



East Plant Area TSCA Vault Annual Report Calendar Year 2017 – Rev. 1

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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 2017
SSC	Site Source Control
SSC WTP	the on-Facility 300 gallon per minute design capacity water treatment plant
TSCA	Toxic Substance Control Act

Terms and Acronyms

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 2017 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 Global Propulsion Systems (GPS) 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 4, 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 cleanup activities being conducted at the Facility under the East Plant Area Interim Measure (IM) concurrent with other IMs at the Facility. The 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 Corrective Action (CA) activities conducted under the original 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 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).

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 on-Site water treatment plant (WTP). The PCP prescribes a reduced frequency of record keeping procedures to, at a minimum, once per month; however, monitoring was generally completed on a weekly basis in 2017, with daily records recorded electronically by the automated systems (LCS and GUS only). Monitoring results and issues encountered are also discussed in this Report for each collection system, and have been previously disclosed in project Quarterly Progress Reports. 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 2018 calendar year will be submitted to U.S. EPA on or before July 15, 2019.

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 2017 from the LCS, LDS, and the GUS sumps and quantity discharged from these systems to the Groundwater Treatment Plant (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 2017 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 ($\geq$) 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 2017, the water level in the GUS system was recorded on a daily basis by the automated system, and values being manually recorded onto the field log form on a weekly basis, typically on the same day that manual water level measurements were collected. During 2017, water level in the LDS and LCS systems were manually measured and recorded on a monthly basis in accordance with the PCP, but additional readings are collected by field staff to augment the monthly readings.

Summaries of the water levels recorded for the LCS, LDS, and GUS are presented in Tables 2.1, 2.2, and 2.3, respectively. Field logs are presented in Appendices A.1, A.2, and A.3, respectively. The quantity of liquid pumped from each of the Vault collection systems is also presented in Tables 2.1 through 2.3. In accordance with the Approvals, water pumped from the LCS, LDS, and GUS 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 elevation in each of the sumps 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. 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 SSC Water Treatment Plant

Water removed from the Vault sumps in 2017 was directed to the GWTP, which treats PCB-impacted water removed from the Vault Sumps and also the SSC wet wells (including Wet Wells #1 through #4). The GWTP discharge at Outfall 004 is sampled monthly under the NPDES permit (NPDES Permit No. IN0064424). Data collected during the 2017 calendar year were reported in accordance with the NPDES permit. None of the samples collected were the vault monitoring program if exceeded 1mg/L or 1 ppm of PCBs.

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 2017 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 2017 calendar year.



GHD completed inspections of the Vault Cover System on a quarterly basis, concurrent with inspection of the West Plant Area and East Plant Area Cover Systems. These inspections were completed on: March 23, 2017; June 22, 2017; September 28, 2017; and December 13, 2017. The findings of these inspections were previously reported in the 1st, 2nd, 3rd, and 4th Quarterly Progress Reports for 2017 (submitted to U.S. EPA on April 13, July 12, and October 13, 2017 and January 12, 2018, respectively). A summary of the findings related to the Vault Cover System in 2017 is as follows:

- Some weed and clover growth is present at most transects in the East Plant Area, which is also typically accompanied by some bare patches. 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.

Details of the maintenance issues encountered with the LCS 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. Annual inspection and calibration of the FIT-Vault mag meter occurred on May 4, 2017 by Turnkey Instrument Solutions. FIT-Vault achieved test results to show that the instrument is functioning correctly and is within the applied limits for the tested items, which include the amplifier, current output 1, pulse output 1, and test sensor. A copy of the verification certification report is provided in Appendix C.

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

In accordance with the September 18, 2014 responses to U.S. EPA March 18, 2014 comments on the PCP, sampling of the GUS sump and coreholes 9-4, and CH-20 are monitored with the bi-annual 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 recharge rate of the LDS did not significantly change or approach the TSCA theoretical Leakage Action Rate and 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). During the semi-annual sampling events in 2017, the GUS was not sampled. Refer to Section 3.5 and Section 6 for further discussion.

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 2017 events were previously reported under separate cover and are summarized in Tables 3.1 and 3.2..



Groundwater sampling locations proximate to the Vault and groundwater sampling locations under the EI CA750 in the vicinity of the Vault are presented on Figure 2.1.

Static groundwater levels are measured quarterly, and sampling is collected along with the groundwater levels during the second and fourth quarters. The first EI CA750 groundwater sampling event of 2017, was completed on May 1, 2, 3 and 4, 2017, and the second semi-annual sampling event of 2017 was completed on December 5, 6, and 7, 2017.

Analytical results for PCBs for the first semi-annual sampling event of 2017 are summarized in Table 3.1. Figure 3.1 presents databoxes, which summarize the groundwater and surface water analytical results for the PCBs sampling locations in the EI CA750 monitoring program for the first semi-annual sampling event of 2017.

Locations 9-4 and CH-20 are downgradient of the Vault and were non-detect for PCBs during the first EI CA750 monitoring event. PCB were detected at other wells within the Facility boundary related to historical sources and not hydraulically connected (drown gradient of) to the Vault (i.e. wells near Area of Interest [AOI 8]). See Figure 3.1 and Table 3.1 for the full results summary.

Analytical results for PCBs for the second semi-annual sampling event of 2017 are summarized in Table 3.2. Figure 3.2 presents databoxes, which summarize the groundwater and surface water analytical results for the PCB sampling locations in the EI CA750 monitoring program for the second semi-annual sampling event of 2017.

Locations 9-4 and CH-20 are downgradient of the Vault and were non-detect for PCBs during the second EI CA750 monitoring event. See Figure 3.2 and Table 3.2 for the full results summary.

Sample Quality

The analytical data collected during both the first and second half of 2017 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 817 and 308).

3.2 Leachate and Leak Detection Water Monitoring Analytical Results

The PCP requires water from the LCS and LDS be sampled at least on quarterly basis for PCBs. GHD attempted to collected samples from both the LCS and LDS on a monthly basis during 2017. Due to damage to the LCS riser pipe, water samples were collected using a temporary well pump placed in the LCS. Insufficient water volume was present he LCS sump to collect samples with the exception for May, July and October 2017. The LDS was sampled in May, July and October 2017. During the balance of the year, the LDS sump water level was not sufficient to prime the pump and collect samples. Analytical data for samples collected from the LCS and LDS in 2017 are presented in Tables 3.3 and 3.4, respectively. The LCS samples were analyzed for volatile organic compounds (VOCs) and PCBs, while the LDS samples were only analyzed for PCBs.

Results for the LCS sump during May 25 and October 27, 2017 sampling events were non-detect for total PCB. The July 25, 2017 sampling event resulted in a total PCB concentration of 16 µg/L.



Results for samples collected from the LDS sump during the May 25 and July 25, 2017 sampling events were non-detect for total PCBs. The October 25, 2017 sampling event resulted in a total PCB concentration of 0.47 µg/L. The analytical results are greater than the results for the samples collected in 2015 (2015 results ranged from non-detect to 0.38 µg/L).

Sample Quality

There were no sample quality issues for samples collected from the LCS and LDS sumps in 2017.

3.3 GUS Analytical Results

The GUS sump sampling has been conducted with the bi-annual EI CA750 monitoring program in 2015, pursuant to U.S. EPA request, to assess ongoing conditions. It is noted that, due to upgradient contamination still present in the groundwater, that analytical detections of PCBs in the water from the GUS sump do not directly provide a suitable surrogate for leachate release or changed conditions in the Vault. With respect to monitoring potential environmental impacts, maintaining sampling at the perimeter of the Vault (currently being conducted under the EI CA750) is the best way to monitor for downgradient changes to groundwater quality.

There was no sampling completed for the GUS for 2017. The temporary pump placed at the GUS did not have a sample port 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. This issue is further discussed in Section 6.

3.4 Water Treatment Facility Analytical Results

In 2017, water removed from the LCS, LDS and GUS was directed via 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. 0064424.

The GWTP was sampled monthly in accordance with the NPDES permit. Effluent results were non-detect during the reporting year. Analytical results for 2017 monthly Outfall 004 and the GWTP operational samples are presented in Table 3.5.

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 U.S. EPA CERCLA Order or an NPDES Permit."* There were no analytical results with ≥1 mg/L (ppm) PCBs for water samples collected from the LCS or LDS during the 2017 calendar year, and no evidence of hydraulic conductivity between the layers. Pumped leachate, leak detection liquid, and groundwater were treated by the on-Facility GWTP during 2017.



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 2017. Maximum daily water levels recorded at the GUS and LCS sumps 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).

From 2006 until mid-2014, manual calculations were used to estimate the volume of water removed from the LCS, LDS, and GUS. In 2014, the manual calculations were supplemented with actual pumped quantities based on flowmeter measurements. Flow meter results were not available for the LCS during 2017 because due to damage to the riser pipe, the temporary pump is connected to the LDS inlet pipe which bypasses the LCS flowmeter (scheduled for repair August 2018). Removal volumes are based on pumping estimates when there is a change in the water level in the riser pipe. Tables 2.1, 2.2, and 2.3 present volumes removed from the LSC based on manual calculations and the LDS and GUS based on flow meter readings. Refer to Sections 5.1, 5.2, and 5.3 for further discussion regarding water levels in the LCS, LDS, and GUS, respectively.

Accumulated water above the primary liner (i.e., in the LCS) and in the GUS is transported via forcemain and discharged for treatment in the GWTP. The LDS is monitored and manually pumped via temporary pump and hose, where it is connected to the LDS piping located within the LCS manhole, and transported via forcemain for treatment at the GWTP. A portable flow meter is attached to the LDS piping located within the LCS (using cam locks) when pumping of the LDS sump occurs (e.g. when the water levels within the LDS are required to be lowered, or during attempts to collect a sample). Due to damage to the LCS riser, a temporary pump for the LCS is connected to the LDS port cam locks to access the forcemain.

As previously described in Section 2.2, a summary of the water elevations in the LCS sump, LDS sump, and in the GUS are presented in Tables 2.1, 2.2, and 2.3, respectively. 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 with PLC records and manual measurements collected from the LCS, LDS, and GUS sumps are provided in Appendix A. A summary of the average monthly volume of water removed from the LCS and the LDS since initial operation of the systems 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

Two submersible pumps (one pump is a duty unit and the other is a standby unit) were permanently installed in the LCS sump in November 2008. The pumps require at least 12 inches of water depth in the sump to keep the pump motors submerged in order to prevent overheating. The operating range for the pump in the automated system has been set to a maximum of 3 ft of water depth in the sump to keep the number of pump cycles per hour within the range needed to prevent early failure of the pump. Therefore, the LCS automated pumping system is designed to operate between 12 inches (equivalent water surface elevation of 672.0 ft AMSL) and 3 ft (equivalent water surface elevation of 674.0 ft AMSL) depth of liquid above the floor of the sump (AFOS).



Manual water level measurements were generally collected on a weekly basis (in excess of the monthly monitoring required by the PCP) in 2017. The automated system records the maximum level and total pumped quantities on a daily basis. Issues with the pumps and riser pipe in the LCS carried over into 2017. The permanent LCS pumps were not able to pump due to the damaged riser pipe. The level sensors tied to the permanent LCS pumps were subsequently out of service. A temporary pump was installed to continue pumping the LCS as needed based on manual measurements. Details of this issue and resolution is discussed further in Section 6.

The water elevation in the LCS were maintained within the operating limits set out in the PCP. Manual pumping occurred on two occasions, based on manual water level measurements. Approximately 0.3 ft of water was removed from the LCS sump on May 25, 2017. On July 25, 2017, approximately 1.4 ft of water was removed from the LCS sump. Through the year, there were no apparent increases in the rate of the water level rises.

The total amount of water removed from the LCS in 2017 was estimated to be 308 gallons and is less than the estimated 1,100 gallons pumped in 2016.

5.2 Leak Detection System

Pumping at the LDS, 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), occurred on three occasions in 2017 (May 25, July 25, and October 25). Pumping did not occur for the remainder of the months in 2017 due to the water level being too shallow for the pump intake.

The total amount of water removed from the LDS during the 2017 calendar year was estimated to be 173 gallons based on flow meter readings, which is less than the estimated amount pumped in 2016 (1,500 gallons based on flow meter readings). Manual volume calculations were used historically prior to the use of flow meters. For comparison, 121 gallons were measured in 2017, based on manual volume calculations. Figure 5.1 presents the summary of average monthly volume of water removed from the LDS as compared to the historical data.

During 2017, the depth of water in the LDS was maintained between 0 ft and 4.3 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 4.3 ft AFOS (equivalent water surface elevation of 672.79 ft) measured on May 25, 2017. The water level in the sump was pumped down to 668.74 ft AMSL (approximately 4 feet of water depth) after the maximum water level was measured and recorded on May 25, 2017, consistent with the LDS sump operational procedures in the PCP.

The average daily flow rate was determined using the portable flow meter readings, and calculated as the volume removed, divided by the numbers of days since the previous pumping, divided by the Vault footprint (7 acres). The measured rate of pumping for the LDS ranged from 0.09 gallons/acre/day at the start of the year, to 0.10 gallons/acre/day for the pumping in May 2017, to 0.06 for the pumping in October 2017 and the remainder of 2017. The TSCA theoretical sustained Leakage Action Rate (LAR) is calculated in the PCP as 32,000 gallons/acre/day. Therefore no leaks are suspected in the primary liner or secondary liner, based on the monitoring data collected in 2017.



5.3 Gravel Underdrain System

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. Since November 2016, there was a continued issue that resulted in no manual measurement of the water level for the duration of 2017. The water level tape previously used became lodged in the sump could not be retrieved. Additional water level tapes, including small diameter tapes were attempted, but could not penetrate beyond the previously lodged tapes.

Through October 2017, a temporary pump, operated manually, was used to maintain the GUS system water levels. During October 2017, the temporary pump failed and became lodged in the sump when replacement was attempted. Continued pumping of the GUS could not be sustained, resulting in the water levels exceeding the operation levels of 667.5 ft AMSL, or 5.32 ft of water depth in the sump from mid-November through December. Complete details of the problems with the GUS sump systems are presented in Section 6.

Although there were periods when peak levels reached elevations consistent with the lowest point of the secondary liner level, no impacts to the LDS levels were observed.

Based on the volume recorded by the local flow meter at the GWTP and the portable flow meter connected to the discharge line from the LDS sump, and the estimated volume removed at the LCS sump, the total volume removed from the GUS sump in 2017 was 2.0 million gallons, which is consistent with the volume removed from the sump in 2016 (2.56 million gallons).

6. Issues Encountered and Remedial Actions

The following are the issues encountered in Vault operation during the 2017 calendar year and actions taken to rectify the issues:

- Issue with the pumps in the Leachate Collection System (LCS) sump described in the 2016 Annual Vault Report continued through 2017. Please refer to the East Plant Area TSCA Vault Annual Report Calendar Year 2016, (GHD, 2016) for a detailed description of the background on this issue. In summary, the pumps in the LCS failed and replacement pumps were installed. When the replacement pumps failed to transmit water, personnel entered the sump chamber and found the riser pipe had become corroded and pitted. A temporary replacement pump was installed to allow pumping as needed based on manual measurements. Replacement pump installation and riser pipe repair are scheduled for August 2018. The delay in repairs was due to subcontractor scheduling conflicts and manufacture supply and delivery of the ordered pumps.
- The following resolutions for the issues within the LCS are scheduled to occur during 2018:
 - Remove the existing pumps by pulling up along existing guide rails.



- Install a new, larger capacity replacement pump in the LCS and hard pipe it to the bottom (i.e., not using existing guide rails), with pipe being stainless steel piping connecting to the HDPE forcemain exiting the LCS chamber.
- During a routine maintenance inspection in late April 2016 it was observed that the PLC was not functioning due to the level sensors being out of service, as a result, the PLC started to record zero volume whereas the local flow meter indicated that a volume had been pumped (see Section 5.1). This issue will be resolved in August 2018 when the new LCS piping and pump are installed.
- The existing submersible pump (Grundfos Model 40S 15-5) within the stainless steel well screen at the base of the 6" dia. steel riser pipe within the larger GUS sump was not working automatically. The technician was able to switch the pump to manual mode to engage the pump and manually clear the sump activating the pump. Please refer to the East Plant Area TSCA Vault Annual Report Calendar Year 2016, (GHD, 2016) for a detailed background of this issue with the pump systems in the GUS, which continued through 2017.
- The GUS sump outer casing has a kink in the casing about 30 feet from the bottom of the GUS. There are 3 temporary pumps stuck in the void between the inner and outer casings. Efforts have been made to pull the pumps have been unsuccessful. The crowded void prevents additional pumps, tubing and or bailers to reach the water level.
- During a call on November 17, 2016, the necessity of the GUS sump pumping was revisited from a technical basis. GHD provided an engineering memorandum to U.S.EPA requesting the cessation of pumping from the GUS sump. At this time, a U.S. EPA decision on the GUS sump pumping cessation is on hold pending review of the Pilot Trench monitoring plan. The need to schedule the installation of a permanent replacement pump is currently on hold pending U.S. EPA's decision on whether additional pumping of the GUS is required.

7. Spill Cleanup Reports

There were no on-Facility PCB spills that occurred in 2017. 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 revised financial assurance cost estimate to U.S. EPA on November 16, 2017, which was approved by U.S. EPA on January 9, 2018, GM submitted the financial assurance demonstration to U.S. EPA on March 28, 2018. The surety bond in the amount of the approved financial assurance cost estimate remains in effect.



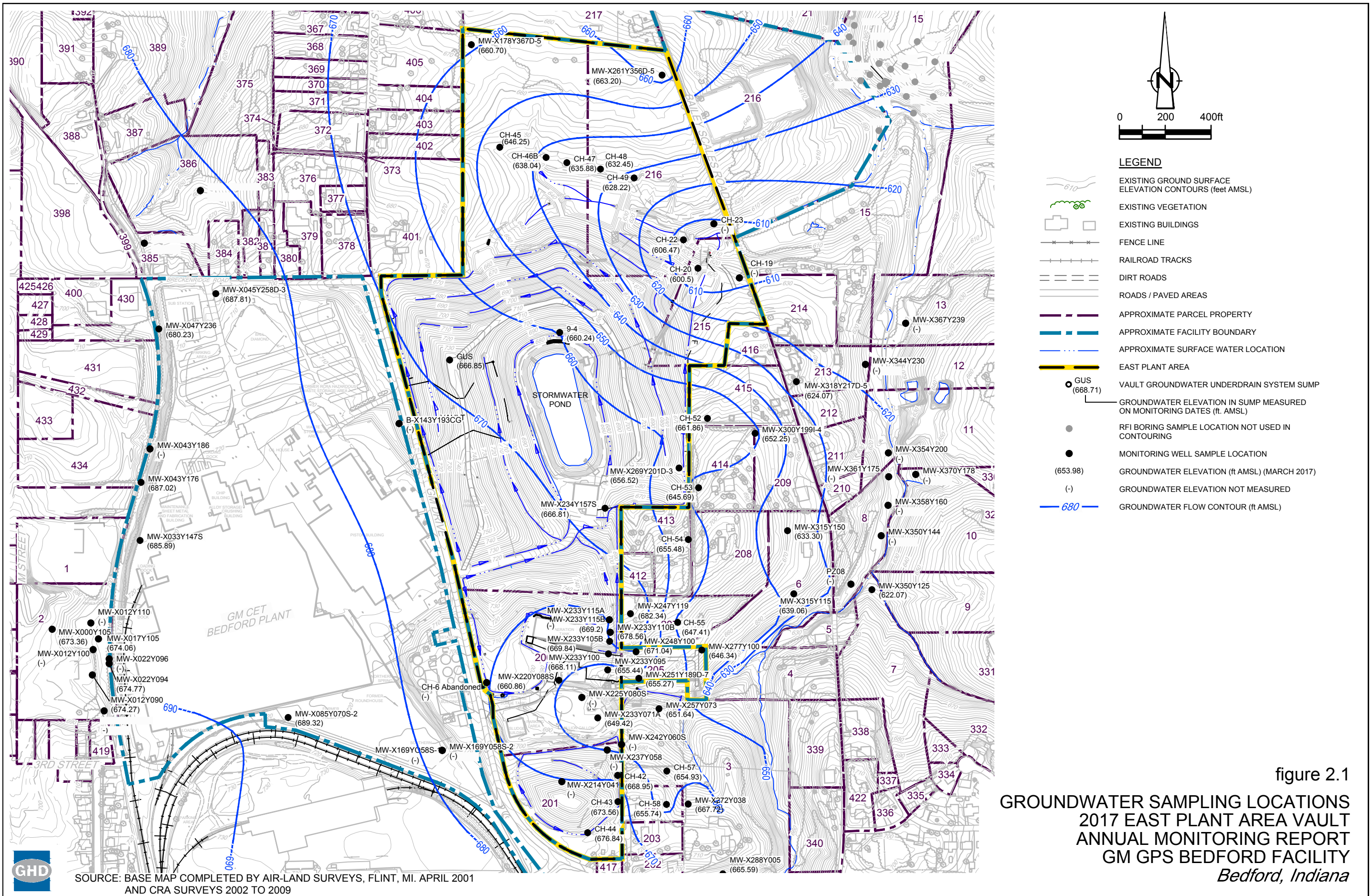
9. References

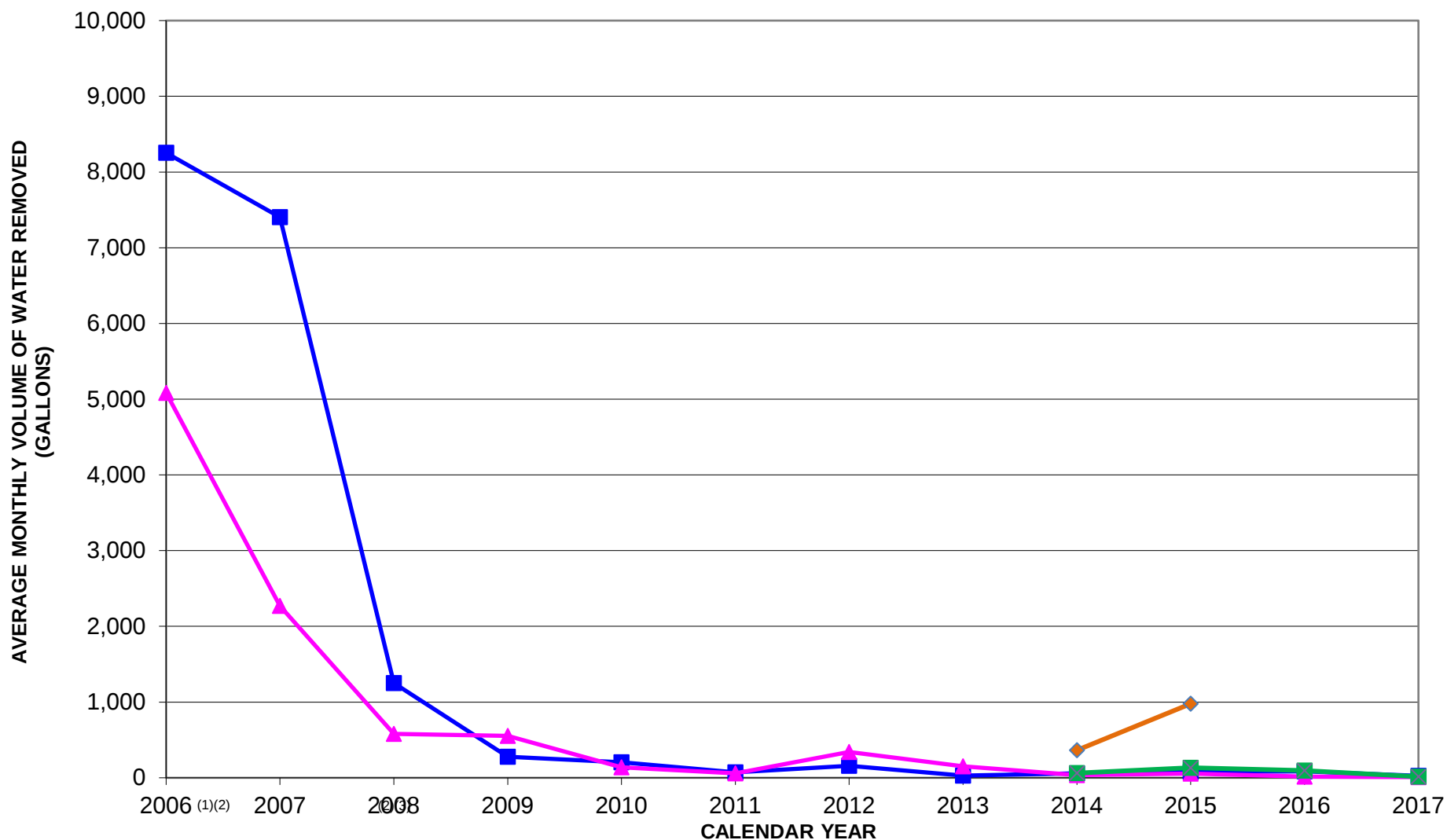
GHD, GM Bedford Site Specific Project Health and Safety Plan (HASP), May 2016.

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.





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 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 2017
GM CET BEDFORD FACILITY
Bedford, Indiana



Table 2.1
2017 Summary of Daily Leachate Collection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CETC Bedford Facility
Bedford, Indiana

LEACHATE COLLECTION SYSTEM													
DATE	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	MANUAL WATER LEVEL CONVERTED TO ELEVATION (ft AMSL)	WATER DEPTH REMOVED (feet)	VOLUME REMOVED ^(e) (gallons)	WATER LEVEL @ PLC ^(d) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION (d) (ft AMSL)	EQUIVALENT DEPTH OF WATER OVER PRIMARY LINER (inches)	QUANTITY PUMPED @ PLC ^(f) (gallons removed)	LOCAL FLOW METER READING (c) (gallons)	TOTAL VOLUME PUMPED BETWEEN FLOW METER READINGS (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
12/31/16	--	--	--	--	--	0	671.00	0.037	0	-	0	264	
1/1/17	--	--	--	--	--	0	671.00	0.037	0	-	0	265	
1/2/17	8:40	69.40	671.4	--	--	0	671.00	0.037	0	-	0	266	
1/3/17	--	--	--	--	--	0	671.00	0.037	0	-	0	267	
1/4/17	--	--	--	--	--	0	671.00	0.037	0	-	0	268	
1/5/17	--	--	--	--	--	0	671.00	0.037	0	-	0	269	
1/6/17	--	--	--	--	--	0	671.00	0.037	0	-	0	270	
1/7/17	--	--	--	--	--	0	671.00	0.037	0	-	0	271	
1/8/17	--	--	--	--	--	0	671.00	0.037	0	-	0	272	
1/9/17	--	--	--	--	--	0	671.00	0.037	0	-	0	273	
1/10/17	--	--	--	--	--	0	671.00	0.037	0	-	0	274	
1/11/17	6:15	69.40	671.4	--	--	0	671.00	0.037	0	-	0	275	
1/12/17	--	--	--	--	--	0	671.00	0.037	0	-	0	276	
1/13/17	--	--	--	--	--	0	671.00	0.037	0	-	0	277	
1/14/17	--	--	--	--	--	0	671.00	0.037	0	-	0	278	
1/15/17	--	--	--	--	--	0	671.00	0.037	0	-	0	279	
1/16/17	--	--	--	--	--	0	671.00	0.037	0	-	0	280	
1/17/17	--	--	--	--	--	0	671.00	0.037	0	-	0	281	
1/18/17	--	--	--	--	--	0	671.00	0.037	0	-	0	282	
1/19/17	--	--	--	--	--	0	671.00	0.037	0	-	0	283	
1/20/17	6:15	69.35	672.48	--	--	0	671.00	0.037	0	-	0	284	
1/21/17	--	--	--	--	--	0	671.00	0.037	0	-	0	285	
1/22/17	--	--	--	--	--	0	671.00	0.037	0	-	0	286	
1/23/17	--	--	--	--	--	0	671.00	0.037	0	-	0	287	
1/24/17	--	--	--	--	--	0	671.00	0.037	0	-	0	288	
1/25/17	--	--	--	--	--	0	671.00	0.037	0	-	0	289	
1/26/17	--	--	--	--	--	0	671.00	0.037	0	-	0	290	
1/27/17	--	--	--	--	--	0	671.00	0.037	0	-	0	291	
1/28/17	--	--	--	--	--	0	671.00	0.037	0	-	0	292	
1/29/17	--	--	--	--	--	0	671.00	0.037	0	-	0	293	
1/30/17	--	--	--	--	--	0	671.00	0.037	0	-	0	294	
1/31/17	9:47	69.35	672.48	--	--	0	671.00	0.037	0	-	0	295	
2/1/17	--	--	--	--	--	0	671.00	0.037	0	-	0	296	
2/2/17	--	--	--	--	--	0	671.00	0.037	0	-	0	297	
2/3/17	--	--	--	--	--	0	671.00	0.037	0	-	0	298	
2/4/17	--	--	--	--	--	0	671.00	0.037	0	-	0	299	
2/5/17	--	--	--	--	--	0	671.00	0.037	0	-	0	300	
2/6/17	8:45	69.25	671.58	--	--	0	671.00	0.037	0	-	0	301	
2/7/17	--	--	--	--	--	0	671.00	0.037	0	-	0	302	
2/8/17	--	--	--	--	--	0	671.00	0.037	0	-	0	303	
2/9/17	--	--	--	--	--	0	671.00	0.037	0	-	0	304	
2/10/17	--	--	--	--	--	0	671.00	0.037	0	-	0	305	
2/11/17	--	--	--	--	--	0	671.00	0.037	0	-	0	306	
2/12/17	--	--	--	--	--	0	671.00	0.037	0	-	0	307	
2/13/17	9:30	68.90	671.93	--	--	0	671.00	0.037	0	-	0	308	
2/14/17	--	--	--	--	--	0	671.00	0.037	0	-	0	309	
2/15/17	--	--	--	--	--	0	671.00	0.037	0	-	0	310	
2/16/17	--	--	--	--	--	0	671.00	0.037	0	-	0	311	
2/17/17	--	--	--	--	--	0	671.00	0.037	0	-	0	312	
2/18/17	--	--	--	--	--	0	671.00	0.037	0	-	0	313	
2/19/17	--	--	--	--	--	0	671.00	0.037	0	-	0	314	
2/20/17	9:00	68.90	671.93	--	--	0	671.00	0.037	0	-	0	315	
2/21/17	--	--	--	--	--	0	671.00	0.037	0	-	0	316	
2/22/17	--	--	--	--	--	0	671.00	0.037	0	-	0	317	
2/23/17	--	--	--	--	--	0	671.00	0.037	0	-	0	318	
2/24/17	--	--	--	--	--	0	671.00	0.037	0	-	0	319	
2/25/17	--	--	--	--	--	0	671.00	0.037	0	-	0	320	
2/26/17	--	--	--	--	--	0	671.00	0.037	0	-	0	321	
2/27/17	--	--	--	--	--	0	671.00	0.037	0	-	0	322	
2/28/17	9:40	68.80	672.03	--	--	0	671.00	0.037	0	-	0	323	Insufficient water to pump. No samples taken.
3/1/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	324	
3/2/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	325	
3/3/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	326	
3/4/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	327	
3/5/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	328	
3/6/17	6:30	68.80	672.03	--	--	0	671.00	0.037	0	-	0	329	
3/7/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	330	
3/8/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	331	
3/9/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	332	
3/10/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	333	
3/11/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	334	
3/12/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	335	
3/13/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	336	
3/14/17	6:30	68.80	672.03	--	--	0	671.00	0.037	0	-	0	337	
3/15/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	338	
3/16/17	6:30	--	--	--	--	0	671.00	0.037	0	-	0	339	
3/17/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	340	
3/18/17	8:10	--	--	--	--	0	671.00	0.037	0	-	0	341	
3/19/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	342	
3/20/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	343	
3/21/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	344	

Table 2.1

2017 Summary of Daily Leachate Collection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CETC Bedford Facility
Bedford, Indiana

LEACHATE COLLECTION SYSTEM													
DATE	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	MANUAL WATER LEVEL CONVERTED TO ELEVATION (ft AMSL)	WATER DEPTH REMOVED (feet)	VOLUME REMOVED ^(e) (gallons)	WATER LEVEL @ PLC ^(d) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION (d) (ft AMSL)	EQUIVALENT DEPTH OF WATER OVER PRIMARY LINER (inches)	QUANTITY PUMPED @ PLC ^(f) (gallons removed)	LOCAL FLOW METER READING (c) (gallons)	TOTAL VOLUME PUMPED BETWEEN FLOW METER READINGS (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
3/22/17	8:15	68.75	672.08	--	--	0	671.00	0.037	0	-	0	345	LCS pumped into combined force main and no amount recorded.
3/23/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	346	
3/24/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	347	
3/25/17	8:30	--	--	--	--	0	671.00	0.037	0	-	0	348	
3/26/17	7:46	--	--	--	--	0	671.00	0.037	0	-	0	349	
3/27/17	7:30	--	--	--	--	0	671.00	0.037	0	-	0	350	
3/28/17	7:30	--	--	--	--	0	671.00	0.037	0	-	0	351	
3/29/17	7:30	--	--	--	--	0	671.00	0.037	0	-	0	352	
3/30/17	7:30	--	--	--	--	0	671.00	0.037	0	-	0	353	
3/31/17	7:30	--	--	--	--	0	671.00	0.037	0	-	0	354	
4/1/17	--	--	--	--	--	0	671.00	0.037	0	-	0	355	
4/2/17	--	--	--	--	--	0	671.00	0.037	0	-	0	356	
4/3/17	--	--	--	--	--	0	671.00	0.037	0	-	0	357	
4/4/17	--	--	--	--	--	0	671.00	0.037	0	-	0	358	
4/5/17	--	--	--	--	--	0	671.00	0.037	0	-	0	359	
4/6/17	11:24	68.60	672.23	--	--	0	671.00	0.037	0	-	0	360	
4/7/17	--	--	--	--	--	0	671.00	0.037	0	-	0	361	
4/8/17	--	--	--	--	--	0	671.00	0.037	0	-	0	362	
4/9/17	--	--	--	--	--	0	671.00	0.037	0	-	0	363	
4/10/17	--	--	--	--	--	0	671.00	0.037	0	-	0	364	
4/11/17	--	--	--	--	--	0	671.00	0.037	0	-	0	365	
4/12/17	--	--	--	--	--	0	671.00	0.037	0	-	0	366	
4/13/17	--	--	--	--	--	0	671.00	0.037	0	-	0	367	
4/14/17	--	--	--	--	--	0	671.00	0.037	0	-	0	368	
4/15/17	--	--	--	--	--	0	671.00	0.037	0	-	0	369	
4/16/17	--	--	--	--	--	0	671.00	0.037	0	-	0	370	
4/17/17	17:45	68.50	672.23	--	--	0	671.00	0.037	0	-	0	371	
4/18/17	--	--	--	--	--	0	671.00	0.037	0	-	0	372	
4/19/17	--	--	--	--	--	0	671.00	0.037	0	-	0	373	
4/20/17	--	--	--	--	--	0	671.00	0.037	0	-	0	374	
4/21/17	--	--	--	--	--	0	671.00	0.037	0	-	0	375	
4/22/17	--	--	--	--	--	0	671.00	0.037	0	-	0	376	
4/23/17	--	--	--	--	--	0	671.00	0.037	0	-	0	377	
4/24/17	8:45	68.50	672.33	--	--	0	671.00	0.037	0	-	0	378	
4/25/17	--	--	--	--	--	0	671.00	0.037	0	-	0	379	
4/26/17	--	--	--	--	--	0	671.00	0.037	0	-	0	380	
4/27/17	--	--	--	--	--	0	671.00	0.037	0	-	0	381	
4/28/17	--	--	--	--	--	0	671.00	0.037	0	-	0	382	
4/29/17	--	--	--	--	--	0	671.00	0.037	0	-	0	383	
4/30/17	--	--	--	--	--	0	671.00	0.037	0	-	0	384	
5/1/17	8:00	68.45	672.38	--	--	0	671.00	0.037	0	-	0	385	
5/2/17	--	--	--	--	--	0	671.00	0.037	0	-	0	386	
5/3/17	--	--	--	--	--	0	671.00	0.037	0	-	0	387	
5/4/17	--	--	--	--	--	0	671.00	0.037	0	-	0	388	
5/5/17	--	--	--	--	--	0	671.00	0.037	0	-	0	389	
5/6/17	--	--	--	--	--	0	671.00	0.037	0	-	0	390	
5/7/17	--	--	--	--	--	0	671.00	0.037	0	-	0	391	
5/8/17	9:10	68.40	672.43	--	--	0	671.00	0.037	0	-	0	392	
5/9/17	--	--	--	--	--	0	671.00	0.037	0	-	0	393	
5/10/17	--	--	--	--	--	0	671.00	0.037	0	-	0	394	
5/11/17	--	--	--	--	--	0	671.00	0.037	0	-	0	395	
5/12/17	--	--	--	--	--	0	671.00	0.037	0	-	0	396	
5/13/17	--	--	--	--	--	0	671.00	0.037	0	-	0	397	
5/14/17	--	--	--	--	--	0	671.00	0.037	0	-	0	398	
5/15/17	8:30	68.40	672.43	--	--	0	671.00	0.037	0	-	0	399	
5/16/17	--	--	--	--	--	0	671.00	0.037	0	-	0	400	
5/17/17	--	--	--	--	--	0	671.00	0.037	0	-	0	401	
5/18/17	--	--	--	--	--	0	671.00	0.037	0	-	0	402	
5/19/17	--	--	--	--	--	0	671.00	0.037	0	-	0	403	
5/20/17	--	--	--	--	--	0	671.00	0.037	0	-	0	404	
5/21/17	--	--	--	--	--	0	671.00	0.037	0	-	0	405	
5/22/17	--	--	--	--	--	0	671.00	0.037	0	-	0	406	
5/23/17	9:45	68.40	672.43	--	--	0	671.00	0.037	0	-	0	407	
5/24/17	--	--	--	--	--	0	671.00	0.037	0	-	0	408	
5/25/17	10:10	68.70	672.13	0.30	63.42	0	671.00	0.037	0	-	0	409	
5/26/17	--	--	--	--	--	0	671.00	0.037	0	-	0	410	
5/27/17	--	--	--	--	--	0	671.00	0.037	0	-	0	411	
5/28/17	--	--	--	--	--	0	671.00	0.037	0	-	0	412	
5/29/17	--	--	--	--	--	0	671.00	0.037	0	-	0	413	
5/30/17	--	--	--	--	--	0	671.00	0.037	0	-	0	414	
5/31/17	--	--	--	--	--	0	671.00	0.037	0	-	0	415	
6/1/17	--	--	--	--	--	0	671.00	0.037	0	-	0	416	
6/2/17	--	--	--	--	--	0	671.00	0.037	0	-	0	417	
6/3/17	--	--	--	--	--	0	671.00	0.037	0	-	0	418	
6/4/17	--	--	--	--	--	0	671.00	0.037	0	-	0	419	
6/5/17	8:15	68.50	672.33	--	--	0	671.00	0.037	0	-	0	420	
6/6/17	--	--	--	--	--	0	671.00	0.037	0	-	0	421	
6/7/17	--	--	--	--	--	0	671.00	0.037	0	-	0	422	
6/8/17	--	--	--	--	--	0	671.00	0.037	0	-	0	423	
6/9/17	--	--	--	--	--	0	671.00	0.037	0	-	0	424	

Table 2.1

2017 Summary of Daily Leachate Collection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CETC Bedford Facility
Bedford, Indiana

LEACHATE COLLECTION SYSTEM													
DATE	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	MANUAL WATER LEVEL CONVERTED TO ELEVATION (ft AMSL)	WATER DEPTH REMOVED (feet)	VOLUME REMOVED ^(e) (gallons)	WATER LEVEL @ PLC ^(d) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION (d) (ft AMSL)	EQUIVALENT DEPTH OF WATER OVER PRIMARY LINER (inches)	QUANTITY PUMPED @ PLC ^(f) (gallons removed)	LOCAL FLOW METER READING (c) (gallons)	TOTAL VOLUME PUMPED BETWEEN FLOW METER READINGS (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
6/10/17	--	--	--	--	--	0	671.00	0.037	0	-	0	425	Pumped and Sampled
6/11/17	--	--	--	--	--	0	671.00	0.037	0	-	0	426	
6/12/17	9:10	68.50	672.33	--	--	0	671.00	0.037	0	-	0	427	
6/13/17	--	--	--	--	--	0	671.00	0.037	0	-	0	428	
6/14/17	--	--	--	--	--	0	671.00	0.037	0	-	0	429	
6/15/17	--	--	--	--	--	0	671.00	0.037	0	-	0	430	
6/16/17	--	--	--	--	--	0	671.00	0.037	0	-	0	431	
6/17/17	--	--	--	--	--	0	671.00	0.037	0	-	0	432	
6/18/17	--	--	--	--	--	0	671.00	0.037	0	-	0	433	
6/19/17	7:46	68.45	672.38	--	--	0	671.00	0.037	0	-	0	434	
6/20/17	--	--	--	--	--	0	671.00	0.037	0	-	0	435	
6/21/17	--	--	--	--	--	0	671.00	0.037	0	-	0	436	
6/22/17	--	--	--	--	--	0	671.00	0.037	0	-	0	437	
6/23/17	--	--	--	--	--	0	671.00	0.037	0	-	0	438	
6/24/17	--	--	--	--	--	0	671.00	0.037	0	-	0	439	
6/25/17	--	--	--	--	--	0	671.00	0.037	0	-	0	440	
6/26/17	7:35	68.45	672.38	--	--	0	671.00	0.037	0	-	0	441	
6/27/17	--	--	--	--	--	0	671.00	0.037	0	-	0	442	
6/28/17	--	--	--	--	--	0	671.00	0.037	0	-	0	443	
6/29/17	--	--	--	--	--	0	671.00	0.037	0	-	0	444	
6/30/17	--	--	--	--	--	0	671.00	0.037	0	-	0	445	
7/1/17	--	--	--	--	--	0	671.00	0.037	0	-	0	446	
7/2/17	--	--	--	--	--	0	671.00	0.037	0	-	0	447	
7/3/17	8:00	68.40	672.43	--	--	0	671.00	0.037	0	-	0	448	
7/4/17	--	--	--	--	--	0	671.00	0.037	0	-	0	449	
7/5/17	--	--	--	--	--	0	671.00	0.037	0	-	0	450	
7/6/17	--	--	--	--	--	0	671.00	0.037	0	-	0	451	
7/7/17	--	--	--	--	--	0	671.00	0.037	0	-	0	452	
7/8/17	--	--	--	--	--	0	671.00	0.037	0	-	0	453	
7/9/17	--	--	--	--	--	0	671.00	0.037	0	-	0	454	
7/10/17	9:30	68.40	672.43	--	--	0	671.00	0.037	0	-	0	455	
7/11/17	--	--	--	--	--	0	671.00	0.037	0	-	0	456	
7/12/17	--	--	--	--	--	0	671.00	0.037	0	-	0	457	
7/13/17	--	--	--	--	--	0	671.00	0.037	0	-	0	458	
7/14/17	--	--	--	--	--	0	671.00	0.037	0	-	0	459	
7/15/17	--	--	--	--	--	0	671.00	0.037	0	-	0	460	
7/16/17	--	--	--	--	--	0	671.00	0.037	0	-	0	461	
7/17/17	8:00	68.35	672.48	--	--	0	671.00	0.037	0	-	0	462	
7/18/17	--	--	--	--	--	0	671.00	0.037	0	-	0	463	
7/19/17	--	--	--	--	--	0	671.00	0.037	0	-	0	464	
7/20/17	--	--	--	--	--	0	671.00	0.037	0	-	0	465	
7/21/17	--	--	--	--	--	0	671.00	0.037	0	-	0	466	
7/22/17	--	--	--	--	--	0	671.00	0.037	0	-	0	467	
7/23/17	--	--	--	--	--	0	671.00	0.037	0	-	0	468	
7/24/17	--	--	--	--	--	0	671.00	0.037	0	-	0	469	
7/25/17	10:05	68.35	672.48	1.35	285.37	0	671.00	0.037	0	-	0	470	
7/26/17	8:10	69.60	671.13	--	--	0	671.00	0.037	0	-	0	471	
7/27/17	--	--	--	--	--	0	671.00	0.037	0	-	0	472	
7/28/17	--	--	--	--	--	0	671.00	0.037	0	-	0	473	
7/29/17	--	--	--	--	--	0	671.00	0.037	0	-	0	474	
7/30/17	--	--	--	--	--	0	671.00	0.037	0	-	0	475	
7/31/17	--	--	--	--	--	0	671.00	0.037	0	-	0	476	
8/1/17	9:30	69.60	671.13	--	--	0	671.00	0.037	0	-	0	477	
8/2/17	--	--	--	--	--	0	671.00	0.037	0	-	0	478	
8/3/17	--	--	--	--	--	0	671.00	0.037	0	-	0	479	
8/4/17	--	--	--	--	--	0	671.00	0.037	0	-	0	480	
8/5/17	--	--	--	--	--	0	671.00	0.037	0	-	0	481	
8/6/17	--	--	--	--	--	0	671.00	0.037	0	-	0	482	
8/7/17	10:15	69.55	671.28	--	--	0	671.00	0.037	0	-	0	483	
8/8/17	--	--	--	--	--	0	671.00	0.037	0	-	0	484	
8/9/17	--	--	--	--	--	0	671.00	0.037	0	-	0	485	
8/10/17	--	--	--	--	--	0	671.00	0.037	0	-	0	486	
8/11/17	--	--	--	--	--	0	671.00	0.037	0	-	0	487	
8/12/17	--	--	--	--	--	0	671.00	0.037	0	-	0	488	
8/13/17	--	--	--	--	--	0	671.00	0.037	0	-	0	489	
8/14/17	8:30	69.55	671.28	--	--	0	671.00	0.037	0	-	0	490	
8/15/17	--	--	--	--	--	0	671.00	0.037	0	-	0	491	
8/16/17	--	--	--	--	--	0	671.00	0.037	0	-	0	492	
8/17/17	--	--	--	--	--	0	671.00	0.037	0	-	0	493	
8/18/17	--	--	--	--	--	0	671.00	0.037	0	-	0	494	
8/19/17	--	--	--	--	--	0	671.00	0.037	0	-	0	495	
8/20/17	--	--	--	--	--	0	671.00	0.037	0	-	0	496	
8/21/17	8:30	69.50	671.33	--	--	0	671.00	0.037	0	-	0	497	
8/22/17	--	--	--	--	--	0	671.00	0.037	0	-	0	498	
8/23/17	--	--	--	--	--	0	671.00	0.037	0	-	0	499	
8/24/17	--	--	--	--	--	0	671.00	0.037	0	-	0	500	
8/25/17	--	--	--	--	--	0	671.00	0.037	0	-	0	501	
8/26/17	--	--	--	--	--	0	671.00	0.037	0	-	0	502	
8/27/17	--	--	--	--	--	0	671.00	0.037	0	-	0	503	
8/28/17	10:30	69.45	671.38	--	--	0	671.00	0.037	0	-	0	504	
8/29/17	--	--	--	--	--	0	671.00	0.037	0	-	0	505	

Table 2.1
2017 Summary of Daily Leachate Collection System Log
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GM CETC Bedford Facility
Bedford, Indiana

LEACHATE COLLECTION SYSTEM													
DATE	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	MANUAL WATER LEVEL CONVERTED TO ELEVATION (ft AMSL)	WATER DEPTH REMOVED (feet)	VOLUME REMOVED ^(e) (gallons)	WATER LEVEL @ PLC ^(d) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION (d) (ft AMSL)	EQUIVALENT DEPTH OF WATER OVER PRIMARY LINER (inches)	QUANTITY PUMPED @ PLC ^(f) (gallons removed)	LOCAL FLOW METER READING (c) (gallons)	TOTAL VOLUME PUMPED BETWEEN FLOW METER READINGS (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
8/30/17	--	--	--	--	--	0	671.00	0.037	0	-	0	506	
8/31/17	--	--	--	--	--	0	671.00	0.037	0	-	0	507	
9/1/17	8:00	69.45	671.38	--	--	0	671.00	0.037	0	-	0	508	
9/2/17	--	--	--	--	--	0	671.00	0.037	0	-	0	509	
9/3/17	--	--	--	--	--	0	671.00	0.037	0	-	0	510	
9/4/17	--	--	--	--	--	0	671.00	0.037	0	-	0	511	
9/5/17	8:00	69.40	671.43	--	--	0	671.00	0.037	0	-	0	512	
9/6/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	513	
9/7/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	514	
9/8/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	515	
9/9/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	516	
9/10/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	517	
9/11/17	8:00	69.40	671.43	--	--	0	671.00	0.037	0	-	0	518	
9/12/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	519	
9/13/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	520	
9/14/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	521	
9/15/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	522	
9/16/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	523	
9/17/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	524	
9/18/17	8:00	69.35	671.48	--	--	0	671.00	0.037	0	-	0	525	
9/19/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	526	
9/20/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	527	
9/21/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	528	
9/22/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	529	
9/23/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	530	
9/24/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	531	
9/25/17	8:00	69.35	671.48	--	--	0	671.00	0.037	0	-	0	532	
9/26/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	533	
9/27/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	534	
9/28/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	535	
9/29/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	536	
9/30/17	8:00	--	--	--	--	0	671.00	0.037	0	-	0	537	
10/1/17	--	--	--	--	--	0	671.00	0.037	0	-	0	538	
10/2/17	--	--	--	--	--	0	671.00	0.037	0	-	0	539	
10/3/17	8:15	69.35	671.48	--	--	0	671.00	0.037	0	-	0	540	
10/4/17	--	--	--	--	--	0	671.00	0.037	0	-	0	541	
10/5/17	--	--	--	--	--	0	671.00	0.037	0	-	0	542	
10/6/17	--	--	--	--	--	0	671.00	0.037	0	-	0	543	
10/7/17	--	--	--	--	--	0	671.00	0.037	0	-	0	544	
10/8/17	--	--	--	--	--	0	671.00	0.037	0	-	0	545	
10/9/17	9:50	69.30	671.53	--	--	0	671.00	0.037	0	-	0	546	
10/10/17	--	--	--	--	--	0	671.00	0.037	0	-	0	547	
10/11/17	--	--	--	--	--	0	671.00	0.037	0	-	0	548	
10/12/17	--	--	--	--	--	0	671.00	0.037	0	-	0	549	
10/13/17	--	--	--	--	--	0	671.00	0.037	0	-	0	550	
10/14/17	--	--	--	--	--	0	671.00	0.037	0	-	0	551	
10/15/17	9:30	69.30	671.53	--	--	0	671.00	0.037	0	-	0	552	
10/16/17	--	--	--	--	--	0	671.00	0.037	0	-	0	553	
10/17/17	--	--	--	--	--	0	671.00	0.037	0	-	0	554	
10/18/17	--	--	--	--	--	0	671.00	0.037	0	-	0	555	
10/19/17	--	--	--	--	--	0	671.00	0.037	0	-	0	556	
10/20/17	--	--	--	--	--	0	671.00	0.037	0	-	0	557	
10/21/17	--	--	--	--	--	0	671.00	0.037	0	-	0	558	
10/22/17	--	--	--	--	--	0	671.00	0.037	0	-	0	559	
10/23/17	--	--	--	--	--	0	671.00	0.037	0	-	0	560	
10/24/17	--	--	--	--	--	0	671.00	0.037	0	-	0	561	
10/25/17	10:45	69.25	671.58	--	--	0	671.00	0.037	0	-	0	562	
10/26/17	--	--	--	--	--	0	671.00	0.037	0	-	0	563	
10/27/17	--	--	--	--	--	0	671.00	0.037	0	-	0	564	
10/28/17	--	--	--	--	--	0	671.00	0.037	0	-	0	565	
10/29/17	--	--	--	--	--	0	671.00	0.037	0	-	0	566	
10/30/17	8:15	69.25	671.58	--	--	0	671.00	0.037	0	-	0	567	
10/31/17	--	--	--	--	--	0	671.00	0.037	0	-	0	568	
11/1/17	8:15	69.30	671.53	--	--	0	671.00	0.037	0	-	0	569	
11/2/17	--	--	--	--	--	0	671.00	0.037	0	-	0	570	
11/3/17	--	--	--	--	--	0	671.00	0.037	0	-	0	571	
11/4/17	--	--	--	--	--	0	671.00	0.037	0	-	0	572	
11/5/17	--	--	--	--	--	0	671.00	0.037	0	-	0	573	
11/6/17	--	--	--	--	--	0	671.00	0.037	0	-	0	574	
11/7/17	--	--	--	--	--	0	671.00	0.037	0	-	0	575	
11/8/17	15:00	69.30	671.53	--	--	0	671.00	0.037	0	-	0	576	
11/9/17	--	--	--	--	--	0	671.00	0.037	0	-	0	577	
11/10/17	--	--	--	--	--	0	671.00	0.037	0	-	0	578	
11/11/17	--	--	--	--	--	0	671.00	0.037	0	-	0	579	
11/12/17	--	--	--	--	--	0	671.00	0.037	0	-	0	580	
11/13/17	9:15	69.30	671.53	--	--	0	671.00	0.037	0	-	0	581	
11/14/17	--	--	--	--	--	0	671.00	0.037	0	-	0	582	
11/15/17	--	--	--	--	--	0	671.00	0.037	0	-	0	583	
11/16/17	--	--	--	--	--	0	671.00	0.037	0	-	0	584	
11/17/17	--	--	--	--	--	0	671.00	0.037	0	-	0	585	
11/18/17	--	--	--	--	--	0	671.00	0.037	0	-	0	586	

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GM CETC Bedford Facility
Bedford, Indiana

LEACHATE COLLECTION SYSTEM													
DATE	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	MANUAL WATER LEVEL CONVERTED TO ELEVATION (ft AMSL)	WATER DEPTH REMOVED (feet)	VOLUME REMOVED ^(e) (gallons)	WATER LEVEL @ PLC ^(d) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION (d) (ft AMSL)	EQUIVALENT DEPTH OF WATER OVER PRIMARY LINER (inches)	QUANTITY PUMPED @ PLC ^(f) (gallons removed)	LOCAL FLOW METER READING (c) (gallons)	TOTAL VOLUME PUMPED BETWEEN FLOW METER READINGS (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
11/19/17	--	--	--	--	--	0	671.00	0.037	0	-	0	587	
11/20/17	11:40	69.20	671.63	--	--	0	671.00	0.037	0	-	0	588	
11/21/17	--	--	--	--	--	0	671.00	0.037	0	-	0	589	
11/22/17	--	--	--	--	--	0	671.00	0.037	0	-	0	590	
11/23/17	--	--	--	--	--	0	671.00	0.037	0	-	0	591	
11/24/17	--	--	--	--	--	0	671.00	0.037	0	-	0	592	
11/25/17	--	--	--	--	--	0	671.00	0.037	0	-	0	593	
11/26/17	--	--	--	--	--	0	671.00	0.037	0	-	0	594	
11/27/17	13:20	69.20	671.63	--	--	0	671.00	0.037	0	-	0	595	
11/28/17	--	--	--	--	--	0	671.00	0.037	0	-	0	596	
11/29/17	--	--	--	--	--	0	671.00	0.037	0	-	0	597	
11/30/17	--	--	--	--	--	0	671.00	0.037	0	-	0	598	
12/1/17	--	--	--	--	--	0	671.00	0.037	0	-	0	599	
12/2/17	--	--	--	--	--	0	671.00	0.037	0	-	0	600	
12/3/17	--	--	--	--	--	0	671.00	0.037	0	-	0	601	
12/4/17	8:35	69.20	671.63	--	--	0	671.00	0.037	0	-	0	602	
12/5/17	--	--	--	--	--	0	671.00	0.037	0	-	0	603	
12/6/17	--	--	--	--	--	0	671.00	0.037	0	-	0	604	
12/7/17	--	--	--	--	--	0	671.00	0.037	0	-	0	605	
12/8/17	--	--	--	--	--	0	671.00	0.037	0	-	0	606	
12/9/17	--	--	--	--	--	0	671.00	0.037	0	-	0	607	
12/10/17	--	--	--	--	--	0	671.00	0.037	0	-	0	608	
12/11/17	9:40	69.15	671.68	--	--	0	671.00	0.037	0	-	0	609	
12/12/17	--	--	--	--	--	0	671.00	0.037	0	-	0	610	
12/13/17	--	--	--	--	--	0	671.00	0.037	0	-	0	611	
12/14/17	--	--	--	--	--	0	671.00	0.037	0	-	0	612	
12/15/17	--	--	--	--	--	0	671.00	0.037	0	-	0	613	
12/16/17	--	--	--	--	--	0	671.00	0.037	0	-	0	614	
12/17/17	--	--	--	--	--	0	671.00	0.037	0	-	0	615	
12/18/17	10:30	69.10	671.73	--	--	0	671.00	0.037	0	-	0	616	
12/19/17	--	--	--	--	--	0	671.00	0.037	0	-	0	617	
12/20/17	--	--	--	--	--	0	671.00	0.037	0	-	0	618	
12/21/17	--	--	--	--	--	0	671.00	0.037	0	-	0	619	
12/22/17	--	--	--	--	--	0	671.00	0.037	0	-	0	620	
12/23/17	--	--	--	--	--	0	671.00	0.037	0	-	0	621	
12/24/17	--	--	--	--	--	0	671.00	0.037	0	-	0	622	
12/25/17	--	--	--	--	--	0	671.00	0.037	0	-	0	623	
12/26/17	0:56	69.10	671.73	--	--	0	671.00	0.037	0	-	0	624	
12/27/17	--	--	--	--	--	0	671.00	0.037	0	-	0	625	
12/28/17	--	--	--	--	--	0	671.00	0.037	0	-	0	626	
12/29/17	--	--	--	--	--	0	671.00	0.037	0	-	0	627	
12/30/17	--	--	--	--	--	0	671.00	0.037	0	-	0	628	
12/31/17	--	--	--	--	--	0	671.00	0.037	0	-	0	629	
					349				0				

Notes:

ft AMSL - feet above mean sea level
Top of sump [top of concrete manhole] (feet AMSL): 740.83
Bottom of sump (feet AMSL): 671
Total depth of sump manhole (feet): 69.83
Inside diameter of sump (feet): 6

(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.

Indication of the water level in the LCS rising to 674.00 ft AMSL or higher.

a Water level elevation is less than the previous measurement due to human error while taking the measurement.

b Water level elevation is more than the previous measurement due to human error while taking the measurement.

c Flow meter readings (displayed on mag meter serial number F1095C16000) are cumulative unless noted otherwise.

d 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.

e Based on sump volume calculations.

(f) Prior to November 2, 2015, the clock in the PLC at the Vault was set so that it was zeroing the data before it could get read by the main PLC across the cellular network. The fix was to set the clock at the Vault PLC so that it lags the main PLC by 30 seconds. This setting now allows the main PLC to record the total volume pumped by the automated system before it gets zeroed at the Vault PLC.

	Manual	PLC
Minimum Elevation (ft, AMSL)	671.13	671.00
Maximum Elevation (ft, AMSL)	672.48	671.00
Mean Elevation (ft, AMSL)	671.85	671.00

Number of Pumping Events (based on PLC events) 0

(1) Total Volume Accumulation in LCS carried forward from 2016 (gallons) (based on local flow meter readings) 0

(2) Total Volume Accumulation in LCS from last pumping event to end of 2017 (gallons) (based on local flow meter readings)

(3) Total Volume Pumped from the LCS in 2017 (gallons) (based on local flow meter readings) 0

(4)=(3)-(1)-(2) Total Volume Accumulation Originating in the LCS in 2017 (gallons) (based on local flow meter readings) 0

(5) Total Volume Accumulation in LCS carried forward from 2016 (gallons) (based on volume removed calculations) 41

(6) Total Volume Accumulation in LCS from last pumping event to end of 2017 (gallons) (based on volume removed calculations)

(7) Total Volume Pumped from the LCS in 2016 (gallons) (based on volume removed calculations) 349

(8)=(7)-(6)-(5) Total Volume Accumulation Originating in the LCS in 2016 (gallons) (based on volume removed calculations) 308

Table 2.2
2017 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

LEAK DETECTION SYSTEM												
DATE	TIME OF MEASUREMENT #1	DEPTH TO WATER BEFORE PUMPING	WATER LEVEL BEFORE PUMPING CONVERTED TO ELEVATION	FLOW METER READING ^(c)	CALCULATED VOLUME REMOVED based on sump volume calc.	TIME OF MEASUREMENT #2	DEPTH TO WATER AFTER PUMPING	WATER LEVEL AFTER PUMPING CONVERTED TO ELEVATION	ELAPSED TIME BETWEEN PUMPING EVENTS	TOTAL VOLUME PUMPED BETWEEN PUMPING EVENTS	AVERAGE DAILY FLOW RATE ^(d)	COMMENTS
	(hh:mm)	(feet below top of sump)	(ft AMSL)	(gallons)	(gallons)	(hh:mm)	(feet below top of sump)	(ft AMSL)	(days)	(gallons)	(gallons/day/acre)	
12/31/16	--	--	--	--	--	--	---	---	93	0.0	0.09	Average daily flow rate calculated based on 152.8 gallons pumped on 5/27/17, after 238 days (=152.8gallons/238days/7acres)
1/1/17	--	--	--	--	--	--	--	--	94	0.0	0.09	
1/2/17	8:35	72.45	668.69	--	--	--	--	--	95	0.0	0.09	
1/3/17	--	--	--	--	--	--	--	--	96	0.0	0.09	
1/4/17	--	--	--	--	--	--	--	--	97	0.0	0.09	
1/5/17	--	--	--	--	--	--	--	--	98	0.0	0.09	
1/6/17	--	--	--	--	--	--	--	--	99	0.0	0.09	
1/7/17	--	--	--	--	--	--	--	--	100	0.0	0.09	
1/8/17	--	--	--	--	--	--	--	--	101	0.0	0.09	
1/9/17	--	--	--	--	--	--	--	--	102	0.0	0.09	
1/10/17	--	--	--	--	--	--	--	--	103	0.0	0.09	
1/11/17	6:10	72.45	668.69	--	--	--	--	--	104	0.0	0.09	
1/12/17	--	--	--	--	--	--	--	--	105	0.0	0.09	
1/13/17	--	--	--	--	--	--	--	--	106	0.0	0.09	
1/14/17	--	--	--	--	--	--	--	--	107	0.0	0.09	
1/15/17	--	--	--	--	--	--	--	--	108	0.0	0.09	
1/16/17	--	--	--	--	--	--	--	--	109	0.0	0.09	
1/17/17	--	--	--	--	--	--	--	--	110	0.0	0.09	
1/18/17	--	--	--	--	--	--	--	--	111	0.0	0.09	
1/19/17	--	--	--	--	--	--	--	--	112	0.0	0.09	
1/20/17	6:10	72.45	668.69	--	--	--	--	--	113	0.0	0.09	
1/21/17	--	--	--	--	--	--	--	--	114	0.0	0.09	
1/22/17	--	--	--	--	--	--	--	--	115	0.0	0.09	
1/23/17	--	--	--	--	--	--	--	--	116	0.0	0.09	
1/24/17	--	--	--	--	--	--	--	--	117	0.0	0.09	
1/25/17	--	--	--	--	--	--	--	--	118	0.0	0.09	
1/26/17	--	--	--	--	--	--	--	--	119	0.0	0.09	
1/27/17	--	--	--	--	--	--	--	--	120	0.0	0.09	
1/28/17	--	--	--	--	--	--	--	--	121	0.0	0.09	
1/29/17	--	--	--	--	--	--	--	--	122	0.0	0.09	
1/30/17	--	--	--	--	--	--	--	--	123	0.0	0.09	
1/31/17	9:50	72.45	668.69	--	--	--	--	--	124	0.0	0.09	
2/1/17	--	--	--	--	--	--	--	--	125	0.0	0.09	
2/2/17	--	--	--	--	--	--	--	--	126	0.0	0.09	
2/3/17	--	--	--	--	--	--	--	--	127	0.0	0.09	
2/4/17	--	--	--	--	--	--	--	--	128	0.0	0.09	
2/5/17	--	--	--	--	--	--	--	--	129	0.0	0.09	
2/6/17	8:50	72.35	668.79	--	--	--	--	--	130	0.0	0.09	
2/7/17	--	--	--	--	--	--	--	--	131	0.0	0.09	
2/8/17	--	--	--	--	--	--	--	--	132	0.0	0.09	
2/9/17	--	--	--	--	--	--	--	--	133	0.0	0.09	
2/10/17	--	--	--	--	--	--	--	--	134	0.0	0.09	
2/11/17	--	--	--	--	--	--	--	--	135	0.0	0.09	
2/12/17	--	--	--	--	--	--	--	--	136	0.0	0.09	
2/13/17	9:40	72.35	668.79	--	--	--	--	--	137	0.0	0.09	
2/14/17	--	--	--	--	--	--	--	--	138	0.0	0.09	
2/15/17	--	--	--	--	--	--	--	--	139	0.0	0.09	
2/16/17	--	--	--	--	--	--	--	--	140	0.0	0.09	
2/17/17	--	--	--	--	--	--	--	--	141	0.0	0.09	
2/18/17	--	--	--	--	--	--	--	--	142	0.0	0.09	
2/19/17	--	--	--	--	--	--	--	--	143	0.0	0.09	
2/20/17	9:10	72.3	668.84	--	--	--	--	--	144	0.0	0.09	
2/21/17	--	--	--	--	--	--	--	--	145	0.0	0.09	
2/22/17	--	--	--	--	--	--	--	--	146	0.0	0.09	
2/23/17	--	--	--	--	--	--	--	--	147	0.0	0.09	
2/24/17	--	--	--	--	--	--	--	--	148	0.0	0.09	
2/25/17	--	--	--	--	--	--	--	--	149	0.0	0.09	
2/26/17	--	--	--	--	--	--	--	--	150	0.0	0.09	
2/27/17	--	--	--	--	--	--	--	--	151	0.0	0.09	
2/28/17	9:44	72.2	668.94	--	--	--	--	--	152	0.0	0.09	Insufficient water to prime pumps. No samples taken.
3/1/17	--	--	--	--	--	--	--	--	153	0.0	0.09	
3/2/17	--	--	--	--	--	--	--	--	154	0.0	0.09	
3/3/17	--	--	--	--	--	--	--	--	155	0.0	0.09	

Table 2.2
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GM CET Bedford Facility
Bedford, Indiana

LEAK DETECTION SYSTEM												
DATE	TIME OF MEASUREMENT #1	DEPTH TO WATER BEFORE PUMPING	WATER LEVEL BEFORE PUMPING CONVERTED TO ELEVATION	FLOW METER READING ^(c)	CALCULATED VOLUME REMOVED based on sump volume calc.	TIME OF MEASUREMENT #2	DEPTH TO WATER AFTER PUMPING	WATER LEVEL AFTER PUMPING CONVERTED TO ELEVATION	ELAPSED TIME BETWEEN PUMPING EVENTS	TOTAL VOLUME PUMPED BETWEEN PUMPING EVENTS	AVERAGE DAILY FLOW RATE ^(d)	COMMENTS
	(hh:mm)	(feet below top of sump)	(ft AMSL)	(gallons)	(gallons)	(hh:mm)	(feet below top of sump)	(ft AMSL)	(days)	(gallons)	(gallons/day/acre)	
3/4/17	--	--	--	--	--	--	--	--	156	0.0	0.09	
3/5/17	--	--	--	--	--	--	--	--	157	0.0	0.09	
3/6/17	6:45	72.2	668.94	--	--	--	--	--	158	0.0	0.09	
3/7/17	--	--	--	--	--	--	--	--	159	0.0	0.09	
3/8/17	--	--	--	--	--	--	--	--	160	0.0	0.09	
3/9/17	--	--	--	--	--	--	--	--	161	0.0	0.09	
3/10/17	--	--	--	--	--	--	--	--	162	0.0	0.09	
3/11/17	--	--	--	--	--	--	--	--	163	0.0	0.09	
3/12/17	--	--	--	--	--	--	--	--	164	0.0	0.09	
3/13/17	--	--	--	--	--	--	--	--	165	0.0	0.09	
3/14/17	7:00	72.2	668.94	--	--	--	--	--	166	0.0	0.09	
3/15/17	--	--	--	--	--	--	--	--	167	0.0	0.09	
3/16/17	--	--	--	--	--	--	--	--	168	0.0	0.09	
3/17/17	--	--	--	--	--	--	--	--	169	0.0	0.09	
3/18/17	--	--	--	--	--	--	--	--	170	0.0	0.09	
3/19/17	--	--	--	--	--	--	--	--	171	0.0	0.09	
3/20/17	--	--	--	--	--	--	--	--	172	0.0	0.09	
3/21/17	--	--	--	--	--	--	--	--	173	0.0	0.09	
3/22/17	7:45	--	--	--	--	--	--	--	174	0.0	0.09	
3/23/17	--	--	--	--	--	--	--	--	175	0.0	0.09	
3/24/17	--	--	--	--	--	--	--	--	176	0.0	0.09	
3/25/17	--	--	--	--	--	--	--	--	177	0.0	0.09	
3/26/17	--	--	--	--	--	--	--	--	178	0.0	0.09	
3/27/17	--	--	--	--	--	--	--	--	179	0.0	0.09	
3/28/17	--	--	--	--	--	--	--	--	180	0.0	0.09	
3/29/17	--	--	--	--	--	--	--	--	181	0.0	0.09	
3/30/17	--	--	--	--	--	--	--	--	182	0.0	0.09	
3/31/17	--	--	--	--	--	--	--	--	183	0.0	0.09	
4/1/17	--	--	--	--	--	--	--	--	184	0.0	0.09	
4/2/17	--	--	--	--	--	--	--	--	185	0.0	0.09	
4/3/17	--	--	--	--	--	--	--	--	186	0.0	0.09	
4/4/17	--	--	--	--	--	--	--	--	187	0.0	0.09	
4/5/17	--	--	--	--	--	--	--	--	188	0.0	0.09	
4/6/17	11:30	72.4	668.74	--	--	--	--	--	189	0.0	0.09	
4/7/17	--	--	--	--	--	--	--	--	190	0.0	0.09	
4/8/17	--	--	--	--	--	--	--	--	191	0.0	0.09	
4/9/17	--	--	--	--	--	--	--	--	192	0.0	0.09	
4/10/17	--	--	--	--	--	--	--	--	193	0.0	0.09	
4/11/17	--	--	--	--	--	--	--	--	194	0.0	0.09	
4/12/17	--	--	--	--	--	--	--	--	195	0.0	0.09	
4/13/17	--	--	--	--	--	--	--	--	196	0.0	0.09	
4/14/17	--	--	--	--	--	--	--	--	197	0.0	0.09	
4/15/17	--	--	--	--	--	--	--	--	198	0.0	0.09	
4/16/17	--	--	--	--	--	--	--	--	199	0.0	0.09	
4/17/17	19:54	72.35	668.79	--	--	--	--	--	200	0.0	0.09	
4/18/17	--	--	--	--	--	--	--	--	201	0.0	0.09	
4/19/17	--	--	--	--	--	--	--	--	202	0.0	0.09	
4/20/17	--	--	--	--	--	--	--	--	203	0.0	0.09	
4/21/17	--	--	--	--	--	--	--	--	204	0.0	0.09	
4/22/17	--	--	--	--	--	--	--	--	205	0.0	0.09	
4/23/17	--	--	--	--	--	--	--	--	206	0.0	0.09	
4/24/17	9:00	72.25	668.89	--	--	--	--	--	207	0.0	0.09	
4/25/17	--	--	--	--	--	--	--	--	208	0.0	0.09	
4/26/17	--	--	--	--	--	--	--	--	209	0.0	0.09	
4/27/17	--	--	--	--	--	--	--	--	210	0.0	0.09	
4/28/17	--	--	--	--	--	--	--	--	211	0.0	0.09	
4/29/17	--	--	--	--	--	--	--	--	212	0.0	0.09	
4/30/17	--	--	--	--	--	--	--	--	213	0.0	0.09	
5/1/17	8:10	72.28	668.86	--	--	--	--	--	214	0.0	0.09	
5/2/17	--	--	--	--	--	--	--	--	215	0.0	0.09	
5/3/17	--	--	--	--	--	--	--	--	216	0.0	0.09	
5/4/17	--	--	--	--	--	--	--	--	217	0.0	0.09	
5/5/17	--	--	--	--	--	--	--	--	218	0.0	0.09	
5/6/17	--	--	--	--	--	--	--	--	219	0.0	0.09	
5/7/17	--	--	--	--	--	--	--	--	220	0.0	0.09	

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DATE	TIME OF MEASUREMENT #1	DEPTH TO WATER BEFORE PUMPING	WATER LEVEL BEFORE PUMPING CONVERTED TO ELEVATION	FLOW METER READING ^(c)	CALCULATED VOLUME REMOVED based on sump volume calc.	TIME OF MEASUREMENT #2	DEPTH TO WATER AFTER PUMPING	WATER LEVEL AFTER PUMPING CONVERTED TO ELEVATION	ELAPSED TIME BETWEEN PUMPING EVENTS	TOTAL VOLUME PUMPED BETWEEN PUMPING EVENTS	AVERAGE DAILY FLOW RATE ^(d)	COMMENTS
	(hh:mm)	(feet below top of sump)	(ft AMSL)	(gallons)	(gallons)	(hh:mm)	(feet below top of sump)	(ft AMSL)	(days)	(gallons)	(gallons/day/acre)	
5/8/17	9:25	72.20	668.94	--	--	--	--	--	221	0.0	0.09	Average daily flow calculated based on 152.8 gallons pumped on 5/27/17, after 238 days (=152.8gallons/238days/7acres)
5/9/17	--	--	--	--	--	--	--	--	222	0.0	0.09	
5/10/17	--	--	--	--	--	--	--	--	223	0.0	0.09	
5/11/17	--	--	--	--	--	--	--	--	224	0.0	0.09	
5/12/17	--	--	--	--	--	--	--	--	225	0.0	0.09	
5/13/17	--	--	--	--	--	--	--	--	226	0.0	0.09	
5/14/17	--	--	--	--	--	--	--	--	227	0.0	0.09	
5/15/17	--	--	--	--	--	--	--	--	228	0.0	0.09	
5/16/17	8:40	72.20	668.94	--	--	--	--	--	229	0.0	0.09	
5/17/17	--	--	--	--	--	--	--	--	230	0.0	0.09	
5/18/17	--	--	--	--	--	--	--	--	231	0.0	0.09	
5/19/17	--	--	--	--	--	--	--	--	232	0.0	0.09	
5/20/17	--	--	--	--	--	--	--	--	233	0.0	0.09	
5/21/17	--	--	--	--	--	--	--	--	234	0.0	0.09	
5/22/17	--	--	--	--	--	--	--	--	235	0.0	0.09	
5/23/17	--	--	--	--	--	--	--	--	236	0.0	0.09	
5/24/17	--	--	--	--	--	--	--	--	237	0.0	0.09	
5/25/17	10:20	72.20	668.94	4298.60	42.3	10:24	72.40	668.74	238	152.8	0.09	
5/26/17	--	--	--	--	--	--	--	--	0	0.0	0.10	
5/27/17	--	--	--	--	--	--	--	--	1	0.0	0.10	
5/28/17	--	--	--	--	--	--	--	--	2	0.0	0.10	
5/29/17	--	--	--	--	--	--	--	--	3	0.0	0.10	
5/30/17	--	--	--	--	--	--	--	--	4	0.0	0.10	
5/31/17	--	--	--	--	--	--	--	--	5	0.0	0.10	
6/1/17	--	--	--	--	--	--	--	--	6	0.0	0.10	
6/2/17	--	--	--	--	--	--	--	--	7	0.0	0.10	
6/3/17	--	--	--	--	--	--	--	--	8	0.0	0.10	
6/4/17	--	--	--	--	--	--	--	--	9	0.0	0.10	
6/5/17	8:05	72.45	668.69	--	--	--	--	--	10	0.0	0.10	
6/6/17	--	--	--	--	--	--	--	--	11	0.0	0.10	
6/7/17	--	--	--	--	--	--	--	--	12	0.0	0.10	
6/8/17	--	--	--	--	--	--	--	--	13	0.0	0.10	
6/9/17	--	--	--	--	--	--	--	--	14	0.0	0.10	
6/10/17	--	--	--	--	--	--	--	--	15	0.0	0.10	
6/11/17	--	--	--	--	--	--	--	--	16	0.0	0.10	
6/12/17	9:00	72.45	668.69	--	--	--	--	--	17	0.0	0.10	
6/13/17	--	--	--	--	--	--	--	--	18	0.0	0.10	
6/14/17	--	--	--	--	--	--	--	--	19	0.0	0.10	
6/15/17	--	--	--	--	--	--	--	--	20	0.0	0.10	
6/16/17	--	--	--	--	--	--	--	--	21	0.0	0.10	
6/17/17	7:30	72.45	668.69	--	--	--	--	--	22	0.0	0.10	
6/18/17	--	--	--	--	--	--	--	--	23	0.0	0.10	
6/19/17	--	--	--	--	--	--	--	--	24	0.0	0.10	
6/20/17	--	--	--	--	--	--	--	--	25	0.0	0.10	
6/21/17	--	--	--	--	--	--	--	--	26	0.0	0.10	
6/22/17	--	--	--	--	--	--	--	--	27	0.0	0.10	
6/23/17	--	--	--	--	--	--	--	--	28	0.0	0.10	
6/24/17	--	--	--	--	--	--	--	--	29	0.0	0.10	
6/25/17	--	--	--	--	--	--	--	--	30	0.0	0.10	
6/26/17	7:30	72.45	668.69	--	--	--	--	--	31	0.0	0.10	
6/27/17	--	--	--	--	--	--	--	--	32	0.0	0.10	
6/28/17	--	--	--	--	--	--	--	--	33	0.0	0.10	
6/29/17	--	--	--	--	--	--	--	--	34	0.0	0.10	
6/30/17	--	--	--	--	--	--	--	--	35	0.0	0.10	
7/1/17	--	--	--	--	--	--	--	--	36	0.0	0.10	
7/2/17	--	--	--	--	--	--	--	--	37	0.0	0.10	
7/3/17	--	--	--	--	--	--	--	--	38	0.0	0.10	
7/4/17	8:10	72.45	668.69	--	--	--	--	--	39	0.0	0.10	
7/5/17	--	--	--	--	--	--	--	--	40	0.0	0.10	
7/6/17	--	--	--	--	--	--	--	--	41	0.0	0.10	
7/7/17	--	--	--	--	--	--	--	--	42	0.0	0.10	
7/8/17	--	--	--	--	--	--	--	--	43	0.0	0.10	
7/9/17	--	--	--	--	--	--	--	--	44	0.0	0.10	
7/10/17	9:45	72.40	668.74	--	--	--	--	--	45	0.0	0.10	

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DATE	TIME OF MEASUREMENT #1	DEPTH TO WATER BEFORE PUMPING	WATER LEVEL BEFORE PUMPING CONVERTED TO ELEVATION	FLOW METER READING ^(c)	CALCULATED VOLUME REMOVED based on sump volume calc.	TIME OF MEASUREMENT #2	DEPTH TO WATER AFTER PUMPING	WATER LEVEL AFTER PUMPING CONVERTED TO ELEVATION	ELAPSED TIME BETWEEN PUMPING EVENTS	TOTAL VOLUME PUMPED BETWEEN PUMPING EVENTS	AVERAGE DAILY FLOW RATE ^(d)	COMMENTS
	(hh:mm)	(feet below top of sump)	(ft AMSL)	(gallons)	(gallons)	(hh:mm)	(feet below top of sump)	(ft AMSL)	(days)	(gallons)	(gallons/day/acre)	
7/11/17	--	--	--	--	--	--	--	--	46	0.0	0.10	Average daily flow calculated based on 43.6 gallons pumped on 7/25/17, after 60 days (=43.6gallons/60days/7acres)
7/12/17	--	--	--	--	--	--	--	--	47	0.0	0.10	
7/13/17	--	--	--	--	--	--	--	--	48	0.0	0.10	
7/14/17	--	--	--	--	--	--	--	--	49	0.0	0.10	
7/15/17	--	--	--	--	--	--	--	--	50	0.0	0.10	
7/16/17	--	--	--	--	--	--	--	--	51	0.0	0.10	
7/17/17	8:10	72.40	668.74	--	--	--	--	--	52	0.0	0.10	
7/18/17	--	--	--	--	--	--	--	--	53	0.0	0.10	
7/19/17	--	--	--	--	--	--	--	--	54	0.0	0.10	
7/20/17	--	--	--	--	--	--	--	--	55	0.0	0.10	
7/21/17	--	--	--	--	--	--	--	--	56	0.0	0.10	
7/22/17	--	--	--	--	--	--	--	--	57	0.0	0.10	
7/23/17	--	--	--	--	--	--	--	--	58	0.0	0.10	
7/24/17	--	--	--	--	--	--	--	--	59	0.0	0.10	
7/25/17	10:30	72.40	668.74	--	52.9	11:04	72.65	--	60	43.6	0.10	
7/26/17	--	--	--	--	--	--	--	--	0	0.0	0.06	
7/27/17	--	--	--	--	--	--	--	--	1	0.0	0.06	
7/28/17	--	--	--	--	--	--	--	--	2	0.0	0.06	
7/29/17	--	--	--	--	--	--	--	--	3	0.0	0.06	
7/30/17	--	--	--	--	--	--	--	--	4	0.0	0.06	
7/31/17	--	--	--	--	--	--	--	--	5	0.0	0.06	
8/1/17	9:15	72.40	668.74	--	--	--	--	--	6	0.0	0.06	
8/2/17	--	--	--	--	--	--	--	--	7	0.0	0.06	
8/3/17	--	--	--	--	--	--	--	--	8	0.0	0.06	
8/4/17	--	--	--	--	--	--	--	--	9	0.0	0.06	
8/5/17	--	--	--	--	--	--	--	--	10	0.0	0.06	
8/6/17	--	--	--	--	--	--	--	--	11	0.0	0.06	
8/7/17	10:00	72.40	668.74	--	--	--	--	--	12	0.0	0.06	
8/8/17	--	--	--	--	--	--	--	--	13	0.0	0.06	
8/9/17	--	--	--	--	--	--	--	--	14	0.0	0.06	
8/10/17	--	--	--	--	--	--	--	--	15	0.0	0.06	
8/11/17	--	--	--	--	--	--	--	--	16	0.0	0.06	
8/12/17	--	--	--	--	--	--	--	--	17	0.0	0.06	
8/13/17	--	--	--	--	--	--	--	--	18	0.0	0.06	
8/14/17	8:15	72.45	668.69	--	--	--	--	--	19	0.0	0.06	
8/15/17	--	--	--	--	--	--	--	--	20	0.0	0.06	
8/16/17	--	--	--	--	--	--	--	--	21	0.0	0.06	
8/17/17	--	--	--	--	--	--	--	--	22	0.0	0.06	
8/18/17	--	--	--	--	--	--	--	--	23	0.0	0.06	
8/19/17	--	--	--	--	--	--	--	--	24	0.0	0.06	
8/20/17	--	--	--	--	--	--	--	--	25	0.0	0.06	
8/21/17	8:10	72.45	668.69	--	--	--	--	--	26	0.0	0.06	
8/22/17	--	--	--	--	--	--	--	--	27	0.0	0.06	
8/23/17	--	--	--	--	--	--	--	--	28	0.0	0.06	
8/24/17	--	--	--	--	--	--	--	--	29	0.0	0.06	
8/25/17	--	--	--	--	--	--	--	--	30	0.0	0.06	
8/26/17	--	--	--	--	--	--	--	--	31	0.0	0.06	
8/27/17	--	--	--	--	--	--	--	--	32	0.0	0.06	
8/28/17	10:15	72.45	668.69	--	--	--	--	--	33	0.0	0.06	
8/29/17	--	--	--	--	--	--	--	--	34	0.0	0.06	
8/30/17	--	--	--	--	--	--	--	--	35	0.0	0.06	
8/31/17	--	--	--	--	--	--	--	--	36	0.0	0.06	
9/1/17	8:00	72.45	668.69	--	--	--	--	--	37	0.0	0.06	
9/2/17	--	--	--	--	--	--	--	--	38	0.0	0.06	
9/3/17	--	--	--	--	--	--	--	--	39	0.0	0.06	
9/4/17	--	--	--	--	--	--	--	--	40	0.0	0.06	
9/5/17	8:15	72.45	668.69	--	--	--	--	--	41	0.0	0.06	
9/6/17	--	--	--	--	--	--	--	--	42	0.0	0.06	
9/7/17	--	--	--	--	--	--	--	--	43	0.0	0.06	
9/8/17	--	--	--	--	--	--	--	--	44	0.0	0.06	
9/9/17	--	--	--	--	--	--	--	--	45	0.0	0.06	
9/10/17	--	--	--	--	--	--	--	--	46	0.0	0.06	
9/11/17	8:15	72.45	668.69	--	--	--	--	--	47	0.0	0.06	
9/12/17	--	--	--	--	--	--	--	--	48	0.0	0.06	
9/13/17	--	--	--	--	--	--	--	--	49	0.0	0.06	
9/14/17	--	--	--	--	--	--	--	--	50	0.0	0.06	
9/15/17	--	--	--	--	--	--	--	--	51	0.0	0.06	
9/16/17	--	--	--	--	--	--	--	--	52	0.0	0.06	
9/17/17	--	--	--	--	--	--	--	--	53	0.0	0.06	
9/18/17	8:15	72.45	668.69	--	--	--	--	--	54	0.0	0.06	

Table 2.2
2017 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

LEAK DETECTION SYSTEM												
DATE	TIME OF MEASUREMENT #1	DEPTH TO WATER BEFORE PUMPING	WATER LEVEL BEFORE PUMPING CONVERTED TO ELEVATION	FLOW METER READING ^(c)	CALCULATED VOLUME REMOVED based on sump volume calc.	TIME OF MEASUREMENT #2	DEPTH TO WATER AFTER PUMPING	WATER LEVEL AFTER PUMPING CONVERTED TO ELEVATION	ELAPSED TIME BETWEEN PUMPING EVENTS	TOTAL VOLUME PUMPED BETWEEN PUMPING EVENTS	AVERAGE DAILY FLOW RATE ^(d)	COMMENTS
	(hh:mm)	(feet below top of sump)	(ft AMSL)	(gallons)	(gallons)	(hh:mm)	(feet below top of sump)	(ft AMSL)	(days)	(gallons)	(gallons/day/acre)	
9/19/17	--	--	--	--	--	--	--	--	55	0.0	0.06	Average daily flow calculated based on 36.4 gallons pumped on 10/25/17, after 121 days (=36.4gallons/91days/7acres)
9/20/17	--	--	--	--	--	--	--	--	56	0.0	0.06	
9/21/17	--	--	--	--	--	--	--	--	57	0.0	0.06	
9/22/17	--	--	--	--	--	--	--	--	58	0.0	0.06	
9/23/17	--	--	--	--	--	--	--	--	59	0.0	0.06	
9/24/17	--	--	--	--	--	--	--	--	60	0.0	0.06	
9/25/17	8:15	72.45	668.69	--	--	--	--	--	61	0.0	0.06	
9/26/17	--	--	--	--	--	--	--	--	62	0.0	0.06	
9/27/17	--	--	--	--	--	--	--	--	63	0.0	0.06	
9/28/17	--	--	--	--	--	--	--	--	64	0.0	0.06	
9/29/17	--	--	--	--	--	--	--	--	65	0.0	0.06	
9/30/17	--	--	--	--	--	--	--	--	66	0.0	0.06	
10/1/17	--	--	--	--	--	--	--	--	67	0.0	0.06	
10/2/17	--	--	--	--	--	--	--	--	68	0.0	0.06	
10/3/17	8:15	72.45	668.69	--	--	--	--	--	69	0.0	0.06	
10/4/17	--	--	--	--	--	--	--	--	70	0.0	0.06	
10/5/17	--	--	--	--	--	--	--	--	71	0.0	0.06	
10/6/17	--	--	--	--	--	--	--	--	72	0.0	0.06	
10/7/17	--	--	--	--	--	--	--	--	73	0.0	0.06	
10/8/17	--	--	--	--	--	--	--	--	74	0.0	0.06	
10/9/17	10:00	72.45	668.69	--	--	--	--	--	75	0.0	0.06	
10/10/17	--	--	--	--	--	--	--	--	76	0.0	0.06	
10/11/17	--	--	--	--	--	--	--	--	77	0.0	0.06	
10/12/17	--	--	--	--	--	--	--	--	78	0.0	0.06	
10/13/17	--	--	--	--	--	--	--	--	79	0.0	0.06	
10/14/17	--	--	--	--	--	--	--	--	80	0.0	0.06	
10/15/17	--	--	--	--	--	--	--	--	81	0.0	0.06	
10/16/17	9:45	72.45	668.69	--	--	--	--	--	82	0.0	0.06	
10/17/17	--	--	--	--	--	--	--	--	83	0.0	0.06	
10/18/17	--	--	--	--	--	--	--	--	84	0.0	0.06	
10/19/17	--	--	--	--	--	--	--	--	85	0.0	0.06	
10/20/17	--	--	--	--	--	--	--	--	86	0.0	0.06	
10/21/17	--	--	--	--	--	--	--	--	87	0.0	0.06	
10/22/17	--	--	--	--	--	--	--	--	88	0.0	0.06	
10/23/17	--	--	--	--	--	--	--	--	89	0.0	0.06	
10/24/17	--	--	--	--	--	--	--	--	90	0.0	0.06	
10/25/17	10:36	72.45	668.69	4380.60	42.3	11:00	72.65	--	91	36.4	0.06	
10/26/17	--	--	--	--	--	--	--	--	0	0.0	0.06	
10/27/17	--	--	--	--	--	--	--	--	1	0.0	0.06	
10/28/17	--	--	--	--	--	--	--	--	2	0.0	0.06	
10/29/17	--	--	--	--	--	--	--	--	3	0.0	0.06	
10/30/17	8:30	72.65	668.49	--	--	--	--	--	4	0.0	0.06	
10/31/17	--	--	--	--	--	--	--	--	5	0.0	0.06	
11/1/17	8:25	72.50	668.64	--	--	--	--	--	6	0.0	0.06	
11/2/17	--	--	--	--	--	--	--	--	7	0.0	0.06	
11/3/17	--	--	--	--	--	--	--	--	8	0.0	0.06	
11/4/17	--	--	--	--	--	--	--	--	9	0.0	0.06	
11/5/17	--	--	--	--	--	--	--	--	10	0.0	0.06	
11/6/17	--	--	--	--	--	--	--	--	11	0.0	0.06	
11/7/17	--	--	--	--	--	--	--	--	12	0.0	0.06	
11/8/17	15:10	72.50	668.64	--	--	--	--	--	13	0.0	0.06	
11/9/17	--	--	--	--	--	--	--	--	14	0.0	0.06	
11/10/17	--	--	--	--	--	--	--	--	15	0.0	0.06	
11/11/17	--	--	--	--	--	--	--	--	16	0.0	0.06	
11/12/17	--	--	--	--	--	--	--	--	17	0.0	0.06	
11/13/17	9:30	72.50	668.64	--	--	--	--	--	18	0.0	0.06	
11/14/17	--	--	--	--	--	--	--	--	19	0.0	0.06	
11/15/17	--	--	--	--	--	--	--	--	20	0.0	0.06	
11/16/17	--	--	--	--	--	--	--	--	21	0.0	0.06	
11/17/17	--	--	--	--	--	--	--	--	22	0.0	0.06	
11/18/17	--	--	--	--	--	--	--	--	23	0.0	0.06	
11/19/17	--	--	--	--	--	--	--	--	24	0.0	0.06	
11/20/17	11:45	72.50	668.64	--	--	--	--	--	25	0.0	0.06	
11/21/17	--	--	--	--	--	--	--	--	26	0.0	0.06	
11/22/17	--	--	--	--	--	--	--	--	27	0.0	0.06	
11/23/17	--	--	--	--	--	--	--	--	28	0.0	0.06	
11/24/17	--	--	--	--	--	--	--	--	29	0.0	0.06	
11/25/17	--	--	--	--	--	--	--	--	30	0.0	0.06	
11/26/17	--	--	--	--	--	--	--	--	31	0.0	0.06	
11/27/17	13:25	72.50	668.64	--	--	--	--	--	32	0.0	0.06	
11/28/17	--	--	--	--	--	--	--	--	33	0.0	0.06	
11/29/17	--	--	--	--	--	--	--	--	34	0.0	0.06	
11/30/17	--	--	--	--	--	--	--	--	35	0.0	0.06	
12/1/17	--	--	--	--	--	--	--	--	36	0.0	0.06	
12/2/17	--	--	--	--	--	--	--	--	37	0.0	0.06	
12/3/17	--	--	--	--	--	--	--	--	38	0.0	0.06	

Table 2.2
2017 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

LEAK DETECTION SYSTEM												
DATE	TIME OF MEASUREMENT #1	DEPTH TO WATER BEFORE PUMPING	WATER LEVEL BEFORE PUMPING CONVERTED TO ELEVATION	FLOW METER READING ^(c)	CALCULATED VOLUME REMOVED based on sump volume calc.	TIME OF MEASUREMENT #2	DEPTH TO WATER AFTER PUMPING	WATER LEVEL AFTER PUMPING CONVERTED TO ELEVATION	ELAPSED TIME BETWEEN PUMPING EVENTS	TOTAL VOLUME PUMPED BETWEEN PUMPING EVENTS	AVERAGE DAILY FLOW RATE ^(d)	COMMENTS
	(hh:mm)	(feet below top of sump)	(ft AMSL)	(gallons)	(gallons)	(hh:mm)	(feet below top of sump)	(ft AMSL)	(days)	(gallons)	(gallons/day/acre)	
12/4/17	8:40	72.50	668.64	--	--	--	--	--	39	0.0	0.06	
12/5/17	--	--	--	--	--	--	--	--	40	0.0	0.06	
12/6/17	--	--	--	--	--	--	--	--	41	0.0	0.06	
12/7/17	--	--	--	--	--	--	--	--	42	0.0	0.06	
12/8/17	--	--	--	--	--	--	--	--	43	0.0	0.06	
12/9/17	--	--	--	--	--	--	--	--	44	0.0	0.06	
12/10/17	--	--	--	--	--	--	--	--	45	0.0	0.06	
12/11/17	9:45	72.45	668.69	--	--	--	--	--	46	0.0	0.06	
12/12/17	--	--	--	--	--	--	--	--	47	0.0	0.06	
12/13/17	--	--	--	--	--	--	--	--	48	0.0	0.06	
12/14/17	--	--	--	--	--	--	--	--	49	0.0	0.06	
12/15/17	--	--	--	--	--	--	--	--	50	0.0	0.06	
12/16/17	--	--	--	--	--	--	--	--	51	0.0	0.06	
12/17/17	--	--	--	--	--	--	--	--	52	0.0	0.06	
12/18/17	10:35	72.45	668.69	--	--	--	--	--	53	0.0	0.06	
12/19/17	--	--	--	--	--	--	--	--	54	0.0	0.06	
12/20/17	--	--	--	--	--	--	--	--	55	0.0	0.06	
12/21/17	--	--	--	--	--	--	--	--	56	0.0	0.06	
12/22/17	--	--	--	--	--	--	--	--	57	0.0	0.06	
12/23/17	--	--	--	--	--	--	--	--	58	0.0	0.06	
12/24/17	--	--	--	--	--	--	--	--	59	0.0	0.06	
12/25/17	--	--	--	--	--	--	--	--	60	0.0	0.06	
12/26/17	13:35	72.45	668.69	--	--	--	--	--	61	0.0	0.06	
12/27/17	--	--	--	--	--	--	--	--	62	0.0	0.06	
12/28/17	--	--	--	--	--	--	--	--	63	0.0	0.06	
12/29/17	--	--	--	--	--	--	--	--	64	0.0	0.06	
12/30/17	--	--	--	--	--	--	--	--	65	0.0	0.06	
12/31/17	--	--	--	--	--	--	--	--	66	0.0	0.06	LDS not pumped as of 5/31/2018. Average daily flow rate estimated through 12/31/2017 using calculated value from last pumping event on 10/25/2017.
Total					137.5					232.8		

Notes:

ft AMSL - feet above mean sea level
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
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) Indication of water level in LDS rising to 670.0 ft AMSL or higher
- (b) Water level elevation is less than the previous measurement due to human error while taking the measurement.
- (c) Water level elevation is more than the previous measurement due to human error while taking the measurement.
- (d) Flow meter readings are cumulative unless noted otherwise.
- (d) Average daily flow rate calculated by dividing removed volume pumped since the last pumping event by the elapsed time from the prior pumping event in days and the area of the Vault footprint (7 acres).

Minimum water elevation (ft AMSL) 668.49
Maximum water elevation (ft AMSL) 668.94
Mean water elevation (ft AMSL) 668.69

Number of Pumping Events 3

(1)	Total Volume Accumulation carried forward from 2016 (gallons) (based on flow meter readings)	60
(2)	Total Volume Accumulation in LDS from last pumping event to end of 2017 (gallons) (based on flow meter readings)	
(3)	Total Volume Pumped from the LDS in 2017 (gallons) (based on flow meter readings)	233
(4)=(3)-(1)+(2)	Net 2017 LDS Accumulation Volume (gallons) (based on flow meter readings)	173
(5)	Total Volume Accumulation carried forward from 2016 (gallons) (based on volume removed calculations)	16.5
(6)	Total Volume Accumulation from last pumping event to end of 2017 (gallons) (based on volume removed calculations)	
(7)	Total Volume Pumped from the LDS in 2017 (gallons) (based on volume removed calculations)	137.5
(8)=(7)+(6)-(5)	Net 2017 LDS Accumulation Volume (gallons) (based on volume removed calculations)	120.9

Note: (2) and (6) not evaluated since pumping of 2018 has not been completed to date.

Table 2.3
2017 Summary of Daily Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

GRAVEL UNDERDRAIN SYSTEM												
DATE	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	MANUAL WATER LEVEL CONVERTED TO ELEVATION (ft AMSL)	WATER LEVEL @ PLC ^(b) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION ^(b) (ft AMSL)	QUANTITY PUMPED @ PLC (gallons removed)	QUANTITY PUMPED @ PLC (100 gallons)	LOCAL FLOW METER (WWTP) READING (a) (GUS + LCS TOTAL + LDS TOTAL) (gallons)	TOTAL VOLUME REMOVED BY LOCAL FLOW METER (WWTP) (GUS + LCS TOTAL + LDS TOTAL) 1/1/17 through 12/31/17 (gallons)	VOLUME REMOVED FROM GUS ONLY = WWTP - LOCAL LCS METER LDS PORTABLE METER0 01/1/17 through 12/31/17 (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
12/31/16	--	(4)	--	41	665.59	5,995	60.0	9,542,307	6,325	6,325	1	4.4
1/1/17	9:00	(4)	--	43	665.76	2,405	24.1	9,551,294	8,987	8,987	1	669.1
1/2/17	8:31	(4)	--	45	665.48	9,920	99.2	9,561,268	9,974	9,974	1	
1/3/17	8:15	(4)	--	22	664.01	7,125	71.3	9,566,592	5,324	5,324	1	
1/4/17	6:15	(4)	--	39	665.43	6,265	62.7	9,573,598	7,006	7,006	1	
1/5/17	6:15	(4)	--	22	664.01	6,600	66.0	9,580,024	6,426	6,426	1	
1/6/17	6:15	(4)	--	40	665.51	4,215	42.2	9,582,340	2,316	2,316	1	
1/7/17	6:15	(4)	--	48	666.18	0	0.0	9,582,340	0	0	1	
1/8/17	6:00	(4)	--	50	666.34	0	0.0	9,582,340	0	0	1	
1/9/17	6:00	(4)	--	51	666.43	0	0.0	9,582,340	0	0	1	
1/10/17	9:50	(4)	--	52	666.51	16,235	162.4	9,583,310	970	970	1	
1/11/17	6:00	(4)	--	43	665.76	17,680	176.8	9,597,590	14,280	14,280	1	
1/12/17	6:00	(4)	--	46	666.01	11,915	119.2	9,612,716	15,126	15,126	1	
1/13/17	6:00	(4)	--	22	664.01	8,120	81.2	9,624,984	12,268	12,268	1	
1/14/17	6:00	(4)	--	41	665.59	6,055	60.6	9,631,732	6,748	6,748	1	
1/15/17	6:00	(4)	--	40	665.51	5,395	54.0	9,638,780	7,048	7,048	1	
1/16/17	6:00	(4)	--	48	666.18	0	0.0	9,641,682	2,902	2,902	1	
1/17/17	6:00	(4)	--	51	666.43	5,850	58.5	9,641,682	0	0	1	
1/18/17	6:00	(4)	--	39	665.45	15,375	153.8	9,651,972	10,290	10,290	1	
1/19/17	6:00	(4)	--	43	665.76	6,060	60.6	9,663,220	11,248	11,248	1	
1/20/17	6:00	(4)	--	38	665.34	10,450	104.5	9,672,878	9,658	9,658	1	
1/21/17	6:00	(4)	--	37	665.26	7,590	75.9	9,681,938	9,060	9,060	1	
1/22/17	6:00	(4)	--	27	664.18	8,610	86.1	9,689,708	7,770	7,770	1	
1/23/17	6:00	(4)	--	42	665.68	6,060	60.6	9,695,522	5,814	5,814	1	
1/24/17	6:00	(4)	--	43	665.76	7,100	71.0	9,702,202	6,680	6,680	1	
1/25/17	6:00	(4)	--	43	665.76	4,480	44.8	9,712,866	10,664	10,664	1	
1/26/17	6:00	(4)	--	48	666.18	8,765	87.7	9,714,572	1,706	1,706	1	
1/27/17	6:00	(4)	--	26	664.34	10,815	108.2	9,726,936	12,364	12,364	1	
1/28/17	6:00	(4)	--	22	664.01	8,650	86.5	9,736,758	9,822	9,822	1	
1/29/17	6:00	(4)	--	39	665.43	7,975	79.8	9,744,748	7,990	7,990	1	
1/30/17	6:00	(4)	--	23	664.09	8,375	83.8	9,753,202	8,454	8,454	1	
1/31/17	6:00	(4)	--	--	--	--	--	9,761,502	8,300	8,300	1	
2/1/17	6:00	(4)	--	23	664.09	8,015	80.2	9,769,680	8,178	8,178	1	
2/2/17	6:00	(4)	--	25	664.26	7,975	79.8	9,777,608	7,928	7,928	1	
2/3/17	6:00	(4)	--	24	664.18	8,250	82.5	9,783,544	5,936	5,936	1	
2/4/17	6:00	(4)	--	22	664.01	5,070	50.7	9,793,780	10,236	10,236	1	
2/5/17	6:00	(4)	--	49	666.26	375	3.8	9,799,872	6,092	6,092	1	
2/6/17	6:00	(4)	--	51	666.43	6,165	61.7	9,799,872	0	0	1	
2/7/17	6:00	(4)	--	50	666.34	7,295	73.0	9,808,218	8,346	8,346	1	
2/8/17	6:00	(4)	--	51	666.43	8,485	84.9	9,813,314	5,096	5,096	1	
2/9/17	6:00	(4)	--	51	666.43	225	2.3	9,822,018	8,704	8,704	1	
2/10/17	6:00	(4)	--	52	666.51	7,750	77.5	9,822,481	463	463	1	
2/11/17	6:00	(4)	--	52	666.51	16,950	169.5	9,836,152	13,671	13,671	1	
2/12/17	6:00	(4)	--	47	666.09	11,345	113.5	9,847,596	11,444	11,444	1	
2/13/17	6:00	(4)	--	43	665.76	8,735	87.4	9,859,626	12,030	12,030	1	
2/14/17	6:00	(4)	--	23	664.09	8,870	88.7	9,869,734	10,108	10,108	1	
2/15/17	6:00	(4)	--	22	664.01	7,365	73.7	9,877,794	8,060	8,060	1	
2/16/17	6:00	(4)	--	22	664.01	7,180	71.8	9,885,654	7,860	7,860	1	
2/17/17	6:00	(4)	--	40	665.51	5,970	59.7	9,891,754	6,100	6,100	1	
2/18/17	6:00	(4)	--	44	665.84	2,665	26.7	9,897,472	5,718	5,718	1	
2/19/17	6:00	(4)	--	51	666.43	1,535	15.4	9,898,768	1,296	1,296	1	
2/20/17	6:00	(4)	--	51	666.43	3,965	39.7	9,900,344	1,576	1,576	1	
2/21/17	6:00	(4)	--	52	666.51	5,710	57.1	9,904,262	3,918	3,918	1	
2/22/17	6:30	(4)	--	52	666.51	5,405	54.1	9,909,968	5,706	5,706	1	
2/23/17	6:30	(4)	--	49	666.26	13,510	135.1	9,919,872	9,904	9,904	1	
2/24/17	6:30	(4)	--	46	666.01	12,450	124.5	9,932,484	12,612	12,612	1	
2/25/17	6:30	(4)	--	43	665.76	7,760	77.6	9,941,434	8,950	8,950	1	
2/26/17	6:30	(4)	--	21	663.93	7,455	74.6	9,951,522	10,088	10,088	1	
2/27/17	6:30	(4)	--	38	665.34	6,195	62.0	9,958,058	6,536	6,536	1	
2/28/17	--	(4)	--	--	--	--	0.0	9,964,616	6,558	6,558	1	* - Can not get manual readings. PLC reading may not be true. Numbers rolled over
3/1/17	6:30	(4)	--	21	663.93	6,440	64.4	9,971,318	6,702	6,702	1	
3/2/17	8:00	(4)	--	39	665.43	4,680	46.8	9,978,126	6,808	6,808	1	
3/3/17	6:30	(4)	--	46	666.01	4,560	45.6	9,980,486	2,360	2,360	1	
3/4/17	6:30	(4)	--	41	665.59	8,100	81.0	9,987,286	6,800	6,800	1	
3/5/17	6:30	(4)	--	28	664.51	7,415	74.2	9,994,701	7,415	7,415	1	
3/6/17	6:30	(4)	--	43	665.76	5,000	50.0	484	5,783	5,783	1	
3/7/17	6:30	(4)	--	45	665.93	6,285	62.9	5,483	4,999	4,999	1	
3/8/17	6:30	(4)	--	24	664.18	8,065	80.7	14,636	9,153	9,153	1	
3/9/17	7:00	(4)	--	21	663.93	7,275	72.8	22,241	7,605	7,605	1	
3/10/17	6:30	(4)	--	24	664.18	6,965	69.7	29,113	6,872	6,872	1	
3/11/17	6:30	(4)	--	21	663.93	6,870	68.7	36,035	6,922	6,922	1	
3/12/17	6:30	(4)	--	39	665.43	6,620	66.2	42,568	6,533	6,533	1	
3/13/17	6:30	(4)	--	42	662.34	6,340	63.4	47,914	5,346	5,346	1	
3/14/17	8:00	(4)	--	21	663.93	7,740	77.4	56,551	8,637	8,637	1	
3/15/17	6:30	(4)	--	25	664.26	7,310	73.1	63,487	6,936	6,936	1	
3/16/17	8:00	(4)	--	25	664.26	7,260	72.6	70,957	7,470	7,470	1	
3/17/17	8:00	(4)	--	21	663.93	7,280	72.8	78,547	7,590	7,590	1	
3/18/17	8:00	(4)	--	45	665.93	3,845	38.5	84,194	5,647	5,647	1	
3/19/17	8:00	(4)	--	45	665.93	2,102	21.0	87,144	2,950	2,950	1	
3/20/17	8:00	(4)	--	50	666.34	2,775	27.8	87,355	211	211	1	
3/21/17	8:00	(4)	--	46	666.01	12,350	123.5	100,162	12,807	12,807	1	
3/22/17	8:00	(4)	--	21	663.93	8,605	86.1	112,499	12,337	12,337	1	
3/23/17	8:00	(4)	--	21	663.93	7,755	77.6	120,483	7,984	7,984	1	
3/24/17	8:00	(4)	--	21	663.93	7,420	74.2	128,228	7,745	7,745	1	
3/25/17	8:00	(4)	--	46	665.51	6,225	62.3	135,501	7,273	7,273	1	
3/26/17	8:00	(4)	--	51	666.43	1,052	10.5	139,323	3,822	3,822	1	
3/27/17	8:00	(4)	--	52	666.51	6,500	65.0	141,341	2,018	2,018	1	
3/28/17	8:00	(4)	--	38	665.34	13,055	130.6	149,817	8,476	8,476	1	

Table 2.3
2017 Summary of Daily Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

GRAVEL UNDERDRAIN SYSTEM												
DATE	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	MANUAL WATER LEVEL CONVERTED TO ELEVATION (ft AMSL)	WATER LEVEL @ PLC ^(b) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION ^(b) (ft AMSL)	QUANTITY PUMPED @ PLC (gallons removed)	QUANTITY PUMPED @ PLC (100 gallons)	LOCAL FLOW METER (WWTP) READING (a) (GUS + LCS TOTAL + LDS TOTAL) (gallons)	TOTAL VOLUME REMOVED BY LOCAL FLOW METER (WWTP) (GUS + LCS TOTAL + LDS TOTAL) 1/1/17 through 12/31/17 (gallons)	VOLUME REMOVED FROM GUS GUS ONLY = WWTP - LOCAL LCS METER LDS PORTABLE METER0 01/1/17 through 12/31/17 (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
3/29/17	8:00	(4)	--	24	664.18	9,160	91.6	162,030	12,213	12,213	1	
3/30/17	8:00	(4)	--	21	663.93	8,055	80.6	170,729	8,699	8,699	1	
3/31/17	8:00	(4)	--	21	663.93	7,240	72.4	178,524	7,795	7,795	1	
4/1/17	8:00	(4)	--	24	664.18	6,960	69.6	185,514	6,990	6,990	1	
4/2/17	8:00	(4)	--	36	665.34	6,400	64.0	192,525	7,011	7,011	1	
4/3/17	8:00	(4)	--	43	665.76	6,270	62.7	196,631	4,106	4,106	1	
4/4/17	8:00	(4)	--	23	664.09	7,990	79.9	205,845	9,214	9,214	1	
4/5/17	8:00	(4)	--	23	664.09	7,205	72.1	213,265	7,420	7,420	1	
4/6/17	8:00	(4)	--	21	663.93	6,945	69.5	220,560	7,295	7,295	1	
4/7/17	8:00	(4)	--	39	665.43	6,390	63.9	226,135	5,575	5,575	1	
4/8/17	8:00	(4)	--	21	663.93	7,125	71.3	233,818	7,683	7,683	1	
4/9/17	8:00	(4)	--	21	663.93	7,015	70.2	240,806	6,988	6,988	1	
4/10/17	8:00	(4)	--	40	665.51	6,220	62.2	246,370	5,564	5,564	1	
4/11/17	8:30	(4)	--	21	663.93	7,305	73.1	254,334	7,964	7,964	1	
4/12/17	8:00	(4)	--	21	663.93	6,945	69.5	261,625	7,291	7,291	1	
4/13/17	6:30	(4)	--	21	663.93	6,895	69.0	268,326	6,701	6,701	1	
4/14/17	8:30	(4)	--	21	663.93	5,960	59.6	273,233	4,907	4,907	1	
4/15/17	7:30	(4)	--	40	665.51	7,005	70.1	281,238	8,005	8,005	1	
4/16/17	7:00	(4)	--	21	663.93	7,385	73.9	288,623	7,385	7,385	1	
4/17/17	8:30	(4)	--	23	664.09	6,875	68.8	296,074	7,451	7,451	1	
4/18/17	8:00	(4)	--	23	664.09	6,785	67.9	302,125	6,051	6,051	1	
4/19/17	8:00	(4)	--	22	664.01	6,650	66.5	308,582	6,457	6,457	1	
4/20/17	8:00	(4)	--	22	664.01	6,720	67.2	315,618	7,036	7,036	1	
4/21/17	8:00	(4)	--	40	665.51	5,850	58.5	321,808	6,190	6,190	1	
4/22/17	8:00	(4)	--	21	663.93	7,170	71.7	328,456	6,648	6,648	1	
4/23/17	8:00	(4)	--	44	665.84	3,330	33.3	333,061	4,605	4,605	1	
4/24/17	8:00	(4)	--	42	665.68	6,910	69.1	389,394	--	--	1	number recorded incorrectly on field form-value omitted from total
4/25/17	8:00	(4)	--	44	665.84	5,200	--	345,314	--	--	1	
4/26/17	8:00	(4)	--	41	665.59	8,095	81.0	351,623	6,309	6,309	1	
4/27/17	8:00	(4)	--	40	665.51	7,185	71.9	359,338	7,715	7,715	1	
4/28/17	8:00	(4)	--	42	665.68	6,380	63.8	364,592	5,254	5,254	1	
4/29/17	8:00	(4)	--	44	665.84	4,400	44.0	372,747	8,155	8,155	1	
4/30/17	8:00	(4)	--	47	666.09	5,630	56.3	374,781	2,034	2,034	1	
5/1/17	8:00	(4)	--	47	666.09	3,600	36.0	380,410	5,629	5,629	1	
5/2/17	8:00	(4)	--	49	666.26	6,310	63.1	384,003	3,593	3,593	1	
5/3/17	8:00	(4)	--	33	664.93	10,335	103.4	394,436	10,433	10,433	1	
5/4/17	8:00	(4)	--	21	663.93	7,390	73.9	403,182	8,746	8,746	1	
5/5/17	8:00	(4)	--	21	663.93	7,090	70.9	410,156	6,974	6,974	1	
5/6/17	7:00	(4)	--	43	665.76	4,730	47.3	417,123	6,967	6,967	1	
5/7/17	8:00	(4)	--	48	666.18	4,040	40.4	422,522	5,399	5,399	1	
5/8/17	8:00	(4)	--	43	665.76	8,700	87.0	427,354	4,832	4,832	1	
5/9/17	8:00	(4)	--	44	665.84	6,290	62.9	435,616	8,262	8,262	1	
5/10/17	8:00	(4)	--	48	665.18	3,445	34.5	438,901	3,285	3,285	1	
5/11/17	8:00	(4)	--	48	666.18	1,235	12.4	442,264	3,363	3,363	1	
5/12/17	8:00	(4)	--	50	666.34	10,225	102.3	445,861	3,597	3,597	1	
5/13/17	9:30	(4)	--	50	666.34	13,240	132.4	457,121	11,260	11,260	1	
5/14/17	8:30	(4)	--	27	664.43	10,625	106.3	467,746	10,625	10,625	1	
5/15/17	8:00	(4)	--	34	665.01	8,205	82.1	480,180	12,434	12,434	1	
5/16/17	8:00	(4)	--	43	665.76	7,360	73.6	488,344	8,164	8,164	1	
5/17/17	8:00	(4)	--	45	665.93	8,473	84.7	495,376	7,032	7,032	1	
5/18/17	8:00	(4)	--	42	665.68	7,605	76.1	503,634	8,258	8,258	1	
5/19/17	8:00	(4)	--	44	665.84	7,825	78.3	511,413	7,779	7,779	1	
5/20/17	8:00	(4)	--	24	664.18	8,715	87.2	519,373	7,960	7,960	1	
5/21/17	8:00	(4)	--	25	664.28	8,265	82.7	525,687	6,314	6,314	1	
5/22/17	8:00	(4)	--	25	664.28	8,180	81.8	535,984	10,297	10,297	1	
5/23/17	8:00	(4)	--	36	665.18	8,150	81.5	544,748	8,764	8,764	1	
5/24/17	8:00	(4)	--	24	664.18	8,235	82.4	550,257	5,509	5,509	1	
5/25/17	8:00	(4)	--	44	665.84	7,235	72.4	565,111	14,854	14,701	1	
5/26/17	8:00	(4)	--	44	665.84	8,815	88.2	565,707	596	596	1	
5/27/17	7:50	(4)	--	23	664.09	8,290	82.9	577,243	11,536	11,536	1	
5/28/17	4:00	(4)	--	26	664.34	8,085	80.9	584,183	6,940	6,940	1	
5/29/17	9:45	(4)	--	25	664.26	8,015	80.2	594,421	10,238	10,238	1	
5/30/17	8:00	(4)	--	21	663.93	7,955	79.6	601,523	7,102	7,102	1	
5/31/17	8:00	(4)	--	21	663.93	7,925	79.3	609,347	7,824	7,824	1	
6/1/17	8:00	(4)	--	21	663.93	7,855	78.6	617,202	7,855	7,855	1	
6/2/17	9:30	(4)	--	21	663.93	5,590	55.9	625,013	7,811	7,811	1	
6/3/17	8:00	(4)	--	21	663.93	8,960	89.6	631,897	6,884	6,884	1	
6/4/17	8:00	(4)	--	21	663.93	8,125	81.3	639,881	7,984	7,984	1	
6/5/17	8:00	(4)	--	21	663.93	7,915	79.2	647,860	7,979	7,979	1	
6/6/17	8:00	(4)	--	21	663.93	7,045	70.5	655,615	7,755	7,755	1	
6/7/17	8:00	(4)	--	21	663.93	7,895	79.0	662,734	7,119	7,119	1	
6/8/17	8:00	(4)	--	21	663.93	7,675	76.8	678,628	15,894	15,894	1	
6/9/17	8:00	(4)	--	21	663.93	7,550	75.5	678,108	--	--	1	number recorded incorrectly on field form-value omitted from total
6/10/17	8:00	(4)	--	21	663.93	7,420	74.2	685,756	--	--	1	
6/11/17	8:00	(4)	--	21	663.93	7,355	73.6	693,113	7,357	7,357	1	
6/12/17	8:00	(4)	--	21	663.93	6,180	61.8	700,316	7,203	7,203	1	
6/13/17	8:00	(4)	--	21	663.93	7,655	76.6	706,569	6,253	6,253	1	
6/14/17	8:00	(4)	--	21	663.93	7,370	73.7	714,202	7,633	7,633	1	
6/15/17	8:00	(4)	--	21	663.93	7,255	72.6	721,512	7,310	7,310	1	
6/16/17	8:00	(4)	--	21	663.93	7,190	71.9	728,745	7,233	7,233	1	
6/17/17	8:00	(4)	--	21	663.93	7,200	72.0	736,060	7,315	7,315	1	
6/18/17	8:00	(4)	--	21	663.93	7,160	71.6	743,073	7,013	7,013	1	
6/19/17	8:00	(4)	--	21	663.93	4,720	47.2	750,226	7,153	7,153	1	
6/20/17	8:00	(4)	--	21	663.93	8,260	82.6	755,438	5,212	5,212	1	
6/21/17	8:00	(4)	--	21	663.93	7,720	77.2	763,376	7,938	7,938	1	
6/22/17	8:00	(4)	--	21	663.93	7,585	75.9	771,051	7,675	7,675	1	

Table 2.3
2017 Summary of Daily Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

GRAVEL UNDERDRAIN SYSTEM												
DATE	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	MANUAL WATER LEVEL CONVERTED TO ELEVATION (ft AMSL)	WATER LEVEL @ PLC ^(b) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION ^(b) (ft AMSL)	QUANTITY PUMPED @ PLC (gallons removed)	QUANTITY PUMPED @ PLC (100 gallons)	LOCAL FLOW METER (WWTP) READING (a) (GUS + LCS TOTAL + LDS TOTAL) (gallons)	TOTAL VOLUME REMOVED BY LOCAL FLOW METER (WWTP) (GUS + LCS TOTAL + LDS TOTAL) 1/1/17 through 12/31/17 (gallons)	VOLUME REMOVED FROM GUS ONLY = WWTP - LOCAL LCS METER LDS PORTABLE METER0 01/1/17 through 12/31/17 (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
6/23/17	8:00	(4)	--	21	663.93	7,505	75.1	778,723	7,672	7,672	1	
6/24/17	8:00	(4)	--	21	663.93	7,445	74.5	786,089	7,366	7,366	1	
6/25/17	8:00	(4)	--	21	663.93	7,475	74.8	793,563	7,474	7,474	1	
6/26/17	8:00	(4)	--	21	663.93	7,520	75.2	800,994	7,431	7,431	1	
6/27/17	8:00	(4)	--	21	663.93	7,465	74.7	808,459	7,465	7,465	1	
6/28/17	8:00	(4)	--	21	663.93	7,445	74.5	815,864	7,405	7,405	1	
6/29/17	8:00	(4)	--	21	663.93	5,645	56.5	823,378	7,514	7,514	1	
6/30/17	8:00	(4)	--	21	663.93	8,400	84.0	831,778	8,400	8,400	1	
7/1/17	8:00	(4)	--	21	663.93	7,905	79.1	837,573	5,795	5,795	1	
7/2/17	8:00	(4)	--	21	663.93	7,640	76.4	845,454	7,881	7,881	1	
7/3/17	8:00	(4)	--	21	663.93	6,510	65.1	852,952	7,498	7,498	1	
7/4/17	8:00	(4)	--	21	663.93	7,885	78.9	859,623	6,671	6,671	1	
7/5/17	8:00	(4)	--	21	663.93	7,675	76.8	867,430	7,807	7,807	1	
7/6/17	8:00	(4)	--	21	663.93	6,475	64.8	875,226	7,796	7,796	1	
7/7/17	8:00	(4)	--	21	663.93	7,835	78.4	881,587	6,361	6,361	1	
7/8/17	8:00	(4)	--	21	663.93	7,480	74.8	889,155	7,568	7,568	1	
7/9/17	--	(4)	--	21	663.93	7,580	75.8	896,681	7,526	7,526	1	
7/10/17	8:00	(4)	--	21	663.93	7,355	73.6	904,261	7,580	7,580	1	
7/11/17	8:00	(4)	--	21	663.93	7,135	71.4	911,616	7,355	7,355	1	
7/12/17	8:00	(4)	--	21	663.93	6,680	66.8	916,605	4,989	4,989	1	
7/13/17	8:00	(4)	--	21	663.93	6,755	67.6	925,265	8,660	8,660	1	
7/14/17	8:00	(4)	--	21	663.93	6,880	68.8	932,010	6,745	6,745	1	
7/15/17	8:00	(4)	--	21	663.93	6,960	69.6	938,989	6,979	6,979	1	
7/16/17	8:00	(4)	--	21	663.93	6,995	70.0	946,007	7,018	7,018	1	
7/17/17	8:00	(4)	--	21	663.93	6,235	62.4	952,916	6,909	6,909	1	
7/18/17	8:00	(4)	--	21	663.93	7,220	72.2	959,111	6,195	6,195	1	
7/19/17	8:00	(4)	--	21	663.93	7,045	70.5	966,332	7,221	7,221	1	
7/20/17	8:00	(4)	--	21	663.93	6,985	69.9	973,241	6,909	6,909	1	
7/21/17	8:00	(4)	--	21	663.93	6,950	69.5	980,202	6,961	6,961	1	
7/22/17	8:00	(4)	--	21	663.93	6,855	68.6	994,202	14,000	14,000	1	
7/23/17	8:00	(4)	--	21	663.93	6,152	61.5	1,006,389	12,187	12,187	1	
7/24/17	8:00	(4)	--	21	663.93	6,125	61.3	1,006,998	609	609	1	
7/25/17	8:00	(4)	--	21	663.93	10,355	103.6	1,007,698	700	656	1	
7/26/17	8:00	(4)	--	21	663.93	11,455	114.6	1,018,548	10,850	10,850	1	
7/27/17	8:00	(4)	--	21	663.93	6,510	65.1	1,030,347	11,799	11,799	1	
7/28/17	8:00	(4)	--	21	663.93	7,520	75.2	1,038,857	8,510	8,510	1	
7/29/17	8:00	(4)	--	21	663.93	7,000	70.0	1,045,725	6,868	6,868	1	
7/30/17	8:00	(4)	--	21	663.93	6,945	69.5	1,052,671	6,946	6,946	1	
7/31/17	8:00	(4)	--	21	663.93	7,155	71.6	1,059,831	7,160	7,160	1	
8/1/17	8:00	(4)	--	21	663.93	6,890	68.9	1,066,831	7,000	7,000	1	
8/2/17	7:30	(4)	--	21	663.93	7,080	71	1,073,832	7,001	7,001	1	
8/3/17	8:00	(4)	--	21	663.93	6,922	69	1,078,575	4,743	4,743	1	
8/4/17	8:00	(4)	--	21	663.93	7,040	70	1,087,567	8,992	8,992	1	
8/5/17	8:00	(4)	--	21	663.93	6,895	69	1,094,613	7,046	7,046	1	
8/6/17	8:00	(4)	--	21	663.93	6,870	69	1,101,546	6,933	6,933	1	
8/7/17	8:00	(4)	--	21	663.93	3,655	37	1,108,556	7,010	7,010	1	
8/8/17	8:00	(4)	--	21	663.93	8,330	83	1,112,344	3,788	3,788	1	
8/9/17	8:00	(4)	--	21	663.93	8,100	81	1,120,752	8,408	8,408	1	
8/10/17	8:00	(4)	--	21	663.93	7,145	71	1,128,557	7,805	7,805	1	
8/11/17	8:00	(4)	--	21	663.93	7,005	70	1,135,675	7,118	7,118	1	
8/12/17	8:00	(4)	--	21	663.93	6,900	69	1,142,554	6,879	6,879	1	
8/13/17	8:00	(4)	--	21	663.93	6,856	69	1,149,487	6,933	6,933	1	
8/14/17	8:00	(4)	--	21	663.93	6,895	69	1,156,297	6,810	6,810	1	
8/15/17	8:00	(4)	--	21	663.93	6,845	68	1,163,308	7,011	7,011	1	
8/16/17	8:00	(4)	--	21	663.93	6,890	69	1,169,973	6,665	6,665	1	
8/17/17	8:00	(4)	--	21	663.93	6,975	70	1,176,857	6,884	6,884	1	
8/18/17	8:00	(4)	--	21	663.93	7,045	70	1,183,826	6,969	6,969	1	
8/19/17	8:00	(4)	--	21	663.93	6,860	69	1,190,403	6,577	6,577	1	
8/20/17	8:00	(4)	--	21	663.93	6,710	67	1,197,726	7,323	7,323	1	
8/21/17	8:00	(4)	--	21	663.93	6,576	66	1,204,345	6,619	6,619	1	
8/22/17	8:00	(4)	--	21	663.93	6,575	66	1,210,987	6,642	6,642	1	
8/23/17	8:00	(4)	--	21	663.93	6,575	66	1,217,557	6,570	6,570	1	
8/24/17	8:00	(4)	--	21	663.93	6,575	66	1,224,137	6,580	6,580	1	
8/25/17	8:00	(4)	--	21	663.93	6,575	66	1,230,233	6,096	6,096	1	
8/26/17	8:00	(4)	--	21	663.93	6,575	66	1,236,843	6,610	6,610	1	
8/27/17	8:00	(4)	--	21	663.93	6,575	66	1,243,469	6,626	6,626	1	
8/28/17	8:00	(4)	--	21	663.93	6,575	66	1,249,788	6,319	6,319	1	
8/29/17	8:00	(4)	--	21	663.93	6,575	66	1,256,034	6,246	6,246	1	
8/30/17	8:00	(4)	--	21	663.93	6,575	66	1,262,372	6,338	6,338	1	
8/31/17	8:00	(4)	--	21	663.93	6,575	66	1,268,581	6,209	6,209	1	
9/1/17	8:00	(4)	--	21	663.93	6,575	66	1,274,705	6,124	6,124	1	
9/2/17	8:00	(4)	--	21	663.93	6,575	66	1,280,858	6,153	6,153	1	
9/3/17	8:00	(4)	--	21	663.93	6,575	66	1,286,927	6,069	6,069	1	
9/4/17	8:00	(4)	--	21	663.93	6,575	66	1,292,881	5,954	5,954	1	
9/5/17	8:00	(4)	--	21	663.93	6,575	66	1,298,853	5,972	5,972	1	
9/6/17	8:00	(4)	--	21	663.93	6,575	66	1,304,809	5,956	5,956	1	
9/7/17	8:00	(4)	--	21	663.93	6,575	66	1,310,723	5,914	5,914	1	
9/8/17	8:00	(4)	--	21	663.93	6,575	66	1,316,916	6,193	6,193	1	
9/9/17	8:00	(4)	--	21	663.93	6,575	66	1,322,332	5,416	5,416	1	
9/10/17	8:00	(4)	--	21	663.93	5,505	55	1,328,040	5,708	5,708	1	
9/11/17	8:00	(4)	--	21	663.93	5,355	54	1,334,555	6,515	6,515	1	
9/12/17	8:00	(4)	--	21	663.93	5,760	58	1,339,095	4,540	4,540	1	
9/13/17	8:00	(4)	--	21	663.93	5,605	56	1,344,900	5,805	5,805	1	
9/14/17	8:00	(4)	--	21	663.93	5,575	56	1,350,580	5,680	5,680	1	
9/15/17	8:00	(4)	--	21	663.93	5,500	55	1,356,250	5,670	5,670	1	
9/16/17	8:00	(4)	--	21	663.93	5,410	54	1,361,820	5,570	5,570	1	
9/17/17	8:00	(4)	--	21	663.93	5,410	54	1,367,430	5,610	5,610	1	
9/18/17	8:00	(4)	--	21	663.93	4,423	44	1,372,835	5,405	5,405	1	

Table 2.3
2017 Summary of Daily Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

GRAVEL UNDERDRAIN SYSTEM												
DATE	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	MANUAL WATER LEVEL CONVERTED TO ELEVATION (ft AMSL)	WATER LEVEL @ PLC ^(b) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION ^(b) (ft AMSL)	QUANTITY PUMPED @ PLC (gallons removed)	QUANTITY PUMPED @ PLC (100 gallons)	LOCAL FLOW METER (WWTP) READING (a) (GUS + LCS TOTAL + LDS TOTAL) (gallons)	TOTAL VOLUME REMOVED BY LOCAL FLOW METER (WWTP) (GUS + LCS TOTAL + LDS TOTAL) 1/1/17 through 12/31/17 (gallons)	VOLUME REMOVED FROM GUS ONLY = WWTP - LOCAL LCS METER LDS PORTABLE METER0 01/1/17 through 12/31/17 (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
9/19/17	8:00	(4)	--	21	663.93	5,745	57	1,377,485	4,650	4,650	1	
9/20/17	8:00	(4)	--	21	663.93	5,647	56	1,383,300	5,815	5,815	1	
9/21/17	10:30	(4)	--	21	663.93	5,455	55	1,388,975	5,675	5,675	1	
9/22/17	10:30	(4)	--	21	663.93	4,045	40	1,394,750	5,775	5,775	1	
9/23/17	9:20	(4)	--	21	663.93	5,625	56	1,399,230	4,480	4,480	1	
9/24/17	10:15	(4)	--	21	663.93	5,480	55	1,404,740	5,510	5,510	1	
9/25/17	7:35	(4)	--	21	663.93	5,410	54	1,409,990	5,250	5,250	1	
9/26/17	7:15	(4)	--	21	663.93	4,210	42	1,414,625	4,635	4,635	1	
9/27/17	7:15	(4)	--	21	663.93	5,630	56	1,419,865	5,240	5,240	1	
9/28/17	7:15	(4)	--	21	663.93	5,510	55	1,425,590	5,725	5,725	1	
9/29/17	8:10	(4)	--	21	663.93	2,530	25	1,431,155	5,565	5,565	1	
9/30/17	8:15	(4)	--	21	663.93	2,195	22	1,432,065	910		1	
10/1/17	8:30	(4)	--	20.7	663.90	4,275	43	1,444,160	12,095	12,095	1	
10/2/17	8:30	(4)	--	20.6	663.89	3,835	38	1,448,435	4,275		1	
10/3/17	8:30	(4)	--	18.3	663.70	3,660	37	1,452,270	3,835	3,835	1	
10/4/17	8:30	(4)	--	19.6	663.81	5,570	56	1,454,650	2,380	2,380	1	
10/5/17	7:00	(4)	--	20.5	663.88	5,215	52	1,460,020	5,370	5,370	1	
10/6/17	10:45	(4)	--	20.7	663.90	5,065	51	1,467,155	7,135	7,135	1	
10/7/17	10:50	(4)	--	21.6	663.98	4,965	50	1,472,260	5,105	5,105	1	
10/8/17	10:30	(4)	--	20.5	663.88	4,810	48	1,477,365	5,105	5,105	1	
10/9/17	11:00	(4)	--	37.3	665.28	4,575	46	1,482,020	4,655	4,655	1	
10/10/17	9:30	(4)	--	22.5	664.05	4,870	49	1,486,570	4,550	4,550	1	
10/11/17	8:40	(4)	--	25.1	664.27	4,670	47	1,491,380	4,810	4,810	1	
10/12/17	11:45	(4)	--	27.0	664.42	4,400	44	1,496,525	5,145	5,145	1	
10/13/17	8:35	(4)	--	27.1	664.42	4,570	46	1,500,430	3,905	3,905	1	
10/14/17	9:45	(4)	--	32.1	664.85	4,570	46	1,504,205	3,775	3,775	1	
10/15/17	11:42	(4)	--	41.5	665.63	2,495	25	1,508,775	4,570	4,570	1	over 665.5 servicing generator
10/16/17	10:00	(4)	--	27.2	664.44	5,425	54	1,513,045	4,270	4,270	1	
10/17/17	9:25	(4)	--	27.4	664.46	4,865	49	1,518,195	5,150	5,150	1	
10/18/17	8:00	(4)	--	27.1	664.43	4,620	46	1,522,815	4,620	4,620	1	
10/19/17	10:25	(4)	--	28.9	664.58	4,560	46	1,527,870	5,055	5,055	1	
10/20/17	8:00	(4)	--	27.0	664.43	4,605	46	1,532,115	4,245	4,245	1	
10/21/17	9:30	(4)	--	26.0	664.34	4,660	47	1,537,140	5,025	5,025	1	
10/22/17	8:00	(4)	--	25.4	664.29	4,630	46	1,542,155	5,015	5,015	1	
10/23/17	10:00	(4)	--	25.2	664.28	4,600	46	1,547,170	5,015	5,015	1	
10/24/17	9:20	(4)	--	26.4	664.38	4,560	46	1,551,145	3,975	3,975	1	
10/25/17	8:30	(4)	--	26.5	664.38	5,080	51	1,556,005	4,860	4,824	1	
10/26/17	8:40	(4)	--	26.5	664.38	4,580	46	1,560,865	4,860	4,860	1	
10/27/17	10:15	(4)	--	26.3	664.37	3,545	35	1,565,805	4,940	4,940	1	
10/28/17	19:45	(4)	--	47.8	666.16	0	0	1,567,395	1,590	1,590	1	pump not working
10/29/17	8:45	(4)	--	50.6	666.39	0	0	1,567,395	0	0	--	
10/30/17	9:40	(4)	--	53.8	666.66	0	0	1,567,395	0	0	--	changing out temporary pump the new pump is stuck in the sump above water level, no longer able to pump at this time
10/31/17	9:20	(4)	--	53.3	666.62	0	0	1,567,395	0	0	--	
11/1/17	12:45	(4)	--	57.1	666.93	0	0	1,567,395	0	0	--	
11/2/17	8:30	(4)	--	57.4	666.96	0	0	1,567,395	0	0	--	
11/3/17	9:30	(4)	--	57.3	666.95	0	0	1,567,395	0	0	--	
11/4/17	14:30	(4)	--	57.8	666.95	0	0	1,567,395	0	0	--	
11/5/17	7:30	(4)	--	59.4	667.13	0	0	1,567,395	0	0	--	
11/6/17	8:15	(4)	--	60.9	667.25	0	0	1,567,395	0	0	--	
11/7/17	8:30	(4)	--	62.4	667.38	0	0	1,567,395	0	0	--	
11/8/17	9:50	(4)	--	64.2	667.53	0	0	1,567,395	0	0	--	
11/9/17	9:45	(4)	--	65.5	667.63	0	0	1,567,395	0	0	--	
11/10/17	8:15	(4)	--	67.4	667.79	0	0	1,567,395	0	0	--	
11/11/17	8:20	(4)	--	68.7	667.90	0	0	1,567,395	0	0	--	
11/12/17	8:20	(4)	--	70.2	668.03	0	0	1,567,395	0	0	--	
11/13/17	9:45	(4)	--	71.7	668.15	0	0	1,567,395	0	0	--	
11/14/17	9:30	(4)	--	73.4	668.29	0	0	1,567,395	0	0	--	
11/15/17	8:55	(4)	--	74.2	668.36	0	0	1,567,395	0	0	--	
11/16/17	10:30	(4)	--	75.6	668.48	0	0	1,567,395	0	0	--	
11/17/17	8:50	(4)	--	76.9	668.53	0	0	1,567,395	0	0	--	
11/18/17	8:45	(4)	--	77.9	668.67	0	0	1,567,395	0	0	--	
11/19/17	9:10	(4)	--	78.5	668.70	0	0	1,567,395	0	0	--	
11/20/17	9:20	(4)	--	79.2	668.78	0	0	1,567,405	10	10	--	
11/21/17	8:45	(4)	--	80.2	668.86	0	0	1,567,405	0	0	--	
11/22/17	9:00	(4)	--	80.7	668.90	0	0	1,567,405	0	0	--	
11/23/17	10:45	(4)	--	81.5	668.97	0	0	1,567,405	0	0	--	
11/24/17	8:10	(4)	--	82.1	669.02	0	0	1,567,405	0	0	--	
11/25/17	13:45	(4)	--	82.1	669.02	0	0	1,567,405	0	0	--	
11/26/17	8:00	(4)	--	82.2	669.03	0	0	1,567,405	0	0	--	
11/27/17	10:00	(4)	--	82.4	669.04	0	0	1,567,405	0	0	--	
11/28/17	9:45	(4)	--	82.4	669.04	0	0	1,567,405	0	0	--	
11/29/17	7:10	(4)	--	82.5	669.05	0	0	1,567,405	0	0	--	
11/30/17	8:30	(4)	--	82.4	669.04	0	0	1,567,405	0	0	--	
12/1/17	8:45	(4)	--	82.4	669.00	0	0	1,567,405	0	0	--	
12/2/17	10:00	(4)	--	82.4	669.04	0	0	1,567,405	0	0	--	
12/3/17	11:45	(4)	--	82.6	669.04	0	0	1,567,405	0	0	--	
12/4/17	9:00	(4)	--	82.7	669.06	0	0	1,567,405	0	0	--	
12/5/17	11:45	(4)	--	82.7	669.07	0	0	1,567,405	0	0	--	
12/6/17	9:30	(4)	--	82.7	669.07	0	0	1,567,405	0	0	--	
12/7/17	9:10	(4)	--	82.7	669.07	0	0	1,567,405	0	0	--	
12/8/17	10:30	(4)	--	82.6	669.06	0	0	1,567,405	0	0	--	
12/9/17	9:00	(4)	--	82.6	669.06	0	0	1,567,405	0	0	--	
12/10/17	11:45	(4)	--	82.6	669.06	0	0	1,567,405	0	0	--	
12/11/17	9:50	(4)	--	82.6	669.06	0	0	1,567,405	0	0	--	
12/12/17	8:45	(4)	--	82.6	669.06	0	0	1,567,405	0	0	--	
12/13/17	8:30	(4)	--	82.2	669.03	0	0	1,567,405	0	0	--	
12/14/17	8:00	(4)	--	82.3	669.03	0	0	1,567,405	0	0	--	

Table 2.3
2017 Summary of Daily Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

GRAVEL UNDERDRAIN SYSTEM												
DATE	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	MANUAL WATER LEVEL CONVERTED TO ELEVATION (ft AMSL)	WATER LEVEL @ PLC ^(b) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION ^(b) (ft AMSL)	QUANTITY PUMPED @ PLC (gallons removed)	QUANTITY PUMPED @ PLC (100 gallons)	LOCAL FLOW METER (WWTP) READING (a) (GUS + LCS TOTAL + LDS TOTAL) (gallons)	TOTAL VOLUME REMOVED BY LOCAL FLOW METER (WWTP) (GUS + LCS TOTAL + LDS TOTAL) 1/1/17 through 12/31/17 (gallons)	VOLUME REMOVED FROM GUS GUS ONLY = WWTP - LOCAL LCS METER LDS PORTABLE METER0 01/1/17 through 12/31/17 (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
12/15/17	9:30	(4)	--	82.2	669.03	0	0	1,567,405	0	0	--	
12/16/17	8:15	(4)	--	82.2	669.03	0	0	1,567,405	0	0	--	
12/17/17	8:30	(4)	--	82.1	669.02	0	0	1,567,405	0	0	--	
12/18/17	8:45	(4)	--	82.0	669.01	0	0	1,567,405	0	0	--	
12/19/17	9:40	(4)	--	81.8	668.99	0	0	1,567,405	0	0	--	
12/20/17	8:30	(4)	--	82.1	669.02	0	0	1,567,405	0	0	--	
12/21/17	9:50	(4)	--	81.9	669.00	0	0	1,567,405	0	0	--	
12/22/17	9:00	(4)	--	82.0	669.01	0	0	1,567,405	0	0	--	
12/23/17	8:04	(4)	--	81.9	669.00	0	0	1,567,405	0	0	--	
12/24/17	4:32	(4)	--	81.6	668.98	0	0	1,567,405	0	0	--	
12/25/17	4:04	(4)	--	81.6	668.98	0	0	1,567,405	0	0	--	
12/26/17	15:30	(4)	--	81.7	668.98	0	0	1,567,405	0	0	--	
12/27/17	8:05	(4)	--	81.9	669.00	0	0	1,567,405	0	0	--	
12/28/17	8:10	(4)	--	82.1	669.02	0	0	1,567,405	0	0	--	
12/29/17	9:40	(4)	--	82.0	669.01	0	0	1,567,405	0	0	--	
12/30/17	11:02	(4)	--	81.9	669.00	0	0	1,567,405	0	0	--	
12/31/17	9:00	(4)	--	81.9	669.00	0	0	1,567,405	0	0	--	
Total						1,998,423				2,005,484		

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 operating level between 2.5 ft (664.68 ft AMSL or 75.31 ft below the top of sump) and 4.33 ft (666.5 ft AMSL or 72.99 ft below the top of sump) of water in the GUS manhole.
(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).
(3) Indication of the water level in the GUS rising to 667.50 ft AMSL or higher.
(4) False readings on the PLC. The site source water may have been pushing backwards through the flow meter.
(5) Tape malfunction - tape stuck in the sump and not retrievable
(6) Measurements were not collected.
(7) Flow meter readings (displayed on mag meter serial number F1095B16000) are cumulative unless noted otherwise.
(8) 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.

	Manual	PLC
Minimum Elevation (ft, AMSL)	0	662.3
Maximum Elevation (ft, AMSL)	0	669.07
Mean Elevation (ft, AMSL)	0	665.27

Number of Pumping Events (days) 294

(1)	Total Volume Accumulation in GUS carried forward from 2016 (gallons) (based on flow meter readings)	8,987
(2)	Total Volume Accumulation in GUS from last pumping event to end of 2017 (gallons) (based on flow meter readings)	
(3)	Total Volume Pumped from the GUS in 2017 (gallons) (based on flow meter readings)	2,005,484
(3)-(1)-(2)	Total Volume Accumulation Originating in the GUS in 2017 (gallons) (based on flow meter readings)	1,996,497

Table 2.4

Summary of 2017 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Sump	LCS		LDS		GUS
Top of (concrete) sump (feet AMSL)	740.83		741.14		738.99
Bottom of sump (ft AMSL)	671.00		668.50		662.18
Bottom of sump (feet below top of sump [BTOS])	69.83		72.64		76.81
Diameter of sump (feet)	6		6		3

Date (mm/dd/yy)	LCS Water Elevation (Manual) (feet AMSL)	LCS Water Elevation (PLC) (feet AMSL)	Lowest Elevation of Primary Liner (feet AMSL)	LDS Water Elevation (feet AMSL)	Lowest Elevation of Secondary Liner (feet AMSL)	GUS Water Elevation (Manual) (feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
1/1/17	--	671.00	669.5	--	667.5	--	665.8
1/2/17	--	671.00	669.5	668.7	667.5	--	665.5
1/3/17	--	671.00	669.5	--	667.5	--	664.0
1/4/17	--	671.00	669.5	--	667.5	--	665.4
1/5/17	--	671.00	669.5	--	667.5	--	664.0
1/6/17	--	671.00	669.5	--	667.5	--	665.5
1/7/17	--	671.00	669.5	--	667.5	--	666.2
1/8/17	--	671.00	669.5	--	667.5	--	666.3
1/9/17	--	671.00	669.5	--	667.5	--	666.4
1/10/17	--	671.00	669.5	--	667.5	--	666.5
1/11/17	--	671.00	669.5	668.7	667.5	--	665.8
1/12/17	--	671.00	669.5	--	667.5	--	666.0
1/13/17	--	671.00	669.5	--	667.5	--	664.0
1/14/17	--	671.00	669.5	--	667.5	--	665.6
1/15/17	--	671.00	669.5	--	667.5	--	665.5
1/16/17	--	671.00	669.5	--	667.5	--	666.2
1/17/17	--	671.00	669.5	--	667.5	--	666.4
1/18/17	--	671.00	669.5	--	667.5	--	665.5
1/19/17	--	671.00	669.5	--	667.5	--	665.8
1/20/17	--	671.00	669.5	668.7	667.5	--	665.3
1/21/17	--	671.00	669.5	--	667.5	--	665.3
1/22/17	--	671.00	669.5	--	667.5	--	664.2
1/23/17	--	671.00	669.5	--	667.5	--	665.7
1/24/17	--	671.00	669.5	--	667.5	--	665.8
1/25/17	--	671.00	669.5	--	667.5	--	665.8
1/26/17	--	671.00	669.5	--	667.5	--	666.2
1/27/17	--	671.00	669.5	--	667.5	--	664.3
1/28/17	--	671.00	669.5	--	667.5	--	664.0
1/29/17	--	671.00	669.5	--	667.5	--	665.4
1/30/17	--	671.00	669.5	--	667.5	--	664.1
1/31/17	--	671.00	669.5	668.7	667.5	--	--
2/1/17	--	671.00	669.5	--	667.5	--	664.1
2/2/17	--	671.00	669.5	--	667.5	--	664.3
2/3/17	--	671.00	669.5	--	667.5	--	664.2
2/4/17	--	671.00	669.5	--	667.5	--	664.0
2/5/17	--	671.00	669.5	--	667.5	--	666.3
2/6/17	671.58	671.00	669.5	668.8	667.5	--	666.4
2/7/17	--	671.00	669.5	--	667.5	--	666.3

Table 2.4

Summary of 2017 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Sump	LCS	LDS	GUS
Top of (concrete) sump (feet AMSL)	740.83	741.14	738.99
Bottom of sump (ft AMSL)	671.00	668.50	662.18
Bottom of sump (feet below top of sump [BTOS])	69.83	72.64	76.81
Diameter of sump (feet)	6	6	3

Date (mm/dd/yy)	LCS Water Elevation (Manual) (feet AMSL)	LCS Water Elevation (PLC) (feet AMSL)	Lowest Elevation of Primary Liner (feet AMSL)	LDS Water Elevation (feet AMSL)	Lowest Elevation of Secondary Liner (feet AMSL)	GUS Water Elevation (Manual) (feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
2/8/17	--	671.00	669.5	--	667.5	--	666.4
2/9/17	--	671.00	669.5	--	667.5	--	666.4
2/10/17	--	671.00	669.5	--	667.5	--	666.5
2/11/17	--	671.00	669.5	--	667.5	--	666.5
2/12/17	--	671.00	669.5	--	667.5	--	666.1
2/13/17	671.93	671.00	669.5	668.8	667.5	--	665.8
2/14/17	--	671.00	669.5	--	667.5	--	664.1
2/15/17	--	671.00	669.5	--	667.5	--	664.0
2/16/17	--	671.00	669.5	--	667.5	--	664.0
2/17/17	--	671.00	669.5	--	667.5	--	665.5
2/18/17	--	671.00	669.5	--	667.5	--	665.8
2/19/17	--	671.00	669.5	--	667.5	--	666.4
2/20/17	671.93	671.00	669.5	668.8	667.5	--	666.4
2/21/17	--	671.00	669.5	--	667.5	--	666.5
2/22/17	--	671.00	669.5	--	667.5	--	666.5
2/23/17	--	671.00	669.5	--	667.5	--	666.3
2/24/17	--	671.00	669.5	--	667.5	--	666.0
2/25/17	--	671.00	669.5	--	667.5	--	665.8
2/26/17	--	671.00	669.5	--	667.5	--	663.9
2/27/17	--	671.00	669.5	--	667.5	--	665.3
2/28/17	672.03	671.00	669.5	668.9	667.5	--	--
3/1/17	--	671.00	669.5	--	667.5	--	663.9
3/2/17	--	671.00	669.5	--	667.5	--	665.4
3/3/17	--	671.00	669.5	--	667.5	--	666.0
3/4/17	--	671.00	669.5	--	667.5	--	665.6
3/5/17	--	671.00	669.5	--	667.5	--	664.5
3/6/17	672.03	671.00	669.5	668.9	667.5	--	665.8
3/7/17	--	671.00	669.5	--	667.5	--	665.9
3/8/17	--	671.00	669.5	--	667.5	--	664.2
3/9/17	--	671.00	669.5	--	667.5	--	663.9
3/10/17	--	671.00	669.5	--	667.5	--	664.2
3/11/17	--	671.00	669.5	--	667.5	--	663.9
3/12/17	--	671.00	669.5	--	667.5	--	665.4
3/13/17	--	671.00	669.5	--	667.5	--	662.3
3/14/17	672.03	671.00	669.5	668.9	667.5	--	663.9
3/15/17	--	671.00	669.5	--	667.5	--	664.3
3/16/17	--	671.00	669.5	--	667.5	--	664.3
3/17/17	--	671.00	669.5	--	667.5	--	663.9

Table 2.4

Summary of 2017 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Sump	LCS		LDS		GUS
Top of (concrete) sump (feet AMSL)	740.83		741.14		738.99
Bottom of sump (ft AMSL)	671.00		668.50		662.18
Bottom of sump (feet below top of sump [BTOS])	69.83		72.64		76.81
Diameter of sump (feet)	6		6		3

Date (mm/dd/yy)	LCS Water Elevation (Manual) (feet AMSL)	LCS Water Elevation (PLC) (feet AMSL)	Lowest Elevation of Primary Liner (feet AMSL)	LDS Water Elevation (feet AMSL)	Lowest Elevation of Secondary Liner (feet AMSL)	GUS Water Elevation (Manual) (feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
3/18/17	--	671.00	669.5	--	667.5	--	665.9
3/19/17	--	671.00	669.5	--	667.5	--	665.9
3/20/17	--	671.00	669.5	--	667.5	--	666.3
3/21/17	--	671.00	669.5	--	667.5	--	666.0
3/22/17	672.08	671.00	669.5	--	667.5	--	663.9
3/23/17	--	671.00	669.5	--	667.5	--	663.9
3/24/17	--	671.00	669.5	--	667.5	--	663.9
3/25/17	--	671.00	669.5	--	667.5	--	665.5
3/26/17	--	671.00	669.5	--	667.5	--	666.4
3/27/17	--	671.00	669.5	--	667.5	--	666.5
3/28/17	--	671.00	669.5	--	667.5	--	665.3
3/29/17	--	671.00	669.5	--	667.5	--	664.2
3/30/17	--	671.00	669.5	--	667.5	--	663.9
3/31/17	--	671.00	669.5	--	667.5	--	663.9
4/1/17	--	671.00	669.5	--	667.5	--	664.2
4/2/17	--	671.00	669.5	--	667.5	--	665.3
4/3/17	--	671.00	669.5	--	667.5	--	665.8
4/4/17	--	671.00	669.5	--	667.5	--	664.1
4/5/17	--	671.00	669.5	--	667.5	--	664.1
4/6/17	672.23	671.00	669.5	668.7	667.5	--	663.9
4/7/17	--	671.00	669.5	--	667.5	--	665.4
4/8/17	--	671.00	669.5	--	667.5	--	663.9
4/9/17	--	671.00	669.5	--	667.5	--	663.9
4/10/17	--	671.00	669.5	--	667.5	--	665.5
4/11/17	--	671.00	669.5	--	667.5	--	663.9
4/12/17	--	671.00	669.5	--	667.5	--	663.9
4/13/17	--	671.00	669.5	--	667.5	--	663.9
4/14/17	--	671.00	669.5	--	667.5	--	663.9
4/15/17	--	671.00	669.5	--	667.5	--	665.5
4/16/17	--	671.00	669.5	--	667.5	--	663.9
4/17/17	672.23	671.00	669.5	668.8	667.5	--	664.1
4/18/17	--	671.00	669.5	--	667.5	--	664.1
4/19/17	--	671.00	669.5	--	667.5	--	664.0
4/20/17	--	671.00	669.5	--	667.5	--	664.0
4/21/17	--	671.00	669.5	--	667.5	--	665.5
4/22/17	--	671.00	669.5	--	667.5	--	663.9
4/23/17	--	671.00	669.5	--	667.5	--	665.8
4/24/17	672.33	671.00	669.5	668.9	667.5	--	665.7

Table 2.4

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East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Sump	LCS		LDS		GUS
Top of (concrete) sump (feet AMSL)	740.83		741.14		738.99
Bottom of sump (ft AMSL)	671.00		668.50		662.18
Bottom of sump (feet below top of sump [BTOS])	69.83		72.64		76.81
Diameter of sump (feet)	6		6		3

Date (mm/dd/yy)	LCS Water Elevation (Manual) (feet AMSL)	LCS Water Elevation (PLC) (feet AMSL)	Lowest Elevation of Primary Liner (feet AMSL)	LDS Water Elevation (feet AMSL)	Lowest Elevation of Secondary Liner (feet AMSL)	GUS Water Elevation (Manual) (feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
4/25/17	--	671.00	669.5	--	667.5	--	665.8
4/26/17	--	671.00	669.5	--	667.5	--	665.6
4/27/17	--	671.00	669.5	--	667.5	--	665.5
4/28/17	--	671.00	669.5	--	667.5	--	665.7
4/29/17	--	671.00	669.5	--	667.5	--	665.8
4/30/17	--	671.00	669.5	--	667.5	--	666.1
5/1/17	672.38	671.00	669.5	672.7	667.5	--	666.1
5/2/17	--	671.00	669.5	--	667.5	--	666.3
5/3/17	--	671.00	669.5	--	667.5	--	664.9
5/4/17	--	671.00	669.5	--	667.5	--	663.9
5/5/17	--	671.00	669.5	--	667.5	--	663.9
5/6/17	--	671.00	669.5	--	667.5	--	665.8
5/7/17	--	671.00	669.5	--	667.5	--	666.2
5/8/17	672.43	671.00	669.5	672.7	667.5	--	665.8
5/9/17	--	671.00	669.5	--	667.5	--	665.8
5/10/17	--	671.00	669.5	--	667.5	--	665.2
5/11/17	--	671.00	669.5	--	667.5	--	666.2
5/12/17	--	671.00	669.5	--	667.5	--	666.3
5/13/17	--	671.00	669.5	--	667.5	--	666.3
5/14/17	--	671.00	669.5	--	667.5	--	664.4
5/15/17	672.43	671.00	669.5	--	667.5	--	665.0
5/16/17	--	671.00	669.5	672.7	667.5	--	665.8
5/17/17	--	671.00	669.5	--	667.5	--	665.9
5/18/17	--	671.00	669.5	--	667.5	--	665.7
5/19/17	--	671.00	669.5	--	667.5	--	665.8
5/20/17	--	671.00	669.5	--	667.5	--	664.2
5/21/17	--	671.00	669.5	--	667.5	--	664.3
5/22/17	--	671.00	669.5	--	667.5	--	664.3
5/23/17	672.43	671.00	669.5	672.8	667.5	--	665.2
5/24/17	--	671.00	669.5	--	667.5	--	664.2
5/25/17	672.13	671.00	669.5	672.8	667.5	--	665.8
5/26/17	--	671.00	669.5	--	667.5	--	665.8
5/27/17	--	671.00	669.5	--	667.5	--	664.1
5/28/17	--	671.00	669.5	--	667.5	--	664.3
5/29/17	--	671.00	669.5	--	667.5	--	664.3
5/30/17	--	671.00	669.5	--	667.5	--	663.9
5/31/17	--	671.00	669.5	--	667.5	--	663.9
6/1/17	--	671.00	669.5	--	667.5	--	663.9

Table 2.4

Summary of 2017 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Sump	LCS		LDS		GUS
Top of (concrete) sump (feet AMSL)	740.83		741.14		738.99
Bottom of sump (ft AMSL)	671.00		668.50		662.18
Bottom of sump (feet below top of sump [BTOS])	69.83		72.64		76.81
Diameter of sump (feet)	6		6		3

Date (mm/dd/yy)	LCS Water Elevation (Manual) (feet AMSL)	LCS Water Elevation (PLC) (feet AMSL)	Lowest Elevation of Primary Liner (feet AMSL)	LDS Water Elevation (feet AMSL)	Lowest Elevation of Secondary Liner (feet AMSL)	GUS Water Elevation (Manual) (feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
6/2/17	--	671.00	669.5	--	667.5	--	663.9
6/3/17	--	671.00	669.5	--	667.5	--	663.9
6/4/17	--	671.00	669.5	--	667.5	--	663.9
6/5/17	672.33	671.00	669.5	668.7	667.5	--	663.9
6/6/17	--	671.00	669.5	--	667.5	--	663.9
6/7/17	--	671.00	669.5	--	667.5	--	663.9
6/8/17	--	671.00	669.5	--	667.5	--	663.9
6/9/17	--	671.00	669.5	--	667.5	--	663.9
6/10/17	--	671.00	669.5	--	667.5	--	663.9
6/11/17	--	671.00	669.5	--	667.5	--	663.9
6/12/17	672.33	671.00	669.5	668.7	667.5	--	663.9
6/13/17	--	671.00	669.5	--	667.5	--	663.9
6/14/17	--	671.00	669.5	--	667.5	--	663.9
6/15/17	--	671.00	669.5	--	667.5	--	663.9
6/16/17	--	671.00	669.5	--	667.5	--	663.9
6/17/17	--	671.00	669.5	668.7	667.5	--	663.9
6/18/17	--	671.00	669.5	--	667.5	--	663.9
6/19/17	672.38	671.00	669.5	--	667.5	--	663.9
6/20/17	--	671.00	669.5	--	667.5	--	663.9
6/21/17	--	671.00	669.5	--	667.5	--	663.9
6/22/17	--	671.00	669.5	--	667.5	--	663.9
6/23/17	--	671.00	669.5	--	667.5	--	663.9
6/24/17	--	671.00	669.5	--	667.5	--	663.9
6/25/17	--	671.00	669.5	--	667.5	--	663.9
6/26/17	672.38	671.00	669.5	668.7	667.5	--	663.9
6/27/17	--	671.00	669.5	--	667.5	--	663.9
6/28/17	--	671.00	669.5	--	667.5	--	663.9
6/29/17	--	671.00	669.5	--	667.5	--	663.9
6/30/17	--	671.00	669.5	--	667.5	--	663.9
7/1/17	--	671.00	669.5	--	667.5	--	663.9
7/2/17	--	671.00	669.5	--	667.5	--	663.9
7/3/17	672.43	671.00	669.5	--	667.5	--	663.9
7/4/17	--	671.00	669.5	668.7	667.5	--	663.9
7/5/17	--	671.00	669.5	--	667.5	--	663.9
7/6/17	--	671.00	669.5	--	667.5	--	663.9
7/7/17	--	671.00	669.5	--	667.5	--	663.9
7/8/17	--	671.00	669.5	--	667.5	--	663.9
7/9/17	--	671.00	669.5	--	667.5	--	663.9

Table 2.4

Summary of 2017 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Sump	LCS	LDS	GUS
Top of (concrete) sump (feet AMSL)	740.83	741.14	738.99
Bottom of sump (ft AMSL)	671.00	668.50	662.18
Bottom of sump (feet below top of sump [BTOS])	69.83	72.64	76.81
Diameter of sump (feet)	6	6	3

Date (mm/dd/yy)	LCS Water Elevation (Manual) (feet AMSL)	LCS Water Elevation (PLC) (feet AMSL)	Lowest Elevation of Primary Liner (feet AMSL)	LDS Water Elevation (feet AMSL)	Lowest Elevation of Secondary Liner (feet AMSL)	GUS Water Elevation (Manual) (feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
7/10/17	672.43	671.00	669.5	668.7	667.5	--	663.9
7/11/17	--	671.00	669.5	--	667.5	--	663.9
7/12/17	--	671.00	669.5	--	667.5	--	663.9
7/13/17	--	671.00	669.5	--	667.5	--	663.9
7/14/17	--	671.00	669.5	--	667.5	--	663.9
7/15/17	--	671.00	669.5	--	667.5	--	663.9
7/16/17	--	671.00	669.5	--	667.5	--	663.9
7/17/17	672.48	671.00	669.5	668.7	667.5	--	663.9
7/18/17	--	671.00	669.5	--	667.5	--	663.9
7/19/17	--	671.00	669.5	--	667.5	--	663.9
7/20/17	--	671.00	669.5	--	667.5	--	663.9
7/21/17	--	671.00	669.5	--	667.5	--	663.9
7/22/17	--	671.00	669.5	--	667.5	--	663.9
7/23/17	--	671.00	669.5	--	667.5	--	663.9
7/24/17	--	671.00	669.5	--	667.5	--	663.9
7/25/17	672.48	671.00	669.5	668.7	667.5	--	663.9
7/26/17	671.13	671.00	669.5	--	667.5	--	663.9
7/27/17	--	671.00	669.5	--	667.5	--	663.9
7/28/17	--	671.00	669.5	--	667.5	--	663.9
7/29/17	--	671.00	669.5	--	667.5	--	663.9
7/30/17	--	671.00	669.5	--	667.5	--	663.9
7/31/17	--	671.00	669.5	--	667.5	--	663.9
8/1/17	671.13	671.00	669.5	668.74	667.5	--	663.9
8/2/17	--	671.00	669.5	--	667.5	--	663.9
8/3/17	--	671.00	669.5	--	667.5	--	663.9
8/4/17	--	671.00	669.5	--	667.5	--	663.9
8/5/17	--	671.00	669.5	--	667.5	--	663.9
8/6/17	--	671.00	669.5	--	667.5	--	663.9
8/7/17	671.28	671.00	669.5	668.74	667.5	--	663.9
8/8/17	--	671.00	669.5	--	667.5	--	663.9
8/9/17	--	671.00	669.5	--	667.5	--	663.9
8/10/17	--	671.00	669.5	--	667.5	--	663.9
8/11/17	--	671.00	669.5	--	667.5	--	663.9
8/12/17	--	671.00	669.5	--	667.5	--	663.9
8/13/17	--	671.00	669.5	--	667.5	--	663.9
8/14/17	671.28	671.00	669.5	668.69	667.5	--	663.9
8/15/17	--	671.00	669.5	--	667.5	--	663.9
8/16/17	--	671.00	669.5	--	667.5	--	663.9

Table 2.4

Summary of 2017 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Sump	LCS		LDS		GUS
Top of (concrete) sump (feet AMSL)	740.83		741.14		738.99
Bottom of sump (ft AMSL)	671.00		668.50		662.18
Bottom of sump (feet below top of sump [BTOS])	69.83		72.64		76.81
Diameter of sump (feet)	6		6		3

Date (mm/dd/yy)	LCS Water Elevation (Manual) (feet AMSL)	LCS Water Elevation (PLC) (feet AMSL)	Lowest Elevation of Primary Liner (feet AMSL)	LDS Water Elevation (feet AMSL)	Lowest Elevation of Secondary Liner (feet AMSL)	GUS Water Elevation (Manual) (feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
8/17/17	--	671.00	669.5	--	667.5	--	663.9
8/18/17	--	671.00	669.5	--	667.5	--	663.9
8/19/17	--	671.00	669.5	--	667.5	--	663.9
8/20/17	--	671.00	669.5	--	667.5	--	663.9
8/21/17	671.33	671.00	669.5	668.69	667.5	--	663.9
8/22/17	--	671.00	669.5	--	667.5	--	663.9
8/23/17	--	671.00	669.5	--	667.5	--	663.9
8/24/17	--	671.00	669.5	--	667.5	--	663.9
8/25/17	--	671.00	669.5	--	667.5	--	663.9
8/26/17	--	671.00	669.5	--	667.5	--	663.9
8/27/17	--	671.00	669.5	--	667.5	--	663.9
8/28/17	671.38	671.00	669.5	668.69	667.5	--	663.9
8/29/17	--	671.00	669.5	--	667.5	--	663.9
8/30/17	--	671.00	669.5	--	667.5	--	663.9
8/31/17	--	671.00	669.5	--	667.5	--	663.9
9/1/17	671.38	671.00	669.5	668.69	667.5	--	663.9
9/2/17	--	671.00	669.5	--	667.5	--	663.9
9/3/17	--	671.00	669.5	--	667.5	--	663.9
9/4/17	--	671.00	669.5	--	667.5	--	663.9
9/5/17	671.43	671.00	669.5	668.69	667.5	--	663.9
9/6/17	--	671.00	669.5	--	667.5	--	663.9
9/7/17	--	671.00	669.5	--	667.5	--	663.9
9/8/17	--	671.00	669.5	--	667.5	--	663.9
9/9/17	--	671.00	669.5	--	667.5	--	663.9
9/10/17	--	671.00	669.5	--	667.5	--	663.9
9/11/17	671.43	671.00	669.5	668.69	667.5	--	663.9
9/12/17	--	671.00	669.5	--	667.5	--	663.9
9/13/17	--	671.00	669.5	--	667.5	--	663.9
9/14/17	--	671.00	669.5	--	667.5	--	663.9
9/15/17	--	671.00	669.5	--	667.5	--	663.9
9/16/17	--	671.00	669.5	--	667.5	--	663.9
9/17/17	--	671.00	669.5	--	667.5	--	663.9
9/18/17	671.48	671.00	669.5	668.69	667.5	--	663.9
9/19/17	--	671.00	669.5	--	667.5	--	663.9
9/20/17	--	671.00	669.5	--	667.5	--	663.9
9/21/17	--	671.00	669.5	--	667.5	--	663.9
9/22/17	--	671.00	669.5	--	667.5	--	663.9
9/23/17	--	671.00	669.5	--	667.5	--	663.9

Table 2.4

Summary of 2017 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Sump	LCS	LDS	GUS
Top of (concrete) sump (feet AMSL)	740.83	741.14	738.99
Bottom of sump (ft AMSL)	671.00	668.50	662.18
Bottom of sump (feet below top of sump [BTOS])	69.83	72.64	76.81
Diameter of sump (feet)	6	6	3

Date (mm/dd/yy)	LCS Water Elevation (Manual) (feet AMSL)	LCS Water Elevation (PLC) (feet AMSL)	Lowest Elevation of Primary Liner (feet AMSL)	LDS Water Elevation (feet AMSL)	Lowest Elevation of Secondary Liner (feet AMSL)	GUS Water Elevation (Manual) (feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
9/24/17	--	671.00	669.5	--	667.5	--	663.9
9/25/17	671.48	671.00	669.5	668.69	667.5	--	663.9
9/26/17	--	671.00	669.5	--	667.5	--	663.9
9/27/17	--	671.00	669.5	--	667.5	--	663.9
9/28/17	--	671.00	669.5	--	667.5	--	663.9
9/29/17	--	671.00	669.5	--	667.5	--	663.9
9/30/17	--	671.00	669.5	--	667.5	--	663.9
10/1/17	--	671.00	669.5	--	667.5	--	663.9
10/2/17	--	671.00	669.5	--	667.5	--	663.9
10/3/17	671.48	671.00	669.5	668.69	667.5	--	663.7
10/4/17	--	671.00	669.5	--	667.5	--	663.8
10/5/17	--	671.00	669.5	--	667.5	--	663.9
10/6/17	--	671.00	669.5	--	667.5	--	663.9
10/7/17	--	671.00	669.5	--	667.5	--	664.0
10/8/17	--	671.00	669.5	--	667.5	--	663.9
10/9/17	671.53	671.00	669.5	668.69	667.5	--	665.3
10/10/17	--	671.00	669.5	--	667.5	--	664.1
10/11/17	--	671.00	669.5	--	667.5	--	664.3
10/12/17	--	671.00	669.5	--	667.5	--	664.4
10/13/17	--	671.00	669.5	--	667.5	--	664.4
10/14/17	--	671.00	669.5	--	667.5	--	664.9
10/15/17	671.53	671.00	669.5	--	667.5	--	665.6
10/16/17	--	671.00	669.5	668.69	667.5	--	664.4
10/17/17	--	671.00	669.5	--	667.5	--	664.5
10/18/17	--	671.00	669.5	--	667.5	--	664.4
10/19/17	--	671.00	669.5	--	667.5	--	664.6
10/20/17	--	671.00	669.5	--	667.5	--	664.4
10/21/17	--	671.00	669.5	--	667.5	--	664.3
10/22/17	--	671.00	669.5	--	667.5	--	664.3
10/23/17	--	671.00	669.5	--	667.5	--	664.3
10/24/17	--	671.00	669.5	--	667.5	--	664.4
10/25/17	671.58	671.00	669.5	668.69	667.5	--	664.4
10/26/17	--	671.00	669.5	--	667.5	--	664.4
10/27/17	--	671.00	669.5	--	667.5	--	664.4
10/28/17	--	671.00	669.5	--	667.5	--	666.2
10/29/17	--	671.00	669.5	--	667.5	--	666.4
10/30/17	671.58	671.00	669.5	668.49	667.5	--	666.7
10/31/17	--	671.00	669.5	--	667.5	--	666.6

Table 2.4

Summary of 2017 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Sump	LCS		LDS		GUS
Top of (concrete) sump (feet AMSL)	740.83		741.14		738.99
Bottom of sump (ft AMSL)	671.00		668.50		662.18
Bottom of sump (feet below top of sump [BTOS])	69.83		72.64		76.81
Diameter of sump (feet)	6		6		3

Date (mm/dd/yy)	LCS Water Elevation (Manual) (feet AMSL)	LCS Water Elevation (PLC) (feet AMSL)	Lowest Elevation of Primary Liner (feet AMSL)	LDS Water Elevation (feet AMSL)	Lowest Elevation of Secondary Liner (feet AMSL)	GUS Water Elevation (Manual) (feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
11/1/17	671.53	671.00	669.5	--	667.5	--	666.9
11/2/17	--	671.00	669.5	--	667.5	--	667.0
11/3/17	--	671.00	669.5	--	667.5	--	667.0
11/4/17	--	671.00	669.5	--	667.5	--	667.0
11/5/17	--	671.00	669.5	--	667.5	--	667.1
11/6/17	--	671.00	669.5	--	667.5	--	667.3
11/7/17	--	671.00	669.5	--	667.5	--	667.4
11/8/17	671.53	671.00	669.5	--	667.5	--	667.5
11/9/17	--	671.00	669.5	--	667.5	--	667.6
11/10/17	--	671.00	669.5	--	667.5	--	667.8
11/11/17	--	671.00	669.5	--	667.5	--	667.9
11/12/17	--	671.00	669.5	--	667.5	--	668.0
11/13/17	671.53	671.00	669.5	--	667.5	--	668.2
11/14/17	--	671.00	669.5	--	667.5	--	668.3
11/15/17	--	671.00	669.5	--	667.5	--	668.4
11/16/17	--	671.00	669.5	--	667.5	--	668.5
11/17/17	--	671.00	669.5	--	667.5	--	668.5
11/18/17	--	671.00	669.5	--	667.5	--	668.7
11/19/17	--	671.00	669.5	--	667.5	--	668.7
11/20/17	671.63	671.00	669.5	--	667.5	--	668.8
11/21/17	--	671.00	669.5	--	667.5	--	668.9
11/22/17	--	671.00	669.5	--	667.5	--	668.9
11/23/17	--	671.00	669.5	--	667.5	--	669.0
11/24/17	--	671.00	669.5	--	667.5	--	669.0
11/25/17	--	671.00	669.5	--	667.5	--	669.0
11/26/17	--	671.00	669.5	--	667.5	--	669.0
11/27/17	671.63	671.00	669.5	--	667.5	--	669.0
11/28/17	--	671.00	669.5	--	667.5	--	669.0
11/29/17	--	671.00	669.5	--	667.5	--	669.1
11/30/17	--	671.00	669.5	--	667.5	--	669.0
12/1/17	--	671.00	669.5	--	667.5	--	669.0
12/2/17	--	671.00	669.5	--	667.5	--	669.0
12/3/17	--	671.00	669.5	--	667.5	--	669.0
12/4/17	671.63	671.00	669.5	--	667.5	--	669.1
12/5/17	--	671.00	669.5	--	667.5	--	669.1
12/6/17	--	671.00	669.5	--	667.5	--	669.1
12/7/17	--	671.00	669.5	--	667.5	--	669.1
12/8/17	--	671.00	669.5	--	667.5	--	669.1

Table 2.4

Summary of 2017 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Sump	LCS		LDS		GUS
Top of (concrete) sump (feet AMSL)	740.83		741.14		738.99
Bottom of sump (ft AMSL)	671.00		668.50		662.18
Bottom of sump (feet below top of sump [BTOS])	69.83		72.64		76.81
Diameter of sump (feet)	6		6		3

Date (mm/dd/yy)	LCS Water Elevation (Manual) (feet AMSL)	LCS Water Elevation (PLC) (feet AMSL)	Lowest Elevation of Primary Liner (feet AMSL)	LDS Water Elevation (feet AMSL)	Lowest Elevation of Secondary Liner (feet AMSL)	GUS Water Elevation (Manual) (feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
12/9/17	--	671.00	669.5	--	667.5	--	669.1
12/10/17	--	671.00	669.5	--	667.5	--	669.1
12/11/17	671.68	671.00	669.5	--	667.5	--	669.1
12/12/17	--	671.00	669.5	--	667.5	--	669.1
12/13/17	--	671.00	669.5	--	667.5	--	669.0
12/14/17	--	671.00	669.5	--	667.5	--	669.0
12/15/17	--	671.00	669.5	--	667.5	--	669.0
12/16/17	--	671.00	669.5	--	667.5	--	669.0
12/17/17	--	671.00	669.5	--	667.5	--	669.0
12/18/17	671.73	671.00	669.5	--	667.5	--	669.0
12/19/17	--	671.00	669.5	--	667.5	--	669.0
12/20/17	--	671.00	669.5	--	667.5	--	669.0
12/21/17	--	671.00	669.5	--	667.5	--	669.0
12/22/17	--	671.00	669.5	--	667.5	--	669.0
12/23/17	--	671.00	669.5	--	667.5	--	669.0
12/24/17	--	671.00	669.5	--	667.5	--	669.0
12/25/17	--	671.00	669.5	--	667.5	--	669.0
12/26/17	671.73	671.00	669.5	--	667.5	--	669.0
12/27/17	--	671.00	669.5	--	667.5	--	669.0
12/28/17	--	671.00	669.5	--	667.5	--	669.0
12/29/17	--	671.00	669.5	--	667.5	--	669.0
12/30/17	--	671.00	669.5	--	667.5	--	669.0
12/31/17	--	671.00	669.5	--	667.5	--	669.0

Table 2.5

2017 LCS, LDS, and GUS Maximum Water Elevation Summary
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Maximum Water Level (based on manual measurements), measured in feet

Date	LCS ¹	LCS ¹	LCS ¹	LCS ¹	LDS ²	LDS ²	GUS ³	GUS ³	GUS ³	GUS ³	Remarks
	Manual Measurement Water Depth (ft)	Manual Measurement Water Surface Elev. (ft AMSL)	PLC Water Depth (ft)	PLC Water Surface Elev. (ft AMSL)	Manual Measurement Water Depth (ft)	Manual Measurement Water Surface Elev. (ft AMSL)	Manual Measurement Water Depth (ft)	Manual Measurement Water Surface Elev. (ft AMSL)	PLC Water Depth (ft)	PLC Water Surface Elev. (ft AMSL)	
Jan-17	1.5	672.5	0.0	671.0	0.2	668.7	--	--	4.3	666.5	Peak, pump started
Feb-17	1.0	672.0	0.0	671.0	0.4	668.9	--	--	4.3	666.5	Peak, pump started
Mar-17	1.1	672.1	0.0	671.0	0.4	668.9	--	--	4.3	666.5	Peak, pump started
Apr-17	1.3	672.3	0.0	671.0	0.4	668.9	--	--	3.9	666.1	
May-17	1.4	672.4	0.0	671.0	4.3	672.8	--	--	4.2	666.3	
Jun-17	1.4	672.4	0.0	671.0	0.2	668.7	--	--	1.8	663.9	
Jul-17	1.5	672.5	0.0	671.0	0.2	668.7	--	--	1.8	663.9	
Aug-17	0.4	671.4	0.0	671.0	0.2	668.7	--	--	1.8	663.9	
Sep-17	0.5	671.5	0.0	671.0	0.2	668.7	--	--	1.8	663.9	
Oct-17	0.6	671.6	0.0	671.0	0.2	668.7	--	--	4.5	666.7	Pump failed
Nov-17	0.6	671.6	0.0	671.0	--	668.6	--	--	6.9	669.1	
Dec-17	0.7	671.7	0.0	671.0	--	668.7	--	--	6.9	669.1	

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): 72.64³ 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

**2017 Summary of Monthly Total Volume of Water Treated
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana**

Month	Groundwater Treatment Plant (GWTP) Number of Operational Days	Volume of Water Treated/Discharged at the GWTP (gallons x 106)	Daily Average Water Treated/Discharged at the GWTP (gpm)
Jan-17	31	7.302	164
Feb-17	28	2.677	66
Mar-17	31	5.726	128
Apr-17	30	2.849	66
May-17	29	4.648	111
Jun-17	28	2.385	59
Jul-17	31	1.618	36
Aug-17	28	0.395	10
Sep-17	29	0.459	11
Oct-17	31	0.833	19
Nov-17	30	1.628	38
Dec-17	31	1.525	34
Total	357	32.045	
Month Average	-	2.670	
Daily Average	-	0.090	

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2017 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area:		EastPlantArea	A007_EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	Plant_property
Sample Location:		9-4	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S	MW-X033Y147S	MW-X043Y176
Sample Identification:		GW-050217-KD-07	GW-050217-KD-05	GW-050117-JL-04	GW-050117-JL-02	GW-050117-KD-01	GW-050117-KD-03	GW-050217-JL-10	GW-050217-JL-10~Split	GW-050317-JL-20
Sample Date:		5/2/2017	5/2/2017	5/1/2017	5/1/2017	5/1/2017	5/1/2017	5/2/2017	5/2/2017	5/3/2017
Sample Type:										
Sample Depth:									Replicate	
	Units									
PCBs		0.20 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U
		0.20 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U
Aroclor-1016 (PCB-1016)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U
Aroclor-1221 (PCB-1221)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U
Aroclor-1232 (PCB-1232)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U
Aroclor-1242 (PCB-1242)	ug/L	0.20 UJ	0.20 UJ	0.19 U	0.19 U	0.20 U	0.20 U	0.20 UJ	0.19 U	0.20 U
Aroclor-1248 (PCB-1248)	ug/L	0.20 UJ	0.20 UJ	0.19 U	0.19 U	0.20 U	0.20 U	0.20 UJ	0.19 U	0.20 U
Aroclor-1254 (PCB-1254)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260 (PCB-1260)	ug/L									
Total PCBs	ug/L	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U
		0.20 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1016 (PCB-1016) (dissolved)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	ug/L	0.20 UJ	0.20 UJ	0.19 U	0.19 U	0.20 U	0.20 U	0.19 UJ	0.19 U	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	ug/L	0.20 UJ	0.20 UJ	0.19 U	0.19 U	0.20 U	0.20 U	0.19 UJ	0.19 U	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260 (PCB-1260) (dissolved)	ug/L									
Total PCBs (dissolved)	ug/L									
		--	--	--	--	--	--	--	--	--
Volatile Organic Compounds (VOCs)		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2017 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area:		EastPlantArea	A007_EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	Plant_property
Sample Location:		9-4	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S	MW-X033Y147S	MW-X043Y176
Sample Identification:		GW-050217-KD-07	GW-050217-KD-05	GW-050117-JL-04	GW-050117-JL-02	GW-050117-KD-01	GW-050117-KD-03	GW-050217-JL-10	GW-050217-JL-10~Split	GW-050317-JL-20
Sample Date:		5/2/2017	5/2/2017	5/1/2017	5/1/2017	5/1/2017	5/1/2017	5/2/2017	5/2/2017	5/3/2017
Sample Type:										
Sample Depth:									Replicate	
	Units									
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)		--	--	--	--	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L									
2-Methylphenol	ug/L									
2-Nitroaniline	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
4-Methylphenol	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	10 UJ	10 UJ	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	1.0 UJ	1.0 UJ	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	1.0 U	0.49 J	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--	--
Caprolactam	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--	--
Chrysene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Dibenzofuran	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2017 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area:		EastPlantArea	A007_EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	Plant_property
Sample Location:		9-4	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S	MW-X033Y147S	MW-X043Y176
Sample Identification:		GW-050217-KD-07	GW-050217-KD-05	GW-050117-JL-04	GW-050117-JL-02	GW-050117-KD-01	GW-050117-KD-03	GW-050217-JL-10	GW-050217-JL-10~Split	GW-050317-JL-20
Sample Date:		5/2/2017	5/2/2017	5/1/2017	5/1/2017	5/1/2017	5/1/2017	5/2/2017	5/2/2017	5/3/2017
Sample Type:										
Sample Depth:									Replicate	
	Units									
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	1.0 U	0.31 J	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Hexachloroethane	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--	--
Isophorone	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L									
Pentachlorophenol	ug/L									
Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--
Phenol	ug/L	840	1300	--	--	--	--	--	--	--
Pyrene	ug/L	11.1 J	7.8 J	--	--	--	--	--	--	--
General Chemistry										
Conductance, specific	umhos/cm									
pH, lab	s.u.									
Total solids	%									
Chloride										
Notes:										
U - Not detected at the associated reporting limit.										
J - Estimated concentration.										
UJ - Not detected; associated reporting limit is estimated.										

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2017 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area:	Plant_property	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001	A001	A001
Sample Location:	MW-X047Y236	MW-X085Y070S-1	MW-X085Y070S-1	MW-X085Y070S-2	MW-X085Y070S-2	MW-X146Y084	MW-X146Y084	MW-X165Y068
Sample Identification:	GW-050317-JL-18	GW-050317-SA-19	GW-050317-SA-19~Split	GW-050317-SA-17	GW-050317-SA-17~Split	GW-050417-SA-27	GW-120717-MC-20	GW-050317-SA-24
Sample Date:	5/3/2017	5/3/2017	5/3/2017	5/3/2017	5/3/2017	5/4/2017	12/7/2017	5/3/2017
Sample Type:								
Sample Depth:								
	Units							
PCBs		0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U
		0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260 (PCB-1260)	ug/L							
Total PCBs	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U
		0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U
Aroclor-1016 (PCB-1016) (dissolved)	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	ug/L	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260 (PCB-1260) (dissolved)	ug/L							
Total PCBs (dissolved)	ug/L	--	--	--	--	--	--	--
Volatile Organic Compounds (VOCs)		--	--	--	--	--	--	--
		--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2017 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area:		Plant_property	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001	A001	A001
Sample Location:		MW-X047Y236	MW-X085Y070S-1	MW-X085Y070S-1	MW-X085Y070S-2	MW-X085Y070S-2	MW-X146Y084	MW-X146Y084	MW-X165Y068
Sample Identification:		GW-050317-JL-18	GW-050317-SA-19	GW-050317-SA-19~Split	GW-050317-SA-17	GW-050317-SA-17~Split	GW-050417-SA-27	GW-120717-MC-20	GW-050317-SA-24
Sample Date:		5/3/2017	5/3/2017	5/3/2017	5/3/2017	5/3/2017	5/4/2017	12/7/2017	5/3/2017
Sample Type:				Replicate		Replicate			
Sample Depth:									
		Units							
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)		--	--	--	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L								
2-Methylphenol	ug/L								
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2017 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area:	Plant_property	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001	A001	A001
Sample Location:	MW-X047Y236	MW-X085Y070S-1	MW-X085Y070S-1	MW-X085Y070S-2	MW-X085Y070S-2	MW-X146Y084	MW-X146Y084	MW-X165Y068
Sample Identification:	GW-050317-JL-18	GW-050317-SA-19	GW-050317-SA-19~Split	GW-050317-SA-17	GW-050317-SA-17~Split	GW-050417-SA-27	GW-120717-MC-20	GW-050317-SA-24
Sample Date:	5/3/2017	5/3/2017	5/3/2017	5/3/2017	5/3/2017	5/4/2017	12/7/2017	5/3/2017
Sample Type:								
Sample Depth:								
	Units							
Diethyl phthalate	ug/L	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	1.0 U	1.0 U	1.0 U
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L							
Pentachlorophenol	ug/L							
Phenanthrene	ug/L	--	--	--	--	2300000	2400000	290000
Phenol	ug/L	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--
General Chemistry								
Conductance, specific	umhos/cm							
pH, lab	s.u.							
Total solids	%							
Chloride								
Notes:								
U - Not detected at the associated reporting limit.								
J - Estimated concentration.								
UJ - Not detected; associated reporting limit is estimated.								

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2017 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area:	A001	A001MonitoringWell_WestPlantArea	EastPlantArea	P200FormerSouthLagoonsandOutfall002_A008	RFIBoundary_P216West	P205	P216GM_P216_east	P216GM_P216_east	P209
Sample Location:	MW-X165Y068	MW-X169Y058S-1	MW-X227Y054	MW-X242Y060S	MW-X261Y356D-3	MW-X277Y100	MW-X297Y305D-2	MW-X297Y305D-2	MW-X300Y199I-1
Sample Identification:	GW-050317-SA-26	GW-050317-KD-15	GW-050217-JL-14	GW-050417-KD-25	GW-050317-KD-21	GW-050317-JL-22	GW-050217-KD-11	GW-050217-KD-13	GW-050217-SA-16
Sample Date:	5/3/2017	5/3/2017	5/2/2017	5/4/2017	5/3/2017	5/3/2017	5/2/2017	5/2/2017	5/2/2017
Sample Type:	Duplicate							Duplicate	
Sample Depth:									
Units									
PCBs	0.19 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
	0.19 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1016 (PCB-1016)	ug/L 0.19 U	0.20 U	5.3 J	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L 0.19 U	0.20 U	0.19 U	61	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L 0.19 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L 0.19 U	0.20 U	0.19 UJ	0.20 U	0.20 U	0.19 U	0.20 UJ	0.20 UJ	0.19 UJ
Aroclor-1248 (PCB-1248)	ug/L 0.19 U	0.20 U	0.19 UJ	0.90	0.20 U	0.19 U	0.20 UJ	0.20 UJ	0.19 UJ
Aroclor-1254 (PCB-1254)	ug/L ND	ND	5.3 J	61.9	ND	ND	ND	ND	ND
Aroclor-1260 (PCB-1260)	ug/L								
Total PCBs	ug/L 0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1016 (PCB-1016) (dissolved)	ug/L 0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	ug/L 0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	ug/L 0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	ug/L 0.20 U	0.20 U	0.19 UJ	0.20 U	0.20 U	0.19 U	0.20 UJ	0.20 UJ	0.19 UJ
Aroclor-1248 (PCB-1248) (dissolved)	ug/L 0.20 U	0.20 U	0.19 UJ	0.20 U	0.20 U	0.19 U	0.20 UJ	0.20 UJ	0.19 UJ
Aroclor-1254 (PCB-1254) (dissolved)	ug/L ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260 (PCB-1260) (dissolved)	ug/L								
Total PCBs (dissolved)	ug/L								
	--	--	--	--	--	9.5 U	--	--	--
Volatile Organic Compounds (VOCs)	--	--	--	--	--	9.5 U	--	--	--
	--	--	--	--	--	9.5 U	--	--	--
1,1,1-Trichloroethane	ug/L --	--	--	--	--	9.5 U	--	--	--
1,1,2,2-Tetrachloroethane	ug/L --	--	--	--	--	9.5 U	--	--	--
1,1,2-Trichloroethane	ug/L --	--	--	--	--	48 U	--	--	--
1,1-Dichloroethane	ug/L --	--	--	--	--	9.5 U	--	--	--
1,1-Dichloroethene	ug/L --	--	--	--	--	9.5 U	--	--	--
1,2-Dichlorobenzene	ug/L --	--	--	--	--	9.5 U	--	--	--
1,2-Dichloroethane	ug/L --	--	--	--	--	9.5 U	--	--	--
1,2-Dichloropropane	ug/L --	--	--	--	--	9.5 U	--	--	--
1,3-Dichlorobenzene	ug/L --	--	--	--	--	9.5 U	--	--	--
1,4-Dichlorobenzene	ug/L --	--	--	--	--	48 U	--	--	--
2-Chloroethyl vinyl ether	ug/L --	--	--	--	--	9.5 U	--	--	--
Benzene	ug/L --	--	--	--	--	9.5 U	--	--	--
Bromodichloromethane	ug/L --	--	--	--	--	48 U	--	--	--
Bromoform	ug/L --	--	--	--	--	48 U	--	--	--
Bromomethane (Methyl bromide)	ug/L --	--	--	--	--	48 U	--	--	--
Carbon tetrachloride	ug/L --	--	--	--	--	9.5 U	--	--	--
Chlorobenzene	ug/L --	--	--	--	--	9.5 U	--	--	--
Chloroethane	ug/L --	--	--	--	--	9.5 U	--	--	--
Chloroform (Trichloromethane)	ug/L --	--	--	--	--	9.5 U	--	--	--
Chloromethane (Methyl chloride)	ug/L --	--	--	--	--	48 U	--	--	--
cis-1,3-Dichloropropene	ug/L --	--	--	--	--	48 U	--	--	--
Dibromochloromethane	ug/L --	--	--	--	--	9.5 U	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L --	--	--	--	--	9.5 U	--	--	--
Ethylbenzene	ug/L --	--	--	--	--	9.5 U	--	--	--
Methylene chloride	ug/L --	--	--	--	--	9.5 U	--	--	--
Tetrachloroethene	ug/L --	--	--	--	--	9.5 U	--	--	--
Toluene	ug/L --	--	--	--	--	9.5 U	--	--	--
trans-1,2-Dichloroethene	ug/L --	--	--	--	--	9.5 U	--	--	--
trans-1,3-Dichloropropene	ug/L --	--	--	--	--	9.5 U	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L --	--	--	--	--	9.5 U	--	--	--
Vinyl chloride	ug/L --	--	--	--	--	9.5 U	--	--	--
1,2,4-Trichlorobenzene	ug/L --	--	--	--	--	9.5 U	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L --	--	--	--	--	9.5 U	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L --	--	--	--	--	9.5 U	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L --	--	--	--	--	9.5 U	--	--	--
2-Hexanone	ug/L --	--	--	--	--	9.5 U	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L --	--	--	--	--	9.5 U	--	--	--
Acetone	ug/L --	--	--	--	--	9.5 U	--	--	--

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East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area:	A001	A001MonitoringWell_WestPlantArea	EastPlantArea	P200FormerSouthLagoonsandOutfall002_A008	RFIBoundary_P216West	P205	P216GM_P216_east	P216GM_P216_east	P209
Sample Location:	MW-X165Y068	MW-X169Y058S-1	MW-X227Y054	MW-X242Y060S	MW-X261Y356D-3	MW-X277Y100	MW-X297Y305D-2	MW-X297Y305D-2	MW-X300Y199I-1
Sample Identification:	GW-050317-SA-26	GW-050317-KD-15	GW-050217-JL-14	GW-050417-KD-25	GW-050317-KD-21	GW-050317-JL-22	GW-050217-KD-11	GW-050217-KD-13	GW-050217-SA-16
Sample Date:	5/3/2017	5/3/2017	5/2/2017	5/4/2017	5/3/2017	5/3/2017	5/2/2017	5/2/2017	5/2/2017
Sample Type:	Duplicate							Duplicate	
Sample Depth:									
	Units								
Carbon disulfide	ug/L	--	--	--	--	--	9.5 U	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	9.5 U	--	--
Cyclohexane	ug/L	--	--	--	--	--	9.5 U	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	9.5 U	--	--
Methyl acetate	ug/L	--	--	--	--	--	9.5 U	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	9.5 U	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	9.5 U	--	--
Styrene	ug/L	--	--	--	--	--	9.5 U	--	--
Trichloroethene	ug/L	--	--	--	--	--	9.5 U	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	9.5 U	--	--
Xylenes (total)	ug/L	--	--	--	--	--	9.5 U	--	--
Semi-Volatile Organic Compounds (SVOCs)	--	--	--	--	--	--	48 U	--	--
	--	--	--	--	--	--	9.5 U	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	9.5 U	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	9.5 U	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	9.5 U	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	9.5 U	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	9.5 U	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	9.5 U	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	9.5 U	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	9.5 U	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	9.5 U	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	9.5 U	--	--
2-Methylnaphthalene	ug/L								
2-Methylphenol	ug/L								
2-Nitroaniline	ug/L	--	--	--	--	--	1.0 U	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	1.0 U	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	1.0 U	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	1.0 U	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	1.0 U	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	1.0 U	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	2.0 U	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	1.0 U	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	1.0 U	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	1.0 U	--	--
4-Methylphenol	ug/L	--	--	--	--	--	1.0 U	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	1.0 U	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	1.0 U	--	--
Acenaphthene	ug/L	--	--	--	--	--	10 U	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	10 U	--	--
Anthracene	ug/L	--	--	--	--	--	10 U	--	--
Atrazine	ug/L	--	--	--	--	--	2.4 J	--	--
Benzaldehyde	ug/L	--	--	--	--	--	1.0 U	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	1.0 U	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	1.0 UJ	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	1.0 U	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	1.0 U	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	1.0 U	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	1.0 U	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	1.0 U	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	1.0 U	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	1.0 U	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	1.0 U	--	--
Caprolactam	ug/L	--	--	--	--	--	1.0 U	--	--
Carbazole	ug/L	--	--	--	--	--	1.0 U	--	--
Chrysene	ug/L	--	--	--	--	--	1.0 U	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	1.0 U	--	--
Dibenzofuran	ug/L	--	--	--	--	--	1.0 U	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2017 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area:	A001	A001MonitoringWell_WestPlantArea	EastPlantArea	P200FormerSouthLagoonsandOutfall002_A008	RFIBoundary_P216West	P205	P216GM_P216_east	P216GM_P216_east	P209
Sample Location:	MW-X165Y068	MW-X169Y058S-1	MW-X227Y054	MW-X242Y060S	MW-X261Y356D-3	MW-X277Y100	MW-X297Y305D-2	MW-X297Y305D-2	MW-X300Y199I-1
Sample Identification:	GW-050317-SA-26	GW-050317-KD-15	GW-050217-JL-14	GW-050417-KD-25	GW-050317-KD-21	GW-050317-JL-22	GW-050217-KD-11	GW-050217-KD-13	GW-050217-SA-16
Sample Date:	5/3/2017	5/3/2017	5/2/2017	5/4/2017	5/3/2017	5/3/2017	5/2/2017	5/2/2017	5/2/2017
Sample Type:	Duplicate							Duplicate	
Sample Depth:									
	Units								
Diethyl phthalate	ug/L	--	--	--	--	--	1.0 U	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	10 U	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	1.0 U	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	1.0 U	--	--
Fluoranthene	ug/L	--	--	--	--	--	1.0 U	--	--
Fluorene	ug/L	--	--	--	--	--	1.0 U	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	1.0 U	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	1.0 U	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	1.0 U	--	--
Hexachloroethane	ug/L	--	--	--	--	--	1.0 U	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	1.0 U	--	--
Isophorone	ug/L	--	--	--	--	--	1.0 U	--	--
Naphthalene	ug/L	--	--	--	--	--	1.0 U	--	--
Nitrobenzene	ug/L	1.0 U	2.9	--	--	--	1.0 U	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	2.0 U	--	--
N-Nitrosodiphenylamine	ug/L								
Pentachlorophenol	ug/L								
Phenanthrene	ug/L	290000	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--
General Chemistry									
Conductance, specific	umhos/cm								
pH, lab	s.u.								
Total solids	%								
Chloride									
Notes:									
U - Not detected at the associated reporting limit.									
J - Estimated concentration.									
UJ - Not detected; associated reporting limit is estimated.									

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2017 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area:		P209	P006	P006	A001	P015	NA
Sample Location:		MW-X300Y199I-2	MW-X315Y115	MW-X315Y150	ST-59	Tributary 3-3	Wet Well 4
Sample Identification:		GW-050217-SA-12	GW-050217-JL-08	GW-050217-JL-06	GW-050317-SA-23	GW-050217-KD-09	GW-216-051017-MC-40919
Sample Date:		5/2/2017	5/2/2017	5/2/2017	5/3/2017	5/2/2017	5/10/2017
Sample Type:							
Sample Depth:							
	Units						
PCBs		0.20 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
		0.20 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1016 (PCB-1016)	ug/L	0.20 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.20 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.20 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.20 UJ	0.19 UJ	0.19 UJ	0.19 U	0.20 UJ	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.20 UJ	0.19 UJ	0.19 UJ	0.19 U	0.20 UJ	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	ND	ND	ND	ND	ND	ND
Aroclor-1260 (PCB-1260)	ug/L						
Total PCBs	ug/L	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	--
		0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	--
Aroclor-1016 (PCB-1016) (dissolved)	ug/L	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	--
Aroclor-1221 (PCB-1221) (dissolved)	ug/L	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	--
Aroclor-1232 (PCB-1232) (dissolved)	ug/L	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	--
Aroclor-1242 (PCB-1242) (dissolved)	ug/L	0.20 UJ	0.19 UJ	0.19 UJ	0.20 U	0.20 UJ	--
Aroclor-1248 (PCB-1248) (dissolved)	ug/L	0.20 UJ	0.19 UJ	0.19 UJ	0.20 U	0.20 UJ	--
Aroclor-1254 (PCB-1254) (dissolved)	ug/L	ND	ND	ND	ND	ND	--
Aroclor-1260 (PCB-1260) (dissolved)	ug/L						
Total PCBs (dissolved)	ug/L	--	--	--	--	--	--
Volatiles Organic Compounds (VOCs)		--	--	--	--	--	--
		--	--	--	--	--	--
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2017 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area:		P209	P006	P006	A001	P015	NA
Sample Location:		MW-X300Y199I-2	MW-X315Y115	MW-X315Y150	ST-59	Tributary 3-3	Wet Well 4
Sample Identification:		GW-050217-SA-12	GW-050217-JL-08	GW-050217-JL-06	GW-050317-SA-23	GW-050217-KD-09	GW-216-051017-MC-40919
Sample Date:		5/2/2017	5/2/2017	5/2/2017	5/3/2017	5/2/2017	5/10/2017
Sample Type:							
Sample Depth:							
	Units						
Carbon disulfide	ug/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)		--	--	--	--	--	--
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--
2-Methylnaphthalene	ug/L						
2-Methylphenol	ug/L						
2-Nitroaniline	ug/L	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2017 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area:		P209	P006	P006	A001	P015	NA
Sample Location:		MW-X300Y199I-2	MW-X315Y115	MW-X315Y150	ST-59	Tributary 3-3	Wet Well 4
Sample Identification:		GW-050217-SA-12	GW-050217-JL-08	GW-050217-JL-06	GW-050317-SA-23	GW-050217-KD-09	GW-216-051017-MC-40919
Sample Date:		5/2/2017	5/2/2017	5/2/2017	5/3/2017	5/2/2017	5/10/2017
Sample Type:							
Sample Depth:							
	Units						
Diethyl phthalate	ug/L	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L						
Pentachlorophenol	ug/L						
Phenanthrene	ug/L	--	--	--	13000	--	--
Phenol	ug/L	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--
General Chemistry							
Conductance, specific	umhos/cm						
pH, lab	s.u.						
Total solids	%						
Chloride							
Notes:							
U - Not detected at the associated reporting limit.							
J - Estimated concentration.							
UJ - Not detected; associated reporting limit is estimated.							

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2017 2-nd Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	MonitoringWell_RFIBoundary_WestPlantArea
Sample Location:		9-4	9-4	CH-20	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S	MW-X033Y147S
Sample Identification:		GW-120617-MC-12	GW-120817-MC-27	GW-120617-MC-10	GW-120817-MC-28	GW-120517-MC-04	GW-120517-MC-02	GW-120517-KC-01	GW-120517-KC-03	GW-120617-MC-14	GW-120617-MC-18
Sample Date:		12/6/2017	12/8/2017	12/6/2017	12/8/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/6/2017	12/6/2017
Sample Type:											Duplicate
Units											
PCBs											
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	--	ND	--	ND	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	ug/L	0.19 U	--	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)	ug/L	0.19 U	--	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)	ug/L	0.19 U	--	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)	ug/L	0.19 U	--	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)	ug/L	0.19 U	--	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)	ug/L	0.19 U	--	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)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs (dissolved)	ug/L	ND	--	ND	--	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (SVOCs)											
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--	--	--

Table 3.2

Summary of Total PCBs Analytical Results for El CA750 2017 2-nd Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	MonitoringWell_RFIBoundary_WestPlantArea
Sample Location:		9-4	9-4	CH-20	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S	MW-X033Y147S
Sample Identification:		GW-120617-MC-12	GW-120817-MC-27	GW-120617-MC-10	GW-120817-MC-28	GW-120517-MC-04	GW-120517-MC-02	GW-120517-KC-01	GW-120517-KC-03	GW-120617-MC-14	GW-120617-MC-18
Sample Date:		12/6/2017	12/8/2017	12/6/2017	12/8/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/6/2017	12/6/2017
Sample Type:											Duplicate
	Units										
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds (VOCs)											
1,1,1-Trichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	10 U	--	10 U	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--	--	--	--
Benzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Bromoform	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Chlorobenzene	ug/L	--	1.0 U	--	0.53 J	--	--	--	--	--	--
Chloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Ethylbenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Toluene	ug/L	--	1.0 U	--	0.26 J	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Trifluorotrichloroethane (CFC-113)	ug/L	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--	--	--	--	--
General Chemistry											
Chloride	ug/L	--	--	--	--	--	--	--	--	--	--
Conductance, specific	umhos/cm	--	--	--	--	--	--	--	--	--	--
pH, lab	s.u.	--	--	--	--	--	--	--	--	--	--

Notes:
ND() - Not detected at the associated reporting limit.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2017 2-nd Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	Plant_property	Plant_property	Plant_property	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea
Sample Location:		9-4	9-4	CH-20	CH-20	CH-42	MW-X033Y147S	MW-X043Y176	MW-X043Y176	MW-X047Y236	MW-X085Y070S-1	MW-X085Y070S-1
Sample Identification:		GW-120617-MC-12	GW-120817-MC-27	GW-120617-MC-10	GW-120817-MC-28	GW-120517-MC-04	GW-120717-MC-24	GW-120717-KC-23	GW-120717-KC-25	GW-120717-MC-22	GW-120617-KC-17	GW-120617-KC-17
Sample Date:		12/6/2017	12/8/2017	12/6/2017	12/8/2017	12/5/2017	12/7/2017	12/7/2017	12/7/2017	12/7/2017	12/6/2017	12/6/2017
Sample Type:									Duplicate			Replicate
Units												
PCBs												
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U
Total PCBs	ug/L	ND	--	ND	--	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.20 U
Total PCBs (dissolved)	ug/L	ND	--	ND	--	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (SVOCs)												
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--	--	--	--

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2017 2-nd Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	Plant_property	Plant_property	Plant_property	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea
Sample Location:		9-4	9-4	CH-20	CH-20	CH-42	MW-X033Y147S	MW-X043Y176	MW-X043Y176	MW-X047Y236	MW-X085Y070S-1	MW-X085Y070S-1
Sample Identification:		GW-120617-MC-12	GW-120817-MC-27	GW-120617-MC-10	GW-120817-MC-28	GW-120517-MC-04	GW-120717-MC-24	GW-120717-KC-23	GW-120717-KC-25	GW-120717-MC-22	GW-120617-KC-17	GW-120617-KC-17-Split
Sample Date:		12/6/2017	12/8/2017	12/6/2017	12/8/2017	12/5/2017	12/7/2017	12/7/2017	12/7/2017	12/7/2017	12/6/2017	12/6/2017
Sample Type:									Duplicate			Replicate
	Units											
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds (VOCs)												
1,1,1-Trichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	10 U	--	10 U	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Bromoform	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	1.0 U	--	0.53 J	--	--	--	--	--	--	--
Chloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Toluene	ug/L	--	1.0 U	--	0.26 J	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Trifluorotrichloroethane (CFC-113)	ug/L	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--	--	--	--	--	--
General Chemistry												
Chloride	ug/L	--	--	--	--	--	--	--	--	--	--	--
Conductance, specific	umhos/cm	--	--	--	--	--	--	--	--	--	--	--
pH, lab	S.U.	--	--	--	--	--	--	--	--	--	--	--

Notes:

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

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2017 2-nd Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	EastPlantArea	A001	A001	A001MonitoringWell_WestPlantArea	EastPlantArea	RFIBoundary_P216West	P205	P216GM_P216_east	P209
Sample Location:		9-4	9-4	CH-20	CH-20	CH-42	MW-X146Y084	MW-X165Y068	MW-X169Y058S-1	MW-X227Y054	MW-X261Y356D-3	MW-X277Y100	MW-X297Y305D-2	MW-X300Y199I-1
Sample Identification:		GW-120617-MC-12	GW-120817-MC-27	GW-120617-MC-10	GW-120817-MC-28	GW-120517-MC-04	GW-120717-MC-20	GW-120617-MC-16	GW-120617-KC-15	GW-120717-KC-19	GW-120617-KC-09	GW-120717-KC-21	GW-120617-KC-11	GW-120517-KC-07
Sample Date:		12/6/2017	12/8/2017	12/6/2017	12/8/2017	12/5/2017	12/7/2017	12/6/2017	12/6/2017	12/7/2017	12/6/2017	12/7/2017	12/6/2017	12/5/2017
Sample Type:														
Units														
PCBs														
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	--	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.20 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)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.20 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)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.20 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)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.20 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)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.20 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)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.20 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)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.20 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)	ug/L	ND	--	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (SVOCs)														
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--	50 UJ	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	50 U	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--	--	--	50 U	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	50 U	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	50 UJ	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	50 U	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--	50 U	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--	--	--	50 UJ	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--

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GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	EastPlantArea	A001	A001	A001MonitoringWell_WestPlantArea	EastPlantArea	RFIBoundary_P216West	P205	P216GM_P216_east	P209
Sample Location:		9-4	9-4	CH-20	CH-20	CH-42	MW-X146Y084	MW-X165Y068	MW-X169Y058S-1	MW-X227Y054	MW-X261Y356D-3	MW-X277Y100	MW-X297Y305D-2	MW-X300Y199I-1
Sample Identification:		GW-120617-MC-12	GW-120817-MC-27	GW-120617-MC-10	GW-120817-MC-28	GW-120517-MC-04	GW-120717-MC-20	GW-120617-MC-16	GW-120617-KC-15	GW-120717-KC-19	GW-120617-KC-09	GW-120717-KC-21	GW-120617-KC-11	GW-120517-KC-07
Sample Date:		12/6/2017	12/8/2017	12/6/2017	12/8/2017	12/5/2017	12/7/2017	12/6/2017	12/6/2017	12/7/2017	12/6/2017	12/7/2017	12/6/2017	12/5/2017
Sample Type:														
	Units													
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Volatile Organic Compounds (VOCs)														
1,1,1-Trichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
1,1,2-Trichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
1,1-Dichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
1,1-Dichloroethene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 UJ	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--	--	--	2.0 UJ	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U	--	--
1,2-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
1,2-Dichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
1,2-Dichloropropane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
1,3-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
1,4-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
2-Chloroethyl vinyl ether	ug/L	--	10 U	--	10 U	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Acetone	ug/L	--	--	--	--	--	--	--	--	--	--	2.6 J	--	--
Benzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Bromodichloromethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Bromoform	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Bromomethane (Methyl bromide)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--	--	--	3.8	--	--
Carbon tetrachloride	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Chlorobenzene	ug/L	--	1.0 U	--	0.53 J	--	--	--	--	--	--	1.0 U	--	--
Chloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Chloroform (Trichloromethane)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Chloromethane (Methyl chloride)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U	--	--
cis-1,3-Dichloropropene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U	--	--
Dibromochloromethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Ethylbenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--	--	--	--	10 U	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U	--	--
Methylene chloride	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Styrene	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U	--	--
Tetrachloroethene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Toluene	ug/L	--	1.0 U	--	0.26 J	--	--	--	--	--	--	1.0 U	--	--
trans-1,2-Dichloroethene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
trans-1,3-Dichloropropene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Trichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--	1.0 U	--	--
Trifluorotrichloroethane (CFC-113)	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U	--	--
Vinyl chloride	ug/L	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	1.0	--	--	1.0 U	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--	--	--	--	--	2.0 U	--	--
General Chemistry														
Chloride	ug/L	--	--	--	--	--	2400000	300000	--	--	--	--	--	--
Conductance, specific	umhos/cm	--	--	--	--	--	--	--	--	--	--	--	--	--
pH, lab	s.u.	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

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

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2017 2-nd Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	EastPlantArea	P209	P006	P006	A001	P015
Sample Location:		9-4	9-4	CH-20	CH-20	CH-42	MW-X300Y199I-2	MW-X315Y115	MW-X315Y150	ST-59	Tributary 3-3
Sample Identification:		GW-120617-MC-12	GW-120817-MC-27	GW-120617-MC-10	GW-120817-MC-28	GW-120517-MC-04	GW-120517-KC-05	GW-120517-MC-08	GW-120517-MC-06	GW-120717-MC-26	GW-120617-KC-13
Sample Date:		12/6/2017	12/8/2017	12/6/2017	12/8/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/7/2017	12/6/2017
Sample Type:											
Units											
PCBs											
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	--	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)	ug/L	0.19 U	--	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)	ug/L	0.19 U	--	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)	ug/L	0.19 U	--	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)	ug/L	0.19 U	--	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)	ug/L	0.19 U	--	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)	ug/L	0.19 U	--	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	--	ND	--	ND	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	ug/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)	ug/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)	ug/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)	ug/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)	ug/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)	ug/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)	ug/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)	ug/L	ND	--	ND	--	ND	--	ND	ND	ND	ND
Semi-Volatile Organic Compounds (SVOCs)											
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/L	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/L	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/L	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/L	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/L	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/L	--	--	--	--	--	--	--	--	--	--
Chrysene	ug/L	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--
Fluorene	ug/L	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--	--	--

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2017 2-nd Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	EastPlantArea	P209	P006	P006	A001	P015
Sample Location:		9-4	9-4	CH-20	CH-20	CH-42	MW-X300Y199I-2	MW-X315Y115	MW-X315Y150	ST-59	Tributary 3-3
Sample Identification:		GW-120617-MC-12	GW-120817-MC-27	GW-120617-MC-10	GW-120817-MC-28	GW-120517-MC-04	GW-120517-KC-05	GW-120517-MC-08	GW-120517-MC-06	GW-120717-MC-26	GW-120617-KC-13
Sample Date:		12/6/2017	12/8/2017	12/6/2017	12/8/2017	12/5/2017	12/5/2017	12/5/2017	12/5/2017	12/7/2017	12/6/2017
Sample Type:											
	Units										
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/L	--	--	--	--	--	--	--	--	--	--
Naphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--
Phenol	ug/L	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/L	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds (VOCs)											
1,1,1-Trichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	10 U	--	10 U	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--	--	--	--
Benzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Bromoform	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Chlorobenzene	ug/L	--	1.0 U	--	0.53 J	--	--	--	--	--	--
Chloroethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Ethylbenzene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Isopropyl benzene	ug/L	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/L	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Toluene	ug/L	--	1.0 U	--	0.26 J	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Trifluorotrichloroethane (CFC-113)	ug/L	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/L	--	1.0 U	--	1.0 U	--	--	--	--	--	--
Xylenes (total)	ug/L	--	--	--	--	--	--	--	--	--	--
General Chemistry											
Chloride	ug/L	--	--	--	--	--	--	--	--	11000	--
Conductance, specific	umhos/cm	--	--	--	--	--	--	--	--	--	--
pH, lab	S.U.	--	--	--	--	--	--	--	--	--	--

Notes:
ND() - Not detected at the associated reporting limit.
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Table 3.3

**2017 Leachate Collection System Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana**

Area		A007	A007	A007
Sample Location:		EPA LCS	EPA LCS	EPA LCS
Sample Identification:		WL-AOI7-052517-MC-40928	WL-AOI7-072517-MC-40963	WL-AOI7-102517-MC-40978
Sample Date:		5/25/2017	7/25/2017	10/25/2017
Sample Type:				
	Units			
PCBs				
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.20 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.20 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.20 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	16	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.20 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.20 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.20 U	0.19 U
Total PCBs	ug/L	ND	16	ND
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	0.53 J	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	0.63 J	1.0 U
2-Chloroethyl vinyl ether	ug/L	10 U	10 U	10 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 U	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

Table 3.4

2017 Leak Detection System Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area		A007	A007	A007
Sample Location:		EPA LDS	EPA LDS	EPA LDS
Sample Identification:		WL-AOI7-052517-MC-40929	WL-AOI7-072517-MC-40964	WL-AOI7-102517-MC-40979
Sample Date:		5/25/2017	7/25/2017	10/25/2017
Sample Type:				
	Units			
PCBs				
Aroclor-1016 (PCB-1016)	ug/L	0.20 U	0.20 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.20 U	0.20 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.20 U	0.20 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.20 U	0.20 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.20 U	0.20 U	0.47
Aroclor-1254 (PCB-1254)	ug/L	0.20 U	0.20 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.20 U	0.20 U	0.19 U
Total PCBs	ug/L	ND	ND	0.47
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	ug/L	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--
1,1-Dichloroethane	ug/L	--	--	--
1,1-Dichloroethene	ug/L	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--
1,2-Dichloroethane	ug/L	--	--	--
1,2-Dichloropropane	ug/L	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--
2-Chloroethyl vinyl ether	ug/L	--	--	--
Benzene	ug/L	--	--	--
Bromodichloromethane	ug/L	--	--	--
Bromoform	ug/L	--	--	--
Bromomethane (Methyl bromide)	ug/L	--	--	--
Carbon tetrachloride	ug/L	--	--	--
Chlorobenzene	ug/L	--	--	--
Chloroethane	ug/L	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--
Chloromethane (Methyl chloride)	ug/L	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--
Dibromochloromethane	ug/L	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--
Ethylbenzene	ug/L	--	--	--
Methylene chloride	ug/L	--	--	--
Tetrachloroethene	ug/L	--	--	--
Toluene	ug/L	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--
Vinyl chloride	ug/L	--	--	--

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

Table 3.5

**2017 Groundwater Treatment Plant Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana**

Area		P412	P412	P412	P412
Sample Location:		GWTP Effluent (HV-6021A)	GWTP Effluent (HV-6021A)	GWTP Effluent (HV-6021A)	GWTP Effluent (HV-6021A)
Sample Identification:		WW-412-011717-MC-40520	WW-412-022317-MC-40536	WW-412-032217-MC-40565	WW-412-041917-MC-40585
Sample Date:		1/17/2017	2/23/2017	3/22/2017	4/19/2017
Sample Type:					
	Units				
PCBs					
Aroclor-1016 (PCB-1016)	ug/L	0.094 U	0.094 U	0.094 U	0.095 U
Aroclor-1221 (PCB-1221)	ug/L	0.094 U	0.094 U	0.094 U	0.095 U
Aroclor-1232 (PCB-1232)	ug/L	0.094 U	0.094 U	0.094 U	0.095 U
Aroclor-1242 (PCB-1242)	ug/L	0.094 U	0.094 U	0.094 U	0.095 U
Aroclor-1248 (PCB-1248)	ug/L	0.094 U	0.094 U	0.094 U	0.095 U
Aroclor-1254 (PCB-1254)	ug/L	0.094 U	0.094 U	0.094 U	0.095 U
Aroclor-1260 (PCB-1260)	ug/L	0.094 U	0.094 U	0.094 U	0.095 U
Total PCBs	ug/L	ND	ND	ND	ND
General Chemistry					
Oil and grease (HEM), polar	ug/L	--	--	--	--
Oil and grease (HEM), total	ug/L	--	--	--	--
Total suspended solids (TSS)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.

Table 3.5

**2017 Groundwater Treatment Plant Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana**

Area Sample Location: Sample Identification: Sample Date: Sample Type:		P412	P412	P412	P412
		GWTP Effluent (HV-6021A)	GWTP Effluent (HV-6021A)	GWTP Effluent (HV-6021A)	GWTP Effluent (HV-6021A)
		WW-412-051117-MC-40588	WW-412-061417-MC-40605	WW-412-070617-MC-40621	WW-412-081017-MC-40633
		5/11/2017	6/14/2017	7/6/2017	8/10/2017
	Units				
PCBs					
Aroclor-1016 (PCB-1016)	ug/L	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
Aroclor-1232 (PCB-1232)	ug/L	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
Aroclor-1248 (PCB-1248)	ug/L	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
Aroclor-1260 (PCB-1260)	ug/L	0.094 U	0.094 U	0.094 U	0.094 U
Total PCBs	ug/L	ND	ND	ND	ND
General Chemistry					
Oil and grease (HEM), polar	ug/L	--	--	--	--
Oil and grease (HEM), total	ug/L	--	--	--	--
Total suspended solids (TSS)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.

Table 3.5

**2017 Groundwater Treatment Plant Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana**

Area Sample Location: Sample Identification: Sample Date: Sample Type:		P412	P412	P412	P412
		GWTP Effluent (HV-6021A)	GWTP Effluent (HV-6021A)	GWTP Effluent (HV-6021A)	GWTP Effluent (HV-6021A)
		WW-412-091217-MC-40656	WW-412-101817-MC-40673	WW-412-111617-MC-40683	WW-412-121317-MC-40693
		9/12/2017	10/18/2017	11/16/2017	12/13/2017
	Units				
PCBs					
Aroclor-1016 (PCB-1016)	ug/L	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
Aroclor-1232 (PCB-1232)	ug/L	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
Aroclor-1248 (PCB-1248)	ug/L	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
Aroclor-1260 (PCB-1260)	ug/L	0.094 U	0.094 U	0.094 U	0.094 U
Total PCBs	ug/L	ND	ND	ND	ND
General Chemistry					
Oil and grease (HEM), polar	ug/L	--	--	--	--
Oil and grease (HEM), total	ug/L	--	--	--	--
Total suspended solids (TSS)	ug/L	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.

Table 3.5

**2017 Groundwater Treatment Plant Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana**

Area		P412	P412	P412	P412
Sample Location:		GWTP Effluent (HV-6021B)	GWTP Effluent (HV-6021B)	GWTP Effluent (HV-6021B)	GWTP Effluent (HV-6021B)
Sample Identification:		WW-412-011717-MC-40519	WW-412-022317-MC-40535	WW-412-032217-MC-40564	WW-412-041917-MC-40584
Sample Date:		1/17/2017	2/23/2017	3/22/2017	4/19/2017
Sample Type:					
	Units				
PCBs					
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--
Total PCBs	ug/L	--	--	--	--
General Chemistry					
Oil and grease (HEM), polar	ug/L	5000 U	4800 U	4900 U	4800 U
Oil and grease (HEM), total	ug/L	--	--	--	--
Total suspended solids (TSS)	ug/L	500	500 U	500 U	500 U

Notes:

U - Not detected at the associated reporting limit.

Table 3.5

2017 Groundwater Treatment Plant Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana

Area		P412	P412	P412	P412
Sample Location:		GWTP Effluent (HV-6021B)	GWTP Effluent (HV-6021B)	GWTP Effluent (HV-6021B)	GWTP Effluent (HV-6021B)
Sample Identification:		WW-412-051117-MC-40587	WW-412-061417-MC-40604	WW-412-070617-MC-40620	WW-412-081017-MC-40632
Sample Date:		5/11/2017	6/14/2017	7/6/2017	8/10/2017
Sample Type:					
	Units				
PCBs					
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--
Total PCBs	ug/L	--	--	--	--
General Chemistry					
Oil and grease (HEM), polar	ug/L	4800 U	--	--	--
Oil and grease (HEM), total	ug/L	--	4700 U	4800 U	5200 U
Total suspended solids (TSS)	ug/L	1000 U	1000 U	1000 U	1000 U

Notes:

U - Not detected at the associated reporting limit.

Table 3.5

**2017 Groundwater Treatment Plant Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2017
GM CET Bedford Facility
Bedford, Indiana**

Area		P412	P412	P412	P412
Sample Location:		GWTP Effluent (HV-6021B)	GWTP Effluent (HV-6021B)	GWTP Effluent (HV-6021B)	GWTP Effluent (HV-6021B)
Sample Identification:		WW-412-091217-MC-40655	WW-412-101817-MC-40672	WW-412-111617-MC-40682	WW-412-121317-MC-40692
Sample Date:		9/12/2017	10/18/2017	11/16/2017	12/13/2017
Sample Type:					
		Units			
PCBs					
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--
Total PCBs	ug/L	--	--	--	--
General Chemistry					
Oil and grease (HEM), polar	ug/L	--	--	--	--
Oil and grease (HEM), total	ug/L	5200 U	5200 U	5200 U	4800 U
Total suspended solids (TSS)	ug/L	500 U	500 U	1000 U	1000 U

Notes:

U - Not detected at the associated reporting limit.

Appendices

Appendix A

LCS Sump Field Logs, LDS Sump Field Logs, GUS Sump Field Logs, and Automated Pumping System Logs

YEAR: 2017

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 activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1		0	671.0	0				
2	0840	0	671.0	0	69.4			
3		0	671.0	0				
4		0	671.0	0				
5		0	671.0	0				
6		0	671.0	0				
7		0	671.0	0				
8		0	671.0	0				
9		0	671.0	0				
10		0	671.0	0				
11	0615	0	671.0	0	69.4			
12		0	671.0	0				
13		0	671.0	0				
14		0	671.0	0				
15		0	671.0	0				
16		0	671.0	0				
17		0	671.0	0				
18		0	671.0	0				
19		0	671.0	0				
20	0615	0	671.0	0	69.35			
21		0	671.0	0				
22		0	671.0	0				
23		0	671.0	0				
24		0	671.0	0				
25		0	671.0	0				
26		0	671.0	0				
27		0	671.0	0				
28		0	671.0	0				
29		0	671.0	0				
30		0	671.0	0				
31	0947	0	671.0	0	69.35			

YEAR: 2017

MONTH: JANUARY

LEAK DETECTION SYSTEM

REV. 3
October 1, 2016
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/acre) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2	0835	72.45							
3									
4									
5									
6									
7									
8									
9									
10									
11	0610	72.45							
12									
13									
14									
15									
16									
17									
18									
19									
20	0610	72.45							
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31	0950	72.45							

YEAR: 2017

MONTH: JANUARY

GRAVEL UNDERDRAIN SYSTEM

REV. 4
December 8, 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	0900	43	665.76	2405	*		9551294	
2	0831	45	665.48	9920	*		9561268	
3	0815	22	664.01	7125	*		9566592	
4	0615	39	665.43	6265	*		9573598	
5	0615	22	664.01	6600	*		9580024	
6	0615	40	665.51	4215	*		9582340	
7	0615	48	666.18	0	*		9582340	
8	0600	50	666.34	0	*		9582340	
9	0600	51	666.43	0	*		9582340	
10	0950	52	666.51	16235	*		9583310	
11	0600	43	665.76	17680	*		9597590	
12	0600	46	666.01	11915	*		9612716	
13	0600	22	664.01	8120	*		9624984	
14	0600	41	665.59	6055	*		9631732	
15	0600	40	665.51	5395	*		9638780	
16	0600	48	666.18	0	*		9641682	
17	0600	51	666.43	5850	*		9641682	
18	0600	39	665.45	15375	*		9651972	
19	0600	43	665.76	6060	*		9663220	
20	0600	38	665.34	10450	*		9672878	
21	0600	37	665.26	7590	*		9681938	
22	0600	27	664.18	8610	*		9689708	
23	0600	42	665.68	6060	*		9695522	
24	0600	43	665.76	7900	*		9702202	
25	0600	43	665.76	4420	*		9712866	
26	0600	48	666.18	8765	*		9714572	
27	0600	26	664.34	10815	*		9726936	
28	0600	22	664.01	8650	*		9736758	
29	0600	39	665.43	7975	*		9744748	
30	0600	23	664.09	8375	*		9753208	
31	0600				*		9761502	

* - CAN NOT get manual reading - Attempting several times a day.

YEAR: 2017

MONTH: February

GRAVEL UNDERDRAIN SYSTEM

REV. 4
December 9, 2016
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 2.6 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	0600	23	664.09	8015	*		9769680	
2	0600	25	664.26	7975	*		9777608	
3	0600	24	664.18	8250	*		9783544	
4	0600	22	664.01	5070	*		9793780	
5	0600	49	666.26	375	*		9799872	
6	0600	51	666.43	6165	*		9799872	
7	0600	50	666.34	7295	*		9808218	
8	0600	51	666.43	8425	*		9813314	
9	0600	51	666.43	225	*		9822018	
10	0600	52	666.51	7750	*		9822481	
11	0600	52	666.51	16950	*		9836152	
12	0600	47	666.09	11345	*		9847596	
13	0600	43	665.76	8735	*		9859626	
14	0600	23	664.09	8870	*		9869734	
15	0600	22	664.01	7365	*		9877794	
16	0600	22	664.01	7180	*		9885654	
17	0600	40	665.51	5970	*		9891754	
18	0600	44	665.84	2665	*		9897472	
19	0600	51	666.43	1535	*		9898768	
20	0600	51	666.43	3965	*		9900344	
21	0600	52	666.51	5710	*		9904262	
22	0630	52	666.51	5405	*		9909968	
23	0630	49	666.26	13510	*		9919872	
24	0630	46	666.01	12450	*		9932484	
25	0630	43	665.76	7760	*		9941434	
26	0630	21	663.93	7455	*		9951522	
27	0630	38	665.34	6195	*		9958058	
28	0630				*		9964616	
29								
30								
31								

GHD 013088

* CAN NOT GET MANUAL READINGS. PLC READING MAY NOT BE TRUE.

YEAR: _____ MONTH: _____

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								
2								
3								
4								
5								
6	0845				69.25	671.58		
7								
8								
9								
10								
11								
12								
13	0930				68.9	671.93		
14								
15								
16								
17								
18								
19								
20	0900				68.9	671.93		
21								
22								
23								
24								
25								
26								
27								
28	9:40				68.8	672.03		Insufficient water to pump No samples taken
29								
30								
31								

YEAR: 2017

MONTH: February

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/acre) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4									
5									
6	0850	72.35							
7									
8									
9									
10									
11									
12									
13	0940	72.3.5							
14									
15									
16									
17									
18									
19									
20	0910	72.3							
21									
22									
23									
24									
25									
26									
27									
28	9.44	72.2							
29									
30									
31									

Insufficient water to prime
Pumps. No samples taken

YEAR:

2017

MONTH:

MARCH

GRAVEL UNDERDRAIN SYSTEM

REV. 4
December 8, 2016
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 2.6 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 (equals 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 (equals 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 (ft) (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION (ft) (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 (ft) (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION (ft) (ft AMSL) $= 738.99 - (X)$ *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING (ft) (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	21	663.93	6440	*		997138	
2	0630	39	664.43	4680	*		9978126	
3	0630	46	664.01	4560	*		9980086	
4	0630	41	665.59	8100	*		9987286	
5	0630	28	664.51	7415	*		9994701	
6	0630	43	665.74	5000	*		484443	
7	0630	45	665.93	6285	*		5483.45	
8	0700	24	664.18	8065	*		1460301	
9	0630	21	663.93	7275	*		22241.3	
10	0630	24	664.18	6965	*		291129	
11	0630	21	663.93	6870	*		36025	
12	0630	39	665.43	6620	*		42567.9	
13	0800	42	664.34	6340	*		47914.3	
14	0630	21	663.93	7240	*		56551.0	
15	0700	25	664.26	7310	*		63486.4	
16	0800	25	664.26	7260	*		70957.0	
17	0630	21	663.93	7280	*		78547.2	
18	0800	45	665.93	3845	*		84194.4	
19	0800	45	665.93	2102	*		87244.3	
20	0800	50	666.34	2775	*		87355.0	
21	0800	46	666.01	12350	*		100162	
22	0800	21	663.93	8605	*		112499	
23	0800	21	663.93	7253	*		120483	
24	0800	21	663.93	7420	*		128228	
25	0800	46	665.51	6225	*		135501	
26	0800	51	666.43	1052	*		139323	
27	0800	52	666.51	6500	*		141341	
28	0800	38	665.34	13055	*		149817	
29	0800	24	664.18	9160	*		162030	
30	0800	21	663.93	8055	*		170729	
31	0800	21	663.93	7240	*		178524	

Numbers rolled over after 1,000,000

* Unable to get manual measurements

YEAR: 2017

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	0630	0	671	0				
2	0630	0	671	0				
3	0630	0	671	0				
4	0630	0	671	0				
5	0630	0	671	0				
6	0630	0	671	0	68.8	672.03		
7	0630	0	671	0				
8	0630	0	671	0				
9	0630	0	671	0				
10	0630	0	671	0				
11	0630	0	671	0				
12	0630	0	671	0				
13	0630	0	671	0				
14	0630	0	671	0	68.8	672.03		
15	0630	0	671	0				
16	0630	0	671	0				
17	0800	0	671	0				
18	0810	0	671	0				
19	0800	0	671	0				
20	0800	0	671	0				
21	0800	0	671	0				
22	0815	0	671	0	68.75	672.08		
23	0800	0	671	0				
24	0800	0	671	0				
25	0830	0	671	0				
26	0746	0	671	0				
27	0730	0	671	0				
28	0730	0	671	0				
29	0730	0	671	0				
30	0730	0	671	0				
31	0730	0	671	0				

YEAR: 2017

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/acre) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4									
5									
6	0645	72.2							
7									
8									
9									
10									
11									
12									
13									
14	0700	72.2							
15									
16									
17									
18									
19									
20									
21									
22	0745	72.15							
23									
24									
25									
26									
27									
28									
29									
30									
31									

Insufficient water level
to prime pump
No samples taken

YEAR: 2017

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 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		0	671	0				
2		0	671	0				
3		0	671	0				
4		0	671	0				
5		0	671	0				
6	1124	0	671	0	68.6	672.23		
7		0	671	0				
8		0	671	0				
9		0	671	0				
10		0	671	0				
11		0	671	0				
12		0	671	0				
13		0	671	0				
14		0	671	0				
15		0	671	0				
16		0	671	0				
17	1745	0	671	0	68.6	672.23		
18		0	671	0				
19		0	671	0				
20		0	671	0				
21		0	671	0				
22		0	671	0				
23		0	671	0				
24	0845	0	671	0	68.5	672.33		
25		0	671	0				
26		0	671	0				
27		0	671	0				
28		0	671	0				
29		0	671	0				
30		0	671	0				
31								

YEAR: 2017

MONTH: April

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) = $(36,000 / 33) / 7$ 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/acre) = $(Z / Y) / 7$	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4									
5									
6	1130	72.40							
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17	1954	72.35							
18									
19									
20									
21									
22									
23									
24	0900	72.25							
25									
26									
27									
28									
29									
30									
31									

YEAR: 2017 MONTH: April

GRAVEL UNDERDRAIN SYSTEM

REV. 1
December 8, 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	24	664.18	6960	*		185514	
2	0800	30	665.34	6400	*		192525	
3	0800	43	665.76	6270	*		196631	
4	0800	23	664.09	7990	*		205845	
5	0800	23	664.09	7205	*		213265	
6	0800	21	663.93	6945	*		220560	
7	0800	39	665.43	6390	*		226135	
8	0800	21	663.93	7125	*		233818	
9	0800	21	663.93	7015	*		240806	
10	0800	40	665.58	6220	*		246370	
11	0830	21	663.93	7305	*		254834	
12	0800	21	663.93	6945	*		261625	
13	0630	21	663.93	6895	*		268326	
14	0830	21	663.93	5960	*		273233	
15	0730	40	665.58	7005	*		281238	
16	0700	21	663.93	7385	*		288623	
17	0830	23	664.09	6875	*		296074	
18	0800	23	664.09	6785	*		302125	
19	0860	22	664.01	6650	*		308582	
20	0800	22	664.01	6720	*		315618	
21	0800	40	665.51	5850	*		321808	
22	0800	21	663.93	7170	*		328456	
23	0800	44	665.84	3330	*		333061	
24	0800	42	665.68	6910	*		339394	
25	0800	44	665.84	5200	*		345314	
26	0800	41	665.59	8095	*		351623	
27	0800	40	665.51	7185	*		359338	
28	0800	42	665.68	6380	*		364592	
29	0800	44	665.84	4400	*		372747	
30	0800	47	666.09	5630	*		374781	

GHD 013988

* CAN not get manual reading

YEAR: 2017

MONTH: MAY

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 ^(b) (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 ^(a) (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	47	666.09	3600	*		380410	
2	0800	49	666.26	6310	*		384003	
3	0800	33	664.93	10335	*		394436	
4	0800	21	663.93	7390	*		403182	
5	0800	21	663.93	7090	*		410156	
6	0700	43	665.76	4730	*		417123	
7	0800	48	666.18	4040	*		422522	
8	0800	43	665.76	8700	*		427354	
9	0800	44	665.84	6290	*		435616	
10	0800	48	666.18	3445	*		438901	
11	0800	48	666.18	1235	*		442264	
12	0800	50	666.34	10225	*		445861	
13	0930	50	666.34	13240	*		457121	
14	0830	27	664.43	10625	*		467746	
15	0800	34	665.01	8205	*		480180	
16	0800	43	665.76	7360	*		488344	
17	0800	45	665.93	8473	*		495376	
18	0800	42	665.68	7605	*		503634	
19	0800	44	665.84	7825	*		511413	
20	0800	24	664.18	8715	*		519373	
21	0800	25	664.28	8265	*		525687	
22	0800	25	664.28	8180	*		535984	
23	0800	36	665.18	8150	*		544748	
24	0800	24	664.18	8235	*		550257	
25	0800	44	665.84	7235	*		565111	
26	0800	44	665.84	8215	*		565707	
27	0750	23	664.09	8290	*		577243	
28	0400	26	664.34	8085	*		584183	
29	0945	25	664.26	8015	*		594421	
30	0800	21	663.93	7955	*		601523	
31	0800	21	663.93	7925	*		609347	

GHD 013968

* - CAN NOT get MANUAL reading

LEACHATE COLLECTION SYSTEM

YEAR: 2017

MONTH: MAY

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	0800	0	671	0	68.45	672.38		
2		0	671	0				
3		0	671	0				
4		0	671	0				
5		0	671	0				
6		0	671	0				
7		0	671	0				
8	0910	0	671	0	68.4	672.43		
9		0	671	0				
10		0	671	0				
11		0	671	0				
12		0	671	0				
13		0	671	0				
14		0	671	0				
15	0830	0	671	0	68.4	672.43		
16		0	671	0				
17		0	671	0				
18		0	671	0				
19		0	671	0				
20		0	671	0				
21		0	671	0				
22		0	671	0				
23	0945	0	671	0	68.4	672.43		
24		0	671	0				
25	1010	0	671	0	68.7	672.43		
26		0	671	0	68.7	672.43		
27		0	671	0				
28		0	671	0				
29		0	671	0				
30		0	671	0				
31		0	671	0				

- LCS Pumped in to
Combined force main
and NO Amount recorded.

YEAR: 2017

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): 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/acre) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1	0810	68.4							
2									
3									
4									
5									
6									
7									
8	0925	68.4							
9									
10									
11									
12									
13									
14									
15									
16	0840	68.45							
17									
18									
19									
20									
21									
22									
23		68.35							
24									
25	1020	68.35	1024	72.4	4298.6	-	152.8	-	Pumped + sampled
26									
27									
28									
29									
30									
31									

YEAR: 2017 MONTH: June

GRAVEL UNDERDRAIN SYSTEM

REV. 4
December 9, 2016
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 (equals 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 (equals 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	21	663.93	7855	*		607202	
2	0930	21	663.93	5590	*		625013	
3	0800	21	663.93	8960	*		631897	
4	0800	21	663.93	8125	*		639881	
5	0800	21	663.93	7915	*		647860	
6	0800	21	663.93	7045	*		655615	
7	0800	21	663.93	7895	*		662734	
8	0800	21	663.93	7675	*		678628	
9	0800	21	663.93	7550	*		678108	
10	0800	21	663.93	7420	*		685756	
11	0800	21	663.93	7355	*		693113	
12	0800	21	663.93	6180	*		700316	
13	0800	21	663.93	7655	*		706569	
14	0800	21	663.93	7370	*		714202	
15	0800	21	663.93	7255	*		721512	
16	0800	21	663.93	7190	*		728745	
17	0800	21	663.93	7200	*		736060	
18	0800	21	663.93	7160	*		743073	
19	0800	21	663.93	4720	*		750226	
20	0800	21	663.93	8260	*		755438	
21	0800	21	663.93	7720	*		763376	
22	0800	21	663.93	7585	*		771051	
23	0800	21	663.93	7505	*		778723	
24	0800	21	663.93	7445	*		786089	
25	0800	21	663.93	7475	*		793563	
26	0800	21	663.93	7520	*		800994	
27	0800	21	663.93	7465	*		808459	
28	0800	21	663.93	7445	*		815864	
29	0800	21	663.93	5645	*		823378	
30	0800	21	663.93	8400	*		831778	
31					*			

GHD 013968

* CAN NOT get MANUAL measurement

YEAR: 2017 MONTH: June

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 (equals 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 (equals 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		0	671.0	0				
2								
3								
4	0805							
5	0815				68.5	672.33		
6								
7								
8								
9								
10								
11								
12	0910				68.5	672.33		
13								
14								
15								
16								
17								
18								
19	0746				68.45	672.38		
20								
21								
22								
23								
24								
25								
26	0735				68.45	672.38		
27								
28								
29								
30								
31								

YEAR: 2017

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/acre) = $(Z / Y) / 7$	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4									
5	0805	72.45							
6									
7									
8									
9									
10									
11									
12	0900	72.45							
13									
14									
15									
16									
17	0730	72.45							
18									
19									
20									
21									
22									
23									
24									
25									
26	0730	72.45							
27									
28									
29									
30									
31									

YEAR: 2017 MONTH: July

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 (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION (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 (ft below top of sump) *should not be less than 72.49 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION (ft AMSL) = 738.99 - (X) *should not be more than 666.5 ft AMSL*	LOCAL FLOW METER READING (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	21	663.93	*	79.05		837.573	
2	0800	21	663.93	*	76.40		843.454	
3	0800	21	663.93	*	65.10		852.952	
4	0800	21	663.93	*	78.85		859.620	
5	0800	21	663.93	*	76.75		867.430	
6	0800	21	663.93	*	64.75		875.226	
7	0800	21	663.93	*	78.35		881.587	
8	0800	21	663.93	*	74.80		889.155	
9		21	663.93	*	75.80		896.681	
10	0800	21	663.93	*	73.55		904.261	
11	0800	21	663.93	*	71.35		911.610	
12	0800	21	663.93	*	66.80		918.605	- 918.605
13	0800	21	663.93	*	67.55		925.365	
14	0800	21	663.93	*	68.80		932.010	
15	0800	21	663.93	*	69.60		938.989	
16	0800	21	663.93	*	69.95		946.007	
17	0800	21	663.93	*	61.35		952.916	
18	0800	21	663.93	*	72.20		959.111	
19	0800	21	663.93	*	70.45		966.332	
20	0800	21	663.93	*	69.85		973.241	
21	0800	21	663.93	*	69.50		980.202	
22	0800	21	663.93	*	68.55		984.202	
23	0800	21	663.93	*	61.92		1006.389	
24	0800	21	663.93	*	61.25		1006.998	
25	0800	21	663.93	*	103.55		1007.698	
26	0800	21	663.93	*	114.55		1018.548	
27	0800	21	663.93	*	65.10		1030.347	
28	0800	21	663.93	*	75.20		1038.857	
29	0800	21	663.93	*	70.00		1045.725	
30	0800	21	663.93	*	69.45		1052.671	
31	0800	21	663.93	*	71.55		1059.831	

YEAR: 2017

MONTH: July

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 69.83 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 ^(f) (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC ^(g) (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION ^(h) (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 ^(e) (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		0	671	0				
2		0	671	0				
3	0800	0	671	0	68.4	672.43		
4		0	671	0				
5		0	671	0				
6		0	671	0				
7		0	671	0				
8		0	671	0				
9		0	671	0				
10	0930	0	671	0	68.4	672.43		
11		0	671	0				
12		0	671	0				
13		0	671	0				
14		0	671	0				
15		0	671	0				
16		0	671	0				
17	0800	0	671	0	68.35	672.48		
18		0	671	0				
19		0	671	0				
20		0	671	0				
21		0	671	0				
22		0	671	0				
23		0	671	0				
24		0	671	0				
25	1005	0	671	0	68.35	672.48		
26	0810	0	671	0	69.6	671.13		Pumped + sampled
27		0	671	0				
28		0	671	0				
29		0	671	0				
30		0	671	0				
31		0	671	0				

YEAR: 2017

MONTH: July

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/acre) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4	0810	72.45							
5									
6									
7									
8									
9									
10	0945	72.4							
11									
12									
13									
14									
15									
16									
17	0810	72.4							
18									
19									
20									
21									
22									
23									
24									
25	1030	72.4	1104	72.65			43.6		
26									
27									
28									
29									
30									
31									

YEAR: 2017

MONTH: August

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 (b) (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION (b) (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	0930	0	671	0	69.6	671.13		
2		0	671	0				
3		0	671	0				
4		0	671	0				
5		0	671	0				
6		0	671	0				
7	1015	0	671	0	69.55	671.28		
8		0	671	0				
9		0	671	0				
10		0	671	0				
11		0	671	0				
12		0	671	0				
13		0	671	0				
14	0830	0	671	0	69.55	671.28		
15		0	671	0				
16		0	671	0				
17		0	671	0				
18		0	671	0				
19		0	671	0				
20		0	671	0				
21	0830	0	671	0	69.5	671.33		
22		0	671	0				
23		0	671	0				
24		0	671	0				
25		0	671	0				
26		0	671	0				
27		0	671	0				
28	1030	0	671	0	69.45	671.38		
29		0	671	0				
30		0	671	0				
31		0	671	0				

YEAR:

2022

MONTH:

August

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/acre) = $(Z / Y) / 7$	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1	0915	72.4							
2									
3									
4									
5									
6									
7	1000	72.4							
8									
9									
10									
11									
12									
13									
14	0815	72.45							
15									
16									
17									
18									
19									
20									
21	0810	72.45							
22									
23									
24									
25									
26									
27									
28	1015	72.45							
29									
30									
31									

YEAR: 2012

MONTH: August

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 (b) (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	21	663.93	66890	X		1066031	
2	0730	21	663.93	7080	X		1073832	
3	0800	21	663.93	6922	X		1078575	
4	0800	21	663.93	7041.0	X		1087867	
5	0800	21	663.93	6895	X		1094613	
6	0800	21	663.93	6870	X		1101546	
7	0800	21	663.93	3653	X		1108356	
8	0800	21	663.93	8330	X		1112344	
9	0800	21	663.93	8100	X		1120752	
10	0800	21	663.93	7145	X		1128357	
11	0800	21	663.93	7005	X		1135673	
12	0800	21	663.93	6900	X		1142854	
13	0800	21	663.93	6850	X		1149487	
14	0800	21	663.93	6845	X		1156297	
15	0800	21	663.93	6845	X		1163508	
16	0800	21	663.93	6890	X		1169878	
17	0800	21	663.93	6975	X		1176287	
18	0800	21	663.93	7045	X		1183826	
19	0800	21	663.93	6860	X		1190405	
20	0800	21	663.93	6710	X		1197726	
21	0800	21	663.93	6576	X		1204345	
22	0800	21	663.93	6575	X		1210987	
23	0800	21	663.93	6575	X		1217587	
24	0800	21	663.93	6575	X		1224137	
25	0800	21	663.93	6575	X		1230233	
26	0800	21	663.93	6575	X		1236843	
27	0800	21	663.93	6575	X		1243469	
28	0800	21	663.93	6575	X		1249788	
29	0800	21	663.93	6575	X		1256084	
30	0800	21	663.93	6575	X		1262322	
31	0800	21	663.93	6575	X		1268580	

GHD 013968

* CAN NOT get MANUAL readings

YEAR: 2017

MONTH: SEPT

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	21	663.93	6575	X		1274205	
2	0800	21	663.93	6575	X		1280858	
3	0800	21	663.93	6575	X		1286927	
4	0800	21	663.93	6575	X		1292881	
5	0800	21	663.93	6575	X		1298853	
6	0800	21	663.93	6575	X		1304809	
7	0800	21	663.93	6575	X		1310723	
8	0800	21	663.93	6575	X		1316916	
9	0800	21	663.93	6575	X		1322532	
10	0800	21	663.93	5505	X		1328090	
11	0800	21	663.93	5355	X		1333555	
12	0800	21	663.93	5260	X		1339095	
13	0800	21	663.93	5605	X		1344900	
14	0800	21	663.93	5576	X		1350580	
15	0800	21	663.93	5500	X		1356250	
16	0800	21	663.93	5410	X		1361820	
17	0800	21	663.93	5410	X		1367420	
18	0800	21	663.93	4425	X		1372835	
19	0800	21	663.93	5745	X		1377485	
20	0800	21	663.93	5640	X		1383300	
21	1030	21	663.93	5455	X		1388975	
22	1030	21	663.93	4045	X		1394750	
23	920	21	663.93	5675	X		1399230	
24	10:15	21	663.93	5480	X		1404710	
25	1:35	21	663.93	5410	X		1409990	
26	0715	21	663.93	4210	X		1414625	
27	0715	21	663.93	5630	X		1419865	
28	0715	21	663.93	5510	X		1425580	
29	0810	21	663.93	2530	X		1431155	
30	0815	21	663.93	2195	X		1432065	
31					X			

YEAR: 2017

MONTH: SEPT

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/acre) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1	0800	72.45							
2									
3									
4									
5	0815	72.45							
6									
7									
8									
9									
10									
11	0815	72.45							
12									
13									
14									
15									
16									
17									
18	0815	72.45							
19									
20									
21									
22									
23									
24									
25	0815	72.45							
26									
27									
28									
29									
30									
31									

YEAR: 2017

MONTH: SEPT.

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	0800	0	671	0	69.45	671.38		
2	0800	0	671	0				
3	0800	0	671	0				
4	0800	0	671	0				
5	0800	0	671	0	69.4	671.43		
6	0800	0	671	0				
7	0800	0	671	0				
8	0800	0	671	0				
9	0800	0	671	0				
10	0800	0	671	0				
11	0800	0	671	0	69.4	671.43		
12	0800	0	671	0				
13	0800	0	671	0				
14	0800	0	671	0				
15	0800	0	671	0				
16	0800	0	671	0				
17	0800	0	671	0				
18	0800	0	671	0	69.35	671.48		
19	0800	0	671	0				
20	0800	0	671	0				
21	0800	0	671	0				
22	0800	0	671	0				
23	0800	0	671	0				
24	0800	0	671	0				
25	0800	0	671	0	69.35	671.48		
26	0800	0	671	0				
27	0800	0	671	0				
28	0800	0	671	0				
29	0800	0	671	0				
30	0800	0	671	0				
31								

YEAR: 2017

MONTH: October

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	0830	20.7	663.90	2/275	*		1444160	
2	0830	20.6	663.89	3835	*		1448435	
3	0830	18.3	663.70	3660	*		1452270	
4	0830	19.6	663.81	5370	*		1454650	
5	0700	20.5	663.88	5215	*		1460020	
6	1045	20.7	663.90	5065	*		1467155	
7	1050	21.6	663.98	4965	*		1472260	
8	1030	20.5	663.88	4860	*		1477365	
9	1100	37.3	665.28	4575	*		1482020	
10	0930	22.5	664.05	4870	*		1486570	
11	0840	25.1	664.27	4670	*		1491380	
12	1145	26.9	664.42	4600	*		1496525	
13	8:35	27.1	664.42	4570	*		1500430	
14	9:45	32.1	664.85	4570	*		1504205	
15	11:42	41.5	665.63	2495	*		1508775	over 665.5 servicing generator
16	1000	27.2	664.44	5425	*		1513045	
17	0925	27.4	664.46	4865	*		1518195	
18	0800	27.1	664.43	4620	*		1522815	
19	1025	28.9	664.58	4560	*		1527870	
20	0800	27.0	664.43	4605	*		1532115	
21	0930	26.0	664.34	4660	*		1537140	
22	0800	25.4	664.29	4630	*		1542155	
23	1000	25.2	664.28	4800	*		1547170	
24	0920	26.4	664.38	4560	*		1551145	
25	0830	26.5	664.38	5080	*		1556005	
26	0840	26.5	664.38	4580	*		1560865	
27	1015	26.3	664.37	3545	*		1565805	
28	1945	47.8	666.16	0	*		1567395	pump not working
29	0845	50.6	666.39	0	*		1567395	changing out temporary Pump
30	0940	53.8	666.66	0	*		1567395	
31	0920	53.3	666.62	0	*		1567395	

GHD 013968

The new Temporary Pump is stuck above water level.

No Pumping At this time.

YEAR: 2017

MONTH: October

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		0	671	0				
2		0	671	0				
3	0815	0	671	0	69.35	671.48		
4		0	671	0				
5		0	671	0				
6		0	671	0				
7		0	671	0				
8		0	671	0				
9	0950	0	671	0	69.3	671.53		
10		0	671	0				
11		0	671	0				
12		0	671	0				
13		0	671	0				
14		0	671	0				
15	0930	0	671	0	69.3	671.53		
16		0	671	0				
17		0	671	0				
18		0	671	0				
19		0	671	0				
20		0	671	0				
21		0	671	0				
22		0	671	0				
23		0	671	0				
24	0945	0	671	0				
25	1045	0	671	0	69.25	671.58		
26		0	671	0				
27		0	671	0				
28		0	671	0				
29		0	671	0				
30	0815	0	671	0	69.25	671.58		
31		0	671	0				

YEAR: 2017 MONTH: October

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) (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) (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/acre) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3	0815	72.45							
4									
5									
6									
7									
8									
9	1000	72.45							
10									
11									
12									
13									
14									
15									
16	0945	72.45							
17									
18									
19									
20									
21									
22									
23									
24									
25	1036	72.45	1100	72.65	4380.6	30	36.4		
26									
27									
28									
29									
30	0830	72.45							
31									

YEAR:

2017

MONTH:

November

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	1245	57.1	666.93	0	*		1567395	
2	0830	57.4	666.96	0	*		1567395	
3	0930	57.3	666.95	0	*		1567395	
4	1430	57.8	666.95	0	*		1567395	
5	0730	59.4	667.13	0	*		1567395	
6	0815	60.9	667.25	0	*		1567395	
7	0830	62.4	667.38	0	*		1567395	
8	0950	64.2	667.53	0	*		1567395	
9	0945	65.5	667.63	0	*		1567395	
10	0815	67.4	667.79	0	*		1567395	
11	0820	68.7	667.90	0	*		1567395	
12	0820	70.2	668.03	0	*		1567395	
13	0945	71.7	668.15	0	*		1567395	
14	0930	73.4	668.29	0	*		1567395	
15	0855	74.2	668.36	0	*		1567395	
16	1030	75.6	668.48	0	*		1567395	
17	0850	76.9	668.53	0	*		1567395	
18	0845	77.9	668.67	0	*		1567395	
19	0910	78.5	668.73	0	*		1567395	
20	0920	79.2	668.78	0	*		1567405	
21	0845	80.2	668.86	0	*		1567405	
22	0900	80.7	668.90	0	*		1567405	
23	1045	81.5	668.97	0	*		1567405	
24	0810	82.1	669.02	0	*		1567405	
25	1345	82.1	669.02	0	*		1567405	
26	0800	82.2	669.03	0	*		1567405	
27	1000	82.4	669.04	0	*		1567405	
28	0945	82.4	669.04	0	*		1567405	
29	0710	82.5	669.05	0	*		1567405	
30	0830	82.4	669.04	0	*		1567405	
31								

GHD 013958

(*) NO manual depth readings

YEAR: 2017

MONTH: November

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/acre) = $(Z / Y) / 7$	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1	0825	72.5							
2									
3									
4									
5									
6									
7									
8	1510	72.5							
9									
10									
11									
12									
13	0930	72.5							
14									
15									
16									
17									
18									
19									
20	1145	72.5							
21									
22									
23									
24									
25									
26									
27	1325	72.5							
28									
29									
30									
31									

YEAR: 2017

MONTH: November

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
 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. Total depth of sump manhole (feet): 69.83

- (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 ^(a) (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	0815	0	671	0	69.3	671.53		
2		0	671	0				
3		0	671	0				
4		0	671	0				
5		0	671	0				
6		0	671	0				
7		0	671	0				
8	1500	0	671	0	69.3	671.53		
9		0	671	0				
10		0	671	0				
11		0	671	0				
12		0	671	0				
13	0915	0	671	0	69.3	671.53		
14		0	671	0				
15		0	671	0				
16		0	671	0				
17		0	671	0				
18		0	671	0				
19	0915	0	671	0				
20	1140	0	671	0	69.2	671.63		
21		0	671	0				
22		0	671	0				
23		0	671	0				
24		0	671	0				
25		0	671	0				
26		0	671	0				
27	1320	0	671	0	69.2	671.63		
28		0	671	0				
29		0	671	0				
30		0	671	0				
31	-	-	-	-	-	-	-	

YEAR:

2017

MONTH:

December

GRAVEL UNDERDRAIN SYSTEM

RE
December 8, 2017
Page 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	0845	82.4	669.04	0	*		1567405	
2	1000	82.4	669.04	0	*		1567405	
3	1145	82.6	669.06	0	*		1567405	
4	0900	82.7	669.07	0	*		1567405	
5	1145	82.2	669.07	0	*		1567405	
6	9:30	82.7	669.07	0	*		1567405	
7	0910	82.7	669.07	0	*		1567405	
8	1030	82.6	669.06	0	*		1567405	
9	0900	82.6	669.06	0	*		1567405	
10	1145	82.6	669.06	0	*		1567405	
11	0750	82.6	669.06	0	*		1567405	
12	0845	82.6	669.06	0	*		1567405	
13	0830	82.2	669.03	0	*		1567405	
14	0800	82.3	669.03	0	*		1567405	
15	0930	82.2	669.03	0	*		1567405	
16	0815	82.2	669.03	0	*		1567405	
17	0830	82.1	669.02	0	*		1567405	
18	0845	82.0	669.01	0	*		1567405	
19	0940	81.8	668.99	0	*		1567405	
20	0830	82.1	669.02	0	*		1567405	
21	0950	81.9	669.00	0	*		1567405	
22	0900	82.0	669.01	0	*		1567405	
23	0804	81.9	669.00	0	*		1567405	
24	0932	81.6	668.98	0	*		1567405	
25	0904	81.6	668.98	0	*		1567405	
26	1530	81.7	668.98	0	*		1567405	
27	0805	81.9	669.00	0	*		1567405	
28	0810	82.1	669.02	0	*		1567405	
29	0940	82.0	669.01	0	*		1567405	
30	1102	81.9	669.00	0	*		1567405	
31	0900	81.9	669.00	0	*		1567405	

YEAR: 2017

MONTH: December

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) = ($36,000 / 33$) / 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 ^(d) (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE ^(c,d) (gal/day/acre) = $(Z / Y) / 7$	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4	0840	72.5							
5									
6									
7									
8									
9									
10									
11	0945	72.45							
12									
13									
14									
15									
16									
17									
18	1035	72.45							
19									
20									
21									
22									
23									
24									
25									
26	1335	72.45							
27									
28									
29									
30									
31									

YEAR: 2017

MONTH: December

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		0	671	0				
2		0	671	0				
3		0	671	0				
4	0835	0	671	0	69.2	671.63		
5		0	671	0				
6		0	671	0				
7		0	671	0				
8		0	671	0				
9		0	671	0				
10		0	671	0				
11	0940	0	671	0	69.15	671.68		
12		0	671	0				
13		0	671	0				
14		0	671	0				
15		0	671	0				
16		0	671	0				
17		0	671	0				
18	1030	0	671	0	69.1	671.73		
19		0	671	0				
20		0	671	0				
21		0	671	0				
22		0	671	0				
23		0	671	0				
24		0	671	0				
25		0	671	0				
26	1330	0	671	0	69.1	671.73		
27		0	671	0				
28		0	671	0				
29		0	671	0				
30		0	671	0				
31		0	671	0				

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: 3/23/2017 sunny

Inspector: mike curtis and george seng 64 degrees, sunny

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
VEGETATED SOIL COVER SYSTEM					
<u>Transect EV1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS				
	- ROOTING OF TREES				
<u>Transect EV2</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	
	- EXPOSURE 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	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	X		heavy weed growth and some bare spots	
		- EXPOSURE 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	X		heavy weed growth and some bare spots	
		- EXPOSURE OF LINER				
		- EROSION	X		slight 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	X		heavy weed growth and some bare spots	
		- EXPOSURE OF LINER				
		- EROSION	X		slight 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	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	X		heavy weed growth and some bare spots	
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS	X		groundhog hole	
		- ROOTING OF TREES				
	Transect EV7	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	
		- EXPOSURE 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	X		heavy weed growth and some bare spots	
		- EXPOSURE 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	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
VEGETATED SOIL COVER SYSTEM (CONTINUED)					
<u>Transect EV9</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS				
	- ROOTING OF TREES				
	<u>Transect WV1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots
- EXPOSURE 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	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	X	fill cracks,sealcoat	
	Transect EA2	- QUALITY OF ASPHALT COVER			
		- PRESENCE OF CRACKING OR DISCOLORATION	X	fill cracks,sealcoat	
	Transect WA1	- QUALITY OF ASPHALT COVER			
		- PRESENCE OF CRACKING OR DISCOLORATION	X	fill cracks,sealcoat	
ACCESS ROAD					
	ACCESS ROAD	- EROSION	X	fill with gravel	
		- OBSTRUCTIONS/DEBRIS			
		- POTHOLES	X	fill with gravel	
		- DAMAGE CAUSED BY VEHICULAR TRAFFIC	X	fill with gravel	

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	DATE AND NATURE OF ACTIONS COMPLETED	
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES						
	<u>Transect ES1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	trees cut
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
			<u>Transect ES2</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	
- EROSION						
- OBSTRUCTIONS						
- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION						
- SIGNS OF BURROWING BY ANIMALS						
- ROOTING OF TREES						
	<u>Transect ES3</u>			- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	
		- 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	DATE AND NATURE OF ACTIONS COMPLETED	
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES (CONTINUED)						
	<u>Transect ES4</u>	QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
			<u>Transect ES5</u>	QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	
- EROSION						
- OBSTRUCTIONS						
- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION						
- SIGNS OF BURROWING BY ANIMALS						
- ROOTING OF TREES						
	<u>Transect ES6</u>			QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	
		- EROSION	X		slight 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	DATE AND NATURE OF ACTIONS COMPLETED	
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES (CONTINUED)						
	<u>Transect ES7</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
			<u>Transect ES8</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	
- EROSION						
- OBSTRUCTIONS						
- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION						
- SIGNS OF BURROWING BY ANIMALS						
- ROOTING OF TREES						
	<u>Transect ES9</u>			- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	filled with top soil
		- 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	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	X		heavy weed growth and some bare spots	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	filled with top soil
		- ROOTING OF TREES				
			Transect ES11	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	
- 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	X	
		- 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	DATE AND NATURE OF ACTIONS COMPLETED	
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES (CONTINUED)						
	<u>Transect ES13</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	filled with top soil
		- ROOTING OF TREES				
			<u>Transect ES13</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	
- 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

Date of inspection: 6-22-17 Weather: Cloudy
Inspector: Mike Curtis Temperature: 89°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	✓			Heavy weed growth	
	- LENGTH OF GRASS					
	- DEAD/DYING GRASS					
	- GRASS COVERAGE					
	- NOXIOUS WEEDS					
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SLUMPING					
Transect EV2	- PONDING OF WATER/DRAINAGE					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
	- QUALITY OF VEGETATIVE COVER	✓			Heavy weed growth	
	- LENGTH OF GRASS					
	- DEAD/DYING GRASS					
	- GRASS COVERAGE					
	- NOXIOUS WEEDS					
- EXPOSURE OF LINER						
- EROSION						
- LOCALIZED SETTLEMENT/SLUMPING						
Transect EV2	- 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	✓			Heavy weed growth some bare spots	
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SUMPING					
	- PONDING OF WATER/DRAINAGE					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓			Heavy weed growth some bare spots	
Transect EV4	- EXPOSURE OF LINER					
	- EROSION	✓			light erosion	
	- LOCALIZED SETTLEMENT/SUMPING					
	- PONDING OF WATER/DRAINAGE					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓			Heavy weed growth	
	- EXPOSURE OF LINER					
Transect EV5	- EROSION	✓			light erosion	
	- LOCALIZED SETTLEMENT/SUMPING					
	- PONDING OF WATER/DRAINAGE					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓				
	- EXPOSURE OF LINER					
	- EROSION	✓			light erosion	

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	✓		Heavy weed growth	
		- LENGTH OF GRASS				
		- DEAD/DYING GRASS				
		- GRASS COVERAGE				
		- NOXIOUS WEEDS				
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SUMPING				
	Transect EV7	- PONDING OF WATER/DRAINAGE	✓		Heavy weed growth some bare spots	
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
		- QUALITY OF VEGETATIVE COVER				
		- LENGTH OF GRASS				
		- DEAD/DYING GRASS				
		- GRASS COVERAGE				
		- NOXIOUS WEEDS				
	Transect EV8	- EXPOSURE OF LINER	✓		Heavy weed growth	
		- EROSION				
		- LOCALIZED SETTLEMENT/SUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
		- QUALITY OF VEGETATIVE COVER				
		- LENGTH OF GRASS				

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	✓		Has been mowed + wild flowers planted	
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SUMPING				
		- 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		✓
- EXPOSURE OF LINER						
- EROSION						
- LOCALIZED SETTLEMENT/SUMPING						
- 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	✓		cracks filled + seal coated	
		- PRESENCE OF CRACKING OR DISCOLORATION				
	Transect EA2	- QUALITY OF ASPHALT COVER	✓		cracks filled + seal coated	
		- PRESENCE OF CRACKING OR DISCOLORATION				
	Transect WA1	- QUALITY OF ASPHALT COVER	✓		cracks filled + seal coated	
		- PRESENCE OF CRACKING OR DISCOLORATION				
ACCESS ROAD						
	ACCESS ROAD	- EROSION	✓		no problem no problem no problem no problem	
		- 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	✓			Heavy weed growth	
	- 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	✓			Heavy weed growth	
	- EROSION					
	- OBSTRUCTIONS					
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
Transect ES3	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓			Heavy weed growth some bare spots	
	- 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	✓		Heavy weed growth some bare spots	
		- 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	✓			Heavy weed growth some bare spots	
	- EROSION					
	- OBSTRUCTIONS					
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✓			no obstructions	
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
	Transect ES8	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓			Heavy weed growth some bare spots
- EROSION		✓			light erosion	
- OBSTRUCTIONS						
- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION		✓			no obstructions	
- SIGNS OF BURROWING BY ANIMALS						
- ROOTING OF TREES						
Transect ES9		- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓			Heavy weed growth some bare spots
	- EROSION					
	- OBSTRUCTIONS					
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✓			no obstructions	
	- 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	✓			Heavy weed growth some bare spots	
	- EROSION					
	- OBSTRUCTIONS					
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✓			NO obstructions	
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
Transect ES11	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓			Heavy weed growth	
	- EROSION					
	- OBSTRUCTIONS					
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✓			no obstructions	
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
Transect ES12	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓			Heavy weed growth	
	- EROSION					
	- OBSTRUCTIONS					
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✓			no obstructions	
	- 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	✓		heavy weed growth	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✓		no obstructions	
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
		- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth	
	Transect ES13	- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✓		no obstructions	
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
		- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth	
		- EROSION				

TABLE D.1

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

Date of Inspection: 09/28/2017 Weather: 73°F SUNNY, CLEAR
Inspector: Mike Curtis Temperature: 73°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	✓			heavy weed growth	
	- LENGTH OF GRASS					
	- DEAD/DYING GRASS					
	- GRASS COVERAGE					
	- NOXIOUS WEEDS					
	- EXPOSURE OF LINER	✓				
	- EROSION	✓			filled, seeded, straw	9/22/17
	- LOCALIZED SETTLEMENT/SUMPING	✓				
- PONDING OF WATER/DRAINAGE	✓					
- SIGNS OF BURROWING BY ANIMALS	✓					
- ROOTING OF TREES	✓					
Transect EV2	- QUALITY OF VEGETATIVE COVER	✓			heavy weed growth	
	- LENGTH OF GRASS					
	- DEAD/DYING GRASS					
	- GRASS COVERAGE					
	- NOXIOUS WEEDS					
	- EXPOSURE OF LINER	✓				
	- EROSION	✓			filled, seeded, straw	9/22/17
	- LOCALIZED SETTLEMENT/SUMPING	✓				
- 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 - EXPOSURE 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	✓			heavy weed growth	
	- LENGTH OF GRASS	✓				
	- DEAD/DYING GRASS	✓				
	- GRASS COVERAGE	✓				
	- NOXIOUS WEEDS	✓				
	- EXPOSURE OF LINER	✓				
	- EROSION	✓			filled, seeded, straw	9/22/17
	- LOCALIZED SETTLEMENT/SLUMPING	✓				
Transect EV7	- PONDING OF WATER/DRAINAGE	✓				
	- SIGNS OF BURROWING BY ANIMALS	✓				
	- ROOTING OF TREES	✓			Trees cut	9/18/17
	- QUALITY OF VEGETATIVE COVER	✓			heavy weed growth	
	- LENGTH OF GRASS	✓				
	- DEAD/DYING GRASS	✓				
	- GRASS COVERAGE	✓				
	- NOXIOUS WEEDS	✓				
- EXPOSURE OF LINER	✓					
Transect EV8	- EROSION	✓			filled, seeded, straw	9/22/17
	- LOCALIZED SETTLEMENT/SLUMPING	✓				
	- PONDING OF WATER/DRAINAGE	✓				
	- SIGNS OF BURROWING BY ANIMALS	✓				
	- ROOTING OF TREES	✓				
	- QUALITY OF VEGETATIVE COVER	✓			heavy weed growth	
	- LENGTH OF GRASS	✓				
	- DEAD/DYING GRASS	✓				
- GRASS COVERAGE	✓					
- NOXIOUS WEEDS	✓					
- EXPOSURE OF LINER	✓					
Transect EV8	- EROSION	✓			filled, seeded, straw	9/22/17
	- LOCALIZED SETTLEMENT/SLUMPING	✓				
	- PONDING OF WATER/DRAINAGE	✓				
	- SIGNS OF BURROWING BY ANIMALS	✓				
	- ROOTING OF TREES	✓				
	- QUALITY OF VEGETATIVE COVER	✓			Trees cut	9/18/17

TABLE D.1

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

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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	✓			Weed About two foot tall	
	- LENGTH OF GRASS					
	- DEAD/DYING GRASS					
	- GRASS COVERAGE					
	- NOXIOUS WEEDS					
	- EXPOSURE OF LINER	✓				
	- EROSION	✓			Filled, seeded, straw	9/22/17
	- LOCALIZED SETTLEMENT/SLUMPING	✓				
- PONDING OF WATER/DRAINAGE	✓					
- SIGNS OF BURROWING BY ANIMALS	✓					
- ROOTING OF TREES	✓			Trees cut	9/18/17	
Transect WV1	- QUALITY OF VEGETATIVE COVER					
	- LENGTH OF GRASS	✓				
	- DEAD/DYING GRASS					
	- GRASS COVERAGE					
	- NOXIOUS WEEDS					
	- EXPOSURE 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	✓			
	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	✓			
		- 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	✓			heavy weed growth	
	- EROSION	✓			filled, seeded, straw	9/22/17
	- 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	✓			Heavy weed growth
- EROSION		✓			filled, seeded, straw	9/22/17
- OBSTRUCTIONS		✓				
- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION		✓				
- SIGNS OF BURROWING BY ANIMALS		✓				
- ROOTING OF TREES		✓				
Transect ES3		- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓			Heavy weed growth
	- EROSION	✓			filled, seeded, straw	9/22/17
	- 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

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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	✓		heavy weed growth	
		- EROSION	✓		filled, seeded, straw	9/22/17
		- 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	✓				filled, seeded, straw	9/22/17
- 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	✓		filled, seeded, straw	9/22/17
		- 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

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Rev. 1

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	✓			Heavy weed growth	9/22/17									
	- 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															
- 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															
- 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															
- 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

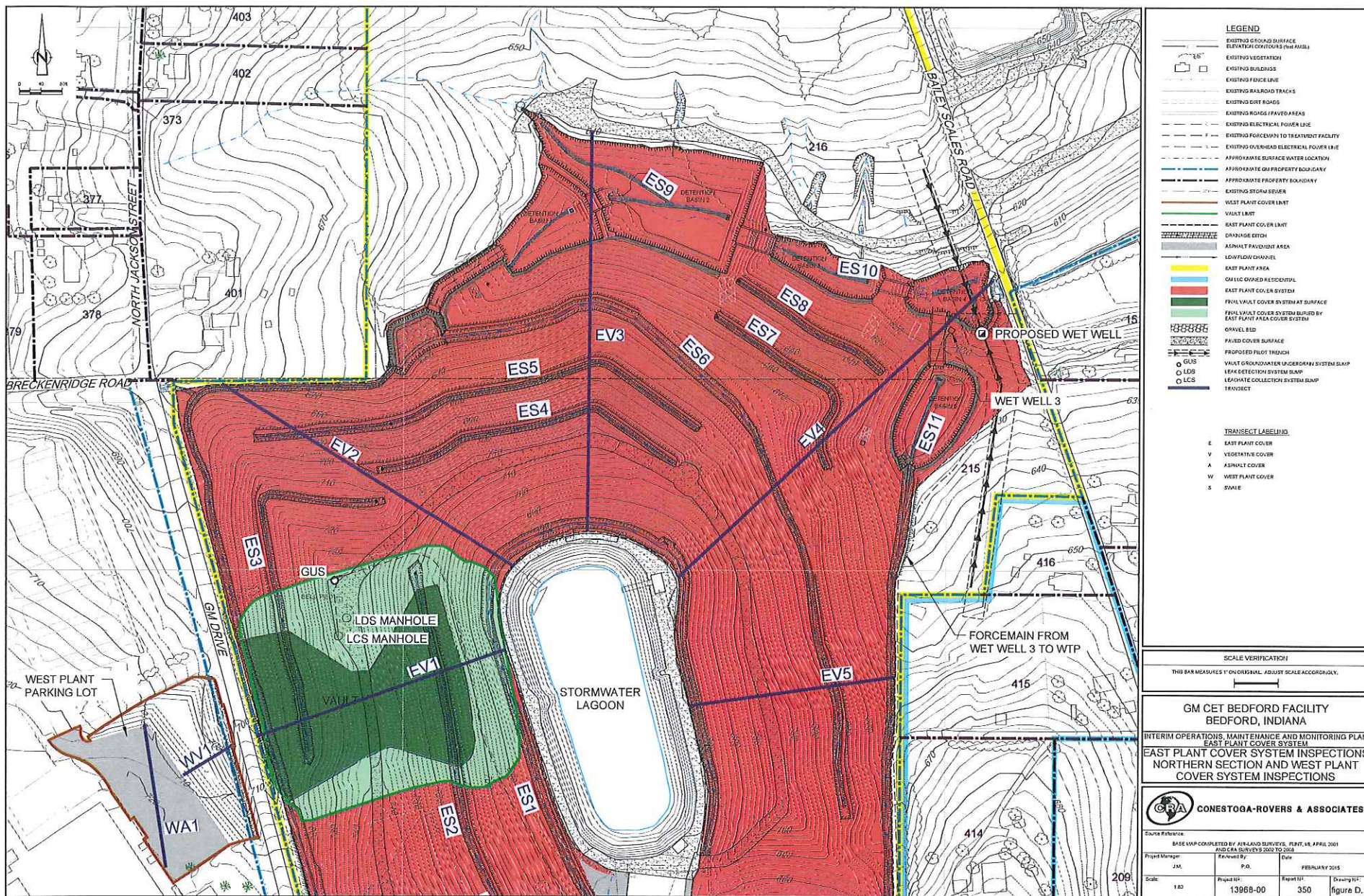
COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

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	✓			heavy weed growth	
	- EROSION	✓				
	- OBSTRUCTIONS	✓				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✓				
	- SIGNS OF BURROWING BY ANIMALS	✓				
	- ROOTING OF TREES	✓				
	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓			heavy weed growth	
Transect ES11	- EROSION	✓				
	- OBSTRUCTIONS	✓				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✓				
	- SIGNS OF BURROWING BY ANIMALS	✓				
	- ROOTING OF TREES	✓				
	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓			heavy weed growth	
	- EROSION	✓			filled, seeded, sternal	9/22/17
Transect ES12	- OBSTRUCTIONS	✓				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✓				
	- SIGNS OF BURROWING BY ANIMALS	✓				
	- ROOTING OF TREES	✓			Trees cut	9/18/17

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	✓		heavy weed growth	
		- EROSION	✓			
		- OBSTRUCTIONS	✓			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✓			
		- SIGNS OF BURROWING BY ANIMALS	✓			
		- ROOTING OF TREES	✓			
	Transect ES13	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth	
		- EROSION	✓			
		- OBSTRUCTIONS	✓			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	✓			
		- SIGNS OF BURROWING BY ANIMALS	✓			
		- ROOTING OF TREES	✓			



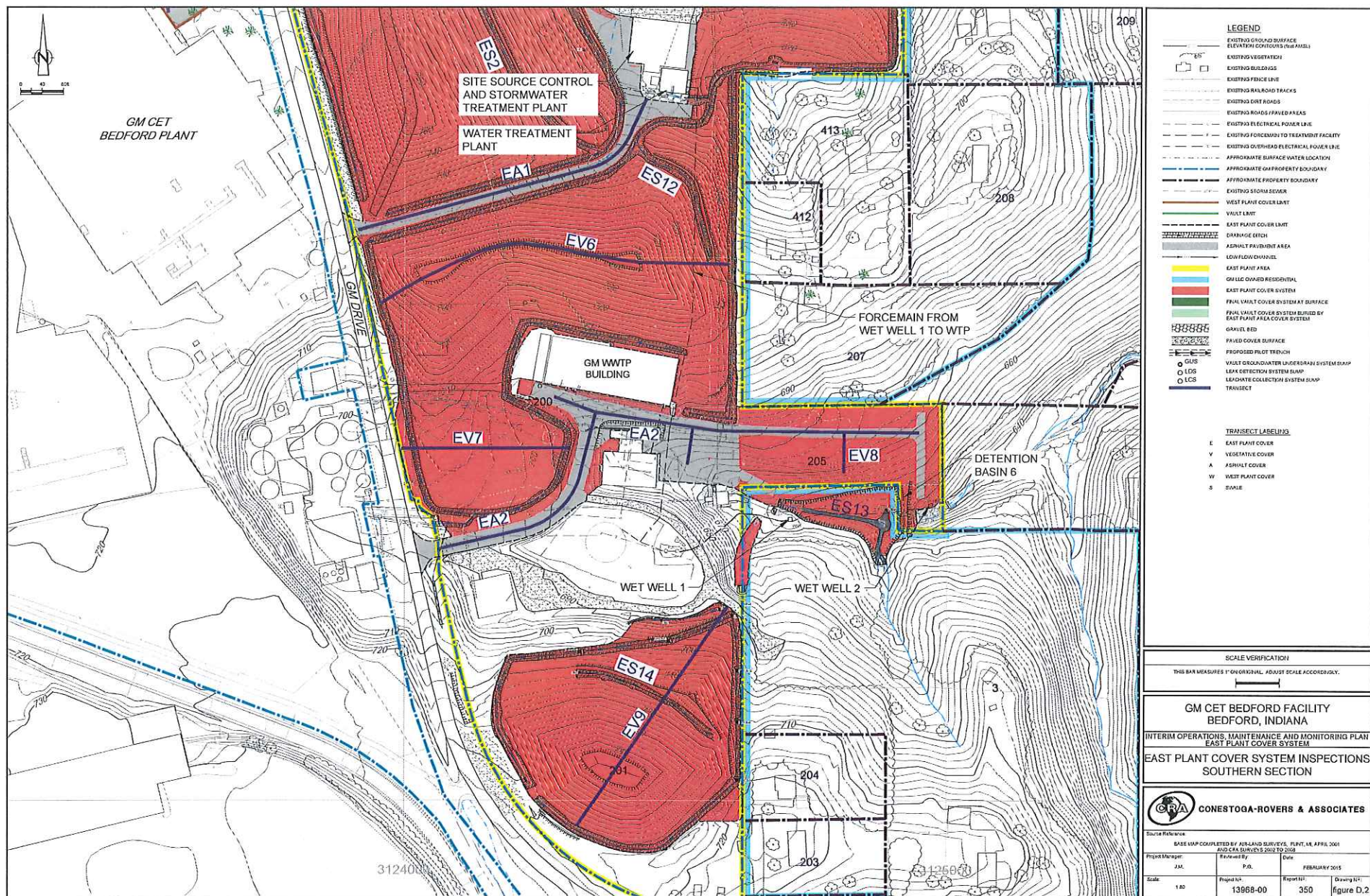


TABLE D.1

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

Date of Inspection: 12/13/2017

Weather: sunny

Inspector: mike curtis

Temperature: 32 degrees

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	X			heavy weed growth	
	- EXPOSURE OF LINER	x				
	- EROSION	x				
	- LOCALIZED SETTLEMENT/SLUMPING	x				
	- PONDING OF WATER/DRAINAGE	x				
	- SIGNS OF BURROWING BY ANIMALS	X				
	- ROOTING OF TREES	x				
	Transect EV2	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X			heavy weed growth
- EXPOSURE OF LINER		x				
- EROSION		x				
- LOCALIZED SETTLEMENT/SLUMPING		x				
- PONDING OF WATER/DRAINAGE		x				
- SIGNS OF BURROWING BY ANIMALS		X				
- ROOTING OF TREES		x				

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	X		heavy weed growth	
		- EXPOSURE OF LINER	X			
		- EROSION	X			
		- LOCALIZED SETTLEMENT/SLUMPING	X			
		- PONDING OF WATER/DRAINAGE	X			
		- SIGNS OF BURROWING BY ANIMALS	X			
		- ROOTING OF TREES	X			
			Transect EV4	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	
- EXPOSURE OF LINER	X					
- EROSION	X					
- LOCALIZED SETTLEMENT/SLUMPING	X					
- PONDING OF WATER/DRAINAGE	X					
- SIGNS OF BURROWING BY ANIMALS	X					
- ROOTING OF TREES	X					
	Transect EV5			- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	
		- EXPOSURE OF LINER	X			
		- EROSION	X			
		- LOCALIZED SETTLEMENT/SLUMPING	X			
		- PONDING OF WATER/DRAINAGE	X			
		- SIGNS OF BURROWING BY ANIMALS	X			
		- ROOTING OF TREES	X			

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	X		heavy weed growth	
		- EXPOSURE OF LINER	X			
		- EROSION	X			
		- LOCALIZED SETTLEMENT/SLUMPING	X			
		- PONDING OF WATER/DRAINAGE	X			
		- SIGNS OF BURROWING BY ANIMALS	X			
		- ROOTING OF TREES	X			
			Transect EV7	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	
- EXPOSURE OF LINER	X					
- EROSION	X					
- LOCALIZED SETTLEMENT/SLUMPING	X					
- PONDING OF WATER/DRAINAGE	X					
- SIGNS OF BURROWING BY ANIMALS	X					
- ROOTING OF TREES	X					
	Transect EV8			- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X	
		- EXPOSURE OF LINER	X			
		- EROSION	X			
		- LOCALIZED SETTLEMENT/SLUMPING	X			
		- PONDING OF WATER/DRAINAGE	X			
		- SIGNS OF BURROWING BY ANIMALS	X			
		- ROOTING OF TREES	X			

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	X			has been mowed	
	- EXPOSURE OF LINER	X				
	- EROSION	X				
	- LOCALIZED SETTLEMENT/SLUMPING	X				
	- PONDING OF WATER/DRAINAGE	X				
	- SIGNS OF BURROWING BY ANIMALS	X				
	- ROOTING OF TREES	X				
	Transect WV1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X			
- EXPOSURE OF LINER		X				
- EROSION		X				
- LOCALIZED SETTLEMENT/SLUMPING		X				
- PONDING OF WATER/DRAINAGE		X				
- SIGNS OF BURROWING BY ANIMALS		X				
- ROOTING OF TREES		X				

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	x				
		- PRESENCE OF CRACKING OR DISCOLORATION	X				
	Transect EA2	- QUALITY OF ASPHALT COVER	x				
		- PRESENCE OF CRACKING OR DISCOLORATION	X				
	Transect WA1	- QUALITY OF ASPHALT COVER	x				
		- PRESENCE OF CRACKING OR DISCOLORATION	X				
ACCESS ROAD							
	ACCESS ROAD	- EROSION	X				
		- OBSTRUCTIONS/DEBRIS	x				
		- POTHOLES	X				
		- DAMAGE CAUSED BY VEHICULAR TRAFFIC	X				

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	X		heavy weed growth	
		- EROSION	X			
		- OBSTRUCTIONS	X			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	X			
		- SIGNS OF BURROWING BY ANIMALS	X			
		- ROOTING OF TREES	X			
			Transect ES2	- 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 ES3			- 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			

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	X		heavy weed growth	
		- EROSION	X			
		- OBSTRUCTIONS	X			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	X			
		- SIGNS OF BURROWING BY ANIMALS	X			
		- ROOTING OF TREES	X			
			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			

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	X		heavy weed growth	
		- EROSION	x			
		- OBSTRUCTIONS	x			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	x			
		- SIGNS OF BURROWING BY ANIMALS	X			
		- ROOTING OF TREES	x			
			Transect ES8	- 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 ES9			- 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			

TABLE D.1

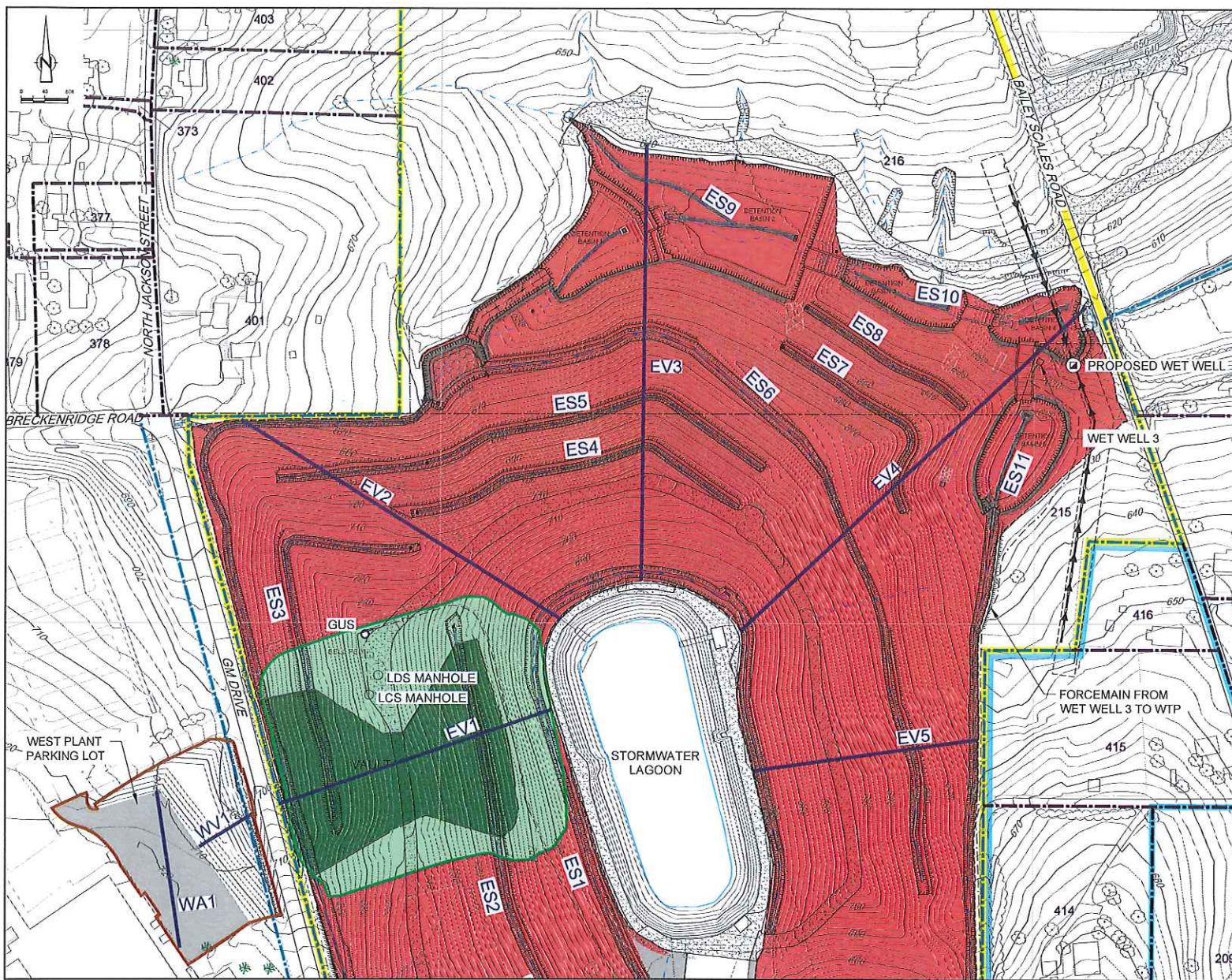
COVER SYSTEMS INSPECTION LOG
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

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	X		heavy weed growth	
		- EROSION	X			
		- OBSTRUCTIONS	X			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	X			
		- SIGNS OF BURROWING BY ANIMALS	X			
		- ROOTING OF TREES	X			
		Transect ES11	QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth
- EROSION	X					
- OBSTRUCTIONS	X					
- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	X					
- SIGNS OF BURROWING BY ANIMALS	X					
- ROOTING OF TREES	X					
Transect ES12	QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS		X		heavy weed growth	
	- EROSION	X				
	- OBSTRUCTIONS	X				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	X				
	- SIGNS OF BURROWING BY ANIMALS	X				
	- ROOTING OF TREES	X				

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	X		heavy weed growth			
		- EROSION	X					
		- OBSTRUCTIONS	X					
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	X					
		- SIGNS OF BURROWING BY ANIMALS	X					
		- ROOTING OF TREES	X					
			Transect ES13	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		has been mowed	
				- EROSION	X			
- OBSTRUCTIONS	X							
- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	X							
- SIGNS OF BURROWING BY ANIMALS	X							
- ROOTING OF TREES	X							



LEGEND

- EXISTING GROUND SURFACE ELEVATION CONTOURS (5' INTERVALS)
- EXISTING VEGETATION
- EXISTING BUILDINGS
- EXISTING FENCE LINE
- EXISTING RAILROAD TRACKS
- EXISTING DIRT ROADS
- EXISTING ROADS / PAVED AREAS
- EXISTING ELECTRICAL POWER LINE
- EXISTING FORCEMAIN TO TREATMENT FACILITY
- EXISTING OVERHEAD ELECTRICAL POWER LINE
- APPROXIMATE SURFACE WATER LOCATION
- APPROXIMATE ON PROPERTY BOUNDARY
- APPROXIMATE PROPERTY BOUNDARY
- EXISTING STORM SEWER
- WEST PLANT COVER LIMIT
- VAULT LIMIT
- EAST PLANT COVER LIMIT
- GRAVEL BED
- ASPHALT PAVEMENT AREA
- LOW FLOOD CHANNEL
- EAST PLANT AREA
- ONE L.C. OWNED RESIDUAL
- EAST PLANT COVER SYSTEM
- FINAL VAULT COVER SYSTEM AT SURFACE
- FINAL VAULT COVER SYSTEM BURIED BY EAST PLANT AREA COVER SYSTEM
- GRAVEL BED
- PAVED COVER SURFACE
- PROPOSED PLOT TRENCH
- VAULT GROUNDWATER UNDERDRAIN SYSTEM SLUMP
- LEAK DETECTION SYSTEM SLUMP
- LEACHATE COLLECTION SYSTEM SLUMP
- TRANSECT

TRANSECT LABELING

- E EAST PLANT COVER
- V VEGETATE COVER
- A ASPHALT COVER
- W WEST PLANT COVER
- S SCALE

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

**GM CET BEDFORD FACILITY
BEDFORD, INDIANA**

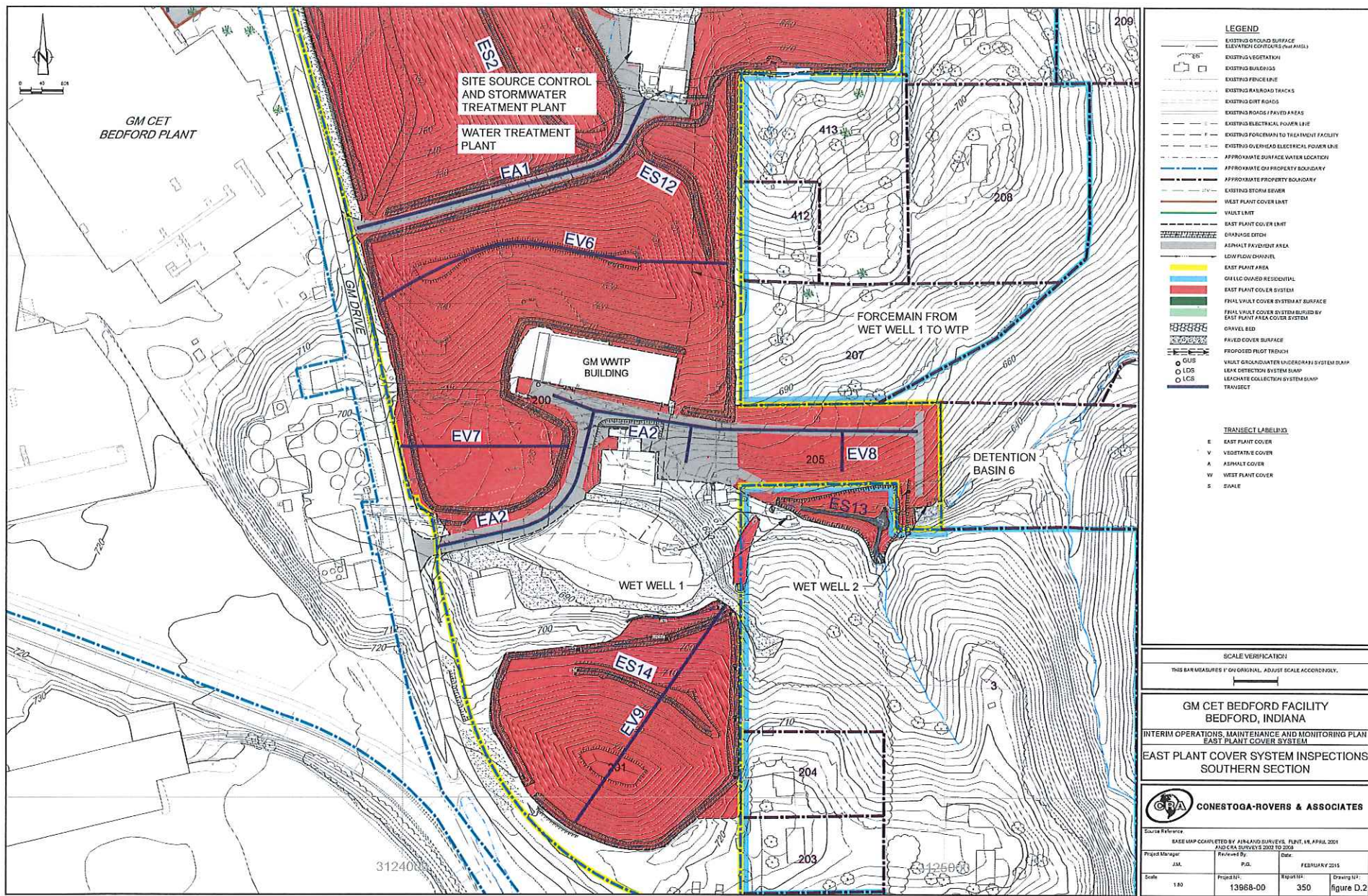
**INTERIM OPERATIONS, MAINTENANCE AND MONITORING PLAN
EAST PLANT COVER SYSTEM
EAST PLANT COVER SYSTEM INSPECTIONS
NORTHERN SECTION AND WEST PLANT
COVER SYSTEM INSPECTIONS**

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:
BASE MAP COMPLETED BY AIRLAND SURVEYS, PLUMB, IN, APRIL 2001
AND C.R.A. SURVEYS 2002 TO 2008

Project Manager	J.M.	Reviewed By	P.G.	Date	FEBRUARY 2015
Scale	1:50	Project No.	13968-00	Report No.	350
				Drawing No.	figure D.1

1396800/350/04/0007 FEB 20/2015



Appendix C

Mag Meter Verification Certification Report

Plant Documentation

04.05.2017 11:58:17

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN100

Device type

74022B16000

Serial number

V2.00.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-110

Tag Name

1.2256 - 1.2256

K-Factor

0

Zero point

V1.04.00

Software Version I/O-Module

10:16 AM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-110
Device type	PROMAG 50 W DN100	K-Factor	1.2256 - 1.2256
Serial number	74022B16000	Zero point	0
Software Version Transmitter	V2.00.00	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	10:16 AM

Verification Flow end value (100 %): 497.953 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	24.898 gal/m (5%)	1.50 %	0.59 %
✓		49.795 gal/m (10.0%)	1.50 %	0.59 %
✓		248.977 gal/m (50.0%)	1.50 %	0.22 %
✓		497.954 gal/m (100%)	1.50 %	0.14 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.003 mA
✓		4.800 mA (5%)	0.05 mA	0.005 mA
✓		5.600 mA (10.0%)	0.05 mA	0.005 mA
✓		12.000 mA (50.0%)	0.05 mA	0.018 mA
✓		20.000 mA (100%)	0.05 mA	0.036 mA
✓	Pulse Output 1	62 P	1 P	-1 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	5.000 ms	0.000..14.250 ms	6.426 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..162.122 mV	38.162 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-110
Device type	PROMAG 50 W DN100	K-Factor	1.2256 - 1.2256
Serial number	74022B16000	Zero point	0
Software Version Transmitter	V2.00.00	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	10:16 AM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	500.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	10.000 gal/P	Passive/Positive	200.01 ms		

Actual System Ident.

117.0

Plant Documentation

04.05.2017 11:56:19

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN100

Device type

74022C16000

Serial number

V2.00.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-139

Tag Name

1.2119 - 1.2119

K-Factor

0

Zero point

V1.04.00

Software Version I/O-Module

09:42 AM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-139
Device type	PROMAG 50 W DN100	K-Factor	1.2119 - 1.2119
Serial number	74022C16000	Zero point	0
Software Version Transmitter	V2.00.00	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	09:42 AM

Verification Flow end value (100 %): 497.953 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	24.898 gal/m (5%)	1.50 %	0.72 %
✓		49.795 gal/m (10.0%)	1.50 %	0.57 %
✓		248.977 gal/m (50.0%)	1.50 %	0.25 %
✓		497.954 gal/m (100%)	1.50 %	0.18 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.005 mA
✓		4.800 mA (5%)	0.05 mA	0.006 mA
✓		5.600 mA (10.0%)	0.05 mA	0.009 mA
✓		12.000 mA (50.0%)	0.05 mA	0.025 mA
✓		20.000 mA (100%)	0.05 mA	0.049 mA
✓	Pulse Output 1	62 P	1 P	-1 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	5.000 ms	0.000..14.250 ms	6.536 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..73.488 mV	6.395 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-139
Device type	PROMAG 50 W DN100	K-Factor	1.2119 - 1.2119
Serial number	74022C16000	Zero point	0
Software Version Transmitter	V2.00.00	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	09:42 AM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	500.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	10.000 gal/P	Passive/Positive	200.01 ms		

Actual System Ident.

115.0

Plant Documentation

04.05.2017 11:58:31

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN50

Device type

74023016000

Serial number

V2.00.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-154

Tag Name

0.8188 - 0.8188

K-Factor

0

Zero point

V1.04.00

Software Version I/O-Module

10:32 AM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-154
Device type	PROMAG 50 W DN50	K-Factor	0.8188 - 0.8188
Serial number	74023016000	Zero point	0
Software Version Transmitter	V2.00.00	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	10:32 AM

Verification Flow end value (100 %): 124.488 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	6.224 gal/m (5%)	1.50 %	0.61 %
✓		12.449 gal/m (10.0%)	1.50 %	0.18 %
✓		62.244 gal/m (50.0%)	1.50 %	0.11 %
✓		124.489 gal/m (100%)	1.50 %	0.11 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.005 mA
✓		4.800 mA (5%)	0.05 mA	0.007 mA
✓		5.600 mA (10.0%)	0.05 mA	0.007 mA
✓		12.000 mA (50.0%)	0.05 mA	-0.005 mA
✓		20.000 mA (100%)	0.05 mA	0.040 mA
✓	Pulse Output 1	62 P	1 P	-1 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	3.500 ms	0.000..10.875 ms	4.422 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..55.989 mV	2.119 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-154
Device type	PROMAG 50 W DN50	K-Factor	0.8188 - 0.8188
Serial number	74023016000	Zero point	0
Software Version Transmitter	V2.00.00	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	10:32 AM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	500.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	10.000 gal/P	Passive/Positive	200.01 ms		

Actual System Ident.

119.0

Plant Documentation

04.05.2017 11:58:57

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN250

Device type

74022F16000

Serial number

V2.00.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-450

Tag Name

1.1874 - 1.1874

K-Factor

-5

Zero point

V1.04.00

Software Version I/O-Module

09:28 AM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.42 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-450
Device type	PROMAG 50 W DN250	K-Factor	1.1874 - 1.1874
Serial number	74022F16000	Zero point	-5
Software Version Transmitter	V2.00.00	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	09:28 AM

Verification Flow end value (100 %): 3400.000 gal/m

Flow speed 4.37 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	170.001 gal/m (5%)	1.42 %	0.58 %
✓		340.001 gal/m (10.0%)	1.42 %	0.65 %
✓		1700.001 gal/m (50.0%)	1.42 %	0.18 %
✓		3400.001 gal/m (100%)	1.42 %	0.06 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.000 mA
✓		4.800 mA (5%)	0.05 mA	-0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	0.000 mA
✓		12.000 mA (50.0%)	0.05 mA	0.009 mA
✓		20.000 mA (100%)	0.05 mA	0.026 mA
✓	Pulse Output 1	62 P	1 P	-1 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	14.600 ms	0.000..30.750 ms	20.283 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..87.178 mV	26.591 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-450
Device type	PROMAG 50 W DN250	K-Factor	1.1874 - 1.1874
Serial number	74022F16000	Zero point	-5
Software Version Transmitter	V2.00.00	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	09:28 AM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	3000.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	100.001 gal/P	Passive/Positive	200.01 ms		

Actual System Ident.

113.0

Plant Documentation

04.05.2017 11:58:03

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN250

Device type

97024A16000

Serial number

V2.01.03

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-500

Tag Name

1.2356 - 1.2356

K-Factor

5

Zero point

V1.04.00

Software Version I/O-Module

09:59 AM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-500
Device type	PROMAG 50 W DN250	K-Factor	1.2356 - 1.2356
Serial number	97024A16000	Zero point	5
Software Version Transmitter	V2.01.03	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	09:59 AM

Verification Flow end value (100 %): 3112.203 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	155.611 gal/m (5%)	1.50 %	0.24 %
✓		311.221 gal/m (10.0%)	1.50 %	0.22 %
✓		1556.103 gal/m (50.0%)	1.50 %	-0.15 %
✓		3112.204 gal/m (100%)	1.50 %	-0.22 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.000 mA
✓		4.800 mA (5%)	0.05 mA	-0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.000 mA
✓		12.000 mA (50.0%)	0.05 mA	0.004 mA
✓		20.000 mA (100%)	0.05 mA	0.015 mA
✓	Pulse Output 1	125 P	1 P	0 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	14.600 ms	0.000..30.750 ms	20.761 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..80.042 mV	1.646 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-500
Device type	PROMAG 50 W DN250	K-Factor	1.2356 - 1.2356
Serial number	97024A16000	Zero point	5
Software Version Transmitter	V2.01.03	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	09:59 AM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	2500.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	15.000 gal/P	Passive/Positive	100.01 ms		

Actual System Ident.

117.0

Plant Documentation

04.05.2017 14:38:02

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN200

Device type

K806AA16000

Serial number

V2.04.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

Tag Name

1.0818 - 1.0818

K-Factor

-6

Zero point

V1.04.10

Software Version I/O-Module

01:44 PM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	-----
Device type	PROMAG 50 W DN200	K-Factor	1.0818 - 1.0818
Serial number	K806AA16000	Zero point	-6
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	01:44 PM

Verification Flow end value (100 %): 1991.810 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	99.591 gal/m (5%)	1.50 %	0.38 %
✓		199.182 gal/m (10.0%)	1.50 %	0.48 %
✓		995.906 gal/m (50.0%)	1.50 %	0.08 %
✓		1991.811 gal/m (100%)	1.50 %	0.01 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.000 mA
✓		4.800 mA (5%)	0.05 mA	-0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	0.000 mA
✓		12.000 mA (50.0%)	0.05 mA	0.003 mA
✓		20.000 mA (100%)	0.05 mA	0.005 mA
✓	Pulse Output 1	50 P	1 P	0 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	13.300 ms	0.000..27.625 ms	16.846 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..61.439 mV	0.000 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	-----
Device type	PROMAG 50 W DN200	K-Factor	1.0818 - 1.0818
Serial number	K806AA16000	Zero point	-6
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	01:44 PM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	1500.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	20.000 gal/P	Passive/Negative	250.01 ms		

Actual System Ident.

123.0

Plant Documentation

04.05.2017 14:37:28

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN250

Device type

KB03D516000

Serial number

V2.04.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-1017

Tag Name

1.1385 - 1.1385

K-Factor

0

Zero point

V1.04.10

Software Version I/O-Module

01:22 PM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-1017
Device type	PROMAG 50 W DN250	K-Factor	1.1385 - 1.1385
Serial number	KB03D516000	Zero point	0
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	01:22 PM

Verification Flow end value (100 %): 3112.203 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	155.611 gal/m (5%)	1.50 %	0.57 %
✓		311.221 gal/m (10.0%)	1.50 %	0.45 %
✓		1556.103 gal/m (50.0%)	1.50 %	0.05 %
✓		3112.204 gal/m (100%)	1.50 %	-0.03 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.001 mA
✓		4.800 mA (5%)	0.05 mA	-0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.000 mA
✓		12.000 mA (50.0%)	0.05 mA	0.003 mA
✓		20.000 mA (100%)	0.05 mA	0.007 mA
✓	Pulse Output 1	50 P	1 P	0 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	14.600 ms	0.000..30.750 ms	18.847 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..57.386 mV	16.412 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-1017
Device type	PROMAG 50 W DN250	K-Factor	1.1385 - 1.1385
Serial number	KB03D516000	Zero point	0
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	01:22 PM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	1000.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	20.000 gal/P	Passive/Negative	250.01 ms		

Actual System Ident.

121.0

Plant Documentation

04.05.2017 14:39:00

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN150

Device type

K8041616000

Serial number

V2.04.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-3044

Tag Name

1.0562 - 1.0562

K-Factor

-1

Zero point

V1.04.10

Software Version I/O-Module

02:33 PM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-3044
Device type	PROMAG 50 W DN150	K-Factor	1.0562 - 1.0562
Serial number	K8041616000	Zero point	-1
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	02:33 PM

Verification Flow end value (100 %): 1120.393 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	56.020 gal/m (5%)	1.50 %	0.38 %
✓		112.040 gal/m (10.0%)	1.50 %	0.01 %
✓		560.198 gal/m (50.0%)	1.50 %	0.07 %
✓		1120.394 gal/m (100%)	1.50 %	0.00 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.001 mA
✓		4.800 mA (5%)	0.05 mA	0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.000 mA
✓		12.000 mA (50.0%)	0.05 mA	-0.029 mA
✓		20.000 mA (100%)	0.05 mA	0.000 mA
✓	Pulse Output 1	125 P	1 P	0 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	9.600 ms	0.000..21.500 ms	11.487 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..79.927 mV	1.640 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-3044
Device type	PROMAG 50 W DN150	K-Factor	1.0562 - 1.0562
Serial number	K8041616000	Zero point	-1
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	02:33 PM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA Passive	0.0 gal/m	1500.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	1000.001 gal/P	Passive/Positive	100.01 ms		

Actual System Ident.

123.0

Plant Documentation

04.05.2017 14:38:47

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN150

Device type

K8041416000

Serial number

V2.04.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-4044

Tag Name

1.0412 - 1.0412

K-Factor

-2

Zero point

V1.04.10

Software Version I/O-Module

02:20 PM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-4044
Device type	PROMAG 50 W DN150	K-Factor	1.0412 - 1.0412
Serial number	K8041416000	Zero point	-2
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	02:20 PM

Verification Flow end value (100 %): 1120.393 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	56.020 gal/m (5%)	1.50 %	0.21 %
✓		112.040 gal/m (10.0%)	1.50 %	-0.06 %
✓		560.198 gal/m (50.0%)	1.50 %	0.08 %
✓		1120.394 gal/m (100%)	1.50 %	0.00 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.000 mA
✓		4.800 mA (5%)	0.05 mA	0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	0.000 mA
✓		12.000 mA (50.0%)	0.05 mA	0.004 mA
✓		20.000 mA (100%)	0.05 mA	0.005 mA
✓	Pulse Output 1	125 P	1 P	0 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	9.600 ms	0.000..21.500 ms	11.534 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..60.149 mV	4.728 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-4044
Device type	PROMAG 50 W DN150	K-Factor	1.0412 - 1.0412
Serial number	K8041416000	Zero point	-2
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	02:20 PM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA Passive	0.0 gal/m	1500.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	1000.001 gal/P	Passive/Positive	100.01 ms		

Actual System Ident.

123.0

Plant Documentation

04.05.2017 14:38:25

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN150

Device type

K8041516000

Serial number

V2.04.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-5044

Tag Name

1.0471 - 1.0471

K-Factor

-1

Zero point

V1.04.10

Software Version I/O-Module

02:05 PM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-5044
Device type	PROMAG 50 W DN150	K-Factor	1.0471 - 1.0471
Serial number	K8041516000	Zero point	-1
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	02:05 PM

Verification Flow end value (100 %): 1120.393 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	56.020 gal/m (5%)	1.50 %	0.34 %
✓		112.040 gal/m (10.0%)	1.50 %	0.03 %
✓		560.198 gal/m (50.0%)	1.50 %	0.06 %
✓		1120.394 gal/m (100%)	1.50 %	-0.01 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.000 mA
✓		4.800 mA (5%)	0.05 mA	-0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.000 mA
✓		12.000 mA (50.0%)	0.05 mA	0.002 mA
✓		20.000 mA (100%)	0.05 mA	0.003 mA
✓	Pulse Output 1	125 P	1 P	0 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	9.600 ms	0.000..21.500 ms	11.585 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..71.684 mV	4.910 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-5044
Device type	PROMAG 50 W DN150	K-Factor	1.0471 - 1.0471
Serial number	K8041516000	Zero point	-1
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	02:05 PM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA Passive	0.0 gal/m	1500.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	1000.001 gal/P	Passive/Positive	100.01 ms		

Actual System Ident.

123.0

Plant Documentation

04.05.2017 14:37:41

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN250

Device type

KA05F416000

Serial number

V2.04.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-6013

Tag Name

1.1694 - 1.1694

K-Factor

2

Zero point

V1.04.10

Software Version I/O-Module

01:34 PM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-6013
Device type	PROMAG 50 W DN250	K-Factor	1.1694 - 1.1694
Serial number	KA05F416000	Zero point	2
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	01:34 PM

Verification Flow end value (100 %): 3112.203 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	155.611 gal/m (5%)	1.50 %	0.42 %
✓		311.221 gal/m (10.0%)	1.50 %	0.46 %
✓		1556.103 gal/m (50.0%)	1.50 %	0.08 %
✓		3112.204 gal/m (100%)	1.50 %	-0.01 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.000 mA
✓		4.800 mA (5%)	0.05 mA	-0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	0.000 mA
✓		12.000 mA (50.0%)	0.05 mA	0.003 mA
✓		20.000 mA (100%)	0.05 mA	0.005 mA
✓	Pulse Output 1	50 P	1 P	0 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	14.600 ms	0.000..30.750 ms	18.727 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..68.484 mV	8.215 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-6013
Device type	PROMAG 50 W DN250	K-Factor	1.1694 - 1.1694
Serial number	KA05F416000	Zero point	2
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	01:34 PM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	2000.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	20.000 gal/P	Passive/Negative	250.01 ms		

Actual System Ident.

123.0

Plant Documentation

04.05.2017 14:36:43

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN250

Device type

KA05F716000

Serial number

V2.04.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-6020

Tag Name

1.1762 - 1.1762

K-Factor

3

Zero point

V1.04.10

Software Version I/O-Module

01:12 PM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-6020
Device type	PROMAG 50 W DN250	K-Factor	1.1762 - 1.1762
Serial number	KA05F716000	Zero point	3
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	01:12 PM

Verification Flow end value (100 %): 3112.203 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	155.611 gal/m (5%)	1.50 %	0.47 %
✓		311.221 gal/m (10.0%)	1.50 %	0.47 %
✓		1556.103 gal/m (50.0%)	1.50 %	0.08 %
✓		3112.204 gal/m (100%)	1.50 %	0.00 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.000 mA
✓		4.800 mA (5%)	0.05 mA	-0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.000 mA
✓		12.000 mA (50.0%)	0.05 mA	0.004 mA
✓		20.000 mA (100%)	0.05 mA	0.008 mA
✓	Pulse Output 1	50 P	1 P	0 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	14.600 ms	0.000..30.750 ms	18.870 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..73.631 mV	0.000 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-6020
Device type	PROMAG 50 W DN250	K-Factor	1.1762 - 1.1762
Serial number	KA05F716000	Zero point	3
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	01:12 PM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	1000.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	20.000 gal/P	Passive/Negative	250.01 ms		

Actual System Ident.

121.0

Plant Documentation

04.05.2017 12:00:11

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN40

Device type

F1095C16000

Serial number

V2.04.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-LCS

Tag Name

0.708 - 0.708

K-Factor

17

Zero point

V1.04.10

Software Version I/O-Module

11:47 AM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-LCS
Device type	PROMAG 50 W DN40	K-Factor	0.708 - 0.708
Serial number	F1095C16000	Zero point	17
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	11:47 AM

Verification Flow end value (100 %): 79.672 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	3.984 gal/m (5%)	1.50 %	0.42 %
✓		7.967 gal/m (10.0%)	1.50 %	0.05 %
✓		39.836 gal/m (50.0%)	1.50 %	0.00 %
✓		79.672 gal/m (100%)	1.50 %	0.00 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.004 mA
✓		4.800 mA (5%)	0.05 mA	-0.004 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.005 mA
✓		12.000 mA (50.0%)	0.05 mA	-0.034 mA
✓		20.000 mA (100%)	0.05 mA	0.001 mA
✓	Pulse Output 1	125 P	1 P	0 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	3.200 ms	0.000..10.200 ms	3.893 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..189.686 mV	3.287 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-LCS
Device type	PROMAG 50 W DN40	K-Factor	0.708 - 0.708
Serial number	F1095C16000	Zero point	17
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	11:47 AM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	50.00 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	5.000 gal/P	Passive/Positive	100.01 ms		

Actual System Ident.

117.0

Plant Documentation

04.05.2017 11:59:59

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN100

Device type

A3005B16000

Serial number

V2.01.03

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-MGT

Tag Name

1.2789 - 1.2789

K-Factor

0

Zero point

V1.04.00

Software Version I/O-Module

11:24 AM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-MGT
Device type	PROMAG 50 W DN100	K-Factor	1.2789 - 1.2789
Serial number	A3005B16000	Zero point	0
Software Version Transmitter	V2.01.03	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	11:24 AM

Verification Flow end value (100 %): 497.953 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	24.898 gal/m (5%)	1.50 %	0.47 %
✓		49.795 gal/m (10.0%)	1.50 %	0.49 %
✓		248.977 gal/m (50.0%)	1.50 %	0.09 %
✓		497.954 gal/m (100%)	1.50 %	0.03 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.003 mA
✓		4.800 mA (5%)	0.05 mA	-0.004 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.004 mA
✓		12.000 mA (50.0%)	0.05 mA	-0.031 mA
✓		20.000 mA (100%)	0.05 mA	0.003 mA
✓	Pulse Output 1	125 P	1 P	0 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	5.000 ms	0.000..14.250 ms	6.266 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..152.579 mV	22.795 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-MGT
Device type	PROMAG 50 W DN100	K-Factor	1.2789 - 1.2789
Serial number	A3005B16000	Zero point	0
Software Version Transmitter	V2.01.03	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	11:24 AM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	600.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	5.000 gal/P	Passive/Positive	100.01 ms		

Actual System Ident.

117.0

Plant Documentation

04.05.2017 11:59:11

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN40

Device type

F1095B16000

Serial number

V2.04.00

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FT-VAULT

Tag Name

0.7115 - 0.7115

K-Factor

0

Zero point

V1.04.10

Software Version I/O-Module

10:48 AM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FT-VAULT
Device type	PROMAG 50 W DN40	K-Factor	0.7115 - 0.7115
Serial number	F1095B16000	Zero point	0
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	10:48 AM

Verification Flow end value (100 %): 79.672 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	3.984 gal/m (5%)	1.50 %	0.50 %
✓		7.967 gal/m (10.0%)	1.50 %	0.09 %
✓		39.836 gal/m (50.0%)	1.50 %	0.02 %
✓		79.672 gal/m (100%)	1.50 %	0.02 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.001 mA
✓		4.800 mA (5%)	0.05 mA	-0.002 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.001 mA
✓		12.000 mA (50.0%)	0.05 mA	-0.029 mA
✓		20.000 mA (100%)	0.05 mA	0.007 mA
✓	Pulse Output 1	125 P	1 P	0 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	3.200 ms	0.000..10.200 ms	3.871 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..196.790 mV	61.148 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FT-VAULT
Device type	PROMAG 50 W DN40	K-Factor	0.7115 - 0.7115
Serial number	F1095B16000	Zero point	0
Software Version Transmitter	V2.04.00	Software Version I/O-Module	V1.04.10
Verification date	05/04/2017	Verification time	10:48 AM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	150.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	5.000 gal/P	Passive/Positive	100.01 ms		

Actual System Ident.

119.0

Plant Documentation

04.05.2017 11:59:39

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GHD

Customer

Order code

PROMAG 50 W DN100

Device type

A3005C16000

Serial number

V2.01.03

Software Version Transmitter

05/04/2017

Verification date

Bedford, IN

Plant

FIT-WW3

Tag Name

1.2644 - 1.2644

K-Factor

-3

Zero point

V1.04.00

Software Version I/O-Module

11:11 AM

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	1.50 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Passed	1 P
Test Sensor	Passed	

FieldCheck Details

500170

Production number

Test510

Software Version

08/2016

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

08/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-WW3
Device type	PROMAG 50 W DN100	K-Factor	1.2644 - 1.2644
Serial number	A3005C16000	Zero point	-3
Software Version Transmitter	V2.01.03	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	11:11 AM

Verification Flow end value (100 %): 497.953 gal/m

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	24.898 gal/m (5%)	1.50 %	0.51 %
✓		49.795 gal/m (10.0%)	1.50 %	0.50 %
✓		248.977 gal/m (50.0%)	1.50 %	0.11 %
✓		497.954 gal/m (100%)	1.50 %	0.05 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.003 mA
✓		4.800 mA (5%)	0.05 mA	-0.004 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.003 mA
✓		12.000 mA (50.0%)	0.05 mA	-0.004 mA
✓		20.000 mA (100%)	0.05 mA	-0.002 mA
✓	Pulse Output 1	125 P	1 P	0 P
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	5.000 ms	0.000..14.250 ms	6.514 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..81.752 mV	0.000 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	GHD	Plant	Bedford, IN
Order code		Tag Name	FIT-WW3
Device type	PROMAG 50 W DN100	K-Factor	1.2644 - 1.2644
Serial number	A3005C16000	Zero point	-3
Software Version Transmitter	V2.01.03	Software Version I/O-Module	V1.04.00
Verification date	05/04/2017	Verification time	11:11 AM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	600.01 gal/m		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	5.000 gal/P	Passive/Positive	100.01 ms		

Actual System Ident.

119.0