East Plant Area TSCA Vault Annual Report Calendar Year 2021

GM Bedford Castings Operations
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General Motors, LLC

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→ The Power of Commitment

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Terms and Acronyms

AFOS	above the floor of sump
AMSL	above mean sea level
Approval(s)	U.S. EPA and IDEM PCB -Risk Based Disposal Approvals
CA	Corrective Action
CFR	Code of Federal Regulations
EI	Environmental Indicator
EQ tank	equalization tank
Facility	GM GPS Bedford Facility in Bedford, Indiana
ft	foot/feet
GHD	formerly Conestoga-Rovers & Associates, Inc.
GM	General Motors LLC
gpm	gallons per minute
GSP	Global Propulsion Systems
GUS	gravel underdrain system
GWTP	Ground Water Treatment Plant
HASP	Health and Safety Plan
IDEM	Indiana Department of Environmental Management
IM	Interim Measure
LAR	Leakage Action Rate
LCS	leachate collection system
LDS	leak detection system
mg/L	milligram-per-liter
NPDES	National Pollutant Discharge Elimination System
PCB	Polychlorinated biphenyl
PCP	-Post Closure Plan
RA	Removal Action
RCRA	Resource Conservation and Recovery Act
Report	East Plant Area Vault Annual Monitoring Report Covering the Calendar Year of 2018
SSC	Site Source Control
SSC WTP	the -on Facility 300 gallon per minute design capacity water treatment plant
TSCA	Toxic Substance Control Act
U.S. EPA	United States Environmental Protection Agency
Vault	East Plant Area TSCA landfill vault
VOCs	volatile organic compounds
µg/L	microgram-per-liter

1. Introduction

This Annual Monitoring Report (Report) summarizes data from calendar year 2021 for -post closure monitoring activities for the Toxic Substances Control Act (TSCA) landfill vault (Vault), located in the East Plant Area of the General Motors LLC (GM) Bedford Casting Operations (BCO) Facility (Facility), in Lawrence County, Bedford, Indiana. This Report has been prepared by GHD on behalf of GM in accordance with the Resource Conservation and Recovery Act (RCRA) Administrative Order on Consent effective August 14, 2014 (U.S. EPA Docket No. RCRA-05-2014-0011), and the East Plant Area Vault -Post Closure Plan (PCP) (GHD, February 3, 2012; as amended by Revision 1, August 25, 2016). The Vault is a part of the RCRA Corrective Action (CA) activities being conducted at the Facility under the East Plant Area Interim Measure (IM) concurrent with other IMs at the Facility. The agency approvals for the Vault were effective October 18, 2006, and were issued pursuant to 40 Code of Federal Regulations (CFR) § 761.61 (c) for the risk based approval for the disposal of PCB contaminated waste in the Vault. The Vault was constructed as a component of the East Plant Area IM during RCRA CA activities initiated under the -Performance Based CA Agreement (effective March 20, 2001, and amended October 1, 2002, March 29, 2007, and May 9, 2008) for the Facility. A RCRA administrative order between U.S. EPA and GM LLC was executed on August 4, 2014 (Administrative Order on Consent (AOC) EPA Docket No. RCRA-05-2014-0011) and replaces the -Performance Based CA Agreement, which has been terminated.

Final closure of the Vault occurred on March 27, 2012. A -Post Closure Plan (PCP) was submitted to U.S. EPA on February 3, 2012, which stated that the -post closure monitoring of the Vault would continue to include the quantity of liquid collected from the leachate collection system (LCS), leak detection system (LDS), and gravel underdrain system (GUS), the water elevations in these systems, analytical results from samples collected from these systems, and effluent quantity/quality from the -onsite groundwater treatment plant (GWTP). The PCP prescribes a reduced frequency of record keeping procedures to, at a minimum, once per month; however, monitoring was generally completed on a daily (GUS) and weekly (LCS and LDS) basis in 2021 Additional -post closure monitoring required by the PCP includes semi-annual inspections of the Vault cover system, recorded in a maintenance log, for the first two years following closure and annually thereafter. Consistent with the PCP and the RCRA AOC, the next annual report covering -post closure monitoring data for the 2022 calendar year will be submitted to U.S. EPA on or before July 15, 2023.

Daily operation and maintenance activities associated with the GWTP, LCS, LDC, GUS and Wet Wells are conducted by Beacon O&M Services (Beacon) under the direction of GM.

1.1 Purpose and Organization of Report

This Report presents the requirements for current annual reporting for the Vault in compliance with the monitoring and reporting requirements set out in the PCP and the Approvals by U.S. EPA and IDEM.

This Report is organized as follows:

Section 2.0 – Summary of Record Keeping Log

This section provides a summary of the quantity of liquid collected in 2021 from the LCS, LDS, and the GUS sumps and quantity discharged from these systems to the GWTP for treatment; along with water elevations in the GUS, over the primary liner (LCS), and over the secondary liner (LDS); and the Vault inspection log.

Section 3.0 – Analytical Results

This section provides analytical results for 2021 from the monitoring of the LCS, LDS, GUS, and combined effluent from the GWTP, and groundwater monitoring wells near the Vault.

Section 4.0 – Leachate and Leak Detection Water Disposal

This section provides details related to the volume, PCB concentration, and disposal for leachate and leak detection water with a PCB concentration equal to or greater than (≥) 1 part per million (ppm), if any.

Section 5.0 – Summary and Review of Water Elevations

This section provides a summary and review of the water elevations and depth over the primary liner (LCS), the secondary liner (LDS), and in the GUS.

Section 6.0 – Issues Encountered and Rectification Actions

This section identifies issues and/or problems encountered related to the Vault (i.e., performance of monitoring systems, analytical results, physical characteristics, etc.) and actions taken to rectify them.

Section 7.0 – Spill Cleanup Reports

This section identifies any PCB spill cleanups as established in accordance with the Site Health and Safety Plan (HASP).

Section 8.0 – Financial Assurance

This section discusses financial assurance for the Vault.

Section 9.0 – References

This section presents references cited in this Report.

2. Summary of Record Keeping Log

The following information was recorded, as required by the PCP:

1. The quantity of liquid collected from the LCS
2. The quantity of liquid collected from the LDS
3. The quantity of liquid collected from the GUS
4. The elevation of liquid over the primary liner, the secondary liner and in the GUS
5. The amount of water (liquid) discharged from the LCS, LDS, and GUS to the GWTP, and the respective PCB concentration
6. The Vault inspection logs and maintenance activities

2.1 Summary of LCS, LDS, and GUS Sump Monitoring Logs

In 2021, the water level in the GUS system was recorded on a daily basis by the automated system. During 2021, water levels in the LDS and LCS systems were manually measured and recorded on a weekly basis. Summaries of the sump monitoring logs for the LCS, LDS, and GUS including the quantity of liquid pumped from each of the Vault collection systems are presented in Tables 2.1, 2.2, and 2.3, respectively. Field logs for the LCS, LDS, and GUS are presented in Appendices A.1, A.2, and A.3, respectively. In accordance with the Approvals, water pumped from the LCS and LDS is treated and managed in compliance with the National Pollutant Discharge Elimination System (NPDES) permit (NPDES Permit No. IN0064424) for the Site. It should also be noted that Tables 2.1 through 2.3 incorporate corrections, calculations, and additional annotations over the field logs found in Appendix A.

Table 2.4 presents a summary of the water elevations to allow for direct comparison between the various layers of the Vault liner system (listed in order from top to bottom: LCS, lowest point of the primary liner system, LDS, lowest point of the secondary liner system, and GUS). Table 2.5 presents a summary of the monthly maximum water elevation in each of the sumps. Note that the groundwater elevation at the GUS sump remained stable during 2021, however, the static elevation is above the operational level of 667.5 ft. AMSL, as highlighted in the table, due to failure of the original GUS pump and subsequent temporary pumps. After determining that installing a new pump into the existing GUS infrastructure was not feasible, GM LLC is now evaluating options to install a new extraction well into the GUS in a manner that would not penetrate the Vault liner system. Copies of the field logs for manual measurements for the LCS, LDS, and GUS sumps, as well as recorded values from the automated pumping system are provided in Appendix A.

2.2 Summary of Water Treated in the Groundwater Treatment Plant

Water removed from the Vault sumps is directed to the GWTP, which treats PCB impacted water removed from the Vault Sumps and the SSC wet wells (including Wet Wells #1 through #4). Approximately 10,475 gallons of water was removed from the LCS and 191 gallons from the LDS during 2021. There was no water removed from the GUS during the reporting period. The GWTP discharge at Outfall 004 is sampled monthly under the NPDES permit (NPDES Permit No. IN0064424). Data collected during the 2021 calendar year were reported in accordance with the NPDES permit.

The volume of water discharged from the GWTP is recorded daily. A summary of the total monthly volume and daily average of treated water in the GWTP for 2021 is provided in Table 2.6.

2.3 Summary of the Vault Inspection Log and Maintenance Activities

Maintenance and inspection activities were performed at the Vault during the 2021 calendar year.

GHD completed inspection of the Vault Cover System on a semi-annual basis, concurrent with inspection of the West Plant Area and East Plant Area Cover Systems. These inspections were completed on May 26, 2021, and November 17, 2021. The findings of these inspections were previously reported in the semi-annual progress reports. The inspection forms are provided in Appendix B. A summary of the findings related to the Vault Cover System in 2021 is as follows:

– There were no significant findings (i.e., no issues that pose a risk to the integrity of the cover) for the Vault Cover System. Copies of the Cover System inspection forms can be found in Appendix B – Cover System Inspection.
– The cover system was inspected for the presence of animal burrows. During the May 2021 inspection, 3 animal burrows were observed, but did not appear to be active based on ground disturbance at the hole.
– Tree and brush saplings were removed where encountered.
– Cover system grasses in one area were noted to be tall during the May inspection. During the same week of the cover system inspection a local contractor was in the process of conducting the initial mowing event of the cover system.

Details of the maintenance issues encountered with the LCS, LDS and GUS pumps, are discussed in Section 6.

The magnetic flow meter (mag meter) identified as FIT-Vault (serial number F1095B16000), measured the combined volume of water being pumped from the Vault sump systems (LCS, LDS, and GUS) via the permanent forcemain to the EQ tank, before being treated in the GWTP. The mag meter calibration is conducted biennially. The calibration of the mag meter was last conducted on August 7, 2020. The next calibration will be conducted in the 2022 calendar year.

3. Analytical Results

Sampling methods and analytical procedures were performed in compliance with 40 CFR Part 136, as amended in 41 FR 52779 on December 1, 1976.

3.1 Groundwater Monitoring Analytical Results

Groundwater sampling specific to the Vault is conducted at location 9-4 and CH-20. The closest well in proximity of the Vault is well 94. Prior to the GUS sump access pipe becoming inaccessible for sampling, the GUS sump was also monitored as part of this program as well. In accordance with the September 18, 2014, responses to U.S. EPA March 18, 2014, comments on the PCP, sampling at these locations is coordinated with the biannual Environmental Indicator (EI) CA750 monitoring program. EI CA750 groundwater samples were collected for the Facility, including samples downgradient from the Vault (e.g., 9-4). The theoretical leakage action rate of the LDS did not significantly change in 2021 (see Section 5.2 for further discussion), suggesting there was no release of leachate into the groundwater system from the GUS or groundwater flow into the LDS. In addition, there is no evidence of a release from the Vault to the groundwater table based on changes in elevations in the LCS, LDS, and GUS sumps (Table 2.4). Groundwater monitoring (static water levels and/or sampling) locations under the EI CA750 in the vicinity of the Vault are shown on Figure 3.1.

Static groundwater levels are measured quarterly, and groundwater samples are collected during the second and fourth quarters. The first EI CA750 groundwater sampling event of 2021, was conducted on May 24, 25, 26, and 27, 2021. The second semi-annual sampling event of 2021 was conducted on November 15, 17, 18, and 19, 2021.

Groundwater samples are collected at the perimeter of the Facility on a semi-annual basis under the EI CA750 monitoring program. EI CA750 groundwater monitoring results for the May and November 2021 events were previously reported under separate cover and are summarized in Tables 3.1 and 3.2, respectively. Figures 3.2 and 3.3 present databoxes which summarize the groundwater and surface water analytical results for the PCBs sampling locations in the EI CA750 monitoring program for the May and November semi-annual sampling events of 2021, respectively.

Locations 9-4 and CH-20 are downgradient of the Vault and were non-detect for PCBs during the EI CA750 2021 monitoring events. Locations 9-4 and CH-20 have been non-detect for PCBs since sampling began in 2014 (location 9-4) and in 2015 (location CH-20). PCBs were detected at other wells within the Facility boundary related to historical sources and not hydraulically connected (downgradient of) to the Vault (e.g., wells near Area of Interest 8 [AOI 8]).

Sample Quality

The analytical data collected during the first and second half of 2021 EI CA750 sampling events were within the acceptable qualifications, as noted in the Memorandum regarding Full Validation of the Analytical Results previously submitted with the EI CA750 results (Memos 3 and 9).

3.2 Leachate and Leak Detection Water Monitoring Analytical Results

The PCP requires water from the LCS and LDS be sampled at least monthly for PCBs, contingent on the presence of sufficient water to collect a sample. However, as noted in an email to EPA and IDEM on May 19, 2022, GM LLC determined that staff with its service provider, Treatment Technologies, had mistakenly believed that a temporary frequency change during the COVID pandemic had been a permanent change to an annual sampling event starting in July of 2020. Therefore, no monthly samples were collected during 2021. Treatment Technologies did, however, collect samples from both the LCS and LDS on July 13, 2021, as sufficient water was present. LCS water samples were analyzed for PCBs and volatile organic compounds. LDS water samples were analyzed for PCBs. Analytical

results are presented in Table 3.3. Analytical results were non detect for PCBs. More information on this erroneous sampling issue is summarized in Section 6.

3.3 GUS Analytical Results

The GUS sump sampling is part of the bi-annual EI CA750 monitoring program since 2015, pursuant to U.S. EPA request, to assess ongoing conditions. Due to upgradient contamination still present in the groundwater, analytical detections of PCBs in the water from the GUS sump do not reflect any leachate release or changed conditions in the Vault. With respect to monitoring potential environmental impacts, continued monitoring levels of the LCS, LDS, and GUS as well as the downgradient monitoring as conducted during the EI CA750 is the best way to monitor for downgradient changes to groundwater quality.

There was no sampling completed at the GUS in 2021. The temporary pump placed in the GUS has failed and attempts to remove and replace the pump have been unsuccessful and sampling with a bailer was not possible due to space restrictions within the sump and pump casings preventing a bailer from being lowered to the GUS water level. GHD and GM are currently evaluating the installation of a horizontal well within the GUS for mass PCB removal.

3.4 Water Treatment Facility Analytical Results

Water removed from the LCS, LDS and GUS is directed via the permanent forcemain to the GWTP's equalization tank. The Vault water is combined with groundwater from the Site Source Control (SSC) Wet Wells #1 through #3 and the Pilot Perimeter Groundwater Collection Trench Wet Well #4 prior to treatment and discharge under NPDES Permit No. IN0064424.

The GWTP was sampled monthly in accordance with the NPDES permit. Effluent results for PCBs were non-detect during the reporting year. Analytical results for 2021 monthly Outfall 004 discharge sampling events are presented in Table 3.4.

4. Leachate and Leak Detection Water Disposal

Pursuant to U.S. EPA's Risk-Based Approval to Dispose of PCBs dated October 18, 2006; Conditions of Approval; Leachate and Leak Detection System Water Monitoring and Disposal, Section 10.b. – *"Leachate and leak detection water with PCB concentrations from 1 ppm to, but not including, 50 ppm is TSCA reportable material that must be managed in compliance with the … NPDES Permit*." There were no analytical results with ≥1 mg/L (ppm) PCBs for water samples collected from the LCS or LDS during the calendar year and no evidence of hydraulic conductivity between the layers. Pumped leachate and leak detection liquid were treated by the GWTP.

5. Summary and Review of Water Elevations

The water level above the primary liner (i.e., in the LCS), the secondary liner (i.e., in the LDS) and GUS continued to be generally measured on a weekly basis throughout 2021. Maximum daily water levels recorded at the GUS sump within the 24-hour day are automatically stored at the PLC in the WTP and retrieved by the operator once per week (the PLC stores 7 days of data).

Tables 2.1, 2.2, and 2.3 show limited water was removed from the LCS (10,475 gallons), LDS (191 gallons) and GUS (0 gallons) during the reporting period. The last recorded amount removed from the LCS was approximately 205

gallons in 2020 and 783.7 gallons from the LDS in 2020. Table 2.4 presents a summary of the water elevations in each of the sumps. Summaries of the maximum monthly water elevations in each of the systems are presented in Table 2.5. Copies of the field logs collected from the LCS, LDS, and GUS sumps are provided in Appendix A.

Pumping operations began in 2006, with a significant reduction in the average monthly volume of water removed through 2009. Since 2010, the average monthly volume of water removed has continued to decline, but at a lessening rate. A summary of the average monthly volume of water removed from the LCS and the LDS since 2010 is presented on Figure 5.1 (volume presented is from both the calculation method as used up to 2014 and based on flow meter readings for the LDS to allow for direct comparison between calculation methods and historical monitoring data).

5.1 Leachate Collection System

Manual water level measurements were generally collected on a weekly basis (in excess of the monthly monitoring required by the PCP) in 2021. The automated system records the maximum level and total pumped quantities on a daily basis. At the end of June 2020, communications between the LCS and the PLC at the GWTP became sporadic before completely losing connection. The modems were replaced with radio modems in 2021.

During 2021 the water elevation in the LCS was maintained within the operating limits set out in the PCP. The water levels recorded by the transducers are transmitted through the wireless modem to the PLC. It is these water level readings (converted to elevation) that trigger the pump in the LCS to turn ‘on’ (set point is 674 feet AMSL). In August 2021, maintenance/repairs were made to the LCS communication system. Subsequently, the water level readings recorded at the GWTP included spurious negative water levels (note weekly water level readings are collected manually). This can either be a result of calibration errors, a bad sensor or both. The manual water levels continue to be monitored to determine if the LCS requires pumping until the transducer can be recalibrated and the senor replaced, if necessary.

During 2021, the depth of water in the LCS was maintained at less than 1-foot above floor of sump (AFOS) (bottom of sump at 671.00 ft AMSL), with the maximum depth of 671.84 ft AFOS (equivalent water surface depth of 68.99 ft from the top of the sump as manually measured) on December 27, 2021.

The total amount of water removed from the LCS in 2021 was estimated to be 10,475 gallons, which is greater than the estimated 205 gallons pumped in 2020. Small amounts of leachate were recorded having been removed nearly daily in the last quarter of 2021.

Based on the manual water level readings, the LCS did not meet the maximum elevation limits that would otherwise require the leachate to be pumped. It appears that one of two conditions have occurred that may be contributing to the inadvertent leachate removal: 1) Programing changes made in August 2021 used analog data signal instead of a pulse signal for sending instructions to the pumps. Analog data is good to display instantaneous flow, but is not reliable for totalizers as analogs can record a drift without actual flow. As such, the displayed flow volumes are not ‘real’; or 2) The pump at the LCS may be turning ‘on’ more frequently than required. So, while the system did not meet the trigger level requiring leachate to be removed, the system may have continued to extract leachate from the adjusted ‘on’ set point until it reached the pump ‘off’ set point at 672 ft. AMSL. One of the conditions resulted in an elevated volume of water removed from the LCS in 2021, but only as a result of the system extracting water outside of the required set points. This issue has been evaluated by GHD remotely, but requires a site visit from the automation programmer to verify the reasons for this unnecessary extraction and to perform a correction to the operation of the system. Due to COVID-19 travel restrictions, the site visit was not able to occur during the 2021 calendar year. COVID-19 travel restrictions have been lifted and the automation engineer is scheduled to visit the Site in July 2022.

5.2 Leak Detection System

Pumping at the LDS is conducted via a portable pump discharging through overland hose that is connected to the hard piping within the LCS manhole (for direct discharge to the EQ tank via forcemain). The total amount of water removed from the LDS during the 2021 calendar year was 191 gallons based on flow meter readings. Manual volume calculations were used historically prior to the use of flow meters

During 2021, the depth of water in the LDS was maintained between 0.75 ft and 1.2 ft AFOS (bottom of sump at 668.49 ft AMSL or 72.65 ft below the top of the sump), with the maximum depth of 1.2 ft AFOS (equivalent water surface elevation of 669.69 ft) measured on July 5, 2021.

In assessing geomembrane performance, leakage through the liner is evaluated as an indicator of potential failure of the liner system. Leakage through a liner system can occur through seams and puncture holes from handling and placement. These are eliminated through a robust quality control and quality assurance monitoring and testing program conducted during liner installation. Additional leakage through the liner can occur through pinholes that are inadvertently introduced during the manufacturing process and not visible to the eye.

In assessing the potential for leakage through the primary bottom liner system into the LDS, GM records the amount of water collected within the LDS system and compares that volume to a theoretical action leakage rate (ALR) measured in units of gallons/acre/day (gpad). The volume of water removed (converted to an average flow rate in gpad) should be less than the ALR. The data are used in conjunction with other data to assess the overall performance of the Vault containment system

The ALR was initially calculated in the Post-Closure Plan (GHD, 25 August 2016), as 32,000 gallons/acre/day (gpad).

As the Vault containment system matures, USEPA suggested GM look at other calculations that could provide information as to the potential indicator of a liner failure. In response to their review of the calendar year 2020 Vault Report U.S.EPA requested that GHD assess the TSCA theoretical Leakage Action Rate for the landfill relative to the actual rate as an additional line of evidence for the integrity of the Vault liner system., GHD reviewed U.S.EPA's January 1992 Action Leakage Rates for Leak Detection Systems (EPA 530-R-92-004) and agrees that the method presented in the document would provide additional information for on-going liner performance evaluation.

The ALR was calculated as shown on Page 11 of the 1992 document using the equation below:

$$Q = k * h * \tan(\alpha) * B_{\text{avg}}$$

k=1 cm/sec (hydraulic conductivity of INDOT No. 8 stone used in the gravel envelope)

α=0.0441 (calculated from the elevation difference between the LDS and LCS sumps and the distance between the two along to gravel base, 1.5 ft./34.033072 ft.)

D=1 foot (average thickness of the gravel envelope within the LDS)

B_{avg}=20 feet (D/ sin(α))

Based on the above conditions, the ALR is calculated at 18,709 gpad.

The average daily flow rate for 2021 was calculated as the total volume of water removed, divided by the number of days since the previous pumping, divided by the Vault footprint (7 acres). In 2021, 191 gallons of water was pumped from the LDS on July 12, 2021. The previous pumping occurred on October 12, 2020. The average daily flow rate of 0.1 gallons/acre/day was calculated based on the volume of liquid removed in July 2021.

The ALR is the maximum theoretical flow rate that the LDS can remove without the fluid head on the bottom liner exceeding 1 foot. The purpose is to minimize the head pressure on the bottom liner and decrease the potential for migration to the LDS should a leak in the bottom or top liner occur. The ALR was calculated as 18,709 gpad. In the event of a potential liner leak, the pumping system would need to maintain leachate capture of 18,709 gpad. The calculated leakage rate for 2021 (0.1 gpad) is consistent with the determination that the LDS is not leaking. In addition, U.S.EPA has determined that geomembrane bottom liners installed with good construction quality assurance would be expected to have an ALR of 100 gpad (EPA 530-R-92-004). The calculated leakage rate for the Vault in 2022 is orders of magnitude less.

5.3 Gravel Underdrain System

The GUS was installed as part of the overall TSCA Vault construction in order to maintain the stability of the liner system during active operations (e.g., construction and filling of the Vault) by mitigating excessive water pressure

action on the bottom liner. Since active filling operations ceased over 10 years ago, the original purpose of the GUS operation is no longer necessary.

The automated system for the GUS is designed to operate between water depths of 2.5 ft and 4.33 ft AFOS (bottom of sump at 662.18 ft AMSL). At the maximum end of the range, the water level is one foot lower than the lowest point (667.5 ft AMSL) of the secondary liner. Water level measurements were collected by the PLC on a daily basis. The groundwater elevation at the GUS sump remained stable during 2021.

The GUS sump is no longer available as a sampling point due to obstructions and inoperable pumps within the sump. See Section 6 for further information.

6. Issues Encountered and Remedial Actions

The following issues were identified during the reporting period:

– During the cover system inspection in May 2021, the height of the grass in one area of the cover system was noted to be tall. During the May 2021 inspection the cover system was in the process of being mowed. GM continues to schedule future inspections to coincide with mowing activities to improve access and visibility of the ground conditions during cover system inspections.

– As part of a project task review conducted in May 2022, it was discovered that for the past 2 years the sample collection attempts from the LCS and leak detection system (LDS) was not being conducted at the frequency required by the procedures in the August 2016 Post-Closure Plan for the TSCA Vault. According to this plan GM is required to inspect the LCS and LDS each month and collect a water sample, however, there is often insufficient water present in those systems to be able to collect the sample. Therefore, many inspections to not result in a sample collection from these systems. During the on-set of COVID-19 and the business disruption it caused, U.S.EPA agreed that this monthly LCS/LDS sampling procedure could be deferred from April to June of 2020 and resume starting in July of 2020. The GWTP operator who performs these tasks misunderstood the instruction for this temporary change and believed instead that the sampling frequency had been changed permanently to an annual event in July. Samples were collected during July of 2020, but the lack of sample results in subsequent months (other than July of 2021) was not recognized because the trend of decreasing and irregular water production in these units did not seem unusual. For example, in the 6 years before the pandemic disruption, the LCS and/or LDS were able to be sampled during only a fraction of those monthly inspections. When samples could be collected, the result was often non-detect for PCBs and the frequency of non-detect results has been increasing over time.

– Upon discovery in May 2022, the GWTP operator was instructed to immediately resume the monthly LCS and LDS sampling frequency, subject to a sufficient water level to collect a sample. In addition, GHD and the GWTP operator reviewed the post-closure sampling requirements to ensure adherence to each of these provisions. During this reporting period, the LCS and LDS were sampled in July 2021 (non-detect for total PCBs for both LSC and LDS samples). There have not been any identified consequences resulting from the lack of data other than a lack of adherence to the project requirements, which is important.

– The following actions were taken in 2021 to assess and/or rectify the groundwater removal issues associated with the GUS water collection system:

  - GHD performed a physical and electronic mockup for the installation of pumps into the clean outs. Based on the slim style pumps that would be ideal the pumps turned out to be too long to navigate the bends in the clean outs.
  - GM has exhausted options to remove water from the GUS via the GUS sump. Options are being reviewed to determine if there are alternate means to pump groundwater from within the GUS system to enhance PCB removal while being protective of the Vault liner system. GM is evaluating the installation of a horizontal monitoring well within the GUS for mass PCB removal.

7. Spill Cleanup Reports

There were no on-Facility PCB spills that occurred in 2021. There were no spills on public roads.

8. Financial Assurance

As required by the August 2014 RCRA AOC, a surety bond was obtained by GM in 2014 to provide financial assurance for the remaining Corrective Action tasks, including operation and maintenance related to the Vault, until the approval of the Corrective Measures Proposal (CMP); at which time costs to complete Corrective Action will be re-evaluated based on the requirements of the CMP. As required under the AOC, the financial assurance cost estimate is updated, at a minimum, annually. GM submitted the financial assurance cost estimate for FY2022 to U.S. EPA and IDEM on November 16, 2021, with a revised version, based on U.S.EPA comments submitted on January 21, 2022, GM submitted the financial assurance demonstration of the FY2022 financial assurance to U.S. EPA on March 23, 2022. The surety bond in the amount of the approved financial assurance cost estimate remains in effect.

9. References

GHD, GM Bedford Site Specific Project Health and Safety Plan (HASP), May 2016.

CRA, Post Closure Plan (PCP) Bedford Plant Vault, February 3, 2012.

CRA, Post Closure Plan (PCP) Bedford Plant Vault – Revision 1, August 25, 2016.

CRA, Response to United States Environmental Protection Agency March 18, 2014, Comments GM Bedford 2012 Annual Compliance Report, 2012 Post Closure Plan and 2014 Construction Certification Report East Plant Area Vault, September 18, 2014.

Tables

Table 2.1

2021 Summary of Leachate Collection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date	Time of Measurement	Manual Depth to Water Level (feet below top of sump)	Manual Water Level Converted to Elevation (Ft. AMSL)	Volume Removed (gallons	Water Level at PLC[(b)] (inches)	PLC Water Level Converted to Elevation[(d)] (ft. AMSL)	Equivalent Depth of Water Over Primary Liner[(3)] (inches)	Comments
1/1/21	8:05	--	--	--	-	not recorded		
1/2/21	8:05	--	--	--	--	not recorded		
1/3/21	8:05	--	--	--	--	not recorded		
1/4/21	8:05	69.2	671.63	--	--	not recorded	0.090	
1/5/21	8:05	--	--	--	--	not recorded		
1/6/21	8:05	--	--	--	--	not recorded		
1/7/21	8:05	--	--	--	--	not recorded		
1/8/21	8:05	--	--	--	--	not recorded		
1/9/21	8:05	--	--	--	--	not recorded		
1/10/21	8:05	--	--	--	--	not recorded		
1/11/21	8:05	69.2	671.63	--	--	not recorded	0.090	
1/12/21	8:05	--	--	--	--	not recorded		
1/13/21	8:05	--	--	--	--	not recorded		
1/14/21	8:05	--	--	--	--	not recorded		
1/15/21	8:05	--	--	--	--	not recorded		
1/16/21	8:05	--	--	--	--	not recorded		
1/17/21	8:05	--	--	--	--	not recorded		
1/18/21	8:05	69.14	671.69	--	--	not recorded	0.090	
1/19/21	8:05	--	--	--	--	not recorded		
1/20/21	8:05	--	--	--	--	not recorded		
1/21/21	8:05	--	--	--	--	not recorded		
1/22/21	8:05	--	--	--	--	not recorded		
1/23/21	8:05	--	--	--	--	not recorded		
1/24/21	8:05	--	--	--	--	not recorded		
1/25/21	8:05	69.14	671.69	--	--	not recorded	0.090	
1/26/21	8:05	--	--	--	--	not recorded		
1/27/21	8:05	--	--	--	--	not recorded		
1/28/21	8:05	--	--	--	--	not recorded		
1/29/21	8:05			--	--	not recorded		
1/30/21	8:05	--	--	--	--	not recorded		
1/31/21	8:05	--	--	--	--	not recorded		
2/1/21	8:05	69.14	671.69	--	--	not recorded	0.090	
2/2/21	8:05	--	--	--	--	not recorded		
2/3/21	8:05	--	--	--	--	not recorded		
2/4/21	8:05	--	--	--	--	not recorded		
2/5/21	8:05	--	--	--	--	not recorded		
2/6/21	8:05	--	--	--	--	not recorded		
2/7/21	8:05	--	--	--	--	not recorded		
2/8/21	8:05	69.1	671.73	--	--	not recorded	0.090	
2/9/21	8:05	--	--	--	--	not recorded		
2/10/21	8:05	--	--	--	--	not recorded		
2/11/21	8:05	--	--	--	--	not recorded		
2/12/21	8:05	--	--	--	--	not recorded		
2/13/21	8:05	--	--	--	--	not recorded		
2/14/21	8:05	--	--	--	--	not recorded		
2/15/21	8:05	69.12	671.71	--	--	not recorded	0.090	
2/16/21	8:05	--	--	--	--	not recorded		
2/17/21	8:05	--	--	--	--	not recorded		
2/18/21	8:05	--	--	--	--	not recorded		
2/19/21	8:05	--	--	--	--	not recorded		
2/20/21	8:05	--	--	--	--	not recorded		
2/21/21	8:05	--	--	--	--	not recorded		
2/22/21	8:05	69.12	671.71	--	--	not recorded	0.090	
2/23/21	8:05	--	--	--	--	not recorded		
2/24/21	8:05	--	--	--	--	not recorded		
2/25/21	8:05	--	--	--	--	not recorded		
2/26/21	8:05	--	--	--	--	not recorded		
2/27/21	8:05	--	--	--	--	not recorded		
2/28/21	8:05	--	--	--		not recorded		
3/1/21	8:05	69.06	671.77	--	--	not recorded	0.090	
3/2/21	8:05	--	--	--	--	not recorded		
3/3/21	8:05	--	--	--	--	not recorded		
3/4/21	8:05	--	--	--	--	not recorded		
3/5/21	8:05	--	--	--	--	not recorded		
3/6/21	8:05	--	--	--	--	not recorded		
3/7/21	8:05	--	--	--	--	not recorded		
3/8/21	8:05	69.06	671.77	--	--	not recorded	0.090	
3/9/21	8:05	--	--	--	--	not recorded		
3/10/21	8:05	--	--	--	--	not recorded		
3/11/21	8:05	--	--	--	--	not recorded		
3/12/21	8:05	--	--	--	--	not recorded		
3/13/21	8:05	--	--	--	--	not recorded		
3/14/21	8:05	--	--	--	--	not recorded		
3/15/21	8:05	69.05	671.78	--	--	not recorded	0.090	
3/16/21	8:05	--	--	--	--	not recorded		
3/17/21	8:05	--	--	--	--	not recorded		
3/18/21	8:05	--	--	--	--	not recorded		
3/19/21	8:05	--	--	--	--	not recorded		
3/20/21	8:05	--	--	--	--	not recorded		
3/21/21	8:05	--	--	--	--	not recorded		
3/22/21	8:05	69.43	671.40	--	--	not recorded	0.037	
3/23/21	8:05	--	--	--	--	not recorded		
3/24/21	8:05	--	--	--	--	not recorded		
3/25/21	8:05	--	--	--	--	not recorded		
3/26/21	8:05	--	--	--	--	not recorded		
3/27/21	8:05	--	--	--	--	not recorded		
3/28/21	8:05	--	--	--	--	not recorded		
3/29/21	8:05	69.43	671.40	--	--	not recorded	0.037	
3/30/21	8:05	--	--	--	--	not recorded		
3/31/21	8:05	--	--	--	--	not recorded		
4/1/21	8:05	--	--	--	--	not recorded		
4/2/21	8:05	--	--	--	--	not recorded		
4/3/21	8:05	--	--	--	--	not recorded		
4/4/21	8:05	--	--	--	--	not recorded		
4/5/21	8:05	69.28	671.55	--	--	not recorded	0.090	
4/6/21	8:05	--	--	--	--	not recorded		
4/7/21	8:05	--	--	--	--	not recorded		

Table 2.1

2021 Summary of Leachate Collection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date	Time of Measurement	Manual Depth to Water Level (feet below top of sump)	Manual Water Level Converted to Elevation (Ft. AMSL)	Volume Removed (gallons	Water Level at PLC[(b)] (inches)	PLC Water Level Converted to Elevation[(d)] (ft. AMSL)	Equivalent Depth of Water Over Primary Liner[(3)] (inches)	Comments
4/8/21	8:05	--	--	--	--	not recorded		
4/9/21	8:05	--	--		--	not recorded		
4/10/21	8:05	--	--	--	--	not recorded		
4/11/21	8:05	--	--	--	--	not recorded		
4/12/21	8:05	69.36	671.47	--	--	not recorded	0.037	
4/13/21	8:05	--	--	--	--	not recorded		
4/14/21	8:05	--	--	--	--	not recorded		
4/15/21	8:05	--	--	--	--	not recorded		
4/16/21	8:05	--	--	--	--	not recorded		
4/17/21	8:05	--	--	--	--	not recorded		
4/18/21	8:05	--	--	--	--	not recorded		
4/19/21	8:05	69.4	671.43	--	--	not recorded	0.037	
4/20/21	8:05	--	--	--	--	not recorded		
4/21/21	8:05	--	--	--	--	not recorded		
4/22/21	8:05	--	--	--	--	not recorded		
4/23/21	8:05	--	--	--	--	not recorded		
4/24/21	8:05	--	--	--	--	not recorded		
4/25/21	8:05	--	--	--	--	not recorded		
4/26/21	8:05	69.4	671.43	--	--	not recorded	0.037	
4/27/21	8:05	--	--	--	--	not recorded		
4/28/21	8:05	--	--	--	--	not recorded		
4/29/21	8:05	--	--	--	--	not recorded		
4/30/21	8:05	--	--	--	--	not recorded		
5/1/21	8:05	--	--	--	--	not recorded		
5/2/21	8:05	--	--	--	--	not recorded		
5/3/21	8:05	69.39	671.44	--	--	not recorded	0.037	
5/4/21	8:05	--	--	--	--	not recorded		
5/5/21	8:05	--	--	--	--	not recorded		
5/6/21	8:05	--	--	--	--	not recorded		
5/7/21	8:05	--	--	--	--	not recorded		
5/8/21	8:05	--	--	--	--	not recorded		
5/9/21	8:05	--	--	--	--	not recorded		
5/10/21	8:05	69.37	671.46	--	--	not recorded	0.037	
5/11/21	8:05	--	--	--	--	not recorded		
5/12/21	8:05	--	--	--	--	not recorded		
5/13/21	8:05	--	--	--	--	not recorded		
5/14/21	8:05	--	--	--	--	not recorded		
5/15/21	8:05	--	--	--	--	not recorded		
5/16/21	8:05	--	--	--	--	not recorded		
5/17/21	8:05	69.33	671.50	--	--	not recorded	0.090	
5/18/21	8:05	--	--	--	--	not recorded		
5/19/21	8:05	--	--	--	--	not recorded		
5/20/21	8:05	--	--	--	--	not recorded		
5/21/21	8:05	--	--	--	--	not recorded		
5/22/21	8:05	--	--	--	--	not recorded		
5/23/21	8:05	--	--	--	--	not recorded		
5/24/21	8:05	--	--	--	--	not recorded		
5/25/21	8:05	69.45	671.38	--	--	not recorded	0.037	
5/26/21	8:05	--	--	--	--	not recorded		
5/27/21	8:05	--	--	--	--	not recorded		
5/28/21	8:05	--	--	--	--	not recorded		
5/29/21	8:05	--	--	--	--	not recorded		
5/30/21	8:05	--	--	--	--	not recorded		
5/31/21	8:05	--	--	--	--	not recorded		
6/1/21	8:05	69.43	671.40	--	--	not recorded	0.037	
6/2/21	8:05	--	--	--	--	not recorded		
6/3/21	8:05	--	--	--	--	not recorded		
6/4/21	8:05	--	--	--	--	not recorded		
6/5/21	8:05	--	--	--	--	not recorded		
6/6/21	8:05	--	--	--	--	not recorded		
6/7/21	8:05	69.41	671.42	--	--	not recorded	0.037	
6/8/21	8:05	--	--	--	--	not recorded		
6/9/21	8:05	--	--	--	--	not recorded		
6/10/21	8:05	--	--	--	--	not recorded		
6/11/21	8:05	--	--	--	--	not recorded		
6/12/21	8:05	--	--	--	--	not recorded		
6/13/21	8:05	--	--	--	--	not recorded		
6/14/21	8:05	69.41	671.42	--	--	not recorded	0.037	
6/15/21	8:05	--	--	--	--	not recorded		
6/16/21	8:05	--	--	--	--	not recorded		
6/17/21	8:05	--	--	--	--	not recorded		
6/18/21	8:05	--	--	--	--	not recorded		
6/19/21	8:05	--	--	--	--	not recorded		
6/20/21	8:05	--	--	--	--	not recorded		
6/21/21	8:05	69.41	671.42	--	--	not recorded	0.037	
6/22/21	8:05	--	--	--	--	not recorded		
6/23/21	8:05	--	--	--	--	not recorded		
6/24/21	8:05	--	--	--	--	not recorded		
6/25/21	8:05	--	--	--	--	not recorded		
6/26/21	8:05	--	--	--	--	not recorded		
6/27/21	8:05	--	--	--	--	not recorded		
6/28/21	8:05	69.41	671.42	--	--	not recorded	0.037	
6/29/21	8:05	--	--	--	--	not recorded		
6/30/21	8:05	--	--	--	--	not recorded		
7/1/21	8:05	--	--	--	--	not recorded		
7/2/21	8:05	--	--	--	--	not recorded		
7/3/21	8:05	--	--	--	--	not recorded		
7/4/21	8:05	--	--	--	--	not recorded		
7/5/21	8:05	69.41	671.42	--	--	not recorded	0.037	
7/6/21	8:05	--	--	--	--	not recorded		
7/7/21	8:05	--	--	--	--	not recorded		
7/8/21	8:05	--	--	--	--	not recorded		
7/9/21	8:05	--	--	--	--	not recorded		
7/10/21	8:05	--	--	--	--	not recorded		
7/11/21	8:05	--	--	--	--	not recorded		
7/12/21	8:05	--	--	--	--	not recorded		
7/13/21	8:05	69.56	671.27	190.36	--	not recorded	0.037	Sampled
7/14/21	8:05	--	--	--	--	not recorded		

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Bedford, Indiana

Date	Time of Measurement	Manual Depth to Water Level (feet below top of sump)	Manual Water Level Converted to Elevation (Ft. AMSL)	Volume Removed (gallons	Water Level at PLC[(b)] (inches)	PLC Water Level Converted to Elevation[(d)] (ft. AMSL)	Equivalent Depth of Water Over Primary Liner[(3)] (inches)	Comments
7/15/21	8:05	--	--	--	--	not recorded		
7/16/21	8:05	--	--	--	--	not recorded		
7/17/21	8:05	--	--	--	--	not recorded		
7/18/21	8:05	--	--	--	--	not recorded		
7/19/21	8:05	69.44	671.39	--	--	not recorded	0.037	
7/20/21	8:05	--	--	--	--	not recorded		
7/21/21	8:05	--	--	--	--	not recorded		
7/22/21	8:05	--	--	--	--	not recorded		
7/23/21	8:05	--	--	--	--	not recorded		
7/24/21	8:05	--	--	--	--	not recorded		
7/25/21	8:05	--	--	--	--	not recorded		
7/26/21	8:05	69.41	671.42	--	--	not recorded	0.037	
7/27/21	8:05	--	--	--	--	not recorded		
7/28/21	8:05	--	--	--	--	not recorded		
7/29/21	8:05	--	--	--	--	not recorded		
7/30/21	8:05	--	--	--	--	not recorded		
7/31/21	8:05	--	--	--	--	not recorded		
8/1/21	8:05	--	--	--	-15.3	669.73		
8/2/21	8:05	69.41	671.42	--	-15.3	669.73	0.037	
8/3/21	8:05	--	--	--	-15.3	669.73		
8/4/21	8:05	--	--	--	-15.3	669.73		
8/5/21	8:05	--	--	--	-15.3	669.73		
8/6/21	8:05	--	--	--	-15.4	669.72		
8/7/21	8:05	--	--	--	-15.4	669.72		
8/8/21	8:05	--	--	--	-15.4	669.72		
8/9/21	8:05	69.38	671.45	--	-15.4	669.72	0.037	
8/10/21	8:05	--	--	--	-15.4	669.72		
8/11/21	8:05	--	--	--	-15.4	669.72		
8/12/21	8:05	--	--	--	-15.4	669.72		
8/13/21	8:05	--	--	--	-15.4	669.72		
8/14/21	8:05	--	--	--	-15.3	669.73		
8/15/21	8:05	--	--	--	-15.3	669.73		
8/16/21	8:05	69.34	671.49	--	-15.3	669.73	0.037	
8/17/21	8:05	--	--	--	-15.3	669.73		
8/18/21	8:05	--	--	--	-15.3	669.73		
8/19/21	8:05	--	--	--	-15.3	669.73		
8/20/21	8:05	--	--	--	-15.3	669.73		
8/21/21	8:05	--	--	--	-15.4	669.72		
8/22/21	8:05	--	--	--	-15.4	669.72		
8/23/21	8:05	69.32	671.51	--	-15.4	669.72	0.090	
8/24/21	8:05	--	--	--	-15.4	669.72		
8/25/21	8:05	--	--	--	-15.4	669.72		
8/26/21	8:05	--	--	--	-15.4	669.72		
8/27/21	8:05	--	--	--	-15.4	669.72		
8/28/21	8:05	--	--	--	-15.4	669.72		
8/29/21	8:05	--	--	--	-15.4	669.72		
8/30/21	8:05	69.3	671.53	--	-15.4	669.72	0.090	
8/31/21	8:05	--	--	--	-15.4	669.72		
9/1/21	8:05	--	--	--	-15.4	669.72		
9/2/21	8:05			--	-15.4	669.72		
9/3/21	8:05	--	--	--	-15.4	669.72		
9/4/21	8:05	--	--	--	-15.4	669.72		
9/5/21	8:05	69.29	671.54	--	-15.4	669.72	0.090	
9/6/21	8:05	--	--	--	-15.3	669.73		
9/7/21	8:05	--	--	--	-15.4	669.72		
9/8/21	8:05	--	--	--	-15.4	669.72		
9/9/21	8:05	--	--	--	-15.3	669.73		
9/10/21	8:05	--	--	--	-15.4	669.72		
9/11/21	8:05	--	--	--	-15.4	669.72		
9/12/21	8:05	--	--	--	-15.4	669.72		
9/13/21	8:05	69.26	671.57	--	-15.4	669.72	0.090	
9/14/21	8:05	--	--	--	-15.4	669.72		
9/15/21	8:05	--	--	--	-15.3	669.73		
9/16/21	8:05	--	--	--	-15.3	669.73		
9/17/21	8:05	--	--	--	-15.4	669.72		
9/18/21	8:05	--	--	--	-15.4	669.72		
9/19/21	8:05	--	--	--	-15.4	669.72		
9/20/21	8:05	69.22	671.61	--	-15.4	669.72	0.090	
9/21/21	8:05	--	--	--	-15.4	669.72		
9/22/21	8:05	--	--	--	-15.3	669.73		
9/23/21	8:05	--	--	--	-15.3	669.73		
9/24/21	8:05	--	--	--	-15.3	669.73		
9/25/21	8:05	--	--	--	-15.4	669.72		
9/26/21	8:05	--	--	--	-15.4	669.72		
9/27/21	8:05	69.17	671.66	--	-15.3	669.73	0.090	
9/28/21	8:05	--	--	--	-15.3	669.73		
9/29/21	8:05	--	--	--	-15.4	669.72		
9/30/21	8:05	--	--	--	-15.3	669.73		
10/1/21	8:05	--	--	--	-15.4	669.72		
10/2/21	8:05	--	--	--	-15.4	669.72		
10/3/21	8:05	--	--	--	-15.3	669.73		
10/4/21	8:05	69.19	671.64	--	-15.4	669.72	0.090	
10/5/21	8:05	--	--	--	-15.3	669.73		
10/6/21	8:05	--	--	--	-15.3	669.73		
10/7/21	8:05	--	--	--	-15.3	669.73		
10/8/21	8:05	--	--	--	-15.3	669.73		
10/9/21	8:05	--	--	--	-15.4	669.72		
10/10/21	8:05	--	--	--	-15.4	669.72		
10/11/21	8:05	69.19	671.64	--	-15.4	669.72	0.090	
10/12/21	8:05	--	--	--	-15.3	669.73		
10/13/21	8:05	--	--	--	-15.3	669.73		
10/14/21	8:05	--	--	--	-15.4	669.72		
10/15/21	8:05	--	--	--	-15.4	669.72		
10/16/21	8:05	--	--	--	-15.3	669.73		
10/17/21	8:05	--	--	--	-15.3	669.73		
10/18/21	8:05	69.19	671.64	--	-15.3	669.73	0.090	
10/19/21	8:05	--	--	--	-15.3	669.73		
10/20/21	8:05	--	--	--	-15.3	669.73		

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Bedford, Indiana

Date	Time of Measurement	Manual Depth to Water Level (feet below top of sump)	Manual Water Level Converted to Elevation (Ft. AMSL)	Volume Removed (gallons	Water Level at PLC[(b)] (inches)	PLC Water Level Converted to Elevation[(d)] (ft. AMSL)	Equivalent Depth of Water Over Primary Liner[(3)] (inches)	Comments
10/21/21	8:05	--	--	--	-15.3	669.73		
10/22/21	8:05	--	--	--	-15.3	669.73		
10/23/21	8:05	--	--	--	-15.3	669.73		
10/24/21	8:05	--	--	--	-15.4	669.72		
10/25/21	8:05	69.19	671.64	--	-15.3	669.73	0.090	
10/26/21	8:05	--	--	--	-15.3	669.73		
10/27/21	8:05	--	--	--	-15.3	669.73		
10/28/21	8:05	--	--	--	-15.3	669.73		
10/29/21	8:05	--	--	--	-15.3	669.73		
10/30/21	8:05	--	--	--	-15.3	669.73		
10/31/21	8:05	--	--	--	-15.3	669.73		
11/1/21	8:05	69.16	671.67	89	-15.3	669.73	0.090	
11/2/21	8:05	--	--	105	-15.3	669.73		
11/3/21	8:05	--	--	--	-15.3	669.73		
11/4/21	8:05	--	--	79	-15.3	669.73		
11/5/21	8:05	--	--	76	-15.3	669.73		
11/6/21	8:05	--	--	83	-15.3	669.73		
11/7/21	8:05	--	--	57	-15.3	669.73		
11/8/21	8:05	69.12	671.71	53	-15.3	669.73	0.090	
11/9/21	8:05	--	--	45	-15.3	669.73		
11/10/21	8:05	--	--	47	-15.3	669.73		
11/11/21	8:05	--	--	--	-15.3	669.73		
11/12/21	8:05	--	--	50	-15.3	669.73		
11/13/21	8:05	--	--	39	-15.3	669.73		
11/14/21	8:05	--	--	--	-15.3	669.73		
11/15/21	8:05	69.11	671.72	59	-15.3	669.73	0.090	
11/16/21	8:05	--	--	52	-15.3	669.73		
11/17/21	8:05	--	--	--	-15.4	669.72		
11/18/21	8:05	--	--	4	-15.3	669.73		
11/19/21	8:05	--	--	75	-15.3	669.73		
11/20/21	8:05	--	--	77	-15.3	669.73		
11/21/21	8:05	--	--	7	-15.3	669.73		
11/22/21	8:05	69.11	671.72	45	-15.3	669.73	0.090	
11/23/21	8:05	--	--	80	-15.3	669.73		
11/24/21	8:05	--	--	--	-15.3	669.73		
11/25/21	8:05	--	--	83	-15.3	669.73		
11/26/21	8:05	--	--	106	-15.3	669.73		
11/27/21	8:05	--	--	79	-15.3	669.73		
11/28/21	8:05	--	--	81	-15.3	669.73		
11/29/21	8:05	69.05	671.78	83	-15.3	669.73	0.090	
11/30/21	8:05	--	--	135	-15.3	669.73		
12/1/21	8:05	--	--	--	-15.3	669.73		
12/2/21	8:05	--	--	245	-15.3	669.73		
12/3/21	8:05	--	--	229	-15.3	669.73		
12/4/21	8:05	--	--	202	-15.3	669.73		
12/5/21	8:05	--	--	194	-15.3	669.73		
12/6/21	8:05	69.03	671.8	290	-15.3	669.73	0.090	
12/7/21	8:05	--	--	361	-15.3	669.73		
12/8/21	8:05	--	--	--	-15.3	669.73		
12/9/21	8:05	--	--	341	-15.3	669.73		
12/10/21	8:05	--	--	312	-15.3	669.73		
12/11/21	8:05	--	--	231	-15.3	669.73		
12/12/21	8:05	--	--	308	-15.3	669.73		
12/13/21	8:05	69.01	671.82	325	-15.3	669.73	0.090	
12/14/21	8:05	--	--	322	-15.3	669.73		
12/15/21	8:05	--	--	315	-15.3	669.73		
12/16/21	8:05	--	--	286	-15.3	669.73		
12/17/21	8:05	--	--	220	-15.3	669.73		
12/18/21	8:05	--	--	163	-15.3	669.73		
12/19/21	8:05	--	--	415	-15.3	669.73		
12/20/21	8:05	69	671.83	239	-15.3	669.73	0.090	
12/21/21	8:05	--	--	301	-15.3	669.73		
12/22/21	8:05	--	--	340	-15.3	669.73		
12/23/21	8:05	--	--	350	-15.3	669.73		
12/24/21	8:05	--	--	327	-15.3	669.73		
12/25/21	8:05	--	--	344	-15.3	669.73		
12/26/21	8:05	--	--	305	-15.3	669.73		
12/27/21	8:05	68.99	671.84	294	-15.3	669.73	0.090	
12/28/21	8:05	--	--	267	-15.3	669.73		
12/29/21	8:05	--	--	309	-15.3	669.73		
12/30/21	8:05	--	--	365	-15.3	669.73		
12/31/21	8:05	--	--	396	-15.3	669.73		
Total [(4)]				10475				

Notes:
ft AMSL - feet above mean sea level

Top of sump [top of concrete manhole] (feet Al	740.83
Bottom of sump (feet AMSL):	671
Total depth of sump manhole (feet):	69.83
Inside diameter of sump (feet):	6

(--) Measurements were not collected.
[(1)] Pump operating level between 1 ft (672.00 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.
[(2)] Temporary LCS pump manually operated, PLC systems not functional. See report text section 6 for additional details.
[(3)] Due to communication loss between the LCS and PLC, the depth of water over primary liner was calculated using manual water level from July-December 2020.
[(4)] The volume of water removed from the LCS beginning in November 2021 is believed to be in error due to signal variations and the actual volume removed was zero. However, these values will continue to be reported .

[(a)] Flow meter readings are cumulative unless noted otherwise.
[(b)] PLC records the maximum water level observed each day (midnight to midnight). Therefore, the manual water level/elevation will not match the water level/elevation recorded by the PLC.

Table 2.2

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Bedford, Indiana

Date	Tme of Measurement	Depth to Water Before Pumping (feet below top of sump)	Water Level Before Pumping Converted to Elevation (ft. AMSL)	Flow Meter Reading[(a)] Start (gallons)	Flow Meter Reading[(a)] End (gallons)	Calculated Volume Removed (gallons)	Comments
1/1/21	--	--	--	--	--	--	
1/2/21	--	--	--	--	--	--	
1/3/21	--	--	--	--	--	--	
1/4/21	15:50	71.88	669.26	--	--	--	
1/5/21	--	--	--	--	--	--	
1/6/21		--		--	--	--	
1/7/21	--	--	--	--	--	--	
1/8/21	--	--	--	--	--	--	
1/9/21	--	--	--	--	--	--	
1/10/21	--	--	--	--	--	--	
1/11/21	9:10	71.86	669.28	--	--	--	
1/12/21	--	--	--	--	--	--	
1/13/21	--	--		--	--	--	
1/14/21	--	--	--	--	--	--	
1/15/21	--	--	--	--	--	--	
1/16/21	--	--	--	--	--	--	
1/17/21	--	--	--	--	--	--	
1/18/21	9:05	71.86	669.28	--	--	--	
1/19/21	--	--	--	--	--	--	
1/20/21	--	--	--	--	--	--	
1/21/21	--	--	--	--	--	--	
1/22/21	--	--	--	--	--	--	
1/23/21	--	--	--	--	--	--	
1/24/21	--	--	--	--	--	--	
1/25/21	9:16	71.85	669.29	--	--	--	
1/26/21	--	--	--	--	--	--	
1/27/21	--	--	--	--	--	--	
1/28/21	--	--	--	--	--	--	
1/29/21	--	--	--	--	--	--	
1/30/21	--	--	--	--	--	--	
1/31/21	--	--	--	--	--	--	
2/1/21	9:39	71.85	669.29	--	--	--	
2/2/21	--	--	--	--	--	--	
2/3/21	--	--	--	--	--	--	
2/4/21	--	--	--	--	--	--	
2/5/21	--	--	--	--	--	--	
2/6/21	--	--	--	--	--	--	
2/7/21	--	--	--	--	--	--	
2/8/21	9:10	71.84	669.3	--	--	--	
2/9/21	--	--	--	--	--	--	
2/10/21	--	--	--	--	--	--	
2/11/21	--	--	--	--	--	--	
2/12/21	--	--	--	--	--	--	
2/13/21	--	--	--	--	--	--	
2/14/21	--	--	--	--	--	--	
2/15/21	10:30	71.84	669.3	--	--	--	
2/16/21	--	--	--	--	--	--	
2/17/21	--	--	--	--	--	--	
2/18/21	--	--	--	--	--	--	
2/19/21	--	--	--	--	--	--	
2/20/21	--	--	--	--	--	--	
2/21/21	--	--	--	--	--	--	
2/22/21	9:15	71.82	669.32	--	--	--	
2/23/21	--	--	--	--	--	--	
2/24/21	--	--	--	--	--	--	
2/25/21	--	--	--	--	--	--	
2/26/21	--	--	--	--	--	--	
2/27/21	--	--	--	--	--	--	
2/28/21	--	--	--	--	--	--	
3/1/21	12:30	71.81	669.33	--	--	--	
3/2/21	--	--	--	--	--	--	
3/3/21	--	--	--	--	--	--	
3/4/21	--	--	--	--	--	--	
3/5/21	--	--	--	--	--	--	
3/6/21	--	--	--	--	--	--	
3/7/21	--	--	--	--	--	--	
3/8/21	9:00	71.81	669.33	--	--	--	
3/9/21	--	--	--	--	--	--	
3/10/21	--	--	--	--	--	--	
3/11/21	--	--	--	--	--	--	
3/12/21	--	--	--	--	--	--	
3/13/21	--	--	--	--	--	--	
3/14/21	--	--	--	--	--	--	
3/15/21	9:10	71.81	669.33	--	--	--	

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Date	Tme of Measurement	Depth to Water Before Pumping (feet below top of sump)	Water Level Before Pumping Converted to Elevation (ft. AMSL)	Flow Meter Reading[(a)] Start (gallons)	Flow Meter Reading[(a)] End (gallons)	Calculated Volume Removed (gallons)	Comments
3/16/21	--	--	--	--	--	--	
3/17/21	--	--	--	--	--	--	
3/18/21	--	--	--	--	--	--	
3/19/21	--	--	--	--	--	--	
3/20/21	--	--	--	--	--	--	
3/21/21	--	--	--	--	--	--	
3/22/21	9:30	71.79	669.35	--	--	--	
3/23/21	--	--	--	--	--	--	
3/24/21	--	--	--	--	--	--	
3/25/21	--	--	--	--	--	--	
3/26/21	--	--	--	--	--	--	
3/27/21	--	--	--	--	--	--	
3/28/21	--	--	--	--	--	--	
3/29/21	16:01	71.76	669.38	--	--	--	
3/30/21	--	--	--	--	--	--	
3/31/21	--	--	--	--	--	--	
4/1/21	--	--	--	--	--	--	
4/2/21	--	--	--	--	--	--	
4/3/21	--	--	--	--	--	--	
4/4/21	--	--	--	--	--	--	
4/5/21	9:30	71.79	669.35	--	--	--	
4/6/21	--	--	--	--	--	--	
4/7/21	--	--	--	--	--	--	
4/8/21	--	--	--	--	--	--	
4/9/21	--	--	--	--	--	--	
4/10/21	--	--	--	--	--	--	
4/11/21	--	--	--	--	--	--	
4/12/21	10:22	71.79	669.35	--	--	--	
4/13/21	--	--	--	--	--	--	
4/14/21	--	--	--	--	--	--	
4/15/21	--	--	--	--	--	--	
4/16/21	--	--	--	--	--	--	
4/17/21	--	--	--	--	--	--	
4/18/21	--	--	--	--	--	--	
4/19/21	11:05	71.77	669.37	--	--	--	
4/20/21	--	--	--	--	--	--	
4/21/21	--	--	--	--	--	--	
4/22/21	--	--	--	--	--	--	
4/23/21	--	--	--	--	--	--	
4/24/21	--	--	--	--	--	--	
4/25/21	--	--	--	--	--	--	
4/26/21	14:05	71.77	669.37	--	--	--	
4/27/21	--	--	--	--	--	--	
4/28/21	--	--	--	--	--	--	
4/29/21	--	--	--	--	--	--	
4/30/21	--	--	--	--	--	--	
5/1/21	--	--	--	--	--	--	
5/2/21	--	--	--	--	--	--	
5/3/21	9:54	71.77	669.37	--	--	--	
5/4/21	--	--	--	--	--	--	
5/5/21	--	--	--	--	--	--	
5/6/21	--	--	--	--	--	--	
5/7/21	--	--	--	--	--	--	
5/8/21	--	--	--	--	--	--	
5/9/21	--	--	--	--	--	--	
5/10/21	8:15	71.71	669.43	--	--	--	
5/11/21	--	--	--	--	--	--	
5/12/21	--	--	--	--	--	--	
5/13/21	--	--	--	--	--	--	
5/14/21	--	--	--	--	--	--	
5/15/21	--	--	--	--	--	--	
5/16/21	--	--	--	--	--	--	
5/17/21	10:12	71.66	669.48	--	--	--	
5/18/21	--	--	--	--	--	--	
5/19/21	--	--	--	--	--	--	
5/20/21	--	--	--	--	--	--	
5/21/21	--	--	--	--	--	--	
5/22/21	--	--	--	--	--	--	
5/23/21	--	--	--	--	--	--	
5/24/21	--	--	--	--	--	--	
5/25/21	11:32	71.61	669.53	--	--	--	
5/26/21	--	--	--	--	--	--	
5/27/21	--	--	--	--	--	--	
5/28/21	--	--	--	--	--	--	

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5/29/21	--	--	--	--	--	--	
5/30/21	--	--	--	--	--	--	
5/31/21	--	--	--	--	--	--	
6/1/21	9:10	71.62	669.52	--	--	--	
6/2/21	--	--	--	--	--	--	
6/3/21	--	--	--	--	--	--	
6/4/21	--	--	--	--	--	--	
6/5/21	--	--	--	--	--	--	
6/6/21	--	--	--	--	--	--	
6/7/21	7:56	71.65	669.49	--	--	--	
6/8/21	--	--	--	--	--	--	
6/9/21	--	--	--	--	--	--	
6/10/21	--	--	--	--	--	--	
6/11/21	--	--	--	--	--	--	
6/12/21	--	--	--	--	--	--	
6/13/21	--	--	--	--	--	--	
6/14/21	10:55	71.55	669.59	--	--	--	
6/15/21	--	--	--	--	--	--	
6/16/21	--	--	--	--	--	--	
6/17/21	--	--	--	--	--	--	
6/18/21	--	--	--	--	--	--	
6/19/21	--	--	--	--	--	--	
6/20/21	--	--	--	--	--	--	
6/21/21	10:12	71.49	669.65	--	--	--	
6/22/21	--	--	--	--	--	--	
6/23/21	--	--	--	--	--	--	
6/24/21	--	--	--	--	--	--	
6/25/21	--	--	--	--	--	--	
6/26/21	--	--	--	--	--	--	
6/27/21	--	--	--	--	--	--	
6/28/21	12:15	71.50	669.64	--	--	--	
6/29/21	--	--	--	--	--	--	
6/30/21	--	--	--	--	--	--	
7/1/21	--	--	--	--	--	--	
7/2/21	--	--	--	--	--	--	
7/3/21	--	--	--	--	--	--	
7/4/21	--	--	--	--	--	--	
7/5/21	10:05	71.45	669.69	--	--	--	
7/6/21	--	--	--	--	--	--	
7/7/21	--	--	--	--	--	--	
7/8/21	--	--	--	--	--	--	
7/9/21	--	--	--	--	--	--	
7/10/21	--	--	--	--	--	--	
7/11/21	--	--	--	--	--	--	
7/12/21	8:30	71.45	669.69	1567410.0	--	191.00	Sampled
7/13/21	--	--	--	--	--	--	
7/14/21	--	--	--	--	--	--	
7/15/21	--	--	--	--	--	--	
7/16/21	--	--	--	--	--	--	
7/17/21	--	--	--	--	--	--	
7/18/21	--	--	--	--	--	--	
7/19/21	8:46	71.94	669.2	--	--	--	
7/20/21	--	--	--	--	--	--	
7/21/21	--	--	--	--	--	--	
7/22/21	--	--	--	--	--	--	
7/23/21	--	--	--	--	--	--	
7/24/21	--	--	--	--	--	--	
7/25/21	--	--	--	--	--	--	
7/26/21	9:10	71.94	669.2	--	--	--	
7/27/21	--	--	--	--	--	--	
7/28/21	--	--	--	--	--	--	
7/29/21	--	--	--	--	--	--	
7/30/21	--	--	--	--	--	--	
7/31/21	--	--	--	--	--	--	
8/1/21	--	--	--	--	--	--	
8/2/21	8:20	71.94	669.2	--	--	--	
8/3/21	--	--	--	--	--	--	
8/4/21	--	--	--	--	--	--	
8/5/21	--	--	--	--	--	--	
8/6/21	--	--	--	--	--	--	
8/7/21	--	--	--	--	--	--	
8/8/21	--	--	--	--	--	--	
8/9/21	9:15	71.94	669.2	--	--	--	
8/10/21	--	--	--	--	--	--	

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8/11/21	--	--	--	--	--	--	
8/12/21	--	--	--	--	--	--	
8/13/21	--	--	--	--	--	--	
8/14/21	--	--	--	--	--	--	
8/15/21	--	--	--	--	--	--	
8/16/21	9:02	71.92	669.22	--	--	--	
8/17/21	--	--	--	--	--	--	
8/18/21	--	--	--	--	--	--	
8/19/21	--	--	--	--	--	--	
8/20/21	--	--	--	--	--	--	
8/21/21	--	--	--	--	--	--	
8/22/21	--	--	--	--	--	--	
8/23/21	10:30	71.92	669.22	--	--	--	
8/24/21	--	--	--	--	--	--	
8/25/21	--	--	--	--	--	--	
8/26/21	--	--	--	--	--	--	
8/27/21	--	--	--	--	--	--	
8/28/21	--	--	--	--	--	--	
8/29/21	--	--	--	--	--	--	
8/30/21	9:20	71.91	669.23	--	--	--	
8/31/21	--	--	--	--	--	--	
9/1/21	--	--	--	--	--	--	
9/2/21	--	--	--	--	--	--	
9/3/21	--	--	--	--	--	--	
9/4/21	--	--	--	--	--	--	
9/5/21	--	--	--	--	--	--	
9/6/21	9:25	71.91	669.23	--	--	--	
9/7/21	--	--	--	--	--	--	
9/8/21	--	--	--	--	--	--	
9/9/21	--	--	--	--	--	--	
9/10/21	--	--	--	--	--	--	
9/11/21	--	--	--	--	--	--	
9/12/21	--	--	--	--	--	--	
9/13/21	8:10	71.86	669.28	--	--	--	
9/14/21	--	--	--	--	--	--	
9/15/21	--	--	--	--	--	--	
9/16/21	--	--	--	--	--	--	
9/17/21	--	--	--	--	--	--	
9/18/21	--	--	--	--	--	--	
9/19/21	--	--	--	--	--	--	
9/20/21	10:15	71.86	669.28	--	--	--	
9/21/21	--	--	--	--	--	--	
9/22/21	--	--	--	--	--	--	
9/23/21	--	--	--	--	--	--	
9/24/21	--	--	--	--	--	--	
9/25/21	--	--	--				
9/26/21	--	--	--	--	--	--	
9/27/21	10:22	71.84	669.3	--	--	--	
9/28/21	--	--	--	--	--	--	
9/29/21	--	--	--	--	--	--	
9/30/21	--	--	--	--	--	--	
10/1/21	--	--	--	--	--	--	
10/2/21	--	--	--	--	--	--	
10/3/21	--	--	--	--	--	--	
10/4/21	9:21	71.84	669.3	--	--	--	
10/5/21	--	--	--	--	--	--	
10/6/21	--	--	--	--	--	--	
10/7/21	--	--	--	--	--	--	
10/8/21	--	--	--	--	--	--	
10/9/21	--	--	--	--	--	--	
10/10/21	--	--	--	--	--	--	
10/11/21	10:00	71.85	669.29	--	--	--	
10/12/21	--	--	--	--	--	--	
10/13/21	--	--	--				
10/14/21	--	--	--	--	--	--	
10/15/21	--	--	--	--	--	--	
10/16/21	--	--	--	--	--	--	
10/17/21	--	--	--	--	--	--	
10/18/21	10:15	71.89	669.25	--	--	--	
10/19/21	--	--	--	--	--	--	
10/20/21	--	--	--	--	--	--	
10/21/21	--	--	--	--	--	--	
10/22/21	--	--	--	--	--	--	
10/23/21	--	--	--	--	--	--	

Table 2.2

2021 Summary of Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date	Tme of Measurement	Depth to Water Before Pumping (feet below top of sump)	Water Level Before Pumping Converted to Elevation (ft. AMSL)	Flow Meter Reading[(a)] Start (gallons)	Flow Meter Reading[(a)] End (gallons)	Calculated Volume Removed (gallons)	Comments
10/24/21	--	--	--	--	--	--	
10/25/21	9:10	71.90	669.24	--	--	--	
10/26/21	--	--	--	--	--	--	
10/27/21	--	--	--	--	--	--	
10/28/21	--	--	--	--	--	--	
10/29/21	--	--	--	--	--	--	
10/30/21	--	--	--	--	--	--	
10/31/21	--	--	--	--	--	--	
11/1/21	8:25	71.85	669.29	--	--	--	
11/2/21	--	--	--	--	--	--	
11/3/21	--	--	--	--	--	--	
11/4/21	--	--	--	--	--	--	
11/5/21	--	--	--	--	--	--	
11/6/21	--	--	--	--	--	--	
11/7/21	--	--	--	--	--	--	
11/8/21	9:10	71.81	669.33	--	--	--	
11/9/21	--	--	--	--	--	--	
11/10/21	--	--	--	--	--	--	
11/11/21	--	--	--	--	--	--	
11/12/21	--	--	--	--	--	--	
11/13/21	--	--	--	--	--	--	
11/14/21	--	--	--	--	--	--	
11/15/21	9:12	71.80	669.34	--	--	--	
11/16/21	--	--	--	--	--	--	
11/17/21	--	--	--	--	--	--	
11/18/21	--	--	--	--	--	--	
11/19/21	--	--	--	--	--	--	
11/20/21	--	--	--	--	--	--	
11/21/21	--	--	--	--	--	--	
11/22/21	9:30	71.79	669.35	--	--	--	
11/23/21	--	--	--	--	--	--	
11/24/21	--	--	--	--	--	--	
11/25/21	--	--	--	--	--	--	
11/26/21	--	--	--	--	--	--	
11/27/21	--	--	--	--	--	--	
11/28/21	--	--	--	--	--	--	
11/29/21	9:00	71.72	669.42	--	--	--	
11/30/21	--	--	--	--	--	--	
12/1/21	--	--	--	--	--	--	
12/2/21	--	--	--	--	--	--	
12/3/21	--	--	--	--	--	--	
12/4/21	--	--	--	--	--	--	
12/5/21	--	--	--	--	--	--	
12/6/21	9:10	71.70	669.44	--	--	--	
12/7/21	--	--	--	--	--	--	
12/8/21	--	--	--	--	--	--	
12/9/21	--	--	--	--	--	--	
12/10/21	--	--	--	--	--	--	
12/11/21	--	--	--	--	--	--	
12/12/21	--	--	--	--	--	--	
12/13/21	8:40	71.70	669.44	--	--	--	
12/14/21	--	--	--	--	--	--	
12/15/21	--	--	--	--	--	--	
12/16/21	--	--	--	--	--	--	
12/17/21	--	--	--	--	--	--	
12/18/21	--	--	--	--	--	--	
12/19/21	--	--	--	--	--	--	
12/20/21	8:45	71.67	669.47	--	--	--	
12/21/21	--	--	--	--	--	--	
12/22/21	--	--	--	--	--	--	
12/23/21	--	--	--	--	--	--	
12/24/21	--	--	--	--	--	--	
12/25/21	--	--	--	--	--	--	
12/26/21	--	--	--	--	--	--	
12/27/21	10:15	71.67	669.47	--	--	--	
12/28/21	--	--	--	--	--	--	
12/29/21	--	--	--	--	--	--	
12/30/21	--	--	--	--	--	--	
12/31/21	--	--	--	--	--	--	
Total						191.00	

Notes:
ft AMSL - feet above mean sea level

Table 2.2

2021 Summary of Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date	Tme of Measurement	Depth to Water Before Pumping (feet below top of sump)	Water Level Before Pumping Converted to Elevation (ft. AMSL)	Flow Meter Reading[a] Start (gallons)	Flow Meter Reading[a] End (gallons)	Calculated Volume Removed (gallons)	Comments
Top of sump [top of concrete manhole] (a		741.14					
Bottom of sump (feet AMSL):		668.5					
Total depth of sump manhole (feet):		72.64					
Inside diameter of sump (feet):		6					

(--) Measurements were not collected.
(---) Water was not removed from the sump.

[1] Water level in LDS not to rise above the primary liner system (670.0 ft AMSL) (or more than 18 inches of water depth or 71.14 ft from top of sump). Pumping must be initiated if water elevation is not within the appropriate limits. All corresponding information to be recorded on this form.

[a] Flow meter readings are cumulative unless noted otherwise.

Indication of water level in LDS rising to 670.0 ft AMSL or higher

Table 2.3

2021 Summary of Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date	Time of Measurement	Water Level at PLC [a] (inches)	PLC Water Level Converted to Elevation[2] (ft. AMSL)	Comments[1]
1/1/21	8:00	85.0	669.26	
1/2/21	8:00	85.0	669.26	
1/3/21	8:00	85.0	669.26	
1/4/21	8:00	85.0	669.26	
1/5/21	8:00	85.0	669.26	
1/6/21	8:00	85.0	669.26	
1/7/21	8:00	85.0	669.26	
1/8/21	8:00	85.0	669.26	
1/9/21	8:00	85.0	669.26	
1/10/21	8:00	85.0	669.26	
1/11/21	8:00	82.3	669.03	
1/12/21	8:00	82.3	669.03	
1/13/21	8:00	81.4	668.96	
1/14/21	8:00	80.2	668.86	
1/15/21	8:00	79.6	668.81	
1/16/21	8:00	79.2	668.78	
1/17/21	8:00	78.8	668.74	
1/18/21	8:00	78.8	668.74	
1/19/21	8:00	78.8	668.74	
1/20/21	8:00	78.6	668.73	
1/21/21	8:00	78.9	668.75	
1/22/21	8:00	79.2	668.78	
1/23/21	8:00	79.2	668.78	
1/24/21	8:00	79.5	668.80	
1/25/21	8:00	79.9	668.83	
1/26/21	8:00	80.1	668.85	
1/27/21	8:00	80.5	668.88	
1/28/21	8:00	80.6	668.89	
1/29/21	8:00	81.3	668.95	
1/30/21	8:00	82.1	669.02	
1/31/21	8:00	82.3	669.03	
2/1/21	8:00	82.4	669.04	
2/2/21	8:00	82.3	669.03	
2/3/21	8:00	79.7	668.82	
2/4/21	8:00	78.6	668.73	
2/5/21	8:00	78.6	668.73	
2/6/21	8:00	78.0	668.68	
2/7/21	8:00	77.8	668.66	
2/8/21	8:00	77.6	668.64	
2/9/21	8:00	78.0	668.68	
2/10/21	8:00	77.8	668.66	
2/11/21	8:00	77.8	668.66	
2/12/21	8:00	77.7	668.65	
2/13/21	8:00	77.7	668.65	
2/14/21	8:00	77.6	668.64	
2/15/21	8:00	77.5	668.63	
2/16/21	8:00	77.7	668.65	
2/17/21	8:00	77.7	668.65	
2/18/21	8:00	77.9	668.67	
2/19/21	8:00	77.7	668.65	
2/20/21	8:00	77.7	668.65	
2/21/21	8:00	77.7	668.65	
2/22/21	8:00	77.7	668.65	
2/23/21	8:00	77.7	668.65	
2/24/21	8:00	77.8	668.66	
2/25/21	8:00	77.8	668.66	
2/26/21	8:00	77.8	668.66	

Table 2.3

2021 Summary of Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date	Time of Measurement	Water Level at PLC [a] (inches)	PLC Water Level Converted to Elevation[2] (ft. AMSL)	Comments[1]
2/27/21	8:00	77.8	668.66	
2/28/21	8:00	77.8	668.66	
3/1/21	8:00	78.1	668.68	
3/2/21	8:00	77.9	668.67	
3/3/21	8:00	78.1	668.68	
3/4/21	8:00	78.1	668.68	
3/5/21	8:00	78.3	668.70	
3/6/21	8:00	78.3	668.70	
3/7/21	8:00	78.1	668.68	
3/8/21	8:00	78.0	668.68	
3/9/21	8:00	78.4	668.71	
3/10/21	8:00	78.3	668.70	
3/11/21	8:00	78.1	668.68	
3/12/21	8:00	78.1	668.68	
3/13/21	8:00	78.1	668.68	
3/14/21	8:00	78.1	668.68	
3/15/21	8:00	78.2	668.69	
3/16/21	8:00	78.2	668.69	
3/17/21	8:00	78.2	668.69	
3/18/21	8:00	78.2	668.69	
3/19/21	8:00	78.2	668.69	
3/20/21	8:00	78.2	668.69	
3/21/21	8:00	78.2	668.69	
3/22/21	8:00	78.3	668.70	
3/23/21	8:00	78.1	668.68	
3/24/21	8:00	78.1	668.68	
3/25/21	8:00	78.0	668.68	
3/26/21	8:00	77.7	668.65	
3/27/21	8:00	78.0	668.68	
3/28/21	8:00	78.3	668.70	
3/29/21	8:00	78.3	668.70	
3/30/21	8:00	78.3	668.70	
3/31/21	8:00	78.7	668.73	
4/1/21	8:00	78.5	668.72	
4/2/21	8:00	78.5	668.72	
4/3/21	8:00	78.6	668.73	
4/4/21	8:00	78.6	668.73	
4/5/21	8:00	78.4	668.71	
4/6/21	8:00	78.5	668.72	
4/7/21	8:00	78.7	668.73	
4/8/21	8:00	78.7	668.73	
4/9/21	8:00	78.7	668.73	
4/10/21	8:00	78.7	668.73	
4/11/21	8:00	78.7	668.73	
4/12/21	8:00	78.7	668.73	
4/13/21	8:00	78.8	668.74	
4/14/21	8:00	78.5	668.72	
4/15/21	8:00	78.5	668.72	
4/16/21	8:00	78.5	668.72	
4/17/21	8:00	78.5	668.72	
4/18/21	8:00	78.5	668.72	
4/19/21	8:00	78.5	668.72	
4/20/21	8:00	78.5	668.72	
4/21/21	8:00	78.5	668.72	
4/22/21	8:00	78.5	668.72	
4/23/21	8:00	78.5	668.72	
4/24/21	8:00	78.5	668.72	

Table 2.3

2021 Summary of Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date	Time of Measurement	Water Level at PLC [a] (inches)	PLC Water Level Converted to Elevation[2] (ft. AMSL)	Comments[1]
4/25/21	8:00	78.5	668.72	
4/26/21	8:00	78.5	668.72	
4/27/21	8:00	78.5	668.72	
4/28/21	8:00	78.5	668.72	
4/29/21	8:00	78.5	668.72	
4/30/21	8:00	78.7	668.73	
5/1/21	8:00	77.9	668.67	
5/2/21	8:00	77.9	668.67	
5/3/21	8:00	77.9	668.67	
5/4/21	8:00	77.9	668.67	
5/5/21	8:00	78.1	668.68	
5/6/21	8:00	78.1	668.68	
5/7/21	8:00	78.3	668.70	
5/8/21	8:00	78.1	668.68	
5/9/21	8:00	78.1	668.68	
5/10/21	8:00	78.2	668.69	
5/11/21	8:00	78.1	668.68	
5/12/21	8:00	78.1	668.68	
5/13/21	8:00	78.1	668.68	
5/14/21	8:00	78.1	668.68	
5/15/21	8:00	78.1	668.68	
5/16/21	8:00	77.9	668.67	
5/17/21	8:00	77.9	668.67	
5/18/21	8:00	78.1	668.68	
5/19/21	8:00	77.9	668.67	
5/20/21	8:00	77.9	668.67	
5/21/21	8:00	77.9	668.67	
5/22/21	8:00	77.9	668.67	
5/23/21	8:00	77.9	668.67	
5/24/21	8:00	77.5	668.63	
5/25/21	8:00	77.5	668.63	
5/26/21	8:00	77.9	668.67	
5/27/21	8:00	77.9	668.67	
5/28/21	8:00	77.9	668.67	
5/29/21	8:00	77.9	668.67	
5/30/21	8:00	77.9	668.67	
5/31/21	8:00	77.4	668.63	
6/1/21	8:00	77.5	668.63	
6/2/21	8:00	77.8	668.66	
6/3/21	8:00	77.5	668.63	
6/4/21	8:00	77.4	668.63	
6/5/21	8:00	77.6	668.64	
6/6/21	8:00	77.5	668.63	
6/7/21	8:00	77.4	668.63	
6/8/21	8:00	77.4	668.63	
6/9/21	8:00	77.5	668.63	
6/10/21	8:00	77.5	668.63	
6/11/21	8:00	77.5	668.63	
6/12/21	8:00	77.5	668.63	
6/13/21	8:00	77.5	668.63	
6/14/21	8:00	77.8	668.66	
6/15/21	8:00	77.8	668.66	
6/16/21	8:00	77.5	668.63	
6/17/21	8:00	77.4	668.63	
6/18/21	8:00	77.7	668.65	
6/19/21	8:00	77.8	668.66	
6/20/21	8:00	77.6	668.64	

Table 2.3

2021 Summary of Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date	Time of Measurement	Water Level at PLC [a] (inches)	PLC Water Level Converted to Elevation[2] (ft. AMSL)	Comments[1]
6/21/21	8:00	77.6	668.64	
6/22/21	8:00	77.6	668.64	
6/23/21	8:00	77.7	668.65	
6/24/21	8:00	77.4	668.63	
6/25/21	8:00	77.4	668.63	
6/26/21	8:00	77.5	668.63	
6/27/21	8:00	77.5	668.63	
6/28/21	8:00	77.5	668.63	
6/29/21	8:00	77.9	668.67	
6/30/21	8:00	77.9	668.67	
7/1/21	8:00	78.7	668.73	
7/2/21	8:00	78.7	668.73	
7/3/21	8:00	78.8	668.74	
7/4/21	8:00	79.6	668.81	
7/5/21	8:00	79.6	668.81	
7/6/21	8:00	79.6	668.81	
7/7/21	8:00	79.8	668.83	
7/8/21	8:00	79.9	668.83	
7/9/21	8:00	80.2	668.86	
7/10/21	8:00	80.6	668.89	
7/11/21	8:00	80.2	668.86	
7/12/21	8:00	80.6	668.89	
7/13/21	8:00	80.9	668.92	
7/14/21	8:00	81.6	668.98	
7/15/21	8:00	81.8	668.99	
7/16/21	8:00	82.2	669.03	
7/17/21	8:00	82.8	669.08	
7/18/21	8:00	82.8	669.08	
7/19/21	8:00	83.0	669.09	
7/20/21	8:00	83.8	669.16	
7/21/21	8:00	84.8	669.24	
7/22/21	8:00	85.9	669.33	
7/23/21	8:00	85.5	669.30	
7/24/21	8:00	81.0	668.93	
7/25/21	8:00	77.6	668.64	
7/26/21	8:00	77.2	668.61	
7/27/21	8:00	77.2	668.61	
7/28/21	8:00	77.2	668.61	
7/29/21	8:00	77.1	668.60	
7/30/21	8:00	76.9	668.58	
7/31/21	8:00	77.1	668.60	
8/1/21	8:00	77.1	668.60	
8/2/21	8:00	77.1	668.60	
8/3/21	8:00	77.1	668.60	
8/4/21	8:00	77.1	668.60	
8/5/21	8:00	77.1	668.60	
8/6/21	8:00	77.1	668.60	
8/7/21	8:00	77.1	668.60	
8/8/21	8:00	77.0	668.59	
8/9/21	8:00	77.1	668.60	
8/10/21	8:00	77.1	668.60	
8/11/21	8:00	76.9	668.58	
8/12/21	8:00	77.0	668.59	
8/13/21	8:00	76.8	668.58	
8/14/21	8:00	77.0	668.59	
8/15/21	8:00	77.0	668.59	
8/16/21	8:00	77.0	668.59	

Table 2.3

2021 Summary of Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date	Time of Measurement	Water Level at PLC [a] (inches)	PLC Water Level Converted to Elevation[2] (ft. AMSL)	Comments[1]
8/17/21	8:00	76.9	668.58	
8/18/21	8:00	76.9	668.58	
8/19/21	8:00	77.0	668.59	
8/20/21	8:00	77.0	668.59	
8/21/21	8:00	76.9	668.58	
8/22/21	8:00	76.9	668.58	
8/23/21	8:00	76.9	668.58	
8/24/21	8:00	77.1	668.60	
8/25/21	8:00	77.1	668.60	
8/26/21	8:00	77.3	668.62	
8/27/21	8:00	76.8	668.58	
8/28/21	8:00	77.0	668.59	
8/29/21	8:00	77.0	668.59	
8/30/21	8:00	77.0	668.59	
8/31/21	8:00	77.0	668.59	
9/1/21	8:00	77.3	668.62	
9/2/21	8:00	77.3	668.62	
9/3/21	8:00	77.4	668.63	
9/4/21	8:00	77.3	668.62	
9/5/21	8:00	77.1	668.60	
9/6/21	8:00	77.1	668.60	
9/7/21	8:00	77.3	668.62	
9/8/21	8:00	77.1	668.60	
9/9/21	8:00	77.1	668.60	
9/10/21	8:00	77.1	668.60	
9/11/21	8:00	76.8	668.58	
9/12/21	8:00	76.8	668.58	
9/13/21	8:00	76.8	668.58	
9/14/21	8:00	76.8	668.58	
9/15/21	8:00	77.3	668.62	
9/16/21	8:00	77.1	668.60	
9/17/21	8:00	77.8	668.66	
9/18/21	8:00	77.8	668.66	
9/19/21	8:00	77.8	668.66	
9/20/21	8:00	78.3	668.70	
9/21/21	8:00	78.3	668.70	
9/22/21	8:00	78.7	668.73	
9/23/21	8:00	79.0	668.76	
9/24/21	8:00	79.8	668.83	
9/25/21	8:00	80.6	668.89	
9/26/21	8:00	80.6	668.89	
9/27/21	8:00	81.1	668.93	
9/28/21	8:00	81.6	668.98	
9/29/21	8:00	82.0	669.01	
9/30/21	8:00	82.3	669.03	
10/1/21	8:00	83.5	669.13	
10/2/21	8:00	83.5	669.13	
10/3/21	8:00	81.1	668.93	
10/4/21	8:00	81.1	668.93	
10/5/21	8:00	79.1	668.77	
10/6/21	8:00	76.6	668.56	
10/7/21	8:00	76.6	668.56	
10/8/21	8:00	76.5	668.55	
10/9/21	8:00	76.7	668.57	
10/10/21	8:00	76.6	668.56	
10/11/21	8:00	76.5	668.55	
10/12/21	8:00	76.7	668.57	

Table 2.3

2021 Summary of Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date	Time of Measurement	Water Level at PLC [a] (inches)	PLC Water Level Converted to Elevation[2] (ft. AMSL)	Comments[1]
10/13/21	8:00	76.3	668.53	
10/14/21	8:00	76.4	668.54	
10/15/21	8:00	76.7	668.57	
10/16/21	8:00	76.5	668.55	
10/17/21	8:00	76.4	668.54	
10/18/21	8:00	76.7	668.57	
10/19/21	8:00	76.4	668.54	
10/20/21	8:00	76.5	668.55	
10/21/21	8:00	76.7	668.57	
10/22/21	8:00	76.5	668.55	
10/23/21	8:00	76.8	668.58	
10/24/21	8:00	76.5	668.55	
10/25/21	8:00	76.7	668.57	
10/26/21	8:00	76.6	668.56	
10/27/21	8:00	76.4	668.54	
10/28/21	8:00	76.7	668.57	
10/29/21	8:00	76.4	668.54	
10/30/21	8:00	76.7	668.57	
10/31/21	8:00	76.6	668.56	
11/1/21	8:00	76.7	668.57	
11/2/21	8:00	76.7	668.57	
11/3/21	8:00	76.3	668.53	
11/4/21	8:00	76.8	668.58	
11/5/21	8:00	76.6	668.56	
11/6/21	8:00	76.7	668.57	
11/7/21	8:00	76.7	668.57	
11/8/21	8:00	76.7	668.57	
11/9/21	8:00	76.6	668.56	
11/10/21	8:00	76.4	668.54	
11/11/21	8:00	76.8	668.58	
11/12/21	8:00	76.7	668.57	
11/13/21	8:00	76.7	668.57	
11/14/21	8:00	76.8	668.58	
11/15/21	8:00	76.6	668.56	
11/16/21	8:00	76.5	668.55	
11/17/21	8:00	76.9	668.58	
11/18/21	8:00	76.7	668.57	
11/19/21	8:00	76.4	668.54	
11/20/21	8:00	76.9	668.58	
11/21/21	8:00	76.7	668.57	
11/22/21	8:00	76.7	668.57	
11/23/21	8:00	76.4	668.54	
11/24/21	8:00	76.8	668.58	
11/25/21	8:00	76.7	668.57	
11/26/21	8:00	76.6	668.56	
11/27/21	8:00	76.7	668.57	
11/28/21	8:00	76.5	668.55	
11/29/21	8:00	76.4	668.54	
11/30/21	8:00	76.1	668.52	
12/1/21	8:00	76.4	668.54	
12/2/21	8:00	76.4	668.54	
12/3/21	8:00	76.4	668.54	
12/4/21	8:00	76.3	668.53	
12/5/21	8:00	76.6	668.56	
12/6/21	8:00	76.4	668.54	
12/7/21	8:00	75.9	668.50	
12/8/21	8:00	76.3	668.53	

Table 2.3

2021 Summary of Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date	Time of Measurement	Water Level at PLC [(a)] (inches)	PLC Water Level Converted to Elevation[(2)] (ft. AMSL)	Comments[(1)]
12/9/21	8:00	76.5	668.55	
12/10/21	8:00	76.6	668.56	
12/11/21	8:00	76.6	668.56	
12/12/21	8:00	76.3	668.53	
12/13/21	8:00	76.6	668.56	
12/14/21	8:00	76.2	668.53	
12/15/21	8:00	76.4	668.54	
12/16/21	8:00	76.5	668.55	
12/17/21	8:00	76.4	668.54	
12/18/21	8:00	76.7	668.57	
12/19/21	8:00	76.7	668.57	
12/20/21	8:00	76.6	668.56	
12/21/21	8:00	76.6	668.56	
12/22/21	8:00	76.6	668.56	
12/23/21	8:00	76.8	668.58	
12/24/21	8:00	76.5	668.55	
12/25/21	8:00	76.7	668.57	
12/26/21	8:00	76.6	668.56	
12/27/21	8:00	76.6	668.56	
12/28/21	8:00	76.5	668.55	
12/29/21	8:00	76.4	668.54	
12/30/21	8:00	76.5	668.55	
Total				

Notes:
ft AMSL - feet above mean sea level
NR - Not Recorded
Top of sump [top of concrete manhole] (feet AMSL): 739.49
Bottom of sump (feet AMSL): 662.18
Total depth of sump manhole (feet): 77.31
Inside diameter of sump (feet): 3
[(1)] Pump within sump is not operational

[(2)] Water level in the GUS not to rise above the secondary liner system (667.50 ft AMSL) (equates to more than 63.84 inches of water depth or a water level of 71.99 ft below the top of sump).
Indication of the Indication of the water level in the GUS rising to 667.50 ft AMSL or higher.

[(a)] PLC records the maximum water level observed each day (midnight to midnight). Therefore, the manual water level/elevation will not match the water level/elevation recorded by the PLC.

Table 2.4

Summary of 2021 Water Elevations Compared to Liner System
East Plant Area TSA Annual Vault Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date (mm/dd/yy)	LCS[1] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Primary Liner (ft. AMSL)	LDS[2] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Secondary Liner (ft. AMSL)	GUS[3] Water Elevation (PLC) (ft. AMSL)
1/1/21	--	669.50	--	667.5	669.03
1/2/21	--	669.50	--	667.5	669.03
1/3/21	--	669.50	--	667.5	668.99
1/4/21	671.63	669.50	71.88	667.5	668.99
1/5/21	--	669.50	--	667.5	669.00
1/6/21	--	669.50	--	667.5	669.01
1/7/21	--	669.50	--	667.5	669.01
1/8/21	--	669.50	--	667.5	669.02
1/9/21	--	669.50	--	667.5	669.02
1/10/21	--	669.50	--	667.5	669.00
1/11/21	671.63	669.50	71.86	667.5	669.00
1/12/21	--	669.50	--	667.5	669.00
1/13/21	--	669.50	--	667.5	669.03
1/14/21	--	669.50	--	667.5	669.03
1/15/21	--	669.50	--	667.5	669.03
1/16/21	--	669.50	--	667.5	669.03
1/17/21	--	669.50	--	667.5	669.03
1/18/21	671.69	669.50	71.86	667.5	669.03
1/19/21	--	669.50	--	667.5	669.03
1/20/21	--	669.50	--	667.5	669.03
1/21/21	--	669.50	--	667.5	669.04
1/22/21	--	669.50	--	667.5	669.06
1/23/21	--	669.50	--	667.5	669.04
1/24/21	--	669.50	--	667.5	669.03
1/25/21	671.69	669.50	71.85	667.5	669.03
1/26/21	--	669.50	--	667.5	669.02
1/27/21	--	669.50	--	667.5	669.02
1/28/21	--	669.50	--	667.5	669.02
1/29/21		669.50	--	667.5	669.01
1/30/21	--	669.50	--	667.5	669.01
1/31/21	--	669.50	--	667.5	669.01
2/1/21	671.69	669.50	71.85	667.5	669.01
2/2/21	--	669.50	--	667.5	669.01
2/3/21	--	669.50	--	667.5	668.98
2/4/21	--	669.50	--	667.5	668.98
2/5/21	--	669.50	--	667.5	668.97
2/6/21	--	669.50	--	667.5	668.98
2/7/21	--	669.50	--	667.5	668.98
2/8/21	671.73	669.50	71.89	667.5	668.98
2/9/21	--	669.50	--	667.5	668.98
2/10/21	--	669.50	--	667.5	668.98
2/11/21	--	669.50	--	667.5	668.97
2/12/21	--	669.50	--	667.5	668.97
2/13/21	--	669.50	--	667.5	668.95
2/14/21	--	669.50	--	667.5	668.95
2/15/21	671.71	669.50	71.84	667.5	668.95
2/16/21	--	669.50	--	667.5	669.00
2/17/21	--	669.50	--	667.5	669.00
2/18/21	--	669.50	--	667.5	669.00
2/19/21	--	669.50	--	667.5	668.98
2/20/21	--	669.50	--	667.5	668.98
2/21/21	--	669.50	--	667.5	668.97
2/22/21	671.71	669.50	71.82	667.5	668.97
2/23/21	--	669.50	--	667.5	668.95
2/24/21	--	669.50	--	667.5	668.95
2/25/21	--	669.50	--	667.5	668.91
2/26/21	--	669.50	--	667.5	668.95
2/27/21	--	669.50	--	667.5	668.95
2/28/21	--	669.50	--	667.5	668.95
3/1/21	671.77	669.50	71.81	667.5	668.95

Table 2.4

Summary of 2021 Water Elevations Compared to Liner System
East Plant Area TSA Annual Vault Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date (mm/dd/yy)	LCS[1] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Primary Liner (ft. AMSL)	LDS[2] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Secondary Liner (ft. AMSL)	GUS[3] Water Elevation (PLC) (ft. AMSL)
3/2/21	--	669.50	--	667.5	668.98
3/3/21	--	669.50	--	667.5	668.98
3/4/21	--	669.50	--	667.5	668.96
3/5/21	--	669.50	--	667.5	668.93
3/6/21	--	669.50	--	667.5	668.95
3/7/21	--	669.50	--	667.5	668.94
3/8/21	671.77	669.50	71.81	667.5	668.94
3/9/21	--	669.50	--	667.5	668.95
3/10/21	--	669.50	--	667.5	668.93
3/11/21	--	669.50	--	667.5	668.93
3/12/21	--	669.50	--	667.5	668.93
3/13/21	--	669.50	--	667.5	668.93
3/14/21	--	669.50	--	667.5	668.93
3/15/21	671.78	669.50	71.81	667.5	668.95
3/16/21	--	669.50	--	667.5	668.98
3/17/21	--	669.50	--	667.5	668.98
3/18/21	--	669.50	--	667.5	668.96
3/19/21	--	669.50	--	667.5	668.96
3/20/21	--	669.50	--	667.5	668.95
3/21/21	--	669.50	--	667.5	668.96
3/22/21	671.40	669.50	71.79	667.5	668.96
3/23/21	--	669.50	--	667.5	668.96
3/24/21	--	669.50	--	667.5	668.98
3/25/21	--	669.50	--	667.5	668.98
3/26/21	--	669.50	--	667.5	668.98
3/27/21	--	669.50	--	667.5	669.00
3/28/21	--	669.50	--	667.5	669.03
3/29/21	671.40	669.50	71.76	667.5	668.98
3/30/21	--	669.50	--	667.5	669.00
3/31/21	--	669.50	--	667.5	668.98
4/1/21	--	669.50	--	667.5	669.00
4/2/21	--	669.50	--	667.5	669.02
4/3/21	--	669.50	--	667.5	669.00
4/4/21	--	669.50	--	667.5	669.00
4/5/21	671.55	669.50	71.79	667.5	669.00
4/6/21	--	669.50	--	667.5	669.00
4/7/21	--	669.50	--	667.5	668.99
4/8/21	--	669.50	--	667.5	669.22
4/9/21	--	669.50	--	667.5	668.97
4/10/21	--	669.50	--	667.5	669.00
4/11/21	--	669.50	--	667.5	669.00
4/12/21	671.47	669.50	71.79	667.5	669.02
4/13/21	--	669.50	--	667.5	669.00
4/14/21	--	669.50	--	667.5	669.00
4/15/21	--	669.50	--	667.5	668.97
4/16/21	--	669.50	--	667.5	668.97
4/17/21	--	669.50	--	667.5	668.97
4/18/21	--	669.50	--	667.5	668.97
4/19/21	671.43	669.50	71.77	667.5	668.97
4/20/21	--	669.50	--	667.5	668.97
4/21/21	--	669.50	--	667.5	668.97
4/22/21	--	669.50	--	667.5	668.97
4/23/21	--	669.50	--	667.5	668.97
4/24/21	--	669.50	--	667.5	668.96
4/25/21	--	669.50	--	667.5	668.95
4/26/21	671.43	669.50	71.77	667.5	668.97
4/27/21	--	669.50	--	667.5	668.97
4/28/21	--	669.50	--	667.5	668.96
4/29/21	--	669.50	--	667.5	668.96
4/30/21	--	669.50	--	667.5	668.97

Table 2.4

Summary of 2021 Water Elevations Compared to Liner System
East Plant Area TSA Annual Vault Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date (mm/dd/yy)	LCS[1] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Primary Liner (ft. AMSL)	LDS[2] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Secondary Liner (ft. AMSL)	GUS[3] Water Elevation (PLC) (ft. AMSL)
5/1/21	--	669.50	--	667.5	668.97
5/2/21	--	669.50	--	667.5	668.93
5/3/21	671.44	669.50	71.77	667.5	668.98
5/4/21	--	669.50	--	667.5	668.98
5/5/21	--	669.50	--	667.5	668.98
5/6/21	--	669.50	--	667.5	668.98
5/7/21	--	669.50	--	667.5	668.98
5/8/21	--	669.50	--	667.5	668.98
5/9/21	--	669.50	--	667.5	668.98
5/10/21	671.46	669.50	71.77	667.5	668.97
5/11/21	--	669.50	--	667.5	668.97
5/12/21	--	669.50	--	667.5	668.97
5/13/21	--	669.50	--	667.5	668.94
5/14/21	--	669.50	--	667.5	668.94
5/15/21	--	669.50	--	667.5	668.93
5/16/21	--	669.50	--	667.5	668.94
5/17/21	671.50	669.50	71.66	667.5	668.93
5/18/21	--	669.50	--	667.5	668.93
5/19/21	--	669.50	--	667.5	668.97
5/20/21	--	669.50	--	667.5	668.94
5/21/21	--	669.50	--	667.5	668.94
5/22/21	--	669.50	--	667.5	668.93
5/23/21	--	669.50	--	667.5	668.97
5/24/21	--	669.50	--	667.5	668.97
5/25/21	671.38	669.50	71.61	667.5	668.97
5/26/21	--	669.50	--	667.5	668.97
5/27/21	--	669.50	--	667.5	668.94
5/28/21	--	669.50	--	667.5	668.97
5/29/21	--	669.50	--	667.5	668.94
5/30/21	--	669.50	--	667.5	668.98
5/31/21	--	669.50	--	667.5	668.94
6/1/21	671.40	669.50	71.62	667.5	668.94
6/2/21	--	669.50	--	667.5	668.95
6/3/21	--	669.50	--	667.5	668.97
6/4/21	--	669.50	--	667.5	668.95
6/5/21	--	669.50	--	667.5	668.95
6/6/21	--	669.50	--	667.5	668.93
6/7/21	671.42	669.50	71.65	667.5	668.90
6/8/21	--	669.50	--	667.5	668.90
6/9/21	--	669.50	--	667.5	668.93
6/10/21	--	669.50	--	667.5	668.94
6/11/21	--	669.50	--	667.5	668.93
6/12/21	--	669.50	--	667.5	668.93
6/13/21	--	669.50	--	667.5	668.93
6/14/21	671.42	669.50	71.55	667.5	668.94
6/15/21	--	669.50	--	667.5	668.94
6/16/21	--	669.50	--	667.5	668.94
6/17/21	--	669.50	--	667.5	668.93
6/18/21	--	669.50	--	667.5	668.90
6/19/21	--	669.50	--	667.5	668.90
6/20/21	--	669.50	--	667.5	668.90
6/21/21	671.42	669.50	71.49	667.5	668.90
6/22/21	--	669.50	--	667.5	668.90
6/23/21	--	669.50	--	667.5	668.90
6/24/21	--	669.50	--	667.5	668.90
6/25/21	--	669.50	--	667.5	668.90
6/26/21	--	669.50	--	667.5	668.90
6/27/21	--	669.50	71.50	667.5	668.94
6/28/21	671.42	669.50	--	667.5	668.93
6/29/21	--	669.50	--	667.5	668.93

Table 2.4

Summary of 2021 Water Elevations Compared to Liner System
East Plant Area TSA Annual Vault Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date (mm/dd/yy)	LCS[1] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Primary Liner (ft. AMSL)	LDS[2] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Secondary Liner (ft. AMSL)	GUS[3] Water Elevation (PLC) (ft. AMSL)
6/30/21	--	669.50	--	667.5	668.97
7/1/21	--	669.50	--	667.5	668.97
7/2/21	--	669.50	--	667.5	668.93
7/3/21	--	669.50	--	667.5	668.93
7/4/21	--	669.50	--	667.5	668.90
7/5/21	671.42	669.50	71.45	667.5	668.88
7/6/21	--	669.50	--	667.5	668.88
7/7/21	--	669.50	--	667.5	668.88
7/8/21	--	669.50	--	667.5	668.84
7/9/21	--	669.50	--	667.5	668.86
7/10/21	--	669.50	--	667.5	668.84
7/11/21	--	669.50	--	667.5	668.86
7/12/21	--	669.50	--	667.5	668.88
7/13/21	671.27	669.50	71.45	667.5	668.88
7/14/21	--	669.50	--	667.5	668.88
7/15/21	--	669.50	--	667.5	668.90
7/16/21	--	669.50	--	667.5	668.93
7/17/21	--	669.50	--	667.5	668.94
7/18/21	--	669.50	--	667.5	669.00
7/19/21	671.39	669.50	71.94	667.5	669.02
7/20/21	--	669.50	--	667.5	668.97
7/21/21	--	669.50	--	667.5	668.97
7/22/21	--	669.50	--	667.5	668.88
7/23/21	--	669.50	--	667.5	668.86
7/24/21	--	669.50	--	667.5	668.80
7/25/21	--	669.50	--	667.5	668.78
7/26/21	671.42	669.50	71.94	667.5	668.78
7/27/21	--	669.50	--	667.5	668.78
7/28/21	--	669.50	--	667.5	668.80
7/29/21	--	669.50	--	667.5	668.80
7/30/21	--	669.50	--	667.5	668.80
7/31/21	--	669.50	--	667.5	668.78
8/1/21	--	669.50	--	667.5	668.80
8/2/21	671.42	669.50	71.94	667.5	668.80
8/3/21	--	669.50	--	667.5	668.80
8/4/21	--	669.50	--	667.5	668.78
8/5/21	--	669.50	--	667.5	668.83
8/6/21	--	669.50	--	667.5	668.84
8/7/21	--	669.50	--	667.5	668.85
8/8/21	--	669.50	--	667.5	668.84
8/9/21	671.45	669.50	71.94	667.5	668.83
8/10/21	--	669.50	--	667.5	668.83
8/11/21	--	669.50	--	667.5	668.84
8/12/21	--	669.50	--	667.5	668.84
8/13/21	--	669.50	--	667.5	668.84
8/14/21	--	669.50	--	667.5	668.84
8/15/21	--	669.50	--	667.5	668.83
8/16/21	671.49	669.50	71.92	667.5	668.83
8/17/21	--	669.50	--	667.5	668.83
8/18/21	--	669.50	--	667.5	668.83
8/19/21	--	669.50	--	667.5	668.83
8/20/21	--	669.50	--	667.5	668.84
8/21/21	--	669.50	--	667.5	668.84
8/22/21	--	669.50	--	667.5	668.84
8/23/21	671.51	669.50	71.91	667.5	668.83
8/24/21	--	669.50	--	667.5	668.80
8/25/21	--	669.50	--	667.5	668.83
8/26/21	--	669.50	--	667.5	668.83
8/27/21	--	669.50	--	667.5	668.83
8/28/21	--	669.50	--	667.5	668.81

Table 2.4

Summary of 2021 Water Elevations Compared to Liner System
East Plant Area TSA Annual Vault Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date (mm/dd/yy)	LCS[1] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Primary Liner (ft. AMSL)	LDS[2] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Secondary Liner (ft. AMSL)	GUS[3] Water Elevation (PLC) (ft. AMSL)
8/29/21	--	669.50	--	667.5	668.81
8/30/21	671.53	669.50	--	667.5	668.81
8/31/21	--	669.50	--	667.5	668.81
9/1/21	--	669.50	--	667.5	668.80
9/2/21	--	669.50	--	667.5	668.80
9/3/21	--	669.50	--	667.5	668.79
9/4/21	--	669.50	--	667.5	668.79
9/5/21	--	669.50	--	667.5	668.80
9/6/21	671.54	669.50	71.91	667.5	668.80
9/7/21	--	669.50	--	667.5	668.80
9/8/21	--	669.50	--	667.5	668.78
9/9/21	--	669.50	--	667.5	668.78
9/10/21	--	669.50	--	667.5	668.78
9/11/21	--	669.50	--	667.5	668.78
9/12/21	--	669.50	--	667.5	668.78
9/13/21	671.57	669.50	71.89	667.5	668.79
9/14/21	--	669.50	--	667.5	668.80
9/15/21	--	669.50	--	667.5	668.78
9/16/21	--	669.50	--	667.5	668.78
9/17/21	--	669.50	--	667.5	668.80
9/18/21	--	669.50	--	667.5	668.81
9/19/21	--	669.50	--	667.5	668.81
9/20/21	671.61	669.50	71.86	667.5	668.78
9/21/21	--	669.50	--	667.5	668.78
9/22/21	--	669.50	--	667.5	668.80
9/23/21	--	669.50	--	667.5	668.78
9/24/21	--	669.50	--	667.5	668.80
9/25/21	--	669.50	--	667.5	668.78
9/26/21	--	669.50	--	667.5	668.71
9/27/21	671.66	669.50	71.84	667.5	668.76
9/28/21	--	669.50	--	667.5	668.78
9/29/21	--	669.50	--	667.5	668.77
9/30/21	--	669.50	--	667.5	668.78
10/1/21	--	669.50	--	667.5	668.77
10/2/21	--	669.50	--	667.5	668.76
10/3/21	--	669.50	--	667.5	668.76
10/4/21	671.64	669.50	71.84	667.5	668.74
10/5/21	--	669.50	--	667.5	668.76
10/6/21	--	669.50	--	667.5	668.74
10/7/21	--	669.50	--	667.5	668.74
10/8/21	--	669.50	--	667.5	668.75
10/9/21	--	669.50	--	667.5	668.75
10/10/21	--	669.50	--	667.5	668.75
10/11/21	671.64	669.50	71.85	667.5	668.75
10/12/21	--	669.50	--	667.5	668.75
10/13/21	--	669.50	--	667.5	668.75
10/14/21	--	669.50	--	667.5	668.75
10/15/21	--	669.50	--	667.5	668.75
10/16/21	--	669.50	--	667.5	668.75
10/17/21	--	669.50	--	667.5	668.75
10/18/21	671.64	669.50	71.89	667.5	668.75
10/19/21	--	669.50	--	667.5	668.75
10/20/21	--	669.50	--	667.5	668.75
10/21/21	--	669.50	--	667.5	668.75
10/22/21	--	669.50	--	667.5	668.75
10/23/21	--	669.50	--	667.5	668.75
10/24/21	--	669.50	--	667.5	668.75
10/25/21	671.64	669.50	71.90	667.5	668.75
10/26/21	--	669.50	--	667.5	668.75
10/27/21	--	669.50	--	667.5	668.75

Table 2.4

Summary of 2021 Water Elevations Compared to Liner System
East Plant Area TSA Annual Vault Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date (mm/dd/yy)	LCS[1] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Primary Liner (ft. AMSL)	LDS[2] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Secondary Liner (ft. AMSL)	GUS[3] Water Elevation (PLC) (ft. AMSL)
10/28/21	--	669.50	--	667.5	668.75
10/29/21	--	669.50	--	667.5	668.75
10/30/21	--	669.50	--	667.5	668.75
10/31/21	--	669.50	--	667.5	668.75
11/1/21	671.67	669.50	71.85	667.5	668.75
11/2/21	--	669.50	--	667.5	668.75
11/3/21	--	669.50	--	667.5	668.75
11/4/21	--	669.50	--	667.5	668.75
11/5/21	--	669.50	--	667.5	668.75
11/6/21	--	669.50	--	667.5	668.75
11/7/21	--	669.50	--	667.5	668.75
11/8/21	671.71	669.50	71.81	667.5	668.75
11/9/21	--	669.50	--	667.5	668.75
11/10/21	--	669.50	--	667.5	668.75
11/11/21	--	669.50	--	667.5	668.75
11/12/21	--	669.50	--	667.5	668.75
11/13/21	--	669.50	--	667.5	668.75
11/14/21	--	669.50	--	667.5	668.75
11/15/21	671.72	669.50	71.80	667.5	668.75
11/16/21	--	669.50	--	667.5	668.75
11/17/21	--	669.50	--	667.5	668.75
11/18/21	--	669.50	--	667.5	668.75
11/19/21	--	669.50	--	667.5	668.75
11/20/21	--	669.50	--	667.5	668.75
11/21/21	--	669.50	--	667.5	668.75
11/22/21	671.72	669.50	71.79	667.5	668.75
11/23/21	--	669.50	--	667.5	668.75
11/24/21	--	669.50	--	667.5	668.75
11/25/21	--	669.50	--	667.5	668.75
11/26/21	--	669.50	--	667.5	668.75
11/27/21	--	669.50	--	667.5	668.75
11/28/21	--	669.50	--	667.5	668.75
11/29/21	671.78	669.50	71.72	667.5	668.75
11/30/21	--	669.50	--	667.5	668.75
12/1/21	--	669.50	--	667.5	668.75
12/2/21	--	669.50	--	667.5	668.75
12/3/21	--	669.50	--	667.5	668.75
12/4/21	--	669.50	--	667.5	668.75
12/5/21	--	669.50	--	667.5	668.75
12/6/21	671.8	669.50	71.70	667.5	668.75
12/7/21	--	669.50	--	667.5	668.75
12/8/21	--	669.50	--	667.5	668.75
12/9/21	--	669.50	--	667.5	668.75
12/10/21	--	669.50	--	667.5	668.75
12/11/21	--	669.50	--	667.5	668.75
12/12/21	--	669.50	--	667.5	668.75
12/13/21	671.82	669.50	71.70	667.5	668.75
12/14/21	--	669.50	--	667.5	668.75
12/15/21	--	669.50	--	667.5	668.75
12/16/21	--	669.50	--	667.5	668.75
12/17/21	--	669.50	--	667.5	668.75
12/18/21	--	669.50	--	667.5	668.75
12/19/21	--	669.50	--	667.5	668.75
12/20/21	671.83	669.50	71.67	667.5	668.75
12/21/21	--	669.50	--	667.5	668.75
12/22/21	--	669.50	--	667.5	668.75
12/23/21	--	669.50	--	667.5	668.75
12/24/21	--	669.50	--	667.5	668.75
12/25/21	--	669.50	--	667.5	669.24
12/26/21	--	669.50	--	667.5	669.24

Table 2.4

Summary of 2021 Water Elevations Compared to Liner System
East Plant Area TSA Annual Vault Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date (mm/dd/yy)	LCS[1] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Primary Liner (ft. AMSL)	LDS[2] Water Elevation (Manual) (ft. AMSL)	Lowest Elevation of Secondary Liner (ft. AMSL)	GUS[3] Water Elevation (PLC) (ft. AMSL)
12/27/21	671.84	669.50	71.67	667.5	669.25
12/28/21	--	669.50	--	667.5	669.24
12/29/21	--	669.50	--	667.5	669.26
12/30/21	--	669.50	--	667.5	669.26
12/31/21	--	669.50	--	667.5	669.26

Notes:
AMSL - Above mean sea level
ft - feet
Diameter of LCS and LDS sumps = 6 feet
Diameter of Underdrain sump = 3 feet
[1] LCS: Top of sump [top of concrete manhole] (feet AMSL): 740.83, Bottom of sump (feet AMSL): 671.00, Total depth of sump manhole (feet): 69.83. Automated pump turns on at 674 ft AMSL and off at 672 ft AMSL.

[2] LDS: Top of sump [top of concrete manhole] (feet AMSL): 741.14, Bottom of sump (feet AMSL): 668.5, Total depth of sump manhole (feet): 72.64
[3] GUS: Top of sump [top of concrete] (feet AMSL): 738.99, Bottom of sump (feet AMSL): 662.18, Total depth of sump manhole (feet): 76.81. Automated pump turns on at 666.5 ft AMSL and off at 664.68 ft AMSL.

Table 2.5

2021 LCS, LDS, and GUS Maximum Water Elevation Summary
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Date	LCS[1]	LCS[1]	LDS[2]	LDS[2]	GUS[3]	GUS[3]
	Manual Water Depth (ft.)	Max. Water Surface Elevation (manual) (ft. AMSL)	Manual Water Depth (ft.)	Max. Water Surface Elevation (manual) (ft. AMSL)	PLC-Recorded Water Depth (inches)	Max. Water Surface Elevation (PLC) (ft AMSL)
Jan-21	69.14	671.69	71.85	669.29	85.00	669.26
Feb-21	69.10	671.73	71.82	669.32	82.40	669.04
Mar-21	69.05	671.78	71.76	669.38	78.8	668.73
Apr-21	69.28	671.55	71.77	669.37	78.7	668.73
May-21	69.33	671.50	71.61	669.53	78.3	668.70
Jun-21	69.41	671.42	71.49	669.65	77.9	668.67
Jul-21	69.41	671.42	71.45	669.69	85.9	669.33
Aug-21	69.3	671.53	71.91	669.23	77.3	668.62
Sep-21	69.17	671.66	71.84	669.3	82.3	669.03
Oct-21	69.19	671.64	71.84	669.3	83.5	669.13
Nov-21	69.05	671.78	71.72	669.42	76.9	668.58
Dec-21	68.99	671.84	71.67	669.47	76.6	668.56

Notes:
AMSL - Above mean sea level
ft - feet
Diameter of LCS and LDS sumps = 6 feet
Diameter of Underdrain sump = 3 feet
[1] LCS: Top of sump [top of concrete manhole] (feet AMSL): 740.83, Bottom of sump (feet AMSL): 671.00, Total depth of sump manhole (feet): 69.83. Automated pump turns on at 674 ft AMSL and off at 672 ft AMSL.
[2] LDS: Top of sump [top of concrete manhole] (feet AMSL): 741.14, Bottom of sump (feet AMSL): 668.5, Total depth of sump manhole (feet):
[3] GUS: Top of sump [top of concrete] (feet AMSL): 738.99, Bottom of sump (feet AMSL): 662.18, Total depth of sump manhole (feet): 76.81. Automated pump turns on at 666.5 ft AMSL and off at 664.68 ft AMSL.
Indication of water level reaching or exceeding the operational limit

Table 2.6

2021 Summary of Monthly Total Volume of Water Treated
East Plant Area TSCA Vault Annual Report, Calendar Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Month	Groundwater Treatment Plant (GWTP) Number of Operational Days	Volume of Water Treated/Discharged at the GWTP (million gallons)	Daily Average Water Treated/Discharged at the GWTP (million gallons)
Jan-21	31	3.375	0.109
Feb-21	28	4.192	0.150
Mar-21	31	4.665	0.150
Apr-21	30	3.035	0.101
May-21	31	2.937	0.095
Jun-21	30	1.746	0.058
Jul-21	31	3.136	0.101
Aug-21	31	1.148	0.037
Sep-21	30	1.835	0.061
Oct-21	31	2.261	0.073
Nov-21	30	2.187	0.073
Dec-21	31	1.396	0.045
Total	**365**	**31.913**	
Month Average	**-**	**2.659**	
Daily Average	**-**	**0.087**	

Table 3.1

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Area		EastPlantArea	A007_EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea
Sample Location		9-4	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S
Sample Identification		GW-052621-DS-20	GW-052621-DS-22	GW-052521-DS-06	GW-052521-DS-08	GW-052521-KH-05	GW-052521-KH-07	GW-052721-DS-24
Sample Date		05/26/2021	05/26/2021	05/25/2021	05/25/2021	05/25/2021	05/25/2021	05/27/2021
Sample Type								
	Units							
PCBs								
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	µg/L	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs (dissolved)	µg/L	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	--	--	--	--	--
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	--	--	--	--	--
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	--	--	--	--	--
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	µg/L	--	--	--	--	--	--	--
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	--	--	--	--	--
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	--	--	--	--	--
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	--	--	--	--	--
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	--	--	--	--	--
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--	--	--	--	--	--
2-Chloroethyl vinyl ether	µg/L	R	R	--	--	--	--	--
2-Hexanone	µg/L	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	--	--	--	--	--	--	--
Acetone	µg/L	--	--	--	--	--	--	--
Benzene	µg/L	1.0 U	1.0 U	--	--	--	--	--
Bromodichloromethane	µg/L	1.0 U	1.0 U	--	--	--	--	--
Bromoform	µg/L	1.0 U	1.0 U	--	--	--	--	--
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	--	--	--	--	--
Carbon disulfide	µg/L	--	--	--	--	--	--	--
Carbon tetrachloride	µg/L	1.0 U	1.0 U	--	--	--	--	--
Chlorobenzene	µg/L	1.0 U	1.0 U	--	--	--	--	--
Chloroethane	µg/L	1.0 U	1.0 U	--	--	--	--	--
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	--	--	--	--	--
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	--	--	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	--	--	--	--	--
Cyclohexane	µg/L	--	--	--	--	--	--	--
Dibromochloromethane	µg/L	1.0 U	1.0 U	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	--	--	--	--	--

Table 3.1

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		9-4	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S
Sample Identification		GW-052621-DS-20	GW-052621-DS-22	GW-052521-DS-06	GW-052521-DS-08	GW-052521-KH-05	GW-052521-KH-07	GW-052721-DS-24
Sample Date		05/26/2021	05/26/2021	05/25/2021	05/25/2021	05/25/2021	05/25/2021	05/27/2021
Sample Type								
	Units							
Ethylbenzene	µg/L	1.0 U	1.0 U	--	--	--	--	--
Isopropyl benzene	µg/L	--	--	--	--	--	--	--
Methyl acetate	µg/L	--	--	--	--	--	--	--
Methyl cyclohexane	µg/L	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	µg/L	--	--	--	--	--	--	--
Methylene chloride	µg/L	5.0 U	5.0 U	--	--	--	--	--
Styrene	µg/L	--	--	--	--	--	--	--
Tetrachloroethene	µg/L	1.0 U	1.0 U	--	--	--	--	--
Toluene	µg/L	1.0 U	1.0 U	--	--	--	--	--
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	--	--	--	--	--
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	--	--	--	--	--
Trichloroethene	µg/L	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	--	--	--	--	--
Trifluorotrichloroethane (CFC-113)	µg/L	--	--	--	--	--	--	--
Vinyl chloride	µg/L	1.0 U	1.0 U	--	--	--	--	--
Xylenes (total)	µg/L	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--	--	--	--
2-Methylphenol	µg/L	--	--	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--	--
Acetophenone	µg/L	--	--	--	--	--	--	--
Anthracene	µg/L	--	--	--	--	--	--	--
Atrazine	µg/L	--	--	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--	--	--

Table 3.1

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		9-4	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S
Sample Identification		GW-052621-DS-20	GW-052621-DS-22	GW-052521-DS-06	GW-052521-DS-08	GW-052521-KH-05	GW-052521-KH-07	GW-052721-DS-24
Sample Date		05/26/2021	05/26/2021	05/25/2021	05/25/2021	05/25/2021	05/25/2021	05/27/2021
Sample Type								
	Units							
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--	--	--
Caprolactam	µg/L	--	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--	--
Chrysene	µg/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--	--	--
Dimethyl phthalate	µg/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--	--	--
Fluoranthene	µg/L	--	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--	--	--
Hexachloroethane	µg/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--	--	--
Isophorone	µg/L	--	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--	--
Pyrene	µg/L	--	--	--	--	--	--	--
General Chemistry								
Chloride	µg/L	--	--	--	--	--	--	--
Field Parameters								
Conductivity, field	uS/cm	0.689	0.668	0.736	0.705	0.850	0.810	2.086
Dissolved oxygen (DO), field	µg/L	410	370	90	1010	160	820	930
Oxidation reduction potential (ORP), field	millivolts	19.3	-174.9	-103.1	174.4	9.2	110.1	7.0
pH, field	s.u.	7.35	8.39	7.62	7.50	7.14	7.09	6.84
Temperature, sample	Deg C	16.7	16.6	16.8	19.0	17.2	15.6	19.0
Turbidity, field	NTU	1.23	5.29	2.44	1.89	2.70	0.97	3.60
Volume purged	gal	0	0	0	0	2.0	2.0	0

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
R - Rejected.

Table 3.1

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Area		MonitoringWell_RFIBoundary_WestPlantArea	Plant_property	Plant_property	Plant_property	A001MonitoringWell_WestPlantArea
Sample Location		MW-X033Y147S	MW-X043Y176	MW-X043Y176	MW-X047Y236	MW-X085Y070S-1
Sample Identification		GW-052721-DS-24~Dup	GW-052521-DS-10	GW-052521-DS-12	GW-052521-DS-14	GW-052721-KH-17
Sample Date		05/27/2021	05/25/2021	05/25/2021	05/25/2021	05/27/2021
Sample Type		Duplicate		Duplicate		
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	µg/L	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs (dissolved)	µg/L	ND	ND	ND	ND	ND
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	µg/L	--	--	--	--	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	--	--
1,1-Dichloroethane	µg/L	--	--	--	--	--
1,1-Dichloroethene	µg/L	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	µg/L	--	--	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	--	--
1,2-Dichloroethane	µg/L	--	--	--	--	--
1,2-Dichloropropane	µg/L	--	--	--	--	--
1,3-Dichlorobenzene	µg/L	--	--	--	--	--
1,4-Dichlorobenzene	µg/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--	--	--	--
2-Chloroethyl vinyl ether	µg/L	--	--	--	--	--
2-Hexanone	µg/L	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	--	--	--	--	--
Acetone	µg/L	--	--	--	--	--
Benzene	µg/L	--	--	--	--	--
Bromodichloromethane	µg/L	--	--	--	--	--
Bromoform	µg/L	--	--	--	--	--
Bromomethane (Methyl bromide)	µg/L	--	--	--	--	--
Carbon disulfide	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	--	--	--	--	--
Chlorobenzene	µg/L	--	--	--	--	--
Chloroethane	µg/L	--	--	--	--	--
Chloroform (Trichloromethane)	µg/L	--	--	--	--	--
Chloromethane (Methyl chloride)	µg/L	--	--	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	--	--	--
Cyclohexane	µg/L	--	--	--	--	--
Dibromochloromethane	µg/L	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	µg/L	--	--	--	--	--

Table 3.1

Summary of Analytical Results - El CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		MW-X033Y147S	MW-X043Y176	MW-X043Y176	MW-X047Y236	MW-X085Y070S-1
Sample Identification		GW-052721-DS-24~Dup	GW-052521-DS-10	GW-052521-DS-12	GW-052521-DS-14	GW-052721-KH-17
Sample Date		05/27/2021	05/25/2021	05/25/2021	05/25/2021	05/27/2021
Sample Type		Duplicate		Duplicate		
	Units					
Ethylbenzene	µg/L	--	--	--	--	--
Isopropyl benzene	µg/L	--	--	--	--	--
Methyl acetate	µg/L	--	--	--	--	--
Methyl cyclohexane	µg/L	--	--	--	--	--
Methyl tert butyl ether (MTBE)	µg/L	--	--	--	--	--
Methylene chloride	µg/L	--	--	--	--	--
Styrene	µg/L	--	--	--	--	--
Tetrachloroethene	µg/L	--	--	--	--	--
Toluene	µg/L	--	--	--	--	--
trans-1,2-Dichloroethene	µg/L	--	--	--	--	--
trans-1,3-Dichloropropene	µg/L	--	--	--	--	--
Trichloroethene	µg/L	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	µg/L	--	--	--	--	--
Trifluorotrichloroethane (CFC-113)	µg/L	--	--	--	--	--
Vinyl chloride	µg/L	--	--	--	--	--
Xylenes (total)	µg/L	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--	--
2-Methylphenol	µg/L	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--
Acetophenone	µg/L	--	--	--	--	--
Anthracene	µg/L	--	--	--	--	--
Atrazine	µg/L	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--

Table 3.1

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		MW-X033Y147S	MW-X043Y176	MW-X043Y176	MW-X047Y236	MW-X085Y070S-1
Sample Identification		GW-052721-DS-24~Dup	GW-052521-DS-10	GW-052521-DS-12	GW-052521-DS-14	GW-052721-KH-17
Sample Date		05/27/2021	05/25/2021	05/25/2021	05/25/2021	05/27/2021
Sample Type		Duplicate		Duplicate		
	Units					
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--
Caprolactam	µg/L	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--
Chrysene	µg/L	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--
Dimethyl phthalate	µg/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--
Fluoranthene	µg/L	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--
Hexachloroethane	µg/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--
Isophorone	µg/L	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--
Pyrene	µg/L	--	--	--	--	--
General Chemistry						
Chloride	µg/L	--	--	--	--	--
Field Parameters						
Conductivity, field	uS/cm	2.086	1.635	1.635	0.703	8.63
Dissolved oxygen (DO), field	µg/L	930	700	700	1950	30
Oxidation reduction potential (ORP), field	millivolts	7.0	-96.2	-96.2	97.6	-122.3
pH, field	s.u.	6.84	7.13	7.13	7.35	6.86
Temperature, sample	Deg C	19.0	15.1	15.1	17.1	17.0
Turbidity, field	NTU	3.60	3.14	3.14	0.99	1.76
Volume purged	gal	--	0	0	0	2

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
R - Rejected.

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Area		A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001	A001	A001
Sample Location		MW-X085Y070S-1	MW-X085Y070S-2	MW-X085Y070S-2	MW-X146Y084	MW-X146Y084	MW-X146Y084
Sample Identification		GW-052721-KH-17~Dup	GW-052721-KH-19	GW-052721-KH-19~Dup	GW-052721-DS-26	GW-052721-DS-28	TB-052721-DS-02
Sample Date		05/27/2021	05/27/2021	05/27/2021	05/27/2021	05/27/2021	05/27/2021
Sample Type		Duplicate		Duplicate		Duplicate	
	Units						
PCBs							
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Total PCBs	µg/L	ND	ND	ND	ND	ND	--
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Total PCBs (dissolved)	µg/L	ND	ND	ND	ND	ND	--
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	µg/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	--	--	--
1,1-Dichloroethane	µg/L	--	--	--	--	--	--
1,1-Dichloroethene	µg/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	µg/L	--	--	--	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	--	--	--
1,2-Dichloroethane	µg/L	--	--	--	--	--	--
1,2-Dichloropropane	µg/L	--	--	--	--	--	--
1,3-Dichlorobenzene	µg/L	--	--	--	--	--	--
1,4-Dichlorobenzene	µg/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	µg/L	--	--	--	--	--	--
2-Hexanone	µg/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	--	--	--	--	--	--
Acetone	µg/L	--	--	--	--	--	--
Benzene	µg/L	--	--	--	--	--	--
Bromodichloromethane	µg/L	--	--	--	--	--	--
Bromoform	µg/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	µg/L	--	--	--	--	--	--
Carbon disulfide	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	--	--	--	--	--	--
Chlorobenzene	µg/L	--	--	--	--	--	--
Chloroethane	µg/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	µg/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	µg/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	--	--	--	--
Cyclohexane	µg/L	--	--	--	--	--	--
Dibromochloromethane	µg/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	µg/L	--	--	--	--	--	--

Table 3.1

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		MW-X085Y070S-1	MW-X085Y070S-2	MW-X085Y070S-2	MW-X146Y084	MW-X146Y084	MW-X146Y084
Sample Identification		GW-052721-KH-17~Dup	GW-052721-KH-19	GW-052721-KH-19~Dup	GW-052721-DS-26	GW-052721-DS-28	TB-052721-DS-02
Sample Date		05/27/2021	05/27/2021	05/27/2021	05/27/2021	05/27/2021	05/27/2021
Sample Type		Duplicate		Duplicate		Duplicate	
	Units						
Ethylbenzene	µg/L	--	--	--	--	--	--
Isopropyl benzene	µg/L	--	--	--	--	--	--
Methyl acetate	µg/L	--	--	--	--	--	--
Methyl cyclohexane	µg/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	µg/L	--	--	--	--	--	--
Methylene chloride	µg/L	--	--	--	--	--	--
Styrene	µg/L	--	--	--	--	--	--
Tetrachloroethene	µg/L	--	--	--	--	--	--
Toluene	µg/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	µg/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	µg/L	--	--	--	--	--	--
Trichloroethene	µg/L	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	µg/L	--	--	--	--	--	--
Trifluorotrichloroethane (CFC-113)	µg/L	--	--	--	--	--	--
Vinyl chloride	µg/L	--	--	--	1.0 U	1.0 U	1.0 U
Xylenes (total)	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--	--	--
2-Methylphenol	µg/L	--	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--
Acetophenone	µg/L	--	--	--	--	--	--
Anthracene	µg/L	--	--	--	--	--	--
Atrazine	µg/L	--	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--	--

Table 3.1

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		MW-X085Y070S-1	MW-X085Y070S-2	MW-X085Y070S-2	MW-X146Y084	MW-X146Y084	MW-X146Y084
Sample Identification		**GW-052721-KH-17~Dup**	**GW-052721-KH-19**	**GW-052721-KH-19~Dup**	**GW-052721-DS-26**	**GW-052721-DS-28**	**TB-052721-DS-02**
Sample Date		**05/27/2021**	**05/27/2021**	**05/27/2021**	**05/27/2021**	**05/27/2021**	**05/27/2021**
Sample Type		**Duplicate**		**Duplicate**		**Duplicate**	
	Units						
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--	--
Caprolactam	µg/L	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--
Chrysene	µg/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--	--
Dimethyl phthalate	µg/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--	--
Fluoranthene	µg/L	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--	--
Hexachloroethane	µg/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--	--
Isophorone	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--
Pyrene	µg/L	--	--	--	--	--	--
General Chemistry							
Chloride	µg/L	--	--	--	1900000	1900000	--
Field Parameters							
Conductivity, field	uS/cm	8.63	2.676	2.676	5.60	5.60	5.60
Dissolved oxygen (DO), field	µg/L	30	70	70	420	420	420
Oxidation reduction potential (ORP), field	millivolts	-122.3	-246.1	-246.1	-211.0	-211.0	-211.0
pH, field	s.u.	6.86	7.73	7.73	7.58	7.58	7.58
Temperature, sample	Deg C	17.0	18.3	18.3	19.6	19.6	19.6
Turbidity, field	NTU	1.76	14.7	14.7	9.71	9.71	9.71
Volume purged	gal	--	2	--	0	0	0

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
R - Rejected.

Table 3.1

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Area		A001MonitoringWell_WestPlantArea	EastPlantArea	RFIBoundary_P216West	P205	P205	P205	P216GM_P216_east
Sample Location		MW-X169Y058S-1	MW-X227Y054	MW-X261Y356D-3	MW-X277Y100	MW-X277Y100	MW-X277Y100	MW-X297Y305D-2
Sample Identification		GW-052721-KH-21	GW-052621-KH-13	GW-052421-KH-01	GW-052621-DS-16	GW-052621-DS-18	TB-052621-DS-01	GW-052421-KH-03
Sample Date		05/27/2021	05/26/2021	05/24/2021	05/26/2021	05/26/2021	05/26/2021	05/24/2021
Sample Type						Duplicate		
	Units							
PCBs								
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	--	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	--	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	--	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	8.9	0.20 U	0.19 U	0.19 U	--	0.19 U
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	--	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	--	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	--	0.19 U
Total PCBs	µg/L	ND	8.9	ND	ND	ND	--	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--	0.19 U
Total PCBs (dissolved)	µg/L	ND	ND	ND	ND	ND	--	ND
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
1,1,2-Trichloroethane	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
1,1-Dichloroethane	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
1,1-Dichloroethene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	--	--	--	2.0 U	2.0 U	2.0 U	--
1,2-Dibromoethane (Ethylene dibromide)	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
1,2-Dichlorobenzene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
1,2-Dichloroethane	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
1,2-Dichloropropane	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
1,3-Dichlorobenzene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
1,4-Dichlorobenzene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--	--	10 U	10 U	10 U	--
2-Chloroethyl vinyl ether	µg/L	--	--	--	--	--	--	--
2-Hexanone	µg/L	--	--	--	10 U	10 U	10 U	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	--	--	--	10 U	10 U	10 U	--
Acetone	µg/L	--	--	--	10 U	10 U	10 U	--
Benzene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Bromodichloromethane	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Bromoform	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Bromomethane (Methyl bromide)	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Carbon disulfide	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Carbon tetrachloride	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Chlorobenzene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Chloroethane	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Chloroform (Trichloromethane)	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Chloromethane (Methyl chloride)	µg/L	--	--	--	0.34 J	1.0 U	1.0 U	--
cis-1,2-Dichloroethene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
cis-1,3-Dichloropropene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Cyclohexane	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Dibromochloromethane	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Dichlorodifluoromethane (CFC-12)	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--

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Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		MW-X169Y058S-1	MW-X227Y054	MW-X261Y356D-3	MW-X277Y100	MW-X277Y100	MW-X277Y100	MW-X297Y305D-2
Sample Identification		GW-052721-KH-21	GW-052621-KH-13	GW-052421-KH-01	GW-052621-DS-16	GW-052621-DS-18	TB-052621-DS-01	GW-052421-KH-03
Sample Date		05/27/2021	05/26/2021	05/24/2021	05/26/2021	05/26/2021	05/26/2021	05/24/2021
Sample Type						Duplicate		
	Units							
Ethylbenzene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Isopropyl benzene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Methyl acetate	µg/L	--	--	--	10 U	10 U	10 U	--
Methyl cyclohexane	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Methyl tert butyl ether (MTBE)	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Methylene chloride	µg/L	--	--	--	5.0 U	5.0 U	5.0 U	--
Styrene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Tetrachloroethene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Toluene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
trans-1,2-Dichloroethene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
trans-1,3-Dichloropropene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Trichloroethene	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Trichlorofluoromethane (CFC-11)	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Trifluorotrichloroethane (CFC-113)	µg/L	--	--	--	1.0 U	1.0 U	1.0 U	--
Vinyl chloride	µg/L	0.64 J	--	--	1.0 U	1.0 U	1.0 U	--
Xylenes (total)	µg/L	--	--	--	2.0 U	2.0 U	2.0 U	--
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--	--	9.5 U	9.5 U	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	9.5 U	9.5 U	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	9.5 U	9.5 U	--	--
2,4-Dichlorophenol	µg/L	--	--	--	9.5 U	9.5 U	--	--
2,4-Dimethylphenol	µg/L	--	--	--	9.5 U	9.5 U	--	--
2,4-Dinitrophenol	µg/L	--	--	--	48 U	48 U	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	9.5 U	9.5 U	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	9.5 U	9.5 U	--	--
2-Chloronaphthalene	µg/L	--	--	--	9.5 U	9.5 U	--	--
2-Chlorophenol	µg/L	--	--	--	9.5 U	9.5 U	--	--
2-Methylnaphthalene	µg/L	--	--	--	9.5 U	9.5 U	--	--
2-Methylphenol	µg/L	--	--	--	9.5 U	9.5 U	--	--
2-Nitroaniline	µg/L	--	--	--	48 U	48 U	--	--
2-Nitrophenol	µg/L	--	--	--	9.5 U	9.5 U	--	--
3&4-Methylphenol	µg/L	--	--	--	9.5 U	9.5 U	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	48 U	48 U	--	--
3-Nitroaniline	µg/L	--	--	--	48 U	48 U	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	48 U	48 U	--	--
4-Bromophenyl phenyl ether	µg/L	--	--	--	9.5 U	9.5 U	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	9.5 U	9.5 U	--	--
4-Chloroaniline	µg/L	--	--	--	R	R	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	9.5 U	9.5 U	--	--
4-Nitroaniline	µg/L	--	--	--	48 U	48 U	--	--
4-Nitrophenol	µg/L	--	--	--	48 U	48 U	--	--
Acenaphthene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Acenaphthylene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Acetophenone	µg/L	--	--	--	9.5 U	9.5 U	--	--
Anthracene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Atrazine	µg/L	--	--	--	9.5 U	9.5 U	--	--
Benzaldehyde	µg/L	--	--	--	9.5 U	9.5 U	--	--
Benzo(a)anthracene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Benzo(a)pyrene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	9.5 U	9.5 U	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	9.5 U	9.5 U	--	--

Table 3.1

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		MW-X169Y058S-1	MW-X227Y054	MW-X261Y356D-3	MW-X277Y100	MW-X277Y100	MW-X277Y100	MW-X297Y305D-2
Sample Identification		GW-052721-KH-21	GW-052621-KH-13	GW-052421-KH-01	GW-052621-DS-16	GW-052621-DS-18	TB-052621-DS-01	GW-052421-KH-03
Sample Date		05/27/2021	05/26/2021	05/24/2021	05/26/2021	05/26/2021	05/26/2021	05/24/2021
Sample Type						Duplicate		
	Units							
bis(2-Chloroethyl)ether	µg/L	--	--	--	9.5 U	9.5 U	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	9.5 U	9.5 U	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	9.5 U	9.5 U	--	--
Caprolactam	µg/L	--	--	--	9.5 U	9.5 U	--	--
Carbazole	µg/L	--	--	--	9.5 U	9.5 U	--	--
Chrysene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Dibenzofuran	µg/L	--	--	--	9.5 U	9.5 U	--	--
Diethyl phthalate	µg/L	--	--	--	9.5 U	9.5 U	--	--
Dimethyl phthalate	µg/L	--	--	--	9.5 U	9.5 U	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	9.5 U	9.5 U	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	9.5 U	9.5 U	--	--
Fluoranthene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Fluorene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Hexachlorobenzene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Hexachlorobutadiene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	48 U	48 U	--	--
Hexachloroethane	µg/L	--	--	--	9.5 U	9.5 U	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Isophorone	µg/L	--	--	--	9.5 U	9.5 U	--	--
Naphthalene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Nitrobenzene	µg/L	--	--	--	9.5 U	9.5 U	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	9.5 U	9.5 U	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	9.5 U	9.5 U	--	--
Pentachlorophenol	µg/L	--	--	--	9.5 U	9.5 U	--	--
Phenanthrene	µg/L	--	--	--	9.5 U	9.5 U	--	--
Phenol	µg/L	--	--	--	9.5 U	9.5 U	--	--
Pyrene	µg/L	--	--	--	9.5 U	9.5 U	--	--
General Chemistry								
Chloride	µg/L	--	--	--	--	--	--	--
Field Parameters								
Conductivity, field	uS/cm	2.182	1.380	0.277	0.974	0.974	0.974	0.629
Dissolved oxygen (DO), field	µg/L	140	1650	220	1270	1270	1270	1460
Oxidation reduction potential (ORP), field	millivolts	-6.0	-132.3	-162.9	254.7	254.7	254.7	56.0
pH, field	s.u.	7.57	7.34	8.28	7.08	7.08	7.08	7.07
Temperature, sample	Deg C	19.0	15.2	16.3	15.0	15.0	15.0	14.4
Turbidity, field	NTU	1.68	22.0	1.67	2.06	2.06	2.06	2.01
Volume purged	gal	0	2	2.0	0	0	0	2.0

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
R - Rejected.

Table 3.1

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Area		P209	P209	P006	P006	A001
Sample Location		MW-X300Y199I-1	MW-X300Y199I-2	MW-X315Y115	MW-X315Y150	ST-59
Sample Identification		GW-052521-KH-11	GW-052521-KH-09	GW-052421-DS-02	GW-052421-DS-04	GW-052621-KH-15
Sample Date		05/25/2021	05/25/2021	05/24/2021	05/24/2021	05/26/2021
Sample Type						
	Units					
PCBs						
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	µg/L	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs (dissolved)	µg/L	ND	ND	ND	ND	ND
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	µg/L	--	--	--	--	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	--	--
1,1-Dichloroethane	µg/L	--	--	--	--	--
1,1-Dichloroethene	µg/L	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	µg/L	--	--	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	--	--
1,2-Dichloroethane	µg/L	--	--	--	--	--
1,2-Dichloropropane	µg/L	--	--	--	--	--
1,3-Dichlorobenzene	µg/L	--	--	--	--	--
1,4-Dichlorobenzene	µg/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--	--	--	--
2-Chloroethyl vinyl ether	µg/L	--	--	--	--	--
2-Hexanone	µg/L	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	--	--	--	--	--
Acetone	µg/L	--	--	--	--	--
Benzene	µg/L	--	--	--	--	--
Bromodichloromethane	µg/L	--	--	--	--	--
Bromoform	µg/L	--	--	--	--	--
Bromomethane (Methyl bromide)	µg/L	--	--	--	--	--
Carbon disulfide	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	--	--	--	--	--
Chlorobenzene	µg/L	--	--	--	--	--
Chloroethane	µg/L	--	--	--	--	--
Chloroform (Trichloromethane)	µg/L	--	--	--	--	--
Chloromethane (Methyl chloride)	µg/L	--	--	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	--	--	--
Cyclohexane	µg/L	--	--	--	--	--
Dibromochloromethane	µg/L	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	µg/L	--	--	--	--	--

Table 3.1

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		MW-X300Y199I-1	MW-X300Y199I-2	MW-X315Y115	MW-X315Y150	ST-59
Sample Identification		GW-052521-KH-11	GW-052521-KH-09	GW-052421-DS-02	GW-052421-DS-04	GW-052621-KH-15
Sample Date		05/25/2021	05/25/2021	05/24/2021	05/24/2021	05/26/2021
Sample Type						
	Units					
Ethylbenzene	µg/L	--	--	--	--	--
Isopropyl benzene	µg/L	--	--	--	--	--
Methyl acetate	µg/L	--	--	--	--	--
Methyl cyclohexane	µg/L	--	--	--	--	--
Methyl tert butyl ether (MTBE)	µg/L	--	--	--	--	--
Methylene chloride	µg/L	--	--	--	--	--
Styrene	µg/L	--	--	--	--	--
Tetrachloroethene	µg/L	--	--	--	--	--
Toluene	µg/L	--	--	--	--	--
trans-1,2-Dichloroethene	µg/L	--	--	--	--	--
trans-1,3-Dichloropropene	µg/L	--	--	--	--	--
Trichloroethene	µg/L	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	µg/L	--	--	--	--	--
Trifluorotrichloroethane (CFC-113)	µg/L	--	--	--	--	--
Vinyl chloride	µg/L	--	--	--	--	--
Xylenes (total)	µg/L	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--	--
2-Methylphenol	µg/L	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--
Acetophenone	µg/L	--	--	--	--	--
Anthracene	µg/L	--	--	--	--	--
Atrazine	µg/L	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--

Table 3.1

Summary of Analytical Results - EI CA750 First Half 2021 Sampling Event
East PlantTSCA Vault Annual Report - Calender year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		MW-X300Y199I-1	MW-X300Y199I-2	MW-X315Y115	MW-X315Y150	ST-59
Sample Identification		GW-052521-KH-11	GW-052521-KH-09	GW-052421-DS-02	GW-052421-DS-04	GW-052621-KH-15
Sample Date		05/25/2021	05/25/2021	05/24/2021	05/24/2021	05/26/2021
Sample Type						
	Units					
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--
Caprolactam	µg/L	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--
Chrysene	µg/L	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--
Dimethyl phthalate	µg/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--
Fluoranthene	µg/L	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--
Hexachloroethane	µg/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--
Isophorone	µg/L	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--
Pyrene	µg/L	--	--	--	--	--
General Chemistry						
Chloride	µg/L	--	--	--	--	22000
Field Parameters						
Conductivity, field	uS/cm	--	--	0.594	0.2801	0.470
Dissolved oxygen (DO), field	µg/L	--	--	1660	120	9330
Oxidation reduction potential (ORP), field	millivolts	--	--	170.9	-61.7	113.0
pH, field	s.u.	--	--	7.41	7.24	8.12
Temperature, sample	Deg C	--	--	19.0	16.7	15.8
Turbidity, field	NTU	13.26	8.65	5.21	3.68	1.60
Volume purged	gal	2.0	2.0	0	0	0

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
R - Rejected.

Table 3.2

Summary of Analytical Results - EI CA750 Second Half 2021 Sampling Event
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	A007_EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea
Sample Location		9-4	9-4	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S
Sample Identification		GW-111921-DS-24	GW-111921-DS-26	GW-111821-KH-19	GW-111521-DS-04	GW-111521-DS-02	GW-111521-KH-03	GW-111521-KH-01	GW-111821-DS-14
Sample Date		11/19/2021	11/19/2021	11/18/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/18/2021
Sample Type	Units		Duplicate						
PCBs									
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Total PCBs	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U
Total PCBs (dissolved)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP	µg/L	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromi	µg/L	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (ME	µg/L	--	--	--	--	--	--	--	--
2-Chloroethyl vinyl ether	µg/L	10 U	10 U	10 U	--	--	--	--	--
2-Hexanone	µg/L	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobut	µg/L	--	--	--	--	--	--	--	--
Acetone	µg/L	--	--	--	--	--	--	--	--
Benzene	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Bromoform	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Carbon disulfide	µg/L	--	--	--	--	--	--	--	--
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Cyclohexane	µg/L	--	--	--	--	--	--	--	--
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--

Table 3.2

Summary of Analytical Results - EI CA750 Second Half 2021 Sampling Event
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		9-4	9-4	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S
Sample Identification		GW-111921-DS-24	GW-111921-DS-26	GW-111821-KH-19	GW-111521-DS-04	GW-111521-DS-02	GW-111521-KH-03	GW-111521-KH-01	GW-111821-DS-14
Sample Date		11/19/2021	11/19/2021	11/18/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/18/2021
Sample Type	Units		Duplicate						
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Isopropyl benzene	µg/L	--	--	--	--	--	--	--	--
Methyl acetate	µg/L	--	--	--	--	--	--	--	--
Methyl cyclohexane	µg/L	--	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	µg/L	--	--	--	--	--	--	--	--
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	--	--	--	--	--
Styrene	µg/L	--	--	--	--	--	--	--	--
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Toluene	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Trichloroethene	µg/L	--	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Trifluorotrichloroethane (CFC-113)	µg/L	--	--	--	--	--	--	--	--
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U	--	--	--	--	--
Xylenes (total)	µg/L	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-(	µg/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	--	--	--	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--	--	--
Acetophenone	µg/L	--	--	--	--	--	--	--	--
Anthracene	µg/L	--	--	--	--	--	--	--	--
Atrazine	µg/L	--	--	--	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--	--	--	--

Table 3.2

Summary of Analytical Results - EI CA750 Second Half 2021 Sampling Event
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		9-4	9-4	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S
Sample Identification		GW-111921-DS-24	GW-111921-DS-26	GW-111821-KH-19	GW-111521-DS-04	GW-111521-DS-02	GW-111521-KH-03	GW-111521-KH-01	GW-111821-DS-14
Sample Date		11/19/2021	11/19/2021	11/18/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/18/2021
Sample Type	Units		Duplicate						
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--	--	--	--
Caprolactam	µg/L	--	--	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--	--	--
Chrysene	µg/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	µg/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	--	--	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--	--	--	--
Hexachloroethane	µg/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--	--	--	--
Isophorone	µg/L	--	--	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--	--	--
Pyrene	µg/L	--	--	--	--	--	--	--	--
General Chemistry									
Chloride	µg/L	--	--	--	--	--	--	--	--
Field Parameters									
Conductivity, field	uS/cm	621	621	695	936	783	773	797	1726
Dissolved oxygen (DO), field	µg/L	340	340	870	150	3340	250	310	3000
Oxidation reduction potential (ORP),	millivolts	10.1	10.1	-154.3	-101.9	4.2	-108.4	0.8	105
pH, field	s.u.	7.14	7.14	8.20	8.11	7.84	7.04	6.64	6.77
Temperature, sample	Deg C	13.36	13.36	14.24	12.51	13.29	12.36	12.79	14.44
Turbidity, field	NTU	2.31	2.31	2.65	0.68	0.57	2.28	1.06	0.96
Volume purged	gal	2	2	2	2	2	2	2	2

Notes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
R - Rejected.

Table 3.2

Summary of Analytical Results - EI CA750 Second Half 2021 Sampling Event
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Area		Plant_property	Plant_property	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001	A001	A001MonitoringWell_WestPlantArea
Sample Location		MW-X043Y176	MW-X047Y236	MW-X085Y070S-1	MW-X085Y070S-2	MW-X146Y084	MW-X146Y084	MW-X169Y058S-1
Sample Identification		GW-111821-DS-20	GW-111821-DS-22	GW-111821-KH-15	GW-111821-KH-13	GW-111821-DS-16	GW-111821-DS-18	GW-111821-KH-17
Sample Date		11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021
Sample Type	Units						Duplicate	
PCBs								
Aroclor-1016 (PCB-1016)	µg/L	0.20 U	0.19 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U
Aroclor-1221 (PCB-1221)	µg/L	0.20 U	0.19 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U
Aroclor-1232 (PCB-1232)	µg/L	0.20 U	0.19 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U
Aroclor-1242 (PCB-1242)	µg/L	0.20 U	0.19 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U
Aroclor-1248 (PCB-1248)	µg/L	0.20 U	0.19 U	0.21 U	0.38	0.20 U	0.20 U	0.20 U
Aroclor-1254 (PCB-1254)	µg/L	0.20 U	0.19 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U
Aroclor-1260 (PCB-1260)	µg/L	0.20 U	0.19 U	0.21 U	0.21 U	0.20 U	0.20 U	0.20 U
Total PCBs	µg/L	ND	ND	ND	0.38	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.19 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.19 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.19 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.19 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.19 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.19 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.19 U	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U
Total PCBs (dissolved)	µg/L	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	µg/L	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	--	--	--	--
1,1-Dichloroethane	µg/L	--	--	--	--	--	--	--
1,1-Dichloroethene	µg/L	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP	µg/L	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromi	µg/L	--	--	--	--	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	--	--	--	--
1,2-Dichloroethane	µg/L	--	--	--	--	--	--	--
1,2-Dichloropropane	µg/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	µg/L	--	--	--	--	--	--	--
1,4-Dichlorobenzene	µg/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (ME	µg/L	--	--	--	--	--	--	--
2-Chloroethyl vinyl ether	µg/L	--	--	--	--	--	--	--
2-Hexanone	µg/L	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobut	µg/L	--	--	--	--	--	--	--
Acetone	µg/L	--	--	--	--	--	--	--
Benzene	µg/L	--	--	--	--	--	--	--
Bromodichloromethane	µg/L	--	--	--	--	--	--	--
Bromoform	µg/L	--	--	--	--	--	--	--
Bromomethane (Methyl bromide)	µg/L	--	--	--	--	--	--	--
Carbon disulfide	µg/L	--	--	--	--	--	--	--
Carbon tetrachloride	µg/L	--	--	--	--	--	--	--
Chlorobenzene	µg/L	--	--	--	--	--	--	--
Chloroethane	µg/L	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	µg/L	--	--	--	--	--	--	--
Chloromethane (Methyl chloride)	µg/L	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	--	--	--	--	--
Cyclohexane	µg/L	--	--	--	--	--	--	--
Dibromochloromethane	µg/L	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	µg/L	--	--	--	--	--	--	--

Table 3.2

Summary of Analytical Results - EI CA750 Second Half 2021 Sampling Event
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		MW-X043Y176	MW-X047Y236	MW-X085Y070S-1	MW-X085Y070S-2	MW-X146Y084	MW-X146Y084	MW-X169Y058S-1
Sample Identification		GW-111821-DS-20	GW-111821-DS-22	GW-111821-KH-15	GW-111821-KH-13	GW-111821-DS-16	GW-111821-DS-18	GW-111821-KH-17
Sample Date		11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021
Sample Type	Units						Duplicate	
Ethylbenzene	µg/L	--	--	--	--	--	--	--
Isopropyl benzene	µg/L	--	--	--	--	--	--	--
Methyl acetate	µg/L	--	--	--	--	--	--	--
Methyl cyclohexane	µg/L	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	µg/L	--	--	--	--	--	--	--
Methylene chloride	µg/L	--	--	--	--	--	--	--
Styrene	µg/L	--	--	--	--	--	--	--
Tetrachloroethene	µg/L	--	--	--	--	--	--	--
Toluene	µg/L	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	µg/L	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	µg/L	--	--	--	--	--	--	--
Trichloroethene	µg/L	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	µg/L	--	--	--	--	--	--	--
Trifluorotrichloroethane (CFC-113)	µg/L	--	--	--	--	--	--	--
Vinyl chloride	µg/L	--	--	--	--	1.0 UJ	1.0 UJ	1.9
Xylenes (total)	µg/L	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-(	µg/L	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--	--	--	--
2-Methylphenol	µg/L	--	--	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--	--
Acetophenone	µg/L	--	--	--	--	--	--	--
Anthracene	µg/L	--	--	--	--	--	--	--
Atrazine	µg/L	--	--	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--	--	--

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GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		MW-X043Y176	MW-X047Y236	MW-X085Y070S-1	MW-X085Y070S-2	MW-X146Y084	MW-X146Y084	MW-X169Y058S-1
Sample Identification		GW-111821-DS-20	GW-111821-DS-22	GW-111821-KH-15	GW-111821-KH-13	GW-111821-DS-16	GW-111821-DS-18	GW-111821-KH-17
Sample Date		11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021
Sample Type	Units						Duplicate	
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--	--	--
Caprolactam	µg/L	--	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--	--
Chrysene	µg/L	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--	--	--
Dimethyl phthalate	µg/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--	--	--
Fluoranthene	µg/L	--	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--	--	--
Hexachloroethane	µg/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--	--	--
Isophorone	µg/L	--	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--	--
Pyrene	µg/L	--	--	--	--	--	--	--
General Chemistry								
Chloride	µg/L	--	--	--	--	1800000	1800000	--
Field Parameters								
Conductivity, field	uS/cm	1327	664	11353	5590	4959	4959	2773
Dissolved oxygen (DO), field	µg/L	120	220	100	400	860	860	1070
Oxidation reduction potential (ORP),	millivolts	-124.5	-124.5	-161.6	-259.5	-127.0	-127.0	107.7
pH, field	s.u.	6.73	7.14	7.0	7.9	7.70	7.70	7.44
Temperature, sample	Deg C	13.27	12.84	16.90	17.13	14.68	14.68	14.07
Turbidity, field	NTU	2.23	7.73	1.09	29.1	8.02	8.02	1.76
Volume purged	gal	2	2	2	2	2	2	2

Notes:
U - Not detected at the associated reporting lim
J - Estimated concentration.
UJ - Not detected; associated reporting limit is
R - Rejected.

Table 3.2

Summary of Analytical Results - EI CA750 Second Half 2021 Sampling Event
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Area		EastPlantArea	RFIBoundary_P216West	P205	P216GM_P216_east	P209	P209	P006	P006	P006
Sample Location		MW-X227Y054	MW-X261Y356D-3	MW-X277Y100	MW-X297Y305D-2	MW-X300Y199I-1	MW-X300Y199I-2	MW-X315Y115	MW-X315Y115	MW-X315Y150
Sample Identification		GW-111821-KH-21	GW-111721-KH-05	GW-111721-DS-12	GW-111721-KH-07	GW-111721-KH-09	GW-111721-KH-11	GW-111721-DS-06	GW-111721-DS-08	GW-111721-DS-10
Sample Date		11/18/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021
Sample Type	Units								Duplicate	
PCBs										
Aroclor-1016 (PCB-1016)	µg/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	9.7	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	µg/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	µg/L	9.7	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs (dissolved)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds (VOCs)										
1,1,1-Trichloroethane	µg/L	--	--	1.0 U	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	1.0 U	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	1.0 U	--	--	--	--	--	--
1,1-Dichloroethane	µg/L	--	--	1.0 U	--	--	--	--	--	--
1,1-Dichloroethene	µg/L	--	--	1.0 U	--	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	1.0 U	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP	µg/L	--	--	2.0 U	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromi	µg/L	--	--	1.0 U	--	--	--	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	1.0 U	--	--	--	--	--	--
1,2-Dichloroethane	µg/L	--	--	1.0 U	--	--	--	--	--	--
1,2-Dichloropropane	µg/L	--	--	1.0 U	--	--	--	--	--	--
1,3-Dichlorobenzene	µg/L	--	--	1.0 U	--	--	--	--	--	--
1,4-Dichlorobenzene	µg/L	--	--	1.0 U	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (ME	µg/L	--	--	10 U	--	--	--	--	--	--
2-Chloroethyl vinyl ether	µg/L	--	--	--	--	--	--	--	--	--
2-Hexanone	µg/L	--	--	10 U	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobuty	µg/L	--	--	10 U	--	--	--	--	--	--
Acetone	µg/L	--	--	10 U	--	--	--	--	--	--
Benzene	µg/L	--	--	1.0 U	--	--	--	--	--	--
Bromodichloromethane	µg/L	--	--	1.0 U	--	--	--	--	--	--
Bromoform	µg/L	--	--	1.0 U	--	--	--	--	--	--
Bromomethane (Methyl bromide)	µg/L	--	--	1.0 UJ	--	--	--	--	--	--
Carbon disulfide	µg/L	--	--	1.0 U	--	--	--	--	--	--
Carbon tetrachloride	µg/L	--	--	1.0 U	--	--	--	--	--	--
Chlorobenzene	µg/L	--	--	1.0 U	--	--	--	--	--	--
Chloroethane	µg/L	--	--	1.0 U	--	--	--	--	--	--
Chloroform (Trichloromethane)	µg/L	--	--	1.0 U	--	--	--	--	--	--
Chloromethane (Methyl chloride)	µg/L	--	--	1.0 U	--	--	--	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	1.0 U	--	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	1.0 U	--	--	--	--	--	--
Cyclohexane	µg/L	--	--	1.0 U	--	--	--	--	--	--
Dibromochloromethane	µg/L	--	--	1.0 U	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	µg/L	--	--	1.0 U	--	--	--	--	--	--

Table 3.2

Summary of Analytical Results - EI CA750 Second Half 2021 Sampling Event
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		MW-X227Y054	MW-X261Y356D-3	MW-X277Y100	MW-X297Y305D-2	MW-X300Y199I-1	MW-X300Y199I-2	MW-X315Y115	MW-X315Y115	MW-X315Y150
Sample Identification		GW-111821-KH-21	GW-111721-KH-05	GW-111721-DS-12	GW-111721-KH-07	GW-111721-KH-09	GW-111721-KH-11	GW-111721-DS-06	GW-111721-DS-08	GW-111721-DS-10
Sample Date		11/18/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021
Sample Type	Units								Duplicate	
Ethylbenzene	µg/L	--	--	1.0 U	--	--	--	--	--	--
Isopropyl benzene	µg/L	--	--	1.0 U	--	--	--	--	--	--
Methyl acetate	µg/L	--	--	10 U	--	--	--	--	--	--
Methyl cyclohexane	µg/L	--	--	1.0 U	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	µg/L	--	--	1.0 U	--	--	--	--	--	--
Methylene chloride	µg/L	--	--	5.0 U	--	--	--	--	--	--
Styrene	µg/L	--	--	1.0 U	--	--	--	--	--	--
Tetrachloroethene	µg/L	--	--	1.0 U	--	--	--	--	--	--
Toluene	µg/L	--	--	1.0 U	--	--	--	--	--	--
trans-1,2-Dichloroethene	µg/L	--	--	1.0 U	--	--	--	--	--	--
trans-1,3-Dichloropropene	µg/L	--	--	1.0 U	--	--	--	--	--	--
Trichloroethene	µg/L	--	--	1.0 U	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	µg/L	--	--	1.0 U	--	--	--	--	--	--
Trifluorotrichloroethane (CFC-113)	µg/L	--	--	1.0 U	--	--	--	--	--	--
Vinyl chloride	µg/L	--	--	1.0 U	--	--	--	--	--	--
Xylenes (total)	µg/L	--	--	2.0 U	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)										
2,2'-Oxybis(1-chloropropane) (bis(2-(	µg/L	--	--	9.5 U	--	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	9.5 U	--	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	9.5 U	--	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	9.5 U	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	9.5 U	--	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	48 U	--	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	9.5 U	--	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	9.5 U	--	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	9.5 U	--	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	9.5 U	--	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	9.5 U	--	--	--	--	--	--
2-Methylphenol	µg/L	--	--	9.5 U	--	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	48 U	--	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	9.5 U	--	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	9.5 U	--	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	48 U	--	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	48 U	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	48 U	--	--	--	--	--	--
4-Bromophenyl phenyl ether	µg/L	--	--	9.5 U	--	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	9.5 U	--	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	R	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	9.5 U	--	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	48 U	--	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	48 U	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Acetophenone	µg/L	--	--	9.5 U	--	--	--	--	--	--
Anthracene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Atrazine	µg/L	--	--	9.5 U	--	--	--	--	--	--
Benzaldehyde	µg/L	--	--	9.5 U	--	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	9.5 U	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	9.5 U	--	--	--	--	--	--
bis(2-Chloroethyl)ether	µg/L	--	--	9.5 U	--	--	--	--	--	--

Table 3.2

Summary of Analytical Results - EI CA750 Second Half 2021 Sampling Event
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		MW-X227Y054	MW-X261Y356D-3	MW-X277Y100	MW-X297Y305D-2	MW-X300Y199I-1	MW-X300Y199I-2	MW-X315Y115	MW-X315Y115	MW-X315Y150
Sample Identification		GW-111821-KH-21	GW-111721-KH-05	GW-111721-DS-12	GW-111721-KH-07	GW-111721-KH-09	GW-111721-KH-11	GW-111721-DS-06	GW-111721-DS-08	GW-111721-DS-10
Sample Date		11/18/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021	11/17/2021
Sample Type	**Units**								Duplicate	
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	9.5 U	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	9.5 U	--	--	--	--	--	--
Caprolactam	µg/L	--	--	R	--	--	--	--	--	--
Carbazole	µg/L	--	--	9.5 U	--	--	--	--	--	--
Chrysene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	9.5 U	--	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	9.5 U	--	--	--	--	--	--
Dimethyl phthalate	µg/L	--	--	9.5 U	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	9.5 U	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	9.5 U	--	--	--	--	--	--
Fluoranthene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Fluorene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	48 U	--	--	--	--	--	--
Hexachloroethane	µg/L	--	--	9.5 U	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Isophorone	µg/L	--	--	9.5 U	--	--	--	--	--	--
Naphthalene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	9.5 U	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	9.5 U	--	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	9.5 U	--	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	9.5 U	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	9.5 U	--	--	--	--	--	--
Phenol	µg/L	--	--	9.5 U	--	--	--	--	--	--
Pyrene	µg/L	--	--	9.5 U	--	--	--	--	--	--
General Chemistry										
Chloride	µg/L	--	--	--	--	--	--	--	--	--
Field Parameters										
Conductivity, field	uS/cm	1336	596	1050	698	519	543	621	621	398
Dissolved oxygen (DO), field	µg/L	260	980	2600	580	550	560	420	420	1230
Oxidation reduction potential (ORP),	millivolts	-128.4	18.9	-89.2	0.58	0.55	0.56	-108.9	-108.9	-134.9
pH, field	s.u.	7.50	7.1	6.7	6.97	7.3	7.09	6.81	6.81	6.83
Temperature, sample	Deg C	12.97	14.89	14.48	14.57	15.37	15.27	14.33	14.33	14.86
Turbidity, field	NTU	4.62	1.31	2.63	0.24	0.73	0.05	1.23	1.23	2.13
Volume purged	gal	2	2	2	2	2	2	2	2	2

Notes:
U - Not detected at the associated reporting lim
J - Estimated concentration.
UJ - Not detected; associated reporting limit is
R - Rejected.

Table 3.2

Summary of Analytical Results - EI CA750 Second Half 2021 Sampling Event
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Area		A001	P015				
Sample Location		ST-59	Tributary 3-3	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Sample Identification		GW-111921-KH-23	GW-111921-KH-25	TB-111721-DS-01	TB-111821-KH-02	TB-111821-KH-03	TB-111921-KH-04
Sample Date		11/19/2021	11/19/2021	11/17/2021	11/18/2021	11/18/2021	11/19/2021
Sample Type	Units						
PCBs							
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.21 U	--	--	--	--
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.21 U	--	--	--	--
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.21 U	--	--	--	--
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.21 U	--	--	--	--
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.21 U	--	--	--	--
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.21 U	--	--	--	--
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.21 U	--	--	--	--
Total PCBs	µg/L	ND	ND	--	--	--	--
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.20 U	--	--	--	--
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.20 U	--	--	--	--
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.20 U	--	--	--	--
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.20 U	--	--	--	--
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.20 U	--	--	--	--
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.20 U	--	--	--	--
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.20 U	--	--	--	--
Total PCBs (dissolved)	µg/L	ND	ND	--	--	--	--
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	--	--	1.0 U	--	--	--
1,2-Dibromo-3-chloropropane (DBCP	µg/L	--	--	2.0 U	--	--	--
1,2-Dibromoethane (Ethylene dibromi	µg/L	--	--	1.0 U	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (ME	µg/L	--	--	10 U	--	--	--
2-Chloroethyl vinyl ether	µg/L	--	--	--	--	10 U	10 U
2-Hexanone	µg/L	--	--	10 U	--	--	--
4-Methyl-2-pentanone (Methyl isobut	µg/L	--	--	10 U	--	--	--
Acetone	µg/L	--	--	10 U	--	--	--
Benzene	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Bromodichloromethane	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Bromoform	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Carbon disulfide	µg/L	--	--	1.0 U	--	--	--
Carbon tetrachloride	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Chlorobenzene	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Chloroethane	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	--	--	1.0 U	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Cyclohexane	µg/L	--	--	1.0 U	--	--	--
Dibromochloromethane	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	--	--	1.0 U	--	1.0 U	1.0 U

Table 3.2

Summary of Analytical Results - EI CA750 Second Half 2021 Sampling Event
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		ST-59	Tributary 3-3	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Sample Identification		GW-111921-KH-23	GW-111921-KH-25	TB-111721-DS-01	TB-111821-KH-02	TB-111821-KH-03	TB-111921-KH-04
Sample Date		11/19/2021	11/19/2021	11/17/2021	11/18/2021	11/18/2021	11/19/2021
Sample Type	Units						
Ethylbenzene	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Isopropyl benzene	µg/L	--	--	1.0 U	--	--	--
Methyl acetate	µg/L	--	--	10 U	--	--	--
Methyl cyclohexane	µg/L	--	--	1.0 U	--	--	--
Methyl tert butyl ether (MTBE)	µg/L	--	--	1.0 U	--	--	--
Methylene chloride	µg/L	--	--	5.0 U	--	5.0 U	2.6 J
Styrene	µg/L	--	--	1.0 U	--	--	--
Tetrachloroethene	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Toluene	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Trichloroethene	µg/L	--	--	1.0 U	--	--	--
Trichlorofluoromethane (CFC-11)	µg/L	--	--	1.0 U	--	1.0 U	1.0 U
Trifluorotrichloroethane (CFC-113)	µg/L	--	--	1.0 U	--	--	--
Vinyl chloride	µg/L	--	--	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	µg/L	--	--	2.0 U	--	--	--
Semi-Volatile Organic Compounds (SVOCs)							
2,2'-Oxybis(1-chloropropane) (bis(2-(	µg/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--	--	--
2-Methylphenol	µg/L	--	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--
Acetophenone	µg/L	--	--	--	--	--	--
Anthracene	µg/L	--	--	--	--	--	--
Atrazine	µg/L	--	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--	--

Table 3.2

Summary of Analytical Results - EI CA750 Second Half 2021 Sampling Event
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Sample Location		ST-59	Tributary 3-3	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Sample Identification		GW-111921-KH-23	GW-111921-KH-25	TB-111721-DS-01	TB-111821-KH-02	TB-111821-KH-03	TB-111921-KH-04
Sample Date		11/19/2021	11/19/2021	11/17/2021	11/18/2021	11/18/2021	11/19/2021
Sample Type	Units						
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--	--
Caprolactam	µg/L	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--
Chrysene	µg/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--	--
Dimethyl phthalate	µg/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--	--
Fluoranthene	µg/L	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--	--
Hexachloroethane	µg/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--	--
Isophorone	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--
Pyrene	µg/L	--	--	--	--	--	--
General Chemistry							
Chloride	µg/L	8100	--	--	--	--	--
Field Parameters							
Conductivity, field	uS/cm	420	680	--	--	--	--
Dissolved oxygen (DO), field	µg/L	9090	10050	--	--	--	--
Oxidation reduction potential (ORP),	millivolts	8.2	-58.6	--	--	--	--
pH, field	s.u.	8.12	7.85	--	--	--	--
Temperature, sample	Deg C	10.84	11.55	--	--	--	--
Turbidity, field	NTU	4.78	2.34	--	--	--	--
Volume purged	gal	2	2	--	--	--	--

Notes:
U - Not detected at the associated reporting lim
J - Estimated concentration.
UJ - Not detected; associated reporting limit is
R - Rejected.

Table 3.3

2021 LCS and LDS Analytical Resutls
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM Bedford Casting Operations Facility
Bedford, Indiana

Area		**A007**	**A007**
Sample Location		**EPA LCS**	**EPA LDS**
Sample Identification		**WW-A007-071321-MC-41327**	**WW-A007-071321-MC-41328**
Sample Date		**07/13/2021**	**07/13/2021**
	Units		
PCBs			
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U
Total PCBs	ug/L	ND	ND
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	ug/L	1.0 U	--
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	--
1,1,2-Trichloroethane	ug/L	1.0 U	--
1,1-Dichloroethane	ug/L	1.0 U	--
1,1-Dichloroethene	ug/L	1.0 U	--
1,2-Dichlorobenzene	ug/L	1.0 U	--
1,2-Dichloroethane	ug/L	1.0 U	--
1,2-Dichloropropane	ug/L	1.0 U	--
1,3-Dichlorobenzene	ug/L	1.0 U	--
1,4-Dichlorobenzene	ug/L	1.0 U	--
2-Chloroethyl vinyl ether	ug/L	10 U	--
Benzene	ug/L	1.0 U	--
Bromodichloromethane	ug/L	1.0 U	--
Bromoform	ug/L	1.0 U	--
Bromomethane (Methyl bromide)	ug/L	1.0 U	--
Carbon tetrachloride	ug/L	1.0 U	--
Chlorobenzene	ug/L	1.0 U	--
Chloroethane	ug/L	1.0 U	--
Chloroform (Trichloromethane)	ug/L	1.0 U	--
Chloromethane (Methyl chloride)	ug/L	1.0 U	--
cis-1,3-Dichloropropene	ug/L	1.0 U	--
Dibromochloromethane	ug/L	1.0 U	--
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	--
Ethylbenzene	ug/L	1.0 U	--
Methylene chloride	ug/L	5.0 U	--
Tetrachloroethene	ug/L	1.0 U	--
Toluene	ug/L	1.0 U	--
trans-1,2-Dichloroethene	ug/L	1.0 U	--
trans-1,3-Dichloropropene	ug/L	1.0 U	--
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	--
Vinyl chloride	ug/L	1.0 U	--
Field Parameters			
Conductivity, field	mS/cm	3.98	2.42
Dissolved oxygen (DO), field	ug/L	6920	6520
Oxidation reduction potential (ORP), field	millivolts	29	20
Temperature, sample	Deg F	68.9	70.5

Notes:
U - Not detected at the associated reporting limit.

Table 3.4

2021 Groundwater Treatment Plant Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM bedford Casting Operations Facility
Bedford, Indiana

Area		P412	P412	P412	P412	P412	P412	P412
Sample Location		HV-6021A	HV-6021A	HV-6021A	HV-6021A	HV-6021A	HV-6021A	HV-6021A
Sample Identification		WW-412-010621-MC-41256	WW-412-021021-MC-41268	WW-412-031021-MC-41280	WW-412-031021-MC-41281	WW-412-041421-MC-41295	WW-412-051121-MC-41308	WW-412-060221-MC-41314
Sample Date		01/06/2021	02/10/2021	03/10/2021	03/10/2021	04/14/2021	05/11/2021	06/02/2021
Sample Type					Duplicate			
	Units							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	0.094 U	0.10 U	0.094 U	0.094 U	0.066 U	0.094 U	0.094 U
Aroclor-1221 (PCB-1221)	ug/L	0.094 U	0.10 U	0.094 U	0.094 U	0.066 U	0.094 U	0.094 U
Aroclor-1232 (PCB-1232)	ug/L	0.094 U	0.10 U	0.094 U	0.094 U	0.066 U	0.094 U	0.094 U
Aroclor-1242 (PCB-1242)	ug/L	0.094 U	0.10 U	0.094 U	0.094 U	0.066 U	0.094 U	0.094 U
Aroclor-1248 (PCB-1248)	ug/L	0.094 U	0.10 U	0.094 U	0.094 U	0.066 U	0.094 U	0.094 U
Aroclor-1254 (PCB-1254)	ug/L	0.094 U	0.10 U	0.094 U	0.094 U	0.066 U	0.094 U	0.094 U
Aroclor-1260 (PCB-1260)	ug/L	0.094 U	0.10 U	0.094 U	0.094 U	0.066 U	0.094 U	0.094 U
Total PCBs	ug/L	ND	ND	ND	ND	ND	ND	ND
General Chemistry								
Oil and grease (HEM), total	ug/L	--	--	--	--	--	--	--
Total suspended solids (TSS)	ug/L	--	--	--	--	--	--	--
Field Parameters								
pH, field	s.u.	7	7	7	7	7	7	7

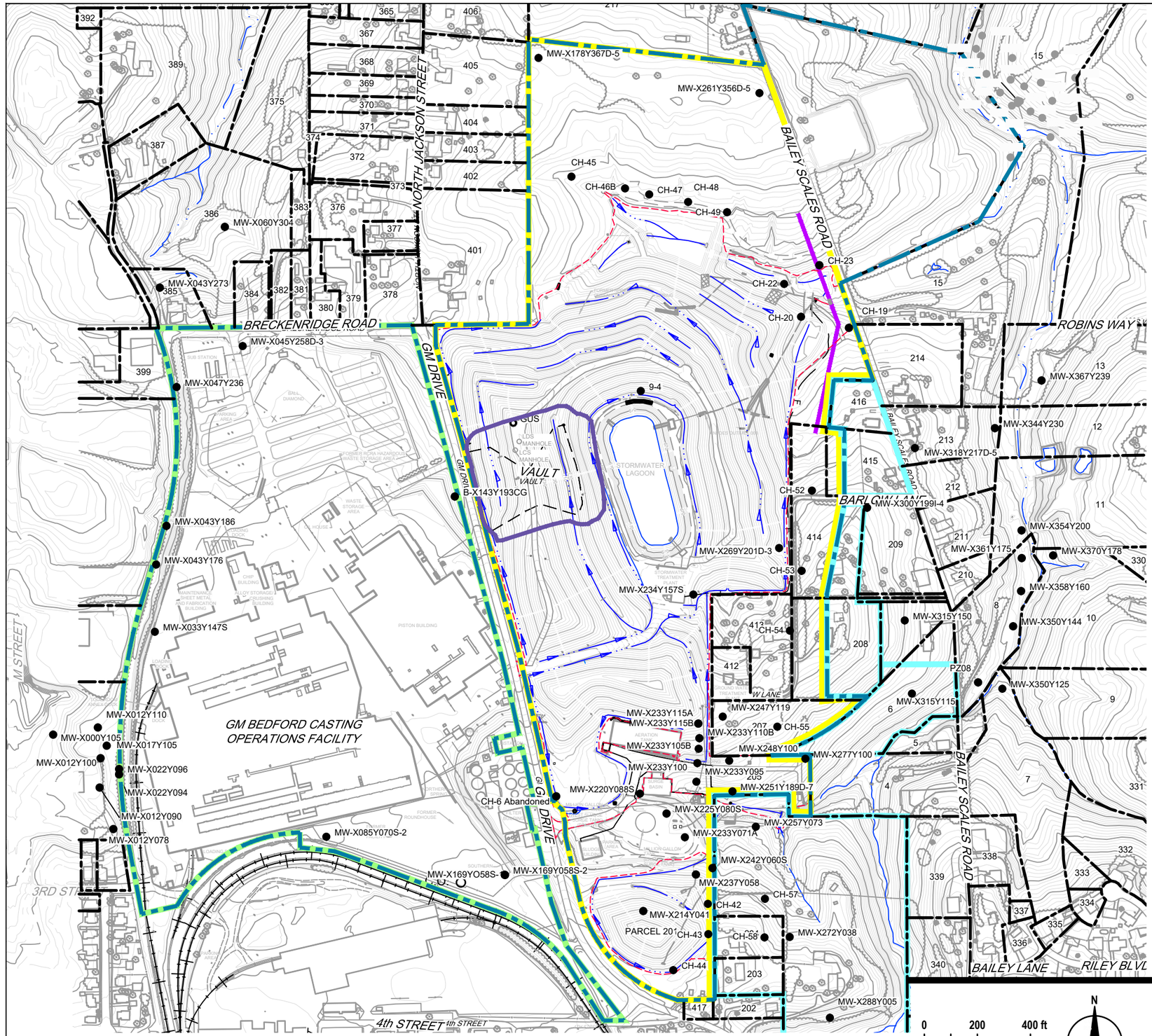
Notes:
ND ( ) - Not detected at the associated reporting limit.
U - Not detected at the associated reporting limit.

2021 Groundwater Treatment Plant Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calender Year 2021
GM bedford Casting Operations Facility
Bedford, Indiana

Area		P412	P412	P412	P412	P412	P412	P412
Sample Location		HV-6021A	HV-6021A	HV-6021A	HV-6021A	HV-6021A	HV-6021A	HV-6021A
Sample Identification		WW-412-071321-MC-41330	WW-412-071321-MC-41331	WW-412-081721-MC-41336	WW-412-090721-MC-41343	WW-412-101321-MC-41356	WW-412-111621-MC-41362	WW-412-120821-MC-41367
Sample Date		07/13/2021	07/13/2021	08/17/2021	09/07/2021	10/13/2021	11/16/2021	12/08/2021
Sample Type			Duplicate					
	Units							
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	0.094 U	0.094 U	0.094 U	--	0.094 U	0.094 U	0.094 U
Aroclor-1221 (PCB-1221)	ug/L	0.094 U	0.094 U	0.094 U	--	0.094 U	0.094 U	0.094 U
Aroclor-1232 (PCB-1232)	ug/L	0.094 U	0.094 U	0.094 U	--	0.094 U	0.094 U	0.094 U
Aroclor-1242 (PCB-1242)	ug/L	0.094 U	0.094 U	0.094 U	--	0.094 U	0.094 U	0.094 U
Aroclor-1248 (PCB-1248)	ug/L	0.094 U	0.094 U	0.094 U	--	0.094 U	0.094 U	0.094 U
Aroclor-1254 (PCB-1254)	ug/L	0.094 U	0.094 U	0.094 U	--	0.094 U	0.094 U	0.094 U
Aroclor-1260 (PCB-1260)	ug/L	0.094 U	0.094 U	0.094 U	--	0.094 U	0.094 U	0.094 U
Total PCBs	ug/L	ND	ND	ND	--	ND	ND	ND
General Chemistry								
Oil and grease (HEM), total	ug/L	--	--	--	4700 U	--	--	--
Total suspended solids (TSS)	ug/L	--	--	--	1000 U	--	--	--
Field Parameters								
pH, field	s.u.	7	7	7	7	7	7	7

Notes:
ND ( ) - Not detected at the associated
U - Not detected at the associated repc

Figures



LEGEND

- EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL)
- EXISTING VEGETATION
- EXISTING BUILDINGS
- FENCE LINE
- RAILROAD TRACKS
- DIRT ROADS
- ROADS / PAVED AREAS
- APPROXIMATE PARCEL PROPERTY
- APPROXIMATE FACILITY BOUNDARY
- APPROXIMATE SURFACE WATER LOCATION
- WEST PLANT AREA BOUNDARY
- EAST PLANT AREA BOUNDARY
- GM LLC OWNED RESIDENTIAL PROPERTIES
- VAULT LIMIT
- LIMIT OF EAST PLANT COVER SYSTEM
- GUS — VAULT GROUNDWATER UNDERDRAIN SYSTEM SUMP
- MONITORING WELL SAMPLE LOCATION

SOURCE:
BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI. APRIL 2001
AND GHD SURVEYS 2002 TO 2009

GM BCO FACILITY
BEDFORD, INDIANA
2021 EAST PLANT AREA VAULT
ANNUAL MONITORING REPORT

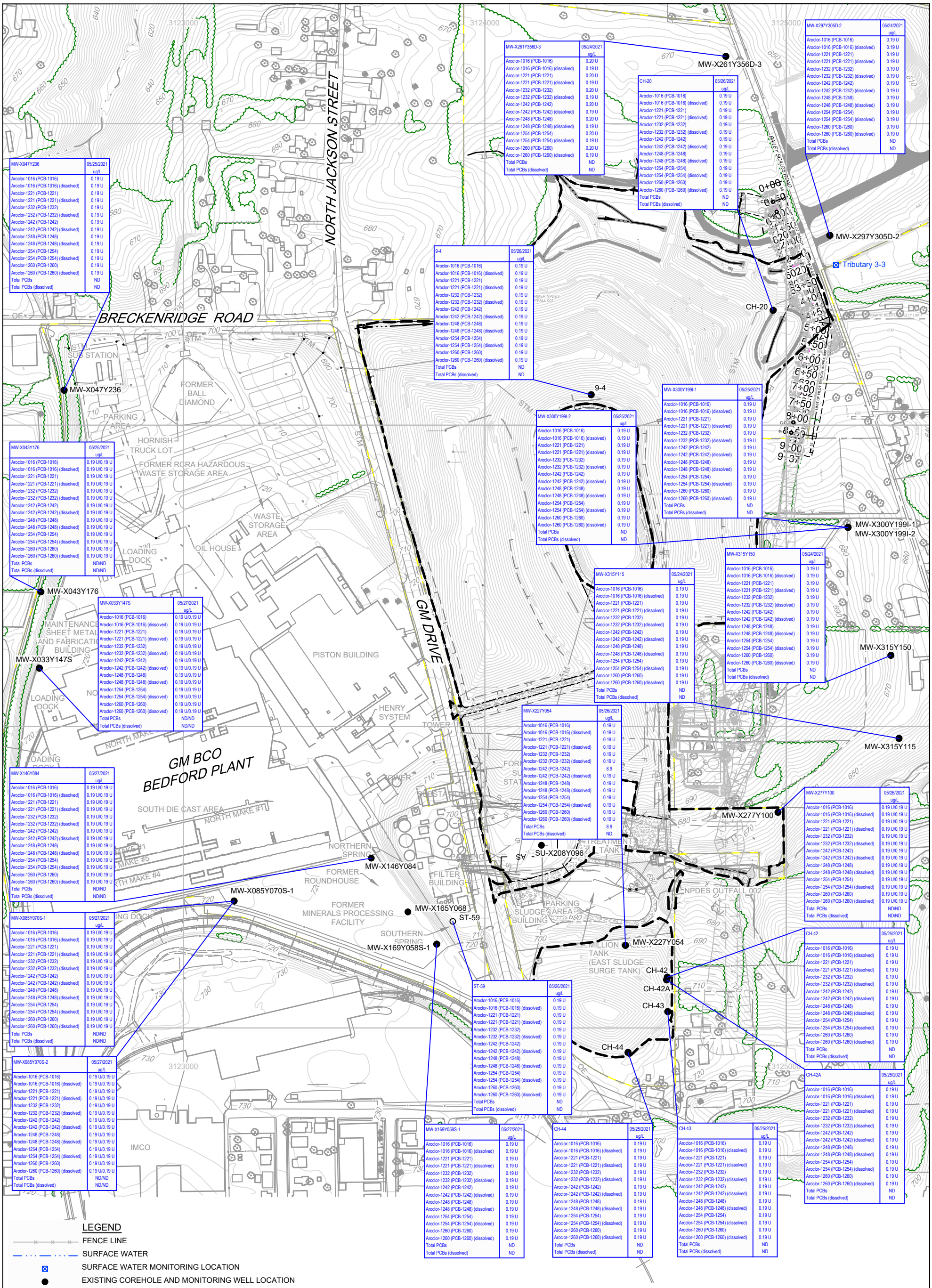
Project No. **11228036**
Date **July 2022**

GROUNDWATER SAMPLING LOCATIONS

FIGURE 3.1

Filename: N:\US\Chicago\Projects\563\11228036\Digital_Design\ACAD\Figures\RPT009\11228036-GHD-00-00-RPT-EN-D101_WA-009.DWG
Plot Date: 05 July 2022 4:51 PM

Data Source: BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI. APRIL 2001 AND GHD SURVEYS 2002 TO 2009



MW-X047Y236	05/25/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X043Y176	05/25/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U/0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U/0.19 U
Total PCBs	ND/ND
Total PCBs (dissolved)	ND/ND

MW-X033Y147S	05/27/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U/0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U/0.19 U
Total PCBs	ND/ND
Total PCBs (dissolved)	ND/ND

MW-X146Y084	05/27/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U/0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U/0.19 U
Total PCBs	ND/ND
Total PCBs (dissolved)	ND/ND

MW-X085Y070S-1	05/27/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U/0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U/0.19 U
Total PCBs	ND/ND
Total PCBs (dissolved)	ND/ND

MW-X085Y070S-2	05/27/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U/0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U/0.19 U
Total PCBs	ND/ND
Total PCBs (dissolved)	ND/ND

MW-X169Y058S-1	05/27/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X261Y356D-3	05/24/2021 ug/L
Aroclor-1016 (PCB-1016)	0.20 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

CH-20	05/26/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X297Y305D-2	05/24/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

9-4	05/26/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X300Y199I-2	05/25/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X300Y199I-1	05/25/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X315Y150	05/24/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X315Y115	05/24/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X227Y054	05/26/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	8.9
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	8.9
Total PCBs (dissolved)	ND

MW-X277Y100	05/26/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U/0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U/0.19 U
Total PCBs	ND/ND
Total PCBs (dissolved)	ND/ND

ST-59	05/26/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

CH-44	05/25/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

CH-43	05/25/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

CH-42	05/25/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

CH-42A	05/25/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

LEGEND

- FENCE LINE
- SURFACE WATER
- SURFACE WATER MONITORING LOCATION
- EXISTING COREHOLE AND MONITORING WELL LOCATION
- SAMPLE TAKEN FROM STORM MANHOLE
- 0.69/0.53 U — PARENT/DUPLICATE RESULT
- ND — NOT DETECTED
- U — QUALIFIED NOT DETECTED ABOVE LIMIT

MW-X169Y058S-1	07/14/2020 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U

SAMPLE IDENTIFICATION
SAMPLE DATE
SAMPLE UNITS (MICROGRAMS PER LITER)
RESULT
PARAMETER

0 150 300 ft
1" = 300 ft

N

GHD

GM BCO FACILITY
BEDFORD, INDIANA
2021 EAST PLANT AREA VAULT
ANNUAL MONITORING REPORT

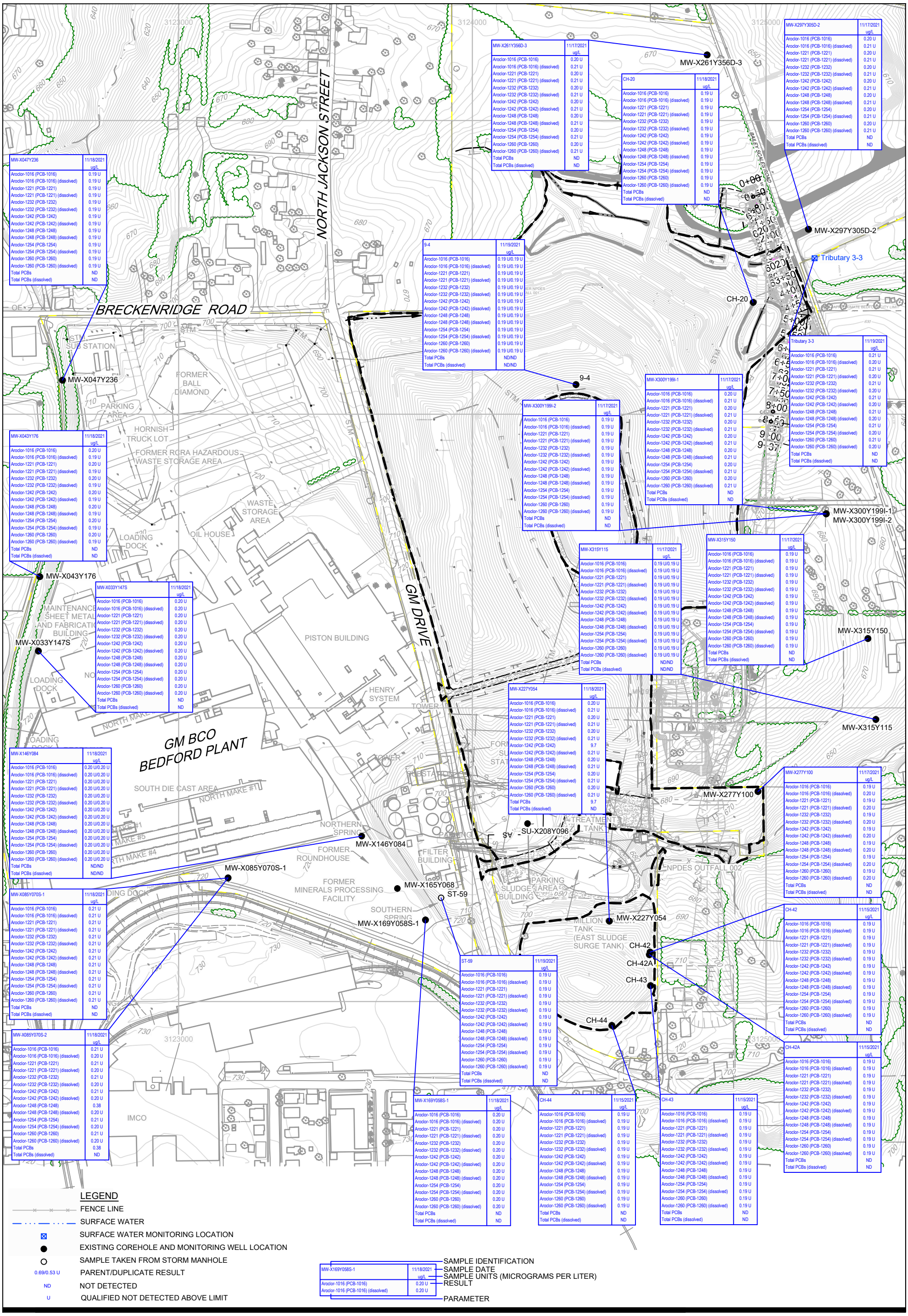
PCBS ANALYTICAL RESULT - MAY 2021

Project No. **11228036**
Date **July 2022**

FIGURE 3.2

Filename: N:\US\Chicago\Projects\563\11228036\Digital_Design\ACAD\Figures\RPT009\11228036-GHD-00-00-RPT-EN-D102_WA-009.DWG
Plot Date: 05 July 2022 4:57 PM

SOURCE: BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI, APRIL 2001 AND CRA SURVEYS 2002 TO 2013.



MW-X047Y236	11/18/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X043Y176	11/18/2021 ug/L
Aroclor-1016 (PCB-1016)	0.20 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X033Y147S	11/18/2021 ug/L
Aroclor-1016 (PCB-1016)	0.20 U
Aroclor-1016 (PCB-1016) (dissolved)	0.20 U
Aroclor-1221 (PCB-1221)	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	0.20 U
Aroclor-1232 (PCB-1232)	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	0.20 U
Aroclor-1242 (PCB-1242)	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	0.20 U
Aroclor-1248 (PCB-1248)	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	0.20 U
Aroclor-1254 (PCB-1254)	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	0.20 U
Aroclor-1260 (PCB-1260)	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	0.20 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X146Y084	11/18/2021 ug/L
Aroclor-1016 (PCB-1016)	0.20 U/0.20 U
Aroclor-1016 (PCB-1016) (dissolved)	0.20 U/0.20 U
Aroclor-1221 (PCB-1221)	0.20 U/0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	0.20 U/0.20 U
Aroclor-1232 (PCB-1232)	0.20 U/0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	0.20 U/0.20 U
Aroclor-1242 (PCB-1242)	0.20 U/0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	0.20 U/0.20 U
Aroclor-1248 (PCB-1248)	0.20 U/0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	0.20 U/0.20 U
Aroclor-1254 (PCB-1254)	0.20 U/0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	0.20 U/0.20 U
Aroclor-1260 (PCB-1260)	0.20 U/0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	0.20 U/0.20 U
Total PCBs	ND/ND
Total PCBs (dissolved)	ND/ND

MW-X085Y070S-1	11/18/2021 ug/L
Aroclor-1016 (PCB-1016)	0.21 U
Aroclor-1016 (PCB-1016) (dissolved)	0.21 U
Aroclor-1221 (PCB-1221)	0.21 U
Aroclor-1221 (PCB-1221) (dissolved)	0.21 U
Aroclor-1232 (PCB-1232)	0.21 U
Aroclor-1232 (PCB-1232) (dissolved)	0.21 U
Aroclor-1242 (PCB-1242)	0.21 U
Aroclor-1242 (PCB-1242) (dissolved)	0.21 U
Aroclor-1248 (PCB-1248)	0.21 U
Aroclor-1248 (PCB-1248) (dissolved)	0.21 U
Aroclor-1254 (PCB-1254)	0.21 U
Aroclor-1254 (PCB-1254) (dissolved)	0.21 U
Aroclor-1260 (PCB-1260)	0.21 U
Aroclor-1260 (PCB-1260) (dissolved)	0.21 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X085Y070S-2	11/18/2021 ug/L
Aroclor-1016 (PCB-1016)	0.21 U
Aroclor-1016 (PCB-1016) (dissolved)	0.20 U
Aroclor-1221 (PCB-1221)	0.21 U
Aroclor-1221 (PCB-1221) (dissolved)	0.20 U
Aroclor-1232 (PCB-1232)	0.21 U
Aroclor-1232 (PCB-1232) (dissolved)	0.20 U
Aroclor-1242 (PCB-1242)	0.21 U
Aroclor-1242 (PCB-1242) (dissolved)	0.20 U
Aroclor-1248 (PCB-1248)	0.38
Aroclor-1248 (PCB-1248) (dissolved)	0.20 U
Aroclor-1254 (PCB-1254)	0.21 U
Aroclor-1254 (PCB-1254) (dissolved)	0.20 U
Aroclor-1260 (PCB-1260)	0.21 U
Aroclor-1260 (PCB-1260) (dissolved)	0.20 U
Total PCBs	0.38
Total PCBs (dissolved)	ND

MW-X169Y058S-1	11/18/2021 ug/L
Aroclor-1016 (PCB-1016)	0.20 U
Aroclor-1016 (PCB-1016) (dissolved)	0.20 U
Aroclor-1221 (PCB-1221)	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	0.20 U
Aroclor-1232 (PCB-1232)	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	0.20 U
Aroclor-1242 (PCB-1242)	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	0.20 U
Aroclor-1248 (PCB-1248)	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	0.20 U
Aroclor-1254 (PCB-1254)	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	0.20 U
Aroclor-1260 (PCB-1260)	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	0.20 U
Total PCBs	ND
Total PCBs (dissolved)	ND

ST-59	11/19/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X261Y356D-3	11/17/2021 ug/L
Aroclor-1016 (PCB-1016)	0.20 U
Aroclor-1016 (PCB-1016) (dissolved)	0.21 U
Aroclor-1221 (PCB-1221)	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	0.21 U
Aroclor-1232 (PCB-1232)	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	0.21 U
Aroclor-1242 (PCB-1242)	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	0.21 U
Aroclor-1248 (PCB-1248)	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	0.21 U
Aroclor-1254 (PCB-1254)	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	0.21 U
Aroclor-1260 (PCB-1260)	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	0.21 U
Total PCBs	ND
Total PCBs (dissolved)	ND

CH-20	11/18/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X297Y305D-2	11/17/2021 ug/L
Aroclor-1016 (PCB-1016)	0.20 U
Aroclor-1016 (PCB-1016) (dissolved)	0.21 U
Aroclor-1221 (PCB-1221)	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	0.21 U
Aroclor-1232 (PCB-1232)	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	0.21 U
Aroclor-1242 (PCB-1242)	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	0.21 U
Aroclor-1248 (PCB-1248)	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	0.21 U
Aroclor-1254 (PCB-1254)	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	0.21 U
Aroclor-1260 (PCB-1260)	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	0.21 U
Total PCBs	ND
Total PCBs (dissolved)	ND

9-4	11/19/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U/0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U/0.19 U
Total PCBs	ND/ND
Total PCBs (dissolved)	ND/ND

MW-X300Y199I-1	11/17/2021 ug/L
Aroclor-1016 (PCB-1016)	0.20 U
Aroclor-1016 (PCB-1016) (dissolved)	0.21 U
Aroclor-1221 (PCB-1221)	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	0.21 U
Aroclor-1232 (PCB-1232)	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	0.21 U
Aroclor-1242 (PCB-1242)	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	0.21 U
Aroclor-1248 (PCB-1248)	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	0.21 U
Aroclor-1254 (PCB-1254)	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	0.21 U
Aroclor-1260 (PCB-1260)	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	0.21 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X300Y199I-2	11/17/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X315Y115	11/17/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U/0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221)	0.19 U/0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232)	0.19 U/0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242)	0.19 U/0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248)	0.19 U/0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254)	0.19 U/0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260)	0.19 U/0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U/0.19 U
Total PCBs	ND/ND
Total PCBs (dissolved)	ND/ND

MW-X315Y150	11/17/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X227Y054	11/18/2021 ug/L
Aroclor-1016 (PCB-1016)	0.20 U
Aroclor-1016 (PCB-1016) (dissolved)	0.21 U
Aroclor-1221 (PCB-1221)	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	0.21 U
Aroclor-1232 (PCB-1232)	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	0.21 U
Aroclor-1242 (PCB-1242)	9.7
Aroclor-1242 (PCB-1242) (dissolved)	0.21 U
Aroclor-1248 (PCB-1248)	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	0.21 U
Aroclor-1254 (PCB-1254)	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	0.21 U
Aroclor-1260 (PCB-1260)	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	0.21 U
Total PCBs	9.7
Total PCBs (dissolved)	ND

CH-44	11/15/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

CH-43	11/15/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

Tributary 3-3	11/19/2021 ug/L
Aroclor-1016 (PCB-1016)	0.21 U
Aroclor-1016 (PCB-1016) (dissolved)	0.20 U
Aroclor-1221 (PCB-1221)	0.21 U
Aroclor-1221 (PCB-1221) (dissolved)	0.20 U
Aroclor-1232 (PCB-1232)	0.21 U
Aroclor-1232 (PCB-1232) (dissolved)	0.20 U
Aroclor-1242 (PCB-1242)	0.21 U
Aroclor-1242 (PCB-1242) (dissolved)	0.20 U
Aroclor-1248 (PCB-1248)	0.21 U
Aroclor-1248 (PCB-1248) (dissolved)	0.20 U
Aroclor-1254 (PCB-1254)	0.21 U
Aroclor-1254 (PCB-1254) (dissolved)	0.20 U
Aroclor-1260 (PCB-1260)	0.21 U
Aroclor-1260 (PCB-1260) (dissolved)	0.20 U
Total PCBs	ND
Total PCBs (dissolved)	ND

MW-X277Y100	11/17/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.20 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.20 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.20 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.20 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.20 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.20 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.20 U
Total PCBs	ND
Total PCBs (dissolved)	ND

CH-42	11/15/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

CH-42A	11/15/2021 ug/L
Aroclor-1016 (PCB-1016)	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	0.19 U
Aroclor-1221 (PCB-1221)	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	0.19 U
Aroclor-1232 (PCB-1232)	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	0.19 U
Aroclor-1242 (PCB-1242)	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	0.19 U
Aroclor-1248 (PCB-1248)	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	0.19 U
Aroclor-1254 (PCB-1254)	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	0.19 U
Aroclor-1260 (PCB-1260)	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	0.19 U
Total PCBs	ND
Total PCBs (dissolved)	ND

LEGEND

- FENCE LINE
- SURFACE WATER
- SURFACE WATER MONITORING LOCATION
- EXISTING COREHOLE AND MONITORING WELL LOCATION
- SAMPLE TAKEN FROM STORM MANHOLE
- 0.69/0.53 U — PARENT/DUPLICATE RESULT
- ND — NOT DETECTED
- U — QUALIFIED NOT DETECTED ABOVE LIMIT

MW-X169Y058S-1	11/18/2021 ug/L
Aroclor-1016 (PCB-1016)	0.20 U
Aroclor-1016 (PCB-1016) (dissolved)	0.20 U

- SAMPLE IDENTIFICATION
- SAMPLE DATE
- SAMPLE UNITS (MICROGRAMS PER LITER)
- RESULT
- PARAMETER

0 150 300 ft

1" = 300 ft

N

GHD

GM BCO FACILITY
BEDFORD, INDIANA
2021 EAST PLANT AREA VAULT
ANNUAL MONITORING REPORT

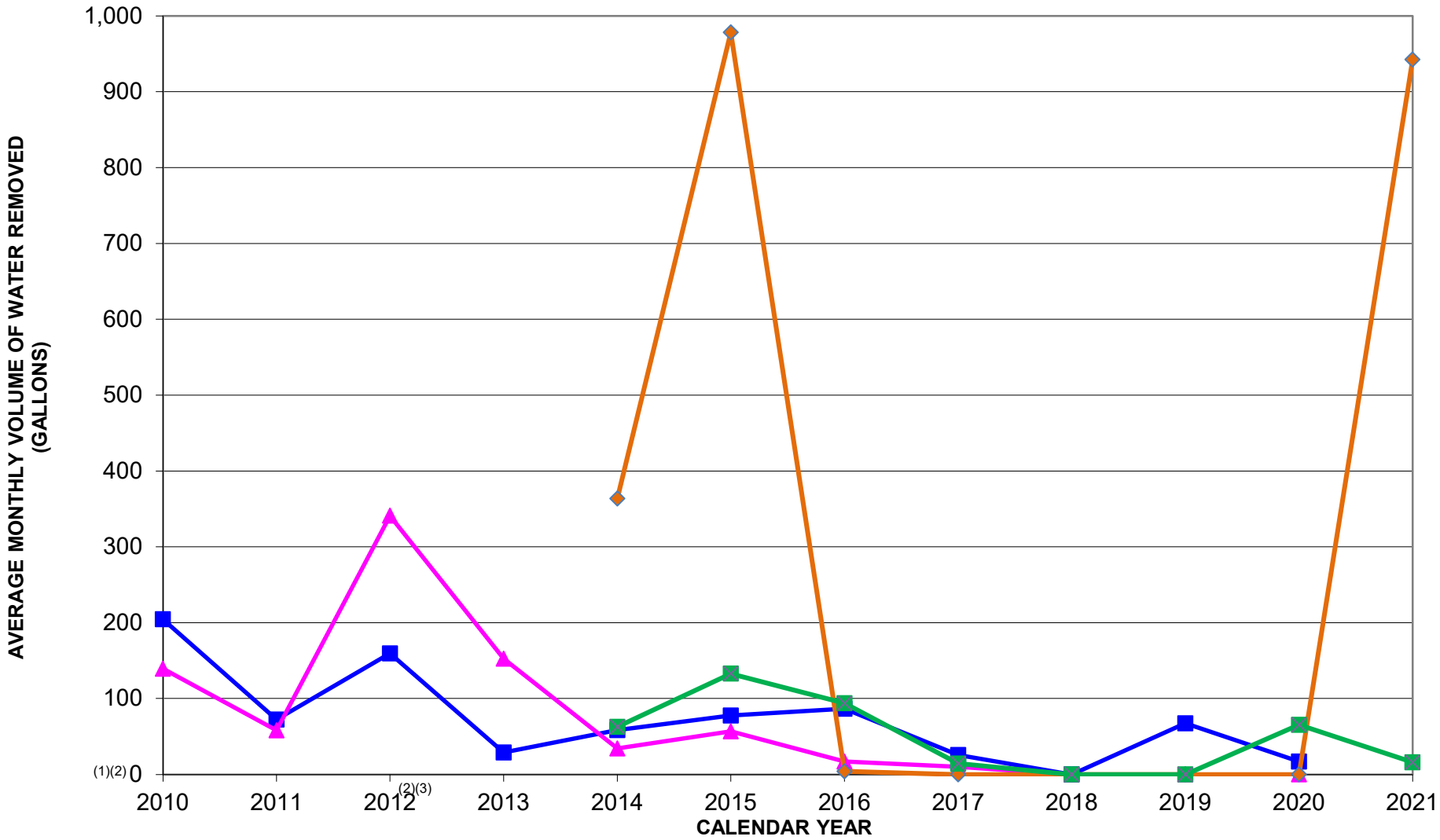
PCBS ANALYTICAL RESULT - NOVEMBER 2021

Project No. **11228036**
Date **July 2022**

FIGURE 3.3

Filename: N:\US\Chicago\Projects\563\11228036\Digital_Design\ACAD\Figures\RPT009\11228036-GHD-00-00-RPT-EN-D103_WA-009.DWG
Plot Date: 05 July 2022 4:59 PM

SOURCE: BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI, APRIL 2001 AND CRA SURVEYS 2002 TO 2013.



LEGEND

- LCS Calculated
- LDS Calculated
- LCS Flow Meter
- LDS Flow Meter

NOTES

(1) Operation of the LCS and LDS commenced on Aug. 30, 2006.

(2) Water from the underdrain system entered the LDS on September 8 and 13, 2006. Leachate was able to enter the LDS through leaky joints between manhole risers until January 18, 2007 when all leaks were repaired.

(3) Rehabilitation activities were conducted on the LDS (flushing) on Jan. 23 - June 5, 2007.

(4) 2016 - 2018 LCS flow meter readings have been excluded due to the flow meter being by-passed while temporary pump in place.

figure 5.1

SUMMARY OF AVERAGE MONTHLY VOLUME OF WATER REMOVED FROM LCS AND LDS
EAST PLANT AREA TSCA VAULT ANNUAL REPORT, CALENDAR YEAR 2021
GM BEDFORD CASTING OPERATIONS FACILITY
Bedford, Indiana

Appendices

Appendix A

LCS Sump Logs, LDS Sump Logs, GUS Sump Logs

YEAR: 2021 MONTH: JANUARY

GRAVEL UNDERDRAIN SYSTEM

Notes: *Top of sump [top of concrete] (feet AMSL): 738.99* *Bottom of sump (feet AMSL): 662.18* *Inside diameter of sump (feet): 3* *Total depth of sump manhole (feet): 76.81*
Pump operating level between 2.5 ft (664.68 ft AMSL or 74.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.49 ft below the top of sump) of water in the GUS manhole.

(a) **Water level not to rise above 52 inches deep** (equates to a water level of 666.5 ft AMSL or 72.49 ft below top of the sump). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(b) **Depth to water level should not be less than 72.49 ft below the top of sump** (equates to a water level of 666.5 ft AMSL or water depth of 52 inches). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(c) Readout from display on magnetic flow meter (serial number F1095B16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0800	85.0	669.26	0	*		1567410	
2	0800	85.0	669.26	0	*		1567410	
3	0800	85.0	669.26	0	*		1567410	
4	0800	85.0	669.26	0	*		1567410	
5	0800	85.0	669.26	0	*		1567410	
6	0800	85.0	669.26	0	*		1567410	
7	0800	85.0	669.26	0	*		1567410	
8	0800	85.0	669.26	0	*		1567410	
9	0800	85.0	669.26	0	*		1567410	
10	0800	85.0	669.26	0	*		1567410	
11	0800	82.3	669.03	0	*		1567410	
12	0800	82.3	669.03	0	*		1567410	
13	0800	81.4	668.96	0	*		1567410	
14	0800	80.2	668.86	0	*		1567410	
15	0800	79.6	668.81	0	*		1567410	
16	0800	79.2	668.78	0	*		1567410	
17	0800	78.8	668.74	0	*		1567410	
18	0800	78.8	668.74	0	*		1567410	
19	0800	78.8	668.74	0	*		1567410	
20	0800	78.6	668.73	0	*		1567410	
21	0800	78.9	668.75	0	*		1567410	
22	0800	79.2	668.78	0	*		1567410	
23	0800	79.2	668.78	0	*		1567410	
24	0800	79.5	668.80	0	*		1567410	
25	0800	79.9	668.83	0	*		1567410	
26	0800	80.1	668.85	0	*		1567410	
27	0800	80.5	668.88	0	*		1567410	
28	0800	80.6	668.89	0	*		1567410	
29	0800	81.3	668.95	0	*		1567410	
30	0800	82.1	669.02	0	*		1567410	
31	0800	82.3	669.03	0	*		1567410	

NO MANUAL MEASUREMENT CAN be taken

YEAR: 2021 MONTH: February

GRAVEL UNDERDRAIN SYSTEM

Notes: *Top of sump [top of concrete] (feet AMSL): 738.99* *Bottom of sump (feet AMSL): 662.18* *Inside diameter of sump (feet): 3* *Total depth of sump manhole (feet): 76.81*
Pump operating level between 2.5 ft (664.68 ft AMSL or 74.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.49 ft below the top of sump) of water in the GUS manhole.

(a) **Water level not to rise above 52 inches deep** (equates to a water level of 666.5 ft AMSL or 72.49 ft below top of the sump). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(b) **Depth to water level should not be less than 72.49 ft below the top of sump** (equates to a water level of 666.5 ft AMSL or water depth of 52 inches). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(c) Readout from display on magnetic flow meter (serial number F1095B16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0800	82.4	669.04	0	*		1567410	
2	0800	82.3	669.03	0	*		1567410	
3	0800	79.7	669.44	0	*		1567410	
4	0800	78.6	668.73	0	*		1567410	
5	0800	78.6	668.73	0	*		1567410	
6	0800	78.0	668.68	0	*		1567410	
7	0800	77.8	668.66	0	*		1567410	
8	0800	77.6	668.64	0	*		1567410	
9	0800	78.0	668.68	0	*		1567410	
10	0800	77.8	668.66	0	*		1567410	
11	0800	77.8	668.66	0	*		1567410	
12	0800	77.7	668.65	0	*		1567410	
13	0800	77.7	668.65	0	*		1567410	
14	0800	77.6	668.64	0	*		1567410	
15	0800	77.5	668.63	0	*		1567410	
16	0800	77.7	668.65	0	*		1567410	
17	0800	77.7	668.65	0	*		1567410	
18	0800	77.9	668.67	0	*		1567410	
19	0800	77.7	668.65	0	*		1567410	
20	0800	77.7	668.65	0	*		1567410	
21	0800	77.7	668.65	0	*		1567410	
22	0800	77.7	668.65	0	*		1567410	
23	0800	77.7	668.65	0	*		1567410	
24	0800	77.8	668.66	0	*		1567410	
25	0800	77.8	668.66	0	*		1567410	
26	0800	77.8	668.66	0	*		1567410	
27	0800	77.8	668.66	0	*		1567410	
28	0800	77.8	668.66	0	*		1567410	
29								
30								
31								

* NO MANUAL MEASUREMENT CAN BE TAKEN

YEAR: 2021 MONTH: March

GRAVEL UNDERDRAIN SYSTEM

Notes: *Top of sump [top of concrete] (feet AMSL): 738.99* *Bottom of sump (feet AMSL): 662.18* *Inside diameter of sump (feet): 3* *Total depth of sump manhole (feet): 76.81*
Pump operating level between 2.5 ft (664.68 ft AMSL or 74.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.49 ft below the top of sump) of water in the GUS manhole.

(a) **Water level not to rise above 52 inches deep** (equates to a water level of 666.5 ft AMSL or 72.49 ft below top of the sump). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (666.5 ft AMSL), notify the PM immediately.

(b) **Depth to water level should not be less than 72.49 ft below the top of sump** (equates to a water level of 666.5 ft AMSL or water depth of 52 inches). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (666.5 ft AMSL), notify the PM immediately.

(c) Readout from display on magnetic flow meter (serial number F1095B16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0800	78.1	668.68		*		1567410	
2	0800	77.9	668.67		*		1567410	
3	0800	78.1	668.68		*		1567410	
4	0800	78.1	668.68		*		1567410	
5	0800	78.3	668.70		*		1567410	
6	0800	78.3	668.70		*		1567410	
7	0800	78.1	668.68		*		1567410	
8	0800	78.0	668.68		*		1567410	
9	0800	78.4	668.71		*		1567410	
10	0800	78.3	668.70		*		1567410	
11	0800	78.1	668.68		*		1567410	
12	0800	78.1	668.68		*		1567410	
13	0800	78.1	668.68		*		1567410	
14	0800	78.1	668.68		*		1567410	
15	0800	78.2	668.69		*		1567410	
16	0800	78.2	668.69		*		1567410	
17	0800	78.2	668.69		*		1567410	
18	0800	78.2	668.69		*		1567410	
19	0800	78.2	668.69		*		1567410	
20	0800	78.2	668.69		*		1567410	
21	0800	78.2	668.69		*		1567410	
22	0800	78.3	668.70		*		1567410	
23	08:00	78.1	668.68		*		1567410	
24	08:00	78.1	668.68		*		1567410	
25	0800	78.0	668.67		*		1567410	
26	08:00	77.7	668.66		*		1567410	
27	0800	78.0	668.68		*		1567410	
28	08:00	78.3	668.70		*		1567410	
29	0800	78.3	668.70		*		1567410	
30	0800	78.3	668.70		*		1567410	
31	0800	78.7	668.73		*		1567410	

* NO MANUAL MEASUREMENT COULD BE TAKEN.

YEAR: 2021 MONTH: April

GRAVEL UNDERDRAIN SYSTEM

REV 1
December 9, 2015
Page 1 of 1

Notes: *Top of sump (top of concrete) (feet AMSL): 738.99* *Bottom of sump (feet AMSL): 662.18* *Inside diameter of sump (feet): 3* *Total depth of sump manhole (feet): 75.81*
Pump operating level between 2.5 ft (664.68 ft AMSL or 74.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.49 ft below the top of sump) of water in the GUS manhole

(a) **Water level not to rise above 52 inches deep** (equates to a water level of 666.5 ft AMSL or 72.49 ft below top of the sump). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(b) **Depth to water level should not be less than 72.49 ft below the top of sump** (equates to a water level of 666.5 ft AMSL or water depth of 52 inches). Pumping must be initiated if the water level is above 665.5 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(c) Readout from display on magnetic flow meter (serial number F1095B16003). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 72.49 ft*	[2] CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0800	78.5	668.72		*		156710	
2	0800	78.5	668.72		*		156710	
3	0800	78.6	668.73		*		156710	
4	0800	78.6	668.73		*		156710	
5	0800	78.4	668.71		*		156710	
6	0800	78.5	668.72		*		156710	
7	0800	78.7	668.73		*		156710	
8	0800	78.7	668.73		*		156710	
9	0800	78.7	668.73		*		156710	
10	0800	78.7	668.73		*		156710	
11	0800	78.7	668.73		*		156710	
12	0800	78.7	668.73		*		156710	
13	0800	78.8	668.74		*		156710	
14	08:00	78.5	668.72		*		156710	
15	08:00	78.5	668.72		*		156710	
16	08:00	78.5	668.72		*		156710	
17	08:00	78.5	668.72		*		156710	
18	0800	78.5	668.72		*		156710	
19	0800	78.5	668.72		*		156710	
20	0800	78.5	668.72		*		156710	
21	0800	78.5	668.72		*		156710	
22	0800	78.5	668.72		*		156710	
23	0800	78.5	668.72		*		156710	
24	0800	78.5	668.72		*		156710	
25	0800	78.5	668.72		*		156710	
26	0800	78.5	668.72		*		156710	
27	0800	78.5	668.72		*		156710	
28	0800	78.5	668.72		*		156710	
29	0800	78.5	668.72		*		156710	
30	0800	78.7	668.73		*		156710	
31								

YEAR: 2021 MONTH: MAY

GRAVEL UNDERDRAIN SYSTEM

Notes: *Top of sump [top of concrete] (feet AMSL): 738.99* *Bottom of sump (feet AMSL): 662.18* *Inside diameter of sump (feet): 3* *Total depth of sump manhole (feet): 76.81*
Pump operating level between 2.5 ft (664.68 ft AMSL or 74.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.49 ft below the top of sump) of water in the GUS manhole

(a) **Water level not to rise above 52 inches deep** (equates to a water level of 666.5 ft AMSL or 72.49 ft below top of the sump). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(b) **Depth to water level should not be less than 72.49 ft below the top of sump** (equates to a water level of 666.5 ft AMSL or water depth of 52 inches). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(c) Readout from display on magnetic flow meter (serial number F109S816000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0800	77.9	668.67		*		156746	
2	0800	77.9	668.67		*		156741	
3	0800	77.9	668.67		*		156741	
4	0800	77.9	668.67		*		156741	
5	0800	78.1	668.68		*		156746	
6	0800	78.1	668.68		*		156741	
7	0800	78.3	668.70		*		156741	
8	0800	78.1	668.68		*		156741	
9	0800	78.1	668.68		*		156741	
10	0800	78.2	668.69		*		156741	
11	0800	78.1	668.68		*		156741	
12	0800	78.1	668.68		*		156741	
13	0800	78.1	668.68		*		156741	
14	08:00	78.1	668.68		*		156741	
15	0800	78.1	668.68		*		156741	
16	0800	77.9	668.67		*		156741	
17	0800	77.9	668.67		*		156741	
18	0800	78.1	668.68		*		156741	
19	0800	77.9	668.67		*		156741	
20	0800	77.9	668.67		*		156741	
21	0800	77.9	668.67		*		156741	
22	0800	77.9	668.67		*		156741	
23	0800	77.9	668.67		*		156741	
24	0800	77.5	668.63		*		156741	
25	0800	77.5	668.63		*		156741	
26	0800	77.9	668.67		*		156741	
27	0800	77.9	668.67		*		156741	
28	0800	77.9	668.67		*		156741	
29	0800	77.9	668.67		*		156741	
30	0800	77.9	668.67		*		156741	
31	0800	77.4	668.63		*		156741	

* MANUAL MEASUREMENT CAN NOT BE TAKEN

YEAR: 2021 MONTH: June

GRAVEL UNDERDRAIN SYSTEM

Notes: *Top of sump [top of concrete] (feet AMSL): 738.99* *Bottom of sump (feet AMSL): 662.18* *Inside diameter of sump (feet): 3* *Total depth of sump manhole (feet): 76.81*
Pump operating level between 2.5 ft (664.68 ft AMSL or 74.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.49 ft below the top of sump) of water in the GUS manhole.

(a) **Water level not to rise above 52 inches deep** (equates to a water level of 666.5 ft AMSL or 72.49 ft below top of the sump). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(b) **Depth to water level should not be less than 72.49 ft below the top of sump** (equates to a water level of 666.5 ft AMSL or water depth of 52 inches). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(c) Readout from display on magnetic flow meter (serial number F1095B16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0800	77.5	668.63		*		1567410	
2	0800	77.8	668.66		*		1567410	
3	0800	77.5	668.63		*		1567410	
4	0800	77.4	668.63		*		1567410	
5	0800	77.6	668.64		*		1567410	
6	0800	77.5	668.63		*		1567410	
7	0800	77.4	668.63		*		1567410	
8	0800	77.4	668.63		*		1567410	
9	0800	77.5	668.63		*		1567410	
10	0800	77.5	668.63		*		1567410	
11	0800	77.5	668.63		*		1567410	
12	0800	77.5	668.63		*		1567410	
13	0800	77.5	668.63		*		1567410	
14	0800	77.8	668.66		*		1567410	
15	0800	77.8	668.66		*		1567410	
16	0800	77.5	668.63		*		1567410	
17	0800	77.4	668.63		*		1567410	
18	0800	77.7	668.65		*		1567410	
19	0800	77.8	668.66		*		1567410	
20	0800	77.6	668.64		*		1567410	
21	0800	77.6	668.64		*		1567410	
22	0800	77.6	668.64		*		1567410	
23	0800	77.7	668.65		*		1567410	
24	0800	77.4	668.63		*		1567410	
25	0800	77.4	668.63		*		1567410	
26	0800	77.5	668.63		*		1567410	
27	0800	77.5	668.63		*		1567410	
28	0800	77.5	668.63		*		1567410	
29	0800	77.9	668.67		*		1567410	
30	0800	77.9	668.67		*		1567410	
31								

* MANUAL MEASUREMENT CAN NOT be TAKEN

YEAR: 2021 MONTH: July

GRAVEL UNDERDRAIN SYSTEM

Notes: *Top of sump [top of concrete] (feet AMSL): 738.99* *Bottom of sump (feet AMSL): 662.18* *Inside diameter of sump (feet): 3* *Total depth of sump manhole (feet): 76.81*
Pump operating level between 2.5 ft (664.68 ft AMSL or 74.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.49 ft below the top of sump) of water in the GUS manhole.

(a) **Water level not to rise above 52 inches deep** (equates to a water level of 666.5 ft AMSL or 72.49 ft below top of the sump). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(b) **Depth to water level should not be less than 72.49 ft below the top of sump** (equates to a water level of 666.5 ft AMSL or water depth of 52 inches). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(c) Readout from display on magnetic flow meter (serial number F1095B16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0800	78.7	668.73		*		1567410	
2	0800	78.7	668.73		*		1567410	
3	0800	78.8	668.74		*		1567410	
4	0800	79.6	668.81		*		1567410	
5	0800	79.6	668.81		*		1567410	
6	0800	79.6	668.81		*		1567410	
7	0800	79.8	668.83		*		1567410	
8	0800	79.9	668.83		*		1567410	
9	0800	79.6	668.81		*		1567410	
10	0800	79.7	668.82		*		1567410	
11	0800	80.2	668.86		*		1567410	
12	0800	80.6	668.89		*		1567410	
13	0800	80.9	668.92		*		1567410	
14	0800	81.6	668.98		*		1567410	
15	0800	81.8	668.99		*		1567410	
16	0800	82.2	669.03		*		1567410	
17	0800	82.8	669.08		*		1567410	
18	0800	82.8	669.08		*		1567410	
19	0800	83.0	669.09		*		1567410	
20	0800	83.8	669.16		*		1567410	
21	0800	84.8	669.24		*		1567410	
22	0800	85.9	669.33		*		1567410	
23	0800	85.5	669.30		*		1567410	
24	0800	81.0	668.93		*		1567410	
25	0800	77.6	668.64		*		1567410	
26	0800	77.2	668.61		*		1567410	
27	0800	77.2	668.61		*		1567410	
28	0800	77.2	668.61		*		1567410	
29	0800	77.1	668.60		*		1567410	
30	0800	76.9	668.58		*		1567410	
31	0800	77.1	668.60		*		1567410	

* MANUAL READING CANNOT be taken

YEAR: 2021 MONTH: August

GRAVEL UNDERDRAIN SYSTEM

Notes: *Top of sump [top of concrete] (feet AMSL): 738.99* *Bottom of sump (feet AMSL): 662.18* *inside diameter of sump (feet): 3* *Total depth of sump manhole (feet): 76.81*
Pump operating level between 2.5 ft (664.68 ft AMSL or 74.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.49 ft below the top of sump) of water in the GUS manhole.

(a) **Water level not to rise above 52 inches deep** (equates to a water level of 666.5 ft AMSL or 72.49 ft below top of the sump). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (666.5 ft AMSL), notify the PM immediately.

(b) **Depth to water level should not be less than 72.49 ft below the top of sump** (equates to a water level of 666.5 ft AMSL or water depth of 52 inches). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (666.5 ft AMSL), notify the PM immediately.

(c) Readout from display on magnetic flow meter (serial number F1095B16-000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0800	77.1	668.60	0	*		922	
2	0800	77.1	668.60	0	*		922	
3	0800	77.1	668.60	0	*		922	
4	0800	77.1	668.60	0	*		922	
5	0800	77.1	668.60	0	*		922	
6	0800	77.1	668.60	0	*		923	
7	0800	77.1	668.60	0	*		923	
8	0800	77.0	668.59	0	*		923	
9	0800	77.1	668.60	0	*		923	
10	0800	77.1	668.60	0	*		923	
11	0800	76.9	668.58	0	*		923	
12	0800	77.0	668.59	0	*		924	
13	0800	76.8	668.58	0	*		924	
14	0800	77.0	668.59	0	*		924	
15	0800	77.0	668.59	0	*		925	
16	0800	77.0	668.59	0	*		925	
17	0800	76.9	668.58	0	*		927	
18	0800	76.9	668.58	0	*		927	
19	0800	77.0	668.59	0	*		928	
20	0800	77.0	668.59	0	*		928	
21	0800	76.9	668.58	0	*		929	
22	0800	76.9	668.58	0	*		929	
23	0800	76.9	668.58	0	*		930	
24	0800	77.1	668.60	0	*		930	
25	0800	77.1	668.60	0	*		931	
26	0800	77.3	668.62	0	*		931	
27	0800	76.8	668.58	0	*		931	
28	0800	77.0	668.59	0	*		931	
29	0800	77.0	668.59	0	*		932	
30	0800	77.0	668.59	0	*		932	
31	0800	77.0	668.59	0	*		932	

* NO MANUAL MEASUREMENT TAKEN

YEAR: 2021 MONTH: September

GRAVEL UNDERDRAIN SYSTEM

REV. 4
December 9, 2015
Page 1 of 1

Notes: *Top of sump [top of concrete] (feet AMSL): 738.99* *Bottom of sump (feet AMSL): 662.18* *Inside diameter of sump (feet): 3* *Total depth of sump manhole (feet): 76.81*
Pump operating level between 2.5 ft (664.68 ft AMSL or 74.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.49 ft below the top of sump) of water in the GUS manhole.

(a) **Water level not to rise above 52 inches deep** (equates to a water level of 666.5 ft AMSL or 72.49 ft below top of the sump). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(b) **Depth to water level should not be less than 72.49 ft below the top of sump** (equates to a water level of 666.5 ft AMSL or water depth of 52 inches). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(c) Readout from display on magnetic flow meter (serial number F1095B16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[[Y]/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0800	77.3	668.62	0	*		932	
2	0800	77.3	668.62	0	*		932	
3	0800	77.3	668.62	0	*		932	
4	0800	77.3	668.62	0	*		932	
5	0800	77.1	668.60	0	*		932	
6	0800	77.1	668.60	0	*		932	
7	0800	77.3	668.62	0	*		932	
8	0800	77.1	668.60	0	*		932	
9	0800	77.1	668.60	0	*		932	
10	0800	77.1	668.60	0	*		932	
11	0800	76.8	668.58	0	*		932	
12	0800	76.8	668.58	0	*		932	
13	0800	76.8	668.58	0	*		932	
14	0800	76.8	668.58	0	*		932	
15	0800	77.3	668.62	0	*		932	
16	0800	77.1	668.60	0	*		932	
17	0800	77.8	668.66	0	*		932	
18	0800	77.8	668.66	0	*		932	
19	0800	77.8	668.66	0	*		932	
20	0800	78.3	668.70	0	*		932	
21	0800	78.3	668.70	0	*		932	
22	0800	78.7	668.73	0	*		933	
23	0800	79.0	668.76	0	*		933	
24	0800	79.8	668.83	0	*		973	
25	0800	80.6	668.89	0	*		1023	
26	0800	80.6	668.89	0	*		1023	
27	0800	81.1	668.93	0	*		1064	
28	0800	81.6	668.98	0	*		1108	
29	0800	82.0	669.01	0	*		1150	
30	0800	82.3	669.03	0	*		1190	
31					*			

* NO MANUAL MEASUREMENT CAN be taken

YEAR: 2021 MONTH: October

GRAVEL UNDERDRAIN SYSTEM

Notes: *Top of sump [top of concrete] (feet AMSL): 738.99* *Bottom of sump (feet AMSL): 662.18* *inside diameter of sump (feet): 3* *Total depth of sump manhole (feet): 75.81*
Pump operating level between 2.5 ft (664.68 ft AMSL or 74.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.49 ft below the top of sump) of water in the GUS manhole.

(a) **Water level not to rise above 52 inches deep** (equates to a water level of 666.5 ft AMSL or 72.49 ft below top of the sump). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(b) **Depth to water level should not be less than 72.49 ft below the top of sump** (equates to a water level of 666.5 ft AMSL or water depth of 52 inches). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(c) Readout from display on magnetic flow meter (serial number F1095B16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0800	83.5	669.13	0	*		1232	
2	0800	83.5	669.13				1272	
3	0800	81.1	668.93				1291	
4	0800	81.1	668.93				1310	
5	0800	79.1	668.77				1363	
6	0800	76.6	668.56				1415	
7	0800	76.6	668.56				1449	
8	0800	76.5	668.55				1512	
9	0800	76.7	668.57				1574	
10	0800	76.6	668.56				1621	
11	0800	76.5	668.55				1671	
12	0800	76.7	668.57				1730	
13	0800	76.3	668.53				1783	
14	0800	76.4	668.54				1823	
15	0800	76.7	668.57				1865	
16	0800	76.5	668.55				1895	
17	0800	76.4	668.54				1925	
18	0800	76.7	668.57				1987	
19	0800	76.4	668.54				2022	
20	0800	76.5	668.55				2055	
21	0800	76.7	668.57				2093	
22	0800	76.5	668.55				2119	
23	0800	76.8	668.58				2150	
24	0800	76.5	668.55				2185	
25	0800	76.7	668.57				2180	
26	0800	76.6	668.56				2182	
27	0800	76.4	668.54				2216	
28	0800	76.7	668.57				2274	
29		76.4	668.54				2288	
30		76.7	668.57				2302	
31		76.6	668.56				2333	

* manual measurement can not be taken

YEAR: 2021 MONTH: November

GRAVEL UNDERDRAIN SYSTEM

Notes: *Top of sump [top of concrete] (feet AMSL): 738.99* *Bottom of sump (feet AMSL): 662.18* *Inside diameter of sump (feet): 3* *Total depth of sump manhole (feet): 76.81*
Pump operating level between 2.5 ft (664.68 ft AMSL or 74.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.49 ft below the top of sump) of water in the GUS manhole.

(a) **Water level not to rise above 52 inches deep** (equates to a water level of 666.5 ft AMSL or 72.49 ft below top of the sump). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(b) **Depth to water level should not be less than 72.49 ft below the top of sump** (equates to a water level of 666.5 ft AMSL or water depth of 52 inches). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(c) Readout from display on magnetic flow meter (serial number F1095B16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0800	76.7	668.57	0	*		2409	
2	0800	76.7	668.57	0	*		2505	
3	0800	76.3	668.53	0	*		2606	
4	0800	76.8	668.58	0	*		2702	
5	0800	76.6	668.56	0	*		2791	
6	0800	76.6	668.56	0	*		2875	
7	0800	76.7	668.57	0	*		2950	
8	0800	76.7	668.57	0	*		3018	
9	0800	76.6	668.56	0	*		3065	
10	0800	76.4	668.54	0	*		3113	
11	0800	76.8	668.58	0 NC 11-13-21	*		3172	
12	0800	76.7	668.57	0	*		3234	
13	0800	76.7	668.57	0	*		3292	
14	0800	76.8	668.58	0	*		3338	
15	0800	76.6	668.56	0	*		3375	
16	0800	76.5	668.55	0	*		3435	
17	0800	76.9	668.58	0	*		3505	
18	0800	76.7	668.57	0	*		3541	
19	0800	76.4	668.54	0	*		3573	
20	0800	76.9	668.58	0	*		3673	
21	0800	76.7	668.57	0	*		3726	
22	0800	76.7	668.57	0	*		3735	
23	0800	76.4	668.54	0	*		3807	
24	0800	76.8	668.58	0	*		3892	
25	0800	76.7	668.57	0	*		3992	
26	0800	76.6	668.56	0	*		4094	
27	0800	76.7	668.57	0	*		4213	
28	0800	76.5	668.55	0	*		4289	
29	0800	76.4	668.54	0	*		4362	
30	0800	76.1	668.52	0	*		4446	
31								

* MANUAL MEASUREMENT CAN NOT BE TAKEN

YEAR: 2021 MONTH: December

GRAVEL UNDERDRAIN SYSTEM

Notes: *Top of sump [top of concrete] (feet AMSL): 738.99* *Bottom of sump (feet AMSL): 662.18* *Inside diameter of sump (feet): 3* *Total depth of sump manhole (feet): 76.81*
Pump operating level between 2.5 ft (664.68 ft AMSL or 74.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.49 ft below the top of sump) of water in the GUS manhole.

(a) **Water level not to rise above 52 inches deep** (equates to a water level of 666.5 ft AMSL or 72.49 ft below top of the sump). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(b) **Depth to water level should not be less than 72.49 ft below the top of sump** (equates to a water level of 666.5 ft AMSL or water depth of 52 inches). Pumping must be initiated if the water level is above 666.5 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (666.5 ft AMSL), notify the PM immediately.
(c) Readout from display on magnetic flow meter (serial number F1095B16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0800	76.4	668.54	0	*		4652	
2	0800	76.4	668.54	0	*		4910	
3	0800	76.4	668.54	0	*		5163	
4	0800	76.3	668.53	0	*		5388	
5	0800	76.6	668.56	0	*		5610	
6	0800	76.4	668.54	0	*		5873	
7	0800	75.9	668.50	0	*		6190	
8	0800	76.3	668.53	0	*		6568	
9	0800	76.5	668.55	0	*		6930	
10	0800	76.6	668.56	0	*		7271	
11	0800	76.4	668.54	0	*		7583	
12	0800	76.3	668.53	0	*		7856	
13	0800	76.6	668.56	0	*		8178	
14	0800	76.2	668.53	0	*		8524	
15	0800	76.4	668.54	0	*		8855	
16	0800	76.5	668.55	0	*		9143	
17	0800	76.4	668.54	0	*		9474	
18	0800	76.6	668.56	0	*		9825	
19	0800	76.7	668.57	0	*		9988	
20	0800	76.6	668.56	0	*		10365	
21	0800	76.6	668.56	0	*		10605	
22	0800	76.6	668.56	0	*		10939	
23	0800	76.8	668.58	0	*		11004	
24	0800	76.5	668.55	0	*		11597	
25	0800	76.7	668.57	0	*		11986	
26	0800	76.4	668.54	0	*		12316	
27	0800	76.4	668.54	0	*		12537	
28	8:00	76.5	668.55	0	*		12955	
29	8:00	76.4	668.54	0	*		13285	
30	8:00	76.5	668.55	0	*		13594	
31	8:00	76.2	668.53	0	*		13829	

NO MANUAL MEASUREMENT CAN be taken

YEAR: 2021 MONTH: JANUARY

LEACHATE COLLECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 740.83* *Bottom of sump (feet AMSL): 671.00* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 69.83*
Pump operating level between 1.5 ft (672.50 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

(a) **Water level not to rise above 36 inches deep (equates to a** water level of 674.00 ft AMSL or 66.83 ft below top of the sump). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (674.00 ft AMSL).

(b) **Depth to water level should not be less than 66.83 ft below the top of sump** (equates to a water level of 674.00 ft AMSL or water depth of 36 inches). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (674.00 ft AMSL), initiate pumping.

(c) Readout from display on magnetic flow meter (serial number F1095C16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activites occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0805	?					156740	
2	0805	?					156740	
3	0805	?					156740	
4	0805	?			69.20	671.63	156740	
5	0805	?					156740	
6	0805	?					156740	
7	0805	?					156740	
8	0805	?					156740	
9	0805	?					156740	
10	0805	?					156740	
11	0805	?			69.20	671.63	156740	
12	0805	?					156740	
13	0805	?					156740	
14	0805	?					156740	
15	0805	?					156740	
16	0805	?					156740	
17	0805	?					156740	
18	0805	?			69.14	671.69	156740	
19	0805	?					156740	
20	0805	?					156740	
21	0805	?					156740	
22	0805	?					156740	
23	0805	?					156740	
24	0805	?					156740	
25	0805	?			69.14	671.69	156740	
26	0805	?					156740	
27	0805	?					156740	
28	0805	?					156740	
29	0805	?					156740	
30	0805	?					156740	
31	0805	?					156740	

YEAR: 2021 MONTH: February

LEACHATE COLLECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 740.83* *Bottom of sump (feet AMSL): 671.00* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 69.83*
Pump operating level between 1.5 ft (672.50 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

(a) **Water level not to rise above 36 inches deep (equates to a** water level of 674.00 ft AMSL or 66.83 ft below top of the sump). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (674.00 ft AMSL).
(b) **Depth to water level should not be less than 66.83 ft below the top of sump** (equates to a water level of 674.00 ft AMSL or water depth of 36 inches). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (674.00 ft AMSL), initiate pumping.
(c) Readout from display on magnetic flow meter (serial number F1095C16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0945	?			69.14	671.69	1567410	
2	0805	?					1567410	
3	0805	?					1567410	
4	0805	?					1567410	
5	0806	?					1567410	
6	0805	?					1567410	
7	0805	?					1567410	
8	0805	?			69.10	671.73	1567410	
9	0908	?					1567410	
10	0805	?					1567410	
11	0805	?					1567410	
12	0805	?					1567410	
13	0805	?					1567410	
14	0805	?					1567410	
15	0805	?			69.12	671.71	1567410	
16	0805	?					1567410	
17	0805	?					1567410	
18	0805	?					1567410	
19	0805	?					1567410	
20	0805	?					1567410	
21	0805	?					1567410	
22	0805	?			69.12	671.71	1567410	
23	0805	?					1567410	
24	0805	?					1567410	
25	0805	?					1567410	
26	0805	?					1567410	
27	0805	?					1567410	
28	0805	?					1567410	
29								
30								
31								

YEAR: 2021 MONTH: March

LEACHATE COLLECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 740.83* *Bottom of sump (feet AMSL): 671.00* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 69.83*
Pump operating level between 1.5 ft (672.50 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

(a) **Water level not to rise above 36 inches deep (equates to a** water level of 674.00 ft AMSL or 66.83 ft below top of the sump). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (674.00 ft AMSL).

(b) **Depth to water level should not be less than 66.83 ft below the top of sump** (equates to a water level of 674.00 ft AMSL or water depth of 36 inches). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (674.00 ft AMSL), initiate pumping.

(c) Readout from display on magnetic flow meter (serial number F1095C16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0805	?			69.06	671.77	1567410	
2	0805	?					1567410	
3	0805	?					1567410	
4	0805	?					1567410	
5	0805	?					1567410	
6	0805	?					1567410	
7	0805	?					1567410	
8	0805	?			69.06	671.77	1567410	
9	0805	?					1567410	
10	0805	?					1567410	
11	0805	?					1567410	
12	0805	?					1567410	
13	0805	?					1567410	
14	0805	?					1567410	
15	0805	?			69.05	671.78	1567410	
16	0805	?					1567410	
17	0805	?					1567410	
18	0805	?					1567410	
19	0805	?					1567410	
20	0805	?					1567410	
21	0805	?					1567410	
22	0805	?			69.43	671.40	1567410	
23	0805	?					1567410	
24	0805	?					1567410	
25	0805	?					1567410	
26	0805	?					1567410	
27	08:05	?					1567410	
28	08:05	?					1567410	
29	0800	?			69.43	671.40	1567410	
30	0800	?					1567410	
31	0800	?					1567410	

YEAR: 2021 MONTH: April

LEACHATE COLLECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 740.83* *Bottom of sump (feet AMSL): 671.00* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 69.83*
Pump operating level between 1.5 ft (672.50 ft AMSL or 65.53 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

(a) **Water level not to rise above 36 inches deep (equates to** a water level of 674.00 ft AMSL or 66.83 ft below top of the sump). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (674.00 ft AMSL).
(b) **Depth to water level should not be less than 66.83 ft below the top of sump** (equates to a water level of 674.00 ft AMSL or water depth of 36 inches). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (674.00 ft AMSL), initiate pumping.
(c) Readout from display on magnetic flow meter (serial number F1095C16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0805	?					156710	
2	0805	?					156710	
3	0805	?					156710	
4	0805	?					156710	
5	0805	?			69.28	671.55	156710	
6	0805	?					156710	
7	0805	?					156710	
8	0805	?					156710	
9	0800	?					156710	
10	0800	?					156710	
11	0800	?					156710	
12	0800	?			69.36	671.47	156710	
13	0800	?					156710	
14	08:00	?					156710	
15	08:00	?					156710	
16	08:00	?					156710	
17	800	?					156710	
18	0800	?					156710	
19	0800	?			69.40	671.43	156710	
20	0800	?					156710	
21	0800	?					156710	
22	0800	?					156710	
23	0800	?					156710	
24	0800	?					156710	
25	0800	?					156710	
26	0800	?			69.40	671.43	156710	
27	0800	?					156710	
28	0800	?					156710	
29	0800	?					156710	
30	0800	?					156710	
31								

YEAR: 2021 MONTH: MAY

LEACHATE COLLECTION SYSTEM

REV 4
January 13, 2016
Page 1 of 1

Notes: *Top of sump (top of concrete manhole) (feet AMSL): 740.83* *Bottom of sump (feet AMSL): 671.00* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 69.83*
Pump operating level between 1.5 ft (672.50 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

(a) **Water level not to rise above 36 inches deep (equates to a** water level of 674.00 ft AMSL or 66.83 ft below top of the sump). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (674.00 ft AMSL).
(b) **Depth to water level should not be less than 66.83 ft below the top of sump** (equates to a water level of 674.00 ft AMSL or water depth of 36 inches). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (674.00 ft AMSL), initiate pumping.
(c) Readout from display on magnetic flow meter (serial number F1095C16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0805	?					156710	
2	0805	?					156710	
3	0805	?			69.39	671.44	156710	
4	0805	?					156710	
5	0805	?					156710	
6	0805	?					156710	
7	0805	?					156710	
8	0805	?					156710	
9	0805	?					156710	
10	0805	?			69.37	671.46	156710	
11	0805	?					156710	
12	0805	?					156710	
13	0805	?					156710	
14	0805	?					156710	
15	0805	?					156710	
16	0805	?					156710	
17	0805	?			69.33	671.50	156710	
18	0805	?					156710	
19	0805	?					156710	
20	0805	?					156710	
21	0805	?					156710	
22	0805	?					156710	
23	0805	?					156710	
24	0805	?					156710	
25	0805	?			69.45	671.38	156710	
26	0805	?					156710	
27	0805	?					156710	
28	0805	?					156710	
29	0805	?					156710	
30	0805	?					156710	
31	0805	?					156710	

YEAR: 2021 MONTH: June

LEACHATE COLLECTION SYSTEM

REV. 4
January 13, 2016
Page 1 of 1

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 740.83* *Bottom of sump (feet AMSL): 671.00* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 69.83*
Pump operating level between 1.5 ft (672.50 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

(a) **Water level not to rise above 36 inches deep (equates to a** water level of 674.00 ft AMSL or 66.83 ft below top of the sump). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (674.00 ft AMSL).

(b) **Depth to water level should not be less than 66.83 ft below the top of sump** (equates to a water level of 674.00 ft AMSL or water depth of 36 inches). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (674.00 ft AMSL), initiate pumping.

(c) Readout from display on magnetic flow meter (serial number F1095C16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0805	?			69.43	671.40	1567410	
2	0805	?					1567410	
3	0805	?					1567410	
4	0805	?					1567410	
5	0805	?					1567410	
6	0805	?					1567410	
7	0805	?			69.41	671.42	1567410	
8	0805	?					1567410	
9	0805	?					1567410	
10	0805	?					1567410	
11	0805	?					1567410	
12	0805	?					1567410	
13	0805	?					1567410	
14	0805	?			69.41	671.42	1567410	
15	0805	?					1567410	
16	0805	?					1567410	
17	0805	?					1567410	
18	0805	?					1567410	
19	0805	?					1567410	
20	0805	?					1567410	
21	0805	?			69.41	671.42	1567410	
22	0805	?					1567410	
23	0805	?					1567410	
24	0805	?					1567410	
25	0805	?					1567410	
26	0805	?					1567410	
27	0805	?					1567410	
28	0805	?			69.41	671.42	1567410	
29	0805	?					1567410	
30	0805	?					1567410	
31								

YEAR: 2021 MONTH: July

LEACHATE COLLECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 740.83* *Bottom of sump (feet AMSL): 671.00* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 69.83*
Pump operating level between 1.5 ft (672.50 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

(a) **Water level not to rise above 36 inches deep (equates to a** water level of 674.00 ft AMSL or 66.83 ft below top of the sump). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (674.00 ft AMSL).

(b) **Depth to water level should not be less than 66.83 ft below the top of sump** (equates to a water level of 674.00 ft AMSL or water depth of 36 inches). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (674.00 ft AMSL), initiate pumping.

(c) Readout from display on magnetic flow meter (serial number F1095C16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0805						1567410	
2	0805						1567410	
3	0805						1567410	
4	0805						1567410	
5	0805				69.41	671.42	1567410	
6	0805						1567410	
7	0805						1567410	
8	0805						1567410	
9	0805						1567410	
10	0805						1567410	
11	0805						1567410	
12	0805						1567410	
13	0805			190.36	69.56	671.27	1567410	- Sampled
14	0805						1567410	
15	0805						1567410	
16	0805						1567410	
17	0805						1567410	
18	0805						1567410	
19	0805				69.44	671.39	1567410	
20	0805						1567410	
21	0805						1567410	
22	0805						1567410	
23	0805						1567410	
24	0805						1567410	
25	0805						1567410	
26	0805				69.41	671.42	1567410	
27	0805						1567410	
28	0805						1567410	
29	0805						1567410	
30	0805						1567410	
31	0805						1567410	

YEAR: 2021 MONTH: August

LEACHATE COLLECTION SYSTEM

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January 13, 2016
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Notes: *Top of sump [top of concrete manhole] (feet AMSL): 740.83* *Bottom of sump (feet AMSL): 671.00* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 69.83*
Pump operating level between 1.5 ft (672.50 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

(a) **Water level not to rise above 36 inches deep (equates to a** water level of 674.00 ft AMSL or 66.83 ft below top of the sump). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (674.00 ft AMSL).
(b) **Depth to water level should not be less than 66.83 ft below the top of sump** (equates to a water level of 674.00 ft AMSL or water depth of 36 inches). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (674.00 ft AMSL), initiate pumping.
(c) Readout from display on magnetic flow meter (serial number F1095C16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0805	* -15.3					* 922	
2	0805	-15.3			69.41	671.42	922	
3	0805	-15.3					922	
4	0805	-15.3					922	
5	0805	-15.3					923	
6	0805	-15.4					923	
7	0805	-15.4					923	
8	0805	-15.4					923	
9	0805	-15.3			69.38	671.45	923	
10	0805	-15.4					923	
11	0805	-15.4					923	
12	0805	-15.4					923	
13	0805	-15.4					924	
14	0805	-15.3					924	
15	0805	-15.3			ML 8/15/21		925	
16	0805	-15.3			69.34	671.49	925	
17	0805	-15.3			69.34		927	
18	0805	-15.3					927	
19	0805	-15.3					928	
20	0805	-15.3					928	
21	0805	-15.4					929	
22	0805	-15.4					929	
23	0805	-15.4			69.32	671.51	930	
24	0805	-15.4					930	
25	0805	-15.4					931	
26	0805	-15.4					931	
27	0805	-15.4					931	
28	0805	-15.4					931	
29	0805	-15.4					932	
30	0805	-15.4			69.30	671.53	932	
31	0805	-15.4					932	

* Readings from SCADA system - Not HMI screen

YEAR: 2021 MONTH: September

LEACHATE COLLECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 740.83* *Bottom of sump (feet AMSL): 671.00* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 69.83*
Pump operating level between 1.5 ft (672.50 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

(a) **Water level not to rise above 36 inches deep (equates to a water level of 674.00 ft AMSL or 66.83 ft below top of the sump).** Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (674.00 ft AMSL).
(b) **Depth to water level should not be less than 66.83 ft below the top of sump (equates to a water level of 674.00 ft AMSL or water depth of 36 inches).** Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (674.00 ft AMSL), initiate pumping.
(c) Readout from display on magnetic flow meter (serial number F1065C16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [c] (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0805	-15.4 #					932	
2	0805	-15.4					932	
3	0805	-15.4					932	
4	0805	-15.4					932	
5	0805	-15.4					932	
6	0805	-15.3			69.29	671.54	932	
7	0805	-15.4					932	
8	0805	-15.4					932	
9	0805	-15.3					932	
10	0805	-15.4					932	
11	0805	-15.4					932	
12	0805	-15.4					932	
13	0805	-15.4			69.26	671.57	932	
14	0805	-15.4					932	
15	0805	-15.3					932	
16	0805	-15.3					932	
17	0805	-15.4					932	
18	0805	-15.4					932	
19	0805	-15.4					932	
20	0805	-15.4			69.22	671.61	932	
21	0805	-15.4					932	
22	0805	-15.3					932	
23	0805	-15.3					933	
24	0805	-15.3					973	
25	0805	-15.4					1023	
26	0805	-15.4					1023	
27	0805	-15.3			69.17	671.66	1064	
28	0805	-15.3					1108	
29	0805	-15.4					1150	
30	0805	-15.3					1190	
31								

YEAR: 2021 MONTH: October

LEACHATE COLLECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 740.83* *Bottom of sump (feet AMSL): 671.00* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 69.83*
Pump operating level between 1.5 ft (672.50 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

(a) **Water level not to rise above 36 inches deep (equates to a** water level of 674.00 ft AMSL or 66.83 ft below top of the sump). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (674.00 ft AMSL).
(b) **Depth to water level should not be less than 66.83 ft below the top of sump** (equates to a water level of 674.00 ft AMSL or water depth of 36 inches). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (674.00 ft AMSL), initiate pumping.
(c) Readout from display on magnetic flow meter (serial number F1095C16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0805	-15.4					1232	
2	0805	-15.4					1272	
3	0805	-15.3					1291	
4	0805	-15.4			69.19	671.64	1310	
5	0805	-15.3					1363	
6	0805	-15.3					1415	
7	0805	-15.3					1449	
8	0805	-15.3					1512	
9	0805	-15.4					1574	
10	0805	-15.4					1621	
11	0805	-15.4			69.19	671.64	1671	
12	0805	-15.3					1730	
13	0805	-15.3					1783	
14	0805	-15.4					1823	
15	0805	-15.4					1865	
16	0805	-15.3					1895	
17	0805	-15.3					1925	
18	0805	-15.3			69.19	671.64	1987	
19	0805	-15.3					2022	
20	0805	-15.3					2055	
21	0805	-15.3					2093	
22	0805	-15.3					2119	
23	0805	-15.3					2150	
24	0805	-15.4					2165	
25	0805	-15.3			69.19	671.64	2180	
26	0805	-15.3					2182	
27	0805	-15.3					2216	
28	0805	-15.3					2274	
29	0805	-15.3					2288	
30	0805	-15.3					2302	
31	0805	-15.3					2333	

YEAR: 2021 MONTH: November

LEACHATE COLLECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 740.83* *Bottom of sump (feet AMSL): 671.00* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 69.83*
Pump operating level between 1.5 ft (672.50 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

(a) **Water level not to rise above 36 inches deep (equates to a** water level of 674.00 ft AMSL or 66.83 ft below top of the sump). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (674.00 ft AMSL).

(b) **Depth to water level should not be less than 66.83 ft below the top of sump** (equates to a water level of 674.00 ft AMSL or water depth of 36 inches). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (674.00 ft AMSL), initiate pumping.

(c) Readout from display on magnetic flow meter (serial number F1095C16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0805	-15.3		89	69.16	671.67	2409	
2	0805	-15.3		105			2505	
3	0805	-15.3		92			2606	
4	0805	-15.3		79			2702	
5	0805	-15.3		76			2791	
6	0805	-15.3		83			2875	
7	0805	-15.3		57			2950	
8	0805	-15.3		53	69.12	671.71	3018	
9	0805	-15.3		45			3065	
10	0805	-15.3		47			3113	
11	0805	-15.3		61			3172	
12	0805	-15.3		50			3234	
13	0805	-15.3		39			3292	
14	0805	-15.3		41			3338	
15	0805	-15.3		59	69.11	671.72	3375	
16	0805	-15.3		52			3435	
17	0805	-15.4		56			3505	
18	0805	-15.8		4			3541	
19	0805	-15.3		75			3573	
20	0805	-15.3		77			3673	
21	0805	-15.3		7			3726	
22	0805	-15.3		45	69.11	671.72	3735	
23	0805	-15.3		80			3807	
24	0805	-15.3		88			3892	
25	0805	-15.3		83			3992	
26	0805	-15.3		106			4094	
27	0805	-15.3		79			4213	
28	0805	-15.3		81			4289	
29	0805	-15.3		83	69.05	671.78	4362	
30	0805	-15.3		135			4446	
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YEAR: 2021 MONTH: December

LEACHATE COLLECTION SYSTEM

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Notes: *Top of sump [top of concrete manhole] (feet AMSL): 740.83* *Bottom of sump (feet AMSL): 671.00* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 69.83*
Pump operating level between 1.5 ft (672.50 ft AMSL or 68.33 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

(a) **Water level not to rise above 36 inches deep (equates to a water level of 674.00 ft AMSL or 66.83 ft below top of the sump).** Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm PLC water level measurement by taking a manual water level measurement. If both measurements exceed the maximum allowable level (674.00 ft AMSL).

(b) **Depth to water level should not be less than 66.83 ft below the top of sump** (equates to a water level of 674.00 ft AMSL or water depth of 36 inches). Pumping must be initiated if the water level is above 674.00 ft AMSL. Confirm manual water level measurement. If confirmed measurement exceeds the maximum allowable level (674.00 ft AMSL), initiate pumping.

(c) Readout from display on magnetic flow meter (serial number F1095C16000). Readings are cumulative unless noted otherwise.

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC [a] (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION [a] (ft AMSL) =[(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL [b] (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION [b] (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING [c] (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0805	-15.3		225			4652	
2	0805	-15.3		245			4910	
3	0805	-15.3		229			5163	
4	0805	-15.5		202			5388	
5	0805	-15.3		194			5610	
6	0805	-15.3		290	69.03	671.80	5873	
7	0805	-15.3		361			6190	
8	0805	-15.3		370			6568	
9	0805	-15.3		341			6930	
10	0805	-15.3		312			7271	
11	0805	-15.3		231			7583	
12	0805	-15.3		308			7856	
13	0805	-15.3		325	69.01	671.82	8178	
14	0805	-15.3		322			8524	
15	0805	-15.3		315			8855	
16	0805	-15.3		286			9143	
17	0805	-15.3		220			9474	
18	0805	-15.3		163			9825	
19	0805	-15.3		415			9988	
20	0805	-15.3		239	69.00	671.83	10365	
21	0805	-15.3		301			10603	
22	0805	-15.3		340			10939	
23	0805	-15.3		350			11004	
24	0805	-15.3		327			11597	
25	0805	-15.3		344			11971 11986	
26	0805	-15.3		305			12316	
27	0805	-15.3		294	68.99	671.84	12537	
28	08.05	-15.3		267			12955	
29	08.05	-15.3		309			13225	
30	08:05	-15.3		245			13594	
31	8:05	-15.3		396			13990	

YEAR: 2021 MONTH: JANUARY

LEAK DETECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 741.14* *Bottom of sump (feet AMSL): 668.50* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 72.64*

(a) **Water level not to rise above 18 inches deep** (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.

(b) **If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 59.99 ft below the top of the sump), initiate pumping and notify the PM immediately.**

(c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.

(d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 [a, b] BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 [a, b] AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING [c] (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE [c, d] (gal/day/ac) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4	1530	71.88							
5									
6									
7									
8									
9									
10									
11	0910	71.86							
12									
13									
14									
15									
16									
17									
18	0905	71.86							
19									
20									
21									
22									
23									
24									
25	0916	71.85							
26									
27									
28									
29									
30									
31									

YEAR: 2021 MONTH: February

LEAK DETECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 741.14* *Bottom of sump (feet AMSL): 668.50* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 72.64*

(a) **Water level not to rise above 18 inches deep** (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.

(b) **If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.**

(c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.

(d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 [a, b] BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 [a, b] AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING [c] (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE [c, d] (gal/day/ac) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1	0939	71.85							
2									
3									
4									
5									
6									
7									
8	0910	71.84							
9									
10									
11									
12									
13									
14									
15	1030	71.84							
16									
17									
18									
19									
20									
21									
22	0915	71.82							
23									
24									
25									
26									
27									
28									
29									
30									
31									

YEAR: 2021 MONTH: March

LEAK DETECTION SYSTEM

REV. 3
October 1, 2015
Page 1 of 1

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 741.14* *Bottom of sump (feet AMSL): 668.50* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 72.64*

(a) **Water level not to rise above 18 inches deep** (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.

(b) **If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.**

(c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.

(d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 [a, b] BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 [a, b] AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING [c] (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE [c, d] (gal/day/ac) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1	1230	71.81							
2									
3									
4									
5									
6									
7									
8	0900	71.81							
9									
10									
11									
12									
13									
14									
15	0910	71.81							
16									
17									
18									
19									
20									
21									
22	0930	71.79							
23									
24									
25									
26									
27									
28									
29	1601	71.76							
30									
31									

YEAR: 2021 MONTH: April

LEAK DETECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 741.14* *Bottom of sump (feet AMSL): 658.50* *Inside diameter of sump (feet): 5* *Total depth of sump manhole (feet): 72.64*

(a) **Water level not to rise above 18 inches deep** (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated **if the water level is above 670.00 ft AMSL.**

(b) **If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.**

(c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.

(d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 – 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 [a, b] BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 [a, b] AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING [c] (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE [c, d] (gal/day/ac) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4									
5	0930	71.79							
6									
7									
8									
9									
10									
11									
12	1022	71.79							
13									
14									
15									
16									
17									
18									
19	1105	71.77							
20									
21									
22									
23									
24									
25									
26	1405	71.77							
27									
28									
29									
30									
31									

YEAR: 2021 MONTH: MAY

LEAK DETECTION SYSTEM

REV. 3
October 1, 2015
Page 1 of 1

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 741.14* *Bottom of sump (feet AMSL): 658.50* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 72.64*

(a) **Water level not to rise above 18 inches deep** (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.

(b) **If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.**

(c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.

(d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 [a, b] BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 [a, b] AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING [c] (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE [c, d] (gal/day/ac) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3	0954	71.77							
4									
5									
6									
7									
8									
9									
10	0815	71.71							
11									
12									
13									
14									
15									
16									
17	1012	71.66							
18									
19									
20									
21									
22									
23									
24									
25	1132	71.61							
26									
27									
28									
29									
30									
31									

YEAR: 2021 MONTH: June

LEAK DETECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 741.14* *Bottom of sump (feet AMSL): 668.50* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 72.64*

(a) **Water level not to rise above 18 inches deep** (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.

(b) **If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.**

(c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.

(d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 [a, b] BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 [a, b] AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING [c] (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE [c, d] (gal/day/ac) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1	0910	71.62							
2									
3									
4									
5									
6									
7	0756	71.65							
8									
9									
10									
11									
12									
13									
14	1055	71.55							
15									
16									
17									
18									
19									
20									
21	1012	71.49							
22									
23									
24									
25									
26									
27									
28	1215	71.50							
29									
30									
31									

YEAR: 2021 MONTH: July

LEAK DETECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 741.14* *Bottom of sump (feet AMSL): 668.50* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 72.64*

(a) **Water level not to rise above 18 inches deep** (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.

(b) **If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.**

(c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.

(d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 [a, b] BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 [a, b] AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING [c] (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE [c, d] (gal/day/ac) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4									
5	1005	71.45							
6									
7									
8									
9									
10									
11									
12	0830	71.45	1030	72.14	1567410		191		- sampled
13									
14									
15									
16									
17									
18									
19	0846	71.94							
20									
21									
22									
23									
24									
25									
26	0910	71.94							
27									
28									
29									
30									
31									

YEAR: 2021 MONTH: August

LEAK DETECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 741.14* *Bottom of sump (feet AMSL): 668.50* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 72.64*

(a) **Water level not to rise above 18 inches deep** (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.

(b) **If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.**

(c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.

(d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 [a, b] BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 [a, b] AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING [c] (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE [c, d] (gal/day/ac) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2	0820	71.94							
3									
4									
5									
6									
7									
8									
9	0915	71.94							
10									
11									
12									
13									
14									
15									
16	0902	71.92							
17									
18									
19									
20									
21									
22									
23	1030	71.92							
24									
25									
26									
27									
28									
29									
30	0920	71.91							
31									

YEAR: 2021 MONTH: September

LEAK DETECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 741.14* *Bottom of sump (feet AMSL): 668.50* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 72.64*

(a) **Water level not to rise above 18 inches deep** (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.

(b) **If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.**

(c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the lines. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.

(d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 [a, b] BEFORE PUMPING (ft below top of sump) "should not be less than 71.14 ft"	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 [a, b] AFTER PUMPING (ft below top of sump) "should not be less than 71.14 ft"	(X) LOCAL FLOW METER READING [c] (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE [c, d] (gal/day/ac) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4									
5									
6	0925	71.91							
7									
8									
9									
10									
11									
12									
13	0910	71.89							
14									
15									
16									
17									
18									
19									
20	1015	71.86							
21									
22									
23									
24									
25									
26									
27	1022	71.84							
28									
29									
30									
31									

YEAR: 2021 MONTH: October

LEAK DETECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 741.14* *Bottom of sump (feet AMSL): 668.50* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 72.64*

(a) **Water level not to rise above 18 inches deep** (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.

(b) **If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.**

(c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.

(d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 [a, b] BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 [a, b] AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING [c] (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE [c, d] (gal/day/ac) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4	0921	71.84							
5									
6									
7									
8									
9									
10									
11	1000	71.85							
12									
13									
14									
15									
16									
17									
18	1015	71.89							
19									
20									
21									
22									
23									
24									
25	0910	71.90							
26									
27									
28									
29									
30									
31									

YEAR: 2021 MONTH: November

LEAK DETECTION SYSTEM

Notes: *Top of sump [top of concrete manhole] (feet AMSL): 741.14* *Bottom of sump (feet AMSL): 668.50* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 72.64*

(a) **Water level not to rise above 18 inches deep** (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.

(b) **If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.**

(c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.

(d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 [a, b] BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 [a, b] AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING [c] (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE [c, d] (gal/day/ac) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1	0825	71.85							
2									
3									
4									
5									
6									
7									
8	0910	71.81							
9									
10									
11									
12									
13									
14									
15	0912	71.80							
16									
17									
18									
19									
20									
21									
22	0930	71.79							
23									
24									
25									
26									
27									
28									
29	0900	71.72							
30									
31									

YEAR: 2021 MONTH: December

LEAK DETECTION SYSTEM

Notes: *Top of sump (top of concrete manhole) (feet AMSL): 741.14* *Bottom of sump (feet AMSL): 668.56* *Inside diameter of sump (feet): 6* *Total depth of sump manhole (feet): 72.64*

(a) **Water level not to rise above 18 inches deep** (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.

(b) **If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.**

(c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.

(d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 [a, b] BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 [a, b] AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING [c] (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE [c, d] (gal/day/ac) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4									
5									
6	0910	71.70							
7									
8									
9									
10									
11									
12									
13	0840	71.70							
14									
15									
16									
17									
18									
19									
20	0845	71.67							
21									
22									
23									
24									
25									
26									
27	1015	71.67							
28									
29									
30									
31									

Appendix B

Cover System Inspection Log

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

Date of Inspection: 11/17/21 **Weather:** Cloudy

Inspector: Scott Sholar **Temperature:** 50F

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
VEGETATED SOIL COVER SYSTEM							
	Transect EV1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EXPPOSURE OF LINER	✔				
		- EROSION	✔				
		- LOCALIZED SETTLEMENT/SLUMPING	✔				
		- PONDING OF WATER/DRAINAGE	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				
	Transect EV2	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EXPPOSURE OF LINER	✔				
		- EROSION	✔				
		- LOCALIZED SETTLEMENT/SLUMPING	✔				
		- PONDING OF WATER/DRAINAGE	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
VEGETATED SOIL COVER SYSTEM (CONTINUED)							
	Transect EV3	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EXPPOSURE OF LINER	✔				
		- EROSION	✔				
		- LOCALIZED SETTLEMENT/SLUMPING	✔				
		- PONDING OF WATER/DRAINAGE	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				
	Transect EV4	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EXPPOSURE OF LINER	✔				
		- EROSION	✔				
		- LOCALIZED SETTLEMENT/SLUMPING	✔				
		- PONDING OF WATER/DRAINAGE	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				
	Transect EV5	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EXPPOSURE OF LINER	✔				
		- EROSION	✔				
		- LOCALIZED SETTLEMENT/SLUMPING	✔				
		- PONDING OF WATER/DRAINAGE	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
VEGETATED SOIL COVER SYSTEM (CONTINUED)							
	Transect EV6	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EXPPOSURE OF LINER	✔				
		- EROSION	✔				
		- LOCALIZED SETTLEMENT/SLUMPING	✔				
		- PONDING OF WATER/DRAINAGE	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				
	Transect EV7	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EXPPOSURE OF LINER	✔				
		- EROSION	✔				
		- LOCALIZED SETTLEMENT/SLUMPING	✔				
		- PONDING OF WATER/DRAINAGE	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				
	Transect EV8	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EXPPOSURE OF LINER	✔				
		- EROSION	✔				
		- LOCALIZED SETTLEMENT/SLUMPING	✔				
		- PONDING OF WATER/DRAINAGE	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
VEGETATED SOIL COVER SYSTEM (CONTINUED)							
	Transect EV9	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EXPPOSURE OF LINER	✔				
		- EROSION	✔				
		- LOCALIZED SETTLEMENT/SLUMPING	✔				
		- PONDING OF WATER/DRAINAGE	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				
	Transect WV1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EXPPOSURE OF LINER	✔				
		- EROSION	✔				
		- LOCALIZED SETTLEMENT/SLUMPING	✔				
		- PONDING OF WATER/DRAINAGE	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
HARD SURFACE COVER SYSTEMS							
	Transect EA1	- QUALITY OF ASPHALT COVER	✔				
		- PRESENCE OF CRACKING OR DISCOLORATION		✔		Slight cracking.	
	Transect EA2	- QUALITY OF ASPHALT COVER	✔				
		- PRESENCE OF CRACKING OR DISCOLORATION		✔			
	Transect WA1	- QUALITY OF ASPHALT COVER	✔				
		- PRESENCE OF CRACKING OR DISCOLORATION	✔				
ACCESS ROAD							
	ACCESS ROAD	- EROSION		✔		Slight erosion along edge.	
		- OBSTRUCTIONS/DEBRIS	✔				
		- POTHOLES	✔				
		- DAMAGE CAUSED BY VEHICULAR TRAFFIC		✔			

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES							
	Transect ES1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES		✔	Removal of saplings		
	Transect ES2	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES		✔	Removal of saplings		
	Transect ES3	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES (CONTINUED)							
	Transect ES4	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				
	Transect ES5	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				
	Transect ES6	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES (CONTINUED)							
	Transect ES7	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				
	Transect ES8	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				
	Transect ES9	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES (CONTINUED)							
	Transect ES10	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				
	Transect ES11	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				
	Transect ES12	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES	✔				

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES (CONTINUED)							
	Transect ES13	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES		✔			
	Transect ES13 (ES14)	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✔				
		- EROSION	✔				
		- OBSTRUCTIONS	✔				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✔				
		- SIGNS OF BURROWING BY ANIMALS	✔				
		- ROOTING OF TREES		✔	Removal of Saplings		

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

Date of Inspection: 5/26/2021 Weather: Cloudy

Inspector: J. Shadel, J. Nichols, N. Temperature: 72 F

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
VEGETATED SOIL COVER SYSTEM							
	Transect EV1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EXPPOSURE OF LINER	●	○			
		- EROSION	●	○			
		- LOCALIZED SETTLEMENT/SLUMPING	●	○			
		- PONDING OF WATER/DRAINAGE	●	○			
		- SIGNS OF BURROWING BY ANIMALS	○	●			
		- ROOTING OF TREES	○	●			
	Transect EV2	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EXPPOSURE OF LINER	●	○			
		- EROSION	●	○			
		- LOCALIZED SETTLEMENT/SLUMPING	●	○			
		- PONDING OF WATER/DRAINAGE	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	●	○			

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
VEGETATED SOIL COVER SYSTEM (CONTINUED)							
	Transect EV3	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EXPPOSURE OF LINER	●	○			
		- EROSION	●	○			
		- LOCALIZED SETTLEMENT/SLUMPING	●	○			
		- PONDING OF WATER/DRAINAGE	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○		Found a turtle	
		- ROOTING OF TREES	●	○			
	Transect EV4	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	○	○			
		- EXPPOSURE OF LINER	○	○			
		- EROSION	○	○			
		- LOCALIZED SETTLEMENT/SLUMPING	○	○			
		- PONDING OF WATER/DRAINAGE	○	○			
		- SIGNS OF BURROWING BY ANIMALS	○	○			
		- ROOTING OF TREES	●	○	Remove Sapling (1)	1 tree EV4+ES7	
	Transect EV5	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EXPPOSURE OF LINER	●	○			
		- EROSION	●	○			
		- LOCALIZED SETTLEMENT/SLUMPING	●	○			
		- PONDING OF WATER/DRAINAGE	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	○	○	Remove Sapling (1) EV5 / ES6		

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
VEGETATED SOIL COVER SYSTEM (CONTINUED)							
	Transect EV6	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EXPPOSURE OF LINER	●	○			
		- EROSION	●	○			
		- LOCALIZED SETTLEMENT/SLUMPING	●	○			
		- PONDING OF WATER/DRAINAGE	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	○	●	Remove (2)	Located West	
	Transect EV7	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EXPPOSURE OF LINER	●	○			
		- EROSION	○	●		Slight erosion	
		- LOCALIZED SETTLEMENT/SLUMPING	●	○			
		- PONDING OF WATER/DRAINAGE	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	○	●			
	Transect EV8	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EXPPOSURE OF LINER	●	○			
		- EROSION	●	○			
		- LOCALIZED SETTLEMENT/SLUMPING	●	○			
		- PONDING OF WATER/DRAINAGE	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	○	●	Remove trees	Located along SE fence.	

TABLE D.1

COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
VEGETATED SOIL COVER SYSTEM (CONTINUED)							
	Transect EV9	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EXPPOSURE OF LINER	●	○			
		- EROSION	○	●			
		- LOCALIZED SETTLEMENT/SLUMPING	●	○			
		- PONDING OF WATER/DRAINAGE	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	○	●	Remove trees (2)	Located NW	
	Transect WV1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EXPPOSURE OF LINER	●	○			
		- EROSION	●	○			
		- LOCALIZED SETTLEMENT/SLUMPING	●	○			
		- PONDING OF WATER/DRAINAGE	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	●	○			

TABLE D.1

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GM CET BEDFORD FACILITY
BEDFORD, INDIANA

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
HARD SURFACE COVER SYSTEMS							
	Transect EA1	- QUALITY OF ASPHALT COVER	●	○			
		- PRESENCE OF CRACKING OR DISCOLORATION	○	●			
	Transect EA2	- QUALITY OF ASPHALT COVER	●	○			
		- PRESENCE OF CRACKING OR DISCOLORATION	○	●			
	Transect WA1	- QUALITY OF ASPHALT COVER	●	○			
		- PRESENCE OF CRACKING OR DISCOLORATION	●	○			
ACCESS ROAD							
	ACCESS ROAD	- EROSION	○	●		Erosion present	
		- OBSTRUCTIONS/DEBRIS	●	○			
		- POTHOLES	○	●		Potholes present	
		- DAMAGE CAUSED BY VEHICULAR TRAFFIC	○	●		~~[illegible]~~ Made worse by traffic	

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			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES							
	Transect ES1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EROSION	●	○			
		- OBSTRUCTIONS	●	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	●	○			
	Transect ES2	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EROSION	●	○			
		- OBSTRUCTIONS	●	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	○	●	Remove tree (1)	Located South	
	Transect ES3	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EROSION	●	○			
		- OBSTRUCTIONS	●	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	●	○			
		- SIGNS OF BURROWING BY ANIMALS	○	●		3 Large burrows	
		- ROOTING OF TREES	○	●	Remove Saplings	South end of drainage ditch.	

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ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES (CONTINUED)							
	Transect ES4	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EROSION	●	○			
		- OBSTRUCTIONS	●	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	●	○			
	Transect ES5	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	○			
		- EROSION	X	○			
		- OBSTRUCTIONS	X	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	X	○			
		- SIGNS OF BURROWING BY ANIMALS	X	○			
		- ROOTING OF TREES	X	○			
	Transect ES6	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	○			
		- EROSION	X	○			
		- OBSTRUCTIONS	X	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	X	○			
		- SIGNS OF BURROWING BY ANIMALS	X	○			
		- ROOTING OF TREES	X	○			

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ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES (CONTINUED)							
	Transect ES7	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EROSION	●	○			
		- OBSTRUCTIONS	●	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	●	○			
	Transect ES8	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EROSION	●	○			
		- OBSTRUCTIONS	●	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	●	○			
	Transect ES9	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EROSION	●	○			
		- OBSTRUCTIONS	●	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	○	●	Remove trees	Near Detention basin 2, west opening	

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			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES (CONTINUED)							
	Transect ES10	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EROSION	●	○			
		- OBSTRUCTIONS	●	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	●	○			
	Transect ES11	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EROSION	●	○			
		- OBSTRUCTIONS	●	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	●	○			
	Transect ES12	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EROSION	●	○			
		- OBSTRUCTIONS	●	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	●	○			

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ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES (CONTINUED)							
	Transect ES13	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	○	●		Tall grass	
		- EROSION	●	○			
		- OBSTRUCTIONS	●	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	○	●		Rooting trees, North	
	Transect ~~ES13~~ ES14	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	●	○			
		- EROSION	●	○			
		- OBSTRUCTIONS	●	○			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	●	○			
		- SIGNS OF BURROWING BY ANIMALS	●	○			
		- ROOTING OF TREES	○	●	Remove Saplings (1)	Located West