Left). One hundred fifty milliliters of diluted sample conditioned with Solve 9248 (Right).



One thousand milliliters of diluted sample conditioned with Solve 9248 was poured through the GT500D Geotube® fabric. The captured cake (Left) and filtrate (Right) are shown above.

INFRASTRUCTURE ALTERNATIVES

Photo 1

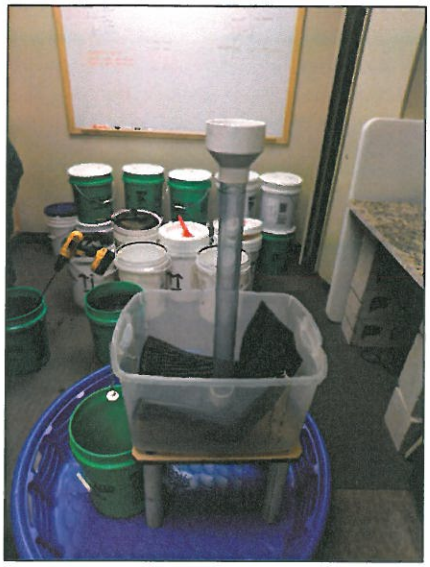


Photo 2

Photo 3

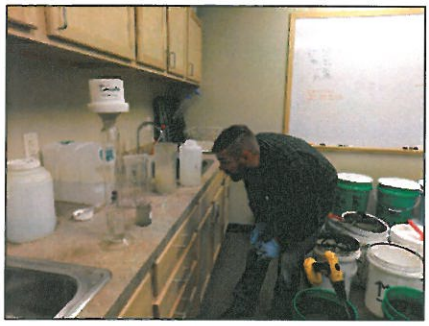


Photo 4

Photo 5

INFRASTRUCTURE ALTERNATIVES

Photo 6

Photo 7

Photo 8

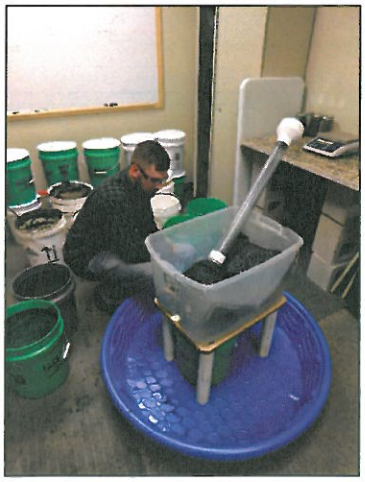


Photo 9

Photo 10

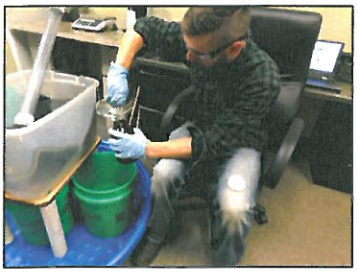


Photo 11

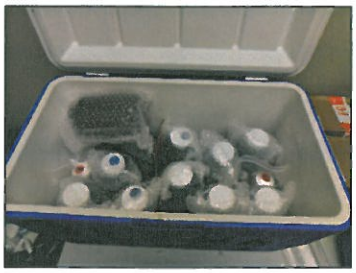


Photo 12

INFRASTRUCTURE ALTERNATIVES

Photo 13

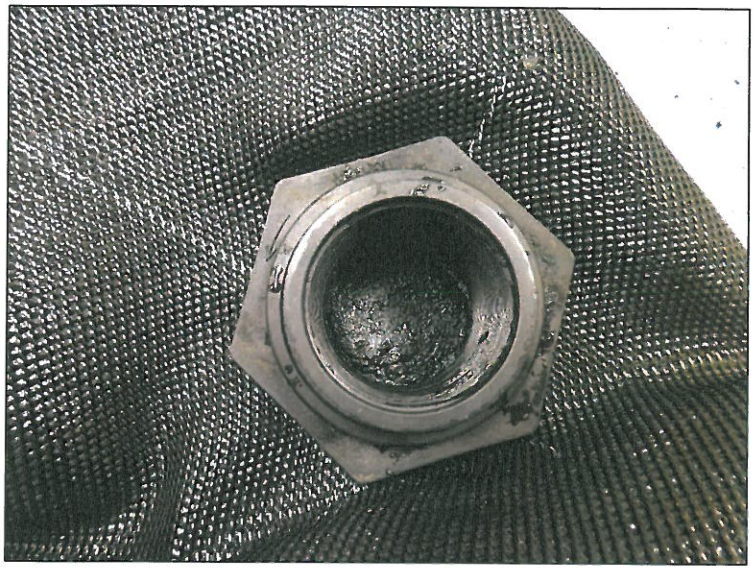


Photo 14

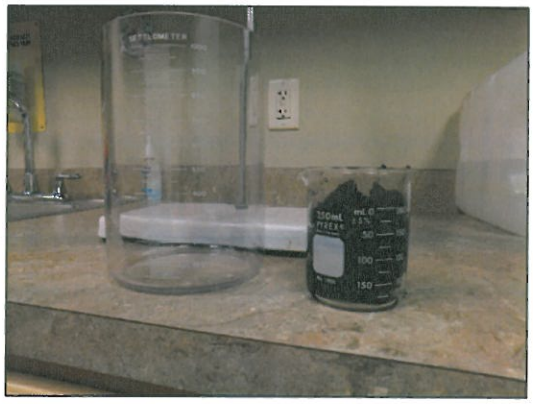


Photo 15

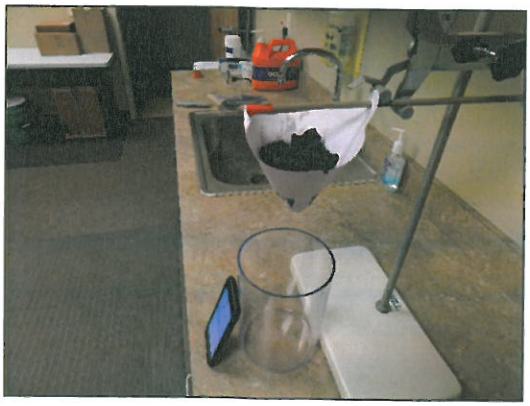
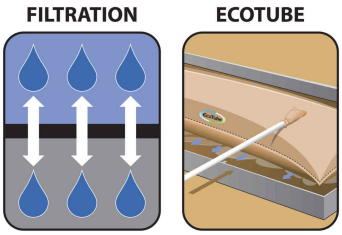


Photo 16

C Dewatering Methods by geotextile filter bags

Construction Geosynthetics



US 450T EcoTube™

US 450T is a woven geotextile produced from polypropylene slit-film tapes. This product is used for filtration and dewatering applications and in manufacturing geotextile sludge dewatering tubes. US 450T meets the following M.A.R.V. values:

AVAILABLE CIRCUMFERENCES: 15' / 30' / 45' / 60' X CUSTOM LENGTHS

Property	Test Method	English	Metric
Wide Width Tensile	ASTM D-4595	5,400 x 7,500 lbs/ft (450 x 625 lbs/in)	79.0 x 109.0 kN/m
Wide Width Elongation	ASTM D-4595	17 x 13%	17 x 13%
CBR Puncture	ASTM D-6241	2,000 lbs	8,900 N
Puncture Strength*	ASTM D-4833*	250 lbs	1,113 N
Trapezoidal Tear	ASTM D-4533	280 x 300 lbs	1,246 x 3,600 N
Apparent Opening Size	ASTM D-4751	40 US Sieve	0.425 mm
Permittivity	ASTM D-4491	0.260 sec-1	0.260 sec-1
Water Flow Rate	ASTM D-4491	20 g/min/sf	815 l/min/sm
Factory Seam Strength	ASTM D-4884	400 lbs/in	69.7 kN/m
UV Resistance @ 1,200 Hours	ASTM D-4355	70%	70%

* Historical averages (current values not available): Puncture Strength ASTM D4833 is not recognized by AASHTO M288 and has been replaced with CBR Puncture ASTM D6241.

US Fabrics, Inc. | 3904 Virginia Avenue | Cincinnati, OH 45227

Phone: (800) 518-2290 | Fax: (513) 217-4420 | email: info@usfabrics.com

EcoTube™ Volumes & Dewatering Capabilities

TUBE VOLUMES							
Circumference (ft)	End Area (sf)	Theoretical Volume @ 100% Solids (cy) per Tube Length					
		50'	100'	150'	200'	250'	300'
15	17.9	33.2	66.3	100.0	132.6	166.0	199.0
30	71.6	132.6	265.2	397.8	530.4	663.0	795.6
45	161.1	298.3	596.7	895.0	1193.2	1491.5	1790.0
60	286.4	530.4	1060.7	1591.1	2121.6	2652.0	3182.2
75	447.5	828.7	1657.4	2486.1	3314.8	4143.5	4972.2
90	644.4	1193.3	2386.7	3580.0	4797.2	5996.5	7160.0

TUBE DEWATERING CAPABILITIES		
Circumference (ft)	Max. Fill Height (ft)	Max. Capacity (cy/lf)
7.5	1.75	0.25
15	3.0	0.55
22.5	3.75	1.50
30	4.5	2.00
45	5.5	3.45
60	6.5	5.50

Sample Problem: A factory produces widgets. During production, a waste product is produced that is pumped into a dike ringed holding lagoon. Eventually, the lagoon sludge must be removed. Hauling it off in tankers is too expensive, so it must be dewatered.

Given: In-situ percent of solids is 10%
Quantity is 40,000 cy (in-situ)

Assumptions: Owner wants to increase solids to 40%
Laydown area lends itself to 60" EcoTubes™

Calculations: 40,000 cy@ 10% = 10,000 cy @ 40%
60' x 200' EcoTube™ holds 2,121 cy@ 100% and 848 cy @ 40%

Answer: 10,000 cy / 848 cy = 12 EcoTubes™ required

3904 Virginia Ave • Cincinnati, Ohio 45227 • Phone (513) 271-6000 • Fax (513) 271-4420

www.usfabrics.com

Dimensions & Weights:

EcoTube™

15' EcoTube™ Measurement	EcoTube™ Weight	EcoTube™ Weight on Pallet
15' x 50'	100 lbs	180 lbs
15' x 100'	200 lbs	280 lbs
15' x 150'	280 lbs	360 lbs
15' x 200'	375 lbs	455 lbs
15' x 250'	475 lbs	555 lbs
>30' EcoTube™ Measurement	EcoTube™ Weight	EcoTube™ Weight on Pallet
30' x 50'	200 lbs	280 lbs
30' x 100'	380 lbs	460 lbs
30' x 150'	560 lbs	640 lbs
30' x 200'	750 lbs	830 lbs

>45' EcoTube™ Measurement	EcoTube™ Weight	EcoTube™ Weight on Pallet
45' x 50'	300 lbs	380 lbs
45' x 100'	570 lbs	650 lbs
45' x 150'	850 lbs	930 lbs
45' x 200'	1120 lbs	1200 lbs
45' x 250'	1400 lbs	1480 lbs
>60' EcoTube™ Measurement	EcoTube™ Weight	EcoTube™ Weight on Pallet
60' x 50'	400 lbs	480 lbs
60' x 100'	750 lbs	830 lbs
60' x 150'	1120 lbs	1200 lbs
60' x 200'	1500 lbs	1580 lbs
60' x 250'	1850 lbs	1930 lbs
30' x 250'	950 lbs	1030 lbs

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www.usfabrics.com

Installation Guideline: EcoTube™ Dewatering Tube

Installation Procedure

1. Grade the site to remove any debris, rocks, roots etc. Level the site from side to side with no more than a 0.5% grade from end to end.

2. If required, construct a containment berm around the dewatering site perimeter. A rule of thumb is the height of the containment berm should be approximately 33% to 67% of the potential EcoTube™ height.

3. A trench should be excavated next to the containment berm, sloped to provide drainage to the opposite (lower) side of the dewatering site.

4. If required, install an impermeable geomembrane (thickness as directed by the site engineer) over the entire dewatering site, including the drainage trench and the perimeter berm. A medium weight nonwoven geotextile may be used to help protect the geomembrane. Consult the project engineer for details.

5. Place drainage rock, sand or other free draining granular material and cover the entire site with the exception of the drainage trench and containment berms. Occasionally, the engineer may also require these structures to be covered. Some projects have utilized a geonet as an alternative drainage media.

6. Unroll and deploy the EcoTube™ on top of the drainage media starting on the upper end of the dewatering site. Use the loop straps to correctly align the EcoTubes™.

7. Set up your make down polymer injection system with the polymer best suited for your project. After injecting the required polymer into the sludge stream, collect a sample of the flocced material prior to pumping the treated sludge into the EcoTube™ to ensure the desired results.

8. To start pumping the treated sludge stream into the EcoTube™ (s), attach your discharge line to the filling port(s). The use of a multiple port manifold may be required to efficiently fill multiple tubes/ports.
9. Do not exceed the design parameters of your specific EcoTube™. Please refer to “EcoTube™ Geotextile Tube Volumes & Dewatering Capabilities" for guidelines.

10. EcoTubes™ can be topped off multiple times, but do not exceed the design parameters.

11. Once the material has dewatered, the EcoTube™ becomes full, or the project is completed, cut open the EcoTube™ to remove the dewatered solid material.

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www.usfabrics.com

2013

D Carriage Water Discharge Monitoring Plan

EFFLUENT DISCHARGE MONITORING PLAN

Discrete grab samples of carriage water will be collected directly into sample containers provided by the laboratory at the collection sump (i.e., plugged storm water inlet) for laboratory analyses to monitor water quality throughout the project. Samples will be collected daily for the first three days and weekly thereafter.

Each sample will be analyzed for:

Total solids by Method SM 2540B

Total Suspended Solids by Method SM 2540D

PCBS by Method EPA 8082

PAHS by Method EPA 8270

RCRA metals plus Zinc by Method 6010B / 7470A

Methyl mercury by Method EPA 1630

Analytical results will be analyzed on a “rush” turnaround time (TAT), typically 24-hours from receipt by the lab during the first week and reviewed to ascertain compliance with permit criteria and/or waste water pre-treatment conditions.

Laboratory reports will be shared informally with DNR throughout the project and compiled as part of final project documentation.

The frequency of sampling and list of parameters will be specified in the permit and may be modified, as appropriate, with consent of DNR during the project.

E Dried Sediment Characterization Plan

SEDIMENT CHARACTERIZATION PLAN

Discrete grab samples will be collected using plastic coring tubes and transferred to lab clean containers with appropriate preservatives using new or decontaminated plastic spoons at three locations along the length of the geotextile tube and composited into a single sample for laboratory analyses to characterize the dried sediment for proper management.

The sample will be analyzed by applicable standard methods for:

Moisture Content

PCBS

PAHS

RCRA metals

Bulk density

pH

Total Organic Content

Phosphorous

Nitrogen as ammonia

Potassium

*Other parameters, as needed to properly characterize the material (To Be Determined).

Analytical results will be reviewed to ascertain compliance with beneficial re-use criteria and/or waste profiles for off-site disposal.

Laboratory reports will be shared informally with DNR and compiled as part of final project documentation.

F Permit Application forms

F-1	Waterway Resource – Dredging in a Waterway Form (on-line) (*includes WPDES for discharge of carriage water*)
F-2	WRAPP - Storm water NOI Construction (< 5 acres) and SWPPP

ePermitting

Save Do not close your work until you SAVE. Close

Home | Attachments

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Water Resources Application for Project Permits

Form 3500-053 (R 8/16)

Notice: Pursuant to chs. 30 and 31, Wis. Stats., ch. 281, Wis. Stats, and s. 283.33, Wis. Stats., this form is used to apply for coverage under the state construction site storm water runoff general permit, and to apply for a state or federal permit or certification for waterway and wetland projects or dam projects. This form and any required attachments constitute the permit application. Failure to complete and submit this application form may result in a fine and/or imprisonment or forfeiture under the provisions of applicable laws including s. 283.91, Wis. Stats. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Public Records Laws (ss. 19.31-19.39, Wis. Stats.). This form is required for U.S. Army Corps of Engineers (ACOE) regulatory purposes pursuant to 33 CF 325.

Read all instructions provided before completing

Section 1: Landowner Information

Organization, Entity or Name	Authorized Representative (Last Name, First Name)		
Jaines, LLC	Roberts	Michael	
Mailing Address	**City**	**State**	**Zip Code**
1650 Des Peres Rd	St. Louis	MO	63131
Email	**Phone Number (xxx-xxx-xxxx format)**	**Alternative Phone Number**	
ddunn@enviroanalyticsgroup.com	314-835-1515	314-835-2814	

Section 2: Applicant/Information

☐ Select if same as landowner

Organization, Entity or Name	Contact Person (Last Name, First Name)		
EnviroAnalytics Group, LLC	Dunn	Daniel	
Mailing Address	**City**	**State**	**Zip Code**
1650 Des Peres Rd., 230	St. Louis	MO	63131
Email	**Phone Number (xxx-xxx-xxxx format)**	**Alternative Phone Number**	
ddunn@enviroanalyticalgroup.com	314-835-2814	309-370-2956	

Section 3: Primary Project Contact e:

☐ Select if same as landowner

◉ Consultant or Plan Preparer ○ Contractor ○ Agent ○ Other - specify: _____

Name (Organization or Entity)	Contact Person (Last Name, First Name)		
EnviroAnalytics Group, LLC	Dunn	Daniel	
Mailing Address	**City**	**State**	**Zip Code**
1650 DesPeres	St. Louis	MO	30131
Email	**Phone Number (xxx-xxx-xxxx format)**	**Alternative Phone Number**	
ddunn@enviroanalyticsgroup.com	314-835-2814	309-370-2956	

Section 4: Project or Site Location:

Project Name	County	
Rock River sediment removal	Rock	○ City ◉ Township ○ Village of Township of JANESVILLE

Location Address / Description
1000 General Motors Drive

Public Land Survey System (PLSS)– Provide the section, range, township information and latitude and longitude in decimal degrees, if available.

of	¼	of	¼ of Section (xx)	Township (xx)	Range (xx)			
NW	¼	SE	¼ 01	02 N	12	◉ E ○ W	42.66806 Latitude (xx.xxxxx)	-89.02250 Longitude (-xx.xxxxx)

If this site is not wholly contained in the quarter-quarter section, more description:
approximately two acres near the Adjacent Outfall

Waterways: Provide the name(s) of closest water bodies:
Rock River

Section 5: Wetlands

If a wetland is present at a project site and permit approvals are sought through the waterway and wetland program, storm water

program, or concentrated animal feeding operations (CAFO) program, the department requires that a wetland delineation that accurately shows the location of a wetland is submitted with an application. A wetland delineation needs to be verified/concurred with
before the application can be submitted or be considered a complete application. See the department " Wetland screening and delineation procedures" for more information.

Is a wetland present in the project area? ○ Yes ◉ No

If yes, select all sources of information used and attach supporting report or documentation

- ○ a. A copy of your wetland delineation and a Wetland Confirmation Service concurrence letter (wetland boundary verification service offered for a fee from the department)
- ○ b. An assured delineator's wetland delineation report
- ○ c. A copy of your wetland delineation and an Army Corps of Engineers concurrence letter
- ○ d. A copy of your correspondence with a WDNR Office of Energy Water Management Specialist or WDNR Transportation Liaison regarding your wetland review/ concurrence.

If no, please select one of the following items showing that a wetland is not present within the project boundaries:

- ○ a. A copy of your wetland determination and a letter from the department's Wetland Identification Program stating wetlands are not present or the activity proposed in the wetland is exempt under NR 103.06(4)
- ○ b. A letter from an assured delineator stating wetlands are not present
- ◉ c. Maps showing each resource(s) was reviewed for wetland absence (Surface Water Data Viewer):
  - i. Surface Water Data Viewer- Wisconsin Wetland Inventory
  - ii. Surface Water Data Viewer- Wisconsin Indicator layer
  - iii. Surface Water Data Viewer- Digital Topographic map layer or aerial photo indicating if waterways, drainage ways, ditches, depressions, or standing water are within project boundary
- ○ d. Show that the project limits are entirely in existing paved, graveled, or concrete areas
- ○ e. A copy of your correspondence with a WDNR Office of Energy Water Management Specialistor WDR Transportation Liaison regarding your wetland review/concurrence

(Please note that if the information provided is incorrect or incomplete, the overall permit application may be considered incomplete and may be returned to the applicant.)

Section 6: Endangered or Threatened Resources

Has the presence of endangered or threatened resources been evaluated according to protocols developed by the DNR Bureau of National Heritage Conservation (BNHC) http://dnr.wi.gov/topic/ERReview ◉ Yes ○ No

If Yes, select how the evaluation was completed and attach supporting report or documentation:

- ☑ a. Endangered Resources Preliminary Assessment from the Public Portal
- ☐ b. Certified ER Review Letter - specify: ERR- _____ (example ERR-15-123
- ☐ c. Broad Incidental Take Permit /Authorization -specify (e.g. No / Low Impact Activities, Grassland & Savanna Management, etc.): _____
- ☐ d. Other: _____

Section 7: Project Information (Attach additional sheets as necessary)

Anticipated Project Start Date: 7/5/2018	Projected Project End Date: 11/30/2018
Photos: Provide photographs of the "before" condition.	Date of Photographs: 3/1/2018

Narrative of the Project:
Provide a one to two paragraph description of the proposed project, including land and water alterations and intended use(s) of the project. Include this in the attachment section.

Press to Refresh Missing Items

Validation Summary:

Section 1 & 2:

Section 4 & 5

Other errors:

Save | Home | Attachments

State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Notice of Intent (NOI)
Industrial Storm Water Discharge General Permit

Form 3400-163 (R 5/14)

Leave Blank – DNR Use Only			
File Date	FIN Number	FID Number	WPDES Permit Number

Notice: This form is authorized by s. 283.37, Wis. Stats. Submittal of a completed form to the Department is mandatory for any owner or operator of a storm water discharge who must apply for a permit in accordance with 40 CFR Part 122 or Chapter 283, Wis. Stats. Failure to submit a completed form to the Department on time may result in forfeitures of up to $10,000 per day, pursuant to s. 283.91, Wis. Stats. Personally identifiable information on this form may be used for other water quality program purposes.

All information must be provided on this form. Incomplete application forms will be returned. Please read all instructions before completing.

Section I. Applicant Contact Information

Applicant Name	Contact Person Name		
Jaines LLC	Daniel Dunn		
Mailing Address	**City**	**State**	**ZIP Code**
1650 Des Peres Rd. Suite 230	St. Louis	MO	63131
E-mail Address	**Phone Number**	**Alternate Phone Number**	
ddunn@enviroanalyticsgroup.com	(314) 835-2818		

Parent Company Name (if applicable)

Section II. Facility/Site Location

Facility/Site Name (As Appears on Permit Authorization)	County	◉ City ○ Town ○ Village
Jaines LLC	Rock	of Janesville

Site Location Address/Description
1000 General Motors Drive

PLSS Information	Township	Range	☒ East ☐ West	Section	Quarter	Quarter-Quarter
	03 N	15		15	UN	UN

If site is not wholly contained in the quarter-quarter, more description	Latitude	Longitude
	42.68	-89.01

Section III. Operations Information

Is this a new or existing facility? ○ New ◉ Existing

Standard Industrial Classification (SIC) Code
Primary: Secondary:

Development of a Storm Water Pollution Prevention Plan (SWPPP) and submittal to the Department of a SWPPP Summary is required prior to initiating industrial operations.

Yes	No	
◉	○	Has the SWPP been developed?
○	◉	Has the SWPP Summary been submitted to the Department? If no, enter the date that the SWPP Summary will be submitted to the Department.

Date to be submitted:

For Transportation Facilities:

Yes	No	
○	◉	Does your facility have vehicle maintenance shops, equipment cleaning operations, including vehicle washing, or airport de-icing operations? (Vehicle maintenance includes rehabilitation, mechanical repairs, painting, fueling, and lubrication)

If yes, describe the activities that are conducted outdoors:

Section IV. Description of Activity

Provide a brief description of the industrial activities and land use at this site.
Site is currently inactive.

Section V. Storm Water Discharge

Yes	No	
◉	○	Has storm water runoff from this facility been analyzed for the presence of any pollutants? If yes, attach copies of any collected data.
◉	○	Are you aware of any impacts on receiving waters from storm water discharge from this facility?
○	◉	Have any leaks, spills, or similar instances of storm water contamination occurred at this facility within the last 3 years? If yes:

Did the spill occur in an earthen area? ○ Yes ○ No
Did the spill occur on a paved surface? ○ Yes ○ No
Was action taken to clean up the spill? ○ Yes ○ No

○	◉	Are there any material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery located in areas exposed to rainfall, storm water, or snow melt water? If yes, list the material and/or operations that are exposed:

Note: if you responded "No" to this question, this facility may be eligible for certification as having a condition of no exposure. See instructions.

Section VI. Other Discharges

Yes	No	
○	◉	Are there any discharges other than storm water included in the storm water outfall? (i.e. wash water, non-contact cooling water)
○	◉	Does this facility have coverage under a WPDES permit for non-storm water discharges? If yes, describe the other discharges, including type and permit number:

Section VII. Permission, Certification, & Signature

A signature is required for a valid Notice of Intent. Failure to sign this form will result in its return, and will delay the project.
State Statutes provide for severe penalties for submitting false information on this Notice of Intent form.
State regulations require this form to be signed as follows:

1. For a corporation: a responsible corporate officer including president, secretary, treasurer, vice president, manager, or a duly authorized representative having overall responsibility for the operation covered by this permit
2. For a unit of government: a ranking elected official, or other duly authorized representative
3. For a partnership: a general partner; and for a sole proprietorship: the proprietor
4. For a limited liability company: a manager

Permission: I hereby give the Department permission to enter and inspect the site at reasonable times, to evaluate this notice and application, and to monitor compliance with any resulting coverage and permit.

Certification: I hereby certify that I am responsible for the property which is the subject of this Notice of Intent. I certify that the information contained in this form, schedules and attachments is true and accurate. I understand that failure to comply with any or all of the provisions of the permit renders may result in a fine and/or imprisonment or forfeiture under the provisions of chapter 283, Wis. Stats.

Signature of Landowner/Authorized Representative	Date Signed
Printed Name of Landowner/Authorized Representative	Title

Mail this completed form to the appropriate Wisconsin Department of Natural Resources office in the region where the facility is located. See the instructions on the last page of this form for regional office addresses.

Instructions

Answer all questions completely. Incomplete NOI forms will be returned for completion.
Proposed Industrial Facilities: You must submit a completed form to the Department at least 14 working days prior to initiating land disturbing construction activities at the site if it will undergo one or more acres of land disturbing construction activities as part of its construction.
Other Industrial Facilities: For all other facilities, you must submit a completed form at least 14 working days prior to initiating industrial operations.

Section I. Applicant Contact Information

Provide the name of the person, firm, organization, or other entity applying for permit coverage. The contact person should be the person completely familiar with the facility and charged with compliance and oversight of the permit conditions. Provide the contact information for this person. If there is a parent company, provide the name.

Section II. Facility/Site Location

Enter the facility/site's official or legal name and its complete address or location description. Enter the county, type of municipality, and municipality name.
Enter the township, range, section, quarter, and quarter-quarter of the project. If the project is not wholly contained in the quarter-quarter, provide more description. Enter the latitude and longitude in decimal degrees for the center of the facility/site.

Section III. Operations Information

Answer the questions as presented. A Storm Water Pollution Prevention Plan (SWPPP) is a requirement of the general permit and must be developed and the SWPPP Summary submitted to the Department at least 14 working days prior to initiating one or more acres of land disturbing construction activity for construction of a new facility or 14 working days prior to initiating industrial operations. The Standard Industrial Classification will determine which permit tier, 1 or 2, is applicable. SIC codes can be found at:
https://www.osha.gov/pls/imis/sic_manual.html.
For a summary of the requirements by type of tier, see http://dnr.wi.gov/topic/stormwater/industrial/sic_codes.html.

Section IV. Description of Activity

Describe the industrial activities and land use that will be conducted at the facility.

Section V. Storm Water Discharge

To better understand any discharges that have previously occurred at the site, answer the questions regarding storm water discharges. Note: If you responded "No" to the last question, this facility may be eligible for certification as having a condition of no exposure (apply with DNR Form 3400-188). By submitting a no exposure certification form to the Department, you are certifying that your facility has no exposure of materials or operations outdoors that could contaminate storm water. Facilities that qualify for and submit a no exposure certification are not required to have permit coverage and are not charged an annual permit fee. Obtain the form from: http://dnr.wi.gov/topic/stormwater/industrial/forms.html or from your regional contact.

Section VI. Other Discharges

Answer the questions regarding any other types of discharges to the storm sewer system.

Section VII. Permission, Certification, & Signature

State Statutes provide for severe penalties for submitting false information on this Notice of Intent form. State regulations require this form to be signed by the official representative of the permitted facilities in accordance with s. NR 216.22(7), Wis. Adm. Code. Provide the date signed, the printed name of the person signing, and the title of the person.

Permit Fee

There is not a permit fee required at the time of submission of the NOI. An annual permit fee is billed at the end of May each year and applies to activities for the entire year.
Fees:
Tier 1: $260
Tier 2: $130

Mailing Address

Unless otherwise directed, mail the completed NOI form to the Wisconsin DNR (WDNR) office associated with the county of the facility site location as follows:

NORTHEAST REGION (NER)

Brown	Green Lake	Marquette	Outagamie	WDNR Green Bay Service Center
Calumet	Kewaunee	Menominee	Shawano	2984 Shawano Avenue
Door	Manitowoc	Oconto	Waupaca	Green Bay, WI 54313-6727
Fond du Lac	Marinette	Oneida Reservation	Waushara	
			Winnebago	920-662-5100

NORTHERN REGION (NOR)

Ashland	Douglas	Langlade	Rusk	WDNR Baldwin Service Center
Barron	Florence	Lincoln	Sawyer	890 Spruce Street
Bayfield	Forest	Oneida	Taylor	Baldwin, WI 54002
Burnett	Iron	Polk	Vilas	
		Price	Washburn	715-684-2914 ext. 109

WEST CENTRAL REGION (WCR)

Adams	Crawford	La Crosse	Portage	WDNR Baldwin Service Center
Buffalo	Dunn	Marathon	St. Croix	890 Spruce Street
Chippewa	Eau Claire	Monroe	Trempealeau	Baldwin, WI 54002
Clark	Jackson	Pepin	Vernon	
	Juneau	Pierce	Wood	715-684-2914 ext. 109

SOUTH CENTRAL REGION (SCR)

Columbia	Grant	Jefferson	Rock	WDNR South Central Regional
Dane	Green	LaFayette	Sauk	Headquarters
Dodge	Iowa	Richland		3911 Fish Hatchery Road
				Fitchburg, WI 53711
				608-275-3266

SOUTHEAST REGION (SER)

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STORM WATER POLLUTION PREVENTION PLAN

Former Janesville Assembly Plant

Facility Location:

1000 General Motors Drive

Janesville, WI

January 2018

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1.0 GENERAL FACILITY INFORMATION

Name of Facility: Jaines, LLC

Facility Address: 1000 General Motors Drive Janesville, WI

Facility Contact:

Name: Daniel M. DUnn

Title: Principal Engineer

Telephone: 314-835-2814

Mailing Address: 1650 DesPeres Rd., Suite 303

St. Louis, MO 63131

Owner: Jaines, LLC

Operator:
(if different from Owner)

Standard Industrial classification (SIC) Code: vacant land under remdiation

Permit Information:

Facility Permit Name: Jaines, LLC

Permit Number: WI-S067857-4

Initial Date of Coverage: June 15, 2016, (expires May 31. 2021)

Number of Storm Water Outfalls: two

Receiving Waters: Rock River

Emergency Contact (preferably on-site):

Name:

Telephone:

1.1 INTRODUCTION

This storm water pollution prevention plan (SWPPP) has been prepared to cover the demolition and environmental remediation activities at the former Janesville GM Assembly Plant in accordance with NR 216. A SWPP is required under Part III of Wisconsin's Pollutant Discharge Elimination System (WPDES) general permit Number WI-S067857-4 for storm water discharges and in accordance with good engineering practices. This SWPPP describes this Site and activities, identifies potential sources of storm water pollution at the facility, recommends appropriate best management practices (BMPs) or pollution control measures to reduce the discharge of pollutants in storm water runoff, and provides for regular site inspection and review of this SWPPP.

1.2 OBJECTIVES

The primary goal of the storm water permit program is to improve the quality of surface waters by reducing the amount of pollutants potentially contained in the storm water runoff. Industrial facilities subject to industrial storm water WPDES permit (i.e. Tier 1, Tier 2, scrap recycling or vehicle parts dismantling permits) must prepare and implement a SWPPP for their facility.

This SWPPP will:

1. Identify sources of storm water and non-storm water contamination to the storm water drainage system;
2. Identify and prescribe appropriate "source area control" type best management practices designed to prevent storm water contamination from occurring;
3. Identify and prescribe "storm water treatment" type best management practices to reduce pollutants in contaminated storm water prior to discharge;
4. Prescribe actions needed either to bring non-storm water discharges under WPDES permit or to remove these discharges from the storm drainage system;
5. Prescribe an implementation schedule so as to ensure that the storm water management actions prescribed in the Storm Water Pollution Prevention Plan are carried out and evaluated on a regular basis.

2.0 STORM WATER POLLUTION PREVENTION TEAM

The storm water pollution prevention team is responsible for developing, implementing, maintaining, and revising this SWPPP. The members of the team are familiar with the management and operations of the Former Janesville Assembly Plant.

Identify by job title the person in charge of all aspects of SWPPP development and implementation. The member(s) of the team and their responsibilities (i.e. implementing, maintaining, record keeping, submitting reports, conducting inspections, employee training, conducting the annual compliance evaluation, testing for non-storm water discharges, signing the required certifications) are as follows:

Name & Title	**Responsibility**
Daniel M. Dunn (Consultant, Enviroanalytics Group LLC)	Organizing, Implementing, and submittal of SWPPP

3.0 POTENTIAL SOURCES OF POLLUTANTS

3.1 Site Drainage

Figure 1.2 Presents a site map of the facility showing the following features as required by the permit:

- How storm water drains on, through, and from the facility to groundwater, surface water, or wetlands,
- the facility property boundaries;
- Depiction of the storm drainage collection and disposal system, including all known surface and subsurface conveyances, with the conveyances named;
- Any secondary or other containment structures;
- The location of all outfalls, including outfalls recognized as permitted outfalls under another WPDES permit, numbered for reference, that discharge channelized flow to surface water, groundwater, or wetlands;
- The drainage area boundary for each storm water outfall;
- The surface area in acres draining to each outfall, including the percentage that is impervious such as paved, roofed, or highly compacted soil and the percentage that is pervious such as grassy areas and woods;
- existing structural storm water controls;
- Discharges to the Rick River as receiving waters
- Location of activities and materials that have the potential to contaminate storm water shall also be depicted on the drainage base map.

According to WDNR's Surface Water Viewer, the Rock River has the following 303(d)-listed impairments:

- Low dissolved oxygen due to phosphorus with approved TMDL
- Degraded habitat due to sediment/total suspended solids with approved TMDL

Contaminated fish tissue due to mercury and PCBs were historically listed but both have been delisted.

3.2 SUMMARY OF SAMPLING DATA

The SWPPP shall summarize any results of available storm water sampling data or other observations that characterize the quality of storm water discharges or identifying sources of storm water contamination. Available data that characterizes the quality of storm water discharges under dry weather flow conditions shall also be included.

3.3 SUMMARY OF EXISTING SAMPLING DATA OR OBSERVATIONS

Semi-annual and annual storm wate monitoring reports were submitted to the DNR by the former Owner (General Motors) and available in Department files. Briefly, the report(s) indicate that storm water discharges were monitored for flow and samples were collected, assayed in the field for temperature, conductivity, and pH, and aliquots sent to a laboratory for analyses of total suspended solids, oil and Grease

3.4 INVENTORY OF POTENTIAL SOURCES OF CONTAMINATION

The following have been identified as potential sources of storm water contamination:

3.4.1 Outdoor manufacturing areas

No manufacturing areas are active at the site.

3.4.2 Rooftops contaminated by industrial activity or a pollution control device;

Rooftop exhaust vents are present throughout the building complex. Contamination from historical operations may contact storm water. Storm water from all rooftop areas is collected and directed to the diversion chamber where it can be treated prior to discharge.

3.4.3 Areas of significant soil erosion;

All of site consists of impervious surfaces; there are no areas of significant erosion.

3.4.4 Industrial plant yards;

No manufacturing areas are active or outside

3.4.5 Storage and maintenance areas for material handling equipment;

Bulk storage of materials and manufacturing products are no longer stored at site.

3.4.6 Material handling sites (storage loading, unloading, transportation, or, conveyance of any raw material, finished product, intermediate product, by-product or waste;

3.4.7 Shipping and receiving areas;

Shipping areas are no longer in use and do not contain bulk materials.

3.4.8 Manufacturing buildings;

Manufacturing building complex is no longer in use.

3.4.9 Residual treatment, storage, and disposal sites;

3.4.10 Storage areas (including tank farms) for raw products materials, finished and intermediate;

All ASTs have been drained and cleaned as part of GM decommissioning activities. Several pieces of oil-filled equipment may remain on Site, including:

five elevators located throughout building complex which have hydraulic reservoirs containing fluid, a trash compactor containing hydraulic fluid, and three electrical transformers.

3.4.11 Refuse sites;

Not applicable.

3.4.12 Disposal or application of wastewater;

Not applicable

3.4.13 Areas containing residual pollutants from past industrial activity, spills and leaks;

Not applicable

3.4.14 Vehicle maintenance and cleaning areas;

Not applicable

3.4.15 Non-storm Water Discharges to Storm Sewer

Not applicable

4.0 BEST MANAGEMENT PRACTICES

Storm water management controls, or best management practices (BMPs), will be implemented to reduce the amount of pollutants in storm water discharged from the Former Janesville Plant. Structural or source area control BMPs that are in place are indicated on Figure 1.2 (Site Drainage Map).

4.1 SOURCE AREA CONTROL

The use of source area control best management practices designed to prevent storm water from becoming contaminated will be used to the maximum extent practicable, and cost-effective. Structural controls for the facility are indicated in the attached drainage base map described in subsection (3.1).

4.1.1 Erosion Control Measures

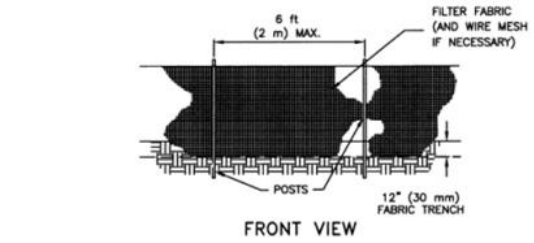
The site consists of entirely impermeable surface; no areas are currently subject to concern for erosion. Should site activities cause any part of the site to become prone to soil erosion, the area shall be kept out of the storm water discharge.

4.1.2 Sediment Control Measures

Due to site demolition activities, soil that became dislodged from storm water would need to be mitigated and maintained through the following methods.

- Drop Inlets might be used to retain sediment-laden runoff from disturbed areas for sufficient time to allow the majority of the sediment to settle out. Inlets would be placed so as to catch storm water as it approached the site outfalls.

- Silt Fences would be used on the site if deemed necessary. Wooden posts supporting the silt fence will be spaced 4 to 6 feet apart and driven securely into the ground; a minimum of 18 to 20 inches deep. The silt fence will be fastened securely to the wooden posts with wire ties spaced every 24 inches at the top, mid-section, and bottom of the wooden post. The bottom edge of the silt fence will extend across the bottom of the trench and the trench will be backfilled and compacted to prevent storm water and sediment from discharging underneath the silt fence.



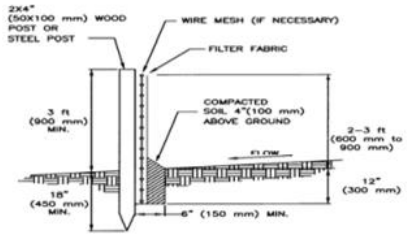


Figure B- Silt Fence

4.2 Good Housekeeping

Good housekeeping practices are designed to maintain a clean and orderly work environment. This will reduce the potential for significant materials to come in contact with storm water.

Employees are expected to keep the work areas clean. This includes cleaning up spills as necessary, closing lids on drums or dumpsters after placing materials inside, and properly disposing of clean-up materials (rags, sweepings, etc.). Employees should routinely inspect their work areas and report leaks, spills, stains, etc. to their supervisor. All materials stored outside having the potential for storm water contact should be covered by using tarps or permanent structures

4.3 Preventive Maintenance

Preventive Maintenance involves the regular inspection, testing, and cleaning of equipment and operational systems. These inspections will help to uncover conditions that might lead to a release of materials, allowing for maintenance to

prevent such a release.

The following equipment/activities will be included in the preventive maintenance program. (Examples: fuel pumps, storage tanks for waste fluids, all structural controls, etc.)

- Daily facility walk-through to identify all storage and conveyance systems operational with no visible blockages, corrosion, erosion, leaks and/or severe weathering;
- Routine inspection of facility equipment including: tanks, heaters, pumps, piping, valves, and emergency response supplies (booms, absorbents, etc.);
- Maintenance of on-site containment systems; and
- Maintenance of facility lighting, fencing, security cameras, etc.

4.4 Spill Prevention and Response Procedures

Spills and leaks together are the largest source of storm water pollution. This SWPPP specifies material handling procedures and storage requirements for significant materials. All employees have been made aware of the proper procedures.

The procedure outlined in the "Emergency Response Section" should be followed for large spills,. Most releases are less than 5 gallons occurring in the form of a leaking truck, spilled product from hoses used during transfer, etc. Generally, a "small" release occurs when less than 1 gallon of fluid is spilled. The steps detailed below can serve as a cleanup guideline if a small release is detected.

1. Notify the general manager of the spill.
2. Stop the source of the leak as much as possible. If the leak is coming from the undercarriage of a truck, place a pan to catch the material as it is discharged.
3. Seal the area off with construction cones, flagging, and ribbon to prevent vehicles from driving over and dragging the material.
4. Immediately cover the spill with absorbent material.
5. Contain the spent absorbent material in a drum labeled "Special Waste" or "Hazardous Waste" depending on the material.

5.0 Monitoring and Recordkeeping

5.1 Chemical Monitoring

Site is deemed inactive and chemical monitoring is not in place for this site, as the site is not in any current operation.

5.2 Non-Stormwater Discharges

Non-storm water discharges are not applicable for this site as the site is not in any current operation.

5.3 Quarterly Visual Storm Water Inspections

The permit requires a quarterly inspection of the storm water runoff. These inspections must be conducted at each of the two outfalls during a runoff event. Records of the inspections must be kept on file with the SWPPP and can be seen in the Storm Water Inspection form.

Inspections shall be conducted within the first 30 minutes of discharge or as soon thereafter as practical, but not exceeding 60 minutes. The inspections shall include any observations of color, odor, turbidity, floating solids, foam, oil sheen, or other obvious indicators of storm water pollution.

5.4 Annual Facility Site Compliance Inspection

The environmental consultant shall make an annual inspection to evaluate the effectiveness of the SWPPP. The inspection shall be adequate to verify that the site drainage conditions and potential pollution sources identified in the SWPPP remain accurate, and that the best management practices prescribed in the SWPPP are being implemented, properly operated and adequately maintained. Information reported shall include the inspection date, inspection personnel, scope of the inspection, major observations, and revisions needed in the SWPPP.

6.0 Employee Training

Storm water pollution prevention training is held to to include topics for discussion shown below, but are not necessarily limited to:

- Good housekeeping practices designed to control the amount of pollutants in storm water and non-storm water discharge from the facility.
- Preventive maintenance of storm water controls.
- Inspection and documentation requirements
- Appropriate material handling and storage
- Spill reporting procedures.

The Occupational Safety and Health Organization and the Department of Transportation offer training programs for workers who handle hazardous materials. Specific training programs suggested for BOT employees and transporters who use the pump system or handle stored products and hazardous materials are listed below:

OSHA Hazard Communication

DOT Hazardous Materials Transportation (if any)

Employees participate in site-specific pollution prevention training programs. Topics covered in such training should include instructions on handling wastes, pertinent environmental laws, personal protective clothing and equipment, and emergency response procedures. Training sessions such as these for new employees should take place within 3 months of hire with annual refreshers for all employees.

7.0 CERTIFICATION OF THE SWPPP

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information contained in the plan. Based on my inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering the information; the information contained in this document is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for providing false information, including the possibility of fine and imprisonment. In addition, I certify under penalty of law that, based upon inquiry of persons directly under my supervision, to the best of my knowledge and belief, the provisions of this document adhere to the provisions of the storm water permit for the development and implementation of a Storm Water Pollution Prevention Plan and that the plan will be complied with."

(Signature of Plan Preparer)	
(Printed Name)	(Date)
(Signature of Authorized Representative)	(Date)
Daniel M. Dunn, PE	Principal Engineer
(Printed Name)	(Title)

Appendix A:

Storm Water Discharge Record Form

Facility Storm Water Inspection Form

Outfall Location/Number:_____

WEATHER: Precipitation: Start: _____ Stop: _____ Duration: _____ Total: _____ (in.)
SAMPLING: Location: _____ Method: _____ Time: _____

1) Nearest Outfall Location: _____
2) Nearest Surface Water / Drainageway: _____
3) Discharge Data
   a. Runoff: _____
   b. Open / Pump Start Date: _____
   c. Closed / Pump End Date: _____
   d. Volume (gallons, estimated): _____

4) Sample Collected (N) ___ (Y) ___ Location: _____(attach drawing)

   a. Visual Observations:
      Sheen (N) ___ (Y) ___ If (Y) Do NOT pump & Take Sample for possible further testing.
      Muddy (N) ___ (Y) ___ If (Y) Do NOT pump & Take Sample for possible further testing.
      Foam (N) ___ (Y) ___ If (Y) Do NOT pump & Take Sample for possible further testing.
      Observed Solids (N)___ (Y)___ If (Y) Briefly Describe (i.e floating, suspended, settled, etc.)
      _____

   b. Results of Waste Water Assay Test Strip:
      (Light Blue) _____ Good to pump
      (Dark Blue) _____ Do NOT pump. Take Sample for possible further testing.

   c. Lab Tests (N) ___ (Y) ___ Lab Name: _____
   d. Parameters Analyzed: _____
      _____
      _____

5) Photos Collected (N) ___ (Y) ___
6) Comments
_____
_____
_____

7) Inspection By: Printed Name: _____

Signed: _____ Date: _____

APPENDIX B

Training Outline and Records

TRAINING RECORD

Instructor(s):_____Date:_____

Topics Covered:

_____
_____
_____
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_____
_____
_____

Other
Issues:_____
_____
_____
_____

Recommendations and
Suggestions:_____
_____
_____
_____
_____

Attendees: _____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

APPENDIX C

General NPDES Permit

APPENDIX D

Log of SWPPP Modifications

STORM WATER POLLUTION PREVENTION PLAN
COMPLIANCE INSPECTION REVIEW & REVISIONS

CHECK APPLICABLE:

☐ I have reviewed and evaluated the former Janesville Assembly Plant and determined no changes were necessary.

☐ I have reviewed and evaluated the SWPPP for the former Janesville Assembly Plant and amended the Plan. Plan modifications were made, as documented on the following page.

☐ SWPPP Plan modifications were implemented on: _____
Date

_____ _____
Signature of Reviewer Date Reviewed

_____ _____
Printed Name of Reviewer Title of Reviewer

Sign this form and complete the log of modifications below each time the SWPPP Plan is reviewed, evaluated, and amended.

LOG OF PLAN MODIFICATIONS

DATE	PLAN MODIFICATION (Section, page and description of change)	TYPE OF CHANGE (none, minor, or significant)	MODIFIED BY

G DNR Guidelines and equipment specifications

Triton Type III DOT

Silt and Turbidity Barrier

Triton
DOT SILT BARRIER

Triton Type 3 DOT Curtains are designed to meet or exceed state DOT requirements for silt and turbidity control in areas with fast water, waves or demanding conditions. These barriers surround projects and help to contain materials until they have enough time to settle.

GEI
WORKS

Triton Type III DOT
Silt and Turbidity Barrier

Constructed using robust and reliable components, these barriers actively work to contain silt, turbidity and displaced particles around your site. Triton Type 3 DOT Silt and Turbidity Curtains are the strongest available barrier for silt and turbidity control. Designed for fast water, waves or demanding conditions, these curtains add increased strength to any containment or control area. Type 3 DOT models are typically recommended for use in areas with flows up to 1.5 knots.

Applications:

- Inter-Coastal Projects
- Dredging Sites
- Remediation Projects
- Long Term Projects
- Fast Moving Water
- Projects in Bays and Harbors Areas Severely Affected by Wind or Waves

Accessories are an important component to the installation of any silt curtain or barrier in order to maximize effectiveness.

Turbidity Curtain Accessories:

- Anchor Kits
- Buoys
- Marker Lights
- Tow Bridles

Importance of Anchoring:

Anchoring and anchor kits are one of the most important accessories for sites dealing with moving currents, waves, tides or other site factors. Having the right anchor pattern, installation design and anchors can significantly influence, reduce and redistribute loads placed on your barrier. Contact our technical team (+1 772.646.0597) for more information regarding anchor placement and use.

Triton Type III DOT
Silt and Turbidity Barrier

How a Turbidity Curtain Works:

The main function of a silt screen or turbidity barrier is to control the dispersion of suspended silt and to improve settling times (Stokes Law). During a construction project, silt and other materials often become suspended in the water area. Curtains are placed within the water to create a confined zone of contained materials. Contained areas allow marine contractors to stay within Federal and State Clean Water Act and NPDES Phase II regulations. In turn, this helps sites to avoid fines and allows projects to be completed on time.

Please note, turbidity curtains are designed to act as a temporary area that increases the amount of time solids have to settle back down to the bottom of the area. They will not act as dams or walls.

Product Considerations:

Knowing these elements can help determine the right anchoring strategy, curtain model and deployment method.

Turbidity Curtains and Salt Water

When using the Type III Silt Barrier in salt water areas, consideration should be given to the tension cables and connectors. The following component adjustments are recommended for any location with salt water; Stainless Steel Cable and Zinc Anode Connectors upgrade, Stainless Steel Chain upgrade, or a combined Cable/Chain upgrade.

For short term projects, galvanized components can be used for a period of up to 12 months.

Fabric Considerations

Alternative fabrics are also available for extended deployment in areas with high pH levels, high temperatures, low temperatures or in areas where chemicals are present.

When should I use a Permeable Silt Curtain?

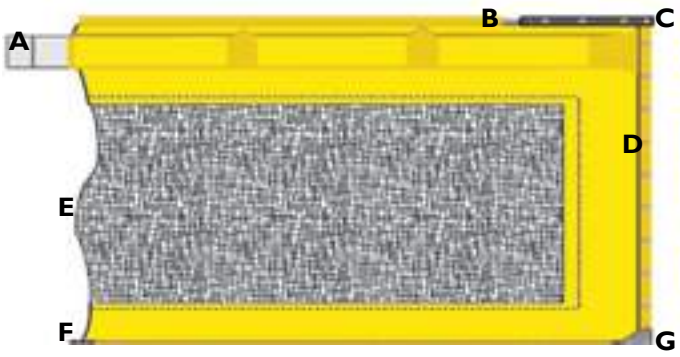
Permeable Type III Silt Barriers are most commonly used when they are either specified in a site project or when the curtain will be dealing with a significant amount of water pressure. Use of the bottom filter panel can help reduce pressure on the curtain by allowing water to continue to the flow through the curtain.

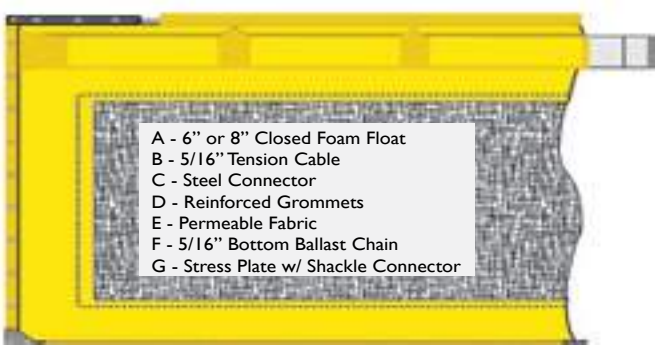
Water Conditions, Factors and Considerations

Consideration of site and water conditions is an important step for any location looking to control silt in a moving water body. Due to the current and waves in these areas, additional pressure is placed on the barrier during use. In order to accommodate and contain silt in these conditions, it is important to consider the following:

- Water Velocity
- Waves (height, frequency)
- Wind Speed and Direction
- Tides
- Soil Type (contaminated?)
- Project Duration

Triton Type III DOT
Silt and Turbidity Barrier





SPECIFICATIONS

Length	50' or 100'
Depth	5' STD (3' - 20' available upon request)
Fabric	18 oz. Impermeable PVC with 6 oz. monofilament
Flotation	Square Foam Filled Flotation
Flotation Size	6" or 8"
Tension Cable	5/16" Galvanized Steel Cable Sheathed in Vinyl
Bottom Ballast Chain	5/16" Galvanized Steel Chain
Section Connectors	Top Stress Plates with Grommets
Color	Yellow
Anchor Points	Every 50' to 100'

GEI Works is dedicated to developing innovative turbidity curtain solutions that provide superior performance and achieve the desired results for our customers. We work closely with our client team to design a deployment layout that takes into consideration all of your project requirements including water conditions, project progress, budget and water quality goals.

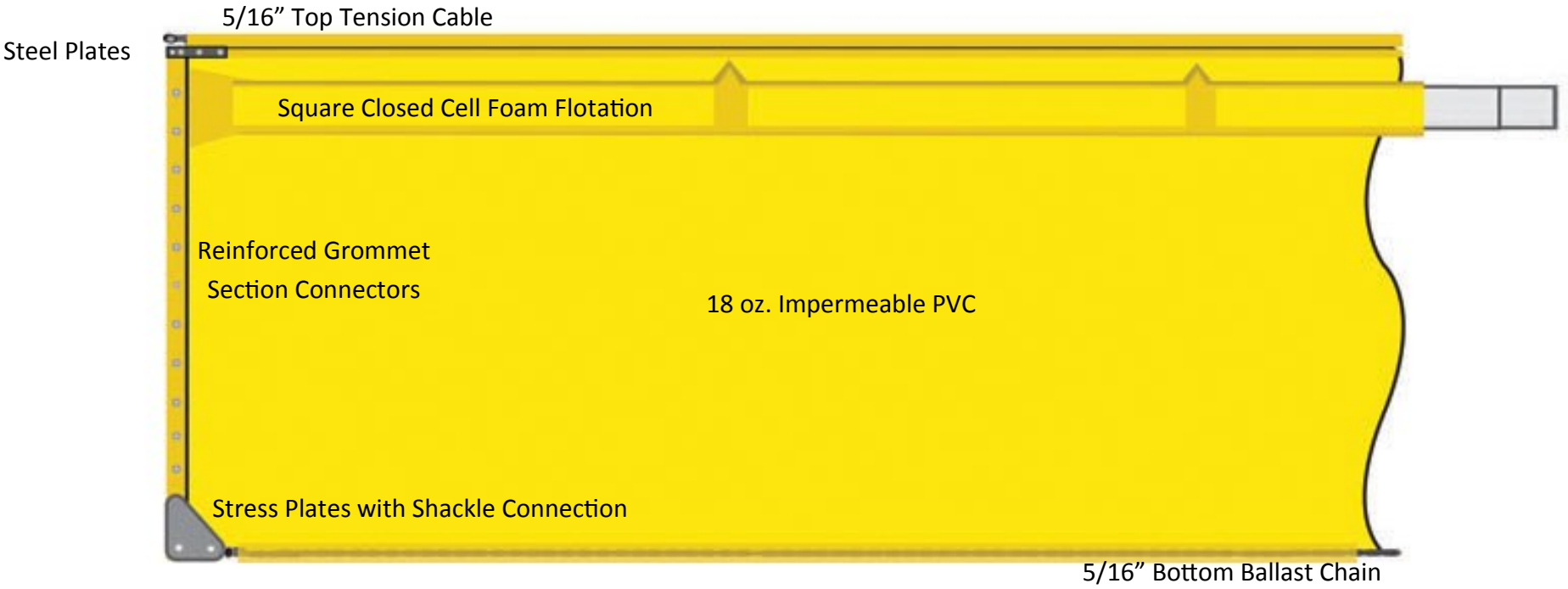
Our goal is to work with our clients to develop the best solution for their specific project and help them come in under budget and on time.

For more complete information on GEI Works products and solutions, visit us on the Web at www.geiworks.com.

Phone: (1+) 772-646-0597 | info@geiworks.com

GEI WORKS

645-2015-11-1



SolHuTec group

Phone: 954-204-0424

Email: mfg@solhutecgroup.com

SolHuTec Group, Inc			
Scale:	Not to scale.	**Product**	Turbidity Curtain- Type 2 DOT
Note:	Drawing is for illustrative purposes only. Not to scale.	**Item #:**	
Drawing:	1	**Size:**	

Turbidity Barrier
(1069)

Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

A temporary fabric barrier with very low permeability, installed in or near the bed of a waterway or waterbody to minimize sediment transport and is installed parallel to flow. Turbidity barrier cannot be installed perpendicular to a moving channel.

II. Purposes

The purpose of this practice is to provide sediment containment while construction activities are occurring in or directly adjacent to a waterway or waterbody.

III. Conditions Where Practice Applies

This practice applies where construction activities intrude or are directly adjacent to a waterway or waterbody. This includes but is not limited to bridge construction, rip rap placement, utility work, streambank restoration, boat launches and dredging.

Use turbidity barriers in conditions with fine soils and flow velocities not exceeding 5 feet per second, unless additional reinforcement is installed.

IV. Federal, State, and Local Laws

Users of this standard shall be aware of applicable federal, state, and local laws, rules, regulations, or permit requirements governing the use and placement of turbidity barriers. This standard does not contain the text of federal, state, or local laws.

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements.

A. **Installation –** Details of construction not listed in the text shall conform to the pertinent requirements of Figures 1 and 2.

1. The barrier shall be installed before construction activities are initiated in, or adjacent to the waterway or waterbody. Install the turbidity barrier as close to the construction as practical. The barrier shall remain in place and be maintained until the construction activity is completed and the disturbed area *stabilized* [1].

2. The ends of the barrier shall be securely anchored and keyed into the shoreline to fully enclose the area where sediment may enter the water.

3. Driven steel posts shall be used to hold the barrier in position. The maximum spacing between posts shall be 10 feet. When barrier height exceeds 8 feet, post spacing may need to be decreased.

   When bedrock prevents the installation of posts, float devices may be used. Flotation devices shall be flexible, buoyant units contained in an individual flotation sleeve or collar attached to the turbidity barrier. Use solid expanded polystyrene logs or equivalent having a 49 square inch minimum end area. Do not use polystyrene beads or chips. Buoyancy provided by the flotation devices shall be sufficient to support the weight of the turbidity barrier and maintain a freeboard of at least three inches above the water surface. Refer to Figure 1.

4. The barrier and steel posts shall extend from the bottom of the waterway or waterbody to an elevation 2 feet above the anticipated high water level during the time of year and duration the barrier will be in place. The elevation shall not exceed the top of bank.

5. Ballast shall be used to hold the barrier in a vertical position. Bottom load lines shall consist of a chain incorporated into the bottom hem of the screen, of sufficient weight to serve as ballast to hold the screen in a vertical position. Additional anchorage shall be provided if necessary.

[1] Words in the standard that are shown in italics are described in X. Definitions. The words are italicized the first time they are used in the text.

6. Danger buoys shall be used as directed by the Coast Guard or DNR permit when working in navigable waters.

7. Turbidity barriers shall be installed parallel to the direction of flow and shall not be installed across channels.

B. **Material**

1. Reusable components of the turbidity barrier system shall be clean and free of potential exotic species. Fabric cannot be reused.

2. Top load lines shall consist of 5/16 inch steel cable.

3. Fabric shall be selected according to the specifications in Table 1.

Table 1

Requirement	Method	Value
Min. grab tensile strength	ASTM D 4632	200 lb (890 N)
Min. puncture strength	ASTM D 4833	90 lb (400 N)
Maximum permeability	ASTM D 4491	$\leq 1X10^{-7}$ cm/s
Min. ultraviolet stability	ASTM D 4355	70%

Source: WisDOT Spec 628.2.10.

VI. Considerations

A. The 5 feet per second flow velocity specified in Section III can be the base flow of the stream or the base flow plus the addition of storm event runoff. Base flow can be used alone for short term projects (typically one day duration, i.e. culvert installation) when the chance of precipitation is low. Longer term projects (i.e. bridge work) should consider storm flow in addition to base flow (typically the two year event).

B. If the current exceeds 5 feet per second, other methods to divert flow away from the turbidity barrier such as temporary concrete traffic barriers, coffer dams, pumping, or sheet piling should be considered.

C. Sediment that has been settled out by the turbidity barrier should only be removed if so directed by the regulatory authority because re-suspension of sediment will likely occur during the removal process. Use of polymers may help prevent resuspension of sediment. See WDNR Technical Standard 1051 Sediment Control Water Application of Polymers for further guidance.

D. Turbidity barriers are meant to manage sediment in the waterbody. The best way to prevent sediment from entering the waterbody is through the implementation of effective upland erosion control, stopping sediment transport at its source.

E. Turbidity barriers should not be used to reduce the conveyance capacity of the channel. An example is use on bridge projects where the turbidity barrier is installed adjacent to each abutment simultaneously.

F. Turbidity barriers may be installed on the banks of a waterway or waterbody if higher water levels are anticipated during construction.

VII. Plans and Specifications

Plans and specifications for installing a turbidity barrier shall be in keeping with this standard and attached detail drawing and shall describe the requirements for applying the practice to achieve its intended purpose:

A. Location of turbidity barrier.

B. Material specification conforming to standard.

C. All plans, standard detail drawings, or specifications shall include schedule sequence or notes for installation, inspection, and maintenance. The responsible party shall be identified.

VIII. Operation and Maintenance

A. Turbidity barriers shall be inspected daily and repaired if necessary.

B. Turbidity barriers shall not be removed until the water behind the barrier has equal or greater clarity than the waterway or waterbody.

C. Care shall be taken when removing the barrier to minimize the release or re-suspension of accumulated sediment.

D. To prevent the spread of exotic species turbidity barriers shall not be reused on other sites. Buoys

and chains can be reused but shall be either disinfected with vinegar or cleaned with hot water greater than 104 deg. F then allowed to completely dry for a minimum period of five days. If there are any questions about the occurrence of zebra mussels, Eurasian water-milfoil, or other aquatic invasive species in a waterbody that you are working in, or intend to work in, contact your local DNR staff.

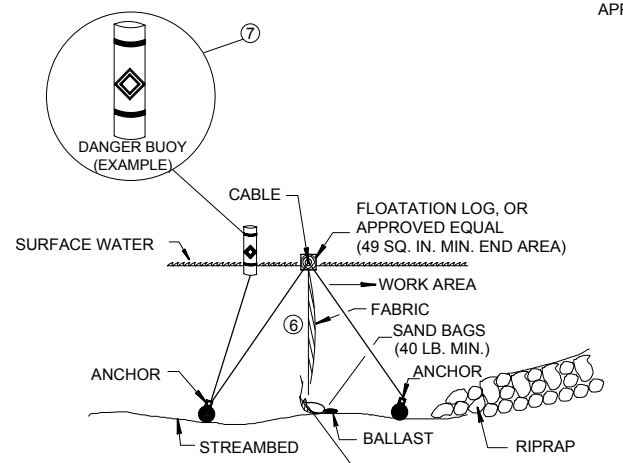
IX. References

WisDOT Facilities Development Manual: Chapter 10, Section 10, Subject 45, Turbidity Barrier

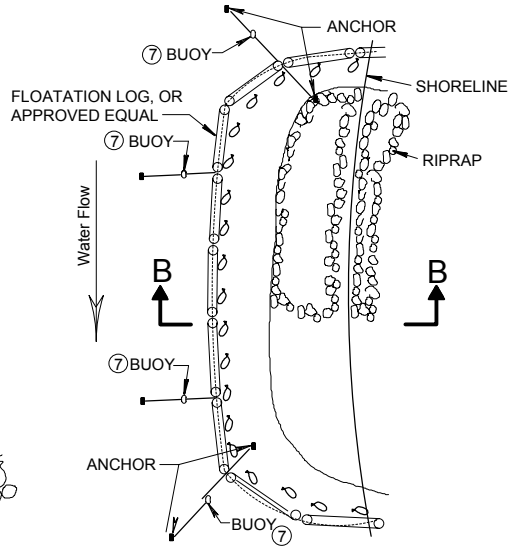
X. Definitions

Stabilized (V.A.1): Means that all land disturbing construction activities at the construction site have been completed, and that a uniform perennial vegetative cover has been established with a density of at least 70% of the cover for the unpaved areas and areas not covered by permanent structures, or that employ equivalent stabilization measures.

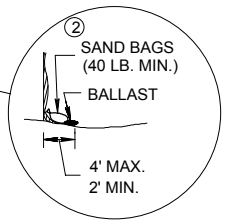
Figure 1. Turbidity Barrier Placement Details

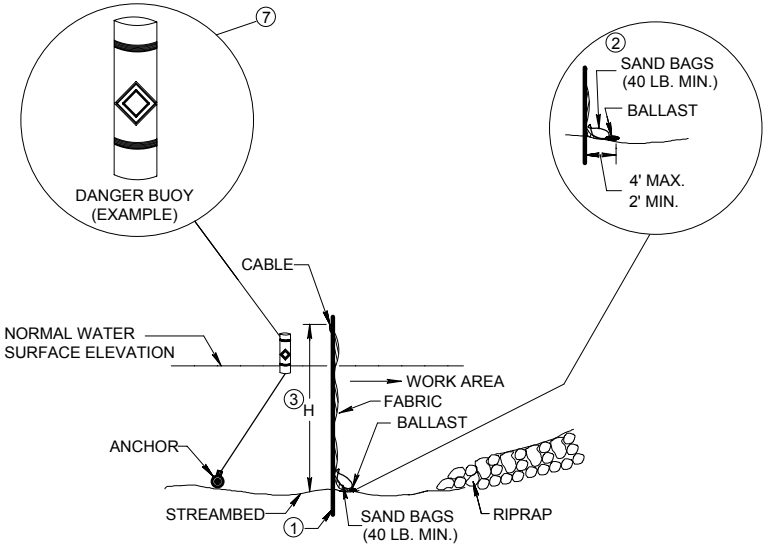


SECTION B-B

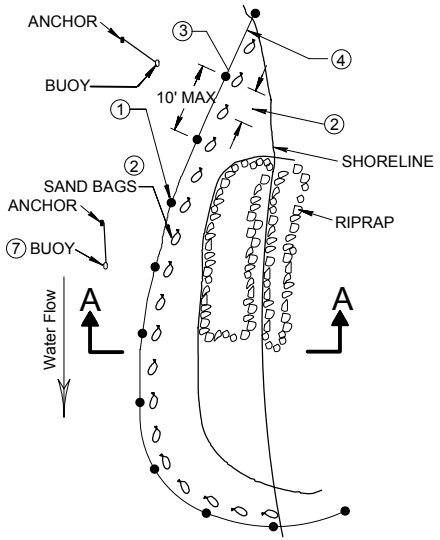


TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 5





SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD AND THE APPLICABLE SPECIAL PROVISIONS

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS OR PROJECT MANAGERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER OR PROJECT MANAGER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER OR PROJECT MANAGER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑥ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑦ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.

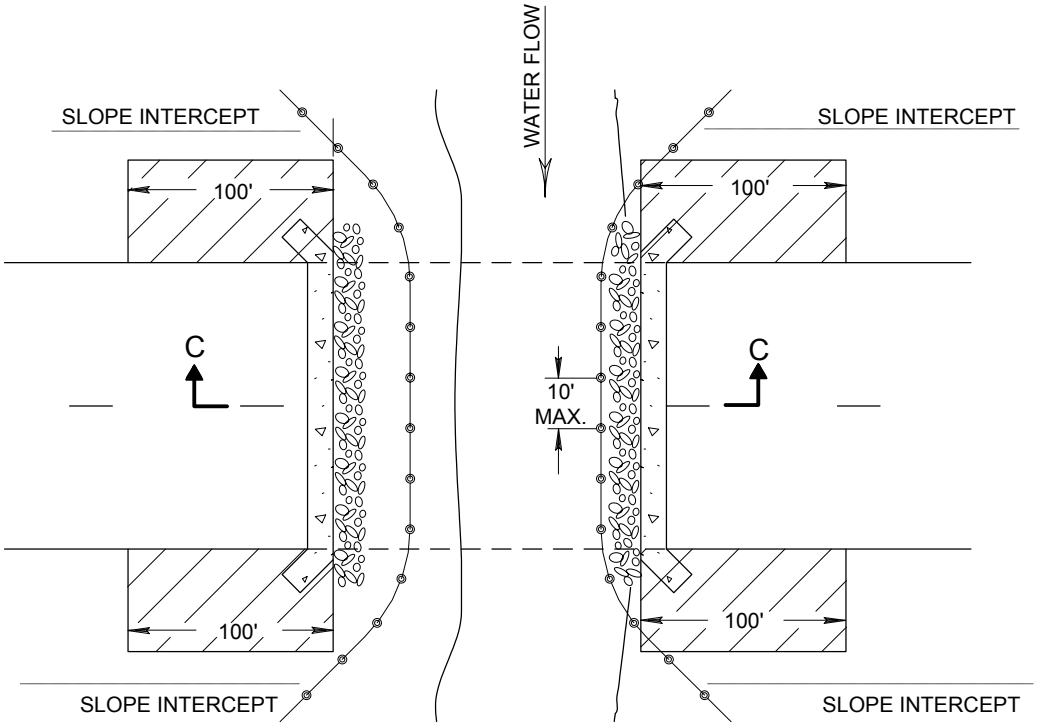
NOT TO SCALE

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 11-2.

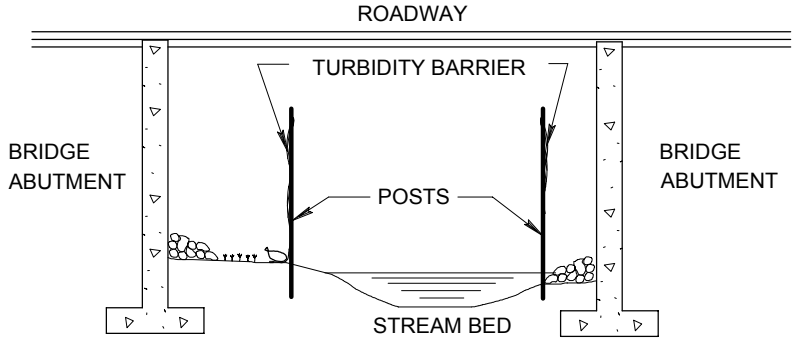
FIGURE 2. TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

GENERAL NOTE

FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER OR PROJECT MANAGER AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.



PLAN VIEW



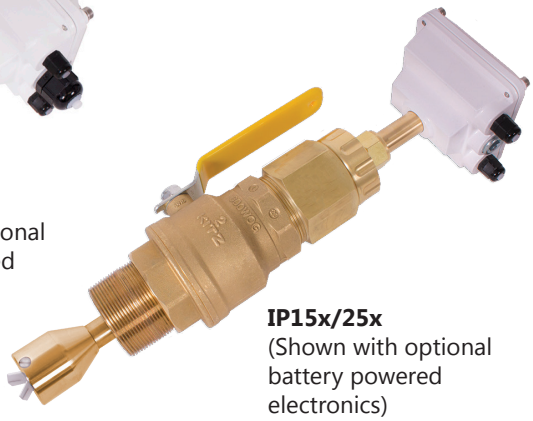
SECTION C-C

NOT TO SCALE

This Drawing is Based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 11-2.

IP100/200-SERIES
INSERTION PADDLEWHEEL FLOW SENSOR

IP11x/21x
(Shown with optional externally powered electronics)



IP15x/25x
(Shown with optional battery powered electronics)

APPLICATIONS

Clean water

Large pipes

Aquariums, water parks

Water & wastewater monitoring

Features

- Wide flow range
- One moving part
- Hot tap available
- Modular electronics compatible
- Easily depth adjustable for 3" to 40" pipe

The **IP100/200-Series** are adjustable depth insertion paddlewheels that come in brass, PVC, or 316 stainless models to fit 3" to 40" pipe. Adapters mate with standard 1-1/2" (11x/21x) or 2" (15x/25x), or PVC (11x/21x) NPT threaded fittings such as saddles and weldolets which may be purchased either locally or from Seametrics.

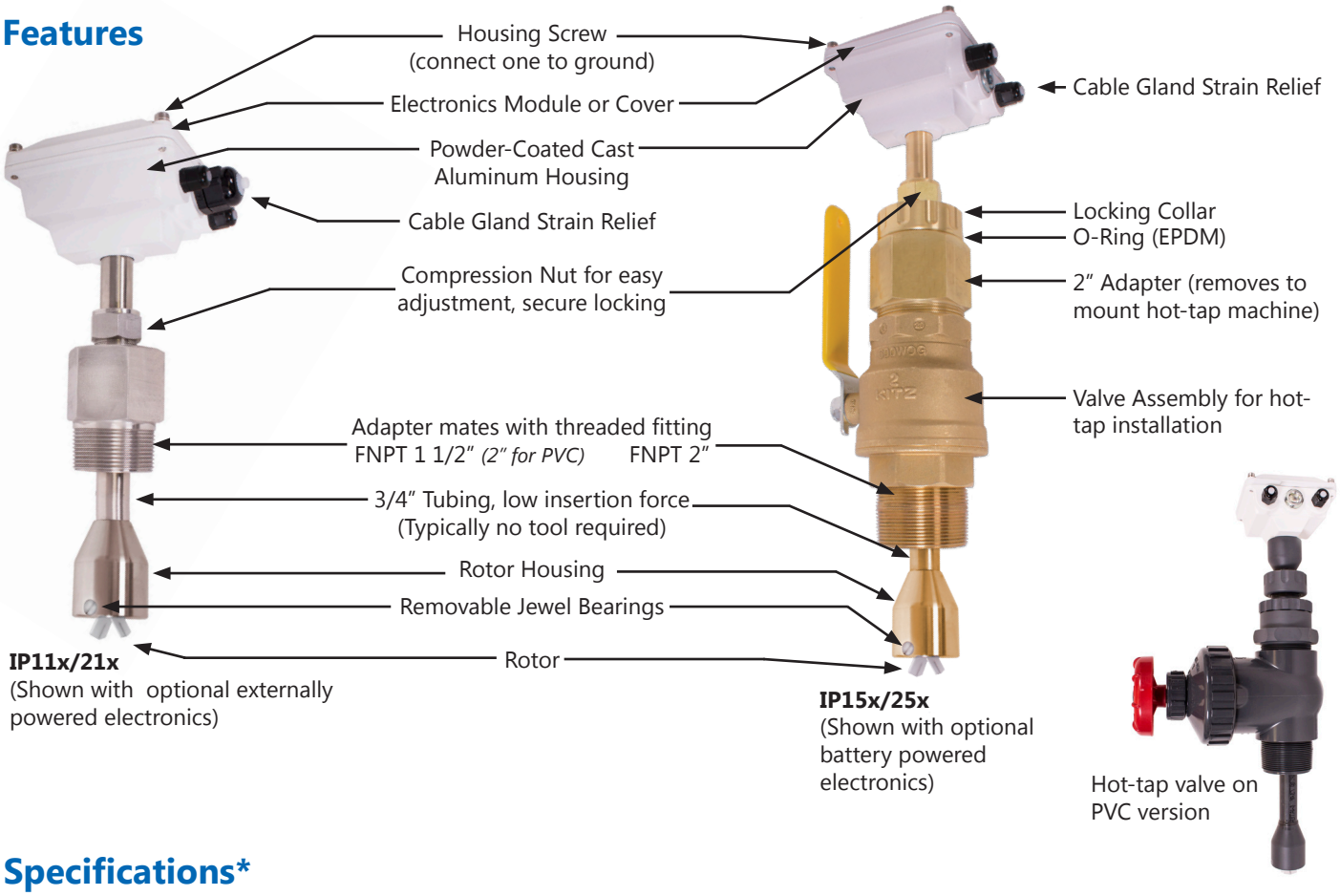
Ruby bearings and a non-drag Hall-effect sensor give these meters the widest flow range of any of the paddlewheel types. A sensor detects the passage of miniature magnets in the six rotor blades. The resulting square-wave signal can be sent for hundreds of feet over unshielded cable without a transmitter and connected directly to many PLC's and other controls without any additional electronics.

A modular system of electronics can be installed directly on the flow sensor or mounted remotely. The FT430 (externally powered with pulse), FT440 (loop powered), and FT450 (battery powered) all provide digital rate and total displays, as well as a programmable pulse; the FT440 also provides a 4-20 mA analog output. The AO55 is a blind analog (4-20 mA) transmitter. Programmable pulse for pump pacing is available with the PD10 (available as wall-mounted unit only).

The "hot-tap" models (IP15x/25x) can be installed or serviced without shutting down the line by means of a 2" full-port isolation valve that comes with a nipple for installation on the pipe fitting. In most circumstances, no special tool is required.

Contact Your Supplier

Features



IP11x/21x
(Shown with optional externally powered electronics)

IP15x/25x
(Shown with optional battery powered electronics)

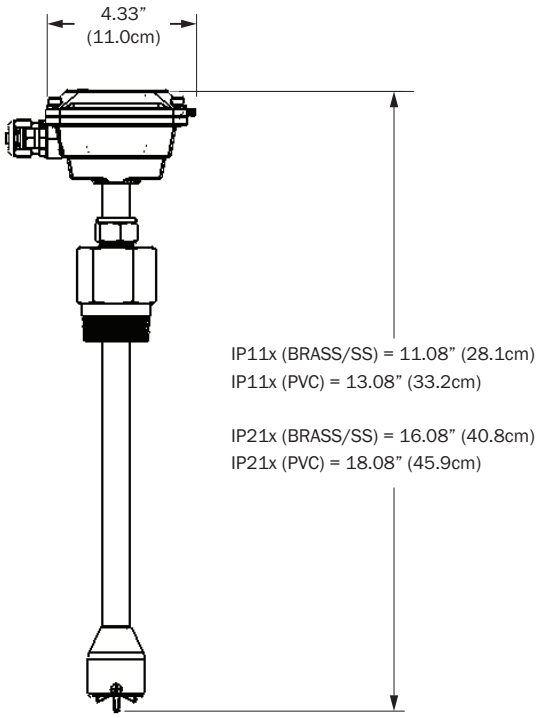
Hot-tap valve on PVC version

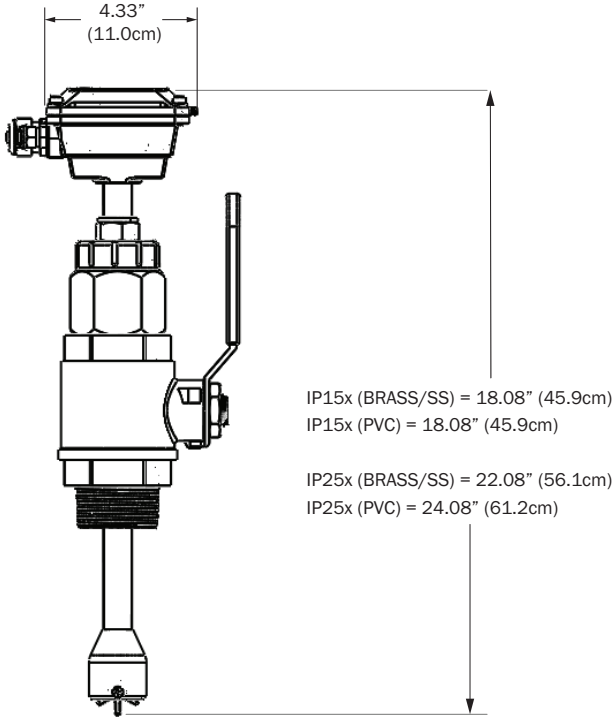
Specifications*

Pipe Size		3" to 40"			
Power		**Low Power:** 6-36 Vdc/< 2 mA		**Micropowered (-04 Option):** 3.1-16 Vdc/60 µA @ 3.6 Vdc	
Sensor		**Low Power:** Digital Magnetoresistive		**Micropowered (-04 Option):** Giant Magnetoresistance (GMR)	
Materials	**Housing**	Powder-coated cast aluminum			
	Tubing/Fitting/Sensor Housing	Brass, PVC, or 316 Stainless Steel			
	Rotor	PVDF (Kynar®)			
	Shaft	Kynar® /Tungsten Carbide (Kynar® /Ceramic or Kynar®/Silicon Carbide optional)			
	Bearings	Ruby jewel			
	O-Ring *(15x/25x only)*	EDPM			
	Valve Assembly for:	**IP11x/21x (Brass/SS)**	**IP11x/21x (PVC)**	**IP15x/25x (Brass/SS)**	**IP15x/25x (PVC)**
		None	None	Bronze (316SS optional)	Uses gate valve
Fitting Size Required		1.5" FNPT	2" FNPT	2" FNPT	2" FNPT
Maximum	**Pressure**	**Brass/SS:** 200 psi (14 bar)		**PVC:** 150 psi (10 bar)	
	Temperature	**Brass/SS:** 200˚ F (93˚ C)		**PVC:** 130˚ F (55˚ C)	
Flow Velocity		0.3 to 30 ft/sec (0.9 to 9.14 m/sec)			
Accuracy		± 1.5% of full scale			
Output Transistor Maximum Current Sinking		150mA (low power version only)			
Cable		#22 AWG 3-con, 18' (6m); 2,000' (610m) maximum cable run Note: 50' (15m) maximum for battery powered or micropowered versions.			
Environmental		See meter mounted electronic specification for rating.			
Regulatory		CE Mark			

**Specifications subject to change. Please consult our website for the most current data (www.seametrics.com).*
Kynar is a registered trademark of Arkema, Inc.

Dimensions

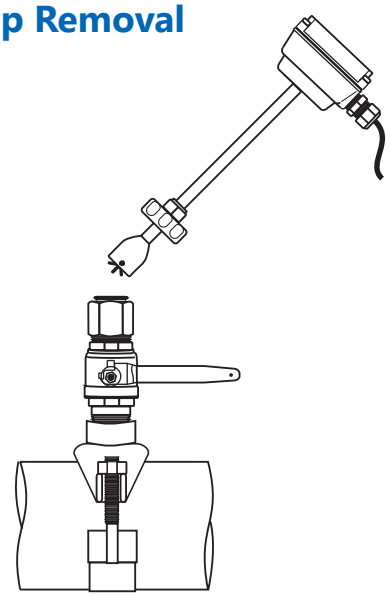




Hot Tap Installation

Insertion and removal under pressure is possible due to the 2" full-port isolation valve, which comes with a nipple for installation on the pipe fitting. If it is necessary to do the initial installation under pressure, any standard hot tap drilling machine with 2" NPT adapter, such as a Transmate or a Mueller, can be used. Ordinarily, it is not necessary to use an installation tool, since the small-diameter tube can be controlled by hand at all but the highest pressures.

Hot Tap Removal



Flow Range

	3"	4"	6"	8"	10"	12"	16"	18"	24"	30"	36"	40"
GPM Min (.3ft/sec)	6.6	12	27	47	73	106	188	238	422	660	951	1,174
LPM Min (.09m/sec)	24	45.4	102	178	276	401	712	901	1597	2498	3600	4444
GPM Max (30ft/sec)	660	1200	2700	4700	7370	10600	18800	23800	42200	66000	95100	117400
LPM Max (9.1m/sec)	2498	4542	10220	17791	27898	40125	71166	90093	159744	249837	359993	444407

Approximations based on Schedule 40 pipe.

How to Order

	Description	Size	Material	Options (110/210)		Options (150/250)
Sensor Only	Sensor Only.	3" - 12" = IP110 12" - 40" = IP210 Hot Tap 3" - 12" = IP150 12" - 40" = IP250	Brass = B 316 SS = S PVC = P	Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Brass Adapter Fitting 2" NPT = -02 SS Adapter Fitting 2" NPT = -02 Micropower Pickup = -04 Standard Power, LMI 4-pin Connector = -06 Stnd Power, Seametrics Ctrl Connector = -07	Brass Adapter 1 ½" BSP = -23 SS Adapter 1 ½" BSP = -24 Old Style Adapter 1 ½" NPT = -35 *Immersible = -40 Rotor (Kynar®/Silicon Carbide Shaft) = -68 12" Extension (200 Series Only) = -72 Roytronic® Series-A 5-Pin Connector = -106	Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Micropower Pickup = -04 Standard Power, LMI 4-pin Connector = -06 Standard Power, Seametrics Control Connector = -07 316 SS Valve Assembly = -08 No Valve Assembly = -09 *Immersible = -40 Rotor (Kynar®/Silicon Carbide Shaft) = -68 12" Extension (200 Series Only) = -72 Roytronic® Series-A 5-Pin Connector = -106
A055 Mounted on Sensor	**Description**	**Size**	**Material**	**Options (112/212)**		**Options (152/252)**
	Blind 4-20 mA analog transmitter (AO55) mounted on the sensor.	3" - 12" = IP112 12" - 40" = IP212 Hot Tap 3" - 12" = IP152 12" - 40" = IP252	Brass = B 316 SS = S PVC = P	Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Brass Adapter Fitting 2" NPT = -02 SS Adapter Fitting 2" NPT = -02 Standard Power, LMI 4-pin Connector = -06 Brass Adapter 1 ½" BSP = -23	SS Adapter 1 ½" BSP = -24 Old Style Adapter 1 ½" NPT = -35 Rotor (Kynar®/Silicon Carbide Shaft) = -68 12" Extension (200 Series Only) = -72 Roytronic® Series-A 5-Pin Connector = -106	Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Standard Power, LMI 4-pin Connector = -06 316 SS Valve Assembly = -08 No Valve Assembly = -09 Rotor (Kynar®/Silicon Carbide Shaft) = -68 12" Extension (200 Series Only) = -72 Roytronic® Series-A 5-Pin Connector = -106
FT430 Mounted on Sensor	**Description**	**Size**	**Material**	**Options (113/213)**		**Options (153/253)**
	Rate & total indicator with pulse, externally powered (FT430) mounted on the sensor.	3" - 12" = IP113 12" - 40" = IP213 Hot Tap 3" - 12" = IP153 12" - 40" = IP253	Brass = B 316 SS= S PVC = P	Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Brass Adapter Fitting 2" NPT = -02 SS Adapter Fitting 2" NPT = -02 Brass Adapter 1 ½" BSP = -23 SS Adapter 1 ½" BSP = -24 Tamper Evident Kit = -32 Old Style Adapter 1 ½" NPT = -35	Non-resettable Total = -64 Rotor (Kynar®/Silicon Carbide Shaft) = -68 12" Extension (200 Series Only) = -72 Hinged Display Cover = -126	Rotor with Ceramic Shaft, PVDF, Kynar® = -01 316 SS Valve Assembly = -08 No Valve Assembly = -09 Tamper Evident Kit = -32 Old Style Adapter = -35 Non-resettable Total = -64 Rotor (Kynar®/Silicon Carbide Shaft) = -68 12" Extension (200 Series Only) = -72 Hinged Display Cover = -126
DL76 Mounted on Sensor	**Description**	**Size**	**Material**	**Options (116/216)**		**Options (156/256)**
	Data logger (DL76) mounted on the sensor.	3" - 12" = IP116 12" - 40" = IP216 Hot Tap 3" - 12" = IP156 12" - 40" = IP256	Brass = B 316 SS = S PVC = P	Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Brass Adapter Fitting 2" NPT = -02 SS Adapter Fitting 2" NPT = -02 Brass Adapter 1 ½" BSP = -23 SS Adapter 1 ½" BSP = -24	Tamper Evident Kit = -32 Old Style Adapter 1 ½" NPT = -35 Rotor (Kynar®/Silicon Carbide Shaft) = -68 12" Extension (200 Series Only) = -72	Rotor with Ceramic Shaft, PVDF, Kynar® = -01 316 SS Valve Assembly = -08 No Valve Assembly = -09 Tamper Evident Kit = -32 Rotor (Kynar®/Silicon Carbide Shaft) = -68 12" Extension (200 Series Only) = -72
FT450 Mounted on Sensor	**Description**	**Size**	**Material**	**Options (117/217)**		**Options (157/257)**
	Rate & total indicator with pulse, battery powered (FT450) mounted on the sensor.	3" - 12" = IP117 12" - 40" = IP217 Hot Tap 3" - 12" = IP157 12" - 40" = IP257	Brass = B 316 SS= S PVC = P	Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Brass Adapter Fitting 2" NPT = -02 SS Adapter Fitting 2" NPT = -02 Brass Adapter 1 ½" BSP = -23 SS Adapter 1 ½" BSP = -24 Tamper Evident Kit = -32 Old Style Adapter 1 ½" NPT = -35	Non-resettable Total = -64 Rotor (Kynar®/Silicon Carbide Shaft) = -68 12" Extension (200 Series Only) = -72 Hinged Display Cover = -126	Rotor with Ceramic Shaft, PVDF, Kynar® = -01 316 SS Valve Assembly = -08 No Valve Assembly = -09 Tamper Evident Kit = -32 Old Style Adapter = -35 Non-resettable Total = -64 Rotor (Kynar®/Silicon Carbide Shaft) = -68 12" Extension (200 Series Only) = -72 Hinged Display Cover = -126
FT440 Mounted on Sensor	**Description**	**Size**	**Material**	**Options (119/219)**		**Options (159/259)**
	Rate & total indicator with pulse & 4-20 mA output, loop powered (FT440) mounted on the sensor.	3" - 12" = IP119 12" - 40" = IP219 Hot Tap 3" - 12" = IP159 12" - 40" = IP259	Brass = B 316 SS= S PVC = P	Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Brass Adapter Fitting 2" NPT = -02 SS Adapter Fitting 2" NPT = -02 Brass Adapter 1 ½" BSP = -23 SS Adapter 1 ½" BSP = -24 Tamper Evident Kit = -32 Old Style Adapter 1 ½" NPT = -35	Non-resettable Total = -64 Rotor (Kynar®/Silicon Carbide Shaft) = -68 12" Extension (200 Series Only) = -72 Hinged Display Cover = -126	Rotor with Ceramic Shaft, PVDF, Kynar® = -01 316 SS Valve Assembly = -08 No Valve Assembly = -09 Tamper Evident Kit = -32 Old Style Adapter = -35 Non-resettable Total = -64 Rotor (Kynar®/Silicon Carbide Shaft) = -68 12" Extension (200 Series Only) = -72 Hinged Display Cover = -126

** Immersible to maximum of 3 ft (1m), up to 2 weeks • Kynar is a registered trademark of Arkema, Inc. Roytronic is a registered trademark of Milton Roy Company.*

New Pig

Free Hoodie with a $250 order

OPTIONS

Qty 1 $91.00

Ship One Time

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Get a Free Gift with every delivery! Learn More

ADD TO CART

PIG® Drain Insert

FLT638 4.5 (4) Write a Review

For Oil; Sediment; Debris, For Storm Drains up to 30" x 40" & Round Drains up to 30" Dia., 500 gal./Minute

As Low As **$85.00**

Even in high-traffic areas, there's no easier way to control oily runoff and capture silt, trash and sediment - and avoid stormwater fines. Read More

PRICING (Based on quantity)

1 - 3 $91.00	4 + $85.00 Best Buy

Customers Also Bought:

BEST SELLER

FLT639

(3)

PIG® Drain Insert

- For Oil; Sediment; Debris
- For Storm Drains up to 54" x 54" & Round Drains up to 54" Dia.
- 900 gal./Minute

$102.00 - $1

MAT240

(137)

PIG® Absorbent Mat Pad in Dispenser Box

- Heavyweight
- 15" x 20"
- 100 pads

$86.00 - $10

FLT745

PIG® Quick-Fit Drain Insert

- For Oil; Sediment; Debris
- For Storm Drains from 16" x 26" to 20" x 32"
- 770 gal./Minute

$109.00 - $1

Previous Page 1 of 7 Next

Description

Even in high-traffic areas, there's no easier way to control oily runoff and capture silt, trash and sediment - and avoid stormwater fines.

- Below-grate design stays intact in areas with high vehicle traffic
- 18"-deep accumulation pocket collects sediment and oil while geotextile fabric lets stormwater flow through
- Excess flow ports help avoid blockage during high water flow
- Excess fabric around grate can be trimmed for appearance or left in place for grip during changeouts
- Ideal when you need to capture trash, sediment, silt and hydrocarbons
- Add strength and capacity by fitting heavy-duty Retainer Rods (sold separately) through attached loops

Specifications

Style	Drain Filters
Use With	Storm Drains up to 30" x 40" & Round Drains up to 30" Dia.
Color	Black
Dimensions	36" W x 48" L
Absorbency	Up to .9 gal.
Drain Filter Type	Sediment & Debris Insert
Substance Filtered	Oil; Sediment; Debris
Sold as	1 each
Weight	1.807 lbs.
# per Pallet	72
Composition	Polypropylene
Maximum Flow Rate	500 gal./Minute
Opening Dimensions	10" Dia.
UNSPSC	47101514
UV Resistant	Yes
Pigalog® Page Number	Page 279

Accessories for FLT638

TLS330

Grate Lifting Hook

- For Storm Grates
- Iron & Steel

$64.00 - $72

Reviews

Show All

WRITE A REVIEW

By **Edward**8/31/2017

Floor drain filters

WE have been using these for several years now. They work great. If they get slow, turn them inside out and rinse them out. Put them back for some more. They are a little bit bigger than our grates but we just trim off the excess. Pig is a great company to work with as well.

By **Jerome**5/15/2013

First PIG

Our first PIG use, easy to install, versatile sizing, great value compared to some of the alternatives. We haven't had a chance to see how it performs yet, but pretty optimistic. I've been offering these to my customers as an economical alternative to some of the other products. Thanks PIGfolks!

By **Nick**10/3/2012

Great Product for the Scrap Yard

After trying many construction materials to protect our storm grates we bought PIG brand. Never going to use anything but these. Storm water flows right through these and they capture tons of sediment. The initial cost is somewhat high but the overall savings will be well worth the investment. No need for a vacuum truck to clean out our catch basins anymore.

Show All

Additional Information

Product Data Sheet (PDS) ▸

40 CFR 122.26 ▸
When applying for a National Pollutant Discharge Elimination System (NPDES) permit, facilities must have a plan in place that describes actions, procedures, control techniques, management practices and equipment available to prevent illegal discharge of pollutants into waterways.

ONE PORK AVENUE • PO BOX 304 • TIPTON, PA 16684-0304

1-855-493-HOGS (493-4647) • Fax: 1-800-621-PIGS (621-7447) • hothogs@newpig.com

New Pig

Free Hoodie with a $250 order

OPTIONS

Qty 1 $159.00

Ship One Time

Buy with Autoship

Get a Free Gift with every delivery! Learn More

ADD TO CART

Filtrexx® FilterSoxx with MetaLoxx™

FLT718 (3) Write a Review

For Heavy Metals; Oil; Sediment; Debris, For Storm Drains, Culverts, and Ditches, 2 gal./Minute

As Low As **$147.00**

Protect storm drains from pollutants including sediment, debris, hydrocarbons and chemicals. Read More

PRICING (Based on quantity)

1 - 5 $159.00	6 + $147.00 Best Buy

Customers Also Bought:

FLT717

Filtrexx® FilterSoxx with MetaLoxx™

- For Heavy Metals; Oil; Sediment; Debris
- For Storm Drains, Culverts, and Ditches
- 2 gal./Minute

$82.00 - $90

BEST SELLER

PLR222

(4)

PIG® Build-A-Berm® Barrier Kit

- Ideal For Semi-Permanent Use
- 5.5" x 50' x 2"

$672.00 - $7

MAT605

(5)

PIG® High Visibility Absorbent Mat Pad in Dispenser Box

- Heavyweight
- 15" x 20"
- 100 pads

$86.00 - $10

Previous Page 1 of 7 Next

Description

Protect storm drains from pollutants including sediment, debris, hydrocarbons and chemicals.

- Organic compost/mulch filler achieves a 97.2% total solid removal
- Also efficiently filters oils, diesel, gasoline and hydrocarbon sheens from stormwater
- Barrier provides effective erosion and sedimentation control with constant-flow filtration at 2 gpm/linear foot
- Easy to handle and move as needed
- Ideal for uses where mobility matters, such as site entrances and exits
- Installs easily on nearly any surface, even pavement or frozen ground
- Product's own weight holds it in place, eliminating need for stakes or extra equipment
- Minimize replacement costs by surrounding any size drain with any quantity, rotating and swapping out when saturated as needed
- Won't rip, tear or fall down like silt fencing

- Bio-based, organic materials help you meet environmental goals
- Strong double-polyester skin blocks sediment and withstands demands such as vehicle traffic
- MetaLoxx™ additive captures and retains heavy metals such as copper, lead, zinc, chromium, cadmium and arsenic; more effective than straw wattles, which only stop erosion
- Ideal for use in salvage yards, landfills and recycling centers

Specifications

Style	Drain Filters
Use With	Storm Drains, Culverts, and Ditches
Color	Black
Dimensions	ext. dia. 5" x 10' L
Absorbency	Up to 4.5 gal.
Drain Filter Type	Filter Socks & Pillows
Substance Filtered	Heavy Metals; Oil; Sediment; Debris
Sold as	1 each
Weight	26 lbs.
# per Pallet	50
Composition	Skin - Polyester Filler - Compost Mulch
Maximum Flow Rate	2 gal./Minute
UNSPSC	47101514
UV Resistant	Yes
Pigalog® Page Number	Page 282

Reviews

WRITE A REVIEW

By **Kevin**11/13/2017

Filtrexx Logs

Filtrexx logs worked well reducing our metals and oil in our stormwater runoff. Easy to install and replace. Only issues so far is that water does not pass through logs fast enough during moderate to heavy rainfalls resulting in the runoff damming up and running over logs.

By **John**11/1/2017

really good product

We used these at a couple storm drains and they worked really well. They stop the mud and debris but allow the clean water to go through. They are heavy so they don't just wash away.

By **Eloisa**6/26/2013

MetaLoxx

This product is very useful in filtering the metals. The only concern we have had is that the outer mesh sometimes does not hold up very well in the sun. Overall it is a good product that serves its purpose.

Additional Information

Product Data Sheet (PDS) ▸

Why is there no SDS? ▸

40 CFR 122.26 ▸
When applying for a National Pollutant Discharge Elimination System (NPDES) permit, facilities must have a plan in place that describes actions, procedures, control techniques, management practices and equipment available to prevent illegal discharge of pollutants into waterways.


EZ DOCK®
The best investment
for your waterfront

OUR STORY

In 1991, two friends set out to create the ideal dock after years of battling harsh weather conditions and having to install and remove their wooden dock seasonally. The result—the patented EZ Dock® System. Today, we are the industry leader in floating modular docks, offering a wide selection of dock systems, boat and PWC lifts, and accessories.

EZ Dock is the best investment you will make for your waterfront property. Combining strength and stability with light weight and low maintenance, our patented designs have applications in commercial marine, residential, and industrial markets.

EZ Dock is the best investment you will ever make in your waterfront property.

We proudly manufacture all of our roto-molded product in the U.S.A.

Low Maintenance and Barefoot Friendly

- EZ Dock polyethylene docks are durable and slip resistant
- Won't splinter or rot, never needs painting
- Cleans easily with soap and water

MADE IN USA

Adaptable Design

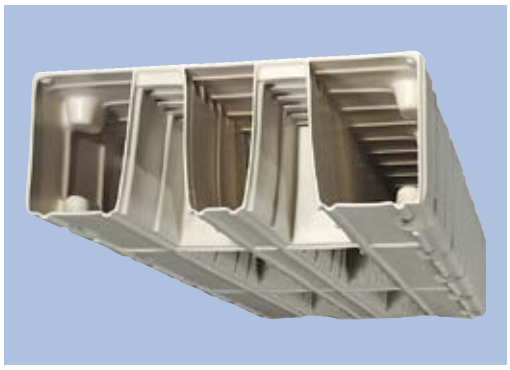
- Unique design delivers outstanding load capacity, functionality, and safety
- Variety of dock sections, boat/PWC lifts, and kayak launches
- Easily customizable design to make your perfect waterfront retreat

Flexible Flotation Technology

- Flotation chambers constructed for optimal strength and structural integrity
- Designed to provide additional stability on the water
- Dock sections adapt easily to changing water conditions and levels

Innovative Coupling

- Made of recycled materials
- Nuts and bolts made of heavy duty, rust resistant composite
- Strength and durability even in the harshest weather conditions



GANGWAYS

Easy Access

Engineered with the same technology and quality as our dock sections, EZ Dock gangways offer uncompromised durability and modular versatility. Gangways are manufactured from aluminum, wood, or polyethylene.

1. Gangway (Aluminum)

G300308 to G300532

Features welded construction with an available ThruFlow™ decking walkway. Available in 3' and 5' widths and lengths from 8' to 32'.

2. Gangway (Polyethylene)

400406 (6' section)

Shown with two 6' sections installed with the 12' Aluminum Tube Support Kit (401412) and optional 12' Hand Rail (400912). Also available in 10' section (404010).

3. Gangway Roller Kit

300300, 300400

Gangway Roller Kit allows end of gangway to adjust to changing water levels. PVC and galvanized steel roller available for 3' and 5' widths.

4. Transition Plate

G200350 or G200550

Gangway transition plate with ThruFlow decking creates a sturdy transition between shore grade and aluminum gangway, or gangway to dock.

5. Hinge-To-Float

G200360, G200460, G200560

Hinged bracket with hardware attaches gangway to dock.

6. Transition Kit (Polyethylene)

100717 (15") or 100718 (30")

Hinged polyethylene plate creates a smooth transition between EZ Dock or EZ Port and another floating dock.

7. Gangplank Mounting Kit

100240, 100340 or 100600

Galvanized steel hinge bracket and hardware for wood walkways 24", 34", or 60" wide. Lumber not included.

8. Plank Gangway (Polyethylene)

200200

Hinged polyethylene panel creates a smooth transition between shore grade and deck surface.

EZ TRAIL®

EZ Trail is a smart way to create accessible ramps and pathways in your woodland, wetland, or any place you need a safe and durable traversing platform. Our system is less invasive, and the large interconnecting, modular sections are simple to install.

You can easily add sections as needed, or reconfigure your walkway anytime you like. EZ Trail features a versatile and expandable self-floating design that is suitable for land and water and can be easily moved (unlike fixed walkways, ramps, piers, or docks).

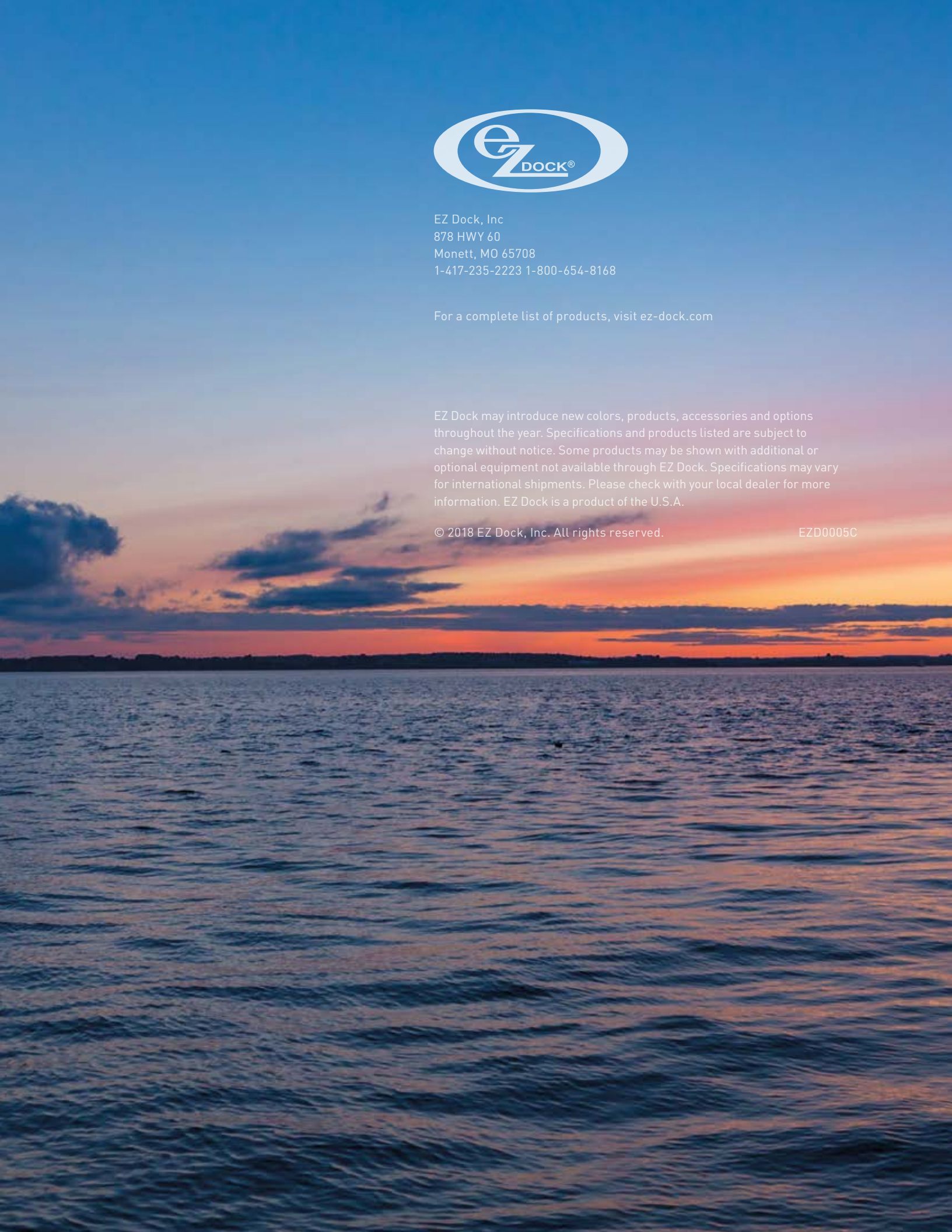
Environmentally Friendly

Treated wood and foam-filled products can be dangerous to wildlife habitats because they deteriorate, break apart and leave debris in the water, but EZ Dock utilizes only safe, non-toxic materials. The uniquely engineered sections provide stable flotation and can be suspended above vegetation during periods of low water so they don't harm the habitat. The system is less invasive because it doesn't require a permanent foundation, allowing healthy plant growth underneath.

TEMPORARY INSTALLATION APPLICATIONS

Special waterfront events that require floating platforms can present unique challenges. EZ Dock can help you execute your event with docks and floating platforms to accommodate judges, officials, contestants, performers, spectators, press, and photographers. Our products are easy to install and dismantle, and are perfect for traveling and recurring events held in locations such as ski competitions, fishing tournaments, concerts, golf tournaments, triathlons, and in-water boat shows.

TEMPORARY INSTALLATION APPLICATIONS



EZ Dock, Inc
878 HWY 60
Monett, MO 65708
1-417-235-2223 1-800-654-8168

For a complete list of products, visit ez-dock.com

EZ Dock may introduce new colors, products, accessories and options throughout the year. Specifications and products listed are subject to change without notice. Some products may be shown with additional or optional equipment not available through EZ Dock. Specifications may vary for international shipments. Please check with your local dealer for more information. EZ Dock is a product of the U.S.A.

EZD0005C

H Tables and Figures (from GHD RRIR, 2017, *included for convenience*)

Table 2.7

Summary of Surface Water Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		W-1	W-2	W-3	W-4	W-5	W-5	W-6	W-7
Sample Identification:		SW-102516-JL-03	SW-102516-JL-02	SW-102516-JL-01	SW-102516-JL-04	SW-102616-JL-05	SW-102616-JL-06	SW-102616-JL-07	SW-102616-JL-08
Sample Date:		10/25/2016	10/25/2016	10/25/2016	10/25/2016	10/26/2016	10/26/2016 Duplicate	10/26/2016	10/26/2016
Parameters	**Units**								
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	mg/L	0.00027 U	0.00027 U	0.00027 U	0.00027 U	0.00028 U	0.00028 U	0.0003 U	0.00028 U
Acenaphthene (dissolved)	mg/L	0.00027 U	0.00027 U	0.00027 U	0.00027 U	0.0003 U	0.00028 U	0.00028 U	0.00028 U
Acenaphthylene	mg/L	0.00046 U	0.00047 U	0.00047 U	0.00047 U	0.00049 U	0.00049 U	0.00052 U	0.00048 U
Acenaphthylene (dissolved)	mg/L	0.00047 U	0.00047 U	0.00046 U	0.00047 U	0.00052 U	0.00049 U	0.00049 U	0.00049 U
Anthracene	mg/L	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.00042 U	0.00042 U	0.00045 U	0.00041 U
Anthracene (dissolved)	mg/L	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.00045 U	0.00042 U	0.00042 U	0.00042 U
Benzo(a)anthracene	mg/L	0.00033 U	0.00033 U	0.00033 U	0.00033 U	0.00035 U	0.00035 U	0.00037 U	0.00034 U
Benzo(a)anthracene (dissolved)	mg/L	0.00033 U	0.00033 U	0.00033 U	0.00033 U	0.00037 U	0.00035 U	0.00035 U	0.00035 U
Benzo(a)pyrene	mg/L	0.00029 U	0.0003 U	0.00029 U	0.00029 U	0.00031 U	0.00031 U	0.00033 U	0.00031 U
Benzo(a)pyrene (dissolved)	mg/L	0.00029 U	0.00029 U	0.00029 U	0.00029 U	0.00033 U	0.00031 U	0.00031 U	0.00031 U
Benzo(b)fluoranthene	mg/L	0.0005 U	0.00051 U	0.00051 U	0.0005 U	0.00053 U	0.00053 U	0.00057 U	0.00052 U
Benzo(b)fluoranthene (dissolved)	mg/L	0.0005 U	0.0005 U	0.0005 U	0.00051 U	0.00057 U	0.00053 U	0.00053 U	0.00053 U
Benzo(e)pyrene	mg/L	0.00029 U	0.0003 U	0.00029 U	0.00029 U	0.00031 U	0.00031 U	0.00033 U	0.00031 U
Benzo(e)pyrene (dissolved)	mg/L	0.00029 U	0.00029 U	0.00029 U	0.00029 U	0.00033 U	0.00031 U	0.00031 U	0.00031 U
Benzo(g,h,i)perylene	mg/L	0.00047 U	0.00048 U	0.00048 U	0.00047 U	0.00049 U	0.0005 U	0.00053 U	0.00049 U
Benzo(g,h,i)perylene (dissolved)	mg/L	0.00048 U	0.00047 U	0.00047 U	0.00048 U	0.00053 U	0.0005 U	0.0005 U	0.0005 U
Benzo(k)fluoranthene	mg/L	0.00044 U	0.00044 U	0.00044 U	0.00044 U	0.00046 U	0.00046 U	0.00049 U	0.00045 U
Benzo(k)fluoranthene (dissolved)	mg/L	0.00044 U	0.00044 U	0.00044 U	0.00044 U	0.00049 U	0.00046 U	0.00046 U	0.00046 U
Chrysene	mg/L	0.00051 U	0.00052 U	0.00051 U	0.00051 U	0.00053 U	0.00054 U	0.00057 U	0.00053 U
Chrysene (dissolved)	mg/L	0.00051 U	0.00051 U	0.00051 U	0.00051 U	0.00058 U	0.00054 U	0.00054 U	0.00054 U
Dibenz(a,h)anthracene	mg/L	0.00048 U	0.00049 U	0.00049 U	0.00048 U	0.0005 U	0.00051 U	0.00054 U	0.0005 U
Dibenz(a,h)anthracene (dissolved)	mg/L	0.00048 U	0.00048 U	0.00048 U	0.00049 U	0.00054 U	0.00051 U	0.00051 U	0.00051 U
Fluoranthene	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.0002 U	0.0002 U	0.00021 U	0.0002 U
Fluoranthene (dissolved)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00021 U	0.0002 U	0.0002 U	0.0002 U
Fluorene	mg/L	0.00029 U	0.0003 U	0.00029 U	0.00029 U	0.00031 U	0.00031 U	0.00033 U	0.00031 U
Fluorene (dissolved)	mg/L	0.00029 U	0.00029 U	0.00029 U	0.00029 U	0.00033 U	0.00031 U	0.00031 U	0.00031 U
Indeno(1,2,3-cd)pyrene	mg/L	0.00062 U	0.00062 U	0.00062 U	0.00062 U	0.00064 U	0.00065 U	0.00069 U	0.00064 U
Indeno(1,2,3-cd)pyrene (dissolved)	mg/L	0.00062 U	0.00062 U	0.00062 U	0.00062 U	0.00069 U	0.00065 U	0.00065 U	0.00065 U
Naphthalene	mg/L	0.00028 U	0.00028 U	0.00028 U	0.00028 U	0.00029 U	0.00029 U	0.00031 U	0.00029 U
Naphthalene (dissolved)	mg/L	0.00028 U	0.00028 U	0.00028 U	0.00028 U	0.00031 U	0.00029 U	0.00029 U	0.00029 U
Perylene	mg/L	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0039 U	0.004 U	0.0042 U	0.0039 U
Perylene (dissolved)	mg/L	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0043 U	0.004 U	0.004 U	0.004 U
Phenanthrene	mg/L	0.00025 U	0.00025 U	0.00025 U	0.00025 U	0.00026 U	0.00026 U	0.00028 U	0.00026 U
Phenanthrene (dissolved)	mg/L	0.00025 U	0.00025 U	0.00025 U	0.00025 U	0.00028 U	0.00026 U	0.00026 U	0.00026 U
Pyrene	mg/L	0.00035 U	0.00035 U	0.00035 U	0.00035 U	0.00037 U	0.00037 U	0.00039 U	0.00036 U
Pyrene (dissolved)	mg/L	0.00035 U	0.00035 U	0.00035 U	0.00035 U	0.0004 U	0.00037 U	0.00037 U	0.00037 U

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Janesville, WI

Sample Location:		W-1	W-2	W-3	W-4	W-5	W-5	W-6	W-7
Sample Identification:		SW-102516-JL-03	SW-102516-JL-02	SW-102516-JL-01	SW-102516-JL-04	SW-102616-JL-05	SW-102616-JL-06	SW-102616-JL-07	SW-102616-JL-08
Sample Date:		10/25/2016	10/25/2016	10/25/2016	10/25/2016	10/26/2016	10/26/2016 Duplicate	10/26/2016	10/26/2016
Parameters	**Units**								
Polychlorinated Biphenyls (PCBs)									
Aroclor-1016 (PCB-1016)	mg/L	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U
Aroclor-1016 (PCB-1016) (dissolved)	mg/L	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U
Aroclor-1221 (PCB-1221)	mg/L	0.000086 U	0.000086 U	0.000086 U	0.000086 U	0.000086 U	0.000086 U	0.000086 U	0.000086 U
Aroclor-1221 (PCB-1221) (dissolved)	mg/L	0.000086 U	0.000086 U	0.000086 U	0.000086 U	0.000086 U	0.000086 U	0.000086 U	0.000086 U
Aroclor-1232 (PCB-1232)	mg/L	0.000067 U	0.000067 U	0.000067 U	0.000067 U	0.000067 U	0.000067 U	0.000067 U	0.000067 U
Aroclor-1232 (PCB-1232) (dissolved)	mg/L	0.000067 U	0.000067 U	0.000067 U	0.000067 U	0.000067 U	0.000067 U	0.000067 U	0.000067 U
Aroclor-1242 (PCB-1242)	mg/L	0.000057 U	0.000057 U	0.000057 U	0.000057 U	0.000057 U	0.000057 U	0.000057 U	0.000057 U
Aroclor-1242 (PCB-1242) (dissolved)	mg/L	0.000057 U	0.000057 U	0.000057 U	0.000057 U	0.000057 U	0.000057 U	0.000057 U	0.000057 U
Aroclor-1248 (PCB-1248)	mg/L	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U
Aroclor-1248 (PCB-1248) (dissolved)	mg/L	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U
Aroclor-1254 (PCB-1254)	mg/L	0.000029 U	0.000029 U	0.000029 U	0.000029 U	0.000029 U	0.000029 U	0.000029 U	0.000029 U
Aroclor-1254 (PCB-1254) (dissolved)	mg/L	0.000029 U	0.000029 U	0.000029 U	0.000029 U	0.000029 U	0.000029 U	0.000029 U	0.000029 U
Aroclor-1260 (PCB-1260)	mg/L	0.000038 U	0.000038 U	0.000038 U	0.000038 U	0.000038 U	0.000038 U	0.000038 U	0.000038 U
Aroclor-1260 (PCB-1260) (dissolved)	mg/L	0.000038 U	0.000038 U	0.000038 U	0.000038 U	0.000038 U	0.000038 U	0.000038 U	0.000038 U
Aroclor-1262 (PCB-1262)	mg/L	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 U
Aroclor-1262 (PCB-1262) (dissolved)	mg/L	0.000048 U	0.000048 U	0.000048 U	0.000048 U	0.000048 UJ	0.000048 UJ	0.000048 UJ	0.000048 UJ
Aroclor-1268 (PCB-1268)	mg/L	0.000086 U	0.000086 U	0.000086 U	0.000086 U	0.000086 U	0.000086 U	0.000086 U	0.000086 U
Aroclor-1268 (PCB-1268) (dissolved)	mg/L	0.000086 UJ	0.000086 UJ	0.000086 UJ	0.000086 UJ	0.000086 UJ	0.000086 UJ	0.000086 UJ	0.000086 UJ
Total PCBs	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs (dissolved)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Metals									
Antimony	mg/L	0.00027 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.00027 U	0.00027 U
Antimony (dissolved)	mg/L	0.00027 U	0.002 U	0.002 U	0.00027 U	0.00027 U	0.00027 U	0.00027 U	0.00027 U
Arsenic	mg/L	0.0013 J	0.0013 J	0.0013 J	0.0013 J	0.00081 J	0.00061 J	0.0012 J	0.0012 J
Arsenic (dissolved)	mg/L	0.0012 J	0.0012 J	0.0014 J	0.0012 J	0.00036 J	0.00036 J	0.0011 J	0.0011 J
Barium	mg/L	0.0536 J	0.0526 J	0.0534 J	0.0559 J	0.0447 J	0.0371 J	0.0545 J	0.0534 J
Barium (dissolved)	mg/L	0.0487 J	0.048 J	0.0491 J	0.0491 J	0.0279 J	0.0276 J	0.0493 J	0.0491 J
Beryllium	mg/L	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U
Beryllium (dissolved)	mg/L	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U
Cadmium	mg/L	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U
Cadmium (dissolved)	mg/L	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U
Chromium	mg/L	0.0005 J	0.00053 J	0.00059 J	0.00065 J	0.0013 J	0.0016 J	0.00067 J	0.00043 J
Chromium (dissolved)	mg/L	0.00026 U	0.00026 U	0.00026 J	0.00026 U	0.0012 J	0.0012 J	0.00026 U	0.00026 U
Cobalt	mg/L	0.00021 J	0.00024 J	0.00022 J	0.00024 J	0.007 U	0.007 U	0.007 U	0.007 U
Cobalt (dissolved)	mg/L	0.00015 J	0.00015 J	0.00023 J	0.00013 J	0.00013 U	0.007 U	0.00013 U	0.00013 U
Copper	mg/L	0.0011 J	0.00089 J	0.0014 J	0.0011 J	0.0022 U	0.0024 U	0.002 U	0.002 U
Copper (dissolved)	mg/L	0.00076 J	0.00071 J	0.00079 J	0.00071 J	0.002 U	0.002 U	0.002 U	0.002 U
Lead	mg/L	0.00053 J	0.00059 J	0.00057 J	0.0006 J	0.0011 J	0.0012 J	0.00051 J	0.00032 J
Lead (dissolved)	mg/L	0.00016 U	0.00016 U	0.00028 J	0.00016 U	0.00016 U	0.00016 U	0.00016 U	0.00016 U
Manganese	mg/L	0.0452	0.0464	0.0511	0.0536	0.0599	0.0536	0.0508	0.0425
Manganese (dissolved)	mg/L	0.003 J	0.0024 J	0.002 J	0.002 J	0.0345	0.0336	0.0028 J	0.0036 J

Table 2.7

Summary of Surface Water Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
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	Sample Location:	W-1	W-2	W-3	W-4	W-5	W-5	W-6	W-7
	Sample Identification:	SW-102516-JL-03	SW-102516-JL-02	SW-102516-JL-01	SW-102516-JL-04	SW-102616-JL-05	SW-102616-JL-06	SW-102616-JL-07	SW-102616-JL-08
	Sample Date:	10/25/2016	10/25/2016	10/25/2016	10/25/2016	10/26/2016	10/26/2016 Duplicate	10/26/2016	10/26/2016
Parameters	**Units**								
Metals (cont'd.)									
Mercury	mg/L	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U
Mercury (dissolved)	mg/L	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U
Nickel	mg/L	0.001 J	0.0011 J	0.0012 J	0.0012 J	0.00095 J	0.00069 J	0.0011 J	0.001 J
Nickel (dissolved)	mg/L	0.00086 J	0.00076 J	0.00085 J	0.00081 J	0.00028 U	0.00038 J	0.00079 J	0.00077 J
Selenium	mg/L	0.00058 J	0.00077 J	0.00048 U	0.00057 J	0.00056 J	0.00048 J	0.00062 J	0.00057 J
Selenium (dissolved)	mg/L	0.00049 J	0.00048 U	0.001 J	0.00051 J	0.00048 U	0.00048 U	0.00049 J	0.00048 U
Silver	mg/L	0.00003 U	0.00003 U	0.00003 U	0.00003 U	0.00003 U	0.00003 U	0.00003 U	0.00003 U
Silver (dissolved)	mg/L	0.00003 U	0.00003 U	0.00003 U	0.00003 U	0.00003 U	0.00003 U	0.00003 U	0.00003 U
Thallium	mg/L	0.00028 U	0.00028 U	0.00028 U	0.00028 U	0.00028 U	0.00028 U	0.00028 U	0.00028 U
Thallium (dissolved)	mg/L	0.00028 U	0.00028 U	0.00028 U	0.00028 U	0.00028 U	0.00028 U	0.00028 U	0.00028 U
Vanadium	mg/L	0.0018 J	0.0018 J	0.0019 J	0.0021 J	0.0017 J	0.0014 J	0.0019 J	0.0017 J
Vanadium (dissolved)	mg/L	0.0014 J	0.0014 J	0.0016 J	0.0015 J	0.00054 U	0.00054 U	0.0014 J	0.0013 J
Zinc	mg/L	0.0062 U	0.0062 U	0.0097 J	0.0062 U	0.0104 J	0.0116 J	0.0062 U	0.0062 U
Zinc (dissolved)	mg/L	0.0062 U	0.0062 U	0.0062 U	0.0062 U	0.0064 J	0.0062 U	0.0062 U	0.0062 U
General Chemistry									
Hardness	mg/L	322	326	310	312	226	158	308	298

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.
mg/L Milligrams per liter.

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-10**	**SS-10**	**SS-10**	**SS-11**	**SS-11**	**SS-12**	**SS-12**
Sample Identification:		**SE-101816-JL-069**	**SE-101816-JL-070**	**SE-101816-JL-071**	**SE-101816-JL-067**	**SE-101816-JL-068**	**SE-101816-JL-063**	**SE-101816-JL-064**
Sample Date:		**10/18/2016**	**10/18/2016**	**10/18/2016**	**10/18/2016**	**10/18/2016**	**10/18/2016**	**10/18/2016**
Sample Depth:		**0-0.5 ft BGS**	**0.5-2 ft BGS**	**3-4 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**
Sample Type:								
Photoionization Detector (PID) Reading (ppm) [(1)]:		**0.1**	**0.1**	**0.1**	**0.2**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.025 U	0.036 J	0.011 UJ	0.15 U	0.038 J	0.025 J	0.06 J
Acenaphthylene	mg/kg	0.041 U	0.039 U	0.019 UJ	0.25 U	0.029 U	0.026 U	0.028 U
Anthracene	mg/kg	0.041 U	0.12 J	0.019 UJ	0.35 J	0.12 J	0.074 J	0.12 J
Benzo(a)anthracene	mg/kg	0.059 J	0.47 J	0.022 UJ	1.4 J	0.28 J	0.27 J	0.3 J
Benzo(a)pyrene	mg/kg	0.048 U	0.46 J	0.022 UJ	1.3 J	0.24 J	0.26 J	0.33 J
Benzo(b)fluoranthene	mg/kg	0.063 U	0.64 J	0.029 UJ	1.9 J	0.3 J	0.38 J	0.5 J
Benzo(e)pyrene	mg/kg	0.048 U	0.33 J	0.022 UJ	0.89 J	0.16 J	0.19 J	0.26 J
Benzo(g,h,i)perylene	mg/kg	0.038 U	0.3 J	0.017 UJ	0.82 J	0.14 J	0.18 J	0.21 J
Benzo(k)fluoranthene	mg/kg	0.096 U	0.23 J	0.044 UJ	0.69 J	0.12 J	0.15 J	0.17 J
Chrysene	mg/kg	0.065 U	0.52 J	0.029 UJ	1.6 J	0.27 J	0.3 J	0.39 J
Dibenz(a,h)anthracene	mg/kg	0.045 U	0.083 J	0.021 UJ	0.28 U	0.043 J	0.029 U	0.064 J
Fluoranthene	mg/kg	0.089 J	0.94	0.039 UJ	3 J	0.59	0.64	0.78
Fluorene	mg/kg	0.043 U	0.044 J	0.02 UJ	0.26 U	0.051 J	0.034 J	0.039 J
Indeno(1,2,3-cd)pyrene	mg/kg	0.053 U	0.33 J	0.024 UJ	0.63 J	0.16 J	0.19 J	0.22 J
Naphthalene	mg/kg	0.074 U	0.071 U	0.034 UJ	0.45 U	0.052 U	0.047 U	0.051 U
Perylene	mg/kg	0.2 U	0.19 U	0.093 UJ	1.2 U	0.14 U	0.13 U	0.14 U
Phenanthrene	mg/kg	0.053 J	0.46 J	0.019 UJ	1.8 J	0.49 J	0.39 J	0.51 J
Pyrene	mg/kg	0.097 J	0.93	0.013 UJ	2.8 J	0.56	0.58	0.71
Alkylated PAHs								
1-Methylnaphthalene	ng/g	7.2 J	--	--	94 J	--	64 J	--
2-Methylnaphthalene	ng/g	10 J	--	--	120 J	--	73 J	--
C1-Benzo(a)anthracenes/chrysenes	ng/g	120 J	--	--	950 J	--	830 J	--
C1-Dibenzothiophenes	ng/g	15 J	--	--	110 J	--	100 J	--
C1-Fluoranthenes/Pyrenes	ng/g	190 J	--	--	1700 J	--	1200 J	--
C1-Fluorenes	ng/g	17 J	--	--	120 J	--	100 J	--
C1-Phenanthrenes/Anthracenes	ng/g	60 J	--	--	520 J	--	390 J	--
C2-Benzo(a)anthracenes/chrysenes	ng/g	49 J	--	--	330 J	--	330 J	--
C2-Dibenzothiophenes	ng/g	26 J	--	--	76 J	--	110 J	--
C2-Fluorenes	ng/g	17 J	--	--	86 J	--	85 J	--
C2-Naphthalenes	ng/g	18 J	--	--	190 J	--	160 J	--
C2-Phenanthrenes/Anthracenes	ng/g	68 J	--	--	410 J	--	380 J	--
C3-Benzo(a)anthracenes/chrysenes	ng/g	25 J	--	--	140 J	--	160 J	--
C3-Dibenzothiophenes	ng/g	33 J	--	--	50 J	--	96 J	--
C3-Fluorenes	ng/g	17 J	--	--	71 J	--	72 J	--
C3-Naphthalenes	ng/g	18 J	--	--	170 J	--	140 J	--
C3-Phenanthrenes/Anthracenes	ng/g	48 J	--	--	170 J	--	270 J	--
C4-Benzo(a)anthracenes/chrysenes	ng/g	14 J	--	--	60 J	--	81 J	--
C4-Dibenzothiophenes	ng/g	26 J	--	--	29 U	--	53 J	--
C4-Naphthalenes	ng/g	17 J	--	--	130 J	--	110 J	--
C4-Phenanthrenes/Anthracenes	ng/g	38 J	--	--	69 J	--	370 J	--
Dibenzothiopene	ng/g	11	--	--	200	--	100	--
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.06 U	0.054 U	0.027 U	0.036 U	0.042 U	0.041 U	0.042 U
Aroclor-1221 (PCB-1221)	mg/kg	0.058 U	0.052 U	0.026 U	0.035 U	0.041 U	0.039 U	0.04 U
Aroclor-1232 (PCB-1232)	mg/kg	0.04 U	0.036 U	0.018 U	0.024 U	0.028 U	0.027 U	0.028 U
Aroclor-1242 (PCB-1242)	mg/kg	0.05 U	0.045 U	0.022 U	0.03 U	0.035 U	0.034 U	0.035 U
Aroclor-1248 (PCB-1248)	mg/kg	0.043 U	0.038 U	0.019 U	0.026 U	0.03 U	0.029 U	0.029 U
Aroclor-1254 (PCB-1254)	mg/kg	0.035 U	0.032 U	0.016 U	0.26	0.025 U	0.054 J	0.024 U
Aroclor-1260 (PCB-1260)	mg/kg	0.045 U	0.041 U	0.02 U	0.027 U	0.032 U	0.031 U	0.031 U
Aroclor-1262 (PCB-1262)	mg/kg	0.02 U	0.018 U	0.0089 U	0.012 U	0.014 U	0.014 U	0.014 U
Aroclor-1268 (PCB-1268)	mg/kg	0.05 U	0.045 U	0.022 U	0.03 U	0.035 U	0.034 U	0.035 U
Total PCBs	mg/kg	ND	ND	ND	**0.26**	ND	**0.054 J**	ND
Metals								
Antimony	mg/kg	0.076 J	0.36 J	0.015 UJ	0.11 J	0.088 J	0.27 J	0.22 J
Arsenic	mg/kg	3.4	3.8	0.72 J	1.3	2.8	2.7	2.7
Barium	mg/kg	122 J	96.0 J	8.4 J	36.8 J	69.7 J	59.8 J	76.1 J
Beryllium	mg/kg	0.59	0.47	0.062 J	0.18 J	0.43	0.35	0.49
Cadmium	mg/kg	0.30 J	0.54	0.21 U	0.45	0.27 J	0.47	0.39
Chromium	mg/kg	20.3	22.2	5.1	14.1	16.7	18.4	17.3
Chromium VI (hexavalent)	mg/kg	--	--	--	--	--	--	--
Cobalt	mg/kg	6.6	6.1	1.0	2.9	4.5	4.1	5.3
Copper	mg/kg	16.2	20.7	1.6	16.4	13.8	15.2	15.4
Lead	mg/kg	22.8	67.6	1.5 J	36.6	33.5	45.7	38.8
Manganese	mg/kg	209	202	55.0	155	207	172	197
Mercury	mg/kg	3.0 J	5.4 J	0.018 U	0.24 J	5.0 J	10.8 J	5.4 J
Methyl mercury	mg/kg	0.00039	--	--	0.00034	--	0.0017	--
Nickel	mg/kg	13.8	12.4	2.5	4.1	8.5	7.7	9.7
Selenium	mg/kg	2.3 U	1.8 U	0.36 J	1.3 U	1.7 U	1.3 U	1.7 U
Silver	mg/kg	0.088 J	0.16 J	0.0046 J	0.53	0.10 J	0.50	0.10 J
Thallium	mg/kg	0.15 J	0.15 J	0.020 U	0.055 J	0.089 J	0.11 J	0.14 J
Vanadium	mg/kg	24.0	19.7	6.1	8.3	14.9	15.5	19.1
Zinc	mg/kg	62.7	99.1	7.0 U	47.7	54.2	65.8	68.0
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	0.0015 J	--	--	0.0065	--	0.0043	--
Copper	µmol/g	0.13	--	--	0.11	--	0.24	--
Lead	µmol/g	0.054	--	--	0.14	--	0.26	--
Nickel	µmol/g	0.077 J	--	--	0.030 J	--	0.053 J	--
Silver	µmol/g	0.0027 U	--	--	0.0016 J	--	0.0020 U	--
Zinc	µmol/g	0.27 J	--	--	0.57 J	--	0.76 J	--
AVS/SEM [(2)]	none	U	--	--	11.9	--	U	--
General Chemistry								
Sulfide (acid soluble)	µmol/g	0.025 U	--	--	0.072 J	--	0.018 U	--
Black carbon	mg/kg	37600	--	--	24600	--	27600	--
Total organic carbon (TOC)	mg/kg	34300	73900	2620	14700	37600	29700	33900

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-13**	**SS-13**	**SS-14**	**SS-14**	**SS-14**	**SS-15**	**SS-15**
Sample Identification:		**SE-101816-JL-065**	**SE-101816-JL-066**	**SE-101716-JL-060**	**SE-101716-JL-061**	**SE-101716-JL-062**	**SE-101716-JL-053**	**SE-101716-JL-054**
Sample Date:		**10/18/2016**	**10/18/2016**	**10/17/2016**	**10/17/2016**	**10/17/2016**	**10/17/2016**	**10/17/2016**
Sample Depth:		**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**2-3.9 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**
Sample Type:								
Photoionization Detector (PID) Reading (ppm) [1]:		**0**	**0**	**0.1**	**0.7**	**0**	**0.1**	**0.8**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.012 U	0.015 U	0.013 U	0.012 U	0.016 UJ	0.015 J	0.025 J
Acenaphthylene	mg/kg	0.02 U	0.025 U	0.022 U	0.02 U	0.027 UJ	0.022 U	0.02 U
Anthracene	mg/kg	0.02 U	0.025 U	0.022 J	0.073 J	0.031 J	0.043 J	0.061 J
Benzo(a)anthracene	mg/kg	0.07 J	0.1 J	0.084 J	0.14 J	0.076 J	0.2 J	0.22 J
Benzo(a)pyrene	mg/kg	0.024 U	0.081 J	0.087 J	0.11 J	0.054 J	0.21 J	0.21 J
Benzo(b)fluoranthene	mg/kg	0.12 J	0.1 J	0.13 J	0.16 J	0.056 J	0.31 J	0.3 J
Benzo(e)pyrene	mg/kg	0.024 U	0.03 U	0.061 J	0.085 J	0.031 UJ	0.16 J	0.14 J
Benzo(g,h,i)perylene	mg/kg	0.056 J	0.046 J	0.055 J	0.066 J	0.025 UJ	0.14 J	0.12 J
Benzo(k)fluoranthene	mg/kg	0.048 U	0.059 U	0.051 U	0.065 J	0.063 UJ	0.12 J	0.09 J
Chrysene	mg/kg	0.089 J	0.097 J	0.1 J	0.18 J	0.071 J	0.22 J	0.27 J
Dibenz(a,h)anthracene	mg/kg	0.023 U	0.028 U	0.024 U	0.023 U	0.03 UJ	0.025 U	0.031 J
Fluoranthene	mg/kg	0.16 J	0.2 J	0.18 J	0.4	0.13 J	0.44	0.49
Fluorene	mg/kg	0.021 U	0.027 U	0.023 U	0.022 U	0.028 UJ	0.023 U	0.021 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.064 J	0.046 J	0.06 J	0.12 J	0.034 UJ	0.16 J	0.14 J
Naphthalene	mg/kg	0.037 U	0.046 U	0.039 U	0.037 U	0.049 UJ	0.04 U	0.037 U
Perylene	mg/kg	0.1 U	0.13 U	0.11 U	0.1 U	0.13 UJ	0.11 U	0.1 U
Phenanthrene	mg/kg	0.061 J	0.11 J	0.08 J	0.32 J	0.11 J	0.26 J	0.22 J
Pyrene	mg/kg	0.15 J	0.19 J	0.18 J	0.33 J	0.13 J	0.41 J	0.48
Alkylated PAHs								
1-Methylnaphthalene	ng/g	1.8 J	--	4.7 J	--	--	3.4 J	18 J
2-Methylnaphthalene	ng/g	2.8 J	--	5.6 U	--	--	5.7 U	30 J
C1-Benzo(a)anthracenes/chrysenes	ng/g	36 J	--	47 J	--	--	73 J	310 J
C1-Dibenzothiophenes	ng/g	4.4 J	--	6.4 J	--	--	7.5 J	140 J
C1-Fluoranthenes/Pyrenes	ng/g	59 J	--	82 J	--	--	130 J	480 J
C1-Fluorenes	ng/g	4.0 J	--	8.9 J	--	--	7.1 J	77 J
C1-Phenanthrenes/Anthracenes	ng/g	14 J	--	29 J	--	--	33 J	230 J
C2-Benzo(a)anthracenes/chrysenes	ng/g	18 J	--	21 J	--	--	29 J	150 J
C2-Dibenzothiophenes	ng/g	6.3 J	--	6.0 J	--	--	9.5 J	290 J
C2-Fluorenes	ng/g	4.1 J	--	6.2 J	--	--	7.9 J	110 J
C2-Naphthalenes	ng/g	4.3 J	--	9.3 J	--	--	13 J	86 J
C2-Phenanthrenes/Anthracenes	ng/g	16 J	--	24 J	--	--	35 J	390 J
C3-Benzo(a)anthracenes/chrysenes	ng/g	21 J	--	15 J	--	--	22 J	98 J
C3-Dibenzothiophenes	ng/g	6.0 J	--	5.8 J	--	--	9.4 J	380 J
C3-Fluorenes	ng/g	3.9 J	--	5.8 J	--	--	6.8 J	140 J
C3-Naphthalenes	ng/g	4.9 J	--	7.4 J	--	--	14 J	130 J
C3-Phenanthrenes/Anthracenes	ng/g	10 J	--	12 J	--	--	20 J	370 J
C4-Benzo(a)anthracenes/chrysenes	ng/g	12 J	--	8.8 J	--	--	11 J	51 J
C4-Dibenzothiophenes	ng/g	4.5 J	--	3.9 J	--	--	5.6 J	260 J
C4-Naphthalenes	ng/g	5.6 J	--	5.9 J	--	--	12 J	150 J
C4-Phenanthrenes/Anthracenes	ng/g	5.7 J	--	6.5 J	--	--	9.0 J	250 J
Dibenzothiopene	ng/g	6.6	--	11 J	--	--	8.1	60
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.03 U	0.035 U	0.03 U	0.029 U	0.039 U	0.032 U	0.031 U
Aroclor-1221 (PCB-1221)	mg/kg	0.028 U	0.034 U	0.029 U	0.028 U	0.037 U	0.031 U	0.029 U
Aroclor-1232 (PCB-1232)	mg/kg	0.02 U	0.024 U	0.02 U	0.019 U	0.026 U	0.022 U	0.02 U
Aroclor-1242 (PCB-1242)	mg/kg	0.025 U	0.03 U	0.025 U	0.024 U	0.033 U	0.027 U	0.025 U
Aroclor-1248 (PCB-1248)	mg/kg	0.021 U	0.025 U	0.021 U	0.021 U	0.028 U	0.023 U	0.032 J
Aroclor-1254 (PCB-1254)	mg/kg	0.081	0.3	0.018 U	0.017 U	0.023 U	0.019 U	0.018 U
Aroclor-1260 (PCB-1260)	mg/kg	0.022 U	0.027 U	0.023 U	0.022 U	0.029 U	0.024 U	0.023 U
Aroclor-1262 (PCB-1262)	mg/kg	0.0099 U	0.012 U	0.01 U	0.0097 U	0.013 U	0.011 U	0.01 U
Aroclor-1268 (PCB-1268)	mg/kg	0.025 U	0.03 U	0.025 U	0.024 U	0.033 U	0.027 U	0.025 U
Total PCBs	mg/kg	**0.081**	**0.3**	ND	ND	ND	ND	**0.032 J**
Metals								
Antimony	mg/kg	0.069 J	0.077 J	0.45 U	0.43 U	0.56 UJ	0.14 J	4.8 J
Arsenic	mg/kg	0.81 J	1.4	0.62 J	0.93 J	1.9	0.84 J	1.7
Barium	mg/kg	8.8 J	57.0 J	14.8	15.0	53.5 J	13.7 J	38.2 J
Beryllium	mg/kg	0.12 J	0.15 J	0.22 U	0.21 U	0.36	0.091 J	0.095 J
Cadmium	mg/kg	0.084 J	0.22 J	0.22 U	0.21 U	0.28 U	0.10 J	0.17 J
Chromium	mg/kg	3.7	8.6	4.0	7.2	11.3	5.6	7.7
Chromium VI (hexavalent)	mg/kg	--	--	--	--	--	--	--
Cobalt	mg/kg	1.2	2.3	1.3	1.9	4.6	1.6	1.9
Copper	mg/kg	2.1	7.3	2.1	2.9	15.5	2.9	4.6
Lead	mg/kg	6.0	26.2	6.2	12.9	31.7 J	6.6	155
Manganese	mg/kg	58.8	180	60.0	67.3	167	83.5	78.5
Mercury	mg/kg	0.019 U	3.5 J	0.024 J	0.023 J	0.15	0.020 U	0.26 J
Methyl mercury	mg/kg	0.000037 U	--	0.000037 U	--	--	0.00004 U	--
Nickel	mg/kg	2.0	7.1	2.6	4.5	7.9	2.8	3.9
Selenium	mg/kg	1.2 U	1.4 U	1.1 U	1.1 U	1.5	1.3 U	1.1 U
Silver	mg/kg	0.15 J	0.096 J	0.088 J	0.043 J	0.084 J	0.046 J	0.10 J
Thallium	mg/kg	0.023 U	0.043 J	0.042 J	0.070 J	0.10 J	0.025 J	0.027 J
Vanadium	mg/kg	4.9	7.8	5.7	6.7	14.6	6.5	5.6
Zinc	mg/kg	19.1	29.2	15.3	29.2	51.7	17.0	33.7
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	0.00068 J	--	0.00088 J	--	--	0.00056 U	--
Copper	µmol/g	0.020	--	0.018 J	--	--	0.012 J	--
Lead	µmol/g	0.034	--	0.036	--	--	0.032	--
Nickel	µmol/g	0.011 UJ	--	0.011 J	--	--	0.0055 J	--
Silver	µmol/g	0.0019 J	--	0.0013 U	--	--	0.0013 U	--
Zinc	µmol/g	0.21 J	--	0.19	--	--	0.14	--
AVS/SEM [2]	none	0.28	--	0.11	--	--	0.070	--
General Chemistry								
Sulfide (acid soluble)	µmol/g	0.98 J	--	2.4	--	--	2.7	--
Black carbon	mg/kg	9000	--	14200	--	--	13100	--
Total organic carbon (TOC)	mg/kg	2110	7450	4310 J	1800 J	27300	5880 J	6220 J

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-15**	**SS-16**	**SS-16**	**SS-17**	**SS-17**	**SS-18**	**SS-18**
Sample Identification:		**SE-101716-JL-055**	**SE-101716-JL-051**	**SE-101716-JL-052**	**SE-100716-JL-049**	**SE-100716-JL-050**	**SE-101916-JL-088**	**SE-101916-JL-089**
Sample Date:		**10/17/2016**	**10/17/2016**	**10/17/2016**	**10/7/2016**	**10/7/2016**	**10/19/2016**	**10/19/2016**
Sample Depth:		**2-3 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**
Sample Type:								
Photoionization Detector (PID) Reading (ppm) [(1)]:		**12.6**	**4.1**	**2.9**	**0.2**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.015 UJ	0.063 J	0.013 U	0.019 J	0.13 U	0.15 J	0.027 J
Acenaphthylene	mg/kg	0.025 UJ	0.021 U	0.022 U	0.022 U	0.22 U	0.019 U	0.03 U
Anthracene	mg/kg	0.036 J	0.13 J	0.022 U	0.056 J	0.33 J	0.32 J	0.072 J
Benzo(a)anthracene	mg/kg	0.11 J	0.26 J	0.053 J	0.22 J	0.68 J	0.91	0.22 J
Benzo(a)pyrene	mg/kg	0.094 J	0.23 J	0.041 J	0.24 J	0.46 J	0.9	0.22 J
Benzo(b)fluoranthene	mg/kg	0.13 J	0.35 J	0.068 J	0.34 J	0.71 J	1.4	0.31 J
Benzo(e)pyrene	mg/kg	0.06 J	0.18 J	0.029 J	0.19 J	0.4 J	0.69	0.16 J
Benzo(g,h,i)perylene	mg/kg	0.024 UJ	0.14 J	0.023 J	0.14 J	0.21 U	0.59	0.14 J
Benzo(k)fluoranthene	mg/kg	0.059 UJ	0.12 J	0.051 U	0.14 J	0.52 U	0.49	0.11 J
Chrysene	mg/kg	0.13 J	0.32 J	0.054 J	0.28 J	0.96 J	1.1	0.25 J
Dibenz(a,h)anthracene	mg/kg	0.028 UJ	0.035 J	0.024 U	0.024 U	0.25 U	0.19 J	0.094 J
Fluoranthene	mg/kg	0.23 J	0.75	0.094 J	0.52	1.5 J	2.4	0.53 J
Fluorene	mg/kg	0.026 UJ	0.027 J	0.023 U	0.028 J	0.24 U	0.16 J	0.032 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.032 UJ	0.17 J	0.028 U	0.16 J	0.29 U	0.78	0.23 J
Naphthalene	mg/kg	0.046 UJ	0.038 U	0.039 U	0.04 U	0.41 U	0.035 U	0.055 U
Perylene	mg/kg	0.12 UJ	0.1 U	0.11 U	0.11 U	1.1 U	0.24 J	0.28 J
Phenanthrene	mg/kg	0.11 J	0.62	0.059 J	0.29 J	0.93 J	1.8	0.28 J
Pyrene	mg/kg	0.23 J	0.69	0.099 J	0.49	1.3 J	2.4	0.47 J
Alkylated PAHs								
1-Methylnaphthalene	ng/g	150	49 J	59 J	13 J	--	13 U	--
2-Methylnaphthalene	ng/g	120 J	87 U	74 J	20 J	--	29 U	--
C1-Benzo(a)anthracenes/chrysenes	ng/g	1000 J	750 J	770 J	130 J	--	330 J	--
C1-Dibenzothiophenes	ng/g	770 J	220 J	370 J	22 J	--	34 J	--
C1-Fluoranthenes/Pyrenes	ng/g	1500 J	1300 J	1100 J	170 J	--	570 J	--
C1-Fluorenes	ng/g	300 J	170 J	180 J	18 J	--	39 J	--
C1-Phenanthrenes/Anthracenes	ng/g	720 J	580 J	530 J	53 J	--	150 J	--
C2-Benzo(a)anthracenes/chrysenes	ng/g	800 J	350 J	530 J	65 J	--	160 J	--
C2-Dibenzothiophenes	ng/g	2800 J	470 J	1300 J	47 J	--	40 J	--
C2-Fluorenes	ng/g	810 J	250 J	430 J	36 J	--	32 J	--
C2-Naphthalenes	ng/g	290 J	220 J	330 J	32 J	--	20 U	--
C2-Phenanthrenes/Anthracenes	ng/g	2700 J	870 J	1400 J	94 J	--	140 J	--
C3-Benzo(a)anthracenes/chrysenes	ng/g	590 J	210 J	400 J	48 J	--	110 J	--
C3-Dibenzothiophenes	ng/g	4500 J	800 J	2100 J	69 J	--	56 J	--
C3-Fluorenes	ng/g	1500 J	410 J	770 J	41 J	--	34 J	--
C3-Naphthalenes	ng/g	440 J	300 J	410 J	40 J	--	23 J	--
C3-Phenanthrenes/Anthracenes	ng/g	5900 J	1200 J	2400 J	98 J	--	93 J	--
C4-Benzo(a)anthracenes/chrysenes	ng/g	290 J	110 J	210 J	25 J	--	54 J	--
C4-Dibenzothiophenes	ng/g	3800 J	670 J	1600 J	56 J	--	44 J	--
C4-Naphthalenes	ng/g	480 J	360 J	530 J	48 J	--	22 U	--
C4-Phenanthrenes/Anthracenes	ng/g	5100 J	890 J	1900 J	80 J	--	53 J	--
Dibenzothiopene	ng/g	320	320	170	16	--	84	--
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.038 U	0.031 U	0.031 U	0.032 U	0.033 U	0.027 U	0.046 U
Aroclor-1221 (PCB-1221)	mg/kg	0.036 U	0.029 U	0.03 U	0.03 U	0.031 U	0.026 U	0.044 U
Aroclor-1232 (PCB-1232)	mg/kg	0.025 U	0.02 U	0.021 U	0.021 U	0.022 U	0.018 U	0.031 U
Aroclor-1242 (PCB-1242)	mg/kg	0.032 U	0.026 U	0.026 U	0.026 U	0.027 U	0.023 U	0.038 U
Aroclor-1248 (PCB-1248)	mg/kg	0.027 U	0.037 J	0.022 U	0.022 U	0.023 U	0.019 UJ	0.033 UJ
Aroclor-1254 (PCB-1254)	mg/kg	0.022 U	0.018 U	0.018 U	0.018 U	0.019 U	0.016 U	0.027 U
Aroclor-1260 (PCB-1260)	mg/kg	0.028 U	0.023 U	0.023 U	0.024 U	0.024 U	0.02 U	0.035 U
Aroclor-1262 (PCB-1262)	mg/kg	0.013 U	0.01 U	0.01 U	0.011 U	0.011 U	0.0091 U	0.015 U
Aroclor-1268 (PCB-1268)	mg/kg	0.032 U	0.026 U	0.026 U	0.026 U	0.027 U	0.023 U	0.038 U
Total PCBs	mg/kg	ND	**0.037 J**	ND	ND	ND	ND	ND
Metals								
Antimony	mg/kg	3.6 J	23.0 J	12.0 J	2.0	7.3	0.39 U	0.63 U
Arsenic	mg/kg	5.3	4.1	3.2	2.5	3.5	1.5	3.3
Barium	mg/kg	115 J	234 J	330 J	255	336	9.3	95.3
Beryllium	mg/kg	0.42	0.079 J	0.23 J	0.75	0.23	0.20 U	0.35
Cadmium	mg/kg	0.73	1.6	1.6	0.58	1.5	0.20 U	0.33
Chromium	mg/kg	19.5	34.2	37.4	24.1	57.1	8.0	14.5
Chromium VI (hexavalent)	mg/kg	--	--	--	--	--	--	--
Cobalt	mg/kg	4.4	1.7	2.9	1.9	3.2	1.4	5.0
Copper	mg/kg	26.5	9.2	20.3	5.5	25.6	5.2	13.5
Lead	mg/kg	412 J	855	423	126	505	15.7	29.7
Manganese	mg/kg	210	102	147	79.8	104	162	257
Mercury	mg/kg	8.4	0.20 J	1.4 J	0.046 J	0.34	0.020 U	0.32
Methyl mercury	mg/kg	--	0.000062 J	--	0.000064 J	--	0.000033 U	--
Nickel	mg/kg	9.8	5.7	6.3	3.8	6.5	4.1	10.2
Selenium	mg/kg	1.6	1.3 U	1.2 U	0.32 J	1.0 J	0.98 U	1.6
Silver	mg/kg	0.23 J	0.20 J	0.10 J	0.042 J	0.54	0.0088 J	0.19 J
Thallium	mg/kg	0.16 J	0.033 J	0.072 J	0.034 J	0.078 J	0.019 U	0.13 J
Vanadium	mg/kg	15.0	6.1	9.7	6.2	9.4	5.1	18.0
Zinc	mg/kg	237	173	461	103	389	42.5	61.6
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	--	0.00057 U	--	0.0053	--	0.00087 J	--
Copper	µmol/g	--	0.0085 J	--	0.032	--	0.051	--
Lead	µmol/g	--	0.023	--	0.33	--	0.044	--
Nickel	µmol/g	--	0.0045 J	--	0.011	--	0.013	--
Silver	µmol/g	--	0.0013 U	--	0.0014 U	--	0.0012 U	--
Zinc	µmol/g	--	0.12	--	0.86	--	0.58	--
AVS/SEM [(2)]	none	--	0.56	--	1.4	--	4.8	--
General Chemistry								
Sulfide (acid soluble)	µmol/g	--	0.28	--	0.87	--	0.14	--
Black carbon	mg/kg	--	9430	--	10900	--	16000	--
Total organic carbon (TOC)	mg/kg	29700	25100 J	17400 J	14200	40300	7210	39900

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-19**	**SS-19**	**SS-20**	**SS-20**	**SS-21**	**SS-21**	**SS-22**
Sample Identification:		**SE-101916-JL-090**	**SE-101916-JL-091**	**SE-101916-JL-082**	**SE-101916-JL-083**	**SE-101816-JL-078**	**SE-101816-JL-079**	**SE-101916-JL-080**
Sample Date:		**10/19/2016**	**10/19/2016**	**10/19/2016**	**10/19/2016**	**10/18/2016**	**10/18/2016**	**10/19/2016**
Sample Depth:		**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**
Sample Type:								
Photoionization Detector (PID) Reading (ppm) [1]:		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.11 J	0.033 J	0.044 U	0.019 U	0.34 J	0.02 U	0.088 J
Acenaphthylene	mg/kg	0.02 U	0.022 U	0.072 U	0.031 U	0.26 U	0.033 U	0.025 U
Anthracene	mg/kg	0.18 J	0.11 J	0.072 U	0.031 U	0.77 J	0.033 U	0.24 J
Benzo(a)anthracene	mg/kg	0.76	0.35 J	0.35 J	0.097 J	2.5 J	0.043 J	0.97
Benzo(a)pyrene	mg/kg	0.83	0.34 J	0.35 J	0.085 J	2.5 J	0.043 J	1.1
Benzo(b)fluoranthene	mg/kg	1.3	0.54	0.58 J	0.13 J	4.4 J	0.069 J	1.5
Benzo(e)pyrene	mg/kg	0.67	0.27 J	0.3 J	0.067 J	2.1 J	0.039 U	0.76
Benzo(g,h,i)perylene	mg/kg	0.6	0.23 J	0.28 J	0.05 J	1.7 J	0.031 U	0.74
Benzo(k)fluoranthene	mg/kg	0.46	0.19 J	0.18 J	0.073 U	1.6 J	0.077 U	0.6
Chrysene	mg/kg	0.97	0.41 J	0.43 J	0.1 J	3.9 J	0.056 J	1.2
Dibenz(a,h)anthracene	mg/kg	0.18 J	0.098 J	0.081 U	0.035 U	0.92 J	0.037 U	0.23 J
Fluoranthene	mg/kg	2.2	0.83	0.85 J	0.21 J	9.4	0.11 J	2.3
Fluorene	mg/kg	0.13 J	0.043 J	0.077 U	0.033 U	0.34 J	0.035 U	0.1 J
Indeno(1,2,3-cd)pyrene	mg/kg	0.75	0.32 J	0.46 J	0.13 J	2.7 J	0.12 J	0.91
Naphthalene	mg/kg	0.037 U	0.04 U	0.13 U	0.057 U	0.48 U	0.06 U	0.045 U
Perylene	mg/kg	0.22 J	0.11 U	0.36 U	0.16 U	1.3 U	0.29 J	0.32 J
Phenanthrene	mg/kg	1.5	0.52	0.34 J	0.12 J	7.3	0.057 J	1.3
Pyrene	mg/kg	1.9	0.72	0.84 J	0.22 J	8	0.098 J	2.2
Alkylated PAHs								
1-Methylnaphthalene	ng/g	13 U	--	6.4 U	--	70 J	--	61 J
2-Methylnaphthalene	ng/g	29 U	--	14 U	--	110 J	--	75 J
C1-Benzo(a)anthracenes/chrysenes	ng/g	200 J	--	100 J	--	930 J	--	540 J
C1-Dibenzothiophenes	ng/g	22 J	--	5.8 J	--	150 J	--	61 J
C1-Fluoranthenes/Pyrenes	ng/g	330 J	--	160 J	--	1500 J	--	940 J
C1-Fluorenes	ng/g	21 J	--	4.9 U	--	170 J	--	59 J
C1-Phenanthrenes/Anthracenes	ng/g	94 J	--	33 J	--	570 J	--	270 J
C2-Benzo(a)anthracenes/chrysenes	ng/g	92 J	--	54 J	--	460 J	--	220 J
C2-Dibenzothiophenes	ng/g	20 J	--	7.4 J	--	270 J	--	66 J
C2-Fluorenes	ng/g	28 J	--	6.2 J	--	250 J	--	56 J
C2-Naphthalenes	ng/g	20 U	--	9.8 U	--	280 J	--	160 J
C2-Phenanthrenes/Anthracenes	ng/g	96 J	--	34 J	--	650 J	--	230 J
C3-Benzo(a)anthracenes/chrysenes	ng/g	67 J	--	48 J	--	280 J	--	130 J
C3-Dibenzothiophenes	ng/g	22 J	--	12 J	--	330 J	--	74 J
C3-Fluorenes	ng/g	22 J	--	5.8 J	--	290 J	--	59 J
C3-Naphthalenes	ng/g	31 J	--	9.8 U	--	260 J	--	140 J
C3-Phenanthrenes/Anthracenes	ng/g	63 J	--	26 J	--	690 J	--	170 J
C4-Benzo(a)anthracenes/chrysenes	ng/g	38 J	--	31 J	--	150 J	--	79 J
C4-Dibenzothiophenes	ng/g	17 J	--	12 J	--	260 J	--	80 J
C4-Naphthalenes	ng/g	48 J	--	4.9 U	--	310 J	--	110 J
C4-Phenanthrenes/Anthracenes	ng/g	35 J	--	15 J	--	930 J	--	200 J
Dibenzothiopene	ng/g	35	--	12	--	190	--	90
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.03 U	0.034 U	0.027 U	0.047 U	0.039 U	0.049 U	0.037 U
Aroclor-1221 (PCB-1221)	mg/kg	0.028 U	0.032 U	0.026 U	0.045 U	0.037 U	0.047 U	0.035 U
Aroclor-1232 (PCB-1232)	mg/kg	0.02 U	0.022 U	0.018 U	0.031 U	0.026 U	0.032 U	0.025 U
Aroclor-1242 (PCB-1242)	mg/kg	0.025 U	0.028 U	0.023 U	0.039 U	0.033 U	0.04 U	0.031 U
Aroclor-1248 (PCB-1248)	mg/kg	0.021 UJ	0.024 UJ	0.019 UJ	0.033 UJ	0.028 U	0.034 U	0.026 U
Aroclor-1254 (PCB-1254)	mg/kg	0.017 U	0.02 U	0.016 U	0.027 U	0.023 U	0.028 U	0.021 U
Aroclor-1260 (PCB-1260)	mg/kg	0.022 U	0.025 U	0.021 U	0.035 U	0.029 U	0.036 U	0.028 U
Aroclor-1262 (PCB-1262)	mg/kg	0.0099 U	0.011 U	0.0091 U	0.016 U	0.013 U	0.016 U	0.012 U
Aroclor-1268 (PCB-1268)	mg/kg	0.025 U	0.028 U	0.023 U	0.039 U	0.033 U	0.04 U	0.031 U
Total PCBs	mg/kg	ND	ND	ND	ND	ND	ND	ND
Metals								
Antimony	mg/kg	0.49 U	0.48 U	0.41 U	0.75 U	0.51 J	0.096 J	0.46 U
Arsenic	mg/kg	1.2	1.4	0.89 J	4.0	3.3	3.8	2.2
Barium	mg/kg	22.8	44.9	7.8	87.5	423 J	159 J	44.2
Beryllium	mg/kg	0.15 J	0.29	0.20 U	0.48	0.30	0.59	0.24 U
Cadmium	mg/kg	0.24 U	0.28	0.20 U	0.62	1.1	0.27 J	0.43
Chromium	mg/kg	8.1	15.2	5.6	19.6	26.7	18.3	11.9
Chromium VI (hexavalent)	mg/kg	--	--	--	--	--	--	--
Cobalt	mg/kg	1.8	3.0	1.2	5.6	4.1	6.4	2.6
Copper	mg/kg	12.9	13.2	2.7	19.0	72.1	15.5	11.6
Lead	mg/kg	17.3	30.1	3.8	49.9	248	25.4	57.5
Manganese	mg/kg	129	108	113	160	134	265	109
Mercury	mg/kg	0.16	0.35	0.022 U	1.6	0.15 J	0.24 J	2.0
Methyl mercury	mg/kg	0.000037 U	--	0.000035 U	--	0.00074	--	0.00042
Nickel	mg/kg	3.9	7.5	2.8	12.0	9.4	12.5	6.0
Selenium	mg/kg	1.2 U	1.7	1.0 U	1.9 U	1.2 U	1.9 U	1.1 U
Silver	mg/kg	0.30	0.077 J	0.0099 J	0.13 J	0.086 J	0.070 J	0.47
Thallium	mg/kg	0.030 J	0.072 J	0.019 U	0.17 J	0.095 J	0.15 J	0.069 J
Vanadium	mg/kg	6.6	10.1	5.7	19.1	17.5	23.6	11.6
Zinc	mg/kg	45.8	54.1	40.8	99.6	234	62.7	79.1
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	0.00065 J	--	0.00055 U	--	0.0066	--	0.0042
Copper	µmol/g	0.046	--	0.026	--	0.53	--	0.13
Lead	µmol/g	0.023	--	0.013	--	1.2	--	0.23
Nickel	µmol/g	0.0064	--	0.0084	--	0.068 J	--	0.016
Silver	µmol/g	0.0012 U	--	0.0014 J	--	0.0017 U	--	0.0014 U
Zinc	µmol/g	0.24	--	0.34	--	2.0 J	--	0.83
AVS/SEM [2]	none	20.5	--	8.7	--	10.9	--	6.3
General Chemistry								
Sulfide (acid soluble)	µmol/g	0.016 J	--	0.044	--	0.35 J	--	0.20
Black carbon	mg/kg	13800	--	9890	--	23300	--	20000
Total organic carbon (TOC)	mg/kg	11000	23600	3340	42400	36300	66300	26600

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-22**	**SS-23**	**SS-23**	**SS-24**	**SS-24**	**SS-25**	**SS-25**
Sample Identification:		**SE-101916-JL-081**	**SE-101816-JL-076**	**SE-101816-JL-077**	**SE-100516-JL-025**	**SE-100516-JL-026**	**SE-100516-JL-021**	**SE-100516-JL-022**
Sample Date:		**10/19/2016**	**10/18/2016**	**10/18/2016**	**10/5/2016**	**10/5/2016**	**10/5/2016**	**10/5/2016**
Sample Depth:		**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0-0.5 ft BGS**
Sample Type:								**Duplicate**
Photoionization Detector (PID) Reading (ppm) [1]:		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.02 U	0.063 J	0.025 U	0.13 J	0.019 U	0.04 J	0.019 J
Acenaphthylene	mg/kg	0.032 U	0.032 U	0.042 U	0.019 UJ	0.032 U	0.024 U	0.021 U
Anthracene	mg/kg	0.032 U	0.16 J	0.042 U	0.57 J	0.032 U	0.098 J	0.033 J
Benzo(a)anthracene	mg/kg	0.041 J	0.52 J	0.072 J	5.4 J	0.068 J	0.3 J	0.18 J
Benzo(a)pyrene	mg/kg	0.043 J	0.53 J	0.065 J	4 J	0.062 J	0.29 J	0.18 J
Benzo(b)fluoranthene	mg/kg	0.061 J	0.87	0.097 J	6.8 J	0.05 U	0.42 J	0.3 J
Benzo(e)pyrene	mg/kg	0.038 U	0.41 J	0.049 U	3.1 J	0.038 U	0.23 J	0.16 J
Benzo(g,h,i)perylene	mg/kg	0.031 U	0.35 J	0.039 U	1.6 J	0.03 U	0.22 J	0.16 J
Benzo(k)fluoranthene	mg/kg	0.076 U	0.28 J	0.099 U	2.4 J	0.076 U	0.13 J	0.083 J
Chrysene	mg/kg	0.052 U	0.62 J	0.072 J	3.9 J	0.1 J	0.35 J	0.23 J
Dibenz(a,h)anthracene	mg/kg	0.036 U	0.16 J	0.047 U	0.53 J	0.036 U	0.14 J	0.11 J
Fluoranthene	mg/kg	0.089 J	1.2	0.15 J	5.1 J	0.12 J	0.69	0.38 J
Fluorene	mg/kg	0.034 U	0.067 J	0.044 U	0.21 J	0.034 U	0.04 J	0.023 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.12 J	0.49 J	0.15 J	2.2 J	0.042 U	0.32 J	0.24 J
Naphthalene	mg/kg	0.059 U	0.059 U	0.076 U	0.035 UJ	0.059 U	0.043 U	0.039 U
Perylene	mg/kg	0.16 U	0.16 U	0.21 U	1.1 J	0.16 U	0.12 U	0.11 U
Phenanthrene	mg/kg	0.047 J	0.75	0.093 J	3.1 J	0.07 J	0.41 J	0.17 J
Pyrene	mg/kg	0.091 J	1.2	0.14 J	4.6	0.15 J	0.6	0.36 J
Alkylated PAHs								
1-Methylnaphthalene	ng/g	--	13 U	--	13 U	--	58	32 U
2-Methylnaphthalene	ng/g	--	29 U	--	29 U	--	85 J	72 U
C1-Benzo(a)anthracenes/chrysenes	ng/g	--	250 J	--	290 J	--	500 J	890 J
C1-Dibenzothiophenes	ng/g	--	24 J	--	51 J	--	78 J	120 J
C1-Fluoranthenes/Pyrenes	ng/g	--	380 J	--	410 J	--	610 J	1300 J
C1-Fluorenes	ng/g	--	22 J	--	41 J	--	59 J	90 J
C1-Phenanthrenes/Anthracenes	ng/g	--	110 J	--	120 J	--	190 J	410 J
C2-Benzo(a)anthracenes/chrysenes	ng/g	--	110 J	--	180 J	--	430 J	430 J
C2-Dibenzothiophenes	ng/g	--	36 J	--	100 J	--	160 J	190 J
C2-Fluorenes	ng/g	--	22 J	--	75 J	--	99 J	130 J
C2-Naphthalenes	ng/g	--	30 J	--	52 J	--	210 J	120 J
C2-Phenanthrenes/Anthracenes	ng/g	--	120 J	--	220 J	--	400 J	530 J
C3-Benzo(a)anthracenes/chrysenes	ng/g	--	60 J	--	140 J	--	400 J	270 J
C3-Dibenzothiophenes	ng/g	--	35 J	--	130 J	--	230 J	220 J
C3-Fluorenes	ng/g	--	27 J	--	80 J	--	110 J	130 J
C3-Naphthalenes	ng/g	--	36 J	--	100 J	--	210 J	180 J
C3-Phenanthrenes/Anthracenes	ng/g	--	100 J	--	200 J	--	500 J	390 J
C4-Benzo(a)anthracenes/chrysenes	ng/g	--	31 J	--	74 J	--	220 J	140 J
C4-Dibenzothiophenes	ng/g	--	23 J	--	110 J	--	190 J	160 J
C4-Naphthalenes	ng/g	--	32 J	--	130 J	--	220 J	220 J
C4-Phenanthrenes/Anthracenes	ng/g	--	140 J	--	120 J	--	370 J	240 J
Dibenzothiopene	ng/g	--	32	--	54	--	54	150
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.048 U	0.049 U	0.06 U	0.03 U	0.045 U	0.032 U	0.032 U
Aroclor-1221 (PCB-1221)	mg/kg	0.046 U	0.047 U	0.058 U	0.029 U	0.043 U	0.031 U	0.031 U
Aroclor-1232 (PCB-1232)	mg/kg	0.032 U	0.033 U	0.04 U	0.02 U	0.03 U	0.022 U	0.021 U
Aroclor-1242 (PCB-1242)	mg/kg	0.04 U	0.041 U	0.05 U	0.025 U	0.037 U	0.027 U	0.027 U
Aroclor-1248 (PCB-1248)	mg/kg	0.034 UJ	0.035 U	0.043 U	0.021 U	0.032 U	0.023 U	0.023 U
Aroclor-1254 (PCB-1254)	mg/kg	0.028 U	0.029 U	0.035 U	0.017 U	0.026 U	0.019 U	0.019 U
Aroclor-1260 (PCB-1260)	mg/kg	0.036 U	0.037 U	0.045 U	0.022 U	0.034 U	0.054 J	0.043 J
Aroclor-1262 (PCB-1262)	mg/kg	0.016 U	0.016 U	0.02 U	0.01 U	0.015 U	0.011 U	0.011 U
Aroclor-1268 (PCB-1268)	mg/kg	0.04 U	0.041 U	0.05 U	0.025 U	0.037 U	0.027 U	0.027 U
Total PCBs	mg/kg	ND	ND	ND	ND	ND	**0.054 J**	**0.043 J**
Metals								
Antimony	mg/kg	0.82 U	0.14 J	0.074 J	0.40 U	0.70 U	0.55 U	0.43 U
Arsenic	mg/kg	4.1	3.5	2.9	2.9	2.6	1.6	1.6
Barium	mg/kg	110	109 J	116 J	25.4	100	36.0	28.5
Beryllium	mg/kg	0.57	0.57	0.64	0.13 J	0.44	0.27 J	0.14 J
Cadmium	mg/kg	0.41 U	0.49	0.30 J	0.30	0.42	0.44	0.66
Chromium	mg/kg	17.2	26.3	27.6	6.6	18.5	8.4	11.0
Chromium VI (hexavalent)	mg/kg	--	--	--	--	--	--	--
Cobalt	mg/kg	6.7	5.7	6.3	1.8	4.8	1.8	2.0
Copper	mg/kg	14.9	19.2	16.6	13.7 J	12.7 J	9.0 J	9.4 J
Lead	mg/kg	30.0	46.5	27.7	51.9	29.9	153	152
Manganese	mg/kg	195	169	139	109 J	300 J	143 J	127 J
Mercury	mg/kg	0.48	0.29 J	0.090 J	0.020 U	0.056 J	0.034 J	0.044 J
Methyl mercury	mg/kg	--	0.0007	--	0.000028 U	--	0.00013	0.000058 J
Nickel	mg/kg	12.8	12.1	14.3	5.8	11.4	5.5	7.0
Selenium	mg/kg	2.0 U	2.1 U	2.6 U	1.0 U	1.8 U	1.4 U	1.1 U
Silver	mg/kg	0.078 J	0.091 J	0.083 J	0.035 J	0.065 J	0.097 J	0.082 J
Thallium	mg/kg	0.17 J	0.16 J	0.16 J	0.019 U	0.11 J	0.049 J	0.034 J
Vanadium	mg/kg	25.6	23.5	27.5	7.2	17.7	6.1	6.5
Zinc	mg/kg	71.5	86.7	65.1	75.6	56.3	69.8	141
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	--	0.0045	--	0.0031	--	0.0049	0.0063
Copper	µmol/g	--	0.21	--	0.10	--	0.14	0.12
Lead	µmol/g	--	0.22	--	0.29	--	0.39	0.40
Nickel	µmol/g	--	0.070 J	--	0.023 J	--	0.038 J	0.032 J
Silver	µmol/g	--	0.0023 U	--	0.0013 U	--	0.0014 U	0.0013 U
Zinc	µmol/g	--	1.1 J	--	0.88	--	1.1	1.0
AVS/SEM [2]	none	--	44.6	--	2.1	--	1.1	1.4
General Chemistry								
Sulfide (acid soluble)	µmol/g	--	0.036 J	--	0.62	--	1.5	1.1
Black carbon	mg/kg	--	15900	--	11900	--	15400	13900
Total organic carbon (TOC)	mg/kg	46700	54400	68200	2760	47300	13700	10800

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-25**	**SS-25**	**SS-26**	**SS-26**	**SS-27**	**SS-27**	**SS-28**
Sample Identification:		**SE-100516-JL-023**	**SE-100516-JL-024**	**SE-100516-JL-019**	**SE-100516-JL-020**	**SE-101916-JL-092**	**SE-101916-JL-093**	**SE-101916-JL-084**
Sample Date:		**10/5/2016**	**10/5/2016**	**10/5/2016**	**10/5/2016**	**10/19/2016**	**10/19/2016**	**10/19/2016**
Sample Depth:		**0.5-2 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**
Sample Type:			**Duplicate**					
Photoionization Detector (PID) Reading (ppm) [1]:		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.02 U	0.018 U	0.016 J	0.024 U	0.035 J	0.013 U	0.04 J
Acenaphthylene	mg/kg	0.034 U	0.03 U	0.024 U	0.04 U	0.021 U	0.021 U	0.026 U
Anthracene	mg/kg	0.034 U	0.03 U	0.031 J	0.04 U	0.094 J	0.021 U	0.13 J
Benzo(a)anthracene	mg/kg	0.04 U	0.036 U	0.13 J	0.092 J	0.27 J	0.059 J	0.42 J
Benzo(a)pyrene	mg/kg	0.04 U	0.05 J	0.13 J	0.099 J	0.27 J	0.025 U	0.4 J
Benzo(b)fluoranthene	mg/kg	0.052 U	0.086 J	0.19 J	0.14 J	0.43	0.076 J	0.58
Benzo(e)pyrene	mg/kg	0.04 U	0.041 J	0.12 J	0.1 J	0.2 J	0.025 U	0.27 J
Benzo(g,h,i)perylene	mg/kg	0.032 U	0.03 J	0.1 J	0.088 J	0.18 J	0.03 J	0.24 J
Benzo(k)fluoranthene	mg/kg	0.079 U	0.071 U	0.057 U	0.094 U	0.15 J	0.05 U	0.2 J
Chrysene	mg/kg	0.054 U	0.071 J	0.16 J	0.13 J	0.33 J	0.061 J	0.46 J
Dibenz(a,h)anthracene	mg/kg	0.038 U	0.034 U	0.099 J	0.16 J	0.091 J	0.024 U	0.12 J
Fluoranthene	mg/kg	0.072 U	0.13 J	0.27 J	0.19 J	0.64	0.1 J	0.94
Fluorene	mg/kg	0.036 U	0.032 U	0.026 U	0.042 U	0.045 J	0.023 U	0.056 J
Indeno(1,2,3-cd)pyrene	mg/kg	0.044 U	0.039 U	0.19 J	0.2 J	0.27 J	0.028 U	0.35 J
Naphthalene	mg/kg	0.062 U	0.055 U	0.045 U	0.073 U	0.038 U	0.039 U	0.047 U
Perylene	mg/kg	0.17 U	0.15 U	0.12 U	0.2 U	0.1 U	0.11 U	0.13 U
Phenanthrene	mg/kg	0.034 U	0.081 J	0.17 J	0.13 J	0.41	0.047 J	0.59
Pyrene	mg/kg	0.051 J	0.13 J	0.26 J	0.23 J	0.61	0.093 J	0.92
Alkylated PAHs								
1-Methylnaphthalene	ng/g	--	--	62	--	3.8 U	--	26 J
2-Methylnaphthalene	ng/g	--	--	80	--	8.5 U	--	34 J
C1-Benzo(a)anthracenes/chrysenes	ng/g	--	--	270 J	--	74 J	--	320 J
C1-Dibenzothiophenes	ng/g	--	--	66 J	--	4.6 J	--	36 J
C1-Fluoranthenes/Pyrenes	ng/g	--	--	320 J	--	110 J	--	540 J
C1-Fluorenes	ng/g	--	--	44 J	--	3.3 J	--	36 J
C1-Phenanthrenes/Anthracenes	ng/g	--	--	130 J	--	24 J	--	150 J
C2-Benzo(a)anthracenes/chrysenes	ng/g	--	--	210 J	--	30 J	--	130 J
C2-Dibenzothiophenes	ng/g	--	--	100 J	--	4.6 J	--	40 J
C2-Fluorenes	ng/g	--	--	71 J	--	3.0 J	--	38 J
C2-Naphthalenes	ng/g	--	--	190 J	--	5.9 U	--	70 J
C2-Phenanthrenes/Anthracenes	ng/g	--	--	250 J	--	21 J	--	150 J
C3-Benzo(a)anthracenes/chrysenes	ng/g	--	--	220 J	--	21 J	--	77 J
C3-Dibenzothiophenes	ng/g	--	--	110 J	--	4.8 J	--	38 J
C3-Fluorenes	ng/g	--	--	61 J	--	4.0 J	--	32 J
C3-Naphthalenes	ng/g	--	--	190 J	--	5.9 U	--	68 J
C3-Phenanthrenes/Anthracenes	ng/g	--	--	200 J	--	12 J	--	86 J
C4-Benzo(a)anthracenes/chrysenes	ng/g	--	--	120 J	--	11 J	--	39 J
C4-Dibenzothiophenes	ng/g	--	--	87 J	--	3.9 J	--	28 J
C4-Naphthalenes	ng/g	--	--	150 J	--	3.4 U	--	58 J
C4-Phenanthrenes/Anthracenes	ng/g	--	--	150 J	--	6.6 J	--	51 J
Dibenzothiopene	ng/g	--	--	32	--	7.9	--	40
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.046 U	0.042 U	0.037 U	0.057 U	0.03 U	0.032 U	0.036 U
Aroclor-1221 (PCB-1221)	mg/kg	0.044 U	0.04 U	0.035 U	0.055 U	0.029 U	0.031 U	0.035 U
Aroclor-1232 (PCB-1232)	mg/kg	0.03 U	0.028 U	0.025 U	0.038 U	0.02 U	0.021 U	0.024 U
Aroclor-1242 (PCB-1242)	mg/kg	0.038 U	0.035 U	0.031 U	0.048 U	0.025 U	0.027 U	0.03 U
Aroclor-1248 (PCB-1248)	mg/kg	0.032 U	0.03 U	0.026 U	0.041 U	0.021 UJ	0.023 UJ	0.026 UJ
Aroclor-1254 (PCB-1254)	mg/kg	0.027 U	0.025 U	0.021 U	0.033 U	0.018 U	0.019 U	0.18
Aroclor-1260 (PCB-1260)	mg/kg	0.034 U	0.032 U	0.028 U	0.043 U	0.023 U	0.024 U	0.027 U
Aroclor-1262 (PCB-1262)	mg/kg	0.015 U	0.014 U	0.012 U	0.019 U	0.01 U	0.011 U	0.012 U
Aroclor-1268 (PCB-1268)	mg/kg	0.038 U	0.035 U	0.031 U	0.048 U	0.025 U	0.027 U	0.03 U
Total PCBs	mg/kg	ND	ND	ND	ND	ND	ND	**0.18**
Metals								
Antimony	mg/kg	0.76 U	0.67 U	0.60 U	0.84 U	0.43 U	0.52 U	0.60 U
Arsenic	mg/kg	2.6	2.8	2.1	6.4	0.84 J	0.70 J	1.3 J
Barium	mg/kg	109	97.9	45.2	152	7.6	16.2	25.2
Beryllium	mg/kg	0.44	0.42	0.28 J	0.69	0.070 J	0.11 J	0.30 U
Cadmium	mg/kg	0.38 U	0.34 U	0.41	1.0	0.22 U	0.26 U	0.47
Chromium	mg/kg	14.7	14.4	12.0	23.7	3.7	7.7	12.0
Chromium VI (hexavalent)	mg/kg	--	--	--	--	--	--	--
Cobalt	mg/kg	4.9	4.8	3.4	6.9	0.97	1.3	2.7
Copper	mg/kg	10.9 J	12.0 J	16.6 J	34.6 J	2.3 U	4.1 U	7.7
Lead	mg/kg	18.7	23.0	47.1	114	6.9	15.0	29.6
Manganese	mg/kg	388 J	353 J	158 J	651 J	48.5	64.7	106
Mercury	mg/kg	1.2 J	0.32 J	0.054 J	0.14 J	0.020 U	0.024 U	1.5
Methyl mercury	mg/kg	--	--	0.00015	--	0.00005 J	--	0.00014 J
Nickel	mg/kg	11.0	10.8	9.4	17.8	2.2	3.4	5.6
Selenium	mg/kg	1.9 U	1.7 U	1.5 U	2.1 U	1.1 U	1.3 U	1.5 U
Silver	mg/kg	0.068 J	0.069 J	0.061 J	0.10 J	0.31	0.22 J	0.099 J
Thallium	mg/kg	0.12 J	0.13 J	0.099 J	0.29 J	0.021 U	0.025 U	0.058 J
Vanadium	mg/kg	17.4	17.8	11.9	25.7	5.8	7.4	8.2
Zinc	mg/kg	45.7	51.6	56.9	148	17.7	15.5	46.4
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	--	--	0.0029	--	0.00058 U	--	0.0045
Copper	µmol/g	--	--	0.13	--	0.017	--	0.096
Lead	µmol/g	--	--	0.27	--	0.059	--	0.16
Nickel	µmol/g	--	--	0.037 J	--	0.0048	--	0.025
Silver	µmol/g	--	--	0.0015 U	--	0.0014 U	--	0.0014 U
Zinc	µmol/g	--	--	0.53	--	0.17	--	0.24
AVS/SEM [2]	none	--	--	0.54	--	3.0	--	U
General Chemistry								
Sulfide (acid soluble)	µmol/g	--	--	1.8	--	0.080	--	0.013 U
Black carbon	mg/kg	--	--	19600	--	12500	--	32000
Total organic carbon (TOC)	mg/kg	37500	40200	39200	75400	1790	15000	20400

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-28**	**SS-28**	**SS-28**	**SS-29**	**SS-29**	**SS-30**	**SS-30**
Sample Identification:		**SE-101916-JL-086**	**SE-101916-JL-085**	**SE-101916-JL-087**	**SE-101816-JL-074**	**SE-101816-JL-075**	**SE-101816-JL-072**	**SE-101816-JL-073**
Sample Date:		**10/19/2016**	**10/19/2016**	**10/19/2016**	**10/18/2016**	**10/18/2016**	**10/18/2016**	**10/18/2016**
Sample Depth:		**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**
Sample Type:		**Duplicate**		**Duplicate**				
Photoionization Detector (PID) Reading (ppm) [(1)]:		**0**	**0**	**0**	**0**	**0**	**0.2**	**0.1**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.073 J	0.015 U	0.028 J	0.095 J	0.026 U	0.04 J	0.012 U
Acenaphthylene	mg/kg	0.034 J	0.025 U	0.025 U	0.077 J	0.043 U	0.021 U	0.02 U
Anthracene	mg/kg	0.23 J	0.039 J	0.11 J	0.27 J	0.043 U	0.1 J	0.031 J
Benzo(a)anthracene	mg/kg	0.66	0.12 J	0.4 J	0.9	0.12 J	0.52	0.11 J
Benzo(a)pyrene	mg/kg	0.62	0.12 J	0.38 J	0.96	0.14 J	0.48	0.1 J
Benzo(b)fluoranthene	mg/kg	0.89	0.15 J	0.58	1.2	0.19 J	0.76	0.15 J
Benzo(e)pyrene	mg/kg	0.44 J	0.08 J	0.27 J	0.62	0.095 J	0.38 J	0.08 J
Benzo(g,h,i)perylene	mg/kg	0.41 J	0.066 J	0.24 J	0.55	0.079 J	0.3 J	0.064 J
Benzo(k)fluoranthene	mg/kg	0.36 J	0.06 U	0.17 J	0.48 J	0.1 U	0.27 J	0.046 U
Chrysene	mg/kg	0.74	0.13 J	0.44 J	1	0.14 J	0.64	0.11 J
Dibenz(a,h)anthracene	mg/kg	0.15 J	0.028 U	0.11 J	0.19 J	0.048 U	0.089 J	0.022 U
Fluoranthene	mg/kg	1.7	0.24 J	0.91	1.8	0.26 J	1.2	0.21 J
Fluorene	mg/kg	0.096 J	0.027 U	0.04 J	0.11 J	0.045 U	0.039 J	0.021 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.53	0.033 U	0.34 J	0.71	0.21 J	0.35 J	0.074 J
Naphthalene	mg/kg	0.05 U	0.046 U	0.046 U	0.052 U	0.078 U	0.038 U	0.036 U
Perylene	mg/kg	0.14 U	0.13 U	0.13 U	0.26 J	0.21 U	0.1 U	0.098 U
Phenanthrene	mg/kg	1.2	0.17 J	0.48 J	1.2	0.14 J	0.63	0.11 J
Pyrene	mg/kg	1.4	0.25 J	0.79	1.9	0.25 J	1.2	0.21 J
Alkylated PAHs								
1-Methylnaphthalene	ng/g	47 J	--	--	52 J	--	12 U	--
2-Methylnaphthalene	ng/g	56 U	--	--	64 J	--	28 U	--
C1-Benzo(a)anthracenes/chrysenes	ng/g	600 J	--	--	720 J	--	120 J	--
C1-Dibenzothiophenes	ng/g	68 J	--	--	91 J	--	11 J	--
C1-Fluoranthenes/Pyrenes	ng/g	990 J	--	--	1100 J	--	220 J	--
C1-Fluorenes	ng/g	82 J	--	--	88 J	--	14 J	--
C1-Phenanthrenes/Anthracenes	ng/g	310 J	--	--	350 J	--	62 J	--
C2-Benzo(a)anthracenes/chrysenes	ng/g	220 J	--	--	360 J	--	44 J	--
C2-Dibenzothiophenes	ng/g	56 J	--	--	110 J	--	9.9 J	--
C2-Fluorenes	ng/g	63 J	--	--	84 J	--	10 J	--
C2-Naphthalenes	ng/g	120 J	--	--	140 J	--	19 U	--
C2-Phenanthrenes/Anthracenes	ng/g	250 J	--	--	420 J	--	50 J	--
C3-Benzo(a)anthracenes/chrysenes	ng/g	110 J	--	--	210 J	--	27 J	--
C3-Dibenzothiophenes	ng/g	48 J	--	--	130 J	--	9.6 U	--
C3-Fluorenes	ng/g	46 J	--	--	76 J	--	11 J	--
C3-Naphthalenes	ng/g	99 J	--	--	140 J	--	19 U	--
C3-Phenanthrenes/Anthracenes	ng/g	130 J	--	--	300 J	--	24 J	--
C4-Benzo(a)anthracenes/chrysenes	ng/g	59 J	--	--	100 J	--	18 J	--
C4-Dibenzothiophenes	ng/g	33 J	--	--	84 J	--	9.6 U	--
C4-Naphthalenes	ng/g	66 J	--	--	120 J	--	11 J	--
C4-Phenanthrenes/Anthracenes	ng/g	87 J	--	--	160 J	--	12 J	--
Dibenzothiopene	ng/g	110	--	--	120	--	21	--
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.038 U	0.038 U	0.037 U	0.043 U	0.063 U	0.03 U	0.029 U
Aroclor-1221 (PCB-1221)	mg/kg	0.037 U	0.036 U	0.035 U	0.041 U	0.06 U	0.028 U	0.028 U
Aroclor-1232 (PCB-1232)	mg/kg	0.026 U	0.025 U	0.025 U	0.029 U	0.042 U	0.02 U	0.019 U
Aroclor-1242 (PCB-1242)	mg/kg	0.032 U	0.031 U	0.031 U	0.036 U	0.052 U	0.025 U	0.024 U
Aroclor-1248 (PCB-1248)	mg/kg	0.027 UJ	0.027 UJ	0.026 UJ	0.031 U	0.044 U	0.021 U	0.02 U
Aroclor-1254 (PCB-1254)	mg/kg	0.2	0.022 U	0.022 U	0.13	0.037 U	0.017 U	0.017 U
Aroclor-1260 (PCB-1260)	mg/kg	0.029 U	0.028 U	0.028 U	0.032 U	0.047 U	0.022 U	0.022 U
Aroclor-1262 (PCB-1262)	mg/kg	0.013 U	0.013 U	0.012 U	0.014 U	0.021 U	0.0099 U	0.0096 U
Aroclor-1268 (PCB-1268)	mg/kg	0.032 U	0.031 U	0.031 U	0.036 U	0.052 U	0.025 U	0.024 U
Total PCBs	mg/kg	**0.2**	ND	ND	**0.13**	ND	ND	ND
Metals								
Antimony	mg/kg	0.54 U	0.59 U	0.48 U	0.17 J	0.11 J	0.038 J	0.034 J
Arsenic	mg/kg	1.3 J	1.3 J	1.2	2.4	2.9	0.63 J	1.0 J
Barium	mg/kg	30.6	83.2	79.6	41.8 J	84.5 J	9.1 J	45.6 J
Beryllium	mg/kg	0.27 U	0.31	0.31	0.23 J	0.41 J	0.069 J	0.18 J
Cadmium	mg/kg	0.54	0.29 U	0.24 U	0.83	0.51	0.086 J	0.094 J
Chromium	mg/kg	12.6	12.7	13.0	18.3	24.8	4.5	6.6
Chromium VI (hexavalent)	mg/kg	--	--	--	--	--	--	--
Cobalt	mg/kg	2.7	4.1	3.6	4.0	6.2	6.3	2.4
Copper	mg/kg	9.1	8.8	6.6	13.6	16.2	5.8	5.0
Lead	mg/kg	31.1	6.6	5.4	45.2	34.6	7.2	10.1
Manganese	mg/kg	102	256	224	137	211	72.6	153
Mercury	mg/kg	4.0	0.11 J	0.027 J	3.1 J	0.65 J	0.019 U	0.084 J
Methyl mercury	mg/kg	0.00086 J	--	--	0.00039	--	0.000037 J	--
Nickel	mg/kg	5.4	8.3	7.9	7.6	10.8	2.7	4.3
Selenium	mg/kg	1.4 U	1.5 U	1.2 U	1.5 U	2.4 U	1.1 U	1.1 U
Silver	mg/kg	0.10 J	0.030 J	0.029 J	0.12 J	0.092 J	0.27	0.038 J
Thallium	mg/kg	0.069 J	0.078 J	0.075 J	0.084 J	0.12 J	0.021 U	0.045 J
Vanadium	mg/kg	8.4	13.5	13.1	11.0	16.4	5.2	8.0
Zinc	mg/kg	45.2	35.5	28.8	70.2	70.6	16.8	20.0
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	0.0025	--	--	0.0091	--	0.00056 U	--
Copper	µmol/g	0.060	--	--	0.18	--	0.098	--
Lead	µmol/g	0.059	--	--	0.25	--	0.029	--
Nickel	µmol/g	0.017	--	--	0.068 J	--	0.014 UJ	--
Silver	µmol/g	0.0015 U	--	--	0.0031 J	--	0.0020 J	--
Zinc	µmol/g	0.38	--	--	0.92 J	--	0.17 J	--
AVS/SEM [(2)]	none	7.4	--	--	13.0	--	7.3	--
General Chemistry								
Sulfide (acid soluble)	µmol/g	0.070	--	--	0.11 J	--	0.043 J	--
Black carbon	mg/kg	27300	--	--	35500	--	7470	--
Total organic carbon (TOC)	mg/kg	23400	27900	25200	16900	57500	4210	9190

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-31**	**SS-31**	**SS-31**	**SS-31**	**SS-32**	**SS-33**	**SS-33**
Sample Identification:		**SE-101716-JL-056**	**SE-101716-JL-058**	**SE-101716-JL-057**	**SE-101716-JL-059**	**SE-100716-JL-048**	**SE-100416-JL-017**	**SE-100416-JL-018**
Sample Date:		**10/17/2016**	**10/17/2016**	**10/17/2016**	**10/17/2016**	**10/7/2016**	**10/4/2016**	**10/4/2016**
Sample Depth:		**0-0.5 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0-0.5 ft BGS**	**0.5-1.3 ft BGS**
Sample Type:			**Duplicate**		**Duplicate**			
Photoionization Detector (PID) Reading (ppm) [1]:		**0.1**	**0.1**	**0.1**	**0.1**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.011 U	0.17 J	0.011 U	0.011 U	0.021 J	0.013 U	0.013 U
Acenaphthylene	mg/kg	0.024 J	0.096 J	0.018 U	0.018 U	0.024 J	0.021 U	0.021 U
Anthracene	mg/kg	0.021 J	0.54 J	0.018 U	0.018 U	0.12 J	0.039 J	0.021 U
Benzo(a)anthracene	mg/kg	0.11 J	0.96 J	0.033 J	0.05 J	0.38	0.11 J	0.032 J
Benzo(a)pyrene	mg/kg	0.12 J	0.81 J	0.031 J	0.042 J	0.33 J	0.1 J	0.027 J
Benzo(b)fluoranthene	mg/kg	0.16 J	1 J	0.04 J	0.06 J	0.48	0.14 J	0.033 U
Benzo(e)pyrene	mg/kg	0.083 J	0.56 J	0.022 U	0.027 J	0.23 J	0.067 J	0.025 U
Benzo(g,h,i)perylene	mg/kg	0.018 U	0.43	0.017 U	0.02 J	0.21 J	0.061 J	0.02 U
Benzo(k)fluoranthene	mg/kg	0.059 J	0.4 J	0.043 U	0.043 U	0.15 J	0.059 J	0.05 U
Chrysene	mg/kg	0.11 J	1 J	0.03 J	0.047 J	0.37 J	0.11 J	0.034 U
Dibenz(a,h)anthracene	mg/kg	0.021 U	0.13 J	0.021 U	0.02 U	0.13 J	0.086 J	0.024 U
Fluoranthene	mg/kg	0.16 J	2.3 J	0.05 J	0.079 J	0.83	0.24 J	0.057 J
Fluorene	mg/kg	0.02 U	0.27 J	0.02 U	0.019 U	0.03 J	0.022 U	0.023 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.085 J	0.5 J	0.024 U	0.024 U	0.32 J	0.14 J	0.028 U
Naphthalene	mg/kg	0.034 U	0.19 J	0.034 U	0.033 U	0.035 U	0.038 U	0.039 U
Perylene	mg/kg	0.094 UJ	0.19 J	0.092 U	0.091 U	0.097 U	0.1 U	0.11 U
Phenanthrene	mg/kg	0.076 J	2.8 J	0.029 J	0.047 J	0.47	0.13 J	0.03 J
Pyrene	mg/kg	0.17 J	2.4 J	0.049 J	0.077 J	0.68	0.2 J	0.05 J
Alkylated PAHs								
1-Methylnaphthalene	ng/g	4.3 J	33 J	--	--	2.0 J	1.3 J	--
2-Methylnaphthalene	ng/g	6.7 J	32 J	--	--	4.1 J	2.8 U	--
C1-Benzo(a)anthracenes/chrysenes	ng/g	50 J	260 J	--	--	30 J	21 J	--
C1-Dibenzothiophenes	ng/g	4.2 J	29 J	--	--	3.6 J	2.0 J	--
C1-Fluoranthenes/Pyrenes	ng/g	71 J	380 J	--	--	35 J	32 J	--
C1-Fluorenes	ng/g	4.3 J	30 J	--	--	2.5 J	3.0 J	--
C1-Phenanthrenes/Anthracenes	ng/g	23 J	150 J	--	--	11 J	11 J	--
C2-Benzo(a)anthracenes/chrysenes	ng/g	21 J	110 J	--	--	16 J	9.1 J	--
C2-Dibenzothiophenes	ng/g	4.2 J	21 J	--	--	4.3 J	2.7 J	--
C2-Fluorenes	ng/g	4.6 J	33 J	--	--	3.0 J	2.7 J	--
C2-Naphthalenes	ng/g	8.4 J	100 J	--	--	5.0 J	2.9 J	--
C2-Phenanthrenes/Anthracenes	ng/g	30 J	160 J	--	--	14 J	12 J	--
C3-Benzo(a)anthracenes/chrysenes	ng/g	11 J	58 J	--	--	14 J	6.0 J	--
C3-Dibenzothiophenes	ng/g	2.6 J	13 J	--	--	3.7 J	2.5 J	--
C3-Fluorenes	ng/g	3.3 J	23 J	--	--	2.3 J	1.9 J	--
C3-Naphthalenes	ng/g	8.7 J	120 J	--	--	4.6 J	3.6 J	--
C3-Phenanthrenes/Anthracenes	ng/g	18 J	82 J	--	--	7.8 J	7.3 J	--
C4-Benzo(a)anthracenes/chrysenes	ng/g	4.0 J	26 J	--	--	11 J	3.1 J	--
C4-Dibenzothiophenes	ng/g	1.1 J	9.6 U	--	--	2.2 J	1.4 J	--
C4-Naphthalenes	ng/g	7.4 J	99 J	--	--	3.3 J	3.0 J	--
C4-Phenanthrenes/Anthracenes	ng/g	17 J	39 J	--	--	3.6 J	3.6 J	--
Dibenzothiopene	ng/g	3.6	35	--	--	2.5	1.9	--
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.029 U	0.03 U	0.028 U	0.028 U	0.028 U	0.029 U	0.029 U
Aroclor-1221 (PCB-1221)	mg/kg	0.027 U	0.029 U	0.027 U	0.027 U	0.027 U	0.028 U	0.028 U
Aroclor-1232 (PCB-1232)	mg/kg	0.019 U	0.02 U	0.019 U	0.019 U	0.019 U	0.019 U	0.02 U
Aroclor-1242 (PCB-1242)	mg/kg	0.024 U	0.025 U	0.023 U	0.023 U	0.023 U	0.024 U	0.024 U
Aroclor-1248 (PCB-1248)	mg/kg	0.02 U	0.022 U	0.02 U	0.02 U	0.02 U	0.02 U	0.021 U
Aroclor-1254 (PCB-1254)	mg/kg	0.017 U	0.018 U	0.016 U	0.016 U	0.016 U	0.017 U	0.017 U
Aroclor-1260 (PCB-1260)	mg/kg	0.021 U	0.023 U	0.021 U	0.021 U	0.021 U	0.022 U	0.022 U
Aroclor-1262 (PCB-1262)	mg/kg	0.0095 U	0.01 U	0.0093 U	0.0093 U	0.0094 U	0.0096 U	0.0098 U
Aroclor-1268 (PCB-1268)	mg/kg	0.024 U	0.025 U	0.023 U	0.023 U	0.023 U	0.024 U	0.024 U
Total PCBs	mg/kg	ND	ND	ND	ND	ND	ND	ND
Metals								
Antimony	mg/kg	0.41 U	0.41 U	0.35 U	0.37 U	0.032 J	0.39 U	0.42 U
Arsenic	mg/kg	1.1	1.3	1.0	1.0	0.79 J	0.84 J	1.4
Barium	mg/kg	15.3	24.2	13.2	12.9	9.4	7.3	14.3
Beryllium	mg/kg	0.21 U	0.21 U	0.18 U	0.18 U	0.076 J	0.011 U	0.011 U
Cadmium	mg/kg	0.21 U	0.21 U	0.18 U	0.18 U	0.048 J	0.20 U	0.21 U
Chromium	mg/kg	5.6	7.5	4.8	5.5	4.0	5.0	6.1
Chromium VI (hexavalent)	mg/kg	--	--	--	--	--	--	--
Cobalt	mg/kg	1.3	1.7	1.2	1.9	1.0	1.3	1.8
Copper	mg/kg	6.6	5.2	3.2	3.8	3.7	3.0	2.5
Lead	mg/kg	11.6	23.2	8.8	9.4	21.4	8.6	5.3
Manganese	mg/kg	134	140	120	105	74.7	84.7	149
Mercury	mg/kg	0.075 J	0.12 J	0.044 J	0.020 UJ	0.020 U	0.019 U	0.065 J
Methyl mercury	mg/kg	0.00013 J	0.000045 J	--	--	0.000053 J	0.000026 U	--
Nickel	mg/kg	2.8	3.6	9.2	4.6	2.4	3.7	3.7
Selenium	mg/kg	1.0 U	1.0 U	0.88 U	0.92 U	0.18 J	0.51 J	0.48 J
Silver	mg/kg	0.032 J	0.15 J	0.014 J	0.010 J	0.015 J	0.64	0.21 U
Thallium	mg/kg	0.025 J	0.034 J	0.026 J	0.021 J	0.016 U	0.019 U	0.42 U
Vanadium	mg/kg	6.9	9.8	6.4	7.7	4.9	4.6	6.7
Zinc	mg/kg	12.4	19.1	8.6	13.3	12.6	34.4	12.8
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	0.00054 U	0.00050 U	--	--	0.00058 U	0.00053 UJ	--
Copper	µmol/g	0.014 J	0.020 J	--	--	0.017	0.015 J	--
Lead	µmol/g	0.027	0.034	--	--	0.049	0.037	--
Nickel	µmol/g	0.0041 J	0.0046 J	--	--	0.0056	0.0052	--
Silver	µmol/g	0.0013 U	0.0012 U	--	--	0.0013 U	0.0012 U	--
Zinc	µmol/g	0.024	0.040	--	--	0.10	0.092	--
AVS/SEM [2]	none	U	U	--	--	--	0.55	--
General Chemistry								
Sulfide (acid soluble)	µmol/g	0.011 U	0.011 U	--	--	0.060 U	0.27 J	--
Black carbon	mg/kg	21900	18400	--	--	5280	11400	--
Total organic carbon (TOC)	mg/kg	25100 J	22900 J	4600 J	15500 J	380 U	1490	19500

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-34**	**SS-34**	**SS-35**	**SS-35**	**SS-35**	**SS-35**	**SS-35**
Sample Identification:		**SE-100716-JL-046**	**SE-100716-JL-047**	**SE-100616-JL-041**	**SE-100616-JL-042**	**SE-100616-JL-043**	**SE-100616-JL-044**	**SE-100616-JL-045**
Sample Date:		**10/7/2016**	**10/7/2016**	**10/6/2016**	**10/6/2016**	**10/6/2016**	**10/6/2016**	**10/6/2016**
Sample Depth:		**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0.5-2 ft BGS**	**4-5.2 ft BGS**
Sample Type:					**Duplicate**		**Duplicate**	
Photoionization Detector (PID) Reading (ppm) [1]:		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.19 J	0.065 J	0.03 U	0.03 U	0.027 U	0.028 J	0.013 U
Acenaphthylene	mg/kg	0.17 J	0.11 J	0.049 U	0.05 U	0.045 U	0.045 U	0.022 U
Anthracene	mg/kg	0.6	0.25 J	0.056 J	0.053 J	0.052 J	0.071 J	0.022 U
Benzo(a)anthracene	mg/kg	2.1	0.84	0.3 J	0.25 J	0.28 J	0.31 J	0.025 U
Benzo(a)pyrene	mg/kg	2.2	0.93	0.36 J	0.32 J	0.35 J	0.37 J	0.025 U
Benzo(b)fluoranthene	mg/kg	2.7	1.2	0.47 J	0.46 J	0.51 J	0.51 J	0.033 U
Benzo(e)pyrene	mg/kg	1.3	0.6 J	0.25 J	0.22 J	0.24 J	0.24 J	0.025 U
Benzo(g,h,i)perylene	mg/kg	1.3	0.55 J	0.24 J	0.24 J	0.24 J	0.25 J	0.02 U
Benzo(k)fluoranthene	mg/kg	0.88	0.38 J	0.22 J	0.15 J	0.16 J	0.2 J	0.051 U
Chrysene	mg/kg	2.2	0.9	0.38 J	0.33 J	0.35 J	0.38 J	0.034 U
Dibenz(a,h)anthracene	mg/kg	0.39 J	0.27 J	0.054 U	0.055 U	0.05 U	0.22 J	0.024 U
Fluoranthene	mg/kg	4	1.7	0.69 J	0.6 J	0.67 J	0.75 J	0.046 U
Fluorene	mg/kg	0.22 J	0.079 J	0.052 U	0.052 U	0.047 U	0.048 U	0.023 U
Indeno(1,2,3-cd)pyrene	mg/kg	1.8	0.8	0.46 J	0.45 J	0.44 J	0.44 J	0.028 U
Naphthalene	mg/kg	0.056 U	0.068 U	0.089 U	0.09 U	0.081 U	0.082 U	0.04 U
Perylene	mg/kg	0.54 J	0.3 J	0.24 U	0.25 U	0.22 U	0.23 U	0.11 U
Phenanthrene	mg/kg	2.1	0.85	0.23 J	0.21 J	0.25 J	0.3 J	0.022 U
Pyrene	mg/kg	3.5	1.4	0.57 J	0.45 J	0.55 J	0.59 J	0.015 U
Alkylated PAHs								
1-Methylnaphthalene	ng/g	52 J	--	19 U	19 U	--	--	--
2-Methylnaphthalene	ng/g	75 U	--	42 U	43 U	--	--	--
C1-Benzo(a)anthracenes/chrysenes	ng/g	1600 J	--	560 J	680 J	--	--	--
C1-Dibenzothiophenes	ng/g	340 J	--	46 J	56 J	--	--	--
C1-Fluoranthenes/Pyrenes	ng/g	2500 J	--	560 J	610 J	--	--	--
C1-Fluorenes	ng/g	210 J	--	34 J	36 J	--	--	--
C1-Phenanthrenes/Anthracenes	ng/g	820 J	--	130 J	140 J	--	--	--
C2-Benzo(a)anthracenes/chrysenes	ng/g	590 J	--	450 J	630 J	--	--	--
C2-Dibenzothiophenes	ng/g	350 J	--	59 J	71 J	--	--	--
C2-Fluorenes	ng/g	180 J	--	37 J	43 J	--	--	--
C2-Naphthalenes	ng/g	250 J	--	38 J	38 J	--	--	--
C2-Phenanthrenes/Anthracenes	ng/g	780 J	--	150 J	170 J	--	--	--
C3-Benzo(a)anthracenes/chrysenes	ng/g	330 J	--	1100 J	1500 J	--	--	--
C3-Dibenzothiophenes	ng/g	200 J	--	50 J	57 J	--	--	--
C3-Fluorenes	ng/g	130 J	--	33 J	37 J	--	--	--
C3-Naphthalenes	ng/g	290 J	--	44 J	48 J	--	--	--
C3-Phenanthrenes/Anthracenes	ng/g	320 J	--	99 J	90 J	--	--	--
C4-Benzo(a)anthracenes/chrysenes	ng/g	130 J	--	530 J	700 J	--	--	--
C4-Dibenzothiophenes	ng/g	68 J	--	28 J	33 J	--	--	--
C4-Naphthalenes	ng/g	190 J	--	37 J	43 J	--	--	--
C4-Phenanthrenes/Anthracenes	ng/g	130 J	--	100 J	45 J	--	--	--
Dibenzothiopene	ng/g	210	--	35	36	--	--	--
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.047 U	0.055 U	0.072 U	0.07 U	0.065 U	0.066 U	0.033 U
Aroclor-1221 (PCB-1221)	mg/kg	0.045 U	0.053 U	0.069 U	0.067 U	0.062 U	0.063 U	0.031 U
Aroclor-1232 (PCB-1232)	mg/kg	0.031 U	0.037 U	0.048 U	0.047 U	0.043 U	0.044 U	0.022 U
Aroclor-1242 (PCB-1242)	mg/kg	0.039 U	0.046 U	0.06 UJ	0.059 UJ	0.054 UJ	0.055 UJ	0.027 UJ
Aroclor-1248 (PCB-1248)	mg/kg	0.033 U	0.039 U	0.051 U	0.05 U	0.046 U	0.047 U	0.023 U
Aroclor-1254 (PCB-1254)	mg/kg	0.027 U	0.032 U	0.042 U	0.041 U	0.038 U	0.038 U	0.019 U
Aroclor-1260 (PCB-1260)	mg/kg	0.035 U	0.042 U	0.054 U	0.053 U	0.049 U	0.049 U	0.025 U
Aroclor-1262 (PCB-1262)	mg/kg	0.016 U	0.018 U	0.024 UJ	0.023 UJ	0.022 UJ	0.022 UJ	0.011 UJ
Aroclor-1268 (PCB-1268)	mg/kg	0.039 U	0.046 U	0.06 UJ	0.059 UJ	0.054 UJ	0.055 UJ	0.027 UJ
Total PCBs	mg/kg	ND	ND	ND	ND	ND	ND	ND
Metals								
Antimony	mg/kg	0.15 J	0.21 J	0.12 J	0.18 J	0.14 J	0.40 J	0.016 UJ
Arsenic	mg/kg	2.8	4.4	4.4	4.0	4.5	5.1	1.1 U
Barium	mg/kg	65.9	113	127	117	133	136	17.7
Beryllium	mg/kg	0.23 J	0.31 J	0.44 J	0.34 J	0.43 J	0.53	0.057 J
Cadmium	mg/kg	0.48	0.96	0.83	0.75	0.98	1.1	0.032 J
Chromium	mg/kg	12.0	20.1	21.5	21.3	23.9	25.8	4.8
Chromium VI (hexavalent)	mg/kg	--	--	--	--	--	--	--
Cobalt	mg/kg	4.0	6.4	6.0	5.7	6.3	6.9	1.5
Copper	mg/kg	14.5	21.0	26.8	23.9	27.0	30.4	0.45 U
Lead	mg/kg	46.2	56.1	58.4	50.6	67.5	101	1.4
Manganese	mg/kg	412	674	506	473	527	557	77.1
Mercury	mg/kg	0.090 J	0.17 J	0.15 J	0.13 J	0.17 J	0.17 J	0.026 U
Methyl mercury	mg/kg	0.00042	--	0.00018 J	0.00017 J	--	--	--
Nickel	mg/kg	8.0	14.7	15.8	15.0	17.4	18.4	2.9
Selenium	mg/kg	0.91 J	1.4 J	2.6 U	2.1 U	2.5 U	2.6 U	1.1 U
Silver	mg/kg	0.17 J	0.42 J	0.48 J	0.45	0.66	0.73	0.23 U
Thallium	mg/kg	0.14 J	0.15 J	0.15 J	0.15 J	0.16 J	0.16 J	0.021 U
Vanadium	mg/kg	10.3	13.4	13.4	14.4	14.6	15.7	5.4
Zinc	mg/kg	68.5	106	123	115	130	143	8.5
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	0.0030 J	--	0.0065	0.0067	--	--	--
Copper	µmol/g	0.098	--	0.045	0.045	--	--	--
Lead	µmol/g	0.074	--	0.18	0.19	--	--	--
Nickel	µmol/g	0.027	--	0.049	0.055	--	--	--
Silver	µmol/g	0.0021 U	--	0.0032 U	0.0033 U	--	--	--
Zinc	µmol/g	0.51	--	1.2	1.3	--	--	--
AVS/SEM [2]	none	0.11	--	0.062	0.025	--	--	--
General Chemistry								
Sulfide (acid soluble)	µmol/g	6.4	--	23.7	63.5	--	--	--
Black carbon	mg/kg	33300	--	38100	38500	--	--	--
Total organic carbon (TOC)	mg/kg	34300	86400	64000 J	60400 J	79400	60800 J	7000

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-36**	**SS-36**	**SS-36**	**SS-37**	**SS-37**	**SS-38**	**SS-38**
Sample Identification:		**SE-100616-JL-038**	**SE-100616-JL-039**	**SE-100616-JL-040**	**SE-100616-JL-036**	**SE-100616-JL-037**	**SE-100616-JL-033**	**SE-100616-JL-034**
Sample Date:		**10/6/2016**	**10/6/2016**	**10/6/2016**	**10/6/2016**	**10/6/2016**	**10/6/2016**	**10/6/2016**
Sample Depth:		**0-0.5 ft BGS**	**0.5-2 ft BGS**	**4-5.5 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**
Sample Type:								
Photoionization Detector (PID) Reading (ppm) [1]:		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.034 U	0.027 U	0.012 U	0.038 J	0.024 J	0.028 U	0.026 U
Acenaphthylene	mg/kg	0.056 U	0.045 U	0.02 U	0.082 J	0.043 J	0.047 U	0.043 U
Anthracene	mg/kg	0.056 U	0.045 U	0.02 U	0.12 J	0.069 J	0.047 U	0.043 U
Benzo(a)anthracene	mg/kg	0.21 J	0.2 J	0.024 U	0.52 J	0.32 J	0.09 J	0.15 J
Benzo(a)pyrene	mg/kg	0.27 J	0.25 J	0.024 U	0.6 J	0.36 J	0.1 J	0.15 J
Benzo(b)fluoranthene	mg/kg	0.38 J	0.37 J	0.031 U	0.71 J	0.42 J	0.13 J	0.2 J
Benzo(e)pyrene	mg/kg	0.18 J	0.18 J	0.024 U	0.35 J	0.24 J	0.067 J	0.092 J
Benzo(g,h,i)perylene	mg/kg	0.19 J	0.18 J	0.019 U	0.37 J	0.22 J	0.071 J	0.11 J
Benzo(k)fluoranthene	mg/kg	0.13 J	0.13 J	0.047 U	0.23 J	0.18 J	0.11 U	0.1 U
Chrysene	mg/kg	0.27 J	0.26 J	0.032 U	0.58 J	0.35 J	0.1 J	0.17 J
Dibenz(a,h)anthracene	mg/kg	0.24 J	0.2 J	0.022 U	0.23 J	0.18 J	0.052 U	0.048 U
Fluoranthene	mg/kg	0.49 J	0.49 J	0.042 U	0.86	0.6 J	0.16 J	0.27 J
Fluorene	mg/kg	0.059 U	0.048 U	0.021 U	0.042 J	0.041 U	0.05 U	0.046 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.39 J	0.35 J	0.026 U	0.54 J	0.4 J	0.061 U	0.25 J
Naphthalene	mg/kg	0.1 U	0.083 U	0.037 U	0.072 U	0.071 U	0.086 U	0.079 U
Perylene	mg/kg	0.28 U	0.23 U	0.1 U	0.2 U	0.19 U	0.23 U	0.22 U
Phenanthrene	mg/kg	0.18 J	0.17 J	0.02 U	0.36 J	0.29 J	0.061 J	0.1 J
Pyrene	mg/kg	0.4 J	0.39 J	0.014 U	0.88	0.55 J	0.15 J	0.24 J
Alkylated PAHs								
1-Methylnaphthalene	ng/g	29 J	--	--	19 J	--	8.6 J	--
2-Methylnaphthalene	ng/g	47 U	--	--	36 U	--	14 J	--
C1-Benzo(a)anthracenes/chrysenes	ng/g	1200 J	--	--	740 J	--	450 J	--
C1-Dibenzothiophenes	ng/g	180 J	--	--	100 J	--	33 J	--
C1-Fluoranthenes/Pyrenes	ng/g	2100 J	--	--	980 J	--	370 J	--
C1-Fluorenes	ng/g	270 J	--	--	60 J	--	22 J	--
C1-Phenanthrenes/Anthracenes	ng/g	800 J	--	--	220 J	--	81 J	--
C2-Benzo(a)anthracenes/chrysenes	ng/g	750 J	--	--	420 J	--	490 J	--
C2-Dibenzothiophenes	ng/g	180 J	--	--	120 J	--	48 J	--
C2-Fluorenes	ng/g	200 J	--	--	61 J	--	28 J	--
C2-Naphthalenes	ng/g	200 J	--	--	79 J	--	27 J	--
C2-Phenanthrenes/Anthracenes	ng/g	730 J	--	--	260 J	--	110 J	--
C3-Benzo(a)anthracenes/chrysenes	ng/g	1200 J	--	--	620 J	--	1000 J	--
C3-Dibenzothiophenes	ng/g	120 J	--	--	82 J	--	41 J	--
C3-Fluorenes	ng/g	120 J	--	--	53 J	--	25 J	--
C3-Naphthalenes	ng/g	270 J	--	--	78 J	--	32 J	--
C3-Phenanthrenes/Anthracenes	ng/g	320 J	--	--	140 J	--	64 J	--
C4-Benzo(a)anthracenes/chrysenes	ng/g	520 J	--	--	290 J	--	620 J	--
C4-Dibenzothiophenes	ng/g	67 J	--	--	37 J	--	23 J	--
C4-Naphthalenes	ng/g	160 J	--	--	56 J	--	29 J	--
C4-Phenanthrenes/Anthracenes	ng/g	120 J	--	--	63 J	--	33 J	--
Dibenzothiopene	ng/g	120	--	--	59	--	21	--
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.081 U	0.069 U	0.029 U	0.06 U	0.055 U	0.069 U	0.064 U
Aroclor-1221 (PCB-1221)	mg/kg	0.078 U	0.066 U	0.028 U	0.058 U	0.053 U	0.066 U	0.061 U
Aroclor-1232 (PCB-1232)	mg/kg	0.054 U	0.046 U	0.019 U	0.04 U	0.037 U	0.046 U	0.043 U
Aroclor-1242 (PCB-1242)	mg/kg	0.068 UJ	0.057 UJ	0.024 UJ	0.05 UJ	0.046 UJ	0.058 UJ	0.053 UJ
Aroclor-1248 (PCB-1248)	mg/kg	0.057 U	0.049 U	0.021 U	0.043 U	0.039 U	0.049 U	0.045 U
Aroclor-1254 (PCB-1254)	mg/kg	0.047 U	0.04 U	0.017 U	0.035 U	0.032 U	0.04 U	0.037 U
Aroclor-1260 (PCB-1260)	mg/kg	0.061 U	0.052 U	0.022 U	0.045 U	0.041 U	0.052 U	0.048 U
Aroclor-1262 (PCB-1262)	mg/kg	0.027 UJ	0.023 UJ	0.0097 UJ	0.02 UJ	0.018 UJ	0.023 UJ	0.021 UJ
Aroclor-1268 (PCB-1268)	mg/kg	0.068 UJ	0.057 UJ	0.024 UJ	0.05 UJ	0.046 UJ	0.058 UJ	0.053 UJ
Total PCBs	mg/kg	ND	ND	ND	ND	ND	ND	ND
Metals								
Antimony	mg/kg	0.17 J	0.17 J	0.015 UJ	0.12 J	0.15 J	0.23 J	0.23 J
Arsenic	mg/kg	5.0	4.8	1.0 U	4.5	5.8	3.8	4.4
Barium	mg/kg	135	131	10.4	119	131	120	131
Beryllium	mg/kg	0.55	0.50	0.061 J	0.47 J	0.36 J	0.51 J	0.64
Cadmium	mg/kg	1.6	1.5	0.016 J	0.86	1.4	0.85	1.3
Chromium	mg/kg	27.3	26.6	3.1	22.8	24.1	20.8	25.5
Chromium VI (hexavalent)	mg/kg	--	--	--	--	--	--	--
Cobalt	mg/kg	5.9	5.8	0.83	6.2	6.8	5.3	6.1
Copper	mg/kg	28.1	27.2	0.41 U	23.4	23.7	21.9	26.3
Lead	mg/kg	82.6	83.9	0.80	43.5	64.8	47.1	62.2
Manganese	mg/kg	541	540	72.6	682	762	462	519
Mercury	mg/kg	0.19 J	0.18 J	0.022 U	0.17 J	0.23 J	0.15 J	0.28 U
Methyl mercury	mg/kg	0.00025 J	--	--	0.00032	--	0.00018 J	--
Nickel	mg/kg	17.9	17.0	1.6	15.1	16.8	14.0	17.0
Selenium	mg/kg	2.6 U	2.2 U	1.0 U	2.5 U	1.8 U	2.6 U	2.1 U
Silver	mg/kg	0.80	0.66	0.21 U	0.57	0.58	0.60	0.84
Thallium	mg/kg	0.17 J	0.17 J	0.020 U	0.15 J	0.17 J	0.17 J	0.20 J
Vanadium	mg/kg	15.1	15.8	3.6	15.1	17.5	12.3	15.1
Zinc	mg/kg	140	136	4.7	108	119	102	120
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	0.0096	--	--	0.0068	--	0.0069	--
Copper	µmol/g	0.15	--	--	0.21	--	0.050	--
Lead	µmol/g	0.30	--	--	0.14	--	0.18	--
Nickel	µmol/g	0.058	--	--	0.062	--	0.052	--
Silver	µmol/g	0.0030 U	--	--	0.0025 U	--	0.0038 U	--
Zinc	µmol/g	1.3	--	--	1.0	--	1.3	--
AVS/SEM [2]	none	0.053	--	--	0.64	--	0.039	--
General Chemistry								
Sulfide (acid soluble)	µmol/g	34.1	--	--	2.2	--	41.2	--
Black carbon	mg/kg	38000	--	--	40800	--	36600	--
Total organic carbon (TOC)	mg/kg	82400	64200	11000	60300 J	72900	60400 J	47700 J

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-38**	**SS-39**	**SS-39**	**SS-40**	**SS-40**	**SS-41**	**SS-41**
Sample Identification:		**SE-100616-JL-035**	**SE-100616-JL-031**	**SE-100616-JL-032**	**SE-100516-JL-029**	**SE-100516-JL-030**	**SE-100516-JL-027**	**SE-100516-JL-028**
Sample Date:		**10/6/2016**	**10/6/2016**	**10/6/2016**	**10/5/2016**	**10/5/2016**	**10/5/2016**	**10/5/2016**
Sample Depth:		**4.4-5.9 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**
Sample Type:								
Photoionization Detector (PID) Reading (ppm) [1]:		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.011 U	0.032 U	0.026 U	0.03 U	0.025 U	0.029 U	0.035 J
Acenaphthylene	mg/kg	0.018 U	0.053 U	0.043 U	0.054 J	0.042 U	0.047 U	0.042 U
Anthracene	mg/kg	0.018 U	0.053 U	0.043 U	0.051 J	0.042 U	0.061 J	0.091 J
Benzo(a)anthracene	mg/kg	0.022 U	0.14 J	0.12 J	0.26 J	0.14 J	0.38 J	0.27 J
Benzo(a)pyrene	mg/kg	0.022 U	0.16 J	0.11 J	0.32 J	0.15 J	0.47 J	0.28 J
Benzo(b)fluoranthene	mg/kg	0.028 U	0.2 J	0.17 J	0.35 J	0.16 J	0.68 J	0.35 J
Benzo(e)pyrene	mg/kg	0.022 U	0.062 U	0.087 J	0.21 J	0.089 J	0.35 J	0.19 J
Benzo(g,h,i)perylene	mg/kg	0.017 U	0.12 J	0.097 J	0.17 J	0.039 U	0.3 J	0.17 J
Benzo(k)fluoranthene	mg/kg	0.043 U	0.12 U	0.1 U	0.15 J	0.098 U	0.21 J	0.13 J
Chrysene	mg/kg	0.029 U	0.17 J	0.14 J	0.3 J	0.16 J	0.52 J	0.31 J
Dibenz(a,h)anthracene	mg/kg	0.021 U	0.059 U	0.048 U	0.055 U	0.047 U	0.053 U	0.047 U
Fluoranthene	mg/kg	0.039 U	0.26 J	0.23 J	0.43 J	0.24 J	0.89 J	0.64 J
Fluorene	mg/kg	0.019 U	0.056 U	0.046 U	0.052 U	0.044 U	0.05 U	0.045 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.024 U	0.27 J	0.056 U	0.2 J	0.054 U	0.34 J	0.055 U
Naphthalene	mg/kg	0.033 U	0.096 U	0.079 U	0.09 U	0.076 U	0.086 U	0.077 U
Perylene	mg/kg	0.092 U	0.26 U	0.22 U	0.25 U	0.21 U	0.24 U	0.21 U
Phenanthrene	mg/kg	0.018 U	0.11 J	0.1 J	0.19 J	0.11 J	0.32 J	0.38 J
Pyrene	mg/kg	0.013 U	0.23 J	0.21 J	0.49 J	0.28 J	0.82 J	0.58 J
Alkylated PAHs								
1-Methylnaphthalene	ng/g	--	9.5 J	--	12 J	--	20 U	--
2-Methylnaphthalene	ng/g	--	15 J	--	25 U	--	44 U	--
C1-Benzo(a)anthracenes/chrysenes	ng/g	--	310 J	--	480 J	--	890 J	--
C1-Dibenzothiophenes	ng/g	--	28 J	--	52 J	--	50 J	--
C1-Fluoranthenes/Pyrenes	ng/g	--	320 J	--	520 J	--	830 J	--
C1-Fluorenes	ng/g	--	22 J	--	35 J	--	40 J	--
C1-Phenanthrenes/Anthracenes	ng/g	--	74 J	--	120 J	--	160 J	--
C2-Benzo(a)anthracenes/chrysenes	ng/g	--	270 J	--	350 J	--	800 J	--
C2-Dibenzothiophenes	ng/g	--	51 J	--	66 J	--	78 J	--
C2-Fluorenes	ng/g	--	33 J	--	41 J	--	51 J	--
C2-Naphthalenes	ng/g	--	27 J	--	43 J	--	49 J	--
C2-Phenanthrenes/Anthracenes	ng/g	--	120 J	--	150 J	--	210 J	--
C3-Benzo(a)anthracenes/chrysenes	ng/g	--	680 J	--	750 J	--	1700 J	--
C3-Dibenzothiophenes	ng/g	--	56 J	--	54 J	--	81 J	--
C3-Fluorenes	ng/g	--	35 J	--	36 J	--	60 J	--
C3-Naphthalenes	ng/g	--	31 J	--	51 J	--	53 J	--
C3-Phenanthrenes/Anthracenes	ng/g	--	82 J	--	86 J	--	130 J	--
C4-Benzo(a)anthracenes/chrysenes	ng/g	--	360 J	--	330 J	--	810 J	--
C4-Dibenzothiophenes	ng/g	--	40 J	--	31 J	--	54 J	--
C4-Naphthalenes	ng/g	--	35 J	--	45 J	--	48 J	--
C4-Phenanthrenes/Anthracenes	ng/g	--	47 J	--	55 J	--	80 J	--
Dibenzothiopene	ng/g	--	18	--	33	--	46	--
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.028 U	0.075 U	0.065 U	0.076 U	0.061 U	0.074 U	0.066 U
Aroclor-1221 (PCB-1221)	mg/kg	0.027 U	0.072 U	0.062 U	0.073 U	0.059 U	0.071 U	0.063 U
Aroclor-1232 (PCB-1232)	mg/kg	0.019 U	0.05 U	0.043 U	0.051 U	0.041 U	0.049 U	0.044 U
Aroclor-1242 (PCB-1242)	mg/kg	0.023 UJ	0.062 UJ	0.054 UJ	0.063 U	0.051 U	0.061 U	0.055 U
Aroclor-1248 (PCB-1248)	mg/kg	0.02 U	0.053 U	0.046 U	0.054 U	0.044 U	0.052 U	0.047 U
Aroclor-1254 (PCB-1254)	mg/kg	0.016 U	0.044 U	0.038 U	0.044 U	0.036 U	0.043 U	0.039 U
Aroclor-1260 (PCB-1260)	mg/kg	0.021 U	0.056 U	0.049 U	0.057 U	0.046 U	0.055 U	0.05 U
Aroclor-1262 (PCB-1262)	mg/kg	0.0093 UJ	0.025 UJ	0.022 UJ	0.025 U	0.02 U	0.025 U	0.022 U
Aroclor-1268 (PCB-1268)	mg/kg	0.023 UJ	0.062 UJ	0.054 UJ	0.063 U	0.051 U	0.061 U	0.055 U
Total PCBs	mg/kg	ND	ND	ND	ND	ND	ND	ND
Metals								
Antimony	mg/kg	0.016 J	0.26 J	0.20 J	1.2 U	0.82 U	1.1 U	0.98 U
Arsenic	mg/kg	0.91 U	4.3	6.3	4.8	5.3	4.1	4.6
Barium	mg/kg	8.3	127	151	120	127	109	129
Beryllium	mg/kg	0.080 J	0.61	0.57	0.41 J	0.40 J	0.36 J	0.50
Cadmium	mg/kg	0.018 J	1.2	2.6	1.5	1.8	0.95	1.5
Chromium	mg/kg	4.4	25.7	33.8	24.9	27.5	25.4	27.1
Chromium VI (hexavalent)	mg/kg	--	--	--	--	--	--	--
Cobalt	mg/kg	0.52	5.8	6.1	5.6	5.9	5.5	5.7
Copper	mg/kg	0.36 U	25.7	29.1	21.9 J	23.6 J	28.5 J	26.9 J
Lead	mg/kg	0.76	74.3	111	54.0	64.9	99.2	153
Manganese	mg/kg	53.0	504	628	603 J	628 J	422 J	495 J
Mercury	mg/kg	0.023 U	0.18 J	0.25 J	0.23 J	0.94	0.14 J	0.28
Methyl mercury	mg/kg	--	0.00019 J	--	0.00027	--	0.0002 J	--
Nickel	mg/kg	1.2	16.8	19.6	16.5	17.1	14.9	16.4
Selenium	mg/kg	0.91 U	2.6 U	2.4 U	3.0 U	2.1 U	2.8 U	2.5 U
Silver	mg/kg	0.18 U	0.86	0.85	0.84	0.75	0.53 J	0.93
Thallium	mg/kg	0.017 U	0.21 J	0.20 J	0.15 J	0.15 J	0.14 J	0.16 J
Vanadium	mg/kg	2.4	15.8	16.4	15.3	15.0	14.3	16.8
Zinc	mg/kg	4.8	125	144	109	116	144	153
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	--	0.0095	--	0.016	--	0.0083	--
Copper	µmol/g	--	0.052	--	0.11	--	0.10	--
Lead	µmol/g	--	0.25	--	0.29	--	0.42	--
Nickel	µmol/g	--	0.057	--	0.10 J	--	0.062 J	--
Silver	µmol/g	--	0.0033 U	--	0.0028 U	--	0.0033 U	--
Zinc	µmol/g	--	1.3	--	1.5	--	2.0	--
AVS/SEM [2]	none	--	0.041	--	0.20	--	0.083	--
General Chemistry								
Sulfide (acid soluble)	µmol/g	--	40.6	--	10.2	--	31.1	--
Black carbon	mg/kg	--	34700	--	35600	--	38400	--
Total organic carbon (TOC)	mg/kg	2170 J	54900 J	50100 J	59000	50600	65800	56700

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-42**	**SS-42**	**SS-43**	**SS-43**	**SS-45**	**SS-46**	**SS-47**
Sample Identification:		**SE-100416-JL-013**	**SE-100416-JL-014**	**SE-100416-JL-015**	**SE-100416-JL-016**	**SE-102016-JL-098**	**SE-101916-JL-094**	**SE-102016-JL-096**
Sample Date:		**10/4/2016**	**10/4/2016**	**10/4/2016**	**10/4/2016**	**10/20/2016**	**10/19/2016**	**10/20/2016**
Sample Depth:		**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0-0.5 ft BGS**	**0-0.5 ft BGS**
Sample Type:								
Photoionization Detector (PID) Reading (ppm) [(1)]:		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.18 J	0.076 U	0.019 J	0.013 J	0.013 U	0.012 U	0.015 J
Acenaphthylene	mg/kg	0.18 U	0.13 U	0.03 J	0.02 U	0.021 U	0.019 U	0.02 U
Anthracene	mg/kg	0.39 J	0.13 U	0.079 J	0.045 J	0.071 J	0.019 U	0.05 J
Benzo(a)anthracene	mg/kg	0.89 J	0.3 J	0.32 J	0.19 J	0.17 J	0.03 J	0.2 J
Benzo(a)pyrene	mg/kg	0.77 J	0.23 J	0.32 J	0.16 J	0.15 J	0.023 U	0.19 J
Benzo(b)fluoranthene	mg/kg	0.98 J	0.23 J	0.43	0.22 J	0.21 J	0.039 J	0.26 J
Benzo(e)pyrene	mg/kg	0.56 J	0.19 J	0.23 J	0.1 J	0.1 J	0.023 U	0.14 J
Benzo(g,h,i)perylene	mg/kg	0.17 U	0.12 U	0.2 J	0.097 J	0.1 J	0.018 U	0.13 J
Benzo(k)fluoranthene	mg/kg	0.43 U	0.29 U	0.17 J	0.047 U	0.082 J	0.045 U	0.12 J
Chrysene	mg/kg	1 J	0.35 J	0.35 J	0.2 J	0.18 J	0.031 U	0.22 J
Dibenz(a,h)anthracene	mg/kg	0.21 U	0.14 U	0.049 J	0.097 J	0.023 U	0.022 U	0.023 U
Fluoranthene	mg/kg	2.3 J	0.59 J	0.65	0.36 J	0.4	0.064 J	0.42
Fluorene	mg/kg	0.19 J	0.13 U	0.029 J	0.021 U	0.022 U	0.02 U	0.021 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.24 U	0.16 U	0.22 J	0.18 J	0.027 U	0.025 U	0.13 J
Naphthalene	mg/kg	0.34 U	0.23 U	0.04 U	0.037 U	0.038 U	0.035 U	0.037 U
Perylene	mg/kg	0.92 U	0.63 U	0.12 J	0.1 U	0.1 U	0.096 U	0.1 U
Phenanthrene	mg/kg	1.7 J	0.37 J	0.27 J	0.18 J	0.23 J	0.047 J	0.22 J
Pyrene	mg/kg	2 J	0.58 J	0.58	0.32 J	0.37 J	0.056 J	0.39
Alkylated PAHs								
1-Methylnaphthalene	ng/g	94	--	21 J	--	23 J	5.1 J	7.7 J
2-Methylnaphthalene	ng/g	140	--	32 J	--	33 J	8.4 U	9.6 J
C1-Benzo(a)anthracenes/chrysenes	ng/g	610 J	--	270 J	--	150 J	92 J	110 J
C1-Dibenzothiophenes	ng/g	170 J	--	56 J	--	17 J	41 J	12 J
C1-Fluoranthenes/Pyrenes	ng/g	730 J	--	450 J	--	220 J	240 J	170 J
C1-Fluorenes	ng/g	120 J	--	30 J	--	21 J	17 J	11 J
C1-Phenanthrenes/Anthracenes	ng/g	380 J	--	130 J	--	93 J	80 J	47 J
C2-Benzo(a)anthracenes/chrysenes	ng/g	340 J	--	94 J	--	58 J	28 J	51 J
C2-Dibenzothiophenes	ng/g	300 J	--	42 J	--	12 J	28 J	11 J
C2-Fluorenes	ng/g	190 J	--	26 J	--	13 J	12 J	9.9 J
C2-Naphthalenes	ng/g	350 J	--	45 J	--	49 J	13 J	18 J
C2-Phenanthrenes/Anthracenes	ng/g	660 J	--	110 J	--	70 J	60 J	51 J
C3-Benzo(a)anthracenes/chrysenes	ng/g	240 J	--	61 J	--	38 J	12 J	36 J
C3-Dibenzothiophenes	ng/g	370 J	--	23 J	--	10 J	10 J	9.3 J
C3-Fluorenes	ng/g	210 J	--	21 J	--	13 J	8.9 J	7.4 J
C3-Naphthalenes	ng/g	380 J	--	47 J	--	46 J	18 J	18 J
C3-Phenanthrenes/Anthracenes	ng/g	580 J	--	49 J	--	33 J	21 J	27 J
C4-Benzo(a)anthracenes/chrysenes	ng/g	140 J	--	30 J	--	21 J	6.4 J	21 J
C4-Dibenzothiophenes	ng/g	280 J	--	8.9 J	--	9.8 U	2.9 U	5.9 J
C4-Naphthalenes	ng/g	340 J	--	35 J	--	31 J	11 J	15 J
C4-Phenanthrenes/Anthracenes	ng/g	400 J	--	22 J	--	17 J	7.0 J	13 J
Dibenzothiopene	ng/g	89	--	49	--	43	15	11
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.069 U	0.049 U	0.034 U	0.029 U	0.029 U	0.029 U	0.029 U
Aroclor-1221 (PCB-1221)	mg/kg	0.066 U	0.047 U	0.032 U	0.028 U	0.028 U	0.028 U	0.028 U
Aroclor-1232 (PCB-1232)	mg/kg	0.046 U	0.032 U	0.022 U	0.019 U	0.019 U	0.019 U	0.019 U
Aroclor-1242 (PCB-1242)	mg/kg	0.057 U	0.041 U	0.028 U	0.024 U	0.024 U	0.024 U	0.024 U
Aroclor-1248 (PCB-1248)	mg/kg	0.049 U	0.034 U	0.024 U	0.021 U	0.02 U	0.021 UJ	0.02 U
Aroclor-1254 (PCB-1254)	mg/kg	0.04 U	0.028 U	0.02 U	0.017 U	0.017 U	0.017 U	0.017 U
Aroclor-1260 (PCB-1260)	mg/kg	0.052 U	0.037 U	0.025 U	0.022 U	0.022 U	0.022 U	0.022 U
Aroclor-1262 (PCB-1262)	mg/kg	0.023 U	0.016 U	0.011 U	0.0097 U	0.0096 U	0.0097 U	0.0096 U
Aroclor-1268 (PCB-1268)	mg/kg	0.057 U	0.041 U	0.028 U	0.024 U	0.024 U	0.024 U	0.024 U
Total PCBs	mg/kg	ND	ND	ND	ND	ND	ND	ND
Metals								
Antimony	mg/kg	1.0 U	0.68 U	0.54 U	0.48 U	0.44 U	0.41 U	0.43 U
Arsenic	mg/kg	4.9	5.4	1.5	1.0 J	1.1 U	1.1	1.0 U
Barium	mg/kg	104	144	13.7	8.6	15.7	27.5	11.4
Beryllium	mg/kg	0.029 U	0.63 U	0.27 U	0.013 U	0.081 J	0.17 J	0.13 J
Cadmium	mg/kg	0.67	0.50	0.27 U	0.24 U	0.069 J	0.21 U	0.19
Chromium	mg/kg	18.4	19.1	5.3	3.8	4.8	10.3	5.6
Chromium VI (hexavalent)	mg/kg	--	--	--	--	0.19 U	0.19 U	0.18 U
Cobalt	mg/kg	5.6	7.1	1.5	1.0	1.1	2.3	1.3
Copper	mg/kg	19.2	23.2	3.6	2.6	4.7	4.8 U	8.3
Lead	mg/kg	116	82.5	14.7	7.7	26.4	10.0	56.0
Manganese	mg/kg	555	697	152	79.3	212	106	71.5
Mercury	mg/kg	0.33	4.6	0.022 U	0.023 U	0.021 U	0.063 J	0.023 J
Methyl mercury	mg/kg	0.00036	--	0.000035 J	--	--	--	--
Nickel	mg/kg	14.3	16.7	3.6	2.5	2.7	5.3	3.5
Selenium	mg/kg	1.9 J	1.8	0.44 J	0.25 J	1.1 U	1.0 U	0.85 U
Silver	mg/kg	0.52 U	0.34 U	0.27 U	0.24 U	0.22 U	0.037 J	0.17 U
Thallium	mg/kg	1.0 U	0.68 U	0.026 U	0.023 U	0.021 U	0.038 J	0.030 J
Vanadium	mg/kg	20.0	26.0	7.1	4.3	7.0	12.1	5.8
Zinc	mg/kg	130	116	26.5	18.0	16.4	18.3	35.8
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	0.0012 J	--	0.00058 UJ	--	--	--	--
Copper	µmol/g	0.040 J	--	0.022 J	--	--	--	--
Lead	µmol/g	0.094	--	0.053	--	--	--	--
Nickel	µmol/g	0.019	--	0.011	--	--	--	--
Silver	µmol/g	0.0024 U	--	0.0014 U	--	--	--	--
Zinc	µmol/g	0.34	--	0.19	--	--	--	--
AVS/SEM [(2)]	none	0.013	--	0.028	--	--	--	--
General Chemistry								
Sulfide (acid soluble)	µmol/g	39.2	--	9.7	--	--	--	--
Black carbon	mg/kg	19900	--	12800	--	--	--	--
Total organic carbon (TOC)	mg/kg	49400	40700	4590	2130	2780	28800	5250

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-47**	**SS-48**	**SS-49**	**SS-49**	**SS-49**	**SS-49**	**SS-50**
Sample Identification:		**SE-102016-JL-097**	**SE-102016-JL-095**	**SE-102116-JL-101**	**SE-102116-JL-103**	**SE-102116-JL-102**	**SE-102116-JL-104**	**SE-102116-JL-099**
Sample Date:		**10/20/2016**	**10/20/2016**	**10/21/2016**	**10/21/2016**	**10/21/2016**	**10/21/2016**	**10/21/2016**
Sample Depth:		**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0-0.5 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**
Sample Type:					**Duplicate**		**Duplicate**	
Photoionization Detector (PID) Reading (ppm) [(1)]:		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.49	0.013 U	0.017 U	0.032 J	0.026 J	0.056 J	0.012 U
Acenaphthylene	mg/kg	0.053 J	0.021 U	0.028 U	0.026 U	0.03 U	0.03 U	0.02 U
Anthracene	mg/kg	2.5	0.053 J	0.028 U	0.076 J	0.073 J	0.17 J	0.02 U
Benzo(a)anthracene	mg/kg	4.1	0.16 J	0.12 J	0.33 J	0.24 J	0.32 J	0.088 J
Benzo(a)pyrene	mg/kg	3.1	0.17 J	0.14 J	0.37 J	0.26 J	0.28 J	0.099 J
Benzo(b)fluoranthene	mg/kg	4.2	0.22 J	0.19 J	0.49 J	0.44 J	0.34 J	0.16 J
Benzo(e)pyrene	mg/kg	2.1	0.13 J	0.11 J	0.26 J	0.16 J	0.19 J	0.081 J
Benzo(g,h,i)perylene	mg/kg	1.6	0.12 J	0.085 J	0.24 J	0.16 J	0.16 J	0.09 J
Benzo(k)fluoranthene	mg/kg	1.6	0.09 J	0.081 J	0.21 J	0.43 J	0.16 J	0.055 J
Chrysene	mg/kg	4	0.19 J	0.16 J	0.43 J	0.27 J	0.35 J	0.12 J
Dibenz(a,h)anthracene	mg/kg	0.62	0.024 U	0.032 U	0.03 U	0.034 U	0.034 U	0.022 U
Fluoranthene	mg/kg	8.1	0.39 J	0.25 J	0.75	0.5 J	0.64	0.25 J
Fluorene	mg/kg	1	0.022 U	0.03 U	0.031 J	0.032 J	0.085 J	0.021 U
Indeno(1,2,3-cd)pyrene	mg/kg	1.8	0.12 J	0.085 J	0.27 J	0.17 J	0.17 J	0.085 J
Naphthalene	mg/kg	0.068 J	0.039 U	0.051 U	0.048 U	0.055 U	0.056 U	0.036 U
Perylene	mg/kg	0.73 J	0.11 U	0.14 U	0.13 U	0.15 U	0.15 U	0.099 U
Phenanthrene	mg/kg	7.2	0.23 J	0.13 J	0.46 J	0.32 J	0.59	0.14 J
Pyrene	mg/kg	7	0.38 J	0.25 J	0.75	0.49 J	0.64	0.21 J
Alkylated PAHs								
1-Methylnaphthalene	ng/g	--	69	17 J	31 J	--	--	3.2 J
2-Methylnaphthalene	ng/g	--	37 J	28 U	36 J	--	--	5.7 U
C1-Benzo(a)anthracenes/chrysenes	ng/g	--	300 J	330 J	390 J	--	--	63 J
C1-Dibenzothiophenes	ng/g	--	51 J	44 J	47 J	--	--	5.1 J
C1-Fluoranthenes/Pyrenes	ng/g	--	430 J	520 J	580 J	--	--	110 J
C1-Fluorenes	ng/g	--	27 J	35 J	49 J	--	--	6.8 J
C1-Phenanthrenes/Anthracenes	ng/g	--	120 J	160 J	190 J	--	--	30 J
C2-Benzo(a)anthracenes/chrysenes	ng/g	--	120 J	130 J	170 J	--	--	25 J
C2-Dibenzothiophenes	ng/g	--	45 J	38 J	46 J	--	--	4.8 J
C2-Fluorenes	ng/g	--	31 J	30 J	35 J	--	--	6.2 J
C2-Naphthalenes	ng/g	--	89 J	42 J	65 J	--	--	7.1 J
C2-Phenanthrenes/Anthracenes	ng/g	--	120 J	140 J	170 J	--	--	30 J
C3-Benzo(a)anthracenes/chrysenes	ng/g	--	64 J	75 J	110 J	--	--	15 J
C3-Dibenzothiophenes	ng/g	--	30 J	27 J	40 J	--	--	4.0 J
C3-Fluorenes	ng/g	--	28 J	22 J	29 J	--	--	5.3 J
C3-Naphthalenes	ng/g	--	65 J	45 J	53 J	--	--	7.6 J
C3-Phenanthrenes/Anthracenes	ng/g	--	63 J	67 J	88 J	--	--	15 J
C4-Benzo(a)anthracenes/chrysenes	ng/g	--	33 J	40 J	58 J	--	--	8.2 J
C4-Dibenzothiophenes	ng/g	--	14 J	15 J	27 J	--	--	2.3 J
C4-Naphthalenes	ng/g	--	54 J	31 J	35 J	--	--	6.1 J
C4-Phenanthrenes/Anthracenes	ng/g	--	34 J	35 J	41 J	--	--	6.4 J
Dibenzothiopene	ng/g	--	47	48	58	--	--	7.5
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.032 U	0.03 U	0.04 U	0.039 U	0.042 U	0.043 U	0.03 U
Aroclor-1221 (PCB-1221)	mg/kg	0.031 U	0.029 U	0.038 U	0.038 U	0.04 U	0.042 U	0.028 U
Aroclor-1232 (PCB-1232)	mg/kg	0.021 U	0.02 U	0.027 U	0.026 U	0.028 U	0.029 U	0.02 U
Aroclor-1242 (PCB-1242)	mg/kg	0.027 U	0.025 U	0.033 U	0.033 U	0.035 U	0.036 U	0.025 U
Aroclor-1248 (PCB-1248)	mg/kg	0.023 U	0.022 U	0.028 U	0.028 U	0.03 U	0.031 U	0.021 U
Aroclor-1254 (PCB-1254)	mg/kg	0.046 J	0.018 U	0.023 U	0.023 U	0.025 U	0.025 U	0.017 U
Aroclor-1260 (PCB-1260)	mg/kg	0.024 U	0.023 U	0.03 U	0.03 U	0.032 U	0.033 U	0.022 U
Aroclor-1262 (PCB-1262)	mg/kg	0.011 U	0.01 U	0.013 U	0.013 U	0.014 U	0.014 U	0.0099 U
Aroclor-1268 (PCB-1268)	mg/kg	0.027 U	0.025 U	0.033 U	0.033 U	0.035 U	0.036 U	0.025 U
Total PCBs	mg/kg	**0.046 J**	ND	ND	ND	ND	ND	ND
Metals								
Antimony	mg/kg	0.48 U	0.42 U	1.0 U	0.58 U	0.54 U	0.69 U	0.42 U
Arsenic	mg/kg	1.2 U	1.4 U	1.9	1.9	2.5	2.9	1.1 U
Barium	mg/kg	14.5	8.6	42.9	46.2	61.8	72.0	24.5
Beryllium	mg/kg	0.17 J	0.097 J	0.21 J	0.24 J	0.30	0.36	0.12 J
Cadmium	mg/kg	0.41	0.12 J	0.43	0.89	0.55	0.59	0.091 J
Chromium	mg/kg	6.1	3.7	12.2	13.3	15.8	18.4	9.9
Chromium VI (hexavalent)	mg/kg	--	0.34 J	0.52 U	0.50 U	--	--	0.37 U
Cobalt	mg/kg	1.3	1.4	2.8	2.8	4.1	4.4	1.4
Copper	mg/kg	8.1	4.0	12.4	12.2	16.1	19.2	6.0
Lead	mg/kg	59.5	11.2	47.5	51.2	68.7	53.5	17.1
Manganese	mg/kg	71.1	120	129	124	165	173	79.1
Mercury	mg/kg	0.048 J	0.025 U	0.12 J	0.093 J	1.0	0.68	0.057 J
Methyl mercury	mg/kg	--	--	--	--	--	--	--
Nickel	mg/kg	3.6	2.6	6.1	6.5	9.2	10.4	3.1
Selenium	mg/kg	1.2 U	1.1 U	1.6 U	1.5 U	1.7 U	1.9 U	1.1 U
Silver	mg/kg	0.24 U	0.21 U	0.33 U	0.29 U	0.27 U	0.34 U	0.21 U
Thallium	mg/kg	0.027 J	0.031 J	0.062 J	0.068 J	0.10 J	0.12 J	0.029 J
Vanadium	mg/kg	6.4	4.8	9.8	11.1	14.1	16.9	5.3
Zinc	mg/kg	44.1	16.1	56.6	70.3	74.6	82.3	17.2
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	--	--	--	--	--	--	--
Copper	µmol/g	--	--	--	--	--	--	--
Lead	µmol/g	--	--	--	--	--	--	--
Nickel	µmol/g	--	--	--	--	--	--	--
Silver	µmol/g	--	--	--	--	--	--	--
Zinc	µmol/g	--	--	--	--	--	--	--
AVS/SEM [(2)]	none	--	--	--	--	--	--	--
General Chemistry								
Sulfide (acid soluble)	µmol/g	--	--	--	--	--	--	--
Black carbon	mg/kg	--	--	--	--	--	--	--
Total organic carbon (TOC)	mg/kg	3330	1730	30000	22900	35000	22400	1410

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-50**	**SS-51**	**SS-51**	**SS-52**	**SS-52**	**SS-53**	**SS-53**
Sample Identification:		**SE-102116-JL-100**	**SE-102116-JL-105**	**SE-102116-JL-106**	**SE-102116-JL-107**	**SE-102116-JL-108**	**SE-102716-JL-111**	**SE-102716-JL-112**
Sample Date:		**10/21/2016**	**10/21/2016**	**10/21/2016**	**10/21/2016**	**10/21/2016**	**10/27/2016**	**10/27/2016**
Sample Depth:		**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**
Sample Type:								
Photoionization Detector (PID) Reading (ppm) [1]:		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.017 U	0.021 U	0.024 U	0.021 U	0.024 U	0.12 J	0.016 U
Acenaphthylene	mg/kg	0.028 U	0.035 U	0.039 U	0.035 U	0.039 U	0.066 J	0.026 U
Anthracene	mg/kg	0.028 U	0.039 J	0.039 U	0.035 U	0.039 U	0.3 J	0.033 J
Benzo(a)anthracene	mg/kg	0.033 U	0.1 J	0.11 J	0.041 U	0.046 U	0.69	0.075 J
Benzo(a)pyrene	mg/kg	0.033 U	0.1 J	0.11 J	0.041 U	0.046 U	0.67	0.068 J
Benzo(b)fluoranthene	mg/kg	0.043 U	0.14 J	0.06 U	0.054 U	0.061 U	0.95	0.083 J
Benzo(e)pyrene	mg/kg	0.033 U	0.071 J	0.087 J	0.041 U	0.046 U	0.48 J	0.031 U
Benzo(g,h,i)perylene	mg/kg	0.026 U	0.033 U	0.09 J	0.033 U	0.037 U	0.41 J	0.031 J
Benzo(k)fluoranthene	mg/kg	0.065 U	0.082 U	0.092 U	0.082 U	0.093 U	0.38 J	0.061 U
Chrysene	mg/kg	0.044 U	0.13 J	0.14 J	0.055 U	0.062 U	0.83	0.079 J
Dibenz(a,h)anthracene	mg/kg	0.031 U	0.039 U	0.044 U	0.039 U	0.044 U	0.16 J	0.029 U
Fluoranthene	mg/kg	0.059 U	0.21 J	0.24 J	0.074 U	0.083 U	1.7	0.14 J
Fluorene	mg/kg	0.029 U	0.037 U	0.041 U	0.037 U	0.042 U	0.19 J	0.028 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.036 U	0.045 U	0.086 J	0.045 U	0.051 U	0.54 J	0.034 U
Naphthalene	mg/kg	0.051 U	0.063 U	0.071 U	0.063 U	0.072 U	0.15 J	0.047 U
Perylene	mg/kg	0.14 U	0.17 U	0.19 U	0.17 U	0.2 U	0.15 U	0.13 U
Phenanthrene	mg/kg	0.043 J	0.15 J	0.16 J	0.035 U	0.039 U	1.6	0.11 J
Pyrene	mg/kg	0.048 J	0.21 J	0.24 J	0.055 J	0.042 J	1.5	0.13 J
Alkylated PAHs								
1-Methylnaphthalene	ng/g	--	14 U	--	22	--	87	--
2-Methylnaphthalene	ng/g	--	32 U	--	26	--	160	--
C1-Benzo(a)anthracenes/chrysenes	ng/g	--	260 J	--	56 J	--	360 J	--
C1-Dibenzothiophenes	ng/g	--	19 J	--	7.0 J	--	47 J	--
C1-Fluoranthenes/Pyrenes	ng/g	--	360 J	--	100 J	--	570 J	--
C1-Fluorenes	ng/g	--	16 J	--	8.2 J	--	52 J	--
C1-Phenanthrenes/Anthracenes	ng/g	--	87 J	--	40 J	--	210 J	--
C2-Benzo(a)anthracenes/chrysenes	ng/g	--	110 J	--	20 J	--	160 J	--
C2-Dibenzothiophenes	ng/g	--	20 J	--	5.5 J	--	42 J	--
C2-Fluorenes	ng/g	--	16 J	--	9.0 J	--	56 J	--
C2-Naphthalenes	ng/g	--	27 J	--	39 J	--	250 J	--
C2-Phenanthrenes/Anthracenes	ng/g	--	88 J	--	36 J	--	220 J	--
C3-Benzo(a)anthracenes/chrysenes	ng/g	--	66 J	--	11 J	--	100 J	--
C3-Dibenzothiophenes	ng/g	--	17 J	--	3.5 J	--	34 J	--
C3-Fluorenes	ng/g	--	18 J	--	6.9 J	--	43 J	--
C3-Naphthalenes	ng/g	--	27 J	--	29 J	--	200 J	--
C3-Phenanthrenes/Anthracenes	ng/g	--	47 J	--	16 J	--	120 J	--
C4-Benzo(a)anthracenes/chrysenes	ng/g	--	37 J	--	5.6 J	--	71 J	--
C4-Dibenzothiophenes	ng/g	--	12 J	--	2.3 U	--	22 J	--
C4-Naphthalenes	ng/g	--	21 U	--	18 J	--	150 J	--
C4-Phenanthrenes/Anthracenes	ng/g	--	23 J	--	8.1 J	--	68 J	--
Dibenzothiopene	ng/g	--	24	--	6.4	--	52	--
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.04 U	0.052 U	0.058 U	0.051 U	0.056 U	0.041 U	0.038 U
Aroclor-1221 (PCB-1221)	mg/kg	0.038 U	0.05 U	0.055 U	0.049 U	0.054 U	0.04 U	0.036 U
Aroclor-1232 (PCB-1232)	mg/kg	0.026 U	0.035 U	0.038 U	0.034 U	0.037 U	0.028 U	0.025 U
Aroclor-1242 (PCB-1242)	mg/kg	0.033 U	0.043 U	0.048 U	0.043 U	0.047 U	0.034 U	0.031 U
Aroclor-1248 (PCB-1248)	mg/kg	0.028 U	0.037 U	0.041 U	0.036 U	0.04 U	0.029 U	0.027 U
Aroclor-1254 (PCB-1254)	mg/kg	0.023 U	0.03 U	0.034 U	0.03 U	0.033 U	0.024 U	0.022 U
Aroclor-1260 (PCB-1260)	mg/kg	0.03 U	0.039 U	0.043 U	0.038 U	0.042 U	0.031 U	0.028 U
Aroclor-1262 (PCB-1262)	mg/kg	0.013 U	0.017 U	0.019 U	0.017 U	0.019 U	0.014 U	0.013 U
Aroclor-1268 (PCB-1268)	mg/kg	0.033 U	0.043 U	0.048 U	0.043 U	0.047 U	0.034 U	0.031 U
Total PCBs	mg/kg	ND	ND	ND	ND	ND	ND	ND
Metals								
Antimony	mg/kg	0.50 U	0.21 J	0.15 J	0.034 J	0.031 U	0.58 U	0.48 UJ
Arsenic	mg/kg	1.3 U	2.5	2.8	1.6 J	1.6 J	2.0	1.2 U
Barium	mg/kg	40.9	81.0	82.7	78.9	84.2	34.7	26.8
Beryllium	mg/kg	0.15 J	0.50	0.50	0.30 J	0.34 J	0.32 U	0.26 U
Cadmium	mg/kg	0.076 J	0.90	1.1	0.21 J	0.21 J	0.30 U	0.24 U
Chromium	mg/kg	10.0	25.9	25.6	15.0	15.8	9.2	9.8
Chromium VI (hexavalent)	mg/kg	--	0.66 U	--	0.64 U	--	0.52 U	--
Cobalt	mg/kg	1.8	4.2	4.5	3.5	3.6	2.6	1.6
Copper	mg/kg	5.5	23.0	24.1	11.4	10.2	19.3	8.8
Lead	mg/kg	8.6	66.8	76.0	14.1	12.6	82.2	26.8
Manganese	mg/kg	119	157	161	256	249	104	76.8
Mercury	mg/kg	0.034 J	0.17 J	0.17 J	0.090 J	0.077 J	5.4	0.30 J
Methyl mercury	mg/kg	--	--	--	--	--	--	--
Nickel	mg/kg	4.6	12.3	12.6	8.9	9.3	6.2	4.8
Selenium	mg/kg	1.3 U	2.5	2.5	1.9 U	2.2 U	1.5 U	1.2 U
Silver	mg/kg	0.25 U	0.15 J	0.16 J	0.044 J	0.036 J	0.29 U	0.24 U
Thallium	mg/kg	0.032 J	0.14 J	0.13 J	0.075 J	0.071 J	0.078 J	0.065 J
Vanadium	mg/kg	7.6	16.8	17.5	13.2	12.2	15.4	7.4
Zinc	mg/kg	16.4	118	128	41.3	35.1	60.4	22.0
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	--	--	--	--	--	--	--
Copper	µmol/g	--	--	--	--	--	--	--
Lead	µmol/g	--	--	--	--	--	--	--
Nickel	µmol/g	--	--	--	--	--	--	--
Silver	µmol/g	--	--	--	--	--	--	--
Zinc	µmol/g	--	--	--	--	--	--	--
AVS/SEM [2]	none	--	--	--	--	--	--	--
General Chemistry								
Sulfide (acid soluble)	µmol/g	--	--	--	--	--	--	--
Black carbon	mg/kg	--	--	--	--	--	--	--
Total organic carbon (TOC)	mg/kg	32900	58600	58600	91100	86700	20700 J	19000

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-54**	**SS-57**	**SS-57**	**SS-58**	**SS-58**	**SS-59**	**SS-59**
Sample Identification:		**SE-102716-JL-109**	**SE-102716-JL-114**	**SE-102716-JL-115**	**SE-102716-JL-110**	**SE-102716-JL-113**	**SE-102716-JL-118**	**SE-102716-JL-119**
Sample Date:		**10/27/2016**	**10/27/2016**	**10/27/2016**	**10/27/2016**	**10/27/2016**	**10/27/2016**	**10/27/2016**
Sample Depth:		**0-0.5 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**	**0-0.5 ft BGS**	**0.5-2 ft BGS**
Sample Type:								
Photoionization Detector (PID) Reading (ppm) [1]:		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Parameters	**Units**							
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/kg	0.26 J	0.063 J	0.028 J	0.032 U	0.021 U	0.035 J	0.03 J
Acenaphthylene	mg/kg	0.11 J	0.028 U	0.035 U	0.053 U	0.045 J	0.092 J	0.038 U
Anthracene	mg/kg	0.85	0.29 J	0.14 J	0.053 U	0.14 J	0.089 J	0.05 J
Benzo(a)anthracene	mg/kg	1.9	0.082 J	0.2 J	0.074 J	0.37 J	0.38 J	0.26 J
Benzo(a)pyrene	mg/kg	1.8	0.077 J	0.14 J	0.063 U	0.29 J	0.38 J	0.27 J
Benzo(b)fluoranthene	mg/kg	2.4	0.11 J	0.21 J	0.098 J	0.67 J	0.73 J	0.48 J
Benzo(e)pyrene	mg/kg	1.2	0.06 J	0.11 J	0.063 U	0.24 J	0.34 J	0.25 J
Benzo(g,h,i)perylene	mg/kg	1	0.051 J	0.08 J	0.05 U	0.19 J	0.27 J	0.19 J
Benzo(k)fluoranthene	mg/kg	0.94	0.066 U	0.083 U	0.13 U	0.6 J	0.27 J	0.19 J
Chrysene	mg/kg	2	0.086 J	0.21 J	0.085 U	0.44 J	0.76 J	0.47 J
Dibenz(a,h)anthracene	mg/kg	0.27 J	0.031 U	0.039 U	0.06 U	0.039 U	0.053 U	0.042 U
Fluoranthene	mg/kg	4.9	0.22 J	0.92	0.14 J	1	1.7	0.64 J
Fluorene	mg/kg	0.38 J	0.047 J	0.042 J	0.057 U	0.05 J	0.051 U	0.04 U
Indeno(1,2,3-cd)pyrene	mg/kg	1.3	0.13 J	0.17 J	0.069 U	0.29 J	0.4 J	0.3 J
Naphthalene	mg/kg	0.14 J	0.051 U	0.064 U	0.097 U	0.063 U	0.087 U	0.069 U
Perylene	mg/kg	0.14 U	0.14 U	0.18 U	0.27 U	0.17 U	0.24 U	0.19 U
Phenanthrene	mg/kg	3.9	0.25 J	0.58 J	0.073 J	0.52 J	0.4 J	0.38 J
Pyrene	mg/kg	4.5	0.19 J	0.73	0.14 J	0.72	1.4	0.62 J
Alkylated PAHs								
1-Methylnaphthalene	ng/g	610	13 U	--	6.5 U	--	35 U	--
2-Methylnaphthalene	ng/g	840	29 U	--	15 U	--	77 U	--
C1-Benzo(a)anthracenes/chrysenes	ng/g	2200 J	110 J	--	290 J	--	660 J	--
C1-Dibenzothiophenes	ng/g	360 J	20 J	--	21 J	--	64 J	--
C1-Fluoranthenes/Pyrenes	ng/g	3800 J	200 J	--	210 J	--	900 J	--
C1-Fluorenes	ng/g	440 J	31 J	--	13 J	--	44 J	--
C1-Phenanthrenes/Anthracenes	ng/g	2000 J	64 J	--	57 J	--	210 J	--
C2-Benzo(a)anthracenes/chrysenes	ng/g	750 J	59 J	--	390 J	--	580 J	--
C2-Dibenzothiophenes	ng/g	170 J	22 J	--	22 J	--	74 J	--
C2-Fluorenes	ng/g	210 J	19 J	--	15 J	--	50 J	--
C2-Naphthalenes	ng/g	750 J	38 J	--	16 J	--	95 J	--
C2-Phenanthrenes/Anthracenes	ng/g	1300 J	55 J	--	59 J	--	240 J	--
C3-Benzo(a)anthracenes/chrysenes	ng/g	270 J	46 J	--	720 J	--	840 J	--
C3-Dibenzothiophenes	ng/g	88 J	25 J	--	13 J	--	61 J	--
C3-Fluorenes	ng/g	130 J	16 J	--	11 J	--	40 J	--
C3-Naphthalenes	ng/g	410 J	43 J	--	17 J	--	88 J	--
C3-Phenanthrenes/Anthracenes	ng/g	460 J	37 J	--	26 J	--	130 J	--
C4-Benzo(a)anthracenes/chrysenes	ng/g	96 J	26 J	--	290 J	--	360 J	--
C4-Dibenzothiophenes	ng/g	29 U	20 J	--	6.8 J	--	31 J	--
C4-Naphthalenes	ng/g	170 J	33 J	--	14 J	--	67 J	--
C4-Phenanthrenes/Anthracenes	ng/g	130 J	27 J	--	14 J	--	61 J	--
Dibenzothiopene	ng/g	1000	45	--	17	--	52	--
Polychlorinated Biphenyls (PCBs)								
Aroclor-1016 (PCB-1016)	mg/kg	0.04 U	0.042 U	0.053 U	0.077 U	0.052 U	0.068 U	0.056 U
Aroclor-1221 (PCB-1221)	mg/kg	0.038 U	0.04 U	0.051 U	0.073 U	0.05 U	0.065 U	0.054 U
Aroclor-1232 (PCB-1232)	mg/kg	0.026 U	0.028 U	0.035 U	0.051 U	0.035 U	0.045 U	0.038 U
Aroclor-1242 (PCB-1242)	mg/kg	0.033 U	0.035 U	0.044 U	0.064 U	0.043 U	0.056 U	0.047 U
Aroclor-1248 (PCB-1248)	mg/kg	0.028 U	0.03 U	0.037 U	0.054 U	0.037 U	0.048 U	0.04 U
Aroclor-1254 (PCB-1254)	mg/kg	0.023 U	0.025 U	0.031 U	0.045 U	0.03 U	0.039 U	0.033 U
Aroclor-1260 (PCB-1260)	mg/kg	0.03 U	0.032 U	0.04 U	0.057 U	0.039 U	0.051 U	0.042 U
Aroclor-1262 (PCB-1262)	mg/kg	0.013 U	0.014 U	0.018 U	0.026 U	0.017 U	0.023 U	0.019 U
Aroclor-1268 (PCB-1268)	mg/kg	0.033 U	0.035 U	0.044 U	0.064 U	0.043 U	0.056 U	0.047 U
Total PCBs	mg/kg	ND	ND	ND	ND	ND	ND	ND
Metals								
Antimony	mg/kg	0.63 U	0.67 U	0.83 U	1.2 U	0.87 U	0.29 J	0.11 J
Arsenic	mg/kg	1.9	2.8	4.6	3.0 U	2.2 U	3.8	3.3
Barium	mg/kg	29.0	72.0	113	127	78.1	121	108
Beryllium	mg/kg	0.32 U	0.34 U	0.56 U	0.59 U	0.43 U	0.51 U	0.37 U
Cadmium	mg/kg	1.8	0.33 U	0.51 U	0.59 U	0.43 U	0.68	0.52 U
Chromium	mg/kg	7.4	11.9	16.1	14.5	9.5	18.3	15.4
Chromium VI (hexavalent)	mg/kg	0.49 U	0.54 U	--	0.98 U	--	4.0	--
Cobalt	mg/kg	2.0	3.1	4.8	3.9	2.3	4.8	4.2
Copper	mg/kg	9.9	9.7	16.2	16.6	10.3	20.8	17.0
Lead	mg/kg	24.4	22.5	38.9	14.4	10.1	38.1	35.5
Manganese	mg/kg	111	539	840	878	563	691	668
Mercury	mg/kg	0.39	0.058 J	0.13 J	0.079 J	0.049 J	0.16 J	0.14 J
Methyl mercury	mg/kg	--	--	--	--	--	--	--
Nickel	mg/kg	6.5	8.6	12.6	11.5	6.8	12.8	11.3
Selenium	mg/kg	1.6 U	1.7 U	2.1 U	3.0 U	2.2 U	1.6 J	1.3 J
Silver	mg/kg	0.32 U	0.33 U	0.41 U	0.59 U	0.43 U	0.0033 U	0.0025 U
Thallium	mg/kg	0.061 J	0.056 J	0.11 J	0.10 J	0.066 J	0.16 J	0.10 J
Vanadium	mg/kg	14.6	14.0	16.6	12.9	7.5	13.2	10.9
Zinc	mg/kg	555	45.7	88.4	61.9	43.8	94.9	84.2
Simultaneously Extracted Metals (SEM)								
Cadmium	µmol/g	--	--	--	--	--	--	--
Copper	µmol/g	--	--	--	--	--	--	--
Lead	µmol/g	--	--	--	--	--	--	--
Nickel	µmol/g	--	--	--	--	--	--	--
Silver	µmol/g	--	--	--	--	--	--	--
Zinc	µmol/g	--	--	--	--	--	--	--
AVS/SEM [2]	none	--	--	--	--	--	--	--
General Chemistry								
Sulfide (acid soluble)	µmol/g	--	--	--	--	--	--	--
Black carbon	mg/kg	--	--	--	--	--	--	--
Total organic carbon (TOC)	mg/kg	23300	25600	53000	53600	44000	65800	52100

Table 2.8B

Summary of Sediment Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		**SS-60**	**SS-60**
Sample Identification:		**SE-102716-JL-116**	**SE-102716-JL-117**
Sample Date:		**10/27/2016**	**10/27/2016**
Sample Depth:		**0-0.5 ft BGS**	**0.5-2 ft BGS**
Sample Type:			
Photoionization Detector (PID) Reading (ppm) [1]:		**0**	**0**
Parameters	**Units**		
Semi-Volatile Organic Compounds (SVOCs)			
Polycyclic Aromatic Hydrocarbons (PAHs)			
Acenaphthene	mg/kg	0.032 U	0.027 U
Acenaphthylene	mg/kg	0.052 U	0.045 U
Anthracene	mg/kg	0.052 U	0.047 J
Benzo(a)anthracene	mg/kg	0.1 J	0.19 J
Benzo(a)pyrene	mg/kg	0.12 J	0.21 J
Benzo(b)fluoranthene	mg/kg	0.16 J	0.27 J
Benzo(e)pyrene	mg/kg	0.082 J	0.15 J
Benzo(g,h,i)perylene	mg/kg	0.049 U	0.12 J
Benzo(k)fluoranthene	mg/kg	0.12 U	0.1 J
Chrysene	mg/kg	0.12 J	0.25 J
Dibenz(a,h)anthracene	mg/kg	0.058 U	0.05 U
Fluoranthene	mg/kg	0.2 J	0.52 J
Fluorene	mg/kg	0.055 U	0.047 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.21 J	0.24 J
Naphthalene	mg/kg	0.095 U	0.081 U
Perylene	mg/kg	0.26 U	0.22 U
Phenanthrene	mg/kg	0.1 J	0.47 J
Pyrene	mg/kg	0.22 J	0.51 J
Alkylated PAHs			
1-Methylnaphthalene	ng/g	19 U	--
2-Methylnaphthalene	ng/g	43 U	--
C1-Benzo(a)anthracenes/chrysenes	ng/g	490 J	--
C1-Dibenzothiophenes	ng/g	72 J	--
C1-Fluoranthenes/Pyrenes	ng/g	630 J	--
C1-Fluorenes	ng/g	44 J	--
C1-Phenanthrenes/Anthracenes	ng/g	180 J	--
C2-Benzo(a)anthracenes/chrysenes	ng/g	350 J	--
C2-Dibenzothiophenes	ng/g	70 J	--
C2-Fluorenes	ng/g	42 J	--
C2-Naphthalenes	ng/g	43 J	--
C2-Phenanthrenes/Anthracenes	ng/g	190 J	--
C3-Benzo(a)anthracenes/chrysenes	ng/g	500 J	--
C3-Dibenzothiophenes	ng/g	43 J	--
C3-Fluorenes	ng/g	31 J	--
C3-Naphthalenes	ng/g	54 J	--
C3-Phenanthrenes/Anthracenes	ng/g	86 J	--
C4-Benzo(a)anthracenes/chrysenes	ng/g	190 J	--
C4-Dibenzothiophenes	ng/g	16 J	--
C4-Naphthalenes	ng/g	36 J	--
C4-Phenanthrenes/Anthracenes	ng/g	29 J	--
Dibenzothiopene	ng/g	40	--
Polychlorinated Biphenyls (PCBs)			
Aroclor-1016 (PCB-1016)	mg/kg	0.079 U	0.064 U
Aroclor-1221 (PCB-1221)	mg/kg	0.076 U	0.061 U
Aroclor-1232 (PCB-1232)	mg/kg	0.053 U	0.043 U
Aroclor-1242 (PCB-1242)	mg/kg	0.066 U	0.053 U
Aroclor-1248 (PCB-1248)	mg/kg	0.056 U	0.045 U
Aroclor-1254 (PCB-1254)	mg/kg	0.046 U	0.037 U
Aroclor-1260 (PCB-1260)	mg/kg	0.059 U	0.048 U
Aroclor-1262 (PCB-1262)	mg/kg	0.026 U	0.021 U
Aroclor-1268 (PCB-1268)	mg/kg	0.066 U	0.053 U
Total PCBs	mg/kg	ND	ND
Metals			
Antimony	mg/kg	1.2 U	0.99 U
Arsenic	mg/kg	3.7	3.3
Barium	mg/kg	155	126
Beryllium	mg/kg	0.60 U	0.49 U
Cadmium	mg/kg	0.60 U	0.49 U
Chromium	mg/kg	18.2	14.9
Chromium VI (hexavalent)	mg/kg	0.99 U	--
Cobalt	mg/kg	4.9	4.3
Copper	mg/kg	23.2	23.5
Lead	mg/kg	27.5	20.6
Manganese	mg/kg	1010	875
Mercury	mg/kg	0.16 J	0.20 J
Methyl mercury	mg/kg	--	--
Nickel	mg/kg	13.2	11.3
Selenium	mg/kg	3.0 U	2.5 U
Silver	mg/kg	0.60 U	0.49 U
Thallium	mg/kg	0.13 J	0.11 J
Vanadium	mg/kg	16.5	13.5
Zinc	mg/kg	92.6	84.3
Simultaneously Extracted Metals (SEM)			
Cadmium	µmol/g	--	--
Copper	µmol/g	--	--
Lead	µmol/g	--	--
Nickel	µmol/g	--	--
Silver	µmol/g	--	--
Zinc	µmol/g	--	--
AVS/SEM [2]	none	--	--
General Chemistry			
Sulfide (acid soluble)	µmol/g	--	--
Black carbon	mg/kg	--	--
Total organic carbon (TOC)	mg/kg	63200	54500

Table 2.9

Summary of Sediment Results for Toxicity Testing
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	T-10	T-10	T-12
Sample Identification:		SE-092916-JL-009	SE-092916-JL-006	SE-092816-JL-005	SE-092816-JL-004	SE-092816-JL-003	SE-092816-JL-002	SE-092816-JL-001	SE-092916-JL-007	SE-092916-JL-008	SE-093016-JL-010	SE-093016-JL-011	SE-093016-JL-012
Sample Date:		9/29/2016	9/29/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/29/2016	9/29/2016	9/30/2016	9/30/2016	9/30/2016
Sample Depth:		-	-	-	-	-	-	-	-	-	-	-	-
Sample Type:												Duplicate	
Parameters	**Units**												
Metals													
Antimony	mg/kg	6.6	40.0	28.9	8.6	0.083 J	0.20 J	0.064 J	1.9	0.25 J	0.50 UJ	0.11 J	1.6 UJ
Arsenic	mg/kg	4.2	10.7	7.1	5.4	1.5 U	1.9	1.4 U	2.5	0.96 J	0.67 J	0.64 J	3.5 J
Barium	mg/kg	119	1220	5880	715	26.1	28.0	26.9	92.5	10.3	11.8	10.7	123
Beryllium	mg/kg	0.36 U	0.24 U	0.24 J	0.40 J	0.15 J	0.20 J	0.16 J	0.37 U	0.21 U	0.15 J	0.17 J	0.39 J
Cadmium	mg/kg	0.70	1.8	6.3	2.5	0.19 J	0.35	0.17 J	1.7	0.13 J	0.076 J	0.058 J	0.43 J
Chromium	mg/kg	25.3	186	320	67.1	20.0	20.8	8.0	21.0	6.3	4.5	5.2	17.2
Chromium VI (hexavalent)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	mg/kg	5.3	3.1	4.8	4.2	1.5	2.3	2.2	4.0	1.4	1.1	1.5	4.2
Copper	mg/kg	20.9	50.7	36.4	50.8	7.7	24.9	12.2	16.1	5.9	2.7	2.5	16.1
Lead	mg/kg	162	1070	1380	592	95.8	59.5	18.8	106	28.7	5.0	4.6	23.1
Manganese	mg/kg	358	177	443	271	77.2	160	90.8	362	101	62.0	61.1	735
Mercury	mg/kg	0.78	0.39	0.54	0.63	0.13 J	0.030 J	0.050 J	0.064 J	0.015 U	0.17	0.061 J	0.065 J
Methyl mercury	mg/kg	0.00068	0.00024	0.0003	0.00039	0.00021	0.000055 J	0.00017	0.00033	0.000032 U	0.00015	0.0001 J	0.00035
Nickel	mg/kg	10.8	53.9	9.5	10.9	3.5	6.1	5.7	8.4	3.5	2.6	3.2	11.8
Selenium	mg/kg	1.2 J	0.53 J	1.7	1.2 J	0.44 J	0.33 J	0.38 J	1.4 J	0.31 J	1.3 U	0.27 J	3.9 U
Silver	mg/kg	0.14 J	0.31	0.25 J	0.15 J	0.071 J	0.029 J	0.057 J	0.10 J	0.019 J	0.25 U	0.013 J	0.78 U
Thallium	mg/kg	0.14 J	0.11 J	0.13 J	0.19 J	0.041 J	0.035 J	0.048 J	0.084 J	0.020 U	0.044 J	0.038 J	0.14 J
Vanadium	mg/kg	15.3	10.7	15.0	17.3	11.4	11.5	8.1	11.8	5.4	4.9	5.0	15.7
Zinc	mg/kg	173	715	1170	640	35.7	98.1	28.8	131	23.8	13.2	11.4	78.4
Simultaneously Extracted Metals (SEM)													
Cadmium	µmol/g	0.0079	0.025	0.012	0.011	0.0015 J	0.0037	0.0025 J	0.0055	0.0013 J	0.00061 UJ	0.00061 UJ	0.0046 J
Copper	µmol/g	0.079	0.059	0.22	0.15	0.095	0.10	0.053	0.14	0.046	0.024 J	0.026 J	0.016 J
Lead	µmol/g	0.51	2.9	2.7	0.91	0.22	0.24	0.12	0.52	0.077	0.021	0.024	0.11
Nickel	µmol/g	0.043	0.31	0.050	0.054	0.015	0.026	0.032	0.036	0.0070	0.0077	0.0069	0.060
Silver	µmol/g	0.0022 U	0.0012 U	0.0022 U	0.0024 U	0.0018 J	0.0012 U	0.0020 U	0.0021 U	0.0014 U	0.0014 U	0.0014 U	0.0047 U
Zinc	µmol/g	2.3	10.7	11.6	6.1	0.29	1.3	0.57	1.7	0.23	0.096	0.10	0.97
AVS	µmol/g	22.0	32.1	14.5	22.1	0.54	3.7	10.3	9.9	0.13 U	0.34 J	0.34	59.6
AVS/SEM [(1)]	none	0.13	0.43	1.0	0.33	1.2	0.45	0.076	0.24	U	0.44	0.46	0.020
Polychlorinated Biphenyls (PCBs)													
Aroclor-1016 (PCB-1016)	mg/kg	0.052 U	0.032 U	0.049 U	0.054 U	0.043 U	0.029 U	0.038 U	0.055 U	0.028 U	0.03 U	0.031 U	0.11 U
Aroclor-1221 (PCB-1221)	mg/kg	0.05 U	0.031 U	0.047 U	0.052 U	0.041 U	0.028 U	0.036 U	0.052 U	0.027 U	0.029 U	0.03 U	0.1 U
Aroclor-1232 (PCB-1232)	mg/kg	0.035 U	0.021 U	0.032 U	0.036 U	0.029 U	0.019 U	0.025 U	0.036 U	0.019 U	0.02 U	0.021 U	0.071 U
Aroclor-1242 (PCB-1242)	mg/kg	0.044 U	0.027 U	0.041 U	0.045 U	0.036 U	0.024 U	0.031 U	0.045 U	0.023 U	0.025 U	0.026 U	0.089 U
Aroclor-1248 (PCB-1248)	mg/kg	0.037 U	0.4	0.035 U	0.038 U	0.03 U	0.021 U	0.027 U	0.039 U	0.02 U	0.021 U	0.022 U	0.075 U
Aroclor-1254 (PCB-1254)	mg/kg	0.48	0.019 U	0.077 J	0.032 U	0.025 U	0.017 U	0.022 U	0.032 U	0.016 U	0.017 U	0.018 U	0.062 U
Aroclor-1260 (PCB-1260)	mg/kg	0.039 U	0.45 J	0.037 U	0.041 U	0.032 U	0.022 U	0.028 U	0.041 U	0.021 U	0.022 U	0.024 U	0.08 U
Aroclor-1262 (PCB-1262)	mg/kg	0.017 U	0.011 U	0.016 U	0.018 U	0.014 U	0.0097 U	0.013 U	0.018 U	0.0094 U	0.01 U	0.01 U	0.035 U
Aroclor-1268 (PCB-1268)	mg/kg	0.044 U	0.027 U	0.2	0.045 U	0.036 U	0.024 U	0.031 U	0.045 U	0.023 U	0.025 U	0.026 U	0.089 U
Total PCBs	mg/kg	0.48	0.85 J	0.277 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrethroid Pesticides													
Baythriod	mg/kg	0.00087 U	0.00058 U	0.0008 U	0.00096 U	0.00067 U	--	--	0.00085 U	0.00062 U	0.00033 U	0.00031 U	0.00099 U
Bifenthrin	mg/kg	0.00087 U	0.00058 U	0.0008 U	0.00096 U	0.00067 U	--	--	0.00085 U	0.00062 U	0.0004 U	0.00038 U	0.0012 U
Cypermethrin	mg/kg	0.00087 U	0.00058 U	0.0008 U	0.00096 U	0.00067 U	--	--	0.00085 U	0.00062 U	0.00033 U	0.00031 U	0.00099 U
Deltamethrin/Tralomethrin	mg/kg	0.00087 U	0.00058 U	0.0008 U	0.00096 U	0.00067 U	--	--	0.00085 U	0.00062 U	0.00033 U	0.00031 U	0.00099 U
Fenvalerate/Esfenvalerate	mg/kg	0.00087 U	0.00058 U	0.0008 U	0.00096 U	0.00067 U	--	--	0.00085 U	0.00062 U	0.00033 U	0.00031 U	0.00099 U
lambda-Cyhalothrin	mg/kg	0.00087 U	0.00058 U	0.0008 U	0.00096 U	0.00067 U	--	--	0.00085 U	0.00062 U	0.00033 U	0.00031 U	0.00099 U
Permethrin	mg/kg	0.0017 U	0.0012 U	0.0016 U	0.0019 U	0.0013 U	--	--	0.0017 U	0.0012 U	0.00067 U	0.00063 U	0.002 U

Table 2.9

Summary of Sediment Results for Toxicity Testing
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	T-10	T-10	T-12
Sample Identification:		SE-092916-JL-009	SE-092916-JL-006	SE-092816-JL-005	SE-092816-JL-004	SE-092816-JL-003	SE-092816-JL-002	SE-092816-JL-001	SE-092916-JL-007	SE-092916-JL-008	SE-093016-JL-010	SE-093016-JL-011	SE-093016-JL-012
Sample Date:		9/29/2016	9/29/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/29/2016	9/29/2016	9/30/2016	9/30/2016	9/30/2016
Sample Depth:		-	-	-	-	-	-	-	-	-	-	-	-
Sample Type:												Duplicate	
Parameters	**Units**												
Parent and Alkylated PAHs													
1-Methylnaphthalene	µg/g	0.11 J	0.09 J	0.73	0.15	0.02 J	0.04 J	0.04 J	0.03 J	0.13 U	0.13 U	0.13 U	0.04 J
2-Methylnaphthalene	µg/g	0.38	0.17	1.92	0.54	0.07 J	0.09 J	0.09 J	0.06 J	0.01 J	0.13 U	0.13 U	0.10 J
Acenaphthene	µg/g	0.12 J	1.28	1.53	0.27	0.03 J	0.19	0.02 J	0.13 J	0.14 U	0.14 U	0.14 U	0.13 J
Acenaphthylene	µg/g	0.14	0.16	0.28	0.18	0.04 J	0.06 J	0.10 J	0.17	0.05 J	0.13 U	0.01 J	0.21
Anthracene	µg/g	0.78	3.47	7.67	1.47	0.21	0.74	0.10 J	0.70	0.15 J	0.02 J	0.17 U	0.40
Benzo(a)anthracene	µg/g	1.30	6.45	7.87	1.99	0.75	1.55	0.13 J	1.66	0.31	0.04 J	0.13 J	0.61
Benzo(a)pyrene	µg/g	1.01	5.22	6.11	1.50	0.79	1.42	0.16 J	1.71	0.27 J	0.04 J	0.14 J	0.73
Benzo(b)fluoranthene/Benzo(k)fluoranthene	µg/g	1.03	5.24	7.28	1.68	1.00	1.60	0.13 J	1.81	0.18 J	0.04 J	0.15 J	0.72
Benzo(e)pyrene	µg/g	0.39	1.78	2.42	0.64	0.38	0.58	0.08 J	0.64	0.15 J	0.02 J	0.07 J	0.26 J
Benzo(g,h,i)perylene	µg/g	0.82	4.03	3.45	1.32	0.73	1.22	0.16 J	1.49	0.27 J	0.03 J	0.14 J	0.62
C1-Chrysenes	µg/g	4.16	7.75	13.57	5.34	1.28	2.41	0.55	2.52	0.56	0.27 U	0.18 J	2.18
C1-Fluoranthenes/Pyrenes	µg/g	3.43	8.52	14.44 J	4.67	0.98	2.12	0.44	2.29	0.39	0.03 J	0.15 J	1.09
C1-Fluorenes	µg/g	0.56	1.32	4.14	2.36	0.11 J	0.30	0.14 J	0.25	0.06 J	0.08 J	0.06 J	0.31
C1-Phenanthrenes/Anthracenes	µg/g	3.27	3.90	18.15	7.60	0.62	1.67	0.48	1.17	0.41	0.14 J	0.13 J	0.70
C2-Chrysenes	µg/g	7.02	6.64	17.63	9.57	1.14	2.34	1.45	2.85	0.42	0.3 U	0.3 U	4.84
C2-Fluorenes	µg/g	2.18	2.63	12.02	9.28	0.14 J	0.65	0.28	0.28	0.10 J	0.05 J	0.06 J	0.51
C2-Naphthalenes	µg/g	2.33	2.77	10.70	6.99	0.52	1.50	0.91	0.91	0.19	0.37	0.34	2.16
C2-Phenanthrenes/Anthracenes	µg/g	19.96 J	12.96 J	87.34 J	42.36 J	1.35	3.75	1.49	2.61	0.85	0.22 U	0.32	2.17
C3-Chrysenes	µg/g	6.97	4.93	11.98	9.08	0.33 U	1.13	1.33	2.16	0.33 U	0.33 U	0.33 U	0.33 U
C3-Fluorenes	µg/g	3.37	3.34	16.65	10.69	0.23 U	0.50	0.23 U	0.15 J	0.23 U	0.23 U	0.23 U	0.23 U
C3-Naphthalenes	µg/g	1.80	3.11	10.17	10.40	0.24	1.25	0.47	0.29	0.08 J	0.06 J	0.10 J	0.38
C3-Phenanthrenes/Anthracenes	µg/g	33.86	19.66	130.21	65.38	1.04	3.41	1.54	2.38	0.59	0.05 J	0.11 J	1.63
C4-Chrysenes	µg/g	7.76	0.36 U	8.50	7.64	0.36 U	0.36 U	0.36 U	2.19	0.36 U	0.36 U	0.36 U	0.36 U
C4-Naphthalenes	µg/g	5.16	6.56	23.78	24.02	0.29 J	1.91	0.68	0.45	0.10 J	0.09 J	0.15 J	0.55
C4-Phenanthrenes/Anthracenes	µg/g	16.05	9.40	52.31 J	28.76 J	0.27	0.99	0.38	0.80	0.08 J	0.27 U	0.27 U	0.15 J
Chrysene	µg/g	1.87	7.77	9.51	2.97	1.36	2.36	0.27	2.44	0.55	0.06 J	0.23 J	0.93
Dibenz(a,h)anthracene	µg/g	0.13 J	0.67	0.69	0.20 J	0.10 J	0.18 J	0.02 J	0.22 J	0.04 J	0.33 U	0.02 J	0.08 J
Fluoranthene	µg/g	2.90	16.39	19.55	4.12	2.06	4.83	0.35	3.86	0.95	0.10 J	0.39 J	1.39
Fluorene	µg/g	0.17	1.37	2.72	0.28	0.05 J	0.27	0.05 J	0.15 J	0.16 U	0.16 U	0.16 U	0.14 J
Indeno(1,2,3-cd)pyrene	µg/g	1.08	5.67	4.87	1.69	0.84	1.58	0.17 J	1.98	0.25 J	0.04 J	0.16 J	0.76
Naphthalene	µg/g	0.26	0.23	1.40	0.36	0.04 J	0.10 J	0.04 J	0.08 J	0.11 U	0.11 U	0.11 U	0.11
Perylene	µg/g	1.42	2.78	2.16	1.09	0.36	0.72	0.31	1.00	0.12 J	0.04 J	0.09 J	0.71
Phenanthrene	µg/g	1.58	6.69	18.88	2.69	0.76	2.77	0.32	1.75	0.40	0.08 J	0.18 J	0.89
Pyrene	µg/g	2.64	13.46	15.47	4.01	1.74	3.94	0.35	3.37	0.80	0.09 J	0.35 J	1.25
General Chemistry													
Percent moisture	%	52.0	19.3	49.7	56.9	33.1	15.3	41.6	53.3	21.5	19.4	24.3	76.4
Soot carbon	mg/kg	24100	14500	43600	30300	11500	18900	19200	40900	9090	11200	3900	44200
Total organic carbon (TOC)	mg/kg	40900	52200	72800	69100	10800	14300	36500	41200	6880	4780 J	2420	75500 J
Total solids	%	57.4	87.2	61.9	52.0	74.3	--	--	58.4	80.0	74.8	80.0	25.4

Notes

-	Not Analyzed.
J	Estimated concentration.
U	Not detected at the associated reporting limit.
UJ	Not detected; associated reporting limit is estimated.
ND	Non-detect.
(1)	When acid-volatile sulfide (AVS) is present, chromium can only exist in the trivalent chromium oxidation state. Therefore, for samples with AVS detections, chromium (total) has been converted to trivalent chromium.
mg/kg	Milligrams per kilogram.
µg/g	Micrograms per gram.
µmol/g	Micro mols per gram.

Table 2.10

Summary of Porewater Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	T-10	T-10	T-12
Sample Identification:		SE-092916-JL-009	SE-092916-JL-006	SE-092816-JL-005	SE-092816-JL-004	SE-092816-JL-003	SE-092816-JL-002	SE-092816-JL-001	SE-092916-JL-007	SE-092916-JL-008	SE-093016-JL-010	SE-093016-JL-011	SE-093016-JL-012
Sample Date:		9/29/2016	9/29/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/29/2016	9/29/2016	9/30/2016	9/30/2016	9/30/2016
Sample Type:												Duplicate	
Parameters	**Units**												
Metals													
Mercury	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
Methyl mercury	ng/L	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs)													
1-Methylnaphthalene (dissolved)	mg/L	0.0024 U	0.00022 J	0.00113 J	0.0024 U	0.0024 U	0.00021 J	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U
2-Methylnaphthalene (dissolved)	mg/L	0.0024 U	0.00012 J	0.00116 J	0.0024 U	0.0024 U	0.0001 J	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U
Acenaphthene (dissolved)	mg/L	0.0016 U	0.00169	0.00052 J	0.00029 J	0.0016 U	0.00053 J	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U
Acenaphthylene (dissolved)	mg/L	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U	0.009 U
Anthracene (dissolved)	mg/L	0.00061 U	0.00014 J	0.00013 J	0.00006 J	0.00061 U	0.00007 J	0.00061 U	0.00061 U	0.00061 U	0.00061 U	0.00061 U	0.00061 U
Benzo(a)anthracene (dissolved)	mg/L	0.000004 J	0.00001 J	0.00001 J	0.000004 J	0.000066 U	0.000005 J	0.000066 U	0.000066 U	0.000066 U	0.000066 U	0.000066 U	0.000066 U
Benzo(a)pyrene (dissolved)	mg/L	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U
Benzo(b,k)fluoranthene (dissolved)	mg/L	0.000019 U	0.000019 U	0.000019 U	0.000019 U	0.000019 U	0.000019 U	0.000019 U	0.000019 U	0.000019 U	0.000019 U	0.000019 U	0.000019 U
Benzo(e)pyrene (dissolved)	mg/L	0.000028 U	0.000028 U	0.000028 U	0.000028 U	0.000028 U	0.000028 U	0.000028 U	0.000028 U	0.000028 U	0.000028 U	0.000028 U	0.000028 U
Benzo(g,h,i)perylene (dissolved)	mg/L	0.000013 U	0.000013 U	0.000013 U	0.000013 U	0.000013 U	0.000013 U	0.000013 U	0.000013 U	0.000013 U	0.000013 U	0.000013 U	0.000013 U
C1-Chrysenes (dissolved)	mg/L	0.000025 U	0.000025 U	0.000025 U	0.000025 U	0.000025 U	0.000025 U	0.000025 U	0.000025 U	0.000025 U	0.000025 U	0.000025 U	0.000025 U
C1-Fluoranthenes/Pyrenes (dissolved)	mg/L	0.00007 J	0.00011 J	0.0001 J	0.00012 J	0.00014 U	0.00008 J	0.00014 U	0.00014 U	0.00014 U	0.00014 U	0.00014 U	0.00014 U
C1-Fluorenes (dissolved)	mg/L	0.00019 J	0.0005	0.00032 J	0.00081	0.00041 U	0.00075	0.00041 U	0.00041 U	0.00041 U	0.00041 U	0.00041 U	0.00041 U
C1-Phenanthrenes/Anthracenes (dissolved)	mg/L	0.0002 J	0.00018 J	0.00044	0.00059	0.00022 U	0.0004	0.00022 U	0.00022 U	0.00022 U	0.00022 U	0.00022 U	0.00022 U
C2-Chrysenes (dissolved)	mg/L	0.000014 U	0.000014 U	0.000014 U	0.000014 U	0.000014 U	0.000014 U	0.000014 U	0.000014 U	0.000014 U	0.000014 U	0.000014 U	0.000014 U
C2-Fluorenes (dissolved)	mg/L	0.00047	0.00052	0.00068	0.00163	0.00016 U	0.0011	0.00016 U	0.00016 U	0.00016 U	0.00016 U	0.00016 U	0.00016 U
C2-Naphthalenes (dissolved)	mg/L	0.00034 J	0.00193	0.0021	0.0035	0.00089 U	0.00447	0.00089 U	0.00089 U	0.00089 U	0.00089 U	0.00089 U	0.00089 U
C2-Phenanthrenes/Anthracenes (dissolved)	mg/L	0.00071	0.00049	0.00093	0.00178	0.00009 U	0.00051	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U
C3-Chrysenes (dissolved)	mg/L	0.000005 U	0.000005 U	0.000005 U	0.000005 U	0.000005 U	0.000005 U	0.000005 U	0.000005 U	0.000005 U	0.000005 U	0.000005 U	0.000005 U
C3-Fluorenes (dissolved)	mg/L	0.00006 U	0.00006 U	0.00006 U	0.00224	0.00006 U	0.00006 U	0.00006 U	0.00006 U	0.00006 U	0.00006 U	0.00006 U	0.00006 U
C3-Naphthalenes (dissolved)	mg/L	0.00055	0.00291	0.00228	0.00799	0.00033 U	0.0087	0.00033 U	0.00033 U	0.00033 U	0.00033 U	0.00033 U	0.00033 U
C3-Phenanthrenes/Anthracenes (dissolved)	mg/L	0.00138	0.00092	0.00145	0.0024	0.00004 U	0.00069	0.00004 U	0.00004 U	0.00004 U	0.00004 U	0.00004 U	0.00004 U
C4-Chrysenes (dissolved)	mg/L	0.000002 U	0.000002 U	0.000002 U	0.000002 U	0.000002 U	0.000002 U	0.000002 U	0.000002 U	0.000002 U	0.000002 U	0.000002 U	0.000002 U
C4-Naphthalenes (dissolved)	mg/L	0.00117	0.00209	0.00162	0.00498	0.00012 U	0.00593	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U
C4-Phenanthrenes/Anthracenes (dissolved)	mg/L	0.00002 U	0.00002 U	0.00002 U	0.00254	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.00002 U
Chrysene (dissolved)	mg/L	0.00001 J	0.00002 J	0.00001 J	0.00001 J	0.00006 U	0.00002 J	0.00006 U	0.00006 U	0.00006 U	0.00006 U	0.00006 U	0.00006 U
Dibenz(a,h)anthracene (dissolved)	mg/L	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U
Fluoranthene (dissolved)	mg/L	0.00009 J	0.00033	0.0002 J	0.0001 J	0.00001 J	0.00022	0.00021 U	0.00002 J	0.00001 J	0.00001 J	0.00021 U	0.00001 J
Fluorene (dissolved)	mg/L	0.0012 U	0.00099	0.00047 J	0.00007 J	0.0012 U	0.00041 J	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.00006 J
Indeno(1,2,3-cd)pyrene (dissolved)	mg/L	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U	0.000008 U
Naphthalene (dissolved)	mg/L	0.00027 J	0.00033 J	0.0009 J	0.00013 J	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U
Perylene (dissolved)	mg/L	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U	0.000026 U
Phenanthrene (dissolved)	mg/L	0.00012 J	0.00043 J	0.00135	0.00038 J	0.00056 U	0.00077	0.00056 U	0.00056 U	0.00056 U	0.00056 U	0.00056 U	0.00056 U
Pyrene (dissolved)	mg/L	0.00008 J	0.00023 J	0.00013 J	0.00009 J	0.00001 J	0.00017 J	0.0003 U	0.0003 U	0.00001 J	0.0003 U	0.0003 U	0.00001 J

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.
mg/L Milligrams per liter.
ng/L Nanograms per liter.

Table 2.10

Summary of Porewater Analytical Results
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, WI

Sample Location:		P-1	P-1	P-2	P-3	P-4	P-5	P-8	P-9	P-10	P-12
Sample Identification:		PW-120616-MM-006	PW-120616-MM-007	PW-120616-MM-005	PW-120616-MM-004	PW-120616-MM-003	PW-120616-MM-001	PW-120616-MM-002	PW-120616-MM-008	PW-120616-MM-009	PW-120616-MM-010
Sample Date:		12/6/2016	12/6/2016	12/6/2016	12/6/2016	12/6/2016	12/6/2016	12/6/2016	12/6/2016	12/6/2016	12/6/2016
Sample Type:			Duplicate								
Parameters	**Units**										
Metals											
Mercury	mg/L	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U	0.00009 U
Methyl mercury	ng/L	0.071	0.019 U	0.019 U	0.057 U	0.019 U	0.050 U	0.050 U	0.019 U	0.050 U	0.050 U
Polycyclic Aromatic Hydrocarbons (PAHs)											
1-Methylnaphthalene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Acenaphthene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Acenaphthylene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Anthracene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Benzo(b,k)fluoranthene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Benzo(e)pyrene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C1-Chrysenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C1-Fluoranthenes/Pyrenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C1-Fluorenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C1-Phenanthrenes/Anthracenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C2-Chrysenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C2-Fluorenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C2-Naphthalenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C2-Phenanthrenes/Anthracenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C3-Chrysenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C3-Fluorenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C3-Naphthalenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C3-Phenanthrenes/Anthracenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C4-Chrysenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C4-Naphthalenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
C4-Phenanthrenes/Anthracenes (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Chrysene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Fluoranthene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Fluorene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Naphthalene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Perylene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Phenanthrene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--
Pyrene (dissolved)	mg/L	--	--	--	--	--	--	--	--	--	--

Notes:

U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.
mg/L Milligrams per liter.
ng/L Nanograms per liter.

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							SS-01	SS-01	SS-01	SS-02	SS-02
Sample Date:							3/10/2016	3/10/2016	3/10/2016	3/10/2016	3/10/2016
Sample Depth:							0-0.5 ft BGS	0-3.5 ft BGS	0.5-2 ft BGS	0-0.5 ft BGS	0-2 ft BGS
Sample Type:			WDNR Criteria [2,3]								
Photoionization Detector (PID) Reading (ppm) [1]							0	0	0	28	28
Applicable Screening Criteria		Soil Background UPL [4]	Sediment TEC (Threshold Effect Concentration) SQGV [5]	Sediment MEC (Midpoint Effect Concentration) SQGV [5]	Sediment PEC (Probable Effect Concentration) SQGV [5]	Soil Ecological Screening Level [6,7]					
Parameters	**Units**		**a**	**b**	**c**	**h**					
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	**0.0408**	0.015 U	**0.051**	**0.0248**	0.058 U
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.0873**	**0.011 J**	**0.032**	**0.0891**	**0.035 J**
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.178**	**0.025**	**0.15**	**0.106**	**0.076**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.218**	--	--	**0.181**	--
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.111**	--	--	**0.174**	--
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.0569**	--	--	**0.135**	--
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.0327**	--	--	**0.0816**	--
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.396**	**0.086**	**0.31**	**0.212**	**0.26**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.169**	--	--	**0.149**	--
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.0737**	--	--	**0.0961**	--
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.0347**	--	--	**0.0641**	--
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.0254**	--	--	**0.0438**	--
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.44**	**0.082**	**0.24**	**0.251**	**0.24**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.335**	**0.1**	**0.27**	**0.2**	**0.27**
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.258**	--	--	**0.158**	--
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.24**	**0.06**	**0.15**	**0.152**	**0.15**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	**0.349**	--	--	**0.196**	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	**0.033**	**0.17**	--	**0.17 J**
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	0.21 U	0.11 U	0.11 U	1 U	0.44 U
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	**0.1**	**0.32**	--	**0.33**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	**0.433**	--	--	**0.252**	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.0667**	0.015 U	**0.035**	**0.0447**	0.058 U
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.879**	**0.19**	**0.69**	**0.445**	**0.6**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	**0.356**	--	--	**0.224**	--
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.0518**	**0.014 J**	**0.081**	**0.0289**	0.058 U
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.027**	--	--	**0.0239**	--
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.0323**	--	--	**0.0515**	--
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.0584**	--	--	**0.0921**	--
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.227**	**0.052**	**0.12**	**0.141**	**0.14**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.023 J**	**0.0087 J**	**0.03**	0.14 U	**0.04 J**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.0203**	**0.012 J**	**0.033**	**0.0236**	**0.059**
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.0189**	--	--	**0.0226**	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.0408**	--	--	**0.0539**	--
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.0386**	--	--	**0.0515**	--
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.0228**	--	--	**0.0589**	--
Perylene	mg/kg	NV	NV	NV	NV	NV	**0.201**	--	--	**0.28**	--
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.478**	**0.11**	**0.55**	**0.309**	**0.36**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.756**	**0.19**	**0.67**	**0.403**	**0.58**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**5.2395 J[h]**	**0.89375 J**	**2.975 J[h]**	**3.3117 J[h]**	**2.74285 J[h]**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**1.5441 J**	**0.18545 J**	**0.93095 J**	**1.5479 J**	**0.5906 J**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**6.7836 J**	**1.0792 J**	**3.90595 J**	**4.8596 J**	**3.33345 J**
General Chemistry											
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**46300**	**66800**	**49100**	**71900**	**64100**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							**SS-02**
Sample Date:							**3/10/2016**
Sample Depth:							**0-2 ft BGS**
Sample Type:			**WDNR Criteria** [2,3]				
Photoionization Detector (PID) Reading (ppm) [1]							**28**
Applicable Screening Criteria		**Soil Background UPL** [4]	**Sediment TEC (Threshold Effect Concentration) SQGV** [5]	**Sediment MEC (Midpoint Effect Concentration) SQGV** [5]	**Sediment PEC (Probable Effect Concentration) SQGV** [5]	**Soil Ecological Screening Level** [6,7]	
Parameters	**Units**		**a**	**b**	**c**	**h**	
Semi-Volatile Organic Compounds (SVOCs)							
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	**0.013 J**
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.02**
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.053**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.15**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.13**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.18**
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.095**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.053 J**
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	0.11 U
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.19**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.015 U
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.35**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	--
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.028**
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.079**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	--
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.022**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.033**
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--
Perylene	mg/kg	NV	NV	NV	NV	NV	--
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.25**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.36**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**1.58775 J[h]**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**0.42285 J**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.0106 J**
General Chemistry							
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**53400**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							SS-02	SS-03	SS-03	SS-03	SS-04
Sample Date:							3/10/2016	3/10/2016	3/10/2016	3/10/2016	3/9/2016
Sample Depth:							0.5-2 ft BGS	0-0.5 ft BGS	0-3.67 ft BGS	0.5-2 ft BGS	0-0.5 ft BGS
Sample Type:			WDNR Criteria [2,3]								
Photoionization Detector (PID) Reading (ppm) [1]							0	150	150	7	88
Applicable Screening Criteria		Soil Background UPL [4]	Sediment TEC (Threshold Effect Concentration) SQGV [5]	Sediment MEC (Midpoint Effect Concentration) SQGV [5]	Sediment PEC (Probable Effect Concentration) SQGV [5]	Soil Ecological Screening Level [6,7]					
Parameters	**Units**		a	b	c	h					
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	0.014 U	**0.124**	**0.057 J**	0.014 U	**0.512**
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.014 U	**0.071**	0.064 U	**0.0085 J**	**0.277**
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.0083 J**	**0.321**	**0.14**	**0.024**	**1.1**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.992**	--	--	**6.58**
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**1.71**	--	--	**14**
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**1.73**	--	--	**15.7**
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**1.01**	--	--	**8.69**
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.024**	**0.57**	**0.3**	**0.056**	**1.47**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.622**	--	--	**3.47**
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.552**	--	--	**3.76**
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.426**	--	--	**2.89**
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.324**	--	--	**2.08**
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.019**	**0.53**	**0.26**	**0.049**	**1.21**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.025**	**0.488**	**0.29**	**0.049**	**1.18**
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	**0.367**	--	--	**0.981**
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.01 J**	**0.313**	**0.17**	**0.03**	**0.707**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	**0.442**	--	--	**1.1**
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.014 U	--	**0.15**	**0.031**	--
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	0.1 U	0.41 U	0.48 U	0.1 U	**0.48 J[abch]**
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.028**	--	**0.4**	**0.064**	--
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--	**0.761**	--	--	**2.76**
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.014 U	**0.0929**	0.064 U	0.014 U	**0.222**
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.045**	**1.25**	**0.7**	**0.12**	**3.2**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.86**	--	--	**3.8**
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.014 U	**0.136**	**0.052 J**	**0.014**	**0.876**
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**0.138**	--	--	**1.27**
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**0.406**	--	--	**4.27**
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**0.665**	--	--	**7.94**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.012 J**	**0.295**	**0.14**	**0.023**	**0.637**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.014 U	**0.1**	**0.1**	0.014 U	**7.4**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.014 U	**0.332**	**0.15**	**0.0091 J**	**1.87**
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.18**	--	--	**4.11**
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.749**	--	--	**7.49**
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.826**	--	--	**7.62**
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.503**	--	--	**6.92**
Perylene	mg/kg	NV	NV	NV	NV	NV	--	**0.221**	--	--	**0.402**
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.036**	**1.09**	**0.54**	**0.098**	**3.94**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.049**	**1.13**	**0.66**	**0.12**	**3.29**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**0.21335 J**	**9.2439 J[h]**	**3.0732 J[h]**	**0.5427 J**	**33.159 J[h]**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**0.050855 J**	**11.0975 J**	**1.0577 J**	**0.1585 J**	**101.045 J[h]**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.264205 J**	**20.3414 J**	**4.1309 J**	**0.7012 J**	**134.204 J**
General Chemistry											
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**51000**	**46100**	**43800**	**60300**	**80700**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							SS-04	SS-04	SS-04
Sample Date:							3/9/2016	3/9/2016	3/9/2016
Sample Depth:							0-4.08 ft BGS	0.5-2 ft BGS	0.5-2 ft BGS
Sample Type:									Duplicate
Photoionization Detector (PID) Reading (ppm) [1]							162	162	162
Applicable Screening Criteria		Soil Background UPL [4]	WDNR Criteria [2,3] Sediment TEC (Threshold Effect Concentration) SQGV [5]	WDNR Criteria [2,3] Sediment MEC (Midpoint Effect Concentration) SQGV [5]	WDNR Criteria [2,3] Sediment PEC (Probable Effect Concentration) SQGV [5]	Soil Ecological Screening Level [6,7]			
Parameters	**Units**		**a**	**b**	**c**	**h**			
Semi-Volatile Organic Compounds (SVOCs)									
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	**0.49**	**1**	**1.1**
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.26 U	0.61 U	0.69 U
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.83**	**1.5**	**1.7**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.4**	**2.8**	**3.6**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	--
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	--
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	--
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	--
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.99**	**2.3**	**2.7**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.3**	**2.7**	**3.3**
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	--	--
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.48**	**1.1**	**1.1**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.46**	**1.3**	**0.91**
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	**0.26 J[h]**	**0.43 J[h]**	**0.57 J[h]**
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.1**	**4.2**	**4.6**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--	--	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.17 J**	0.61 U	0.69 U
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--	--	--
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.9**	**6**	**6.6**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.67**	**1.5**	**1.9**
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.42**	**1.2**	**1**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	--	--	--
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**3.3**	**6.3**	**14**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.5**	**3.9**	**5.2**
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	--
Perylene	mg/kg	NV	NV	NV	NV	NV	--	--	--
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**3.5**	**7.3**	**9.3**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.7**	**6.1**	**7.9**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**12.92 J[h]**	**27.73 J[h]**	**31.744 J[h]**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**10.557 J**	**21.946 J**	**33.788 J[h]**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**23.477 J**	**49.676 J**	**65.532 J**
General Chemistry									
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**114000**	**162000**	**399000**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							SS-05	SS-05	SS-05	SS-06	SS-06
Sample Date:							3/10/2016	3/10/2016	3/10/2016	3/9/2016	3/9/2016
Sample Depth:							0-0.5 ft BGS	0-2 ft BGS	0.5-2 ft BGS	0-0.5 ft BGS	0-2 ft BGS
Sample Type:			WDNR Criteria [2,3]								
Photoionization Detector (PID) Reading (ppm) [1]							18	28	28	16	22
Applicable Screening Criteria		Soil Background UPL [4]	Sediment TEC (Threshold Effect Concentration) SQGV [5]	Sediment MEC (Midpoint Effect Concentration) SQGV [5]	Sediment PEC (Probable Effect Concentration) SQGV [5]	Soil Ecological Screening Level [6,7]					
Parameters	**Units**		**a**	**b**	**c**	**h**					
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	**0.994**	**2.3**	**7.1**	**0.381**	**1.4**
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.131**	1.5 U	1 U	**0.131**	**0.45 J**
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.16**	**4.6**	**12**	**0.924**	**1.8**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**2.98**	--	--	**6.15**	--
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**3.36**	--	--	**10.6**	--
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**2.99**	--	--	**9.08**	--
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**1.89**	--	--	**4.74**	--
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**3.76**	**11**	**20**	**1.41**	**4.2**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**1.73**	--	--	**1.73**	--
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**1.21**	--	--	**2.48**	--
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.911**	--	--	**1.99**	--
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.54**	--	--	**1.16**	--
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**3.51**	**7.6**	**15**	**1.08**	**3**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.99**	**12**	**23**	**1.36**	**3.9**
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.21**	--	--	**0.926**	--
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.87**	**6.4**	**9**	**0.708**	**1.6**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	**3.14**	--	--	**0.97**	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	**4.5**	**9.1**	--	**1.2**
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	13 U	11 U	7.7 U	5.5 U	5.4 U
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	**12**	**23**	--	**5.4**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	**4.22**	--	--	**2.37**	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.572**	1.5 U	**2.6**	**0.195**	0.72 U
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**9.63**	**27**	**60**	**4.22**	**9.5**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	**3.19**	--	--	**2.63**	--
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.31**	**2.5**	**7.8**	**0.837**	**1.8**
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.392**	--	--	**0.96**	--
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.904**	--	--	**3.16**	--
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**1.85**	--	--	**4.5**	--
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.81**	**4.3**	**8.2**	**0.612**	**1.5**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.3 J**	**3.3**	**3.5**	**0.61 J**	**4.4**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.23**	**4.8**	**5.2**	**0.489**	**2.2**
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.897**	--	--	**1.22**	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**1.4**	--	--	**3.59**	--
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**1.38**	--	--	**4.11**	--
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**1.38**	--	--	**4.39**	--
Perylene	mg/kg	NV	NV	NV	NV	NV	**1.06**	--	--	**0.575**	--
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**9.09**	**22**	**59**	**5.67**	**11**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**7.37**	**21**	**44**	**3.24**	**9**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**49.723 J[h]**	**105.875 J[h]**	**213.9 J[h]**	**27.656 J[h]**	**39.336 J[h]**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**36.083 J[h]**	**39.9235 J[h]**	**94.897 J[h]**	**61.737 J[h]**	**23.24 J**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**85.806 J**	**145.7985 J**	**308.797 J**	**89.393 J**	**62.576 J**
General Chemistry											
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**78800**	**176000**	**101000**	**53500**	**96200**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							SS-06	SS-07
Sample Date:							3/9/2016	3/9/2016
Sample Depth:							0.5-2 ft BGS	0-0.5 ft BGS
Sample Type:			WDNR Criteria [2,3]					
Photoionization Detector (PID) Reading (ppm) [1]							22	0
Applicable Screening Criteria		Soil Background UPL [4]	Sediment TEC (Threshold Effect Concentration) SQGV [5]	Sediment MEC (Midpoint Effect Concentration) SQGV [5]	Sediment PEC (Probable Effect Concentration) SQGV [5]	Soil Ecological Screening Level [6,7]		
Parameters	**Units**		**a**	**b**	**c**	**h**		
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	**4.5**	**0.237**
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.38 J**	**0.168**
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**7.5**	**0.995**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**4.98**
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**11**
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**11.9**
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**6.17**
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**14**	**1.96**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**2.5**
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**2.65**
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**2.04**
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**1.78**
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**12**	**1.73**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**16**	**1.78**
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	**1.3**
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**6.4**	**1.1**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	**1.48**
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**6.9**	--
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	**0.59 J[h]**	2.4 U
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**14**	--
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--	**3.06**
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.2**	**0.292**
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--	--
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**34**	**4.93**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	--	**3.55**
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**5.5**	**0.506**
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**1.11**
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**3.85**
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**6.36**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**5.8**	**0.951**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	--	--
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**4.2**	**0.73**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.6**	**0.37**
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.805**
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**1.76**
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**3.41**
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**3.95**
Perylene	mg/kg	NV	NV	NV	NV	NV	--	**0.681**
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**37**	**2.66**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**30**	**4.45**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**141.3 J[h]**	**36.234 J[h]**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**62.27 J[h]**	**61.046 J[h]**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**203.57 J**	**97.28 J**
General Chemistry								
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**89500**	**109000**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							SS-07	SS-07	SS-09	SS-09	SS-09
Sample Date:							3/9/2016	3/9/2016	3/10/2016	3/10/2016	3/10/2016
Sample Depth:							0-3 ft BGS	0.5-2 ft BGS	0-0.5 ft BGS	0-1.5 ft BGS	0.5-1.5 ft BGS
Sample Type:			WDNR Criteria [2,3]								
Photoionization Detector (PID) Reading (ppm) [1]							0	0	0	0	0
Applicable Screening Criteria		Soil Background UPL [4]	Sediment TEC (Threshold Effect Concentration) SQGV [5]	Sediment MEC (Midpoint Effect Concentration) SQGV [5]	Sediment PEC (Probable Effect Concentration) SQGV [5]	Soil Ecological Screening Level [6,7]					
Parameters	**Units**		**a**	**b**	**c**	**h**					
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	0.21 U	**0.29 J**	**0.413**	**0.21 J**	0.3 U
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.21 U	0.33 U	**0.144**	0.35 U	0.3 U
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.42**	**0.41**	**0.968**	**0.43**	**0.26 J**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	--	**4.9**	--	--
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	--	**8.95**	--	--
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	--	**9.45**	--	--
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	--	**6.06**	--	--
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.1**	**0.84**	**1.86**	**0.88**	**0.74**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	**2.18**	--	--
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	**2.55**	--	--
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	**1.94**	--	--
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	**1.44**	--	--
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.98**	**0.66**	**1.61**	**0.76**	**0.44**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.5**	**0.65**	**1.68**	**1.1**	**0.77**
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	--	**1.21**	--	--
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.56**	**0.35**	**1.08**	**0.59**	**0.45**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	**1.38**	--	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.36**	**0.33**	--	**0.36**	**0.3**
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	1.6 U	2.5 U	2.1 U	2.6 U	2.3 U
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.6**	**0.94**	--	**1.4**	**0.92**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--	--	**2.82**	--	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.21 U	0.33 U	**0.258**	0.35 U	0.3 U
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.8**	**2**	**4.79**	**4.5**	**1.7**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	--	--	**3.32**	--	--
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.23**	0.33 U	**0.596**	**0.26 J**	0.3 U
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.893**	--	--
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	--	**2.66**	--	--
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	--	**4.78**	--	--
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.53**	**0.31 J**	**0.924**	**0.51**	0.3 U
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.61**	**0.47**	**0.36**	0.35 U	**0.23 J**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.37**	**0.38**	**0.24**	**0.23 J**	**0.18 J**
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.204**	--	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	**2.42**	--	--
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	**3.7**	--	--
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	**3.88**	--	--
Perylene	mg/kg	NV	NV	NV	NV	NV	--	--	**0.684**	--	--
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.7**	**1.1**	**4.78**	**1.2**	**0.5**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.6**	**1.7**	**4.18**	**2.3**	**2**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**12.0405 J [h]**	**7.796 J [h]**	**33.906 J [h]**	**12.4175 J [h]**	**7.343 J [h]**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**3.4025 J**	**2.7565 J**	**55.473 J [h]**	**2.442 J**	**1.287 J**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**15.443 J**	**10.5525 J**	**89.379 J**	**14.8595 J**	**8.63 J**
General Chemistry											
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**43200**	**22700**	**131000**	**72000**	**66500**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							SS-09	SS-10
Sample Date:							3/10/2016	10/18/2016
Sample Depth:							0.5-1.5 ft BGS	0-0.5 ft BGS
Sample Type:			WDNR Criteria [2,3]				Duplicate	
Photoionization Detector (PID) Reading (ppm) [1]							0	0.1
Applicable Screening Criteria		Soil Background UPL [4]	Sediment TEC (Threshold Effect Concentration) SQGV [5]	Sediment MEC (Midpoint Effect Concentration) SQGV [5]	Sediment PEC (Probable Effect Concentration) SQGV [5]	Soil Ecological Screening Level [6,7]		
Parameters	**Units**		**a**	**b**	**c**	**h**		
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	0.3 U	0.79 U
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.3 U	0.79 U
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.36**	0.79 U
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.06 J**
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.068 J**
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.048 J**
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.038 J**
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.2**	**0.059 J**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.12 J**
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.049 J**
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.025 J**
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.014 J**
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1**	0.79 U
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.2**	0.79 U
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	0.79 U
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.61**	0.79 U
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.7**	0.79 U
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	2.2 U	--
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	**0.026 J**
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.4**	0.79 U
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.3 U	0.79 U
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--	**0.011**
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	**0.015 J**
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	**0.033 J**
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	**0.026 J**
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.9**	**0.089 J**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.19 J**
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.3 U	0.79 U
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**0.017 J**
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**0.017 J**
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**0.017 J**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.3 U	0.79 U
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	--	**0.0072 J**
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.4**	**0.01 J**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.3**	0.79 U
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.018 J**
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.018 J**
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.017 J**
Perylene	mg/kg	NV	NV	NV	NV	NV	--	3.8 U
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.7**	**0.053 J**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**2.6**	**0.097 J**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**11.633 J [h]**	**0.971 J**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**1.877 J**	**0.5002 J**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**13.51 J**	**1.4712 J**
General Chemistry								
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**90800**	**34300**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							SS-10	SS-10	SS-11	SS-11	SS-12
Sample Date:							10/18/2016	10/18/2016	10/18/2016	10/18/2016	10/18/2016
Sample Depth:							0.5-2 ft BGS	3-4 ft BGS	0-0.5 ft BGS	0.5-2 ft BGS	0-0.5 ft BGS
Sample Type:			WDNR Criteria [2,3]								
Photoionization Detector (PID) Reading (ppm) [1]							0.1	0.1	0.2	0	0
Applicable Screening Criteria		Soil Background UPL [4]	Sediment TEC (Threshold Effect Concentration) SQGV [5]	Sediment MEC (Midpoint Effect Concentration) SQGV [5]	Sediment PEC (Probable Effect Concentration) SQGV [5]	Soil Ecological Screening Level [6,7]					
Parameters	**Units**		**a**	**b**	**c**	**h**					
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	**0.036 J**	0.36 UJ	4.8 U	**0.038 J**	**0.025 J**
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.75 U	0.36 UJ	4.8 U	0.56 U	0.51 U
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.12 J**	0.36 UJ	**0.35 J**	**0.12 J**	**0.074 J**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.52 J**	--	**0.39 J**
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.41 J**	--	**0.38 J**
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.17 J**	--	**0.27 J**
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.069 J**	--	**0.37 J**
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.47 J**	0.36 UJ	**1.4 J**	**0.28 J**	**0.27 J**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	**0.95 J**	--	**0.83 J**
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	**0.33 J**	--	**0.33 J**
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	**0.14 J**	--	**0.16 J**
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	**0.06 J**	--	**0.081 J**
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.46 J**	0.36 UJ	**1.3 J**	**0.24 J**	**0.26 J**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.64 J**	0.36 UJ	**1.9 J**	**0.3 J**	**0.38 J**
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.33 J**	0.36 UJ	**0.89 J**	**0.16 J**	**0.19 J**
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.3 J**	0.36 UJ	**0.82 J**	**0.14 J**	**0.18 J**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.23 J**	0.36 UJ	**0.69 J**	**0.12 J**	**0.15 J**
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	--	--	--	--	--
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	0.029 U	--	**0.053 J**
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.52 J**	0.36 UJ	**1.6 J**	**0.27 J**	**0.3 J**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.083 J**	0.36 UJ	4.8 U	**0.043 J**	0.51 U
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--	--	**0.2**	--	**0.1**
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.11 J**	--	**0.1 J**
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.05 J**	--	**0.096 J**
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.076 J**	--	**0.11 J**
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.94**	0.36 UJ	**3 J**	**0.59**	**0.64**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	--	--	**1.7 J**	--	**1.2 J**
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.044 J**	0.36 UJ	4.8 U	**0.051 J**	**0.034 J**
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.12 J**	--	**0.1 J**
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.086 J**	--	**0.085 J**
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.071 J**	--	**0.072 J**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.33 J**	0.36 UJ	**0.63 J**	**0.16 J**	**0.19 J**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	--	--	**0.094 J**	--	**0.064 J**
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	--	**0.12 J**	--	**0.073 J**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.75 U	0.36 UJ	4.8 U	0.56 U	0.51 U
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.19 J**	--	**0.16 J**
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.17 J**	--	**0.14 J**
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	**0.13 J**	--	**0.11 J**
Perylene	mg/kg	NV	NV	NV	NV	NV	3.7 U	1.7 UJ	23 U	2.7 U	2.5 U
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.46 J**	0.36 UJ	**1.8 J**	**0.49 J**	**0.39 J**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.93**	0.36 UJ	**2.8 J**	**0.56**	**0.58**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**5.328 J[h]**	1.7 U	**18.95 J[h]**	**2.933 J[h]**	**5.8205 J[h]**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**0.715 J**	0.36 U	**4.855 J**	**0.7395 J**	**2.7735 J**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**6.043 J**	1.7 U	**23.805 J**	**3.6725 J**	**8.594 J**
General Chemistry											
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**73900**	**2620**	**14700**	**37600**	**29700**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							**SS-12**	**SS-13**
Sample Date:							**10/18/2016**	**10/18/2016**
Sample Depth:							**0.5-2 ft BGS**	**0-0.5 ft BGS**
Sample Type:			**WDNR Criteria [2,3]**					
Photoionization Detector (PID) Reading (ppm) [1]							**0**	**0**
Applicable Screening Criteria		**Soil Background UPL [4]**	**Sediment TEC (Threshold Effect Concentration) SQGV [5]**	**Sediment MEC (Midpoint Effect Concentration) SQGV [5]**	**Sediment PEC (Probable Effect Concentration) SQGV [5]**	**Soil Ecological Screening Level [6,7]**		
Parameters	**Units**		**a**	**b**	**c**	**h**		
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	**0.06 J**	0.39 U
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.54 U	0.39 U
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.12 J**	0.39 U
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.014 J**
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.016 J**
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.01 J**
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0057 J**
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.3 J**	**0.07 J**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.036 J**
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.018 J**
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.021 J**
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.012 J**
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.33 J**	0.39 U
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.5 J**	**0.12 J**
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.26 J**	0.39 U
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.21 J**	**0.056 J**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.17 J**	0.39 U
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	--	--
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0045 J**
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.39 J**	**0.089 J**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.064 J**	0.39 U
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--	**0.0066**
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0044 J**
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	**0.006 J**
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0063 J**
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.78**	**0.16 J**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.059 J**
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.039 J**	0.39 U
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**0.004 J**
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0041 J**
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0039 J**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.22 J**	**0.064 J**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	--	**0.0018 J**
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	**0.0028 J**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.54 U	0.39 U
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0043 J**
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0049 J**
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0056 J**
Perylene	mg/kg	NV	NV	NV	NV	NV	2.6 U	1.9 U
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.51 J**	**0.061 J**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.71**	**0.15 J**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**4.004 J[h]**	**0.9645 J**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**0.7685 J**	**0.1931 J**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**4.7725 J**	**1.1576 J**
General Chemistry								
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**33900**	**2110**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							SS-13	SS-14	SS-14	SS-14	SS-15
Sample Date:							10/18/2016	10/17/2016	10/17/2016	10/17/2016	10/17/2016
Sample Depth:							0.5-2 ft BGS	0-0.5 ft BGS	0.5-2 ft BGS	2-3.9 ft BGS	0-0.5 ft BGS
Sample Type:			WDNR Criteria [2,3]								
Photoionization Detector (PID) Reading (ppm) [1]							0	0.1	0.7	0	0.1
Applicable Screening Criteria		Soil Background UPL [4]	Sediment TEC (Threshold Effect Concentration) SQGV [5]	Sediment MEC (Midpoint Effect Concentration) SQGV [5]	Sediment PEC (Probable Effect Concentration) SQGV [5]	Soil Ecological Screening Level [6,7]					
Parameters	**Units**		a	b	c	h					
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	0.49 U	0.42 U	0.4 U	0.52 UJ	**0.015 J**
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.49 U	0.42 U	0.4 U	0.52 UJ	0.43 U
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.49 U	**0.022 J**	**0.073 J**	**0.031 J**	**0.043 J**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.029 J**	--	--	**0.033 J**
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.024 J**	--	--	**0.035 J**
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.012 J**	--	--	**0.02 J**
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0065 J**	--	--	**0.009 J**
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.1 J**	**0.084 J**	**0.14 J**	**0.076 J**	**0.2 J**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.047 J**	--	--	**0.073 J**
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.021 J**	--	--	**0.029 J**
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.015 J**	--	--	**0.022 J**
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	**0.0088 J**	--	--	**0.011 J**
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.081 J**	**0.087 J**	**0.11 J**	**0.054 J**	**0.21 J**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.1 J**	**0.13 J**	**0.16 J**	**0.056 J**	**0.31 J**
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.49 U	**0.061 J**	**0.085 J**	0.52 UJ	**0.16 J**
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.046 J**	**0.055 J**	**0.066 J**	0.52 UJ	**0.14 J**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.49 U	0.42 U	**0.065 J**	0.52 UJ	**0.12 J**
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	--	--	--	--	--
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0039 J**	--	--	**0.0056 J**
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.097 J**	**0.1 J**	**0.18 J**	**0.071 J**	**0.22 J**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.49 U	0.42 U	0.4 U	0.52 UJ	0.43 U
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--	**0.011 J**	--	--	**0.0081**
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0064 J**	--	--	**0.0075 J**
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0058 J**	--	--	**0.0094 J**
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	**0.006 J**	--	--	**0.0095 J**
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.2 J**	**0.18 J**	**0.4**	**0.13 J**	**0.44**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	--	**0.082 J**	--	--	**0.13 J**
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.49 U	0.42 U	0.4 U	0.52 UJ	0.43 U
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0089 J**	--	--	**0.0071 J**
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0062 J**	--	--	**0.0079 J**
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0058 J**	--	--	**0.0068 J**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.046 J**	**0.06 J**	**0.12 J**	0.52 UJ	**0.16 J**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	--	**0.0047 J**	--	--	**0.0034 J**
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	0.019 U	--	--	0.02 U
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.49 U	0.42 U	0.4 U	0.52 UJ	0.43 U
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0093 J**	--	--	**0.013 J**
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0074 J**	--	--	**0.014 J**
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	**0.0059 J**	--	--	**0.012 J**
Perylene	mg/kg	NV	NV	NV	NV	NV	2.4 U	2 U	1.9 U	2.5 UJ	2.1 U
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.11 J**	**0.08 J**	**0.32 J**	**0.11 J**	**0.26 J**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.19 J**	**0.18 J**	**0.33 J**	**0.13 J**	**0.41 J**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**0.9835 J**	**1.2033 J [h]**	**1.7175 J [h]**	**0.6735 J**	**2.7025 J [h]**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**0.179 J**	**0.273 J**	**0.4385 J**	**0.201 J**	**0.52455 J**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.1625 J**	**1.4763 J**	**2.156 J**	**0.8745 J**	**3.22705 J**
General Chemistry											
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**7450**	**4310 J**	**1800 J**	**27300**	**5880 J**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							**SS-15**	**SS-15**
Sample Date:							**10/17/2016**	**10/17/2016**
Sample Depth:							**0.5-2 ft BGS**	**2-3 ft BGS**
Sample Type:			**WDNR Criteria** [2,3]					
Photoionization Detector (PID) Reading (ppm) [1]							**0.8**	**12.6**
Applicable Screening Criteria		**Soil Background UPL** [4]	**Sediment TEC (Threshold Effect Concentration) SQGV** [5]	**Sediment MEC (Midpoint Effect Concentration) SQGV** [5]	**Sediment PEC (Probable Effect Concentration) SQGV** [5]	**Soil Ecological Screening Level** [6,7]		
Parameters	**Units**		**a**	**b**	**c**	**h**		
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	**0.025 J**	0.48 UJ
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.39 U	0.48 UJ
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.061 J**	**0.036 J**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.23 J**	**0.72 J**
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.39 J**	**2.7 J**
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.37 J**	**5.9 J**
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.25 J**	**5.1 J**
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.22 J**	**0.11 J**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.31 J**	**1 J**
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.15 J**	**0.8 J**
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.098 J**	**0.59 J**
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.051 J**	**0.29 J**
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.21 J**	**0.094 J**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.3 J**	**0.13 J**
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.14 J**	**0.06 J**
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.12 J**	0.48 UJ
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.09 J**	0.48 UJ
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	--	--
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	**0.26 J**	**3.8 J**
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.27 J**	**0.13 J**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.031 J**	0.48 UJ
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	**0.06**	**0.32**
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	**0.14 J**	**0.77 J**
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	**0.38 J**	**4.5 J**
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	**0.29 J**	**2.8 J**
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.49**	**0.23 J**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	**0.48 J**	**1.5 J**
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.39 U	0.48 UJ
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.077 J**	**0.3 J**
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.11 J**	**0.81 J**
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.14 J**	**1.5 J**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.14 J**	0.48 UJ
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	**0.018 J**	**0.15**
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.03 J**	**0.12 J**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.39 U	0.48 UJ
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.086 J**	**0.29 J**
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.13 J**	**0.44 J**
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.15 J**	**0.48 J**
Perylene	mg/kg	NV	NV	NV	NV	NV	1.9 U	2.4 UJ
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.22 J**	**0.11 J**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.48**	**0.23 J**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**3.63 J**[h]	**5.2955 J**[h]
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**2.326 J**	**18.712 J**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**5.956 J**	**24.0075 J**
General Chemistry								
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**6220 J**	**29700**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							SS-16	SS-16	SS-17	SS-17	T-01
Sample Date:							10/17/2016	10/17/2016	10/7/2016	10/7/2016	9/29/2016
Sample Depth:							0-0.5 ft BGS	0.5-2 ft BGS	0-0.5 ft BGS	0.5-2 ft BGS	0-0.5 ft BGS
Sample Type:			WDNR Criteria [2,3]								
Photoionization Detector (PID) Reading (ppm) [1]							4.1	2.9	0.2	0	--
Applicable Screening Criteria		Soil Background UPL [4]	Sediment TEC (Threshold Effect Concentration) SQGV [5]	Sediment MEC (Midpoint Effect Concentration) SQGV [5]	Sediment PEC (Probable Effect Concentration) SQGV [5]	Soil Ecological Screening Level [6,7]					
Parameters	**Units**		**a**	**b**	**c**	**h**					
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	**0.063 J**	0.42 U	**0.019 J**	4.3 U	**0.12**
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.4 U	0.42 U	0.42 U	4.3 U	**0.14**
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.13 J**	0.42 U	**0.056 J**	**0.33 J**	**0.78**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.58 J**	**0.53 J**	**0.053 J**	--	**3.27**
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.87 J**	**1.4 J**	**0.094 J**	--	**19.96 J**
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**1.2 J**	**2.4 J**	**0.098 J**	--	**33.86**
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.89 J**	**1.9 J**	**0.08 J**	--	**16.05**
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.26 J**	**0.053 J**	**0.22 J**	**0.68 J**	**1.3**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.75 J**	**0.77 J**	**0.13 J**	--	--
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.35 J**	**0.53 J**	**0.065 J**	--	--
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.21 J**	**0.4 J**	**0.048 J**	--	--
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	**0.11 J**	**0.21 J**	**0.025 J**	--	--
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.23 J**	**0.041 J**	**0.24 J**	**0.46 J**	**1.01**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.35 J**	**0.068 J**	**0.34 J**	**0.71 J**	--
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	**1.03**
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.18 J**	**0.029 J**	**0.19 J**	**0.4 J**	**0.39**
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.14 J**	**0.023 J**	**0.14 J**	4.3 U	**0.82**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.12 J**	0.42 U	**0.14 J**	4.3 U	--
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	--	--	--	--	--
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	**0.67 J**	**1.6 J**	**0.056 J**	--	--
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.32 J**	**0.054 J**	**0.28 J**	**0.96 J**	**1.87**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	**4.16**
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	**7.02**
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	**6.97**
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	**7.76**
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.035 J**	0.42 U	0.42 U	4.3 U	**0.13**
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	**0.32**	**0.17**	**0.016**	--	--
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	**0.22 J**	**0.37 J**	**0.022 J**	--	--
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	**0.8 J**	**2.1 J**	**0.069 J**	--	--
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	**0.47 J**	**1.3 J**	**0.047 J**	--	--
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.75**	**0.094 J**	**0.52**	**1.5 J**	**2.9**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	**1.3 J**	**1.1 J**	**0.17 J**	--	**3.43**
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.027 J**	0.42 U	**0.028 J**	4.3 U	**0.17**
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.17 J**	**0.18 J**	**0.018 J**	--	**0.56**
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.25 J**	**0.43 J**	**0.036 J**	--	**2.18**
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.41 J**	**0.77 J**	**0.041 J**	--	**3.37**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.17 J**	0.42 U	**0.16 J**	4.3 U	**1.08**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	**0.049 J**	**0.059 J**	**0.013 J**	--	**0.11**
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.3 U	**0.074 J**	**0.02 J**	--	**0.38**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	0.4 U	0.42 U	0.42 U	4.3 U	**0.26**
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.22 J**	**0.33 J**	**0.032 J**	--	**2.33**
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.3 J**	**0.41 J**	**0.04 J**	--	**1.8**
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.36 J**	**0.53 J**	**0.048 J**	--	**5.16**
Perylene	mg/kg	NV	NV	NV	NV	NV	1.9 U	2 U	2 U	21 U	**1.42**
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.62**	**0.059 J**	**0.29 J**	**0.93 J**	**1.58**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.69**	**0.099 J**	**0.49**	**1.3 J**	**2.64**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**6.015 J[h]**	**3.5775 J[h]**	**3.225 J[h]**	**7.195 J[h]**	**43.93 J[h]**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**6.212 J**	**9.1315 J**	**0.997 J**	**1.76 J**	**92.08 J[h]**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**12.227 J**	**12.709 J**	**4.222 J**	**8.955 J**	**136.01 J**
General Chemistry											
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**25100 J**	**17400 J**	**14200**	**40300**	**40900**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							T-02	T-03	T-04	T-05	T-06
Sample Date:							9/29/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016
Sample Depth:							0-0.5 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS
Sample Type:			WDNR Criteria [2,3]								
Photoionization Detector (PID) Reading (ppm) [1]							--	--	--	--	--
Applicable Screening Criteria		Soil Background UPL [4]	Sediment TEC (Threshold Effect Concentration) SQGV [5]	Sediment MEC (Midpoint Effect Concentration) SQGV [5]	Sediment PEC (Probable Effect Concentration) SQGV [5]	Soil Ecological Screening Level [6,7]					
Parameters	**Units**		**a**	**b**	**c**	**h**					
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	**1.28**	**1.53**	**0.27**	**0.03 J**	**0.19**
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.16**	**0.28**	**0.18**	**0.04 J**	**0.06 J**
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**3.47**	**7.67**	**1.47**	**0.21**	**0.74**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**3.9**	**18.15**	**7.6**	**0.62**	**1.67**
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**12.96 J**	**87.34 J**	**42.36 J**	**1.35**	**3.75**
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**19.66**	**130.21**	**65.38**	**1.04**	**3.41**
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**9.4**	**52.31 J**	**28.76 J**	**0.27**	**0.99**
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**6.45**	**7.87**	**1.99**	**0.75**	**1.55**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**5.22**	**6.11**	**1.5**	**0.79**	**1.42**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	--	--	--	--
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	**5.24**	**7.28**	**1.68**	**1**	**1.6**
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.78**	**2.42**	**0.64**	**0.38**	**0.58**
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**4.03**	**3.45**	**1.32**	**0.73**	**1.22**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	--	--	--	--
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	--	--	--	--	--
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**7.77**	**9.51**	**2.97**	**1.36**	**2.36**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	**7.75**	**13.57**	**5.34**	**1.28**	**2.41**
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	**6.64**	**17.63**	**9.57**	**1.14**	**2.34**
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	**4.93**	**11.98**	**9.08**	0.33 U	**1.13**
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	0.36 U	**8.5**	**7.64**	0.36 U	0.36 U
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.67**	**0.69**	**0.2**	**0.1**	**0.18**
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**16.39**	**19.55**	**4.12**	**2.06**	**4.83**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	**8.52**	**14.44 J**	**4.67**	**0.98**	**2.12**
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.37**	**2.72**	**0.28**	**0.05 J**	**0.27**
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**1.32**	**4.14**	**2.36**	**0.11**	**0.3**
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**2.63**	**12.02**	**9.28**	**0.14 J**	**0.65**
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**3.34**	**16.65**	**10.69**	0.23 U	**0.5**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**5.67**	**4.87**	**1.69**	**0.84**	**1.58**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	**0.09**	**0.73**	**0.15**	**0.02 J**	**0.04 J**
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.17**	**1.92**	**0.54**	**0.07**	**0.09**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.23**	**1.4**	**0.36**	**0.04 J**	**0.1 J**
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**2.77**	**10.7**	**6.99**	**0.52**	**1.5**
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**3.11**	**10.17**	**10.4**	**0.24**	**1.25**
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**6.56**	**23.78**	**24.02**	**0.29 J**	**1.91**
Perylene	mg/kg	NV	NV	NV	NV	NV	**2.78**	**2.16**	**1.09**	**0.36**	**0.72**
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**6.69**	**18.88**	**2.69**	**0.76**	**2.77**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**13.46**	**15.47**	**4.01**	**1.74**	**3.94**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**97.3 J[h]**	**145.5 J[h]**	**57.51 J[h]**	**13.51 J[h]**	**27.98 J[h]**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**79.11 J[h]**	**400.6 J[h]**	**213.78 J[h]**	**5.8 J**	**20.19 J**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**176.41 J**	**546.1 J**	**271.29 J**	**19.31 J**	**48.17 J**
General Chemistry											
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**52200**	**72800**	**69100**	**10800**	**14300**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							T-07	T-08	T-09	T-10	T-10
Sample Date:							9/28/2016	9/29/2016	9/29/2016	9/30/2016	9/30/2016
Sample Depth:							0-0.5 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS	0-0.5 ft BGS
Sample Type:			WDNR Criteria [2,3]								Duplicate
Photoionization Detector (PID) Reading (ppm) [1]							--	--	--	--	--
Applicable Screening Criteria		Soil Background UPL [4]	Sediment TEC (Threshold Effect Concentration) SQGV [5]	Sediment MEC (Midpoint Effect Concentration) SQGV [5]	Sediment PEC (Probable Effect Concentration) SQGV [5]	Soil Ecological Screening Level [6,7]					
Parameters	**Units**		a	b	c	h					
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	**0.02 J**	**0.13**	0.14 U	0.14 U	0.14 U
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.1**	**0.17**	**0.05 J**	0.13 U	**0.01 J**
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.1 J**	**0.7**	**0.15**	**0.02 J**	0.17 U
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.48**	**1.17**	**0.41**	**0.14**	**0.13**
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**1.49**	**2.61**	**0.85**	0.22 U	**0.32**
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**1.54**	**2.38**	**0.59 J**	**0.05 J**	**0.11 J**
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.38**	**0.8**	**0.08**	0.27 U	0.27 U
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.13**	**1.66**	**0.31**	**0.04 J**	**0.13**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.16**	**1.71**	**0.27**	**0.04 J**	**0.14**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	--	--	--	--
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	**0.13**	**1.81**	**0.18**	**0.04 J**	**0.15**
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.08**	**0.64**	**0.15**	**0.02**	**0.07**
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.16**	**1.49**	**0.27**	**0.03**	**0.14**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--	--	--	--	--
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	--	--	--	--	--
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.27**	**2.44**	**0.55**	**0.06 J**	**0.23**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	**0.55**	**2.52**	**0.56**	0.27 U	**0.18**
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	**1.45**	**2.85**	**0.42**	0.3 U	0.3 U
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	**1.33**	**2.16**	0.33 U	0.33 U	0.33 U
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	0.36 U	**2.19**	0.36 U	0.36 U	0.36 U
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.02**	**0.22**	**0.04**	0.33 U	**0.02 J**
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.35**	**3.86**	**0.95**	**0.1 J**	**0.39**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	**0.44**	**2.29**	**0.39**	**0.03**	**0.15**
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.05 J**	**0.15**	0.16 U	0.16 U	0.16 U
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.14**	**0.25**	**0.06**	**0.08**	**0.06**
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.28**	**0.28**	**0.1 J**	**0.05 J**	**0.06 J**
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	0.23 U	**0.15 J**	0.23 U	0.23 U	0.23 U
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.17**	**1.98**	**0.25**	**0.04**	**0.16**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	**0.04 J**	**0.03 J**	0.13 U	0.13 U	0.13 U
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.09**	**0.06**	**0.01 J**	0.13 U	0.13 U
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.04 J**	**0.08 J**	0.11 U	0.11 U	0.11 U
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--	--	--	--	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.91**	**0.91**	**0.19**	**0.37**	**0.34**
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.47**	**0.29**	**0.08**	**0.06**	**0.1**
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.68**	**0.45**	**0.1 J**	**0.09 J**	**0.15 J**
Perylene	mg/kg	NV	NV	NV	NV	NV	**0.31**	**1**	**0.12**	**0.04**	**0.09**
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.32**	**1.75**	**0.4**	**0.08 J**	**0.18**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.35**	**3.37**	**0.8**	**0.09 J**	**0.35**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**5.9 J [h]**	**32.19 J [h]**	**5.26 J [h]**	**0.53 J**	**2.2 J [h]**
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**7.13 J**	**12.36 J**	**3.07 J**	**0.94 J**	**1.46 J**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**13.03 J**	**44.55 J**	**8.33 J**	**1.47 J**	**3.66 J**
General Chemistry											
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**36500**	**41200**	**6880**	**4780 J**	**2420**

Table 3.1B

Sediment Screening Data - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:							**T-12**
Sample Date:							**9/30/2016**
Sample Depth:							**0-0.5 ft BGS**
Sample Type:							
Photoionization Detector (PID) Reading (ppm) [1]							**--**
Applicable Screening Criteria			**WDNR Criteria** [2,3]				
		Soil Background UPL [4]	**Sediment TEC (Threshold Effect Concentration) SQGV** [5]	**Sediment MEC (Midpoint Effect Concentration) SQGV** [5]	**Sediment PEC (Probable Effect Concentration) SQGV** [5]	**Soil Ecological Screening Level** [6,7]	
Parameters	**Units**		**a**	**b**	**c**	**h**	
Semi-Volatile Organic Compounds (SVOCs)							
Acenaphthene	mg/kg	NV	TEC-TOC [8]	MEC-TOC [8]	PEC-TOC [8]	NV	**0.13**
Acenaphthylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.21**
Anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.4**
C1-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.7**
C2-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**2.17**
C3-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**1.63**
C4-Anthracenes/Phenanthrenes	mg/kg	NV	NV	NV	NV	NV	**0.15**
Benzo(a)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.61**
C1-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--
C2-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--
C3-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--
C4-Benzo(a)anthracene/Chrysene	mg/kg	NV	NV	NV	NV	NV	--
Benzo(a)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.73**
Benzo(b)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--
Benzo(b,k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	**0.72**
Benzo(e)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.26**
Benzo(g,h,i)perylene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.62**
Benzo(j+k)fluoranthene	mg/kg	NV	NV	NV	NV	NV	--
Benzo(k)fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	--
1,1-Biphenyl	mg/kg	NV	0.20	0.20	0.20	0.20	--
C4-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--
Chrysene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.93**
Chrysene/Triphenylene	mg/kg	NV	NV	NV	NV	NV	--
C1-Chrysenes	mg/kg	NV	NV	NV	NV	NV	**2.18**
C2-Chrysenes	mg/kg	NV	NV	NV	NV	NV	**4.84**
C3-Chrysenes	mg/kg	NV	NV	NV	NV	NV	0.33 U
C4-Chrysenes	mg/kg	NV	NV	NV	NV	NV	0.36 U
Dibenz(a,h)anthracene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.08**
Dibenzothiophene	mg/kg	NV	NV	NV	NV	NV	--
C1-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--
C3-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--
C2-Dibenzothiophenes	mg/kg	NV	NV	NV	NV	NV	--
Fluoranthene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.39**
C1-Fluoranthenes/Pyrenes	mg/kg	NV	NV	NV	NV	NV	**1.09**
Fluorene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.14**
C1-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.31**
C2-Fluorenes	mg/kg	NV	NV	NV	NV	NV	**0.51**
C3-Fluorenes	mg/kg	NV	NV	NV	NV	NV	0.23 U
Indeno(1,2,3-cd)pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.76**
1-Methylnaphthalene	mg/kg	NV	NV	NV	NV	NV	**0.04 J**
2-Methylnaphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.1**
Naphthalene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.11**
C1-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	--
C2-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**2.16**
C3-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.38**
C4-Naphthalenes	mg/kg	NV	NV	NV	NV	NV	**0.55**
Perylene	mg/kg	NV	NV	NV	NV	NV	**0.71**
Phenanthrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**0.89**
Pyrene	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**1.25**
PAHs (High MW)	mg/kg	NV	NV	NV	NV	1.1	**16.17 J**[h]
PAHs (Low MW)	mg/kg	NV	NV	NV	NV	29	**10.58 J**
PAHs (total)	mg/kg	NV	TEC-TOC	MEC-TOC	PEC-TOC	NV	**26.75 J**
General Chemistry							
Organic Carbon (total)	mg/kg	NV	NV	NV	NV	NV	**75500 J**

Table 3.1C

Sediment Screening Data (Normalized to TOC) - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:						SS-01	SS-02	SS-03	SS-04	SS-05	SS-06
Sample Identification:						SE-031016-JN-021	SE-031016-JN-014	SE-031016-JN-018	SE-030916-JN-007	SE-031016-JN-011	SE-030916-JN-001
Sample Date:						3/10/2016	3/10/2016	3/10/2016	3/9/2016	3/10/2016	3/9/2016
Sample Depth:						(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS
Sample Type:											
Photoionization Detector (PID) Reading (ppm) [1]						0	28	150	88	18	16
Applicable Screening Criteria		WDNR Criteria [2,3]									
Parameters	Units	Soil Background UPL[5]	Sediment TEC (Threshold Effect Concentration) SQGV [4] a	Sediment MEC (Midpoint Effect Concentration) SQGV [4] b	Sediment PEC (Probable Effect Concentration) SQGV [4] c						
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	0.007	0.05	0.09	**0.00881[a]**	**0.00345**	**0.0269[a]**	**0.0634[ab]**	**0.126[abc]**	**0.0712[ab]**
Acenaphthylene	mg/kg	NV	0.006	0.07	0.13	**0.0189[a]**	**0.0124[a]**	**0.0154[a]**	**0.0343[a]**	**0.0166[a]**	**0.0245[a]**
Anthracene	mg/kg	NV	0.06	0.45	0.85	**0.0384**	**0.0147**	**0.0696[a]**	**0.136[a]**	**0.274[a]**	**0.173[a]**
Benzo(a)anthracene	mg/kg	NV	0.11	0.58	1.10	**0.0855**	**0.0295**	**0.124[a]**	**0.182[a]**	**0.477[a]**	**0.264[a]**
Benzo(a)pyrene	mg/kg	NV	0.15	0.80	1.50	**0.095**	**0.0349**	**0.115**	**0.15**	**0.445[a]**	**0.202[a]**
Benzo(b)fluoranthene	mg/kg	NV	0.24	6.80	13	**0.0724**	**0.0278**	**0.106**	**0.146**	**0.379[a]**	**0.254[a]**
Benzo(e)pyrene	mg/kg	NV	0.15	0.80	1.50	**0.0557**	**0.022**	**0.0796**	**0.122**	**0.28[a]**	**0.173[a]**
Benzo(g,h,i)perylene	mg/kg	NV	0.17	1.70	3.20	**0.0518**	**0.0211**	**0.0679**	**0.0876**	**0.237[a]**	**0.132**
Benzo(k)fluoranthene	mg/kg	NV	0.24	6.80	13	--	--	--	--	--	--
Chrysene	mg/kg	NV	0.17	0.73	1.30	--	--	--	--	--	--
Dibenz(a,h)anthracene	mg/kg	NV	0.03	0.08	0.14	**0.0144**	**0.00622**	**0.0202**	**0.0275**	**0.0726[a]**	**0.0364[a]**
Fluoranthene	mg/kg	NV	0.42	1.30	2.20	**0.19**	**0.0619**	**0.271**	**0.397**	**1.22[a]**	**0.789[a]**
Fluorene	mg/kg	NV	0.08	0.31	0.54	**0.0112**	**0.00402**	**0.0295**	**0.109[a]**	**0.166[a]**	**0.156[a]**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	0.20	1.7	3.20	**0.049**	**0.0196**	**0.064**	**0.0789**	**0.23[a]**	**0.114**
2-Methylnaphthalene	mg/kg	NV	0.02	0.11	0.20	**0.00497 J**	0.14 U	**0.0217[a]**	**0.917[abc]**	**0.165 J[ab]**	**0.114 J[a]**
Naphthalene	mg/kg	NV	0.18	0.37	0.56	**0.00438**	**0.00328**	**0.072**	**0.232[a]**	**0.156**	**0.0914**
Phenanthrene	mg/kg	NV	0.20	0.69	1.20	**0.103**	**0.043**	**0.236[a]**	**0.488[a]**	**1.15[ab]**	**1.06[ab]**
Pyrene	mg/kg	NV	0.20	0.86	1.50	**0.163**	**0.0561**	**0.245[a]**	**0.408[a]**	**0.935[ab]**	**0.606[a]**
Total PAHs	mg/kg	NV	1.6	12	23	**1.47 J**	**0.676 J**	**4.41 J[a]**	**16.6 J[ab]**	**10.9 J[a]**	**16.7 J[ab]**
Polychlorinated Biphenyls (PCBs)											
PCBs (total)	mg/kg	NV	0.06	0.37	0.68	**0.0102 J**	0.066 U	**0.039 J**	0.35 U	**0.0596 J**	**0.224[a]**

Table 3.1C

Sediment Screening Data (Normalized to TOC) - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:						SS-07	SS-09	SS-10	SS-11	SS-12	SS-13
Sample Identification:						SE-030916-JN-004	SE-031016-JN-024	SE-101816-JL-069	SE-101816-JL-067	SE-101816-JL-063	SE-101816-JL-065
Sample Date:						3/9/2016	3/10/2016	10/18/2016	10/18/2016	10/18/2016	10/18/2016
Sample Depth:						(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS
Sample Type:											
Photoionization Detector (PID) Reading (ppm) [1]						0	0	0.1	0.2	0	0
Applicable Screening Criteria		WDNR Criteria [2,3]									
		Soil Background UPL[5]	Sediment TEC (Threshold Effect Concentration) SQGV [4]	Sediment MEC (Midpoint Effect Concentration) SQGV [4]	Sediment PEC (Probable Effect Concentration) SQGV [4]						
Parameters	**Units**		**a**	**b**	**c**						
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	0.007	0.05	0.09	**0.0217[a]**	**0.0315[a]**	0.79 U	4.8 U	**0.00842 J[a]**	0.39 U
Acenaphthylene	mg/kg	NV	0.006	0.07	0.13	**0.0154[a]**	**0.011[a]**	0.79 U	4.8 U	0.51 U	0.39 U
Anthracene	mg/kg	NV	0.06	0.45	0.85	**0.0913[a]**	**0.0739[a]**	0.79 U	**0.238 J[a]**	**0.0249 J**	0.39 U
Benzo(a)anthracene	mg/kg	NV	0.11	0.58	1.10	**0.18[a]**	**0.142[a]**	**0.0172 J**	**0.952 J[ab]**	**0.0909 J**	**0.332 J[a]**
Benzo(a)pyrene	mg/kg	NV	0.15	0.80	1.50	**0.159[a]**	**0.123**	0.79 U	**0.884 J[ab]**	**0.0875 J**	0.39 U
Benzo(b)fluoranthene	mg/kg	NV	0.24	6.80	13	**0.163**	**0.128**	0.79 U	**1.29 J[a]**	**0.128 J**	**0.569 J[a]**
Benzo(e)pyrene	mg/kg	NV	0.15	0.80	1.50	**0.119**	**0.0924**	0.79 U	**0.605 J[a]**	**0.064 J**	0.39 U
Benzo(g,h,i)perylene	mg/kg	NV	0.17	1.70	3.20	**0.101**	**0.0824**	0.79 U	**0.558 J[a]**	**0.0606 J**	**0.265 J[a]**
Benzo(k)fluoranthene	mg/kg	NV	0.24	6.80	13	--	--	0.79 U	**0.469 J[a]**	**0.0505 J**	0.39 U
Chrysene	mg/kg	NV	0.17	0.73	1.30	--	--	0.79 U	**1.09 J[ab]**	**0.101 J**	**0.422 J[a]**
Dibenz(a,h)anthracene	mg/kg	NV	0.03	0.08	0.14	**0.0268**	**0.0197**	0.79 U	4.8 U	0.51 U	0.39 U
Fluoranthene	mg/kg	NV	0.42	1.30	2.20	**0.452[a]**	**0.366**	**0.0259 J**	**2.04 J[ab]**	**0.215**	**0.758 J[a]**
Fluorene	mg/kg	NV	0.08	0.31	0.54	**0.0464**	**0.0455**	0.79 U	4.8 U	**0.0114 J**	0.39 U
Indeno(1,2,3-cd)pyrene	mg/kg	NV	0.20	1.7	3.20	**0.0872**	**0.0705**	0.79 U	**0.429 J[a]**	**0.064 J**	**0.303 J[a]**
2-Methylnaphthalene	mg/kg	NV	0.02	0.11	0.20	**0.067[a]**	**0.0275[a]**	**0.00292 J**	**0.0816 J[a]**	**0.0246 J[a]**	**0.0133 J**
Naphthalene	mg/kg	NV	0.18	0.37	0.56	**0.0339**	**0.0183**	0.79 U	4.8 U	0.51 U	0.39 U
Phenanthrene	mg/kg	NV	0.20	0.69	1.20	**0.244[a]**	**0.365[a]**	**0.0155 J**	**1.22 J[ab]**	**0.131 J**	**0.289 J[a]**
Pyrene	mg/kg	NV	0.20	0.86	1.50	**0.408[a]**	**0.319[a]**	**0.0283 J**	**1.9 J[abc]**	**0.195**	**0.711 J[a]**
Total PAHs	mg/kg	NV	1.6	12	23	**8.92 J[a]**	**6.82 J[a]**	**0.429 J**	**16.2 J[ab]**	**2.89 J[a]**	**5.49 J[a]**
Polychlorinated Biphenyls (PCBs)											
PCBs (total)	mg/kg	NV	0.06	0.37	0.68	**0.0743 J[a]**	**0.034 J**	0.13 U	**0.177[a]**	**0.0182 J**	**0.384[a]**

Table 3.1C

Sediment Screening Data (Normalized to TOC) - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:						SS-14	SS-15	SS-16	SS-17	T-01	T-02
Sample Identification:						SE-101716-JL-060	SE-101716-JL-053	SE-101716-JL-051	SE-100716-JL-049	SE-092916-JL-009	SE-092916-JL-006
Sample Date:						10/17/2016	10/17/2016	10/17/2016	10/7/2016	9/29/2016	9/29/2016
Sample Depth:						(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS
Sample Type:											
Photoionization Detector (PID) Reading (ppm) [1]						0.1	0.1	4.1	0.2	--	--
Applicable Screening Criteria			WDNR Criteria [2,3]								
Parameters	Units	Soil Background UPL[5]	Sediment TEC (Threshold Effect Concentration) SQGV [4] a	Sediment MEC (Midpoint Effect Concentration) SQGV [4] b	Sediment PEC (Probable Effect Concentration) SQGV [4] c						
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	0.007	0.05	0.09	0.42 U	**0.0255 J[a]**	**0.0251 J[a]**	**0.0134 J[a]**	**0.0293[a]**	**0.245[abc]**
Acenaphthylene	mg/kg	NV	0.006	0.07	0.13	0.42 U	0.43 U	0.4 U	0.42 U	**0.0342[a]**	**0.0307[a]**
Anthracene	mg/kg	NV	0.06	0.45	0.85	**0.051 J**	**0.0731 J[a]**	**0.0518 J**	**0.0394 J**	**0.191[a]**	**0.665[ab]**
Benzo(a)anthracene	mg/kg	NV	0.11	0.58	1.10	**0.195 J[a]**	**0.34 J[a]**	**0.104 J**	**0.155 J[a]**	**0.318[a]**	**1.24[abc]**
Benzo(a)pyrene	mg/kg	NV	0.15	0.80	1.50	**0.202 J[a]**	**0.357 J[a]**	**0.0916 J**	**0.169 J[a]**	**0.247[a]**	**1[ab]**
Benzo(b)fluoranthene	mg/kg	NV	0.24	6.80	13	**0.302 J[a]**	**0.527 J[a]**	**0.139 J**	**0.239 J**	--	--
Benzo(e)pyrene	mg/kg	NV	0.15	0.80	1.50	**0.142 J**	**0.272 J[a]**	**0.0717 J**	**0.134 J**	**0.0954**	**0.341[a]**
Benzo(g,h,i)perylene	mg/kg	NV	0.17	1.70	3.20	**0.128 J**	**0.238 J[a]**	**0.0558 J**	**0.0986 J**	**0.2[a]**	**0.772[a]**
Benzo(k)fluoranthene	mg/kg	NV	0.24	6.80	13	0.42 U	**0.204 J**	**0.0478 J**	**0.0986 J**	--	--
Chrysene	mg/kg	NV	0.17	0.73	1.30	**0.232 J[a]**	**0.374 J[a]**	**0.127 J**	**0.197 J[a]**	**0.457[a]**	**1.49[abc]**
Dibenz(a,h)anthracene	mg/kg	NV	0.03	0.08	0.14	0.42 U	0.43 U	**0.0139 J**	0.42 U	**0.0318**	**0.128[ab]**
Fluoranthene	mg/kg	NV	0.42	1.30	2.20	**0.418 J**	**0.748[a]**	**0.299**	**0.366**	**0.709[a]**	**3.14[abc]**
Fluorene	mg/kg	NV	0.08	0.31	0.54	0.42 U	0.43 U	**0.0108 J**	**0.0197 J**	**0.0416**	**0.262[a]**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	0.20	1.7	3.20	**0.139 J**	**0.272 J[a]**	**0.0677 J**	**0.113 J**	**0.264[a]**	**1.09[a]**
2-Methylnaphthalene	mg/kg	NV	0.02	0.11	0.20	0.019 U	0.02 U	0.3 U	**0.0141 J**	**0.0929[a]**	**0.0326[a]**
Naphthalene	mg/kg	NV	0.18	0.37	0.56	0.42 U	0.43 U	0.4 U	0.42 U	**0.0636**	**0.0441**
Phenanthrene	mg/kg	NV	0.20	0.69	1.20	**0.186 J**	**0.442 J[a]**	**0.247[a]**	**0.204 J**	**0.386[a]**	**1.28[abc]**
Pyrene	mg/kg	NV	0.20	0.86	1.50	**0.418 J[a]**	**0.697 J[a]**	**0.275[a]**	**0.345[a]**	**0.645[a]**	**2.58[abc]**
Total PAHs	mg/kg	NV	1.6	12	23	**3.43 J[a]**	**5.49 J[a]**	**4.87 J[a]**	**2.97 J[a]**	**33.3 J[abc]**	**33.8 J[abc]**
Polychlorinated Biphenyls (PCBs)											
PCBs (total)	mg/kg	NV	0.06	0.37	0.68	0.063 U	0.067 U	**0.0147 J**	0.066 U	**0.117[a]**	**0.163 J[a]**

Table 3.1C

Sediment Screening Data (Normalized to TOC) - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:						T-03	T-04	T-05	T-06	T-07	T-08
Sample Identification:						**SE-092816-JL-005**	**SE-092816-JL-004**	**SE-092816-JL-003**	**SE-092816-JL-002**	**SE-092816-JL-001**	**SE-092916-JL-007**
Sample Date:						**9/28/2016**	**9/28/2016**	**9/28/2016**	**9/28/2016**	**9/28/2016**	**9/29/2016**
Sample Depth:						**(0-0.5) ft BGS**	**(0-0.5) ft BGS**	**(0-0.5) ft BGS**	**(0-0.5) ft BGS**	**(0-0.5) ft BGS**	**(0-0.5) ft BGS**
Sample Type:											
Photoionization Detector (PID) Reading (ppm) [1]						**--**	**--**	**--**	**--**	**--**	**--**
Applicable Screening Criteria		**Soil Background UPL**[5]	**WDNR Criteria** [2,3] **Sediment TEC (Threshold Effect Concentration) SQGV** [4]	**Sediment MEC (Midpoint Effect Concentration) SQGV** [4]	**Sediment PEC (Probable Effect Concentration) SQGV** [4]						
Parameters	**Units**		**a**	**b**	**c**						
Semi-Volatile Organic Compounds (SVOCs)											
Acenaphthene	mg/kg	NV	0.007	0.05	0.09	**0.21**[abc]	**0.0391**[a]	**0.0278 J**[a]	**0.133**[abc]	**0.00548 J**	**0.0316**[a]
Acenaphthylene	mg/kg	NV	0.006	0.07	0.13	**0.0385**[a]	**0.026**[a]	**0.037 J**[a]	**0.042 J**[a]	**0.0274**[a]	**0.0413**[a]
Anthracene	mg/kg	NV	0.06	0.45	0.85	**1.05**[abc]	**0.213**[a]	**0.194**[a]	**0.517**[ab]	**0.0274 J**	**0.17**[a]
Benzo(a)anthracene	mg/kg	NV	0.11	0.58	1.10	**1.08**[ab]	**0.288**[a]	**0.694**[ab]	**1.08**[ab]	**0.0356**	**0.403**[a]
Benzo(a)pyrene	mg/kg	NV	0.15	0.80	1.50	**0.839**[a]	**0.217**[a]	**0.731**[a]	**0.993**[ab]	**0.0438**	**0.415**[a]
Benzo(b)fluoranthene	mg/kg	NV	0.24	6.80	13	--	--	--	--	--	--
Benzo(e)pyrene	mg/kg	NV	0.15	0.80	1.50	**0.332**[a]	**0.0926**	**0.352**[a]	**0.406**[a]	**0.0219**	**0.155**
Benzo(g,h,i)perylene	mg/kg	NV	0.17	1.70	3.20	**0.474**[a]	**0.191**[a]	**0.676**[a]	**0.853**[a]	**0.0438**	**0.362**[a]
Benzo(k)fluoranthene	mg/kg	NV	0.24	6.80	13	--	--	--	--	--	--
Chrysene	mg/kg	NV	0.17	0.73	1.30	**1.31**[ab]	**0.43**[a]	**1.26**[ab]	**1.65**[abc]	**0.074**	**0.592**[a]
Dibenz(a,h)anthracene	mg/kg	NV	0.03	0.08	0.14	**0.0948**[ab]	**0.0289**	**0.0926**[ab]	**0.126**[ab]	**0.00548**	**0.0534**[a]
Fluoranthene	mg/kg	NV	0.42	1.30	2.20	**2.69**[abc]	**0.596**[a]	**1.91**[ab]	**3.38**[abc]	**0.0959**	**0.937**[a]
Fluorene	mg/kg	NV	0.08	0.31	0.54	**0.374**[ab]	**0.0405**	**0.0463 J**	**0.189**[a]	**0.0137 J**	**0.0364**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	0.20	1.7	3.20	**0.669**[a]	**0.245**[a]	**0.778**[a]	**1.1**[a]	**0.0466**	**0.481**[a]
2-Methylnaphthalene	mg/kg	NV	0.02	0.11	0.20	**0.264**[abc]	**0.0781**[a]	**0.0648**[a]	**0.0629**[a]	**0.0247**[a]	**0.0146**
Naphthalene	mg/kg	NV	0.18	0.37	0.56	**0.192**[a]	**0.0521**	**0.037 J**	**0.0699 J**	**0.011 J**	**0.0194 J**
Phenanthrene	mg/kg	NV	0.20	0.69	1.20	**2.59**[abc]	**0.389**[a]	**0.704**[a]	**1.94**[abc]	**0.0877**	**0.425**[a]
Pyrene	mg/kg	NV	0.20	0.86	1.50	**2.13**[abc]	**0.58**[a]	**1.61**[abc]	**2.76**[abc]	**0.0959**	**0.818**[a]
Total PAHs	mg/kg	NV	1.6	12	23	**75 J**[abc]	**39.3 J**[abc]	**17.9 J**[ab]	**33.7 J**[abc]	**3.57 J**[a]	**10.8 J**[a]
Polychlorinated Biphenyls (PCBs)											
PCBs (total)	mg/kg	NV	0.06	0.37	0.68	**0.038 J**	0.11 U	0.089 U	0.061 U	0.079 U	0.11 U

Table 3.1C

Sediment Screening Data (Normalized to TOC) - Ecological Risk Assessment
Rock River (RM 178.5 to 180.5) Investigation Report
GM Janesville Assembly Plant
Janesville, Wisconsin

Sample Location:						T-09	T-10	T-10	T-12
Sample Identification:						SE-092916-JL-008	SE-093016-JL-010	SE-093016-JL-011	SE-093016-JL-012
Sample Date:						9/29/2016	9/30/2016	9/30/2016	9/30/2016
Sample Depth:			WDNR Criteria [2,3]			(0-0.5) ft BGS	(0-0.5) ft BGS	(0-0.5) ft BGS Duplicate	(0-0.5) ft BGS
Sample Type:									
Photoionization Detector (PID) Reading (ppm) [1]						--	--	--	--
Applicable Screening Criteria		Soil Background UPL[5]	Sediment TEC (Threshold Effect Concentration) SQGV [4]	Sediment MEC (Midpoint Effect Concentration) SQGV [4]	Sediment PEC (Probable Effect Concentration) SQGV [4]				
Parameters	**Units**		**a**	**b**	**c**				
Semi-Volatile Organic Compounds (SVOCs)									
Acenaphthene	mg/kg	NV	0.007	0.05	0.09	0.14 U	0.14 U	0.14 U	**0.0172[a]**
Acenaphthylene	mg/kg	NV	0.006	0.07	0.13	**0.0727 J[ab]**	0.13 U	**0.0413 J[a]**	**0.0278[a]**
Anthracene	mg/kg	NV	0.06	0.45	0.85	**0.218[a]**	**0.0418 J**	0.17 U	**0.053**
Benzo(a)anthracene	mg/kg	NV	0.11	0.58	1.10	**0.451[a]**	**0.0837 J**	**0.537[a]**	**0.0808**
Benzo(a)pyrene	mg/kg	NV	0.15	0.80	1.50	**0.392[a]**	**0.0837 J**	**0.579[a]**	**0.0967**
Benzo(b)fluoranthene	mg/kg	NV	0.24	6.80	13	--	--	--	--
Benzo(e)pyrene	mg/kg	NV	0.15	0.80	1.50	**0.218[a]**	**0.0418**	**0.289[a]**	**0.0344**
Benzo(g,h,i)perylene	mg/kg	NV	0.17	1.70	3.20	**0.392[a]**	**0.0628**	**0.579[a]**	**0.0821**
Benzo(k)fluoranthene	mg/kg	NV	0.24	6.80	13	--	--	--	--
Chrysene	mg/kg	NV	0.17	0.73	1.30	**0.799[ab]**	**0.126 J**	**0.95[ab]**	**0.123**
Dibenz(a,h)anthracene	mg/kg	NV	0.03	0.08	0.14	**0.0581[a]**	0.33 U	**0.0826 J[a]**	**0.0106**
Fluoranthene	mg/kg	NV	0.42	1.30	2.20	**1.38[a]**	**0.209 J**	**1.61[ab]**	**0.184**
Fluorene	mg/kg	NV	0.08	0.31	0.54	0.16 U	0.16 U	0.16 U	**0.0185**
Indeno(1,2,3-cd)pyrene	mg/kg	NV	0.20	1.7	3.20	**0.363[a]**	**0.0837**	**0.661[a]**	**0.101**
2-Methylnaphthalene	mg/kg	NV	0.02	0.11	0.20	**0.0145 J**	0.13 U	0.13 U	**0.0132**
Naphthalene	mg/kg	NV	0.18	0.37	0.56	0.11 U	0.11 U	0.11 U	**0.0146**
Phenanthrene	mg/kg	NV	0.20	0.69	1.20	**0.581[a]**	**0.167 J**	**0.744[ab]**	**0.118**
Pyrene	mg/kg	NV	0.20	0.86	1.50	**1.16[ab]**	**0.188 J**	**1.45[ab]**	**0.166**
Total PAHs	mg/kg	NV	1.6	12	23	**12.1 J[a]**	**3.08 J[a]**	**15.1 J[ab]**	**3.54 J[a]**
Polychlorinated Biphenyls (PCBs)									
PCBs (total)	mg/kg	NV	0.06	0.37	0.68	0.059 U	0.062 U	0.065 U	0.22 U