



**Global Environmental
Compliance & Sustainability**

July 14, 2017

Reference No. 013968

Mr. Peter Ramanauskas
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77 West Jackson Blvd. (LU-9J)
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Dear Mr. Ramanauskas:

Re: RCRA Corrective Action Administrative Order on Consent (AOC)
Annual Monitoring Report - East Plant Area TSCA Vault - Calendar Year 2016
GM GPS – Bedford Facility, IND 006036099, Docket No. RCRA 05-2014-0011
Bedford, Indiana

Please find enclosed the Annual Monitoring Report, East Plant Area Vault: Calendar Year 2016 for the Resource Conservation and Recovery Act (RCRA) Corrective Action (CA) project at the GM Bedford Global Propulsion Systems (GPS) – Bedford Facility (Facility) at 105 GM Drive in Bedford, Indiana, and select surrounding properties (Site). This report is being submitted in accordance with the Administrative Order on Consent, effective August 4, 2014 (United States Environmental Protection Agency (U.S. EPA) Docket No. RCRA 05-2014-011).

Should you have any questions regarding this document, please do not hesitate to contact me at (313) 510-4328.

Yours truly,

General Motors LLC

Cheryl R. Hiatt
Project Manager

YD/aj/172

Encl.

c.c.: See Attached Distribution List

GM Bedford Distribution List

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East Plant Area TSCA Vault Annual Report Calendar Year 2016

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Terms and Acronyms

2,000 gpm treatment system	the on-Facility 2,000 gallon per minute design capacity water treatment system
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
CRA	Conestoga-Rovers & Associates, Inc.
CET	Castings Engines and Transmissions
EI	Environmental Indicator
EQ tank	equalization tank
FA	financial assurance
Facility	GM CET Bedford Facility in Bedford, Indiana
ft	foot/feet
GHD	formerly Conestoga-Rovers & Associates, Inc.
GM	General Motors LLC
gpm	gallons per minute
GUS	gravel underdrain system
GWTP	1,000 gpm design capacity 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
MCL	Maximum Contaminant Level
mg/L	milligram-per-liter
NAPL	non-aqueous phase liquid
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 2016
SES	Sevenson Environmental Services
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
WTP	water treatment plant
µg/L	microgram-per-liter



1. Introduction

This Annual Monitoring Report (Report) summarizes data from calendar year 2016 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) Castings Engines and Transmissions (CET, formerly Powertrain) Bedford Plant (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 new 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 2016, 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 and scheduled update calls. 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 2017 calendar year will be submitted to U.S. EPA on or before July 15, 2018.

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 2016 from the LCS, LDS, and the GUS sumps and quantity discharged from these systems to the 300 gallons per minute (gpm) design capacity WTP (Site Source Control [SSC] WTP) and beginning in July 2016, the 1,000 gpm design capacity 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 all analytical results for 2016 from the monitoring of the LCS, LDS, GUS, and combined effluent from the SSC WTP, 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 SSC WTP and 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 2016, the water level in the LCS and GUS systems was recorded on a daily basis by the automated system, with these 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. The water level in the LDS system was manually measured and recorded on a weekly basis for the majority of 2016. 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. IN0003573) 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 2016 was directed via permanent forcemain to the equalization tank (EQ tank) located south of the on-Facility SSC WTP, where it was combined with water from three groundwater collection system wet wells prior to treatment. Effective July 2016, the 1,000 gpm design capacity GWTP replaced the old SSC WTP, groundwater treatment system and has been used to treat water removed from the Vault Sumps and wet wells as well as the Pilot Trench Collection Treatment System. The new GWTP discharge at Outfall 003 is sampled monthly under the NPDES permit (NPDES Permit No. IN0003573) as was the old SSC WTP. In summary,



the SSC WTP was used to treat water removed from the Vault Sumps from January 2016 through June 2016 and the new GWTP was used from July 2016 to December 2016. Data collected during the 2016 calendar year were reported according to the NPDES permit.

The volume of water treated in and discharged from the SSC WTP and the GWTP is recorded daily. A summary of the total monthly volume and daily average of treated water in the SSC WTP and GWTP for 2016 is provided in Table 2.6.

2.3 Summary of the Vault Inspection Log and Maintenance Activities

Various maintenance and inspection activities were performed at the Vault during the 2016 calendar year.

GHD completed inspections of the Vault Cover System on a quarterly basis, coincident with inspection of the West Plant Area and East Plant Area Cover Systems. These inspections were completed on: March 31, 2016; June 16, 2017; September 30, 2016; and December 22, 2016. The findings of these inspections were previously reported in the 1st, 2nd, 3rd, and 4th Quarterly Progress Reports for 2016 (submitted to U.S. EPA on April 15, July 15, and October 15, 2015 and January 13, 2017, respectively). A summary of the findings related to the Vault Cover System in 2016 is as follows:

- Some weed and clover growth
- Some bare spots (these areas were reseeded)
- 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.
- Some animal burrows were found elsewhere on the East Plant Cover System but not within the footprint of the vault.

Due to the limited need for operation of the two Flygt MP3085.172 submersible pumps in the LCS sump (i.e., the water level within the LCS sump remained below the pump's upper operating level [set point to initiate pumping]), servicing of the pumps was completed in April 2016. The need to service the pumps was determined based on the failure to evacuate the sump. The Grundfos 40S submersible pump in the GUS also required service, which was based on an assessment made of the pump's inability to maintain the water levels (i.e., the pump settings/triggers described in the PCP) in the sump between 2.5 ft and 4.33 ft (664.68 ft AMSL and 666.5 ft AMSL, respectively). For the most part levels were maintained, however a few issues both with the LCS and GUS water levels were documented in 2016 (a temporary solution is in place for the GUS, The permanent resolution of a new pump and piping is scheduled for August 2017). Details of the maintenance issues encountered with the primary LCS pumps and GUS pump, and how levels were maintained 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 SSC WTP.



Annual inspection and calibration of the FIT-Vault mag meter occurred on May 4, 2016 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 were monitored with the bi-annual Environmental Indicator (EI) CA750 monitoring program in 2016. CH-23 was abandoned during the course of the Perimeter Groundwater Collection Trench Pilot Study as it was located within the construction platform. 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).

In addition to sampling of the GUS, and two downgradient wells, groundwater samples are collected at the perimeter of the Facility on a semi-annual basis under the EI CA750 monitoring program for the Facility. EI CA750 groundwater monitoring results for 2016 events have been previously reported under separate cover, and are also included in this Report. 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 2016, including the GUS sump, was completed on May 2, 3, 4, 9 and 13, 2016, and the second semi-annual sampling event of 2016 was completed on December 5, 6, 7, and 8, 2016. Additional static groundwater level monitoring occurred April 25, 26, 27, and 28, and August 8, 9, and 10, 2016.

Analytical results for PCBs for the first semi-annual sampling event of 2016 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 2016.

Locations 9-4 and CH-20 are downgradient of the Vault and were non-detect for PCBs during the first EI CA750 monitoring event. The total PCBs detection at GUS was 31 µg/L and 1,3-Dichlorobenzene was detected at a concentration of 0.41 µg/L. Additional PCB detections were detected at other wells within the Facility boundary related to other historical sources and not



hydraulically connected 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 2016 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 2016.

Locations 9-4 and CH-20 are downgradient of the Vault and were non-detect for PCBs during the second EI CA750 monitoring event. At CH-20, toluene and chlorobenzene were detected at concentrations of 0.28 µg/L and 0.54 µg/L, respectively. The GUS was not sampled as the temporary pumping configuration does not have a sampling spigot, and concerns that a bailer could become stuck below the partial collapse of the GUS sump. Additional PCB detections were detected at other wells within the Facility boundary related to other historical sources and not hydraulically connected to the Vault. 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 2016 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.

3.2 Leachate and Leak Detection Water Monitoring Analytical Results

The PCP requires that water from the LCS and LDS is sampled at least on quarterly basis for PCBs. GHD attempted to collect samples from both the LCS and LDS on a monthly basis during 2016; however, due to issues with the LCS sump pump identified in May 2016 (see Section 6 for full discussion) and subsequent temporary pumping arrangement (did not contain a sampling port in the pump), insufficient water volume present in the LDS sump to prime the pump and collect a sample, and challenges in sending water to the GWTP; samples were collected in April and September 2016. Analytical data for samples collected from the LCS and LDS in 2016 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.

Pursuant to US 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."* No samples collected from the LCS and LDS exhibited results with PCB concentrations ≥ 1 milligram per liter (mg/L or ppm), therefore there is no TSCA material to report. All water pumped from the LCS and LDS was treated in the on-Facility SSC WTP during January through June 2016 and in the GWTP from July through December 2016.

Samples were collected on two occasions during 2016, on April 27 and September 29. Both sampling results for the LCS sump were non-detect for Total PCBs in 2016, which is less than the 0.42 µg/L Total PCBs peak in 2015. The maximum Total PCBs result was 2.0 µg/L in 2014 and 1.8 µg/L in 2013. Sample collection of water in the LDS sump was limited in 2016, due to insufficient



water volumes in the sump to prime the pump for sample collection. Although sampling was attempted monthly, samples could only be collected on April 27 and September 29 of 2016. Therefore, the quarterly samples could not be collected per the PCP. Sampling results for samples collected from the LDS sump in 2016 were non-detect for Total PCBs. The analytical results are consistent with the results for the samples collected in 2015 (2015 results ranged from non-detect to 0.38 µg/L), which demonstrated a continued decrease from 2014 (2014 results ranged from non-detect to 2 µg/L).

Sample Quality

There were no sample quality issues for samples collected from the LCS and LDS sumps in 2016.

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. However, it should be noted, 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. All analytical data for samples collected from the GUS in 2015 are presented in Table 3.5.

Total PCBs in the GUS sump samples for the first half of 2016 sampling events for the EI CA750 monitoring program were 31 µg/L. There was no sampling completed for the GUS for the second half of 2016 as the temporary pump placed at the GUS did not have a sample port and sampling with a bailer was not attempted due to concerns with the bailer possibly becoming stuck in the GUS. All analytical data for samples collected from the GUS in 2016 are presented in Table 3.5. We do not believe the PCB detections in the Vault GUS are related to the integrity of the liner systems comprising the Vault, but rather PCB fill material in soils remaining in the landfill surrounding the Vault. Water pumped from the GUS was directed to and treated at the SSC WTP during January through June 2016 and to the GWTP during July through December 2016. Analytical results for samples collected from the treated water discharge stream from the SSC WTP, GWTP and 2,000 gpm treatment system (the discharge streams from each treatment system are combined and treated at the same location) are discussed in the following section.

3.4 Water Treatment Facility Analytical Results

In 2016, water removed from the LCS, LDS and GUS was directed via permanent forcemain to the SSC WTP from January through June 2016 (National Pollution Discharge Elimination System [NPDES] Permit #IN0003573) and the GWTP from July through December 2016 (NPDES Permit #IN0064424). At the equalization tank of each WTP, the effluent from the Vault collection systems was also combined with water from three groundwater collection system wet wells, and the Pilot Trench (July 2016 onward) prior to treatment.

Construction of the GWTP began in summer 2015, and was completed in March 2016, with commissioning taking place through June 2016. The GWTP is currently treating groundwater from the Pilot Trench, SSC sumps and wet wells prior to discharge to the creek in compliance with a



NPDES Permit issued by the State of Indiana, separate from the Plant's NPDES Permit. Water removed from the LCS, LDS and GUS was directed via forcemain to the GWTP for treatment starting in July 2016.

The SSC WTP (old groundwater treatment plant) and new GWTP were sampled monthly under their respective NPDES permits and all effluent results were non-detect. The analytical results for monthly samples collected from Outfall 003 and the GWTP in 2016 are presented in Table 3.6 and 3.7, respectively..

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 2016 calendar year, and no evidence of hydraulic conductivity between the layers. Pumped leachate, leak detection liquid, and groundwater were treated by the on-Facility SSC WTP from January through June 2016 and by the GWTP from July through December 2016.

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 2016. 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 utilized to estimate the volume of water removed from the LCS, LDS, and GUS, which were based on water level measurement changes during pumping and sump volume calculations. In 2014, the previously utilized manual calculations were supplemented with actual pumped quantities based on flowmeter measurements. However, with the pump issues at the LCS, flow meter results were not available for much of 2016 and so removal volumes are based on level change pumping estimates. Tables 2.1, 2.2, and 2.3 present volumes removed from each of the sumps (LCS, LDS, and GUS, respectively) 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 continued to be transported via forcemain and discharged for treatment in the on-Facility SSC until July 2016, and discharged for treatment in the GWTP since then, as required in the Approvals and subsequent PCP. Additionally, the LDS is monitored and manually pumped via temporary pump and hose, where it is connected to the 'permanent' portion of the LDS piping located within the LCS manhole, and transported via forcemain for treatment at the on-Facility SSC WTP and 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, as necessary, when the water levels within the LDS are required to be lowered, or during attempts to collect a sample. The temporary pump for the LCS is connected to the LDS port can 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 between monitoring years).

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) depths of liquid above the floor of the sump (AFOS).

Manual water level measurements are generally collected on a weekly basis (in excess of the monthly monitoring required by the PCP) in 2016. The automated system records the maximum level and total pumped quantities on a daily basis. 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. U.S. EPA was notified and a temporary pump was used to manually lower the water levels down for the remainder of the year. Follow-up revealed failure of both permanent and backup pumps in addition to the forcemain pipe immediately above the pump. The temporary pump will be replaced with a new pump and forcemain riser in August 2017.

With the following exception, the water elevation in the LCS was generally maintained within the operating limits set out in the PCP. Prior to this, the maximum set point water level was maintained by periodic pumping with bailers or the temporary pump. On May 9, 2016, the water depth recorded manually suggested that water level within the LCS sump rose above 36 inches (i.e. above 674.0 ft AMSL) to a depth of 43.2 inches (equivalent water surface elevation of 674.6 ft AMSL), when pumping was manually initiated to bring the water elevation down to 42.0 inches deep (671.1 ft AMSL). PLC measurements approached the maximum allowable level and then diverged from manual measurements and did not exceed the operating levels and so the automated pumping had not been engaged. Manual pumping occurred during two periods. The first session covered the initial removal where approximately 5 ft of water was removed from the LCS sump from April 19 through May 31, 2016. The second period/event occurred during the sampling event on September 29, 2016, removing approximately 1 ft of water from the LCS sump. Through the year, there were



no apparent increases in the rate of the water level rises. At the maximum measured depth, the equivalent depth of water over the primary liner remained less than 0.5 inches.

The total amount of water removed from the LCS in 2016 was 1,100 gallons (estimated 1,049 gallons based on calculated levels removed, plus an additional 51 gallons based on the last measured local flow meter readings) and is comparable to the amount pumped in 2015 (which was 931 gallons).

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 two occasions in 2016 (February 12, and September 29). Pumping did not occur for the remainder of the months in 2016 due to the water level being too shallow for the pump intake.

The total amount of water removed from the LDS during the 2016 calendar year was approximately 74 gallons based on volume calculations and 1,500 gallons based on flow meter readings, which is comparable to the amount pumped in 2015 (1,600 gallons based on flow meter readings).

During 2016, the depth of water in the LDS was maintained between 0 ft and 1.6 ft AFOS (bottom of sump at 668.84 ft AMSL or 72.50 ft below the top of the sump), with the maximum depth of 1.6 ft AFOS (equivalent water surface elevation of 670.29 ft) measured on February 8, 2016. The water level in the sump was pumped down to 668.94 ft AMSL (approximately 16.2 inches of water depth) immediately after the maximum water level was measured and recorded on February 8, 2016, 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 0.85 gallons/acre/day at the start of the year, to 0.54 gallons/acre/day for the pumping in September, to 0.09 gallons/acre/day for the remainder of 2016 based on 153 gallons pumped on 5/27/2017. 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 2016.

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. Manual water levels were collected on a weekly basis from January through April 2016, on a monthly basis from May through August, and daily from September through approximately late November. On November 21, 2016, the field personnel encountered a tape malfunctioning problem that resulted in no further manual measurement of the water level for the rest of 2016, for fear of the tape becoming lodged in the sump.



From April 2016 through the end of 2016 there was an issue with the automated response of the pump not operating and the system was operated manually to pump water down. From August through the end of 2016, there was an additional problem with the pump in the GUS sump. Complete details of the problems with the GUS sump systems are presented in Section 6. In response to the automated pumping not in use, there were periods of times when the water levels were exceeding the maximum allowable water level of 666.5 ft AMSL, or 4.33 ft of water depth in the sump. Manual operation of the pump was engaged during these periods to bring the level below the operating threshold.

After the pump failure, additional challenges of operating a small temporary pump (see section 6) which resulted levels exceeding the operation levels periodically between August and mid-November. In November, an issue with the temporary pump was resolved which allowed operators to maintain the levels consistently through the remainder of the year. Although there were periods when peak levels reached elevations consistent with the lowest point of the secondary liner level, no impact to the LDS levels were observed during 2016. In September 2016, the temporary pump began maintaining the water levels within the allowable range and the water levels were maintained for the rest of 2016.

Based on the volume recorded by the local flow meter at the SSC WTP 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 2016 was 2.56 million gallons, which is consistent with the volume removed from the sump in 2015 (which was 2.65 million gallons).

6. Issues Encountered and Remedial Actions

The following are the issues, encountered in Vault operation during the 2016 calendar year and actions taken to rectify the issues:

- On April 8, 2016 the GHD technician attempted to manually operate the LCS sump pump. The water level elevation in the LCS sump had reached the operating limit of 674 ft (the pump-on level) and water was not being automatically removed. Upon manual operation, the technician audibly confirmed the pumps were operating (could hear motor). However, the pumps did not remove water based on the flowmeter reading, which did not advance, and manual water level measurements of the sump which remained static. In response, water was manually bailed to bring the water level down and a temporary well pump was installed to manage the water in the sump while the pump change out was arranged (connected to the port that the Leak Detection Sump is pumped into).

GHD pulled the pumps during the week of April 11, 2016 and noted that both pumps were inoperable. A mechanical assessment was completed and it was determined that replacement of both pumps was necessary.

The LCS pumps are set in place by sliding each pump down a set of guide rails. Once the pump reaches the bottom of the sump, it normally locks into place with the discharge pipe from the pump lining up and joining with the face of the forcemain. The first attempt to reseat the new pumps from the surface failed and it was determined that a confined space entry



would be required to manually set and confirm that the pumps were properly seated at the bottom of the sump.

Remaining water was removed from the sump using the temporary pump so that the entrant could see the pumps and connections to be able to complete the work. The entrant noted that the pumps had seated correctly. In trying to troubleshoot why the pump could not remove water, the entrant removed the pumps from their seat to make sure there were no obstructions. In doing so, he noted that the face of the forcemains were pitted where the pumps were supposed to connect and seal. The pitting may have caused enough of a loss of pressure that the pumps could not be primed. The forcemain (riser pipe section within the manhole sump) was also inspected to see if there were any holes that had developed in the pipe that might be contributing to the problem. In both cases, holes were noted in the riser pipe within the manhole. No 'visible water flow' into the sump was noted by the entrant.

GHD reviewed the pipe material type, water quality, sediment/'slag-ish' material found, etc. to determine what may have contributed to the deterioration of the riser pipe sections of the forcemains so that a permanent fix could be implemented. The initial thought was that pitting and erosion of the forcemains and pump impellers was caused by the silica sand fines coming into the sump from the foundry sand component of the waste soils within the vault. GHD also reviewed available pH and water chemistry data which found the leachate to generally be neutral contributing to the belief that the damage was primarily physical (erosion) as opposed to chemical (corrosion).

GHD and GM evaluated replacing the riser pipe sections with the same material (galvanized) or new (stainless steel) pipe material, or making the temporary pump operable with the automated system as a permanent installation. In the meantime, the water level in the LCS sump continues to be maintained using the temporary well pump until the replacement pump and forcemain riser are installed in August 2017.

- The temporary pump had enough pumping pressure (head) to pump the LCS water to the equalization (EQ) tank at the SSC WTP, which is where the vault water has historically been sent for treatment. The water now needs to be sent to the new dedicated groundwater treatment plant (GWTP) and the temporary pump has insufficient head to push water further to the new EQ tank at the new GWTP. In the interim, the leachate from the LCS was pumped to the EQ tank at the SSC WTP to maintain water level at the LCS, with the accumulated water manually transferred to the new GWTP. GHD has examined the system to calculate the total pumping head required to reach the GWTP from the LCS location on top of the vault (i.e., accounting for line losses) to find a suitable pump replacement. Time between pumping periods in the LCS based on the water levels in the sump was approximately every 3 months. The new pump to be installed in August 2017 should resolve this issue.
- Carried forward from 2015, PLC readings for daily total volume pumped from the LCS sump did not correspond to the local flow meter (mag meter) volume readings, and 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 2017 when the new permanent pump is installed.

- In April 2016, 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.
- However, in August 2016, the submersible pump stopped working entirely, so in an effort to resume pumping as soon as possible GM/GHD acquired a smaller rental pump for temporary water pumping. Due to the reduced flow volume in the GUS, a smaller pump was sufficient for the required removal. The reason a smaller physical size of pump was needed was due to a collapse observed in the GUS sump wall in 2014 which significantly reduced the availability for equipment to be lowered to the base of the GUS sump.

The first temporary pump worked for four days, but as it was a sampling pump not intended for extended use, it subsequently ceased operation. A second temporary pump (less than 4" dia.) was lowered through the same gap within the collapsed section of HDPE pipe comprising the GUS sump wall, but it was believed that this pump may not have reached bottom as the reduced water level did not achieve the required drawdown of 72.5 ft below the top of sump which corresponds with 1 ft below the lowest point of the secondary liner (liner elevation of 667.5 ft). At that time, the maximum drawdown with the second temporary pump was 72.0 ft (0.5 ft above the lowest point of the secondary liner. However, since the initial pumping event, subsequent drawdown was only achieving 71.5 ft., or 1.0 ft. above the required set point (corresponding with the vault secondary liner lowest elevation).

The bottom of the GUS sump is at an elevation of 662.2 ft, or 76.8 ft below the top of sump. The existing (non-functional) Grundfos submersible pump was set to operate between 74.3 ft (pump off to protect pump motor) and 72.5 ft (pump on at 1 ft. below secondary liner) as measured from the top of the sump.

Although the water level in the GUS could not be consistently maintained at an elevation of 1 ft below the secondary liner throughout 2016, it was generally below the liner and briefly at or above the secondary liner. GHD does not feel that the temporary, slightly elevated levels in the GUS sump negatively affected the vault liner systems, nor is there any evidence of increased flow in the LDS, which would result from upward leakage through the secondary liner.

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 Bedrock Trench Monitoring report and pump replacement. A permanent replacement pump is being scheduled for installation in August 2017.



7. Spill Cleanup Reports

There were no on-Facility PCB spills that occurred in 2016. 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 13, 2017, which was approved by U.S. EPA on January 13, 2017, with revisions. The surety bond in the amount of the approved financial assurance cost estimate remains in effect.

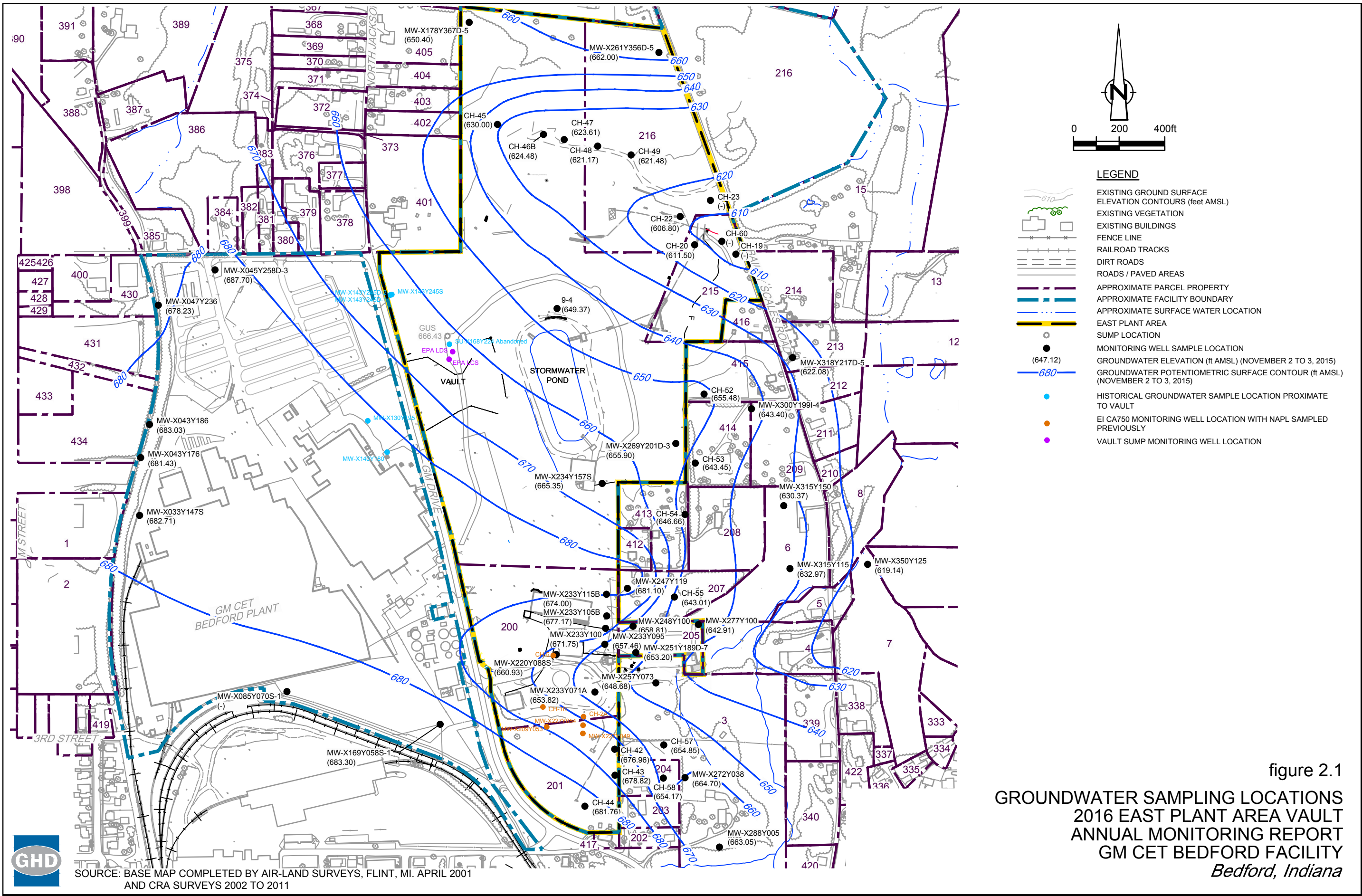
9. References

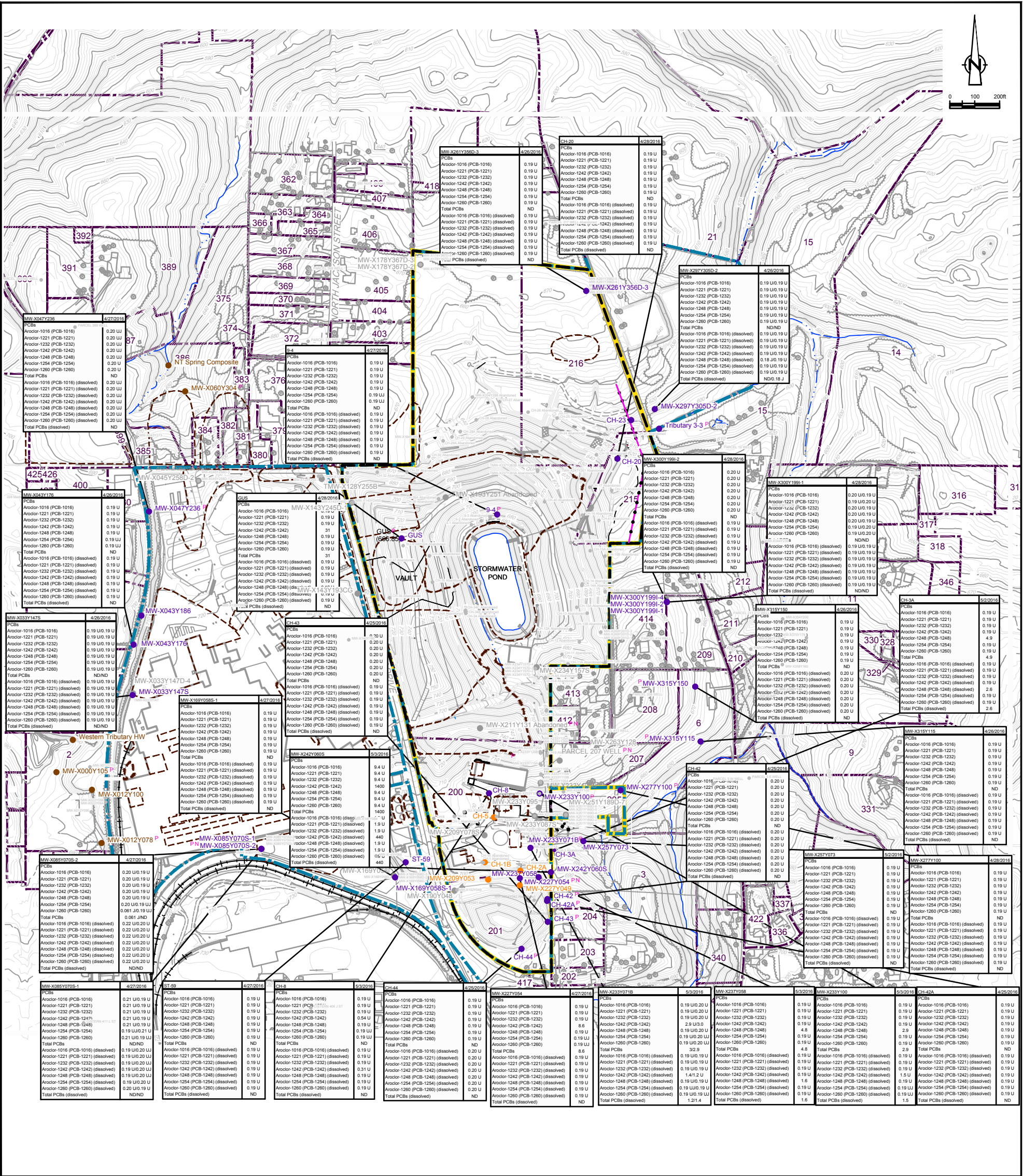
CRA, Consolidated GM Bedford Health and Safety Plan (HASP), August 2008.

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

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

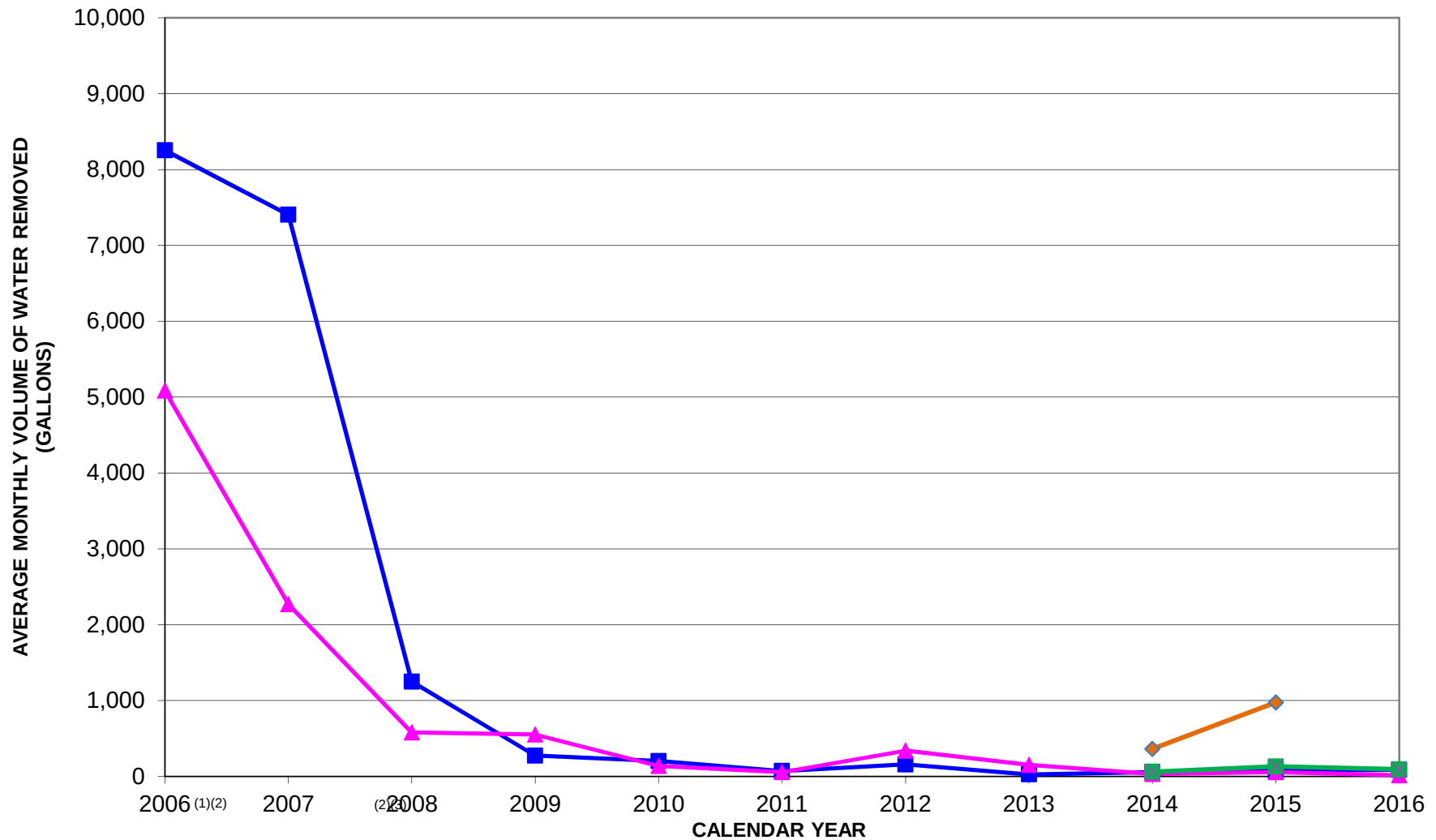
CRA, Response to United States Environmental Protection Agency March 18, 2014 Comments GM Bedford 2012 Annual Compliance Report, 2012 Post-Closure Plan and 2014 Construction Certification Report East Plant Area Vault, September 18, 2014.





LEGEND		P PREVIOUS PCB GROUNDWATER DETECTION	
	EXISTING BUILDINGS	N HISTORICAL NAPL DETECTION	
	FENCE LINE		
	EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL)		
	RAILROAD TRACKS		
	DIRT ROADS		
	ROADS / PAVED AREAS		
	APPROXIMATE SURFACE WATER LOCATION		
	APPROXIMATE GM PROPERTY BOUNDARY		
	APPROXIMATE PARCEL BOUNDARY		
	AOI BOUNDARY		
	VAULT FOOTPRINT		
	GROUNDWATER SAMPLE LOCATION		
	GROUNDWATER SAMPLE LOCATION - HISTORICAL PCB DETECTION		
	MAY 2016 IE CA750 SAMPLING SUMMARY LOCATION		
	RACER TRUST LOCATION NOT SAMPLED, NO ACCESS		
	MONITORING WELL LOCATION WITH NAPL SAMPLED PREVIOUSLY		
	MONITORING WELL LOCATION DRY OR HAS INSIGNIFICANT VOLUME FOR SAMPLING		
	PILLOT PERIMETER GROUNDWATER TRENCH COLLECTION SYSTEM ALIGNMENT		

NOTE:		GM CET BEDFORD FACILITY BEDFORD, INDIANA	
1) GM PROPERTY BOUNDARY SURVEY BY BLEDSOE RIGGERT GUERRETAAZ RECEIVED OCTOBER 2007. ADJACENT PROPERTY BOUNDARY LOCATIONS APPROXIMATED FROM THE LAWRENCE COUNTY SURVEY PLATS. ADJOINING PROPERTY LINES MAY NOT ACCURATELY REPRESENT THE TRUE PROPERTY BOUNDARIES		Source Reference: BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT MI. APRIL 2001.	
SCALE VERIFICATION THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.		2016 EAST PLANT AREA VAULT ANNUAL MONITORING REPORT	
		EICA750 GROUNDWATER ANALYTICAL RESULTS FOR PCBs FOR FIRST SEMI-ANNUAL EVENT OF 2016	
		Project Manager: J.M.	Reviewed By: S.S. Date: JUNE 2017
		Scale: AS SHOWN	Project No: 13968-00 Report No: 410 Drawing No: figure 3.1



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 2016
GM CET BEDFORD FACILITY
Bedford, Indiana



Table 2.1
2016 Summary of Daily Leachate Collection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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
11/9/2015	10:40	67.5	673.3	0.3	63.46	27	673.25	0.349	0	147,138	146	--	(a) Last flow meter increase in 2015.
12/1/15	--	--	--	--	--	29	673.42	0.349	0	--	--	22	
12/2/15	--	--	--	--	--	29	673.42	0.349	0	--	--	23	
12/3/15	11:04	67.55	673.3	--	--	26	673.17	0.349	0	147,138	0	24	
12/4/15	--	--	--	--	--	27	673.25	0.349	0	--	--	25	
12/5/15	--	--	--	--	--	28	673.33	0.349	0	--	--	26	
12/6/15	--	--	--	--	--	29	673.42	0.349	0	--	--	27	
12/7/15	10:20	67.35	673.5	--	--	29	673.42	0.349	0	147,138	0	28	
12/8/15	--	--	--	--	--	29	673.42	0.349	0	--	--	29	
12/9/15	--	--	--	--	--	29	673.42	0.349	0	--	--	30	
12/10/15	--	--	--	--	--	29	673.42	0.349	0	--	--	31	
12/11/15	--	--	--	--	--	28	673.33	0.349	0	--	--	32	
12/12/15	--	--	--	--	--	28	673.33	0.349	0	--	--	33	
12/13/15	--	--	--	--	--	30	673.50	0.476	0	--	--	34	
12/14/15	10:00	67.2	673.6	--	--	31	673.58	0.476	0	147,138	0	35	
12/15/15	--	--	--	--	--	28	673.33	0.349	0	--	--	36	
12/16/15	--	--	--	--	--	30	673.50	0.476	0	--	--	37	
12/17/15	--	--	--	--	--	28	673.33	0.349	0	--	--	38	
12/18/15	--	--	--	--	--	28	673.33	0.349	0	--	--	39	
12/19/15	--	--	--	--	--	28	673.33	0.349	0	--	--	40	
12/20/15	--	--	--	--	--	30	673.50	0.476	0	--	--	41	
12/21/15	11:40	67.2	673.6	--	--	30	673.50	0.476	0	147,138	0	42	
12/22/15	--	--	--	--	--	30	673.50	0.476	0	--	--	43	
12/23/15	--	--	--	--	--	31	673.58	0.476	0	--	--	44	
12/24/15	--	--	--	--	--	28	673.33	0.349	0	--	--	45	
12/25/15	--	--	--	--	--	28	673.33	0.349	0	--	--	46	
12/26/15	--	--	--	--	--	30	673.50	0.476	0	--	--	47	
12/27/15	--	--	--	--	--	30	673.50	0.476	0	--	--	48	
12/28/15	12:15	67	673.8	--	--	34	673.83	0.476	0	147,138	0	49	
12/29/15	--	--	--	--	--	29	673.42	0.349	0	--	--	50	
12/30/15	--	--	--	--	--	29	673.42	0.349	0	--	--	51	
12/31/15	--	--	--	--	--	29	673.42	0.349	0	--	--	52	
1/1/16	--	--	--	--	--	30	673.50	0.476	0	--	--	53	(a) (a) Attempted to collect a sample; however, there was not enough water in the sump to prim the pump.
1/2/16	--	--	--	--	--	30	673.50	0.476	0	--	--	54	
1/3/16	--	--	--	--	--	30	673.50	0.476	0	--	--	55	
1/4/16	9:15	67.3	673.5	--	--	29	673.42	0.349	0	147,138	0	56	
1/5/16	--	--	--	--	--	30	673.50	0.476	0	--	--	57	
1/6/16	--	--	--	--	--	31	673.58	0.476	0	--	--	58	
1/7/16	--	--	--	--	--	31	673.58	0.476	0	--	--	59	
1/8/16	--	--	--	--	--	31	673.58	0.476	0	--	--	60	
1/9/16	--	--	--	--	--	32	673.67	0.476	0	--	--	61	
1/10/16	--	--	--	--	--	32	673.67	0.476	0	--	--	62	
1/11/16	8:10	67.2	673.6	--	--	31	673.58	0.476	0	147,138	0	63	
1/12/16	--	--	--	--	--	32	673.67	0.476	0	--	--	64	
1/13/16	--	--	--	--	--	32	673.67	0.476	0	--	--	65	
1/14/16	--	--	--	--	--	31	673.58	0.476	0	--	--	66	
1/15/16	--	--	--	--	--	32	673.67	0.476	0	--	--	67	
1/16/16	--	--	--	--	--	32	673.67	0.476	0	--	--	68	
1/17/16	--	--	--	--	--	30	673.50	0.476	0	--	--	69	
1/18/16	--	--	--	--	--	30	673.50	0.476	0	--	--	70	
1/19/16	--	--	--	--	--	31	673.58	0.476	0	--	--	71	
1/20/16	--	--	--	--	--	32	673.67	0.476	0	--	--	72	
1/21/16	13:00	67.1	673.7	--	--	32	673.67	0.476	0	147,138	0	73	
1/22/16	--	--	--	--	--	31	673.58	0.476	0	--	--	74	
1/23/16	--	--	--	--	--	32	673.67	0.476	0	--	--	75	
1/24/16	--	--	--	--	--	32	673.67	0.476	0	--	--	76	
1/25/16	--	--	--	--	--	32	673.67	0.476	0	--	--	77	
1/26/16	11:40	67.2	673.6	--	--	32	673.67	0.476	0	147,139	1	78	
1/27/16	--	--	--	--	--	32	673.67	0.476	0	--	--	1	
1/28/16	--	--	--	--	--	33	673.75	0.476	0	--	--	2	
1/29/16	--	--	--	--	--	32	673.67	0.476	0	--	--	3	
1/30/16	--	--	--	--	--	32	673.67	0.476	0	--	--	4	
1/31/16	--	--	--	--	--	32	673.67	0.476	0	--	--	5	
2/1/16	13:10	67.1	673.7	--	--	31	673.58	0.476	0	147,139	0	6	
2/2/16	--	--	--	--	--	32	673.67	0.476	0	--	--	7	
2/3/16	--	--	--	--	--	33	673.75	0.476	0	--	--	8	
2/4/16	--	--	--	--	--	31	673.58	0.476	0	--	--	9	
2/5/16	--	--	--	--	--	32	673.67	0.476	0	--	--	10	
2/6/16	--	--	--	--	--	32	673.67	0.476	0	--	--	11	
2/7/16	--	--	--	--	--	34	673.83	0.476	0	--	--	12	

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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
2/8/16	12:35	66.9	673.9	--	--	33	673.75	0.476	0	147,139	0	13	(b)
2/9/16	--	--	--	--	--	32	673.67	0.476	0	--	--	14	
2/10/16	--	--	--	--	--	32	673.67	0.476	0	--	--	15	
2/11/16	--	--	--	--	--	32	673.67	0.476	0	--	--	16	
2/12/16	--	--	--	--	--	33	673.75	0.476	0	--	--	17	
2/13/16	--	--	--	--	--	32	673.67	0.476	0	--	--	18	
2/14/16	--	--	--	--	--	34	673.83	0.476	0	--	--	19	
2/15/16	14:10	66.8	674.0	--	--	34	673.83	0.476	0	147,139	0	20	
2/16/16	--	--	--	--	--	33	673.75	0.476	0	--	--	21	
2/17/16	--	--	--	--	--	31	673.58	0.476	0	--	--	22	
2/18/16	--	--	--	--	--	34	673.83	0.476	0	--	--	23	
2/19/16	--	--	--	--	--	32	673.67	0.476	0	--	--	24	
2/20/16	--	--	--	--	--	31	673.58	0.476	0	--	--	25	
2/21/16	--	--	--	--	--	30	673.50	0.476	0	--	--	26	
2/22/16	10:20	66.9	673.9	--	--	29	673.42	0.349	0	147,139	0	27	
2/23/16	--	--	--	--	--	31	673.58	0.476	0	--	--	28	
2/24/16	--	--	--	--	--	33	673.75	0.476	0	--	--	29	
2/25/16	--	--	--	--	--	33	673.75	0.476	0	--	--	30	
2/26/16	--	--	--	--	--	28	673.33	0.349	0	--	--	31	
2/27/16	--	--	--	--	--	30	673.50	0.476	0	--	--	32	
2/28/16	--	--	--	--	--	31	673.58	0.476	0	--	--	33	
2/29/16	--	--	--	--	--	29	673.42	0.349	0	--	--	34	
3/1/16	9:30	66.7	674.1	--	--	30	673.50	0.476	0	147,139	0	35	
3/2/16	--	--	--	--	--	28	673.33	0.349	0	--	--	36	
3/3/16	--	--	--	--	--	29	673.42	0.349	0	--	--	37	
3/4/16	--	--	--	--	--	28	673.33	0.349	0	--	--	38	
3/5/16	--	--	--	--	--	29	673.42	0.349	0	--	--	39	
3/6/16	--	--	--	--	--	29	673.42	0.349	0	--	--	40	
3/7/16	--	--	--	--	--	29	673.42	0.349	0	--	--	41	
3/8/16	16:10	66.75	674.1	--	--	29	673.42	0.349	0	147,139	0	42	
3/9/16	--	--	--	--	--	28	673.33	0.349	0	--	--	43	
3/10/16	--	--	--	--	--	28	673.33	0.349	0	--	--	44	
3/11/16	--	--	--	--	--	27	673.25	0.349	0	--	--	45	
3/12/16	--	--	--	--	--	28	673.33	0.349	0	--	--	46	
3/13/16	--	--	--	--	--	28	673.33	0.349	0	--	--	47	
3/14/16	9:50	66.45	674.4	--	--	27	673.25	0.349	0	147,139	0	48	
3/15/16	--	--	--	--	--	28	673.33	0.349	0	--	--	49	
3/16/16	--	--	--	--	--	27	673.25	0.349	0	--	--	50	
3/17/16	--	--	--	--	--	28	673.33	0.349	0	--	--	51	
3/18/16	--	--	--	--	--	28	673.33	0.349	0	--	--	52	
3/19/16	--	--	--	--	--	28	673.33	0.349	0	--	--	53	
3/20/16	--	--	--	--	--	27	673.25	0.349	0	--	--	54	
3/21/16	14:00	66.75	674.1	--	--	28	673.33	0.349	0	147,139	0	55	
3/22/16	--	--	--	--	--	28	673.33	0.349	0	--	--	56	
3/23/16	--	--	--	--	--	28	673.33	0.349	0	--	--	57	
3/24/16	--	--	--	--	--	29	673.42	0.349	0	--	--	58	
3/25/16	--	--	--	--	--	26	673.17	0.349	0	--	--	59	
3/26/16	--	--	--	--	--	27	673.25	0.349	0	--	--	60	
3/27/16	--	--	--	--	--	27	673.25	0.349	0	--	--	61	
3/28/16	12:00	66.85	674.0	--	--	29	673.42	0.349	0	147,139	0	62	
3/29/16	--	--	--	--	--	29	673.42	0.349	0	--	--	63	
3/30/16	--	--	--	--	--	29	673.42	0.349	0	--	--	64	
3/31/16	--	--	--	--	--	29	673.42	0.349	0	--	--	65	
4/1/16	--	--	--	--	--	29	673.42	0.349	0	--	--	66	
4/2/16	--	--	--	--	--	29	673.42	0.349	0	--	--	67	
4/3/16	--	--	--	--	--	29	673.42	0.349	0	--	--	68	
4/4/16	16:30	66.8	674.0	--	--	29	673.42	0.349	0	--	--	69	
4/5/16	--	--	--	--	--	29	673.42	0.349	0	--	--	70	
4/6/16	--	--	--	--	--	29	673.42	0.349	0	--	--	71	
4/7/16	--	66.75	674.1	--	--	30	673.50	0.476	0	--	--	72	
										--	--	73	
4/8/16	--	66.7	674.1	--	--	31	673.58	0.476	0			74	
4/9/16	--	--	--	--	--	31	673.58	0.476	0	--	--	74	
4/10/16	--	--	--	--	--	32	673.67	0.476	0	--	--	75	
4/11/16	--	--	--	--	--	32	673.67	0.476	0	147,189	50	76	
4/12/16	--	--	--	--	--	31	673.58	0.476	0	147,189	0	1	
4/13/16	--	--	--	--	--	33	673.75	0.476	0	--	--	2	
4/14/16	--	--	--	--	--	33	673.75	0.476	0	--	--	3	
4/15/16	--	66.7	674.1	--	--	-	-	-	-	-	--	4	PLC measurements not collected due to problem with level sensor.
4/16/16	--	--	--	--	--	-	-	-	-	-	--	5	

Table 2.1
2016 Summary of Daily Leachate Collection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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
4/17/16	--	--	--	--	--	-	-	-	-	-	--	6	Water manually removed from sump using bucket and rope.
4/18/16	--	--	--	--	--	-	-	-	-	-	0	7	
4/19/16	--	66.85	674.0	0.1	31.7	-	-	-	-	-	-	8	
4/20/16	--	66.85	674.0	--	--	-	-	-	-	-	-	9	
4/21/16	--	66.85	674.0	--	--	-	-	-	-	-	-	10	
4/22/16	--	66.8	674.0	--	--	-	-	-	-	-	-	11	
4/23/16	--	67.8	673.0	1.0	211.5	-	-	-	-	-	-	12	
4/24/16	--	67.5	673.3	--	--	-	-	-	-	-	-	13	
4/25/16	--	67.5	673.3	--	--	-	-	-	-	-	-	14	
4/26/16	--	67.81	673.0	0.3	65.6	-	-	-	-	-	-	15	
4/27/16	--	66.81	674.0	--	--	-	-	-	-	-	-	16	Change in elevation assumed r
4/28/16	--	66.92	673.9	0.1	23.3	-	-	-	-	-	-	17	
4/29/16	--	66.99	673.8	0.1	14.8	-	-	-	-	-	-	18	
4/30/16	--	66.81	674.0	--	--	-	-	-	-	-	-	19	
5/1/16	--	--	--	--	--	-	671.00	0.037	0	-	-	20	Level Sensors out of service at PLC
5/2/16	--	--	--	--	--	-	671.00	0.037	0	-	-	21	
5/3/16	--	--	--	--	--	-	671.00	0.037	0	-	-	22	
5/4/16	--	--	--	--	--	-	671.00	0.037	0	-	-	23	
5/5/16	--	--	--	--	--	-	671.00	0.037	0	-	-	24	Manually Pumping
5/6/16	--	--	--	--	--	-	671.00	0.037	0	-	-	25	
5/7/16	--	--	--	--	--	-	671.00	0.037	0	-	-	26	
5/8/16	--	--	--	--	--	-	671.00	0.037	0	-	-	27	
5/9/16	13:50	66.2	674.6	--	--	-	671.00	0.037	0	-	-	28	Manually Pumping
5/10/16	--	--	--	--	--	-	671.00	0.037	0	-	-	29	
5/11/16	--	--	--	--	--	-	671.00	0.037	0	-	-	30	
5/12/16	--	67.3	673.5	1.1	232.7	-	671.00	0.037	0	-	-	31	
5/13/16	--	--	--	--	--	-	671.00	0.037	0	-	-	32	Pumping done
5/14/16	--	--	--	--	--	-	671.00	0.037	0	-	-	33	
5/15/16	--	--	--	--	--	-	671.00	0.037	0	-	-	34	
5/16/16	--	--	--	--	--	-	671.00	0.037	0	-	-	35	
5/17/16	--	--	--	--	--	34	673.83	0.476	0	-	-	36	
5/18/16	--	--	--	--	--	33	673.75	0.476	0	-	-	37	
5/19/16	--	--	--	--	--	-	671.00	0.037	0	-	-	38	
5/20/16	--	--	--	--	--	-	671.00	0.037	0	-	-	39	
5/21/16	--	--	--	--	--	-	671.00	0.037	0	-	-	40	
5/22/16	--	--	--	--	--	-	671.00	0.037	0	-	-	41	
5/23/16	--	--	--	--	--	-	671.00	0.037	0	-	-	42	
5/24/16	--	--	--	--	--	-	671.00	0.037	0	-	-	43	
5/25/16	12:25	68.8	672.0	1.5	317.3	-	671.00	0.037	0	-	-	44	
5/26/16	--	--	--	--	--	-	671.00	0.037	0	-	-	45	
5/27/16	--	--	--	--	--	-	671.00	0.037	0	-	-	46	
5/28/16	--	--	--	--	--	-	671.00	0.037	0	-	-	47	
5/29/16	--	--	--	--	--	-	671.00	0.037	0	-	-	48	
5/30/16	--	--	--	--	--	-	671.00	0.037	0	-	-	49	
5/31/16	10:40	69.7	671.1	0.9	190.4	-	671.00	0.037	0	-	-	50	
6/1/16	--	--	--	--	--	0	671.00	0.037	0	-	-	51	
6/2/16	--	--	--	--	--	0	671.00	0.037	0	-	-	52	
6/3/16	--	--	--	--	--	0	671.00	0.037	0	-	-	53	
6/4/16	--	--	--	--	--	0	671.00	0.037	0	-	-	54	
6/5/16	--	--	--	--	--	0	671.00	0.037	0	-	-	55	
6/6/16	13:20	69.7	671.1	--	--	0	671.00	0.037	0	-	-	56	
6/7/16	--	--	--	--	--	0	671.00	0.037	0	-	-	57	
6/8/16	--	--	--	--	--	0	671.00	0.037	0	-	-	58	
6/9/16	--	--	--	--	--	0	671.00	0.037	0	-	-	59	
6/10/16	--	--	--	--	--	0	671.00	0.037	0	-	-	60	
6/11/16	--	--	--	--	--	0	671.00	0.037	0	-	-	61	
6/12/16	--	--	--	--	--	0	671.00	0.037	0	-	-	62	
6/13/16	--	--	--	--	--	0	671.00	0.037	0	-	-	63	
6/14/16	--	--	--	--	--	0	671.00	0.037	0	-	-	64	
6/15/16	--	--	--	--	--	0	671.00	0.037	0	-	-	65	
6/16/16	--	--	--	--	--	0	671.00	0.037	0	-	-	66	
6/17/16	--	--	--	--	--	0	671.00	0.037	0	-	-	67	
6/18/16	--	--	--	--	--	0	671.00	0.037	0	-	-	68	
6/19/16	--	--	--	--	--	0	671.00	0.037	0	-	-	69	
6/20/16	9:55	69.6	671.2	--	--	0	671.00	0.037	0	-	-	70	
6/21/16	--	--	--	--	--	0	671.00	0.037	0	-	-	71	
6/22/16	--	--	--	--	--	0	671.00	0.037	0	-	-	72	
6/23/16	--	--	--	--	--	0	671.00	0.037	0	-	-	73	
6/24/16	--	--	--	--	--	0	671.00	0.037	0	-	-	74	
6/25/16	--	--	--	--	--	0	671.00	0.037	0	-	-	75	
6/26/16	--	--	--	--	--	0	671.00	0.037	0	-	-	76	
6/27/16	--	--	--	--	--	0	671.00	0.037	0	-	-	77	
6/28/16	--	--	--	--	--	0	671.00	0.037	0	-	-	78	
6/29/16	--	--	--	--	--	0	671.00	0.037	0	-	-	79	
6/30/16	--	--	--	--	--	0	671.00	0.037	0	-	-	80	Level Sensors still out of service at PLC
7/1/16	--	--	--	--	--	0	671.00	0.037	0	-	-	81	
7/2/16	--	--	--	--	--	0	671.00	0.037	0	-	-	82	
7/3/16	--	--	--	--	--	0	671.00	0.037	0	-	-	83	
7/4/16	--	--	--	--	--	0	671.00	0.037	0	-	-	84	
7/5/16	--	--	--	--	--	0	671.00	0.037	0	-	-	85	

Table 2.1
2016 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
7/6/16	--	--	--	--	--	0	671.00	0.037	0	-	-	86	
7/7/16	--	--	--	--	--	0	671.00	0.037	0	-	-	87	
7/8/16	--	--	--	--	--	0	671.00	0.037	0	-	-	88	
7/9/16	--	--	--	--	--	0	671.00	0.037	0	-	-	89	
7/10/16	--	--	--	--	--	0	671.00	0.037	0	-	-	90	
7/11/16	--	--	--	--	--	0	671.00	0.037	0	-	-	91	
7/12/16	--	--	--	--	--	0	671.00	0.037	0	-	-	92	
7/13/16	--	--	--	--	--	0	671.00	0.037	0	-	-	93	
7/14/16	--	--	--	--	--	0	671.00	0.037	0	-	-	94	
7/15/16	--	--	--	--	--	0	671.00	0.037	0	-	-	95	
7/16/16	--	--	--	--	--	0	671.00	0.037	0	-	-	96	
7/17/16	--	--	--	--	--	0	671.00	0.037	0	-	-	97	
7/18/16	--	--	--	--	--	0	671.00	0.037	0	-	-	98	
7/19/16	--	--	--	--	--	0	671.00	0.037	0	-	-	99	
7/20/16	14:05	69.5	671.3	--	--	0	671.00	0.037	0	-	-	100	
7/21/16	--	--	--	--	--	0	671.00	0.037	0	-	-	101	
7/22/16	--	--	--	--	--	0	671.00	0.037	0	-	-	102	
7/23/16	--	--	--	--	--	0	671.00	0.037	0	-	-	103	
7/24/16	--	--	--	--	--	0	671.00	0.037	0	-	-	104	
7/25/16	--	--	--	--	--	0	671.00	0.037	0	-	-	105	
7/26/16	--	--	--	--	--	0	671.00	0.037	0	-	-	106	
7/27/16	--	--	--	--	--	0	671.00	0.037	0	-	-	107	
7/28/16	--	--	--	--	--	0	671.00	0.037	0	-	-	108	
7/29/16	--	--	--	--	--	0	671.00	0.037	0	-	-	109	
7/30/16	--	--	--	--	--	0	671.00	0.037	0	-	-	110	
7/31/16	--	--	--	--	--	0	671.00	0.037	0	-	-	111	
8/1/16	--	--	--	--	--	0	671.00	0.037	0	-	0	112	
8/2/16	--	--	--	--	--	0	671.00	0.037	0	-	0	113	
8/3/16	--	--	--	--	--	0	671.00	0.037	0	-	0	114	
8/4/16	--	--	--	--	--	0	671.00	0.037	0	-	0	115	
8/5/16	--	--	--	--	--	0	671.00	0.037	0	-	0	116	
8/6/16	--	--	--	--	--	0	671.00	0.037	0	-	0	117	
8/7/16	--	--	--	--	--	0	671.00	0.037	0	-	0	118	
8/8/16	--	--	--	--	--	0	671.00	0.037	0	-	0	119	
8/9/16	--	--	--	--	--	0	671.00	0.037	0	-	0	120	
8/10/16	8:50	69.4	671.4	--	--	0	671.00	0.037	0	-	0	121	
8/11/16	--	--	--	--	--	0	671.00	0.037	0	-	0	122	
8/12/16	--	--	--	--	--	0	671.00	0.037	0	-	0	123	
8/13/16	--	--	--	--	--	0	671.00	0.037	0	-	0	124	
8/14/16	--	--	--	--	--	0	671.00	0.037	0	-	0	125	
8/15/16	--	--	--	--	--	0	671.00	0.037	0	-	0	126	
8/16/16	--	--	--	--	--	0	671.00	0.037	0	-	0	127	
8/17/16	--	--	--	--	--	0	671.00	0.037	0	-	0	128	
8/18/16	--	--	--	--	--	0	671.00	0.037	0	-	0	129	
8/19/16	--	--	--	--	--	0	671.00	0.037	0	-	0	130	
8/20/16	--	--	--	--	--	0	671.00	0.037	0	-	0	131	
8/21/16	--	--	--	--	--	0	671.00	0.037	0	-	0	132	
8/22/16	--	--	--	--	--	0	671.00	0.037	0	-	0	133	
8/23/16	--	--	--	--	--	0	671.00	0.037	0	-	0	134	
8/24/16	11:25	69.3	671.5	--	--	0	671.00	0.037	0	-	0	135	
8/25/16	13:30	69.3	671.5	--	--	0	671.00	0.037	0	-	0	136	
8/26/16	--	--	--	--	--	0	671.00	0.037	0	-	0	137	
8/27/16	--	--	--	--	--	0	671.00	0.037	0	-	0	138	
8/28/16	--	--	--	--	--	0	671.00	0.037	0	-	0	139	
8/29/16	--	--	--	--	--	0	671.00	0.037	0	-	0	140	
8/30/16	--	--	--	--	--	0	671.00	0.037	0	-	0	141	
8/31/16	--	--	--	--	--	0	671.00	0.037	0	-	0	142	
9/1/16	8:55	69.15	671.7	--	--	0	671.00	0.037	0	-	0	143	
9/2/16	--	--	--	--	--	0	671.00	0.037	0	-	0	144	
9/3/16	--	--	--	--	--	0	671.00	0.037	0	-	0	145	
9/4/16	--	--	--	--	--	0	671.00	0.037	0	-	0	146	
9/5/16	--	--	--	--	--	0	671.00	0.037	0	-	0	147	
9/6/16	--	--	--	--	--	0	671.00	0.037	0	-	0	148	
9/7/16	--	--	--	--	--	0	671.00	0.037	0	-	0	149	
9/8/16	13:00	69.1	671.7	--	--	0	671.00	0.037	0	-	0	150	
9/9/16	--	--	--	--	--	0	671.00	0.037	0	-	0	151	
9/10/16	--	--	--	--	--	0	671.00	0.037	0	-	0	152	
9/11/16	--	--	--	--	--	0	671.00	0.037	0	-	0	153	
9/12/16	--	--	--	--	--	0	671.00	0.037	0	-	0	154	
9/13/16	--	--	--	--	--	0	671.00	0.037	0	-	0	155	
9/14/16	--	--	--	--	--	0	671.00	0.037	0	-	0	156	
9/15/16	--	--	--	--	--	0	671.00	0.037	0	-	0	157	
9/16/16	--	--	--	--	--	0	671.00	0.037	0	-	0	158	
9/17/16	--	--	--	--	--	0	671.00	0.037	0	-	0	159	
9/18/16	--	--	--	--	--	0	671.00	0.037	0	-	0	160	
9/19/16	--	--	--	--	--	0	671.00	0.037	0	-	0	161	
9/20/16	--	--	--	--	--	0	671.00	0.037	0	-	0	162	
9/21/16	--	--	--	--	--	0	671.00	0.037	0	-	0	163	
9/22/16	--	--	--	--	--	0	671.00	0.037	0	-	0	164	
9/23/16	13:34	69.0	671.8	--	--	0	671.00	0.037	0	-	0	165	
9/24/16	--	--	--	--	--	0	671.00	0.037	0	-	0	166	

Table 2.1

2016 Summary of Daily Leachate Collection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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
9/25/16	--	--	--	--	--	0	671.00	0.037	0	-	0	167	Manual Pumping
9/26/16	--	--	--	--	--	0	671.00	0.037	0	-	0	168	
9/27/16	--	--	--	--	--	0	671.00	0.037	0	-	0	169	
9/28/16	--	--	--	--	--	0	671.00	0.037	0	-	0	170	
9/29/16	12:00	--	--	--	--	0	671.00	0.037	0	-	0	171	
9/30/16	--	--	--	--	--	0	671.00	0.037	0	-	0	172	
10/1/16	--	--	--	--	--	0	671.00	0.037	0	-	0	173	
10/2/16	--	--	--	--	--	0	671.00	0.037	0	-	0	174	
10/3/16	--	--	--	--	--	0	671.00	0.037	0	-	0	175	
10/4/16	8:16	69.9	670.9	0.9	--	0	671.00	0.037	0	-	0	176	
10/5/16	8:15	69.9	670.9	--	--	0	671.00	0.037	0	-	0	177	No local total
10/6/16	8:15	69.9	670.9	--	--	0	671.00	0.037	0	-	0	178	
10/7/16	8:19	69.9	670.9	--	--	0	671.00	0.037	0	-	0	179	
10/8/16	9:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	180	
10/9/16	11:26	69.9	670.9	--	--	0	671.00	0.037	0	-	0	181	
10/10/16	8:15	69.9	670.9	--	--	0	671.00	0.037	0	-	0	182	
10/11/16	8:15	69.9	670.9	--	--	0	671.00	0.037	0	-	0	183	
10/12/16	8:15	69.9	670.9	--	--	0	671.00	0.037	0	-	0	184	
10/13/16	8:15	69.9	670.9	--	--	0	671.00	0.037	0	-	0	185	
10/14/16	8:15	69.9	670.9	--	--	0	671.00	0.037	0	-	0	186	
10/15/16	8:12	69.9	670.9	--	--	0	671.00	0.037	0	-	0	187	
10/16/16	8:12	69.9	670.9	--	--	0	671.00	0.037	0	-	0	188	
10/17/16	8:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	189	
10/18/16	12:39	69.9	670.9	--	--	0	671.00	0.037	0	-	0	190	
10/19/16	8:15	69.9	670.9	--	--	0	671.00	0.037	0	-	0	191	
10/20/16	7:30	69.9	670.9	--	--	0	671.00	0.037	0	-	0	192	
10/21/16	8:30	69.9	670.9	--	--	0	671.00	0.037	0	-	0	193	
10/22/16	8:15	69.9	670.9	--	--	0	671.00	0.037	0	-	0	194	
10/23/16	8:20	69.9	670.9	--	--	0	671.00	0.037	0	-	0	195	
10/24/16	8:15	69.9	670.9	--	--	0	671.00	0.037	0	-	0	196	
10/25/16	8:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	197	
10/26/16	8:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	198	
10/27/16	8:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	199	
10/28/16	8:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	200	
10/29/16	8:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	201	
10/30/16	8:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	202	
10/31/16	8:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	203	
11/1/16	8:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	204	
11/2/16	8:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	205	
11/3/16	8:12	69.9	670.9	--	--	0	671.00	0.037	0	-	0	206	
11/4/16	8:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	207	
11/5/16	14:10	69.9	670.9	--	--	0	671.00	0.037	0	-	0	208	
11/6/16	15:40	69.85	671.0	--	--	0	671.00	0.037	0	-	0	209	
11/7/16	8:15	69.8	671.0	--	--	0	671.00	0.037	0	-	0	210	
11/8/16	9:00	69.75	671.1	--	--	0	671.00	0.037	0	-	0	211	
11/9/16	--	--	--	--	--	0	671.00	0.037	0	-	0	212	water level take is getting hard to get readings in GUS
11/10/16	--	--	--	--	--	0	671.00	0.037	0	-	0	213	
11/11/16	--	--	--	--	--	0	671.00	0.037	0	-	0	214	
11/12/16	--	--	--	--	--	0	671.00	0.037	0	-	0	215	
11/13/16	--	--	--	--	--	0	671.00	0.037	0	-	0	216	
11/14/16	--	--	--	--	--	0	671.00	0.037	0	-	0	217	
11/15/16	--	--	--	--	--	0	671.00	0.037	0	-	0	218	
11/16/16	--	--	--	--	--	0	671.00	0.037	0	-	0	219	
11/17/16	--	--	--	--	--	0	671.00	0.037	0	-	0	220	
11/18/16	--	--	--	--	--	0	671.00	0.037	0	-	0	221	
11/19/16	--	--	--	--	--	0	671.00	0.037	0	-	0	222	
11/20/16	--	--	--	--	--	0	671.00	0.037	0	-	0	223	
11/21/16	--	--	--	--	--	0	671.00	0.037	0	-	0	224	
11/22/16	--	--	--	--	--	0	671.00	0.037	0	-	0	225	
11/23/16	--	--	--	--	--	0	671.00	0.037	0	-	0	226	
11/24/16	--	--	--	--	--	0	671.00	0.037	0	-	0	227	
11/25/16	--	--	--	--	--	0	671.00	0.037	0	-	0	228	
11/26/16	--	--	--	--	--	0	671.00	0.037	0	-	0	229	
11/27/16	--	--	--	--	--	0	671.00	0.037	0	-	0	230	
11/28/16	--	--	--	--	--	0	671.00	0.037	0	-	0	231	
11/29/16	--	--	--	--	--	0	671.00	0.037	0	-	0	232	
11/30/16	8:30	69.7	671.1	--	--	0	671.00	0.037	0	-	0	233	
12/1/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/2/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/3/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/4/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/5/16	8:35	69.7	671.1	--	--	0	671.00	0.037	0	-	0		
12/6/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/7/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/8/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/9/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/10/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/11/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/12/16	8:39	69.6	671.2	--	--	0	671.00	0.037	0	-	0		
12/13/16	--	--	--	--	--	0	671.00	0.037	0	-	0		

Table 2.1
2016 Summary of Daily Leachate Collection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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
12/14/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/15/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/16/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/17/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/18/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/19/16	8:31	69.6	671.2	--	--	0	671.00	0.037	0	-	0		
12/20/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/21/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/22/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/23/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/24/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/25/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/26/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/27/16	8:40	69.6	671.2	--	--	0	671.00	0.037	0	-	0		
12/28/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/29/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/30/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
12/31/16	--	--	--	--	--	0	671.00	0.037	0	-	0		
					1087				0			51	

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
(--) Measurements were not collected.

- (1) Pump operating level between 1 ft (672.00 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.
- (2) Indication of the water level in the LCS rising to 674.00 ft AMSL or higher.
- (2) LCS pump to be manually turned on (to prevent an increase in the water elevation) while water removed from LDS sump is being pumped into the LCS manhole, if the water depth in the LCS is greater than 1 ft (672.00 ft AMSL or 68.83 ft below the top of sump). All associated information to be recorded on log sheet to indicate this activity.
- ^(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

	Manual	PLC
Minimum Elevation (ft, AMSL)	670.93	671.00
Maximum Elevation (ft, AMSL)	674.63	673.83
Mean Elevation (ft, AMSL)	672.12	671.78

Number of Pumping Events (based on PLC events) 1

- (1) Total Volume Accumulation in LCS carried forward from 2015 (gallons) (based on local flow meter readings) 1
- (2) Total Volume Accumulation in LCS from last pumping event to end of 2016 (gallons) (based on local flow meter readings)
- (3) Total Volume Pumped from the LCS in 2016 (gallons) (based on local flow meter readings) 51
- (4)=(3)-(1)+(2) Total Volume Accumulation Originating in the LCS in 2016 (gallons) (based on local flow meter readings) 50
- (5) Total Volume Accumulation in LCS carried forward from 2015 (gallons) (based on volume removed calculations) 10
- (6) Total Volume Accumulation in LCS from last pumping event to end of 2016 (gallons) (based on volume removed calculations)
- (7) Total Volume Pumped from the LCS in 2016 (gallons) (based on volume removed calculations) 1087
- (8)=(7)+(6)-(5) Total Volume Accumulation Originating in the LCS in 2016 (gallons) (based on volume removed calculations) 1077

Table 2.2
2016 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

LEAK DETECTION SYSTEM												
DATE	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING (feet below top of sump)	WATER LEVEL BEFORE PUMPING CONVERTED TO ELEVATION (ft AMSL)	FLOW METER READING ^(c) (gallons)	CALCULATED VOLUME REMOVED based on sump volume calc. (gallons)	TIME OF MEASUREMENT #2 (hh:mm)	DEPTH TO WATER AFTER PUMPING (feet below top of sump)	WATER LEVEL AFTER PUMPING CONVERTED TO ELEVATION (ft AMSL)	ELAPSED TIME BETWEEN PUMPING EVENTS (days)	TOTAL VOLUME PUMPED BETWEEN PUMPING EVENTS (gallons)	AVERAGE DAILY FLOW RATE ^(d) (gallons/day/acre)	COMMENTS
10/29/15	13:30	72.31	668.83	2,642.0	8.5	13:50	72.35	668.8	0	0.0		Sampled and pumped to permanent line in LCS that discharges directly to EQ tank.
10/30/15	--	--	--	---	---	--	---	---	1	0.0	0.85	
10/31/15	--	--	--	---	---	--	---	---	2	0.0	0.85	
11/1/15	--	--	--	---	---	--	---	---	3	0.0	0.85	
11/2/15	--	--	--	---	---	--	---	---	4	0.0	0.85	
11/3/15	--	--	--	---	---	--	---	---	5	0.0	0.85	
11/4/15	10:17	71.90	669.24	---	---	--	---	---	6	0.0	0.85	
11/5/15	--	--	--	---	---	--	---	---	7	0.0	0.85	
11/6/15	--	--	--	---	---	--	---	---	8	0.0	0.85	
11/7/15	--	--	--	---	---	--	---	---	9	0.0	0.85	
11/8/15	--	--	--	---	---	--	---	---	10	0.0	0.85	
11/9/15	10:45	72.10	669.04	---	---	--	---	---	11	0.0	0.85	
11/10/15	--	--	--	---	---	--	---	---	12	0.0	0.85	
11/11/15	--	--	--	---	---	--	---	---	13	0.0	0.85	
11/12/15	--	--	--	---	---	--	---	---	14	0.0	0.85	
11/13/15	--	--	--	---	---	--	---	---	15	0.0	0.85	
11/14/15	--	--	--	---	---	--	---	---	16	0.0	0.85	
11/15/15	--	--	--	---	---	--	---	---	17	0.0	0.85	
11/16/15	10:30	71.10	670.04	---	---	--	---	---	18	0.0	0.85	
11/17/15	--	--	--	---	---	--	---	---	19	0.0	0.85	
11/18/15	--	--	--	---	---	--	---	---	20	0.0	0.85	
11/19/15	--	--	--	---	---	--	---	---	21	0.0	0.85	
11/20/15	--	--	--	---	---	--	---	---	22	0.0	0.85	
11/21/15	--	--	--	---	---	--	---	---	23	0.0	0.85	
11/22/15	--	--	--	---	---	--	---	---	24	0.0	0.85	
11/23/15	10:30	72.10	669.04	---	---	--	---	---	25	0.0	0.85	
11/24/15	--	--	--	---	---	--	---	---	26	0.0	0.85	Attempted sample collection; however, unsuccessful due to insufficient water volume in sump.
11/25/15	--	--	--	---	---	--	---	---	27	0.0	0.85	
11/26/15	--	--	--	---	---	--	---	---	28	0.0	0.85	
11/27/15	--	--	--	---	---	--	---	---	29	0.0	0.85	
11/28/15	--	--	--	---	---	--	---	---	30	0.0	0.85	
11/29/15	--	--	--	---	---	--	---	---	31	0.0	0.85	
11/30/15	--	--	--	---	---	--	---	---	32	0.0	0.85	
12/1/15	--	--	--	---	---	--	---	---	33	0.0	0.85	
12/2/15	--	--	--	---	---	--	---	---	34	0.0	0.85	
12/3/15	11:12	72.00	669.14	---	---	--	---	---	35	0.0	0.85	
12/4/15	--	--	--	---	---	--	---	---	36	0.0	0.85	
12/5/15	--	--	--	---	---	--	---	---	37	0.0	0.85	
12/6/15	--	--	--	---	---	--	---	---	38	0.0	0.85	
12/7/15	10:25	71.90	669.24	---	---	--	---	---	39	0.0	0.85	
12/8/15	--	--	--	---	---	--	---	---	40	0.0	0.85	
12/9/15	--	--	--	---	---	--	---	---	41	0.0	0.85	
12/10/15	--	--	--	---	---	--	---	---	42	0.0	0.85	
12/11/15	--	--	--	---	---	--	---	---	43	0.0	0.85	
12/12/15	--	--	--	---	---	--	---	---	44	0.0	0.85	
12/13/15	--	--	--	---	---	--	---	---	45	0.0	0.85	
12/14/15	10:05	71.70	669.44	---	---	--	---	---	46	0.0	0.85	
12/15/15	--	--	--	---	---	--	---	---	47	0.0	0.85	
12/16/15	--	--	--	---	---	--	---	---	48	0.0	0.85	
12/17/15	--	--	--	---	---	--	---	---	49	0.0	0.85	Attempted sample collection; however, unsuccessful due to insufficient water volume in sump.
12/18/15	--	--	--	---	---	--	---	---	50	0.0	0.85	
12/19/15	--	--	--	---	---	--	---	---	51	0.0	0.85	
12/20/15	--	--	--	---	---	--	---	---	52	0.0	0.85	
12/21/15	11:45	71.60	669.54	---	---	--	---	---	53	0.0	0.85	
12/22/15	--	--	--	---	---	--	---	---	54	0.0	0.85	
12/23/15	--	--	--	---	---	--	---	---	55	0.0	0.85	
12/24/15	--	--	--	---	---	--	---	---	56	0.0	0.85	
12/25/15	--	--	--	---	---	--	---	---	57	0.0	0.85	
12/26/15	--	--	--	---	---	--	---	---	58	0.0	0.85	
12/27/15	--	--	--	---	---	--	---	---	59	0.0	0.85	
12/28/15	12:20	71.50	669.64	---	---	--	---	---	60	0.0	0.85	
12/29/15	--	--	--	---	---	--	---	---	61	0.0	0.85	
12/30/15	--	--	--	---	---	--	---	---	62	0.0	0.85	
12/31/15	--	--	--	---	---	--	---	---	63	0.0	0.85	

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DATE	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING (feet below top of sump)	WATER LEVEL BEFORE PUMPING CONVERTED TO ELEVATION (ft AMSL)	FLOW METER READING ^(c) (gallons)	CALCULATED VOLUME REMOVED based on sump volume calc. (gallons)	TIME OF MEASUREMENT #2 (hh:mm)	DEPTH TO WATER AFTER PUMPING (feet below top of sump)	WATER LEVEL AFTER PUMPING CONVERTED TO ELEVATION (ft AMSL)	ELAPSED TIME BETWEEN PUMPING EVENTS (days)	TOTAL VOLUME PUMPED BETWEEN PUMPING EVENTS (gallons)	AVERAGE DAILY FLOW RATE ^(d) (gallons/day/acre)	COMMENTS
1/1/16	--	--	--	---	---	--	---	---	64	0.0	0.85	Attempted to collect a sample; however, there was not enough water in the sump to prime the pump. (a)
1/2/16	--	--	--	---	---	--	---	---	65	0.0	0.85	
1/3/16	--	--	--	---	---	--	---	---	66	0.0	0.85	
1/4/16	9:20	71.50	669.64	---	---	--	---	---	67	0.0	0.85	
1/5/16	--	--	--	---	---	--	---	---	68	0.0	0.85	
1/6/16	--	--	--	---	---	--	---	---	69	0.0	0.85	
1/7/16	--	--	--	---	---	--	---	---	70	0.0	0.85	
1/8/16	--	--	--	---	---	--	---	---	71	0.0	0.85	
1/9/16	--	--	--	---	---	--	---	---	72	0.0	0.85	
1/10/16	--	--	--	---	---	--	---	---	73	0.0	0.85	
1/11/16	8:15	71.40	669.74	---	---	--	---	---	74	0.0	0.85	
1/12/16	--	--	--	---	---	--	---	---	75	0.0	0.85	
1/13/16	--	--	--	---	---	--	---	---	76	0.0	0.85	
1/14/16	--	--	--	---	---	--	---	---	77	0.0	0.85	
1/15/16	--	--	--	---	---	--	---	---	78	0.0	0.85	
1/16/16	--	--	--	---	---	--	---	---	79	0.0	0.85	
1/17/16	--	--	--	---	---	--	---	---	80	0.0	0.85	
1/18/16	--	--	--	---	---	--	---	---	81	0.0	0.85	
1/19/16	--	--	--	---	---	--	---	---	82	0.0	0.85	
1/20/16	--	--	--	---	---	--	---	---	83	0.0	0.85	
1/21/16	13:10	71.20	669.94	---	---	--	---	---	84	0.0	0.85	
1/22/16	--	--	--	---	---	--	---	---	85	0.0	0.85	
1/23/16	--	--	--	---	---	--	---	---	86	0.0	0.85	
1/24/16	--	--	--	---	---	--	---	---	87	0.0	0.85	
1/25/16	--	--	--	---	---	--	---	---	88	0.0	0.85	
	11:45			---	---	--	---	---			0.85	
1/26/16		71.10	670.04	---	---	--	---	---	89	0.0		
1/27/16	--	--	--	---	---	--	---	---	90	0.0	0.85	
1/28/16	--	--	--	---	---	--	---	---	91	0.0	0.85	
1/29/16	--	--	--	---	---	--	---	---	92	0.0	0.85	
1/30/16	--	--	--	---	---	--	---	---	93	0.0	0.85	
1/31/16	--	--	--	---	---	--	---	---	94	0.0	0.85	
2/1/16	13:15	71.50	669.64	---	---	--	---	---	95	0.0	0.85	
2/2/16	--	--	--	---	---	--	---	---	96	0.0	0.85	
2/3/16	--	--	--	---	---	--	---	---	97	0.0	0.85	
2/4/16	--	--	--	---	---	--	---	---	98	0.0	0.85	
2/5/16	--	--	--	---	---	--	---	---	99	0.0	0.85	
2/6/16	--	--	--	---	---	--	---	---	100	0.0	0.85	
2/7/16	--	--	--	---	---	--	---	---	101	0.0	0.85	
2/8/16	12:40	70.85	670.29	---	---	--	---	---	102	0.0	0.85	
2/9/16	--	--	--	---	---	--	---	---	103	0.0	0.85	
2/10/16	--	--	--	---	---	--	---	---	104	0.0	0.85	
2/11/16	--	--	--	---	---	--	---	---	105	0.0	0.85	
2/12/16	15:30	70.90	670.24	3,272.9	319.4	15:59	72.41	668.7	106	630.9	0.85	
2/13/16	--	--	--	---	---	--	---	---	1	0.0	0.54	
2/14/16	--	--	--	---	---	--	---	---	2	0.0	0.54	
2/15/16	14:15	72.20	668.94	---	---	--	---	---	3	0.0	0.54	
2/16/16	--	--	--	---	---	--	---	---	4	0.0	0.54	
2/17/16	--	--	--	---	---	--	---	---	5	0.0	0.54	
2/18/16	--	--	--	---	---	--	---	---	6	0.0	0.54	
2/19/16	--	--	--	---	---	--	---	---	7	0.0	0.54	
2/20/16	--	--	--	---	---	--	---	---	8	0.0	0.54	
2/21/16	--	--	--	---	---	--	---	---	9	0.0	0.54	
2/22/16	10:25	72.30	668.84	---	---	--	---	---	10	0.0	0.54	
2/23/16	--	--	--	---	---	--	---	---	11	0.0	0.54	
2/24/16	--	--	--	---	---	--	---	---	12	0.0	0.54	
2/25/16	--	--	--	---	---	--	---	---	13	0.0	0.54	
2/26/16	--	--	--	---	---	--	---	---	14	0.0	0.54	
2/27/16	--	--	--	---	---	--	---	---	15	0.0	0.54	
2/28/16	--	--	--	---	---	--	---	---	16	0.0	0.54	
2/29/16	--	--	--	---	---	--	---	---	17	0.0	0.54	
3/1/16	9:40	72.00	669.14	---	---	--	---	---	18	0.0	0.54	
3/2/16	--	--	--	---	---	--	---	---	19	0.0	0.54	
3/3/16	--	--	--	---	---	--	---	---	20	0.0	0.54	
3/4/16	--	--	--	---	---	--	---	---	21	0.0	0.54	
3/5/16	--	--	--	---	---	--	---	---	22	0.0	0.54	
3/6/16	--	--	--	---	---	--	---	---	23	0.0	0.54	

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3/7/16	--	--	--	---	---	--	---	---	24	0.0	0.54	(a)
3/8/16	16:20	72.10	669.04	---	---	--	---	---	25	0.0	0.54	
3/9/16	--	--	--	---	---	--	---	---	26	0.0	0.54	
3/10/16	--	--	--	---	---	--	---	---	27	0.0	0.54	
3/11/16	--	--	--	---	---	--	---	---	28	0.0	0.54	
3/12/16	--	--	--	---	---	--	---	---	29	0.0	0.54	
3/13/16	--	--	--	---	---	--	---	---	30	0.0	0.54	
3/14/16	10:00	72.00	669.14	---	---	--	---	---	31	0.0	0.54	
3/15/16	--	--	--	---	---	--	---	---	32	0.0	0.54	
3/16/16	--	--	--	---	---	--	---	---	33	0.0	0.54	
3/17/16	--	--	--	---	---	--	---	---	34	0.0	0.54	
3/18/16	--	--	--	---	---	--	---	---	35	0.0	0.54	
3/19/16	--	--	--	---	---	--	---	---	36	0.0	0.54	
3/20/16	--	--	--	---	---	--	---	---	37	0.0	0.54	
3/21/16	14:05	72.00	669.14	---	---	--	---	---	38	0.0	0.54	
3/22/16	--	--	--	---	---	--	---	---	39	0.0	0.54	
3/23/16	--	--	--	---	---	--	---	---	40	0.0	0.54	
3/24/16	--	--	--	---	---	--	---	---	41	0.0	0.54	
3/25/16	--	--	--	---	---	--	---	---	42	0.0	0.54	
3/26/16	--	--	--	---	---	--	---	---	43	0.0	0.54	
3/27/16	--	--	--	---	---	--	---	---	44	0.0	0.54	
3/28/16	12:10	71.85	669.29	---	---	--	---	---	45	0.0	0.54	
3/29/16	--	--	--	---	---	--	---	---	46	0.0	0.54	
3/30/16	--	--	--	---	---	--	---	---	47	0.0	0.54	
3/31/16	--	--	--	---	---	--	---	---	48	0.0	0.54	
4/1/16	--	--	--	---	---	--	---	---	49	0.0	0.54	
4/2/16	--	--	--	---	---	--	---	---	50	0.0	0.54	
4/3/16	--	--	--	---	---	--	---	---	51	0.0	0.54	
4/4/16	16:40	71.70	669.44	---	---	--	---	---	52	0.0	0.54	
4/5/16	--	--	--	---	---	--	---	---	53	0.0	0.54	
4/6/16	--	--	--	---	---	--	---	---	54	0.0	0.54	
4/7/16	--	--	--	---	---	--	---	---	55	0.0	0.54	
4/8/16	--	--	--	---	---	--	---	---	56	0.0	0.54	
4/9/16	--	--	--	---	---	--	---	---	57	0.0	0.54	
4/10/16	--	--	--	---	---	--	---	---	58	0.0	0.54	
4/11/16	--	--	--	---	---	--	---	---	59	0.0	0.54	
4/12/16	14:30	72.50	668.64	---	---	--	---	---	60	0.0	0.54	
4/13/16	--	--	--	---	---	--	---	---	61	0.0	0.54	
4/14/16	--	--	--	---	---	--	---	---	62	0.0	0.54	
4/15/16	--	--	--	---	---	--	---	---	63	0.0	0.54	
4/16/16	--	--	--	---	---	--	---	---	64	0.0	0.54	
4/17/16	--	--	--	---	---	--	---	---	65	0.0	0.54	
4/18/16	10:10	71.35	669.79	---	---	--	---	---	66	0.0	0.54	
4/19/16	--	--	--	---	---	--	---	---	67	0.0	0.54	
4/20/16	--	--	--	---	---	--	---	---	68	0.0	0.54	
4/21/16	--	--	--	---	---	--	---	---	69	0.0	0.54	
4/22/16	--	--	--	---	---	--	---	---	70	0.0	0.54	
4/23/16	--	--	--	---	---	--	---	---	71	0.0	0.54	
4/24/16	--	--	--	---	---	--	---	---	72	0.0	0.54	
4/25/16	13:26	71.29	669.85	---	---	--	---	---	73	0.0	0.54	
4/26/16	--	--	--	---	---	--	---	---	74	0.0	0.54	
4/27/16	--	--	--	---	---	--	---	---	75	0.0	0.54	
4/28/16	--	--	--	---	---	--	---	---	76	0.0	0.54	
4/29/16	--	--	--	---	---	--	---	---	77	0.0	0.54	
4/30/16	--	--	--	---	---	--	---	---	78	0.0	0.54	
5/1/16	--	--	--	---	---	--	---	---	79	0.0	0.54	
5/2/16	--	--	--	---	---	--	---	---	80	0.0	0.54	
5/3/16	--	--	--	---	---	--	---	---	81	0.0	0.54	
5/4/16	--	--	--	---	---	--	---	---	82	0.0	0.54	
5/5/16	--	--	--	---	---	--	---	---	83	0.0	0.54	
5/6/16	--	--	--	---	---	--	---	---	84	0.0	0.54	
5/7/16	--	--	--	---	---	--	---	---	85	0.0	0.54	
5/8/16	--	--	--	---	---	--	---	---	86	0.0	0.54	
5/9/16	14:00	72.25	668.89	---	---	--	---	---	87	0.0	0.54	
5/10/16	--	--	--	---	---	--	---	---	88	0.0	0.54	
5/11/16	--	--	--	---	---	--	---	---	89	0.0	0.54	

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5/12/16	--	--	--	---	---	--	---	---	90	0.0	0.54	
5/13/16	--	--	--	---	---	--	---	---	91	0.0	0.54	
5/14/16	--	--	--	---	---	--	---	---	92	0.0	0.54	
5/15/16	--	--	--	---	---	--	---	---	93	0.0	0.54	
5/16/16	--	--	--	---	---	--	---	---	94	0.0	0.54	
5/17/16	--	--	--	---	---	--	---	---	95	0.0	0.54	
5/18/16	--	--	--	---	---	--	---	---	96	0.0	0.54	
5/19/16	--	--	--	---	---	--	---	---	97	0.0	0.54	
5/20/16	--	--	--	---	---	--	---	---	98	0.0	0.54	
5/21/16	--	--	--	---	---	--	---	---	99	0.0	0.54	
5/22/16	--	--	--	---	---	--	---	---	100	0.0	0.54	
5/23/16	--	--	--	---	---	--	---	---	101	0.0	0.54	
5/24/16	--	--	--	---	---	--	---	---	102	0.0	0.54	
5/25/16	13:00	72.30	668.84	---	---	--	---	---	103	0.0	0.54	
5/26/16	--	--	--	---	---	--	---	---	104	0.0	0.54	
5/27/16	--	--	--	---	---	--	---	---	105	0.0	0.54	
5/28/16	--	--	--	---	---	--	---	---	106	0.0	0.54	
5/29/16	--	--	--	---	---	--	---	---	107	0.0	0.54	
5/30/16	--	--	--	---	---	--	---	---	108	0.0	0.54	
5/31/16	10:45	72.30	668.84	---	---	--	---	---	109	0.0	0.54	
6/1/16	--	--	--	---	---	--	---	---	110	0.0	0.54	
6/2/16	--	--	--	---	---	--	---	---	111	0.0	0.54	
6/3/16	--	--	--	---	---	--	---	---	112	0.0	0.54	
6/4/16	--	--	--	---	---	--	---	---	113	0.0	0.54	
6/5/16	--	--	--	---	---	--	---	---	114	0.0	0.54	
6/6/16	13:10	72.35	668.79	---	---	--	---	---	115	0.0	0.54	
6/7/16	--	--	--	---	---	--	---	---	116	0.0	0.54	
6/8/16	--	--	--	---	---	--	---	---	117	0.0	0.54	
6/9/16	--	--	--	---	---	--	---	---	118	0.0	0.54	
6/10/16	--	--	--	---	---	--	---	---	119	0.0	0.54	
6/11/16	--	--	--	---	---	--	---	---	120	0.0	0.54	
6/12/16	--	--	--	---	---	--	---	---	121	0.0	0.54	
6/13/16	--	--	--	---	---	--	---	---	122	0.0	0.54	
6/14/16	--	--	--	---	---	--	---	---	123	0.0	0.54	
6/15/16	--	--	--	---	---	--	---	---	124	0.0	0.54	
6/16/16	--	--	--	---	---	--	---	---	125	0.0	0.54	
6/17/16	--	--	--	---	---	--	---	---	126	0.0	0.54	
6/18/16	--	--	--	---	---	--	---	---	127	0.0	0.54	
6/19/16	--	--	--	---	---	--	---	---	128	0.0	0.54	
6/20/16	10:00	72.30	668.84	---	---	--	---	---	129	0.0	0.54	
6/21/16	--	--	--	---	---	--	---	---	130	0.0	0.54	
6/22/16	--	--	--	---	---	--	---	---	131	0.0	0.54	
6/23/16	--	--	--	---	---	--	---	---	132	0.0	0.54	
6/24/16	--	--	--	---	---	--	---	---	133	0.0	0.54	
6/25/16	--	--	--	---	---	--	---	---	134	0.0	0.54	
6/26/16	--	--	--	---	---	--	---	---	135	0.0	0.54	
6/27/16	--	--	--	---	---	--	---	---	136	0.0	0.54	
6/28/16	--	--	--	---	---	--	---	---	137	0.0	0.54	
6/29/16	--	--	--	---	---	--	---	---	138	0.0	0.54	
6/30/16	--	--	--	---	---	--	---	---	139	0.0	0.54	
7/1/16	--	--	--	---	---	--	---	---	140	0.0	0.54	
7/2/16	--	--	--	---	---	--	---	---	141	0.0	0.54	
7/3/16	--	--	--	---	---	--	---	---	142	0.0	0.54	
7/4/16	--	--	--	---	---	--	---	---	143	0.0	0.54	
7/5/16	--	--	--	---	---	--	---	---	144	0.0	0.54	
7/6/16	10:35	72.30	668.84	---	---	--	---	---	145	0.0	0.54	
7/7/16	--	--	--	---	---	--	---	---	146	0.0	0.54	
7/8/16	--	--	--	---	---	--	---	---	147	0.0	0.54	
7/9/16	--	--	--	---	---	--	---	---	148	0.0	0.54	
7/10/16	--	--	--	---	---	--	---	---	149	0.0	0.54	
7/11/16	--	--	--	---	---	--	---	---	150	0.0	0.54	
7/12/16	--	--	--	---	---	--	---	---	151	0.0	0.54	
7/13/16	--	--	--	---	---	--	---	---	152	0.0	0.54	
7/14/16	--	--	--	---	---	--	---	---	153	0.0	0.54	
7/15/16	--	--	--	---	---	--	---	---	154	0.0	0.54	
7/16/16	--	--	--	---	---	--	---	---	155	0.0	0.54	
7/17/16	--	--	--	---	---	--	---	---	156	0.0	0.54	
7/18/16	--	--	--	---	---	--	---	---	157	0.0	0.54	

Table 2.2
2016 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

LEAK DETECTION SYSTEM												
DATE	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING (feet below top of sump)	WATER LEVEL BEFORE PUMPING CONVERTED TO ELEVATION (ft AMSL)	FLOW METER READING ^(c) (gallons)	CALCULATED VOLUME REMOVED based on sump volume calc. (gallons)	TIME OF MEASUREMENT #2 (hh:mm)	DEPTH TO WATER AFTER PUMPING (feet below top of sump)	WATER LEVEL AFTER PUMPING CONVERTED TO ELEVATION (ft AMSL)	ELAPSED TIME BETWEEN PUMPING EVENTS (days)	TOTAL VOLUME PUMPED BETWEEN PUMPING EVENTS (gallons)	AVERAGE DAILY FLOW RATE ^(d) (gallons/day/acre)	COMMENTS
7/19/16	--	--	--	---	---	--	---	---	158	0.0	0.54	
7/20/16	14:00	72.30	668.84	---	---	--	---	---	159	0.0	0.54	
7/21/16	--	--	--	---	---	--	---	---	160	0.0	0.54	
7/22/16	--	--	--	---	---	--	---	---	161	0.0	0.54	
7/23/16	--	--	--	---	---	--	---	---	162	0.0	0.54	
7/24/16	--	--	--	---	---	--	---	---	163	0.0	0.54	
7/25/16	--	--	--	---	---	--	---	---	164	0.0	0.54	
7/26/16	--	--	--	---	---	--	---	---	165	0.0	0.54	
7/27/16	--	--	--	---	---	--	---	---	166	0.0	0.54	
7/28/16	--	--	--	---	---	--	---	---	167	0.0	0.54	
7/29/16	--	--	--	---	---	--	---	---	168	0.0	0.54	
7/30/16	--	--	--	---	---	--	---	---	169	0.0	0.54	
7/31/16	--	--	--	---	---	--	---	---	170	0.0	0.54	
8/1/16	--	--	--	---	---	--	---	---	171	0.0	0.54	
8/2/16	--	--	--	---	---	--	---	---	172	0.0	0.54	
8/3/16	--	--	--	---	---	--	---	---	173	0.0	0.54	
8/4/16	--	--	--	---	---	--	---	---	174	0.0	0.54	
8/5/16	--	--	--	---	---	--	---	---	175	0.0	0.54	
8/6/16	--	--	--	---	---	--	---	---	176	0.0	0.54	
8/7/16	--	--	--	---	---	--	---	---	177	0.0	0.54	
8/8/16	--	--	--	---	---	--	---	---	178	0.0	0.54	
8/9/16	--	--	--	---	---	--	---	---	179	0.0	0.54	
8/10/16	8:55	72.30	668.84	---	---	--	---	---	180	0.0	0.54	
8/11/16	--	--	--	---	---	--	---	---	181	0.0	0.54	
8/12/16	--	--	--	---	---	--	---	---	182	0.0	0.54	
8/13/16	--	--	--	---	---	--	---	---	183	0.0	0.54	
8/14/16	--	--	--	---	---	--	---	---	184	0.0	0.54	
8/15/16	--	--	--	---	---	--	---	---	185	0.0	0.54	
8/16/16	--	--	--	---	---	--	---	---	186	0.0	0.54	
8/17/16	--	--	--	---	---	--	---	---	187	0.0	0.54	
8/18/16	--	--	--	---	---	--	---	---	188	0.0	0.54	
8/19/16	--	--	--	---	---	--	---	---	189	0.0	0.54	
8/20/16	--	--	--	---	---	--	---	---	190	0.0	0.54	
8/21/16	--	--	--	---	---	--	---	---	191	0.0	0.54	
8/22/16	--	--	--	---	---	--	---	---	192	0.0	0.54	
8/23/16	--	--	--	---	---	--	---	---	193	0.0	0.54	
8/24/16	11:30	72.25	668.89	---	---	--	---	---	194	0.0	0.54	
8/25/16	--	--	--	---	---	--	---	---	195	0.0	0.54	
8/26/16	--	--	--	---	---	--	---	---	196	0.0	0.54	
8/27/16	--	--	--	---	---	--	---	---	197	0.0	0.54	
8/28/16	--	--	--	---	---	--	---	---	198	0.0	0.54	
8/29/16	--	--	--	---	---	--	---	---	199	0.0	0.54	
8/30/16	--	--	--	---	---	--	---	---	200	0.0	0.54	
8/31/16	--	--	--	---	---	--	---	---	201	0.0	0.54	
9/1/16	8:50	72.30	668.84	---	---	--	---	---	202	0.0	0.54	
9/2/16	--	--	--	---	---	--	---	---	203	0.0	0.54	
9/3/16	--	--	--	---	---	--	---	---	204	0.0	0.54	
9/4/16	--	--	--	---	---	--	---	---	205	0.0	0.54	
9/5/16	--	--	--	---	---	--	---	---	206	0.0	0.54	
9/6/16	--	--	--	---	---	--	---	---	207	0.0	0.54	
9/7/16	--	--	--	---	---	--	---	---	208	0.0	0.54	
9/8/16	13:05	72.20	668.94	---	---	--	---	---	209	0.0	0.54	
9/9/16	--	--	--	---	---	--	---	---	210	0.0	0.54	
9/10/16	--	--	--	---	---	--	---	---	211	0.0	0.54	
9/11/16	--	--	--	---	---	--	---	---	212	0.0	0.54	
9/12/16	--	--	--	---	---	--	---	---	213	0.0	0.54	
9/13/16	--	--	--	---	---	--	---	---	214	0.0	0.54	
9/14/16	--	--	--	---	---	--	---	---	215	0.0	0.54	
9/15/16	--	--	--	---	---	--	---	---	216	0.0	0.54	
9/16/16	--	--	--	---	---	--	---	---	217	0.0	0.54	
9/17/16	--	--	--	---	---	--	---	---	218	0.0	0.54	
9/18/16	--	--	--	---	---	--	---	---	219	0.0	0.54	
9/19/16	--	--	--	---	---	--	---	---	220	0.0	0.54	
9/20/16	--	--	--	---	---	--	---	---	221	0.0	0.54	
9/21/16	--	--	--	---	---	--	---	---	222	0.0	0.54	
9/22/16	--	--	--	---	---	--	---	---	223	0.0	0.54	
9/23/16	13:44	72.15	668.99	---	---	--	---	---	224	0.0	0.54	
9/24/16	--	--	--	---	---	--	---	---	225	0.0	0.54	

Table 2.2
2016 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

LEAK DETECTION SYSTEM												
DATE	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING (feet below top of sump)	WATER LEVEL BEFORE PUMPING CONVERTED TO ELEVATION (ft AMSL)	FLOW METER READING ^(c) (gallons)	CALCULATED VOLUME REMOVED based on sump volume calc. (gallons)	TIME OF MEASUREMENT #2 (hh:mm)	DEPTH TO WATER AFTER PUMPING (feet below top of sump)	WATER LEVEL AFTER PUMPING CONVERTED TO ELEVATION (ft AMSL)	ELAPSED TIME BETWEEN PUMPING EVENTS (days)	TOTAL VOLUME PUMPED BETWEEN PUMPING EVENTS (gallons)	AVERAGE DAILY FLOW RATE ^(d) (gallons/day/acre)	COMMENTS
9/25/16	--	--	--	--	--	--	--	--	226	0.0	0.54	
9/26/16	--	--	--	--	--	--	--	--	227	0.0	0.54	
9/27/16	--	--	--	--	--	--	--	--	228	0.0	0.54	
9/28/16	--	--	--	--	--	--	--	--	229	0.0	0.54	
9/29/16	12:30	72.15	668.99	4,145.0	74.0	13:00	72.50	668.6	230	872.1	0.54	
9/30/16	--	--	--	--	--	--	--	--	1	0.0	0.09	
10/1/16	--	--	--	--	--	--	--	--	2	0.0	0.09	
10/2/16	--	--	--	--	--	--	--	--	3	0.0	0.09	
10/3/16	--	--	--	--	--	--	--	--	4	0.0	0.09	
10/4/16	8:20	72.50	668.64	--	--	--	--	--	5	0.0	0.09	
10/5/16	8:20	72.50	668.64	--	--	--	--	--	6	0.0	0.09	
10/6/16	8:20	72.50	668.64	--	--	--	--	--	7	0.0	0.09	
10/7/16	9:10	72.50	668.64	--	--	--	--	--	8	0.0	0.09	
10/8/16	9:15	72.50	668.64	--	--	--	--	--	9	0.0	0.09	
10/9/16	11:29	72.50	668.64	--	--	--	--	--	10	0.0	0.09	
10/10/16	8:20	72.50	668.64	--	--	--	--	--	11	0.0	0.09	
10/11/16	8:20	72.50	668.64	--	--	--	--	--	12	0.0	0.09	
10/12/16	8:17	72.50	668.64	--	--	--	--	--	13	0.0	0.09	
10/13/16	8:15	72.50	668.64	--	--	--	--	--	14	0.0	0.09	
10/14/16	8:20	72.50	668.64	--	--	--	--	--	15	0.0	0.09	
10/15/16	8:21	72.50	668.64	--	--	--	--	--	16	0.0	0.09	
10/16/16	8:20	72.50	668.64	--	--	--	--	--	17	0.0	0.09	
10/17/16	8:22	72.50	668.64	--	--	--	--	--	18	0.0	0.09	
10/18/16	12:45	72.50	668.64	--	--	--	--	--	19	0.0	0.09	
10/19/16	8:20	72.50	668.64	--	--	--	--	--	20	0.0	0.09	
10/20/16	7:40	72.50	668.64	--	--	--	--	--	21	0.0	0.09	
10/21/16	8:30	72.50	668.64	--	--	--	--	--	22	0.0	0.09	
10/22/16	8:20	72.50	668.64	--	--	--	--	--	23	0.0	0.09	
10/23/16	8:25	72.50	668.64	--	--	--	--	--	24	0.0	0.09	
10/24/16	8:20	72.50	668.64	--	--	--	--	--	25	0.0	0.09	
10/25/16	8:15	72.50	668.64	--	--	--	--	--	26	0.0	0.09	
10/26/16	8:20	72.50	668.64	--	--	--	--	--	27	0.0	0.09	
10/27/16	8:20	72.50	668.64	--	--	--	--	--	28	0.0	0.09	
10/28/16	8:20	72.50	668.64	--	--	--	--	--	29	0.0	0.09	
10/29/16	8:20	72.50	668.64	--	--	--	--	--	30	0.0	0.09	
10/30/16	8:20	72.50	668.64	--	--	--	--	--	31	0.0	0.09	
10/31/16	8:20	72.50	668.64	--	--	--	--	--	32	0.0	0.09	
11/1/16	8:20	72.50	668.64	--	--	--	--	--	33	0.0	0.09	
11/2/16	8:21	72.50	668.64	--	--	--	--	--	34	0.0	0.09	
11/3/16	8:20	72.50	668.64	--	--	--	--	--	35	0.0	0.09	
11/4/16	8:20	72.50	668.64	--	--	--	--	--	36	0.0	0.09	
11/5/16	14:20	72.45	668.69	--	--	--	--	--	37	0.0	0.09	
11/6/16	15:30	72.45	668.69	--	--	--	--	--	38	0.0	0.09	
11/7/16	8:00	72.45	668.69	--	--	--	--	--	39	0.0	0.09	
11/8/16	9:10	72.45	668.69	--	--	--	--	--	40	0.0	0.09	
11/9/16	--	--	--	--	--	--	--	--	41	0.0	0.09	
11/10/16	--	--	--	--	--	--	--	--	42	0.0	0.09	
11/11/16	--	--	--	--	--	--	--	--	43	0.0	0.09	
11/12/16	--	--	--	--	--	--	--	--	44	0.0	0.09	
11/13/16	--	--	--	--	--	--	--	--	45	0.0	0.09	
11/14/16	--	--	--	--	--	--	--	--	46	0.0	0.09	
11/15/16	--	--	--	--	--	--	--	--	47	0.0	0.09	
11/16/16	--	--	--	--	--	--	--	--	48	0.0	0.09	
11/17/16	--	--	--	--	--	--	--	--	49	0.0	0.09	
11/18/16	--	--	--	--	--	--	--	--	50	0.0	0.09	
11/19/16	--	--	--	--	--	--	--	--	51	0.0	0.09	
11/20/16	--	--	--	--	--	--	--	--	52	0.0	0.09	
11/21/16	--	--	--	--	--	--	--	--	53	0.0	0.09	
11/22/16	--	--	--	--	--	--	--	--	54	0.0	0.09	
11/23/16	--	--	--	--	--	--	--	--	55	0.0	0.09	
11/24/16	--	--	--	--	--	--	--	--	56	0.0	0.09	
11/25/16	--	--	--	--	--	--	--	--	57	0.0	0.09	
11/26/16	--	--	--	--	--	--	--	--	58	0.0	0.09	
11/27/16	--	--	--	--	--	--	--	--	59	0.0	0.09	
11/28/16	--	--	--	--	--	--	--	--	60	0.0	0.09	
11/29/16	--	--	--	--	--	--	--	--	61	0.0	0.09	
11/30/16	8:30	72.40	668.74	--	--	--	--	--	62	0.0	0.09	
12/1/16	--	--	--	--	--	--	--	--	63	0.0	0.09	

Table 2.2
2016 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

LEAK DETECTION SYSTEM												
DATE	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING (feet below top of sump)	WATER LEVEL BEFORE PUMPING CONVERTED TO ELEVATION (ft AMSL)	FLOW METER READING ^(c) (gallons)	CALCULATED VOLUME REMOVED based on sump volume calc. (gallons)	TIME OF MEASUREMENT #2 (hh:mm)	DEPTH TO WATER AFTER PUMPING (feet below top of sump)	WATER LEVEL AFTER PUMPING CONVERTED TO ELEVATION (ft AMSL)	ELAPSED TIME BETWEEN PUMPING EVENTS (days)	TOTAL VOLUME PUMPED BETWEEN PUMPING EVENTS (gallons)	AVERAGE DAILY FLOW RATE ^(d) (gallons/day/acre)	COMMENTS
12/2/16	--	--	--	---	---	--	---	---	64	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)
12/3/16	--	--	--	---	---	--	---	---	65	0.0	0.09	
12/4/16	--	--	--	---	---	--	---	---	66	0.0	0.09	
12/5/16	8:40	72.35	668.79	---	---	--	---	---	67	0.0	0.09	
12/6/16	--	--	--	---	---	--	---	---	68	0.0	0.09	
12/7/16	--	--	--	---	---	--	---	---	69	0.0	0.09	
12/8/16	--	--	--	---	---	--	---	---	70	0.0	0.09	
12/9/16	--	--	--	---	---	--	---	---	71	0.0	0.09	
12/10/16	--	--	--	---	---	--	---	---	72	0.0	0.09	
12/11/16	--	--	--	---	---	--	---	---	73	0.0	0.09	
12/12/16	8:42	72.35	668.79	---	---	--	---	---	74	0.0	0.09	
12/13/16	--	--	--	---	---	--	---	---	75	0.0	0.09	
12/14/16	--	--	--	---	---	--	---	---	76	0.0	0.09	
12/15/16	--	--	--	---	---	--	---	---	77	0.0	0.09	
12/16/16	--	--	--	---	---	--	---	---	78	0.0	0.09	
12/17/16	--	--	--	---	---	--	---	---	79	0.0	0.09	
12/18/16	--	--	--	---	---	--	---	---	80	0.0	0.09	
12/19/16	8:38	72.30	668.84	---	---	--	---	---	81	0.0	0.09	
12/20/16	--	--	--	---	---	--	---	---	82	0.0	0.09	
12/21/16	--	--	--	---	---	--	---	---	83	0.0	0.09	
12/22/16	--	--	--	---	---	--	---	---	84	0.0	0.09	
12/23/16	--	--	--	---	---	--	---	---	85	0.0	0.09	
12/24/16	--	--	--	---	---	--	---	---	86	0.0	0.09	
12/25/16	--	--	--	---	---	--	---	---	87	0.0	0.09	
12/26/16	--	--	--	---	---	--	---	---	88	0.0	0.09	
12/27/16	8:45	72.30	668.84	---	---	--	---	---	89	0.0	0.09	
12/28/16	--	--	--	---	---	--	---	---	90	0.0	0.09	
12/29/16	--	--	--	---	---	--	---	---	91	0.0	0.09	
12/30/16	--	--	--	---	---	--	---	---	92	0.0	0.09	
12/31/16	--	--	--	---	---	--	---	---	93	0.0	0.09	
Total					393.4						1503.0	

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.
- Indication of water level in LDS rising to 670.0 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 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 and the area of the Vault footprint (7 acres).

Minimum water elevation (ft AMSL) 668.64
Maximum water elevation (ft AMSL) 670.29
Mean water elevation (ft AMSL) 668.69

Number of Pumping Events 2

- (1) Total Volume Accumulation carried forward from 2015 (gallons) (based on flow meter readings) 375
- (2) Total Volume Accumulation in LDS from last pumping event to end of 2016 (gallons) (based on flow meter readings)
- (3) Total Volume Pumped from the LDS in 2016 (gallons) (based on flow meter readings) 1,503
- (4)=(3)-(1)+(2) Net 2016 LDS Accumulation Volume (gallons) (based on flow meter readings) 1,128
- (5) Total Volume Accumulation carried forward from 2015 (gallons) (based on volume removed calculations) 189.8
- (6) Total Volume Accumulation from last pumping event to end of 2016 (gallons) (based on volume removed calculations)
- (7) Total Volume Pumped from the LDS in 2016 (gallons) (based on volume removed calculations) 393.4
- (8)=(7)+(6)-(5) Net 2016 LDS Accumulation Volume (gallons) (based on volume removed calculations) 203.6

Table 2.3
2016 Summary of Daily Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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 ^(c) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION ^(c) (ft AMSL)	QUANTITY PUMPED @ PLC (gallons removed)	QUANTITY PUMPED @ PLC (100 gallons)	LOCAL FLOW METER (WWTP) READING (b) (GUS + LCS TOTAL + LDS TOTAL) (gallons)	TOTAL VOLUME REMOVED BY LOCAL FLOW METER (WWTP) (GUS + LCS TOTAL + LDS TOTAL) 1/1/16 through 12/31/16 (gallons)	VOLUME REMOVED FROM GUS ONLY = WWTP - LOCAL LCS METER LDS PORTABLE METER# 01/1/16 through 12/31/16 (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
12/28/15	Not Recorded	73.60	665.4	52	666.51	9,545	95.5	6,833,140	39,836	39,836	--	Last flow meter reading in 2015.
12/29/15	--	--	--	47	666.10	0	0.0	--	--	--	1	
12/30/15	--	--	--	50	666.35	0	0.0	--	--	--	2	
12/31/15	--	--	--	50	666.35	0	0.0	--	--	--	3	
1/1/16	--	--	--	50	666.35	0	0.0	--	--	--	4	
1/2/16	--	--	--	52	666.51	9,490	94.9	--	--	--	5	
1/3/16	--	--	--	43	665.76	31,135	311.4	--	--	--	6	
1/4/16	9:25	73.40	665.6	45	665.93	0	0.0	6,874,518	41,378	41,378	7	
1/5/16	--	--	--	49	666.26	0	0.0	--	--	--	1	
1/6/16	--	--	--	50	666.35	0	0.0	--	--	--	2	
1/7/16	--	--	--	50	666.35	0	0.0	--	--	--	3	
1/8/16	--	--	--	52	666.51	8,505	85.1	--	--	--	4	
1/9/16	--	--	--	43	665.76	33,705	337.1	--	--	--	5	
1/10/16	--	--	--	45	665.93	0	0.0	--	--	--	6	
1/11/16	8:20	72.70	666.3	49	666.26	0	0.0	6,915,896	41,378	41,378	7	
1/12/16	--	--	--	50	666.35	0	0.0	--	--	--	1	
1/13/16	--	--	--	50	666.35	0	0.0	--	--	--	2	
1/14/16	--	--	--	52	666.51	10,525	105.3	--	--	--	3	
1/15/16	--	--	--	42	665.68	31,915	319.2	--	--	--	4	
1/16/16	--	--	--	42	665.68	0	0.0	--	--	--	5	
1/17/16	--	--	--	50	666.35	0	0.0	--	--	--	6	
1/18/16	--	--	--	50	666.35	0	0.0	--	--	--	7	
1/19/16	--	--	--	51	666.43	21,910	219.1	--	--	--	8	
1/20/16	--	--	--	52	666.51	20,095	201.0	--	--	--	9	
1/21/16	13:20	74.00	665.0	40	665.51	0	0.0	6,998,970	83,074	83,074	10	
1/22/16	--	--	--	48	666.18	0	0.0	--	--	--	1	
1/23/16	--	--	--	50	666.35	0	0.0	--	--	--	2	
1/24/16	--	--	--	50	666.35	0	0.0	--	--	--	3	
1/25/16	--	--	--	52	666.51	0	0.0	--	--	--	4	
1/26/16	11:50	73.40	665.6	43	665.76	34,105	341.1	7,023,452	24,482	24,481	5	
1/27/16	--	--	--	45	665.93	1,580	15.8	--	--	--	1	
1/28/16	--	--	--	50	666.35	0	0.0	--	--	--	2	
1/29/16	--	--	--	50	666.35	0	0.0	--	--	--	3	
1/30/16	--	--	--	51	666.43	0	0.0	--	--	--	4	
1/31/16	--	--	--	52	666.51	21,195	212.0	--	--	--	5	
2/1/16	13:20	74.05	664.9	40	665.51	20,570	205.7	7,082,322	58,870	58,870	6	
2/2/16	--	--	--	48	666.18	0	0.0	--	--	--	1	
2/3/16	--	--	--	50	666.35	0	0.0	--	--	--	2	
2/4/16	--	--	--	50	666.35	0	0.0	--	--	--	3	
2/5/16	--	--	--	52	666.51	0	0.0	--	--	--	4	
2/6/16	--	--	--	52	666.51	33,875	338.8	--	--	--	5	
2/7/16	--	--	--	43	665.76	7,785	77.9	--	--	--	6	
2/8/16	12:50	72.65	666.3	50	666.35	0	0.0	7,125,796	43,474	43,474	7	
2/9/16	--	--	--	50	666.35	0	0.0	--	--	--	1	
2/10/16	--	--	--	50	666.35	0	0.0	--	--	--	2	
2/11/16	--	--	--	52	666.51	15,255	152.6	--	--	--	3	
2/12/16	--	--	--	40	665.51	26,935	269.4	--	--	--	4	
2/13/16	--	--	--	47	666.10	0	0.0	--	--	--	5	
2/14/16	--	--	--	50	666.35	0	0.0	--	--	--	6	
2/15/16	14:25	72.50	666.5	50	666.35	0	0.0	7,167,939	42,143	41,512	7	
2/16/16	--	--	--	51	666.43	0	0.0	--	--	--	1	
2/17/16	--	--	--	52	666.51	22,260	222.6	--	--	--	2	
2/18/16	--	--	--	41	665.60	18,680	186.8	--	--	--	3	
2/19/16	--	--	--	48	666.18	0	0.0	--	--	--	4	
2/20/16	--	--	--	50	666.35	0	0.0	--	--	--	5	
2/21/16	--	--	--	50	666.35	0	0.0	--	--	--	6	
2/22/16	10:30	72.50	666.5	51	666.43	0	0.0	7,208,842	40,903	40,903	7	
2/23/16	--	--	--	52	666.51	24,960	249.6	--	--	--	1	
2/24/16	--	--	--	41	665.60	16,080	160.8	--	--	--	2	
2/25/16	--	--	--	41	665.60	0	0.0	--	--	--	3	
2/26/16	--	--	--	50	666.35	0	0.0	--	--	--	4	
2/27/16	--	--	--	50	666.35	0	0.0	--	--	--	5	
2/28/16	--	--	--	52	666.51	1,630	16.3	--	--	--	6	
2/29/16	--	--	--	50	666.35	33,315	333.2	--	--	--	7	
3/1/16	9:50	73.30	665.7	44	665.85	4,955	49.6	7,289,678	80,836	80,836	8	
3/2/16	--	--	--	49	666.26	0	0.0	--	--	--	1	
3/3/16	--	--	--	50	666.35	0	0.0	--	--	--	2	
3/4/16	--	--	--	51	666.43	0	0.0	--	--	--	3	
3/5/16	--	--	--	52	666.51	18,440	184.4	--	--	--	4	
3/6/16	--	--	--	40	665.51	24,560	245.6	--	--	--	5	
3/7/16	--	--	--	49	666.26	0	0.0	--	--	--	6	
3/8/16	16:30	72.50	666.5	50	666.35	0	0.0	7,332,633	42,955	42,955	7	
3/9/16	--	--	--	50	666.35	0	0.0	--	--	--	1	
3/10/16	--	--	--	52	666.51	9,155	91.6	--	--	--	2	
3/11/16	--	--	--	42	665.68	33,235	332.4	--	--	--	3	

Table 2.3

**2016 Summary of Daily Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana**

GRAVEL UNDERDRAIN SYSTEM												
DATE	TIME OF MEASUREMENT	MANUAL DEPTH TO WATER LEVEL	MANUAL WATER LEVEL CONVERTED TO ELEVATION	WATER LEVEL @ PLC ^(c)	PLC WATER LEVEL CONVERTED TO ELEVATION ^(c)	QUANTITY PUMPED @ PLC	QUANTITY PUMPED @ PLC	LOCAL FLOW METER (WWTP) READING (b) (GUS + LCS TOTAL + LDS TOTAL)	TOTAL VOLUME REMOVED BY LOCAL FLOW METER (WWTP) (GUS + LCS TOTAL + LDS TOTAL) 1/1/16 through 12/31/16 (gallons)	VOLUME REMOVED FROM GUS GUS ONLY = WWTP - LOCAL LCS METER LDS PORTABLE METER0 01/1/16 through 12/31/16 (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS	COMMENTS
	(hh:mm)	(feet below top of sump)	(ft AMSL)	(inches)	(ft AMSL)	(gallons removed)	(100 gallons)	(gallons)			(days)	
3/12/16	--	--	--	47	666.10	940	9.4	--	--	--	4	
3/13/16				49	666.26	0	0.0	--	--	--	5	
3/14/16	10:10	72.50	666.5	50	666.35	0	0.0	7,375,934	43,301	43,301	6	
3/15/16	--	--		52	666.51	9,805	98.1	--	--	--	1	
3/16/16	--	--	--	41	665.60	32,805	328.1	--	--	--	2	
3/17/16	--	--	--	47	666.10	1,250	12.5	--	--	--	3	
3/18/16	--	--	--	50	666.35	0	0.0	--	--	--	4	
3/19/16	--	--	--	50	666.35	0	0.0	--	--	--	5	
3/20/16	--	--		52	666.51	16,690	166.9	--	--	--	6	
3/21/16	Not Recorded	73.75	665.2	40	665.51	27,385	273.9	7,455,520	79,586	79,586	7	
3/22/16	--	--	--	49	666.26	0	0.0	--	--	--	1	
3/23/16	--	--	--	50	666.35	0	0.0	--	--	--	2	
3/24/16	--	--	--	50	666.35	0	0.0	--	--	--	3	
3/25/16	--	--	--	51	666.43	24,170	241.7	--	--	--	4	
3/26/16	--	--		52	666.51	21,215	212.2	--	--	--	5	
3/27/16	--	--	--	41	665.60	0	0.0	--	--	--	6	
3/28/16	Not Recorded	72.45	666.5	49	666.26	0	0.0	7,554,690	99,170	99,170	7	
3/29/16	--	--		50	666.35	0	0.0	--	--	--	1	
3/30/16	--	--	--	49	666.26	29,150	291.5	--	--	--	2	
3/31/16	--	--	--	49	666.26	16,385	163.9	--	--	--	3	
4/1/16	--	--	--	49	666.26	0	0.0	--	--	--	4	
4/2/16	--	--	--	49	666.26	0	0.0	--	--	--	5	
4/3/16				49	666.26	920	9.2	--	--	--	6	
4/4/16	16:50	73.40	665.6	49	666.26	21,800	218.0	--	--	--	7	
4/5/16	--	--	--	49	666.26	16,330	163.3	--	--	--	8	
4/6/16	--	--	--	49	666.26	17,520	175.2	--	--	--	9	
4/7/16	--	--	--	49	666.26	0	0.0	--	--	--	10	
4/8/16	--	--	--	50	666.35	0	0.0	--	--	--	11	
4/9/16	--	--	--	52	666.51	1,875	18.8	--	--	--	12	
4/10/16	--	--	--	50	666.35	32,720	327.2	--	--	--	13	
4/11/16	--	--	--	45	665.93	10,690	106.9	--	--	--	14	
4/12/16	14:40	72.50	666.5	49	666.26	0	0.0	7,656,645	101,955	101,905	15	Assumed flow meter correction for field note error.
4/13/16	--	--	--	49	666.26	0	0.0	--	--	--	1	
4/14/16	--	--	--	52	666.51	0	0.0	--	--	--	2	
4/15/16	12:40	72.00	667.0	54	666.68	0	0.0	--	--	--		Discovered that the automated system was not functioning properly as the pump was not being engaged when the "pump on" trigger was satisfied. Manual operation of the pump was implemented.
4/16/16	--	--	--	57	666.93	0	0.0	--	--	--	3	
4/17/16	--	--	--	59	667.10	0	0.0	--	--	--	4	
4/18/16	10:20	71.50	667.5	60	667.18	4,890	48.9	7,660,263	3,618	3,618	5	
4/19/16	Not Recorded	71.52	667.5	63	667.43	0	0.0	--	--	--	6	Manual operation of the pump. Automated system not functioning properly.
4/20/16	Not Recorded	72.52	666.5	64	667.51	13,375	133.8	--	--	--	1	Manual operation of the pump. Automated system not functioning properly.
4/21/16	Not Recorded	72.00	667.0	60	667.18	32,665	326.7	--	--	--		Manual operation of the pump. Automated system not functioning properly. Original number was 675.51.
4/22/16	Not Recorded	72.95	666.0	43	665.76	16,765	167.7	--	--	--	2	Manual operation of the pump. Automated system not functioning properly.
4/23/16	Not Recorded	72.86	666.1	44	665.85	0	0.0	--	--	--	3	Manual operation of the pump. Automated system not functioning properly.
4/24/16	Not Recorded	72.54	666.5	47	666.10	0	0.0	--	--	--	4	Manual operation of the pump. Automated system not functioning properly.
4/25/16	13:36	73.99	665.0	49	666.26	15,075	150.8	--	--	--	5	Manual operation of the pump. Automated system not functioning properly.
4/26/16	--	--	--	44	665.85	32,715	327.2	--	--	--	6	Manual operation of the pump. Automated system not functioning properly.
4/27/16	--	--	--	38	665.35	9,755	97.6	--	--	--	7	Manual operation of the pump. Automated system not functioning properly.
4/28/16	--	--	--	40	665.51	320	3.2	--	--	--	8	Manual operation of the pump. Automated system not functioning properly.
4/29/16	Not Recorded	72.52	666.5	42	665.68	16,325	163.3	--	--	--	9	Manual operation of the pump. Automated system not functioning properly.
4/30/16	--	--	--	31	664.76	32,455	324.6	--	--	--	10	Manual operation of the pump. Automated system not functioning properly.
5/1/16	--	--	--	20	663.85	22,325	223.3	--	--	--	11	
5/2/16	--	--	--	23	664.10	3,310	33.1	--	--	--	12	
5/3/16	--	--	--	31	664.76	0	0.0	--	--	--	13	
5/4/16	--	--	--	37	665.26	0	0.0	--	--	--	14	
5/5/16	--	--	--	37	665.26	0	0.0	--	--	--	15	
5/6/16	--	--	--	39	665.43	0	0.0	--	--	--	16	
5/7/16	--	--	--	40	665.51	0	0.0	--	--	--	17	
5/8/16	--	--	--	43	665.76	0	0.0	--	--	--	18	

Table 2.3
2016 Summary of Daily Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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 ^(c) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION ^(c) (ft AMSL)	QUANTITY PUMPED @ PLC (gallons removed)	QUANTITY PUMPED @ PLC (100 gallons)	LOCAL FLOW METER (WWTP) READING (b) (GUS + LCS TOTAL + LDS TOTAL) (gallons)	TOTAL VOLUME REMOVED BY LOCAL FLOW METER (WWTP) (GUS + LCS TOTAL + LDS TOTAL) 1/1/16 through 12/31/16 (gallons)	VOLUME REMOVED FROM GUS ONLY = WWTP - LOCAL LCS METER LDS PORTABLE METER0 01/1/16 through 12/31/16 (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
5/9/16	Not Recorded	71.75	667.2	46	666.01	12,005	120.1	--	--	--	21	Pumping in Hand Mode
5/10/16	--	--	--	50	666.35	31,755	317.6	--	--	--	22	Pumping in Hand
5/11/16	--	--	--	48	666.18	10,100	101.0	--	--	--	23	
5/12/16	--	--	--	51	666.43	390	3.9	--	--	--	24	
5/13/16	--	--	--	54	666.68	975	9.8	--	--	--	25	
5/14/16	--	--	--	56	666.85	0	0.0	--	--	--	26	
5/15/16	--	--	--	59	667.10	0	0.0	--	--	--	27	
5/16/16	--	--	--	60	667.18	12,985	129.9	--	--	--	28	
5/17/16	--	--	--	57	666.93	15,185	151.9	--	--	--	29	
5/18/16	--	--	--	59	667.10	6,345	63.5	--	--	--	30	
5/19/16	--	--	--	61	667.26	9,305	93.1	--	--	--	31	
5/20/16	--	--	--	64	667.51	8,750	87.5	--	--	--	32	
5/21/16	--	--	--	66	667.68	0	0.0	--	--	--	33	
5/22/16	--	--	--	68	667.85	0	0.0	--	--	--	34	
5/23/16	--	--	--	69	667.93	18,660	186.6	--	--	--	35	
5/24/16	--	--	--	63	667.43	33,115	331.2	--	--	--	36	Pumping in Hand
5/25/16	--	--	--	56	666.85	32,890	328.9	--	--	--	37	
5/26/16	--	--	--	35	665.10	32,415	324.2	--	--	--	38	
5/27/16	--	--	--	38	665.35	13,955	139.6	--	--	--	39	
5/28/16	--	--	--	46	666.01	0	0.0	--	--	--	40	
5/29/16	--	--	--	46	666.01	0	0.0	--	--	--	41	
5/30/16	--	--	--	49	666.26	0	0.0	--	--	--	42	
5/31/16	10:50	72.50	666.5	49	666.26	0	0.0	--	--	--	43	
6/1/16	--	--	--	38	665.35	--	--	--	--	--	44	
6/2/16	--	--	--	46	666.01	--	--	--	--	--	45	
6/3/16	--	--	--	49	666.26	--	--	--	--	--	46	
6/4/16	--	--	--	49	666.26	--	--	--	--	--	47	
6/5/16	--	--	--	49	666.26	--	--	--	--	--	48	
6/6/16	--	--	--	49	666.26	--	--	--	--	--	49	
6/7/16	--	--	--	67	667.76	--	--	--	--	--	50	Manually Pumping
6/8/16	--	--	--	65	667.60	--	--	--	--	--	51	
6/9/16	--	--	--	60	667.18	--	--	--	--	--	52	
6/10/16	--	--	--	59	667.10	--	--	--	--	--	53	
6/11/16	--	--	--	57	666.93	--	--	--	--	--	54	
6/12/16	--	--	--	54	666.68	--	--	--	--	--	55	
6/13/16	--	--	--	56	666.85	--	--	--	--	--	56	
6/14/16	--	--	--	52	666.51	--	--	--	--	--	57	
6/15/16	--	--	--	47	666.10	--	--	--	--	--	58	
6/16/16	--	--	--	37	665.26	--	--	--	--	--	59	
6/17/16	--	--	--	42	665.68	--	--	--	--	--	60	
6/18/16	--	--	--	47	666.10	--	--	--	--	--	61	
6/19/16	--	--	--	48	666.18	--	--	--	--	--	62	
6/20/16	10:45	72.60	666.4	49	666.26	--	--	--	--	--	63	
6/21/16	--	--	--	38	665.35	--	--	--	--	--	64	Manually Pumping False readings were produced of the quantity pumped at PLC False readings were produced of the quantity pumped at PLC Manually Pumping Manually Pumping Manually Pumping Manually Pumping Manually Pumping False readings were produced of the quantity pumped at PLC False readings were produced of the quantity pumped at PLC False readings were produced of the quantity pumped at PLC False readings were produced of the quantity pumped at PLC
6/22/16	--	--	--	28	664.51	--	--	--	--	--	65	
6/23/16	--	--	--	29	664.60	--	--	--	--	--	66	
6/24/16	--	--	--	36	665.18	--	--	--	--	--	67	
6/25/16	--	--	--	42	665.68	--	--	--	--	--	68	
6/26/16	--	--	--	42	665.68	--	--	--	--	--	69	
6/27/16	--	--	--	48	666.18	--	--	--	--	--	70	
6/28/16	--	--	--	49	666.26	--	--	--	--	--	71	
6/29/16	--	--	--	50	666.35	--	--	--	--	--	72	
6/30/16	--	--	--	51	666.43	--	--	--	--	--	73	
7/1/16	--	--	--	45	665.93	22,145	221.5	--	--	--	74	
7/2/16	--	--	--	48	666.18	0	0.0	--	--	--	75	
7/3/16	--	--	--	49	666.26	0	0.0	--	--	--	76	
7/4/16	--	--	--	51	666.43	0	0.0	--	--	--	77	
7/5/16	--	--	--	51	666.43	0	0.0	--	--	--	78	Manually Pumping False readings were produced of the quantity pumped at PLC False readings were produced of the quantity pumped at PLC False readings were produced of the quantity pumped at PLC
7/6/16	--	--	--	51	666.43	0	0.0	--	--	--	79	
7/7/16	--	--	--	51	666.43	18,625	186.3	--	--	--	80	
7/8/16	--	--	--	51	666.43	19,350	193.5	--	--	--	81	
7/9/16	10:25	72.50	666.5	49	666.26	345	3.5	--	--	--	82	Manually Pumping False readings were produced of the quantity pumped at PLC False readings were produced of the quantity pumped at PLC Manually Pumping Manually Pumping Manually Pumping Manually Pumping Manually Pumping False readings were produced of the quantity pumped at PLC False readings were produced of the quantity pumped at PLC False readings were produced of the quantity pumped at PLC
7/10/16	--	--	--	51	666.43	740	7.4	--	--	--	83	
7/11/16	--	--	--	51	666.43	16,555	165.6	--	--	--	84	
7/12/16	--	--	--	45	665.93	30,660	306.6	--	--	--	85	
7/13/16	--	--	--	34	665.01	26,635	266.4	--	--	--	86	Manually Pumping False readings were produced of the quantity pumped at PLC False readings were produced of the quantity pumped at PLC False readings were produced of the quantity pumped at PLC
7/14/16	--	--	--	30	664.68	4,190	41.9	--	--	--	87	
7/15/16	--	--	--	37	665.26	415	4.2	--	--	--	88	
7/16/16	--	--	--	43	665.76	460	4.6	--	--	--	89	
7/17/16	--	--	--	48	666.18	420	4.2	--	--	--	90	

Table 2.3
2016 Summary of Daily Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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 ^(c) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION ^(c) (ft AMSL)	QUANTITY PUMPED @ PLC (gallons removed)	QUANTITY PUMPED @ PLC (100 gallons)	LOCAL FLOW METER (WWTP) READING (b) (GUS + LCS TOTAL + LDS TOTAL) (gallons)	TOTAL VOLUME REMOVED BY LOCAL FLOW METER (WWTP) (GUS + LCS TOTAL + LDS TOTAL) 1/1/16 through 12/31/16 (gallons)	VOLUME REMOVED FROM GUS ONLY = WWTP - LOCAL LCS METER LDS PORTABLE METER0 01/1/16 through 12/31/16 (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
7/18/16	--	--	--	48	666.18	9,510	95.1	--	--	--	91	Manually Pumping
7/19/16	--	--	--	36	665.18	28,040	280.4	--	--	--	92	Manually Pumping
7/20/16	--	--	--	28	664.51	8,320	83.2	--	--	--	93	Manually Pumping
7/21/16	--	--	--	37	665.26	415	4.2	--	--	--	94	False readings were produced of the quantity pumped at PLC
7/22/16	--	--	--	43	665.76	45	0.5	--	--	--	95	False readings were produced of the quantity pumped at PLC
7/23/16	--	--	--	47	666.10	135	1.4	--	--	--	96	False readings were produced of the quantity pumped at PLC
7/24/16	--	--	--	48	666.18	0	0.0	--	--	--	97	False readings were produced of the quantity pumped at PLC
7/25/16	--	--	--	48	666.18	440	4.4	--	--	--	98	False readings were produced of the quantity pumped at PLC
7/26/16	--	--	--	50	666.35	805	8.1	--	--	--	99	False readings were produced of the quantity pumped at PLC
7/27/16	--	--	--	51	666.43	7,995	80.0	--	--	--	100	Manually Pumping
7/28/16	--	--	--	43	665.76	4,955	49.6	--	--	--	101	Manually Pumping
7/29/16	--	--	--	35	665.10	27,350	273.5	--	--	--	102	Manually Pumping
7/30/16	--	--	--	17	663.60	9,215	92.2	--	--	--	103	Manually Pumping
7/31/16	--	--	--	--	--	--	--	--	--	--	104	Manually Pumping
8/1/16	--	--	--	30	664.68	2,440	24.4	8,600,832	940,569	940,569	105	Manually Pumping
8/2/16	--	--	--	38	665.35	125	1.3	8,608,272	7,440	7,440	1	
8/3/16	--	--	--	45	665.93	125	1.3	8,608,272	0	0	1	
8/4/16	--	--	--	48	666.18	75	0.8	8,608,272	0	0	1	
8/5/16	--	--	--	48	666.18	0	0.0	8,608,272	0	0	1	
8/6/16	--	--	--	49	666.26	0	0.0	8,608,272	0	0	1	
8/7/16	--	--	--	49	666.26	0	0.0	8,603,272	-5,000	-5,000	1	
8/8/16	--	--	--	51	666.43	2,350	23.5	8,603,272	0	0	1	Manually Pumping
8/9/16	--	--	--	64	667.51	25,485	254.9	8,605,622	2,350	2,350	1	Manually Pumping
8/10/16	9:00	73.80	665.2	54	666.68	26,680	266.8	8,631,107	25,485	25,485	1	Manually Pumping
8/11/16	--	--	--	48	666.18	6,975	69.8	8,657,787	26,680	26,680	1	Manually Pumping
8/12/16	11:40	75.65	663.3	55	666.76	5	0.1	8,664,762	6,975	6,975	1	
8/13/16	--	--	--	61	667.26	2,935	29.4	8,664,762	0	0	1	Manually Pumping
8/14/16	--	--	--	48	666.18	21,955	219.6	8,667,697	2,935	2,935	1	Manually Pumping
8/15/16	--	--	--	34	665.01	7,670	76.7	8,689,652	21,955	21,955	1	Manually Pumping
8/16/16	--	--	--	46	666.01	3,420	34.2	8,697,322	7,670	7,670	1	Manually Pumping
8/17/16	--	--	--	52	666.51	7,125	71.3	8,700,742	3,420	3,420	1	Manually Pumping
8/18/16	15:36	75.35	663.6	43	665.76	10,245	102.5	8,707,867	7,125	7,125	1	Manually Pumping
8/19/16	--	--	--	48	666.18	8,300	83.0	8,718,112	10,245	10,245	1	Manually Pumping
8/20/16	--	--	--	53	666.60	145	1.5	8,726,412	8,300	8,300	1	
8/21/16	--	--	--	60	667.18	355	3.6	8,726,412	0	0	1	
8/22/16	9:30	73.00	666.0	62	667.35	11,305	113.1	8,726,412	0	0	1	Manually Pumping
8/23/16	--	--	--	47	666.10	21,220	212.2	8,741,764	15,352	15,352	1	Manually Pumping
8/24/16	11:35	75.30	663.7	47	666.10	4,335	43.4	8,762,984	21,220	21,220	1	Manually Pumping
8/25/16	13:35	73.85	665.1	52	666.51	8,840	88.4	8,770,602	7,618	7,618	1	Manually Pumping
8/26/16	8:30	75.35	663.6	48	666.18	6,465	64.7	8,778,220	7,618	7,618	1	Manually Pumping
8/27/16	10:45	74.86	664.1	56	666.85	0	0.0	8,778,220	0	0	1	
8/28/16	7:00	73.75	665.2	62	667.35	0	0.0	8,778,220	0	0	1	
8/29/16	8:30	72.80	666.2	65	667.60	17,340	173.4	8,781,274	3,054	3,054	1	Manually Pumping
8/30/16	15:33	75.25	663.7	46	666.01	16,430	164.3	8,811,920	30,646	30,646	1	Manually Pumping
8/31/16	8:30	72.25	666.7	50	666.35	12,150	121.5	8,824,070	12,150	12,150	1	Manually Pumping
9/1/16	8:55	75.25	663.7	48.00	666.18	3,790	37.9	8,827,722	3,652	3,652	1	
9/2/16	11:30	73.60	665.4	57.00	666.93	0	0.0	8,827,722	0	0	1	
9/3/16	9:20	72.90	666.1	60.00	667.18	13,570	135.7	8,827,722	0	0	1	
9/4/16	11:45	73.80	665.2	40.00	665.51	16,275	162.8	8,859,896	32,174	32,174	1	
9/5/16	8:30	73.80	665.2	48.00	666.18	3,015	30.2	8,859,896	0	0	1	
9/6/16	8:35	73.80	665.2	55.00	666.76	5,600	56.0	8,859,896	0	0	1	
9/7/16	8:40	74.60	664.4	41.00	665.60	15,985	159.9	8,875,881	15,985	15,985	1	
9/8/16	13:09	75.45	663.5	46.00	666.01	4,795	48.0	8,875,888	7	7	1	
9/9/16	9:24	73.89	665.1	56.00	666.85	280	2.8	8,885,272	9,384	9,384	1	
9/10/16	9:45	73.85	665.1	63.00	667.43	320	3.2	8,885,272	0	0	1	
9/11/16	20:20	73.85	665.1	64.00	667.51	345	3.5	8,885,272	0	0	1	
9/12/16	16:20	74.10	664.9	65.00	667.60	10,910	109.1	8,891,924	6,652	6,652	1	
9/13/16	10:42	75.40	663.6	47.00	666.10	22,065	220.7	8,914,138	22,214	22,214	1	
9/14/16	15:35	75.40	663.6	49.00	666.26	3,450	34.5	8,921,038	6,900	6,900	1	
9/15/16	16:15	73.50	665.5	54.00	666.68	7,245	72.5	8,921,050	12	12	1	
9/16/16	15:15	75.30	663.7	45.00	665.93	10,290	102.9	8,938,248	17,198	17,198	1	
9/17/16	15:10	73.60	665.4	56.00	666.85	5,525	55.3	8,938,250	2	2	1	
9/18/16	8:30	74.60	664.4	44.00	665.85	18,630	186.3	8,951,805	13,555	13,555	1	
9/19/16	8:30	75.30	663.7	33.00	664.93	5,780	57.8	8,965,360	13,555	13,555	1	
9/20/16	11:09	73.95	665.0	33.00	664.93	0	0.0	8,967,866	2,506	2,506	1	
9/21/16	8:30	73.35	665.6	33.00	664.93	0	0.0	8,967,866	0	0	1	
9/22/16	9:30	72.90	666.1	33.00	664.93	12,595	126.0	8,967,912	46	46	1	
9/23/16	13:55	75.30	663.7	33.00	664.93	17,040	170.4	8,992,968	25,056	25,056	1	
9/24/16	9:30	75.30	663.7	45.00	665.93	5,165	51.7	9,001,854	8,886	8,886	1	

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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 ^(c) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION ^(c) (ft AMSL)	QUANTITY PUMPED @ PLC (gallons removed)	QUANTITY PUMPED @ PLC (100 gallons)	LOCAL FLOW METER (WWTP) READING (b) (GUS + LCS TOTAL + LDS TOTAL) (gallons)	TOTAL VOLUME REMOVED BY LOCAL FLOW METER (WWTP) (GUS + LCS TOTAL + LDS TOTAL) 1/1/16 through 12/31/16 (gallons)	VOLUME REMOVED FROM GUS ONLY = WWTP - LOCAL LCS METER LDS PORTABLE METER0 01/1/16 through 12/31/16 (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
9/25/16	13:00	73.50	665.5	45.00	665.93	755	7.6	9,001,854	0	0	1	
9/26/16	8:30	73.10	665.9	62.00	667.35	0	0.0	9,001,900	46	46	1	
9/27/16	9:00	72.80	666.2	64.00	667.51	13,855	138.6	9,001,942	42	42	1	
9/28/16	9:30	75.30	663.7	51.00	666.43	8,755	87.6	9,023,828	21,886	21,886	1	
9/29/16	8:30	73.80	665.2	55.00	666.76	7,450	74.5	9,023,828	0	-872	1	Manually pumping
9/30/16	8:30	72.90	666.1	55.00	666.76	2,585	25.9	9,023,828	0	0	1	
10/1/16	8:30	72.90	666.1	62	667.35	0	0.0	9,032,880	9,052	9,052	1	PLC reading False, intalle new sensors, need adjust
10/2/16	13:00	72.90	666.1	65	667.60	12,830	128.3	9,033,530	650	650	1	
10/3/16	8:30	72.90	666.1	53	666.60	17,235	172.4	9,054,080	20,550	20,550	1	
10/4/16	8:30	75.30	663.7	47	666.10	11,470	114.7	9,070,396	16,316	16,316	1	
10/5/16	8:30	73.90	665.1	50	666.35	9,755	97.6	9,073,750	3,354	3,354	1	
10/6/16	8:30	75.30	663.7	50	666.35	4,655	46.6	9,085,808	12,058	12,058	1	
10/7/16	8:30	75.30	663.7	54	666.68	0	0.0	9,087,296	1,488	1,488	1	
10/8/16	8:30	73.90	665.1	61	667.26	0	0.0	9,087,296	0	0	1	
10/9/16	8:30	72.70	666.3	64	667.51	0	0.0	9,087,296	0	0	1	
10/10/16	8:30	72.70	666.3	65	667.60	13,870	138.7	9,087,338	42	42	1	
10/11/16	8:30	72.70	666.3	44	665.85	18,780	187.8	9,115,326	27,988	27,988	1	
10/12/16	8:25	75.30	663.7	48	666.18	2,955	29.6	9,122,786	7,460	7,460	1	
10/13/16	8:30	72.85	666.1	51	666.43	8,675	86.8	9,122,792	6	6	1	
10/14/16	8:30	75.30	663.7	48	666.18	3,135	31.4	9,134,478	11,686	11,686	1	
10/15/16	8:32	73.75	665.2	56	666.85	0	0.0	9,134,478	0	0	1	
10/16/16	8:34	73.10	665.9	60	667.18	0	0.0	9,134,502	24	24	1	
10/17/16	8:30	72.85	666.1	62	667.35	13,170	131.7	9,134,532	30	30	1	
10/18/16	13:00	73.65	665.3	57	666.93	215	2.2	9,147,284	12,752	12,752	1	out of compliance - temp pump failure
10/19/16	8:30	73.15	665.8	61	667.26	0	0.0	9,147,284	0	0	1	
10/20/16	7:45	72.75	666.2	60	667.18	0	0.0	9,147,284	0	0	1	
10/21/16	8:30	72.65	666.3	60	667.18	0	0.0	9,147,284	0	0	1	Manually pumping
10/22/16	8:30	72.55	666.4	60	667.18	0	0.0	9,147,284	0	0	1	Manually pumping
10/23/16	8:30	72.50	666.5	60	667.18	0	0.0	9,147,284	0	0	1	Manually pumping
10/24/16	8:30	72.50	666.5	65	667.60	0	0.0	9,147,284	0	0	1	Manually pumping
10/25/16	8:25	72.60	666.4	65	667.60	0	0.0	9,147,284	0	0	1	Manually pumping
10/26/16	8:30	72.20	666.8	65	667.60	0	0.0	9,147,284	0	0	1	out of compliance - temp pump failure
10/27/16	8:30	72.10	666.9	65	667.60	790	7.9	9,147,284	0	0	1	out of compliance - temp pump failure
10/28/16	8:30	71.90	667.1	65	667.60	545	5.5	9,148,288	1,004	1,004	1	out of compliance - temp pump failure
10/29/16	8:30	71.90	667.1	65	667.60	300	3.0	9,148,676	388	388	1	out of compliance - temp pump failure
10/30/16	8:30	71.70	667.3	65	667.60	310	3.1	9,148,976	300	300	1	out of compliance - temp pump failure
10/31/16	8:30	71.50	667.5	65	667.60	0	0.0	9,149,286	310	310	1	out of compliance - temp pump failure
11/1/16	8:30	71.40	667.6	65	667.60	625	6.3	9,149,880	594	594	1	temp pump pumping to SWTPEQ tank, pumping 2-3
11/2/16	9:00	71.40	667.6	65	667.60	565	5.7	9,150,347	467	467	1	
11/3/16	8:30	71.25	667.7	65	667.60	345	3.5	9,150,814	467	467	1	
11/4/16	8:30	71.15	667.8	65	667.60	490	4.9	9,151,266	452	452	1	
11/5/16	14:30	71.00	668.0	65	667.60	735	7.4	9,151,620	354	354	1	
11/6/16	15:52	70.95	668.0	65	667.60	985	9.9	9,152,426	806	806	1	
11/7/16	8:30	70.95	668.0	65	667.60	11,610	116.1	9,153,326	900	900	1	
11/8/16	14:40	71.10	667.9	65	667.60	6,775	67.8	9,164,896	11,570	11,570	1	
11/9/16	8:30	71.50	667.5	65	667.60	19,285	192.9	9,160,417	15,521	15,521	1	
11/10/16	8:30	71.70	667.3	65	667.60	18,985	189.9	9,195,938	15,521	15,521	1	
11/11/16	17:11	72.20	666.8	69	667.60	15,270	152.7	9,220,522	24,584	24,584	1	
11/12/16	10:15	72.40	666.6	67	667.93	15,860	158.6	9,232,064	11,542	11,542	1	
11/13/16	9:26	73.00	666.0	63	667.76	18,135	181.4	9,249,190	17,126	17,126	1	
11/14/16	8:51	73.40	665.6	55	667.43	17,965	179.7	9,266,316	17,126	17,126	1	
11/15/16	8:17	73.90	665.1	50	666.76	13,820	138.2	9,284,168	17,852	17,852	1	
11/16/16	8:17	73.45	665.5	53	666.35	10,725	107.3	9,290,914	6,746	6,746	1	
11/17/16	8:15	74.90	664.1	40	666.60	9,225	92.3	9,300,943	10,029	10,029	1	
11/18/16	8:30	74.90	664.1	49	665.51	4,470	44.7	9,310,950	10,007	10,007	1	
11/19/16	9:00	74.30	664.7	47	666.26	0	0.0	9,310,950	0	0	1	
11/20/16	18:45	73.70	665.3	51	666.10	2,895	29.0	9,315,289	4,339	4,339	1	
11/21/16	8:30	(4)	--	46	666.43	13,795	138.0	9,318,189	2,900	2,900	1	not able to get manual reading
11/22/16	8:30	(4)	--	40	666.01	5,925	59.3	9,326,520	8,331	8,331	1	
11/23/16	8:30	(4)	--	38	665.51	4,090	40.9	9,326,520	0	0	1	
11/24/16	8:30	(4)	--	45	665.35	0	0.0	9,339,520	13,000	13,000	1	
11/25/16	8:30	(4)	--	50	665.93	2,245	22.5	9,349,188	9,668	9,668	1	
11/26/16	8:30	(4)	--	38	666.35	13,230	132.3	9,354,017	4,829	4,829	1	
11/27/16	8:30	(4)	--	42	665.35	1,760	17.6	9,358,846	4,829	4,829	1	
11/28/16	8:30	(4)	--	44	665.68	6,075	60.8	9,360,382	1,536	1,536	1	
11/29/16	8:30	(4)	--	43	665.85	6,905	69.1	9,367,507	7,125	7,125	1	
11/30/16	8:30	(4)	--	37	665.76	5,370	53.7	9,379,254	11,747	11,747	1	
12/1/16	8:30	(4)	--	41	665.59	3,295	33.0	9,379,718	464	464	1	0.3
12/2/16	8:30	(4)	--	23	664.09	6,840	68.4	9,380,493	775	775	1	0.5
12/3/16	5:30	(4)	--	40	665.51	2,885	28.9	9,387,313	6,820	6,820	1	4.7
12/4/16	6:30	(4)	--	45	665.93	5,020	50.2	9,390,218	2,905	2,905	1	2.0
12/5/16	8:30	(4)	--	24	664.18	6,925	69.3	9,398,836	8,618	8,618	1	6.0
12/6/16	8:34	(4)	--	24	664.18	5,220	52.2	9,404,360	5,524	5,524	1	3.8
12/7/16	8:36	(4)	--	38	665.34	3,315	33.2	9,407,408	3,048	3,048	1	2.1

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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 ^(c) (inches)	PLC WATER LEVEL CONVERTED TO ELEVATION ^(c) (ft AMSL)	QUANTITY PUMPED @ PLC (gallons removed)	QUANTITY PUMPED @ PLC (100 gallons)	LOCAL FLOW METER (WWTP) READING (b) (GUS + LCS TOTAL + LDS TOTAL) (gallons)	TOTAL VOLUME REMOVED BY LOCAL FLOW METER (WWTP) (GUS + LCS TOTAL + LDS TOTAL) 1/1/16 through 12/31/16 (gallons)	VOLUME REMOVED FROM GUS GUS ONLY = WWTP - LOCAL LCS METER LDS PORTABLE METER0 01/1/16 through 12/31/16 (gallons)	ELAPSED TIME BETWEEN FLOW METER READINGS (days)	COMMENTS
12/8/16	8:31	(4)	--	42	665.68	5,895	59.0	9,410,699	3,291	3,291	1	2.3
12/9/16	8:40	(4)	--	25	664.26	5,720	57.2	9,419,094	8,395	8,395	1	5.8
12/10/16	9:36	(4)	--	43	665.76	1,040	10.4	9,423,409	4,315	4,315	1	3.0
12/11/16	9:31	(4)	--	48	666.18	2,280	22.8	9,427,506	4,097	4,097	1	2.8
12/12/16	8:29	(4)	--	42	665.68	11,515	115.2	9,431,732	4,226	4,226	1	2.9
12/13/16	8:30	(4)	--	24	664.18	5,805	58.1	9,440,072	8,340	8,340	1	5.8
12/14/16	8:41	(4)	--	36	665.18	5,240	52.4	9,450,955	10,883	10,883	1	7.6
12/15/16	8:32	(4)	--	36	665.18	4,075	40.8	9,456,195	5,240	5,240	1	3.6
12/16/16	8:36	(4)	--	45	665.93	0	0.0	9,456,195	0	0	1	0.0
12/17/16	8:28	(4)	--	47	666.09	9,940	99.4	9,460,270	4,075	4,075	1	2.8
12/18/16	8:32	(4)	--	47	666.09	6,775	67.8	9,470,210	9,940	9,940	1	6.9
12/19/16	8:30	(4)	--	23	664.09	5,490	54.9	9,476,985	6,775	6,775	1	4.7
12/20/16	8:31	(4)	--	23	664.09	4,105	41.1	9,482,475	5,490	5,490	1	3.8
12/21/16	8:30	(4)	--	38	665.34	0	0.0	9,482,475	0	0	1	0.0
12/22/16	7:32	(4)	--	46	666.01	3,890	38.9	9,486,580	4,105	4,105	1	2.9
12/23/16	7:28	(4)	--	50	666.34	14,085	140.9	9,483,089	-3,491	-3,491	1	-2.4
12/24/16	7:29	(4)	--	37	665.26	6,295	63.0	9,497,174	14,085	14,085	1	9.8
12/25/16	7:30	(4)	--	22	664.01	1,370	13.7	9,503,469	6,295	6,295	1	4.4
12/26/16	7:34	(4)	--	45	665.93	9,765	97.7	9,504,839	1,370	1,370	1	1.0
12/27/16	8:26	(4)	--	38	665.34	6,575	65.8	9,514,604	9,765	9,765	1	6.8
12/28/16	8:20	(4)	--	38	665.34	62,445	624.5	9,522,294	7,690	7,690	1	5.3
12/29/16	7:32	(4)	--	22	664.01	6,365	63.7	9,529,576	7,282	7,282	1	5.1
12/30/16	7:30	(4)	--	22	664.01	6,235	62.4	9,535,982	6,406	6,406	1	4.4
12/31/16	--	(4)	--	41	665.59	5,995	60.0	9,542,307	6,325	6,325	1	4.4
Total						2,505,885				2,707,613		

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 72.99 ft below the top of sump).
(3) Indication of the water level in the GUS rising to 667.50 ft AMSL or higher.
(3) False readings on the PLC. The site source water may have been pushing backwards through the flow meter.
(4) Tape malfunction
(-) Measurements were not collected.
(a) Water level/water depth less than previous measurement due to human error while taking the measurement.
(b) Flow meter readings (displayed on mag meter serial number F1095B16000) are cumulative unless noted otherwise.
(c) 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)	663.34	663.6
Maximum Elevation (ft, AMSL)	668.04	667.93
Mean Elevation (ft, AMSL)	665.71	666.24

Number of Pumping Events (based on PLC ev 220

- (1) Total Volume Accumulation in GUS carried forward from 2015 (gallons) (based on flow meter r 17,733
(2) Total Volume Accumulation in GUS from last pumping event to end of 2016 (gallons) (based on flow meter readings)
(3) Total Volume Pumped from the GUS in 2016 (gallons) (based on flow meter readings) 2,707,613
(3)-(1)+(2) Total Volume Accumulation Originating in the GUS in 2016 (gallons) (based on flow meter read 2,689,880

Table 2.4

Summary of 2016 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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)
1/1/16	--	673.5	669.5	--	667.5	--	666.3
1/2/16	--	673.5	669.5	--	667.5	--	666.5
1/3/16	--	673.5	669.5	--	667.5	--	665.8
1/4/16	673.5	673.4	669.5	669.6	667.5	665.6	665.9
1/5/16	--	673.5	669.5	--	667.5	--	666.3
1/6/16	--	673.6	669.5	--	667.5	--	666.3
1/7/16	--	673.6	669.5	--	667.5	--	666.3
1/8/16	--	673.6	669.5	--	667.5	--	666.5
1/9/16	--	673.7	669.5	--	667.5	--	665.8
1/10/16	--	673.7	669.5	--	667.5	--	665.9
1/11/16	673.6	673.6	669.5	669.7	667.5	666.3	666.3
1/12/16	--	673.7	669.5	--	667.5	--	666.3
1/13/16	--	673.7	669.5	--	667.5	--	666.3
1/14/16	--	673.6	669.5	--	667.5	--	666.5
1/15/16	--	673.7	669.5	--	667.5	--	665.7
1/16/16	--	673.7	669.5	--	667.5	--	665.7
1/17/16	--	673.5	669.5	--	667.5	--	666.3
1/18/16	--	673.5	669.5	--	667.5	--	666.3
1/19/16	--	673.6	669.5	--	667.5	--	666.4
1/20/16	--	673.7	669.5	--	667.5	--	666.5
1/21/16	673.7	673.7	669.5	669.9	667.5	665.0	665.5
1/22/16	--	673.6	669.5	--	667.5	--	666.2
1/23/16	--	673.7	669.5	--	667.5	--	666.3
1/24/16	--	673.7	669.5	--	667.5	--	666.3
1/25/16	--	673.7	669.5	--	667.5	--	666.5
1/26/16	673.6	673.7	669.5	670.0	667.5	665.6	665.8
1/27/16	--	673.7	669.5	--	667.5	--	665.9
1/28/16	--	673.8	669.5	--	667.5	--	666.3
1/29/16	--	673.7	669.5	--	667.5	--	666.3
1/30/16	--	673.7	669.5	--	667.5	--	666.4
1/31/16	--	673.7	669.5	--	667.5	--	666.5
2/1/16	673.7	673.6	669.5	669.6	667.5	664.9	665.5
2/2/16	--	673.7	669.5	--	667.5	--	666.2
2/3/16	--	673.8	669.5	--	667.5	--	666.3
2/4/16	--	673.6	669.5	--	667.5	--	666.3
2/5/16	--	673.7	669.5	--	667.5	--	666.5
2/6/16	--	673.7	669.5	--	667.5	--	666.5
2/7/16	--	673.8	669.5	--	667.5	--	665.8

Table 2.4

Summary of 2016 Water Elevations
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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)
2/8/16	673.9	673.8	669.5	670.3	667.5	666.3	666.3
2/9/16	--	673.7	669.5	--	667.5	--	666.3
2/10/16	--	673.7	669.5	--	667.5	--	666.3
2/11/16	--	673.7	669.5	--	667.5	--	666.5
2/12/16	--	673.8	669.5	670.2	667.5	--	665.5
2/13/16	--	673.7	669.5	--	667.5	--	666.1
2/14/16	--	673.8	669.5	--	667.5	--	666.3
2/15/16	674.0	673.8	669.5	668.9	667.5	666.5	666.3
2/16/16	--	673.8	669.5	--	667.5	--	666.4
2/17/16	--	673.6	669.5	--	667.5	--	666.5
2/18/16	--	673.8	669.5	--	667.5	--	665.6
2/19/16	--	673.7	669.5	--	667.5	--	666.2
2/20/16	--	673.6	669.5	--	667.5	--	666.3
2/21/16	--	673.5	669.5	--	667.5	--	666.3
2/22/16	673.9	673.4	669.5	668.8	667.5	666.5	666.4
2/23/16	--	673.6	669.5	--	667.5	--	666.5
2/24/16	--	673.8	669.5	--	667.5	--	665.6
2/25/16	--	673.8	669.5	--	667.5	--	665.6
2/26/16	--	673.3	669.5	--	667.5	--	666.3
2/27/16	--	673.5	669.5	--	667.5	--	666.3
2/28/16	--	673.6	669.5	--	667.5	--	666.5
2/29/16	--	673.4	669.5	--	667.5	--	666.3
3/1/16	674.1	673.5	669.5	669.1	667.5	665.7	665.8
3/2/16	--	673.3	669.5	--	667.5	--	666.3
3/3/16	--	673.4	669.5	--	667.5	--	666.3
3/4/16	--	673.3	669.5	--	667.5	--	666.4
3/5/16	--	673.4	669.5	--	667.5	--	666.5
3/6/16	--	673.4	669.5	--	667.5	--	665.5
3/7/16	--	673.4	669.5	--	667.5	--	666.3
3/8/16	674.1	673.4	669.5	669.0	667.5	666.5	666.3
3/9/16	--	673.3	669.5	--	667.5	--	666.3
3/10/16	--	673.3	669.5	--	667.5	--	666.5
3/11/16	--	673.3	669.5	--	667.5	--	665.7
3/12/16	--	673.3	669.5	--	667.5	--	666.1
3/13/16	--	673.3	669.5	--	667.5	--	666.3
3/14/16	674.4	673.3	669.5	669.1	667.5	666.5	666.3
3/15/16	--	673.3	669.5	--	667.5	--	666.5
3/16/16	--	673.3	669.5	--	667.5	--	665.6

Table 2.4

Summary of 2016 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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)
3/17/16	--	673.3	669.5	--	667.5	--	666.1
3/18/16	--	673.3	669.5	--	667.5	--	666.3
3/19/16	--	673.3	669.5	--	667.5	--	666.3
3/20/16	--	673.3	669.5	--	667.5	--	666.5
3/21/16	674.1	673.3	669.5	669.1	667.5	665.2	665.5
3/22/16	--	673.3	669.5	--	667.5	--	666.3
3/23/16	--	673.3	669.5	--	667.5	--	666.3
3/24/16	--	673.4	669.5	--	667.5	--	666.3
3/25/16	--	673.2	669.5	--	667.5	--	666.4
3/26/16	--	673.3	669.5	--	667.5	--	666.5
3/27/16	--	673.3	669.5	--	667.5	--	665.6
3/28/16	674.0	673.4	669.5	669.3	667.5	666.5	666.3
3/29/16	--	673.4	669.5	--	667.5	--	666.3
3/30/16	--	673.4	669.5	--	667.5	--	666.3
3/31/16	--	673.4	669.5	--	667.5	--	666.3
4/1/16	--	673.4	669.5	--	667.5	--	666.3
4/2/16	--	673.4	669.5	--	667.5	--	666.3
4/3/16	--	673.4	669.5	--	667.5	--	666.3
4/4/16	674.0	673.4	669.5	669.4	667.5	665.6	666.3
4/5/16	--	673.4	669.5	--	667.5	--	666.3
4/6/16	--	673.4	669.5	--	667.5	--	666.3
4/7/16	674.1	673.5	669.5	--	667.5	--	666.3
4/8/16	674.1	673.6	669.5	--	667.5	--	666.3
4/9/16	--	673.6	669.5	--	667.5	--	666.5
4/10/16	--	673.7	669.5	--	667.5	--	666.3
4/11/16	--	673.7	669.5	--	667.5	--	665.9
4/12/16	--	673.6	669.5	668.6	667.5	666.5	666.3
4/13/16	--	673.8	669.5	--	667.5	--	666.3
4/14/16	--	673.8	669.5	--	667.5	--	666.5
4/15/16	674.1	--	669.5	--	667.5	667.0	666.7
4/16/16	--	--	669.5	--	667.5	--	666.9
4/17/16	--	--	669.5	--	667.5	--	667.1
4/18/16	--	--	669.5	669.8	667.5	667.5	667.2
4/19/16	674.0	--	669.5	--	667.5	667.5	667.4
4/20/16	674.0	--	669.5	--	667.5	666.5	667.5
4/21/16	674.0	--	669.5	--	667.5	667.0	667.2
4/22/16	674.0	--	669.5	--	667.5	666.0	665.8
4/23/16	673.0	--	669.5	--	667.5	666.1	665.8

Table 2.4

Summary of 2016 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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)
4/24/16	673.3	--	669.5	--	667.5	666.5	666.1
4/25/16	673.3	--	669.5	669.9	667.5	665.0	666.3
4/26/16	673.0	--	669.5	--	667.5	--	665.8
4/27/16	674.0	--	669.5	--	667.5	--	665.3
4/28/16	673.9	--	669.5	--	667.5	--	665.5
4/29/16	673.8	--	669.5	--	667.5	666.5	665.2
4/30/16	674.0	--	669.5	--	667.5	--	664.8
5/1/16	--	671.0	669.5	--	667.5	--	663.8
5/2/16	--	671.0	669.5	--	667.5	--	664.1
5/3/16	--	671.0	669.5	--	667.5	--	664.8
5/4/16	--	671.0	669.5	--	667.5	--	665.3
5/5/16	--	671.0	669.5	--	667.5	--	665.3
5/6/16	--	671.0	669.5	--	667.5	--	665.4
5/7/16	--	671.0	669.5	--	667.5	--	665.5
5/8/16	--	671.0	669.5	--	667.5	--	665.8
5/9/16	674.6	671.0	669.5	668.9	667.5	667.2	666.0
5/10/16	--	671.0	669.5	--	667.5	--	666.3
5/11/16	--	671.0	669.5	--	667.5	--	666.2
5/12/16	673.5	671.0	669.5	--	667.5	--	666.4
5/13/16	--	671.0	669.5	--	667.5	--	666.7
5/14/16	--	671.0	669.5	--	667.5	--	666.5
5/15/16	--	671.0	669.5	--	667.5	--	667.1
5/16/16	--	671.0	669.5	--	667.5	--	667.2
5/17/16	--	673.8	669.5	--	667.5	--	667.0
5/18/16	--	673.8	669.5	--	667.5	--	667.1
5/19/16	--	671.0	669.5	--	667.5	--	667.3
5/20/16	--	671.0	669.5	--	667.5	--	667.5
5/21/16	--	671.0	669.5	--	667.5	--	667.7
5/22/16	--	671.0	669.5	--	667.5	--	667.8
5/23/16	--	671.0	669.5	--	667.5	--	667.9
5/24/16	--	671.0	669.5	--	667.5	--	667.4
5/25/16	672.0	671.0	669.5	668.8	667.5	--	666.5
5/26/16	--	671.0	669.5	--	667.5	--	665.1
5/27/16	--	671.0	669.5	--	667.5	--	665.3
5/28/16	--	671.0	669.5	--	667.5	--	666.0
5/29/16	--	671.0	669.5	--	667.5	--	666.0
5/30/16	--	671.0	669.5	--	667.5	--	666.3
5/31/16	671.1	671.0	669.5	668.8	667.5	666.5	666.3

Table 2.4

Summary of 2016 Water Elevations
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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)
6/1/16	--	671.0	669.5	--	667.5	--	665.3
6/2/16	--	671.0	669.5	--	667.5	--	666.0
6/3/16	--	671.0	669.5	--	667.5	--	666.3
6/4/16	--	671.0	669.5	--	667.5	--	666.3
6/5/16	--	671.0	669.5	--	667.5	--	666.3
6/6/16	671.1	671.0	669.5	--	667.5	--	667.8
6/7/16	--	671.0	669.5	668.8	667.5	--	667.6
6/8/16	--	671.0	669.5	--	667.5	--	667.0
6/9/16	--	671.0	669.5	--	667.5	--	18.0
6/10/16	--	671.0	669.5	--	667.5	--	667.1
6/11/16	--	671.0	669.5	--	667.5	--	666.9
6/12/16	--	671.0	669.5	--	667.5	--	666.7
6/13/16	--	671.0	669.5	--	667.5	--	666.8
6/14/16	--	671.0	669.5	--	667.5	--	666.5
6/15/16	--	671.0	669.5	--	667.5	--	666.1
6/16/16	--	671.0	669.5	--	667.5	--	665.3
6/17/16	--	671.0	669.5	--	667.5	--	665.7
6/18/16	--	671.0	669.5	--	667.5	--	666.1
6/19/16	--	671.0	669.5	--	667.5	--	666.2
6/20/16	671.2	671.0	669.5	668.8	667.5	666.4	666.3
6/21/16	--	671.0	669.5	--	667.5	--	665.3
6/22/16	--	671.0	669.5	--	667.5	--	664.5
6/23/16	--	671.0	669.5	--	667.5	--	664.6
6/24/16	--	671.0	669.5	--	667.5	--	665.2
6/25/16	--	671.0	669.5	--	667.5	--	665.7
6/26/16	--	671.0	669.5	--	667.5	--	665.7
6/27/16	--	671.0	669.5	--	667.5	--	666.2
6/28/16	--	671.0	669.5	--	667.5	--	666.3
6/29/16	--	671.0	669.5	--	667.5	--	666.3
6/30/16	--	671.0	669.5	--	667.5	--	666.4
7/1/16	--	671.0	669.5	--	667.5	--	665.9
7/2/16	--	671.0	669.5	--	667.5	--	666.2
7/3/16	--	671.0	669.5	--	667.5	--	666.3
7/4/16	--	671.0	669.5	--	667.5	--	666.4
7/5/16	--	671.0	669.5	--	667.5	--	666.4
7/6/16	--	671.0	669.5	668.8	667.5	--	666.4
7/7/16	--	671.0	669.5	--	667.5	--	666.4
7/8/16	--	671.0	669.5	--	667.5	--	666.4

Table 2.4

Summary of 2016 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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)
7/9/16	--	671.0	669.5	--	667.5	666.5	666.3
7/10/16	--	671.0	669.5	--	667.5	--	666.4
7/11/16	--	671.0	669.5	--	667.5	--	666.4
7/12/16	--	671.0	669.5	--	667.5	--	665.9
7/13/16	--	671.0	669.5	--	667.5	--	665.0
7/14/16	--	671.0	669.5	--	667.5	--	664.7
7/15/16	--	671.0	669.5	--	667.5	--	665.3
7/16/16	--	671.0	669.5	--	667.5	--	665.8
7/17/16	--	671.0	669.5	--	667.5	--	666.2
7/18/16	--	671.0	669.5	--	667.5	--	666.2
7/19/16	--	671.0	669.5	--	667.5	--	665.2
7/20/16	671.3	671.0	669.5	668.8	667.5	--	664.5
7/21/16	--	671.0	669.5	--	667.5	--	665.3
7/22/16	--	671.0	669.5	--	667.5	--	665.8
7/23/16	--	671.0	669.5	--	667.5	--	666.1
7/24/16	--	671.0	669.5	--	667.5	--	666.2
7/25/16	--	671.0	669.5	--	667.5	--	666.2
7/26/16	--	671.0	669.5	--	667.5	--	666.3
7/27/16	--	671.0	669.5	--	667.5	--	666.4
7/28/16	--	671.0	669.5	--	667.5	--	665.9
7/29/16	--	671.0	669.5	--	667.5	--	665.1
7/30/16	--	671.0	669.5	--	667.5	--	663.6
7/31/16	--	671.0	669.5	--	667.5	--	--
8/1/16	--	671.0	669.5	--	667.5	--	664.7
8/2/16	--	671.0	669.5	--	667.5	--	665.3
8/3/16	--	671.0	669.5	--	667.5	--	665.9
8/4/16	--	671.0	669.5	--	667.5	--	666.2
8/5/16	--	671.0	669.5	--	667.5	--	666.2
8/6/16	--	671.0	669.5	--	667.5	--	666.3
8/7/16	--	671.0	669.5	--	667.5	--	666.3
8/8/16	--	671.0	669.5	--	667.5	--	666.4
8/9/16	--	671.0	669.5	--	667.5	--	667.5
8/10/16	671.4	671.0	669.5	668.84	667.5	665.2	666.7
8/11/16	--	671.0	669.5	--	667.5	--	666.2
8/12/16	--	671.0	669.5	--	667.5	663.3	666.8
8/13/16	--	671.0	669.5	--	667.5	--	667.3
8/14/16	--	671.0	669.5	--	667.5	--	666.2
8/15/16	--	671.0	669.5	--	667.5	--	665.0

Table 2.4

Summary of 2016 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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)
8/16/16	--	671.0	669.5	--	667.5	--	666.0
8/17/16	--	671.0	669.5	--	667.5	--	666.5
8/18/16	--	671.0	669.5	--	667.5	663.6	665.8
8/19/16	--	671.0	669.5	--	667.5	--	666.2
8/20/16	--	671.0	669.5	--	667.5	--	666.6
8/21/16	--	671.0	669.5	--	667.5	--	667.2
8/22/16	--	671.0	669.5	--	667.5	666.0	667.3
8/23/16	--	671.0	669.5	--	667.5	--	666.1
8/24/16	671.5	671.0	669.5	668.89	667.5	663.7	666.1
8/25/16	671.5	671.0	669.5	--	667.5	665.1	666.5
8/26/16	--	671.0	669.5	--	667.5	663.6	666.2
8/27/16	--	671.0	669.5	--	667.5	664.1	666.8
8/28/16	--	671.0	669.5	--	667.5	665.2	667.3
8/29/16	--	671.0	669.5	--	667.5	666.2	667.6
8/30/16	--	671.0	669.5	--	667.5	663.7	666.0
8/31/16	--	671.0	669.5	--	667.5	666.7	666.3
9/1/16	671.7	671.0	669.5	668.84	667.5	663.7	666.2
9/2/16	--	671.0	669.5	--	667.5	665.4	666.9
9/3/16	--	671.0	669.5	--	667.5	666.1	667.2
9/4/16	--	671.0	669.5	--	667.5	665.2	665.5
9/5/16	--	671.0	669.5	--	667.5	665.2	666.2
9/6/16	--	671.0	669.5	--	667.5	665.2	666.8
9/7/16	--	671.0	669.5	--	667.5	664.4	665.6
9/8/16	671.7	671.0	669.5	668.94	667.5	663.5	666.0
9/9/16	--	671.0	669.5	--	667.5	665.1	666.8
9/10/16	--	671.0	669.5	--	667.5	665.1	667.4
9/11/16	--	671.0	669.5	--	667.5	665.1	667.5
9/12/16	--	671.0	669.5	--	667.5	664.9	667.6
9/13/16	--	671.0	669.5	--	667.5	663.6	666.1
9/14/16	--	671.0	669.5	--	667.5	663.6	666.3
9/15/16	--	671.0	669.5	--	667.5	665.5	666.7
9/16/16	--	671.0	669.5	--	667.5	663.7	665.9
9/17/16	--	671.0	669.5	--	667.5	665.4	666.8
9/18/16	--	671.0	669.5	--	667.5	664.4	665.8
9/19/16	--	671.0	669.5	--	667.5	663.7	664.9
9/20/16	--	671.0	669.5	--	667.5	665.0	664.9
9/21/16	--	671.0	669.5	--	667.5	665.6	664.9
9/22/16	--	671.0	669.5	--	667.5	666.1	664.9

Table 2.4

Summary of 2016 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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)
9/23/16	671.8	671.0	669.5	668.99	667.5	663.7	664.9
9/24/16	--	671.0	669.5	--	667.5	663.7	665.9
9/25/16	--	671.0	669.5	--	667.5	665.5	665.9
9/26/16	--	671.0	669.5	--	667.5	665.9	667.3
9/27/16	--	671.0	669.5	--	667.5	666.2	667.5
9/28/16	--	671.0	669.5	--	667.5	663.7	666.4
9/29/16	--	671.0	669.5	668.99	667.5	665.2	666.8
9/30/16	--	671.0	669.5	--	667.5	666.1	666.8
10/1/16	--	671.0	669.5	--	667.5	666.1	667.3
10/2/16	--	671.0	669.5	--	667.5	666.1	667.6
10/3/16	--	671.0	669.5	--	667.5	666.1	666.6
10/4/16	670.9	671.0	669.5	668.64	667.5	663.7	666.1
10/5/16	670.9	671.0	669.5	668.64	667.5	665.1	666.3
10/6/16	670.9	671.0	669.5	668.64	667.5	663.7	666.3
10/7/16	670.9	671.0	669.5	668.64	667.5	663.7	666.7
10/8/16	670.9	671.0	669.5	668.64	667.5	665.1	667.3
10/9/16	670.9	671.0	669.5	668.64	667.5	666.3	667.5
10/10/16	670.9	671.0	669.5	668.64	667.5	666.3	667.6
10/11/16	670.9	671.0	669.5	668.64	667.5	666.3	665.8
10/12/16	670.9	671.0	669.5	668.64	667.5	663.7	666.2
10/13/16	670.9	671.0	669.5	668.64	667.5	666.1	666.4
10/14/16	670.9	671.0	669.5	668.64	667.5	663.7	666.2
10/15/16	670.9	671.0	669.5	668.64	667.5	665.2	666.8
10/16/16	670.9	671.0	669.5	668.64	667.5	665.9	667.2
10/17/16	670.9	671.0	669.5	668.64	667.5	666.1	667.3
10/18/16	670.9	671.0	669.5	668.64	667.5	665.3	666.9
10/19/16	670.9	671.0	669.5	668.64	667.5	665.8	667.3
10/20/16	670.9	671.0	669.5	668.64	667.5	666.2	667.2
10/21/16	670.9	671.0	669.5	668.64	667.5	666.3	667.2
10/22/16	670.9	671.0	669.5	668.64	667.5	666.4	667.2
10/23/16	670.9	671.0	669.5	668.64	667.5	666.5	667.2
10/24/16	670.9	671.0	669.5	668.64	667.5	666.5	667.6
10/25/16	670.9	671.0	669.5	668.64	667.5	666.4	667.6
10/26/16	670.9	671.0	669.5	668.64	667.5	666.8	667.6
10/27/16	670.9	671.0	669.5	668.64	667.5	666.9	667.6
10/28/16	670.9	671.0	669.5	668.64	667.5	667.1	667.6
10/29/16	670.9	671.0	669.5	668.64	667.5	667.1	667.6
10/30/16	670.9	671.0	669.5	668.64	667.5	667.3	667.6

Table 2.4

Summary of 2016 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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)
10/31/16	670.9	671.0	669.5	668.64	667.5	667.5	667.6
11/1/16	670.9	671.0	669.5	668.64	667.5	667.6	667.6
11/2/16	670.9	671.0	669.5	668.64	667.5	667.6	667.6
11/3/16	670.9	671.0	669.5	668.64	667.5	667.7	667.6
11/4/16	670.9	671.0	669.5	668.64	667.5	667.8	667.6
11/5/16	670.9	671.0	669.5	668.69	667.5	668.0	667.6
11/6/16	671.0	671.0	669.5	668.69	667.5	668.0	667.6
11/7/16	671.0	671.0	669.5	668.69	667.5	668.0	667.6
11/8/16	671.1	671.0	669.5	668.69	667.5	667.9	667.6
11/9/16	--	671.0	669.5	--	667.5	667.5	667.6
11/10/16	--	671.0	669.5	--	667.5	667.3	667.6
11/11/16	--	671.0	669.5	--	667.5	666.8	667.6
11/12/16	--	671.0	669.5	--	667.5	666.6	667.9
11/13/16	--	671.0	669.5	--	667.5	666.0	667.8
11/14/16	--	671.0	669.5	--	667.5	665.6	667.4
11/15/16	--	671.0	669.5	--	667.5	665.1	666.8
11/16/16	--	671.0	669.5	--	667.5	665.5	666.3
11/17/16	--	671.0	669.5	--	667.5	664.1	666.6
11/18/16	--	671.0	669.5	--	667.5	664.1	665.5
11/19/16	--	671.0	669.5	--	667.5	664.7	666.3
11/20/16	--	671.0	669.5	--	667.5	665.3	666.1
11/21/16	--	671.0	669.5	--	667.5	--	666.4
11/22/16	--	671.0	669.5	--	667.5	--	666.0
11/23/16	--	671.0	669.5	--	667.5	--	665.5
11/24/16	--	671.0	669.5	--	667.5	--	665.3
11/25/16	--	671.0	669.5	--	667.5	--	665.9
11/26/16	--	671.0	669.5	--	667.5	--	666.3
11/27/16	--	671.0	669.5	--	667.5	--	665.3
11/28/16	--	671.0	669.5	--	667.5	--	665.7
11/29/16	--	671.0	669.5	--	667.5	--	665.8
11/30/16	671.1	671.0	669.5	668.74	667.5	--	665.8
12/1/16	--	671.0	669.5	--	667.5	--	665.6
12/2/16	--	671.0	669.5	--	667.5	--	664.1
12/3/16	--	671.0	669.5	--	667.5	--	665.5
12/4/16	--	671.0	669.5	--	667.5	--	665.9
12/5/16	671.1	671.0	669.5	668.79	667.5	--	664.2
12/6/16	--	671.0	669.5	--	667.5	--	664.2
12/7/16	--	671.0	669.5	--	667.5	--	665.3

Table 2.4

Summary of 2016 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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)
12/8/16	--	671.0	669.5	--	667.5	--	665.7
12/9/16	--	671.0	669.5	--	667.5	--	664.3
12/10/16	--	671.0	669.5	--	667.5	--	665.8
12/11/16	--	671.0	669.5	--	667.5	--	666.2
12/12/16	671.2	671.0	669.5	668.79	667.5	--	665.7
12/13/16	--	671.0	669.5	--	667.5	--	664.2
12/14/16	--	671.0	669.5	--	667.5	--	665.2
12/15/16	--	671.0	669.5	--	667.5	--	665.2
12/16/16	--	671.0	669.5	--	667.5	--	665.9
12/17/16	--	671.0	669.5	--	667.5	--	666.1
12/18/16	--	671.0	669.5	--	667.5	--	666.1
12/19/16	671.2	671.0	669.5	668.84	667.5	--	664.1
12/20/16	--	671.0	669.5	--	667.5	--	664.1
12/21/16	--	671.0	669.5	--	667.5	--	665.3
12/22/16	--	671.0	669.5	--	667.5	--	666.0
12/23/16	--	671.0	669.5	--	667.5	--	666.3
12/24/16	--	671.0	669.5	--	667.5	--	665.3
12/25/16	--	671.0	669.5	--	667.5	--	664.0
12/26/16	--	671.0	669.5	--	667.5	--	665.9
12/27/16	671.2	671.0	669.5	668.84	667.5	--	665.3
12/28/16	--	671.0	669.5	--	667.5	--	665.3
12/29/16	--	671.0	669.5	--	667.5	--	664.0
12/30/16	--	671.0	669.5	--	667.5	--	664.0
12/31/16	--	671.0	669.5	--	667.5	--	665.6

Table 2.5

2016 LCS, LDS, and GUS Maximum Water Elevation Summary
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
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-16	2.7	673.7	2.8	673.8	1.5	670.0	4.1	666.3	4.3	666.5	
Feb-16	3.0	674.0	2.8	673.8	1.8	670.3	4.3	666.5	4.3	666.5	
Mar-16	3.4	674.4	2.5	673.5	0.8	669.3	4.4	666.5	4.3	666.5	
Apr-16	3.1	674.1	2.8	673.8	1.4	669.9	5.3	667.5	5.3	667.5	
May-16	3.6	674.6	2.8	673.8	0.4	668.9	5.1	667.2	5.8	667.9	
Jun-16	0.2	671.2	0.0	671.0	0.3	668.8	4.2	666.4	5.6	667.8	
Jul-16	0.3	671.3	0.0	671.0	0.3	668.8	4.3	666.5	4.3	666.4	
Aug-16	0.5	671.5	0.0	671.0	0.4	668.9	4.6	666.7	5.4	667.6	
Sep-16	0.8	671.8	0.0	671.0	0.5	669.0	4.0	666.2	5.4	667.6	
Oct-16	-0.1	670.9	0.0	671.0	0.1	668.6	5.3	667.5	5.4	667.6	
Nov-16	0.1	671.1	0.0	671.0	0.2	668.7	5.9	668.0	5.8	667.9	
Dec-16	0.2	671.2	0.0	671.0	0.3	668.8	-662.2	0.0	4.2	666.3	

Notes:

AMSL - Above mean sea level

ft - feet

Diameter of LCS and LDS sumps = 6 feet

Diameter of Underdrain sump = 3 feet

¹ LCS: Top of sump [top of concrete manhole] (feet AMSL): 740.83, Bottom of sump (feet AMSL): 671.00, Total depth of sump manhole (feet): 69.83. Automated pump turns on at 674 ft AMSL and off at 672 ft AMSL.

² LDS: Top of sump [top of concrete manhole] (feet AMSL): 741.14, Bottom of sump (feet AMSL): 668.5, Total depth of sump manhole (feet): 72.64

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

Indication of water level reaching or exceeding the operational limit.

Table 2.6

**2016 Summary of Monthly Total Volume of Water Treated in the SSC WTP and 2,000 gpm Treatment System
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana**

Month	SSC WTP Number of Operational Days	Volume of Water Treated/Discharged at the SSC WTP (gallons x 106)	Daily Average Water Treated/Discharged at the SSC WTP (gpm)	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)	Total Volume of Water Treated/Discharged
Jan-16	30	1.84	43	-	0	-	1.840
Feb-16	27	1.296	33	-	0	-	1.296
Mar-16	31	2.422	54	-	0	-	2.422
Apr-16	30	2.336	54	-	0	-	2.336
May-16	30	1.947	45	-	0	-	1.947
Jun-16	24	0.608	18	-	0	-	0.608
Jul-16	7	0.41	41	31	1.95	44	2.360
Aug-16	0	0	-	31	3.223	72	3.223
Sep-16	0	0	-	30	1.13	26	1.130
Oct-16	0	0	-	31	1.939	43	1.939
Nov-16	0	0	-	30	1.775	41	1.775
Dec-16	0	0	-	31	4.108	92	4.108
Total	179	9.019		184	14.125		24.984
Month Average	-	0.752		-	1.177		2.08
Daily Average	-	0.050		-	0.077		0.07

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples East Plant Area TSCA Vault Annual Report, Calendar Year 2016 GM CET Bedford Facility Bedford, Indiana											
Area:	East Plant Area	EastPlantArea	P003_EastPlantArea	P003_EastPlantArea	P003_EastPlantArea	P003_EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	A007_EastPlantArea
Sample Location:	GUS	9-4	CH-3A	CH-3A	CH-3A	CH-3A	CH-8	CH-8	CH-8	CH-8	CH-8
Sample Identification:	GW-042816-JL-25	GW-042716-RB-18	EB-042616-SA-05	GW-050216-SA-27	EB-050416-SA-09	EB-050916-SA-20	EB-042616-SA-04	GW-050316-SA-33	EB-050416-SA-10	EB-050916-SA-17	EB-050916-SA-17
Sample Date:	4/28/2016	4/27/2016	4/26/2016	5/2/2016	5/4/2016	5/9/2016	4/26/2016	5/3/2016	5/4/2016	5/9/2016	5/9/2016
Sample Type:											
Sample Depth:	-	-	-	-	-	-	-	-	-	-	-
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	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	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	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	31	0.19 U	0.19 U	0.19 U	0.40 J	0.19 U	0.19 U	0.54 U	0.14 J	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.19 U	4.9	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 UJ	0.19 UJ	0.19 U	0.19 U	0.19 U	0.19 UJ	0.19 UJ	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 UJ	0.19 UJ	0.19 U	0.19 U	0.19 U	0.19 UJ	0.19 UJ	0.19 U	0.19 U
Total PCBs	ug/L	31	ND	--	4.9	--	--	ND	--	--	--
Aroclor-1016 (PCB-1016) (dissolved)	ug/L	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	--	--	--
Aroclor-1232 (PCB-1232) (dissolved)	ug/L	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	--	--	0.31 U	--	--	--
Aroclor-1248 (PCB-1248) (dissolved)	ug/L	0.19 U	0.19 U	--	2.6	--	--	0.19 U	--	--	--
Aroclor-1254 (PCB-1254) (dissolved)	ug/L	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	--	--	--
Total PCBs (dissolved)	ug/L	ND	ND	--	2.6	--	--	ND	--	--	--
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-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	0.41 J	1.0 U	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	0.47 J	1.0 U	--	--	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	10 U	10 U	--	--	--	--	--	--	--	--
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 tetrachloride	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--	--
Chlorobenzene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--	--
Chloroethane	ug/L	1.0 UJ	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-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--
Methylene chloride	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--	--
Toluene	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	0.89 J	1.0 U	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	1.0 UJ	1.0 U	--	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	--	--	--	--	--	--	--	--
Vinyl chloride	ug/L	0.38 J	1.0 U	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:		East Plant Area	EastPlantArea	P003_EastPlantArea	P003_EastPlantArea	P003_EastPlantArea	P003_EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	A007_EastPlantArea
Sample Location:		GUS	9-4	CH-3A	CH-3A	CH-3A	CH-3A	CH-8	CH-8	CH-8	CH-8
Sample Identification:		GW-042816-JL-25	GW-042716-RB-18	EB-042616-SA-05	GW-050216-SA-27	EB-050416-SA-09	EB-050916-SA-20	EB-042616-SA-04	GW-050316-SA-33	EB-050416-SA-10	EB-050916-SA-17
Sample Date:		4/28/2016	4/27/2016	4/26/2016	5/2/2016	5/4/2016	5/9/2016	4/26/2016	5/3/2016	5/4/2016	5/9/2016
Sample Type:											
Sample Depth:		-	-	-	-	-	-	-	-	-	-
	Units										
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	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:		East Plant Area	EastPlantArea	P003_EastPlantArea	P003_EastPlantArea	P003_EastPlantArea	P003_EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	A007_EastPlantArea
Sample Location:		GUS	9-4	CH-3A	CH-3A	CH-3A	CH-3A	CH-8	CH-8	CH-8	CH-8
Sample Identification:		GW-042816-JL-25	GW-042716-RB-18	EB-042616-SA-05	GW-050216-SA-27	EB-050416-SA-09	EB-050916-SA-20	EB-042616-SA-04	GW-050316-SA-33	EB-050416-SA-10	EB-050916-SA-17
Sample Date:		4/28/2016	4/27/2016	4/26/2016	5/2/2016	5/4/2016	5/9/2016	4/26/2016	5/3/2016	5/4/2016	5/9/2016
Sample Type:											
Sample Depth:		-	-	-	-	-	-	-	-	-	-
	Units										
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	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--
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 2016 First Semi-Annual GW Samples East Plant Area TSCA Vault Annual Report, Calendar Year 2016 GM CET Bedford Facility Bedford, Indiana								
Area:	A007_EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	Plant_property
Sample Location:	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S	MW-X033Y147S	MW-X043Y176
Sample Identification:	GW-042816-JL-21	GW-042516-JL-03	GW-042516-JL-01	GW-042516-RB-02	GW-042516-RB-04	GW-042616-RB-08	GW-042616-RB-08~Split	GW-042616-JL-09
Sample Date:	4/28/2016	4/25/2016	4/25/2016	4/25/2016	4/25/2016	4/26/2016	4/26/2016	4/26/2016
Sample Type:								
Sample Depth:	-	-	-	-	-	-	-	-
Units								
PCBs								
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 UJ
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.20 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 UJ
Total PCBs	ug/L	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	ug/L	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	ug/L	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	ug/L	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	ug/L	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	ug/L	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	ug/L	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	ug/L	0.19 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Total PCBs (dissolved)	ug/L	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	1.0 U	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	1.0 U	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	1.0 U	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	1.0 U	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	1.0 U	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	1.0 U	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	1.0 U	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	1.0 U	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	1.0 U	--	--	--	--	--	--
2-Chloroethyl vinyl ether	ug/L	10 U	--	--	--	--	--	--
Benzene	ug/L	1.0 U	--	--	--	--	--	--
Bromodichloromethane	ug/L	1.0 U	--	--	--	--	--	--
Bromoform	ug/L	1.0 U	--	--	--	--	--	--
Bromomethane (Methyl bromide)	ug/L	1.0 U	--	--	--	--	--	--
Carbon tetrachloride	ug/L	1.0 U	--	--	--	--	--	--
Chlorobenzene	ug/L	0.52 J	--	--	--	--	--	--
Chloroethane	ug/L	1.0 UJ	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	1.0 U	--	--	--	--	--	--
Chloromethane (Methyl chloride)	ug/L	1.0 U	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	1.0 U	--	--	--	--	--	--
Dibromochloromethane	ug/L	1.0 U	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	--	--	--	--	--	--
Ethylbenzene	ug/L	1.0 U	--	--	--	--	--	--
Methylene chloride	ug/L	1.0 U	--	--	--	--	--	--
Tetrachloroethene	ug/L	1.0 U	--	--	--	--	--	--
Toluene	ug/L	0.49 J	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	1.0 U	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	1.0 UJ	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	--	--	--	--	--	--
Vinyl chloride	ug/L	1.0 U	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:	A007_EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	Plant_property
Sample Location:	CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S	MW-X033Y147S	MW-X043Y176
Sample Identification:	GW-042816~JL-21	GW-042516~JL-03	GW-042516~JL-01	GW-042516-RB-02	GW-042516-RB-04	GW-042616-RB-08	GW-042616-RB-08~Split	GW-042616~JL-09
Sample Date:	4/28/2016	4/25/2016	4/25/2016	4/25/2016	4/25/2016	4/26/2016	4/26/2016	4/26/2016
Sample Type:								
Sample Depth:							Replicate	
	-	-	-	-	-	-	-	-
Units								
2-Butanone (Methyl ethyl ketone) (MEK)	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	--	--	--	--	--	--	--	--
Acetone	--	--	--	--	--	--	--	--
Carbon disulfide	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	--	--	--
Cyclohexane	--	--	--	--	--	--	--	--
Isopropyl benzene	--	--	--	--	--	--	--	--
Methyl acetate	--	--	--	--	--	--	--	--
Methyl cyclohexane	--	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--
Trichloroethene	--	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	--	--	--	--	--	--	--	--
Xylenes (total)	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	--	--	--
2-Methylphenol	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	--	--	--	--
Anthracene	--	--	--	--	--	--	--	--
Atrazine	--	--	--	--	--	--	--	--
Benzaldehyde	--	--	--	--	--	--	--	--
Benzo(a)anthracene	--	--	--	--	--	--	--	--
Benzo(a)pyrene	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	--	--	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:		A007_EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	Plant_property
Sample Location:		CH-20	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S	MW-X033Y147S	MW-X043Y176
Sample Identification:		GW-042816-JL-21	GW-042516-JL-03	GW-042516-JL-01	GW-042516-RB-02	GW-042516-RB-04	GW-042616-RB-08	GW-042616-RB-08~Split	GW-042616-JL-09
Sample Date:		4/28/2016	4/25/2016	4/25/2016	4/25/2016	4/25/2016	4/26/2016	4/26/2016	4/26/2016
Sample Type:									
Sample Depth:								Replicate	
	Units	-	-	-	-	-	-	-	-
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	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--
General Chemistry									
Conductance, specific	umhos/cm	2400	--	--	--	--	--	--	--
pH, lab	s.u.	11.9 J	--	--	--	--	--	--	--
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 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:	Plant_property	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	1MonitoringWell_WestPlant/
Sample Location:	MW-X047Y236	MW-X085Y070S-1	MW-X085Y070S-1	MW-X085Y070S-2	MW-X085Y070S-2	MW-X169Y058S-1
Sample Identification:	GW-042716-JL-11	GW-042716-SA-17	GW-042716-SA-17~Split	GW-042716-SA-13	GW-042716-SA-13~Split	GW-042716-RB-16
Sample Date:	4/27/2016	4/27/2016	4/27/2016	4/27/2016	4/27/2016	4/27/2016
Sample Type:			Replicate		Replicate	
Sample Depth:						
PCBs	Units					
Aroclor-1016 (PCB-1016)	ug/L	0.20 UJ	0.21 U	0.19 U	0.20 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.20 UJ	0.21 U	0.19 U	0.20 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.20 UJ	0.21 U	0.19 U	0.20 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.20 UJ	0.21 U	0.19 U	0.20 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.20 UJ	0.21 U	0.19 U	0.20 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.20 U	0.21 U	0.19 UJ	0.20 U	0.19 UJ
Aroclor-1260 (PCB-1260)	ug/L	0.20 U	0.21 U	0.19 UJ	0.061 J	0.19 UJ
Total PCBs	ug/L	ND	ND	ND	0.061 J	ND
Aroclor-1016 (PCB-1016) (dissolved)	ug/L	0.20 UJ	0.19 U	0.20 UJ	0.22 U	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	ug/L	0.20 UJ	0.19 U	0.20 UJ	0.22 U	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	ug/L	0.20 UJ	0.19 U	0.20 UJ	0.22 U	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	ug/L	0.20 UJ	0.19 U	0.20 UJ	0.22 U	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	ug/L	0.20 UJ	0.19 U	0.20 UJ	0.22 U	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	ug/L	0.20 UJ	0.19 U	0.20 U	0.22 U	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	ug/L	0.20 UJ	0.19 U	0.20 U	0.22 U	0.19 U
Total PCBs (dissolved)	ug/L	ND	ND	ND	ND	ND
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	--	--	--	--	4.9
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:	Plant_property	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	1MonitoringWell_WestPlant/
Sample Location:	MW-X047Y236	MW-X085Y070S-1	MW-X085Y070S-1	MW-X085Y070S-2	MW-X085Y070S-2	MW-X169Y058S-1
Sample Identification:	GW-042716-JL-11	GW-042716-SA-17	GW-042716-SA-17~Split	GW-042716-SA-13	GW-042716-SA-13~Split	GW-042716-RB-16
Sample Date:	4/27/2016	4/27/2016	4/27/2016	4/27/2016	4/27/2016	4/27/2016
Sample Type:			Replicate		Replicate	
Sample Depth:						
	Units					
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	--	--	--	--	--
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	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:	Plant_property	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	A001MonitoringWell_WestPlantArea	1MonitoringWell_WestPlant/
Sample Location:	MW-X047Y236	MW-X085Y070S-1	MW-X085Y070S-1	MW-X085Y070S-2	MW-X085Y070S-2	MW-X169Y058S-1
Sample Identification:	GW-042716-JL-11	GW-042716-SA-17	GW-042716-SA-17~Split	GW-042716-SA-13	GW-042716-SA-13~Split	GW-042716-RB-16
Sample Date:	4/27/2016	4/27/2016	4/27/2016	4/27/2016	4/27/2016	4/27/2016
Sample Type:			Replicate		Replicate	
Sample Depth:						
	Units					
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	--	--	--	--	--
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	--	--	--	--	--
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 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:		EastPlantArea	A008	A008	A008	A008	A008	A008_P200	A008_P200	A008_P200	A008_P200	P201_East Plant
Sample Location:		MW-X227Y054	MW-X233Y071B	MW-X233Y071B	MW-X233Y071B	MW-X233Y071B	MW-X233Y071B	MW-X233Y100	MW-X233Y100	MW-X233Y100	MW-X233Y100	MW-X237Y058
Sample Identification:		GW-042716-JL-15	EB-042616-SA-02	GW-050316-SA-30	GW-050316-SA-31	GW-050416-SA-13	EB-050916-SA-15	EB-042616-SA-03	GW-050316-SA-32	GW-050416-SA-14	EB-050916-SA-18	EB-042616-SA-06
Sample Date:		4/27/2016	4/26/2016	5/3/2016	5/3/2016	5/4/2016	5/9/2016	4/26/2016	5/3/2016	5/4/2016	5/9/2016	4/26/2016
Sample Type:					Duplicate							
Sample Depth:			-	-	-	-	-	-	-	-	-	-
Units												
PCBs												
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U
Aroclor-1242 (PCB-1242)	ug/L	8.6	0.19 U	3.0	2.9 U	1.3 J	0.19 U	0.20 U	0.19 U	1.6 J	0.19 U	0.20 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U	2.9	0.20 U	0.19 U	0.20 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 UJ	0.19 UJ	0.20 UJ	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 UJ	0.19 UJ	0.20 UJ	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.20 U
Total PCBs	ug/L	8.6	--	3	2.9	--	--	--	2.9	--	--	--
Aroclor-1016 (PCB-1016) (dissolved)	ug/L	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	--	--	--
Aroclor-1232 (PCB-1232) (dissolved)	ug/L	0.19 U	--	0.19 U	0.19 U	--	--	--	0.19 U	--	--	--
Aroclor-1242 (PCB-1242) (dissolved)	ug/L	0.19 U	--	1.4	1.2 U	--	--	--	1.5 U	--	--	--
Aroclor-1248 (PCB-1248) (dissolved)	ug/L	0.19 U	--	0.19 U	0.19 U	--	--	--	0.19 U	--	--	--
Aroclor-1254 (PCB-1254) (dissolved)	ug/L	0.19 U	--	0.19 UJ	0.19 U	--	--	--	0.19 UJ	--	--	--
Aroclor-1260 (PCB-1260) (dissolved)	ug/L	0.19 U	--	0.19 UJ	0.19 U	--	--	--	0.19 UJ	--	--	--
Total PCBs (dissolved)	ug/L	ND	--	1.4	1.2	--	--	--	1.5	--	--	--
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	--	--	--	--	--	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:		EastPlantArea	A008	A008	A008	A008	A008	A008_P200	A008_P200	A008_P200	A008_P200	P201_East Plant
Sample Location:		MW-X227Y054	MW-X233Y071B	MW-X233Y071B	MW-X233Y071B	MW-X233Y071B	MW-X233Y071B	MW-X233Y100	MW-X233Y100	MW-X233Y100	MW-X233Y100	MW-X237Y058
Sample Identification:		GW-042716-JL-15	EB-042616-SA-02	GW-050316-SA-30	GW-050316-SA-31	GW-050416-SA-13	EB-050916-SA-15	EB-042616-SA-03	GW-050316-SA-32	GW-050416-SA-14	EB-050916-SA-18	EB-042616-SA-06
Sample Date:		4/27/2016	4/26/2016	5/3/2016	5/3/2016	5/4/2016	5/9/2016	4/26/2016	5/3/2016	5/4/2016	5/9/2016	4/26/2016
Sample Type:					Duplicate							
Sample Depth:			-	-	-	-	-	-	-	-	-	-
		Units										
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	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:		EastPlantArea	A008	A008	A008	A008	A008	A008_P200	A008_P200	A008_P200	A008_P200	P201_East Plant
Sample Location:		MW-X227Y054	MW-X233Y071B	MW-X233Y071B	MW-X233Y071B	MW-X233Y071B	MW-X233Y071B	MW-X233Y100	MW-X233Y100	MW-X233Y100	MW-X233Y100	MW-X237Y058
Sample Identification:		GW-042716-JL-15	EB-042616-SA-02	GW-050316-SA-30	GW-050316-SA-31	GW-050416-SA-13	EB-050916-SA-15	EB-042616-SA-03	GW-050316-SA-32	GW-050416-SA-14	EB-050916-SA-18	EB-042616-SA-06
Sample Date:		4/27/2016	4/26/2016	5/3/2016	5/3/2016	5/4/2016	5/9/2016	4/26/2016	5/3/2016	5/4/2016	5/9/2016	4/26/2016
Sample Type:					Duplicate							
Sample Depth:			-	-	-	-	-	-	-	-	-	-
	Units											
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	--	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--	--
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 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:		P201_East Plant	P201_East Plant	P201_East Plant	P200FormerSouthLagoonsandOutfall002_A008	P200FormerSouthLagoonsandOutfall002_A008	P200FormerSouthLagoonsandOutfall002_A008
Sample Location:		MW-X237Y058	MW-X237Y058	MW-X237Y058	MW-X242Y060S	MW-X242Y060S	MW-X242Y060S
Sample Identification:		GW-050316-SA-28	GW-050416-SA-12	EB-050916-SA-19	EB-042616-SA-01	GW-050316-SA-29	EB-050416-SA-11
Sample Date:		5/3/2016	5/4/2016	5/9/2016	4/26/2016	5/3/2016	5/4/2016
Sample Type:							
Sample Depth:		-	-	-	-	-	-
PCBs	Units						
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.20 U	0.19 U	0.19 U	9.4 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.20 U	0.19 U	0.19 U	9.4 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.20 U	0.19 U	0.19 U	9.4 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.70 J	0.19 U	0.19 U	1400	5.6 J
Aroclor-1248 (PCB-1248)	ug/L	4.8	0.20 U	0.19 U	0.19 U	9.4 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.20 U	0.19 U	0.19 UJ	9.4 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.20 U	0.19 U	0.19 UJ	9.4 U	0.19 U
Total PCBs	ug/L	4.8	--	--	--	1400	--
Aroclor-1016 (PCB-1016) (dissolved)	ug/L	0.19 U	--	--	--	1.9 U	--
Aroclor-1221 (PCB-1221) (dissolved)	ug/L	0.19 U	--	--	--	1.9 U	--
Aroclor-1232 (PCB-1232) (dissolved)	ug/L	0.19 U	--	--	--	1.9 U	--
Aroclor-1242 (PCB-1242) (dissolved)	ug/L	0.19 U	--	--	--	440	--
Aroclor-1248 (PCB-1248) (dissolved)	ug/L	1.6	--	--	--	1.9 U	--
Aroclor-1254 (PCB-1254) (dissolved)	ug/L	0.19 U	--	--	--	1.9 U	--
Aroclor-1260 (PCB-1260) (dissolved)	ug/L	0.19 U	--	--	--	1.9 U	--
Total PCBs (dissolved)	ug/L	1.6	--	--	--	440	--
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	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:		P201_East Plant	P201_East Plant	P201_East Plant	P200FormerSouthLagoonsandOutfall002_A008	P200FormerSouthLagoonsandOutfall002_A008	P200FormerSouthLagoonsandOutfall002_A008
Sample Location:		MW-X237Y058	MW-X237Y058	MW-X237Y058	MW-X242Y060S	MW-X242Y060S	MW-X242Y060S
Sample Identification:		GW-050316-SA-28	GW-050416-SA-12	EB-050916-SA-19	EB-042616-SA-01	GW-050316-SA-29	EB-050416-SA-11
Sample Date:		5/3/2016	5/4/2016	5/9/2016	4/26/2016	5/3/2016	5/4/2016
Sample Type:							
Sample Depth:		-	-	-	-	-	-
	Units						
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	--	--	--	--	--	--
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	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:		P201_East Plant	P201_East Plant	P201_East Plant	P200FormerSouthLagoonsandOutfall002_A008	P200FormerSouthLagoonsandOutfall002_A008	P200FormerSouthLagoonsandOutfall002_A008
Sample Location:		MW-X237Y058	MW-X237Y058	MW-X237Y058	MW-X242Y060S	MW-X242Y060S	MW-X242Y060S
Sample Identification:		GW-050316-SA-28	GW-050416-SA-12	EB-050916-SA-19	EB-042616-SA-01	GW-050316-SA-29	EB-050416-SA-11
Sample Date:		5/3/2016	5/4/2016	5/9/2016	4/26/2016	5/3/2016	5/4/2016
Sample Type:							
Sample Depth:		-	-	-	-	-	-
	Units						
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	--	--	--	--	--	--
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	--	--	--	--	--	--
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 2016 First Semi-Annual GW Samples East Plant Area TSCA Vault Annual Report, Calendar Year 2016 GM CET Bedford Facility Bedford, Indiana								
Area:	P200FormerSouthLagoonsandOutfall002_A008	P200FormerSouthLagoonsandOutfall002_A008	P003_MonitoringWell	P003_MonitoringWell	P003_MonitoringWell	RFIBoundary_P216West	P205	
Sample Location:	MW-X242Y060S	MW-X242Y060S	MW-X257Y073	MW-X257Y073	MW-X257Y073	MW-X261Y356D-3	MW-X277Y100	
Sample Identification:	EB-050916-SA-16	EB-051316-JL-21	EB-042616-SA-07	GW-050216-SA-26	EB-050416-SA-08	GW-042616-RB-06	GW-042816-JL-19	
Sample Date:	5/9/2016	5/13/2016	4/26/2016	5/2/2016	5/4/2016	4/26/2016	4/28/2016	
Sample Type:								
Sample Depth:	-	-	-	-	-			
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
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
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
Aroclor-1242 (PCB-1242)	ug/L	0.16 J	0.19 U	0.19 U	0.19 U	0.19 UJ	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
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
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
Total PCBs	ug/L	--	--	--	ND	--	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	ug/L	--	--	--	0.19 U	--	0.19 U	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	ug/L	--	--	--	0.19 U	--	0.19 U	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	ug/L	--	--	--	0.19 U	--	0.19 U	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	ug/L	--	--	--	0.19 U	--	0.19 U	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	ug/L	--	--	--	0.19 U	--	0.19 U	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	ug/L	--	--	--	0.19 U	--	0.19 U	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	ug/L	--	--	--	0.19 U	--	0.19 U	0.20 U
Total PCBs (dissolved)	ug/L	--	--	--	ND	--	ND	ND
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	1.0 U
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	1.0 U
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	1.0 U
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	1.0 U
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	1.0 U
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	1.0 U
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	1.0 U
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	1.0 U
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	1.0 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	1.0 U
Bromodichloromethane	ug/L	--	--	--	--	--	--	1.0 U
Bromoform	ug/L	--	--	--	--	--	--	1.0 U
Bromomethane (Methyl bromide)	ug/L	--	--	--	--	--	--	1.0 U
Carbon tetrachloride	ug/L	--	--	--	--	--	--	1.0 U
Chlorobenzene	ug/L	--	--	--	--	--	--	1.0 U
Chloroethane	ug/L	--	--	--	--	--	--	1.0 UJ
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--	1.0 U
Chloromethane (Methyl chloride)	ug/L	--	--	--	--	--	--	1.0 U
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	1.0 U
Dibromochloromethane	ug/L	--	--	--	--	--	--	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	1.0 U
Ethylbenzene	ug/L	--	--	--	--	--	--	1.0 U
Methylene chloride	ug/L	--	--	--	--	--	--	1.0 U
Tetrachloroethene	ug/L	--	--	--	--	--	--	1.0 U
Toluene	ug/L	--	--	--	--	--	--	1.0 U
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	1.0 U
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	1.0 UJ
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	1.0 U
Vinyl chloride	ug/L	--	--	--	--	--	--	1.0 U
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	2.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	1.0 U

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:	P200FormerSouthLagoonsandOutfall002_A008	P200FormerSouthLagoonsandOutfall002_A008	P003_MonitoringWell	P003_MonitoringWell	P003_MonitoringWell	RFIBoundary_P216West	P205
Sample Location:	MW-X242Y060S	MW-X242Y060S	MW-X257Y073	MW-X257Y073	MW-X257Y073	MW-X261Y356D-3	MW-X277Y100
Sample Identification:	EB-050916-SA-16	EB-051316-JL-21	EB-042616-SA-07	GW-050216-SA-26	EB-050416-SA-08	GW-042616-RB-06	GW-042816-JL-19
Sample Date:	5/9/2016	5/13/2016	4/26/2016	5/2/2016	5/4/2016	4/26/2016	4/28/2016
Sample Type:							
Sample Depth:							
	Units						
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	--	--	--	--	--	10 U
2-Hexanone	ug/L	--	--	--	--	--	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	10 U
Acetone	ug/L	--	--	--	--	--	10 U
Carbon disulfide	ug/L	--	--	--	--	--	1.0 U
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	1.0 U
Cyclohexane	ug/L	--	--	--	--	--	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
Styrene	ug/L	--	--	--	--	--	1.0 U
Trichloroethene	ug/L	--	--	--	--	--	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	1.0 U
Xylenes (total)	ug/L	--	--	--	--	--	2.0 U
Semi-Volatile Organic Compounds (SVOCs)							
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	--	--	--	--	--	48 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	--	--	--	--	--	9.5 U
2-Methylphenol	ug/L	--	--	--	--	--	9.5 U
2-Nitroaniline	ug/L	--	--	--	--	--	48 U
2-Nitrophenol	ug/L	--	--	--	--	--	9.5 U
3&4-Methylphenol	ug/L	--	--	--	--	--	9.5 U
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	48 U
3-Nitroaniline	ug/L	--	--	--	--	--	48 UJ
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	48 U
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	9.5 U
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	9.5 U
4-Chloroaniline	ug/L	--	--	--	--	--	9.5 U
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	9.5 U
4-Methylphenol	ug/L	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	48 U
4-Nitrophenol	ug/L	--	--	--	--	--	48 UJ
Acenaphthene	ug/L	--	--	--	--	--	9.5 U
Acenaphthylene	ug/L	--	--	--	--	--	9.5 U
Acetophenone	ug/L	--	--	--	--	--	9.5 U
Anthracene	ug/L	--	--	--	--	--	9.5 U
Atrazine	ug/L	--	--	--	--	--	9.5 UJ
Benzaldehyde	ug/L	--	--	--	--	--	9.5 U
Benzo(a)anthracene	ug/L	--	--	--	--	--	9.5 U
Benzo(a)pyrene	ug/L	--	--	--	--	--	9.5 U
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	9.5 U
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	9.5 U
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	9.5 U
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	9.5 U
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	9.5 U

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:	P200FormerSouthLagoonsandOutfall002_A008	P200FormerSouthLagoonsandOutfall002_A008	P003_MonitoringWell	P003_MonitoringWell	P003_MonitoringWell	RFIBoundary_P216West	P205
Sample Location:	MW-X242Y060S	MW-X242Y060S	MW-X257Y073	MW-X257Y073	MW-X257Y073	MW-X261Y356D-3	MW-X277Y100
Sample Identification:	EB-050916-SA-16	EB-051316-JL-21	EB-042616-SA-07	GW-050216-SA-26	EB-050416-SA-08	GW-042616-RB-06	GW-042816-JL-19
Sample Date:	5/9/2016	5/13/2016	4/26/2016	5/2/2016	5/4/2016	4/26/2016	4/28/2016
Sample Type:							
Sample Depth:							
	Units						
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	9.5 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	9.5 U
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	9.5 U
Caprolactam	ug/L	--	--	--	--	--	9.5 U
Carbazole	ug/L	--	--	--	--	--	9.5 U
Chrysene	ug/L	--	--	--	--	--	9.5 U
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	9.5 U
Dibenzofuran	ug/L	--	--	--	--	--	9.5 U
Diethyl phthalate	ug/L	--	--	--	--	--	9.5 UJ
Dimethyl phthalate	ug/L	--	--	--	--	--	9.5 U
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	9.5 U
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	9.5 U
Fluoranthene	ug/L	--	--	--	--	--	9.5 U
Fluorene	ug/L	--	--	--	--	--	9.5 U
Hexachlorobenzene	ug/L	--	--	--	--	--	9.5 UJ
Hexachlorobutadiene	ug/L	--	--	--	--	--	9.5 U
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	48 U
Hexachloroethane	ug/L	--	--	--	--	--	9.5 U
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	9.5 U
Isophorone	ug/L	--	--	--	--	--	9.5 U
Naphthalene	ug/L	--	--	--	--	--	9.5 U
Nitrobenzene	ug/L	--	--	--	--	--	9.5 U
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	9.5 U
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	9.5 U
Pentachlorophenol	ug/L	--	--	--	--	--	9.5 U
Phenanthrene	ug/L	--	--	--	--	--	9.5 U
Phenol	ug/L	--	--	--	--	--	9.5 U
Pyrene	ug/L	--	--	--	--	--	9.5 U
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 2016 First Semi-Annual GW Samples East Plant Area TSCA Vault Annual Report, Calendar Year 2016 GM CET Bedford Facility Bedford, Indiana											
Area:		P216GM_P216_east	P216GM_P216_east	P209	P209	P209	P006	P006	A001	P015	
Sample Location:		MW-X297Y305D-2	MW-X297Y305D-2	MW-X300Y199I-1	MW-X300Y199I-1	MW-X300Y199I-2	MW-X315Y115	MW-X315Y150	ST-59	tributary 3-3	
Sample Identification:		GW-042616-RB-12	GW-042616-RB-14	GW-042816-SA-23	GW-042816-SA-24	GW-042816-SA-22	GW-042616-JL-07	GW-042616-JL-05	GW-042716-RB-20	-042616-RB-10	
Sample Date:		4/26/2016	4/26/2016	4/28/2016	4/28/2016	4/28/2016	4/26/2016	4/26/2016	4/27/2016	4/26/2016	
Sample Type:			Duplicate		Duplicate						
Sample Depth:									-		
PCBs	Units										
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	--
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 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	0.19 U	0.19 U	0.20 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	0.20 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	0.20 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	0.20 U	0.19 U	0.19 U	--
Aroclor-1248 (PCB-1248) (dissolved)	ug/L	0.18 J	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) (dissolved)	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	--
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	0.20 U	0.19 U	0.19 U	--
Total PCBs (dissolved)	ug/L	0.18 J	ND	ND	ND	ND	ND	ND	ND	ND	--
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	--	--	--	--	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples											
East Plant Area TSCA Vault Annual Report, Calendar Year 2016											
GM CET Bedford Facility											
Bedford, Indiana											
Area:		P216GM_P216_east	P216GM_P216_east	P209	P209	P209	P006	P006	A001	P015	
Sample Location:		MW-X297Y305D-2	MW-X297Y305D-2	MW-X300Y199I-1	MW-X300Y199I-1	MW-X300Y199I-2	MW-X315Y115	MW-X315Y150	ST-59	tributary 3-3	
Sample Identification:		GW-042616-RB-12	GW-042616-RB-14	GW-042816-SA-23	GW-042816-SA-24	GW-042816-SA-22	GW-042616-JL-07	GW-042616-JL-05	GW-042716-RB-20	-042616-RB-10	
Sample Date:		4/26/2016	4/26/2016	4/28/2016	4/28/2016	4/28/2016	4/26/2016	4/26/2016	4/27/2016	4/26/2016	
Sample Type:			Duplicate		Duplicate						
Sample Depth:											
	Units										
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	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2016 First Semi-Annual GW Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area:		P216GM_P216_east	P216GM_P216_east	P209	P209	P209	P006	P006	A001	P015
Sample Location:		MW-X297Y305D-2	MW-X297Y305D-2	MW-X300Y199I-1	MW-X300Y199I-1	MW-X300Y199I-2	MW-X315Y115	MW-X315Y150	ST-59	'ributary 3-3
Sample Identification:		GW-042616-RB-12	GW-042616-RB-14	GW-042816-SA-23	GW-042816-SA-24	GW-042816-SA-22	GW-042616-JL-07	GW-042616-JL-05	GW-042716-RB-20	-042616-RB-10
Sample Date:		4/26/2016	4/26/2016	4/28/2016	4/28/2016	4/28/2016	4/26/2016	4/26/2016	4/27/2016	4/26/2016
Sample Type:			Duplicate		Duplicate					
Sample Depth:									-	
		Units								
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	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--
General Chemistry										
Conductance, specific		umhos/cm	--	--	--	--	--	--	--	--
pH, lab		s.u.	--	--	--	--	--	--	--	--
Total solids		%	--	--	--	--	--	--	--	--
Chloride			--	--	--	--	--	--	19000	--
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 2016 Second Semi-Annual Groundwater Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	Plant_property	Plant_property	A001MonitoringWell_WestPlantArea	P205
Sample Location:		9-4	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S	MW-X033Y147S	MW-X043Y176	MW-X047Y236	MW-X169Y058S-1	MW-X277Y100
Sample Identification:		GW-120616-KC-07	GW-120516-JL-04	GW-120516-JL-02	GW-120516-KC-01	GW-120516-KC-03	GW-120716-JL-20	GW-120716-JL-20~Split	GW-122216-JL-26	GW-120716-JL-16	GW-120616-KC-13	GW-120816-JL-24
Sample Date:		12/6/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/7/2016	12/7/2016	12/22/2016	12/7/2016	12/6/2016	12/8/2016
Sample Type:								Replicate				
Units												
PCBs												
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.20 U	0.64	0.19 U	0.19 U	0.20 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	1.8 J	0.20 UJ	0.19 U	0.19 U	1.7	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	1.1 J	0.20 UJ	0.19 U	0.19 U	1.0	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.78 J	0.20 UJ	0.19 U	0.19 U	0.70	0.19 U
Total PCBs	ug/L	ND	ND	0.64	ND	ND	3.68 J	ND	ND	ND	3.4	ND
Aroclor-1016 (PCB-1016) (dissolved)	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	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	0.20 U	0.19 U	0.19 U	0.20 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	0.20 U	0.19 U	0.19 U	0.20 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	0.20 U	0.19 U	0.19 U	0.20 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	0.20 U	0.19 U	0.19 U	0.20 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	0.20 U	0.19 U	0.19 U	0.20 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	0.20 U	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U
Total PCBs (dissolved)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
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-Dichlorobenzene	ug/L	1.0 U	--	--	--	--	--	--	--	--	--	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--	--	--	2.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	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	--	--	--	--	--	--	--	--	--	--	10 U
2-Chloroethyl vinyl ether	ug/L	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--	--	--	--	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	--	--	--	--	--	--	--	--	--	--	10 U
Acetone	ug/L	--	--	--	--	--	--	--	--	--	--	10 U
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 UJ
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U
Carbon tetrachloride	ug/L	1.0 U	--	--	--	--	--	--	--	--	--	1.0 U
Chlorobenzene	ug/L	1.0 U	--	--	--	--	--	--	--	--	--	1.0 U
Chloroethane	ug/L	1.0 U	--	--	--	--	--	--	--	--	--	1.0 UJ
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	--	--	--	--	--	--	--	--	--	--	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	--	--	--	--	--	--	--	--	--	1.0 U
Cyclohexane	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U
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	--	--	--	--	--	--	--	--	--	--	1.0 U
Methyl acetate	ug/L	--	--	--	--	--	--	--	--	--	--	10 U

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2016 Second Semi-Annual Groundwater Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	Plant_property	Plant_property	A001MonitoringWell_WestPlantArea	P205
Sample Location:		9-4	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S	MW-X033Y147S	MW-X043Y176	MW-X047Y236	MW-X169Y058S-1	MW-X277Y100
Sample Identification:		GW-120616-KC-07	GW-120516-JL-04	GW-120516-JL-02	GW-120516-KC-01	GW-120516-KC-03	GW-120716-JL-20	GW-120716-JL-20~Split	GW-122216-JL-26	GW-120716-JL-16	GW-120616-KC-13	GW-120816-JL-24
Sample Date:		12/6/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/7/2016	12/7/2016	12/22/2016	12/7/2016	12/6/2016	12/8/2016
Sample Type:								Replicate				
	Units											
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
Styrene	ug/L	--	--	--	--	--	--	--	--	--	--	1.0 U
Tetrachloroethene	ug/L	1.0 U	--	--	--	--	--	--	--	--	--	1.0 U
Toluene	ug/L	1.0 U	--	--	--	--	--	--	--	--	--	1.0 U
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	-	--	--	--	--	--	--	--	--	--	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	--	--	--	--	--	--	--	--	--	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	-	--	--	--	--	--	--	--	--	--	1.0 U
Vinyl chloride	ug/L	1.0 U	--	--	--	--	--	--	--	--	3.6	1.0 U
Xylenes (total)	ug/L	--	--	--	--	--	--	--	--	--	--	2.0 U
Semi-Volatile Organic Compounds (SVOCs)												
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	--	--	--	--	--	--	--	--	--	--	48 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	--	--	--	--	--	--	--	--	--	--	9.5 U
2-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	48 U
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
3&4-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	--	--	--	--	48 U
3-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	48 U
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	48 U
4-Bromophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
4-Chloroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
4-Methylphenol	ug/L	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	48 U
4-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--	48 U
Acenaphthene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Acenaphthylene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Acetophenone	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Anthracene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Atrazine	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Benzaldehyde	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Biphenyl (1,1-Biphenyl)	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Butyl benzylphthalate (BBP)	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Caprolactam	ug/L	--	--	--	--	--	--	--	--	--	--	0.43 J

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2016 Second Semi-Annual Groundwater Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	MonitoringWell_RFIBoundary_WestPlantArea	Plant_property	Plant_property	A001MonitoringWell_WestPlantArea	P205
Sample Location:		9-4	CH-42	CH-42A	CH-43	CH-44	MW-X033Y147S	MW-X033Y147S	MW-X043Y176	MW-X047Y236	MW-X169Y058S-1	MW-X277Y100
Sample Identification:		GW-120616-KC-07	GW-120516-JL-04	GW-120516-JL-02	GW-120516-KC-01	GW-120516-KC-03	GW-120716-JL-20	GW-120716-JL-20~Split	GW-122216-JL-26	GW-120716-JL-16	GW-120616-KC-13	GW-120816-JL-24
Sample Date:		12/6/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/7/2016	12/7/2016	12/22/2016	12/7/2016	12/6/2016	12/8/2016
Sample Type:								Replicate				
	Units											
Carbazole	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Chrysene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Dibenz(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Dibenzofuran	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Di-n-butylphthalate (DBP)	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Di-n-octyl phthalate (DnOP)	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Fluorene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--	--	--	48 U
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Isophorone	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Naphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
N-Nitrosodi-n-propylamine	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Phenol	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U
Pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	9.5 U

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

Table 3.3

**2016 Leachate Collection System Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana**

Area		A007	A007
Sample Location:		EPA LCS	EPA LCS
Sample Identification:		WL-AOI7-042716-GS-40383	WL-AOI7-092916-MC-40539
Sample Date:		4/27/2016	9/29/2016
Sample Type:			
	Units		
PCBs			
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U
Total PCBs	µg/L	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	--	--
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	--	--
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	--	--
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	--	--
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	--	--
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	--	--
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	--	--
Total PCBs (dissolved)	µg/L	--	--
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U
2-Chloroethyl vinyl ether	µg/L	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	0.58 J
Chloroethane	µg/L	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	2.4
Methylene chloride	µg/L	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

Table 3.4

2016 Leak Detection System Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area		A007 EPA LDS	A007 EPA LDS	A007 EPA LDS
Sample Location:		WL-AOI7-042716-GS-40384	WL-AOI7-092916-MC-40540	WL-AOI7-092916-MC-40541
Sample Identification:				
Sample Date:		4/27/2016	9/29/2016	9/29/2016
Sample Type:				Duplicate
	Units			
PCBs				
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 UJ	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 UJ	0.19 U	0.19 U
Total PCBs	µg/L	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	--	--	--
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	--	--	--
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	--	--	--
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	--	--	--
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	--	--	--
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	--	--	--
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	--	--	--
Total PCBs (dissolved)	µg/L	--	--	--
Volatile Organic Compounds (VOCs)				
1,1,1-Trichloroethane	µg/L	--	--	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--
1,1-Dichloroethane	µg/L	--	--	--
1,1-Dichloroethene	µg/L	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	--
1,2-Dichloroethane	µg/L	--	--	--
1,2-Dichloropropane	µg/L	--	--	--
1,3-Dichlorobenzene	µg/L	--	--	--
1,4-Dichlorobenzene	µg/L	--	--	--
2-Chloroethyl vinyl ether	µg/L	--	--	--
Benzene	µg/L	--	--	--
Bromodichloromethane	µg/L	--	--	--
Bromoform	µg/L	--	--	--
Bromomethane (Methyl bromide)	µg/L	--	--	--
Carbon tetrachloride	µg/L	--	--	--
Chlorobenzene	µg/L	--	--	--
Chloroethane	µg/L	--	--	--
Chloroform (Trichloromethane)	µg/L	--	--	--
Chloromethane (Methyl chloride)	µg/L	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	--
Dibromochloromethane	µg/L	--	--	--
Dichlorodifluoromethane (CFC-12)	µg/L	--	--	--
Ethylbenzene	µg/L	--	--	--
Methylene chloride	µg/L	--	--	--
Tetrachloroethene	µg/L	--	--	--
Toluene	µg/L	--	--	--
trans-1,2-Dichloroethene	µg/L	--	--	--
trans-1,3-Dichloropropene	µg/L	--	--	--
Trichlorofluoromethane (CFC-11)	µg/L	--	--	--
Vinyl chloride	µg/L	--	--	--

Notes:

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

2016 Gravel Underdrain System Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area	East Plant Area	
Sample Location:	GUS	
Sample Identification:	GW-042816-JL-25	
Sample Date:	4/28/2016	
Sample Type:		
	Units	
PCBs		
Aroclor-1016 (PCB-1016)	µg/L	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	31
Aroclor-1248 (PCB-1248)	µg/L	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U
Total PCBs	µg/L	31
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U
Total PCBs (dissolved)	µg/L	ND
Volatile Organic Compounds (VOCs)		
1,1,1-Trichloroethane	µg/L	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U
1,1-Dichloroethane	µg/L	1.0 U
1,1-Dichloroethene	µg/L	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U
1,2-Dichloroethane	µg/L	1.0 U
1,2-Dichloropropane	µg/L	1.0 U
1,3-Dichlorobenzene	µg/L	0.41 J
1,4-Dichlorobenzene	µg/L	0.47 J
2-Chloroethyl vinyl ether	µg/L	10 U
Benzene	µg/L	1.0 U
Bromodichloromethane	µg/L	1.0 U
Bromoform	µg/L	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U
Carbon tetrachloride	µg/L	1.0 U
Chlorobenzene	µg/L	1.0 U
Chloroethane	µg/L	1.0 UJ
Chloroform (Trichloromethane)	µg/L	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U
Dibromochloromethane	µg/L	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U
Ethylbenzene	µg/L	1.0 U
Methylene chloride	µg/L	1.0 U
Tetrachloroethene	µg/L	1.0 U
Toluene	µg/L	1.0 U
trans-1,2-Dichloroethene	µg/L	0.89 J
trans-1,3-Dichloropropene	µg/L	1.0 UJ
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U
Vinyl chloride	µg/L	0.38 J

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

Table 3.6

2016 Water Treatment Plant (SSC WTP Treatment System) Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Sample Location:		CRA WWTP Tag 66	CRA WWTP Tag 66	CRA WWTP Tag 66	CRA WWTP Tag 66	CRA WWTP Tag 66	CRA WWTP Tag 66
Sample Identification:		WW-AOI10-010616-GS-40334	WW-AOI10-010616-GS-40335	WW-AOI10-020116-GS-40357	WW-AOI10-020516-GS-40346	WW-AOI10-020516-GS-40346	WW-AOI10-030216-GS-40377
Sample Date:		1/6/2016	1/6/2016	2/1/2016	2/5/2016	2/5/2016	3/2/2016
Sample Type:						Duplicate	
Area		A010_EastPlant	A010_EastPlant	A010_EastPlant	A010_EastPlant	A010_EastPlant	A010_EastPlant
	Units						
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	--	0.19 U	0.2 U	0.2 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	--	0.19 U	0.2 U	0.2 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	--	0.19 U	0.2 U	0.2 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	--	0.19 U	0.2 U	0.2 U	0.38
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	--	0.19 U	0.2 U	0.2 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	--	0.19 U	0.2 U	0.2 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	--	0.19 U	0.2 U	0.2 U	0.19 U
Total PCBs	ug/L	ND	--	ND	ND	ND	0.38
General Chemistry							
Biochemical oxygen demand (carbonaceous)	ug/L	--	2000 U	--	--	--	--
Chemical oxygen demand (COD)	ug/L	--	8300 J	--	--	--	--
Nitrite/Nitrate	ug/L	--	830 B	--	--	--	--
Oil and grease (HEM), polar	ug/L	--	4700 U	--	--	--	--
Phosphorus	ug/L	--	100 U	--	--	--	--
Total kjeldahl nitrogen (TKN)	ug/L	--	5000 U	--	--	--	--
Total suspended solids (TSS)	ug/L	--	500 U	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.

Laboratory Flags:

B - Result detected in associated method blank.

Table 3.6

2016 Water Treatment Plant (SSC WTP Treatment System) Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Sample Location: Sample Identification: Sample Date: Sample Type: Area		CRA WWTP Tag 66 WW-AOI10-030216-GS-40377 3/2/2016 Duplicate A010_EastPlant	CRA WWTP Tag 66 WW-AOI10-030816-MC-40385 3/8/2016 A010_EastPlant	CRA WWTP Tag 66 WW-AOI10-030816-MC-40386 3/8/2016 A010_EastPlant	CRA WWTP Tag 66 WW-AOI10-031216-MC-40394 3/12/2016 A010_EastPlant	CRA WWTP Tag 66 WW-AOI10-031216-MC-40394~Split 3/12/2016 Replicate A010_EastPlant	CRA WWTP Tag 66 WW-AOI10-031516-MC-40404 3/15/2016 A010_EastPlant
Units							
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.2 U	0.19 U	0.2 U	0.2 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.2 U	0.19 U	0.2 U	0.2 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.2 U	0.19 U	0.2 U	0.2 U
Aroclor-1242 (PCB-1242)	ug/L	0.4	0.19 U	0.1 J	0.32 U	0.27	0.2 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.2 U	0.19 U	0.2 U	0.2 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U	0.2 U	0.19 U	0.2 U	0.2 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U	0.2 U	0.19 U	0.2 U	0.2 U
Total PCBs	ug/L	0.4	ND	0.1 J	ND	0.27	ND
General Chemistry							
Biochemical oxygen demand (carbonaceous)	ug/L	--	--	--	--	--	--
Chemical oxygen demand (COD)	ug/L	--	--	--	--	--	--
Nitrite/Nitrate	ug/L	--	--	--	--	--	--
Oil and grease (HEM), polar	ug/L	--	--	--	--	--	--
Phosphorus	ug/L	--	--	--	--	--	--
Total kjeldahl nitrogen (TKN)	ug/L	--	--	--	--	--	--
Total suspended solids (TSS)	ug/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit.

Laboratory Flags:

B - Result detected in associated method blank.

Table 3.6

2016 Water Treatment Plant (SSC WTP Treatment System) Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Sample Location: Sample Identification: Sample Date: Sample Type: Area		CRA WWTP Tag 66 WW-AOI10-031616-MC-40418 3/16/2016	CRA WWTP Tag 66 WW-AOI10-031716-BW-013 3/17/2016	CRA WWTP Tag 66 WW-AOI10-031716-BW-014 3/17/2016	CRA WWTP Tag 66 WW-AOI10-031716-MC-40441 3/17/2016	CRA WWTP Tag 66 WW-AOI10-031816-MC-40444 3/18/2016	CRA WWTP Tag 66 WW-AOI10-031816-MC-40453 3/18/2016
		A010_EastPlant	A010_EastPlant	A010_EastPlant	A010_EastPlant	A010_EastPlant	A010_EastPlant
Units							
PCBs							
Aroclor-1016 (PCB-1016)	ug/L	0.2 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.2 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.2 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.036 J	0.19 U	0.20 U	0.19 U	0.044 J	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.2 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.2 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.2 U	0.19 U	0.20 U	0.19 U	0.20 U	0.19 U
Total PCBs	ug/L	0.036 J	ND	ND	ND	0.044 J	ND
General Chemistry							
Biochemical oxygen demand (carbonaceous)	ug/L	--	--	--	--	--	--
Chemical oxygen demand (COD)	ug/L	--	--	--	--	--	--
Nitrite/Nitrate	ug/L	--	--	--	--	--	--
Oil and grease (HEM), polar	ug/L	--	--	--	--	--	--
Phosphorus	ug/L	--	--	--	--	--	--
Total kjeldahl nitrogen (TKN)	ug/L	--	--	--	--	--	--
Total suspended solids (TSS)	ug/L	--	6400 H	1000 UH	--	--	--

Notes:

U - Not detected at the associated reporting limit.

Laboratory Flags:

B - Result detected in associated method blank.

Table 3.6

2016 Water Treatment Plant (SSC WTP Treatment System) Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Sample Location: Sample Identification: Sample Date: Sample Type: Area		CRA WWTP Tag 66 WW-AOI10-040516-MC-40476 4/5/2016	CRA WWTP Tag 66 WW-AOI10-050416-GS-40390 5/3/2016	CRA WWTP Tag 66 WW-AOI10-061516-GS-40400 6/15/2016	CRA WWTP Tag 66 WW-AOI10-070616-MC-40417 7/6/2016	CRA WWTP Tag 66 WW-AOI10-080916-MC-40441 8/9/2016
		A010_EastPlant	A010_EastPlant	A010_EastPlant	A010_EastPlant	A010_EastPlant
Units						
PCBs						
Aroclor-1016 (PCB-1016)	ug/L	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
Aroclor-1232 (PCB-1232)	ug/L	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
Aroclor-1248 (PCB-1248)	ug/L	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
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	ND	ND	ND	ND
General Chemistry						
Biochemical oxygen demand (carbonaceous)	ug/L	--	--	--	--	--
Chemical oxygen demand (COD)	ug/L	--	--	--	--	--
Nitrite/Nitrate	ug/L	--	--	--	--	--
Oil and grease (HEM), polar	ug/L	--	--	--	--	--
Phosphorus	ug/L	--	--	--	--	--
Total kjeldahl nitrogen (TKN)	ug/L	--	--	--	--	--
Total suspended solids (TSS)	ug/L	--	--	--	--	--
Notes:						
U - Not detected at the associated reporting limit.						
Laboratory Flags:						
B - Result detected in associated method blank.						

Table 3.7

**2016 Water Treatment Plant (GWTP System) Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana**

Area		P412	P412	P412	P412
Sample Location:		HV-6021B	HV-6021A	HV-6021B	HV-6021A
Sample Identification:		WW-412-072716-MC-40438	WW-412-072816-MC-40439	WW-412-081716-MC-40462	WW-412-081816-MC-40463
Sample Date:		7/27/2016	7/28/2016	8/17/2016	8/18/2016
Sample Type:					
Notes		General Motors LLC - discharge	General Motors LLC - discharge	General Motors LLC - discharge	General Motors LLC - discharge
	Units				
PCBs					
Aroclor-1016 (PCB-1016)	ug/L	--	0.19 U	--	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	--	0.19 U	--	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	--	0.19 U	--	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	--	0.19 U	--	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	--	0.19 U	--	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	--	0.19 U	--	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	--	0.19 U	--	0.19 U
Total PCBs	ug/L	--	ND	--	ND
General Chemistry					
Oil and grease (HEM), polar	ug/L	2700 JB	--	1800 JB	--
Total suspended solids (TSS)	ug/L	500 U	--	500 U	--

Notes:

B - Laboratory Flag- Result detected in associated method blank.

U - Not detected at the associated reporting limit.

J - Estimated concentration.

Table 3.7

**2016 Water Treatment Plant (GWTP System) Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana**

Area		P412	P412	P412	P412
Sample Location:		HV-6021B	HV-6021B	HV-6021A	HV-6021B
Sample Identification:		WW-412-092116-MC-40470	WW-412-092116-MC-40471	WW-412-092216-MC-40473	WW-412-102516-MC-40480
Sample Date:		9/21/2016	9/21/2016	9/22/2016	10/25/2016
Sample Type:			Duplicate		
Notes		General Motors LLC - discharge	General Motors LLC - discharge	General Motors LLC - discharge	General Motors LLC - discharge
	Units				
PCBs					
Aroclor-1016 (PCB-1016)	ug/L	--	--	0.097 U	--
Aroclor-1221 (PCB-1221)	ug/L	--	--	0.097 U	--
Aroclor-1232 (PCB-1232)	ug/L	--	--	0.097 U	--
Aroclor-1242 (PCB-1242)	ug/L	--	--	0.097 U	--
Aroclor-1248 (PCB-1248)	ug/L	--	--	0.097 U	--
Aroclor-1254 (PCB-1254)	ug/L	--	--	0.097 U	--
Aroclor-1260 (PCB-1260)	ug/L	--	--	0.097 U	--
Total PCBs	ug/L	--	--	ND	--
General Chemistry					
Oil and grease (HEM), polar	ug/L	4800 U	4800 U	--	4800 U
Total suspended solids (TSS)	ug/L	500 U	700	--	500

Notes:

B - Laboratory Flag- Result detected in associated method blank.

U - Not detected at the associated reporting limit.

J - Estimated concentration.

Table 3.7

2016 Water Treatment Plant (GWTP System) Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area		P412	P412	P412	P412
Sample Location:		HV-6021B	HV-6021A	HV-6021B	HV-6021A
Sample Identification:		WW-412-102516-MC-40481	WW-412-102616-MC-40482	WW-412-112116-MC-40489	WW-412-112216-MC-40490
Sample Date:		10/25/2016	10/26/2016	11/21/2016	11/22/2016
Sample Type:		Duplicate			
Notes		General Motors LLC - discharge	General Motors LLC - discharge	General Motors LLC - discharge	General Motors LLC - discharge
	Units				
PCBs					
Aroclor-1016 (PCB-1016)	ug/L	--	0.095 U	--	0.094 U
Aroclor-1221 (PCB-1221)	ug/L	--	0.095 U	--	0.094 U
Aroclor-1232 (PCB-1232)	ug/L	--	0.095 U	--	0.094 U
Aroclor-1242 (PCB-1242)	ug/L	--	0.095 U	--	0.094 U
Aroclor-1248 (PCB-1248)	ug/L	--	0.095 U	--	0.094 U
Aroclor-1254 (PCB-1254)	ug/L	--	0.095 U	--	0.094 U
Aroclor-1260 (PCB-1260)	ug/L	--	0.095 U	--	0.094 U
Total PCBs	ug/L	--	ND	--	ND
General Chemistry					
Oil and grease (HEM), polar	ug/L	4800 U	--	4800 U	--
Total suspended solids (TSS)	ug/L	500 U	--	500 U	--

Notes:

B - Laboratory Flag- Result detected in associated method blank.

U - Not detected at the associated reporting limit.

J - Estimated concentration.

Table 3.7

2016 Water Treatment Plant (GWTP System) Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2016
GM CET Bedford Facility
Bedford, Indiana

Area		P412	P412	P412	P412
Sample Location:		HV-6021A	HV-6021A	HV-6021B	HV-6021B
Sample Identification:		WW-412-112216-MC-40491	WW-412-121216-MC-40512	WW-412-121216-MC-40510	WW-412-121216-MC-40511
Sample Date:		11/22/2016	12/12/2016	12/12/2016	12/12/2016
Sample Type:		Duplicate			Duplicate
Notes		General Motors LLC - discharge	General Motors LLC - discharge	General Motors LLC - discharge	General Motors LLC - discharge
	Units				
PCBs					
Aroclor-1016 (PCB-1016)	ug/L	0.094 U	0.096 U	--	--
Aroclor-1221 (PCB-1221)	ug/L	0.094 U	0.096 U	--	--
Aroclor-1232 (PCB-1232)	ug/L	0.094 U	0.096 U	--	--
Aroclor-1242 (PCB-1242)	ug/L	0.094 U	0.096 U	--	--
Aroclor-1248 (PCB-1248)	ug/L	0.094 U	0.096 U	--	--
Aroclor-1254 (PCB-1254)	ug/L	0.094 U	0.096 U	--	--
Aroclor-1260 (PCB-1260)	ug/L	0.094 U	0.096 U	--	--
Total PCBs	ug/L	ND	ND	--	--
General Chemistry					
Oil and grease (HEM), polar	ug/L	--	--	4800 U	4800 U
Total suspended solids (TSS)	ug/L	--	--	500 U	500 U

Notes:

B - Laboratory Flag- Result detected in associated method blank.

U - Not detected at the associated reporting limit.

J - Estimated concentration.

Appendices

Appendix A

Sump Monitoring Logs

YEAR:

2016

MONTH:

JANUARY

LEACHATE COLLECTION SYSTEM

REV. 3
October 1, 2015
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 1.0 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 GUS 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		30	673.50	0				
2		30	673.50	0				
3		30	673.50	0				
4	0915	29	673.41	0	67.3	673.53	147138	
5		30	673.50	0				
6		31	673.58	0				
7		31	673.58	0				
8		31	673.58	0				
9		32	673.66	0				
10		32	673.66	0				
11	0810	31	673.58	0	67.2	673.63	147138	
12	6	32	673.66	0				
13		32	673.66	0				
14		31	673.58	0				
15		32	673.66	0				
16		32	673.66	0				
17		30	673.50	0				
18		30	673.50	0				
19		31	673.58	0				
20		32	673.66	0				
21	1300	32	673.66	0	67.1	673.73	147138	
22		32	673.66	0				
23		31	673.58	0				
24		32	673.66	0				
25		32	673.66	0				
26	1140	32	673.66	0	67.2	673.63	147139	
27		32	673.66	0				
28		33	673.75	0				
29		32	673.66	0				
30		32	673.66	0				
31		32	673.66	0				

YEAR: 2016 MONTH: JANUARY

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	0920	71.5							
5									
6									
7									
8									
9									
10									
11	0815	71.4							
12									
13									
14									
15									
16									
17									
18									
19									
20									
21	1310	71.2							
22									
23									
24									
25									
26	1145	71.1							
27									
28									
29									
30									
31									

YEAR:

2016

MONTH:

JANUARY

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		50	666.34	0				
2		52	666.51	9490				
3		43	665.76	81135				
4	0925	45	665.93	0	73.4	665.59	6874518	
5		49	666.26	0				
6		50	666.34	0				
7		50	666.34	0				
8		52	666.51	8505				
9		43	665.76	33705				
10		45	665.93	0				
11	0820	49	666.26	0	72.7	666.29	6915896	
12		50	666.34	0				
13		50	666.34	0				
14		52	666.51	10525				
15		42	665.68	31915				
16		42	665.68	0				
17		50	666.34	0				
18		50	666.34	0				
19		51	666.43	0				
20		52	666.51	21910				
21	1320	40	665.51	20095	74	664.99	6998970	
22		48	666.18	0				
23		50	666.34	0				
24		50	666.34	0				
25		52	666.51	0				
26	1150	43	665.76	34105	73.4	665.59	7023452	
27		45	665.93	1580				
28		50	666.34	0				
29		50	666.34	0				
30		51	666.43	0				
31		52	666.51	21195				

YEAR: 2016 MONTH: February

LEACHATE COLLECTION SYSTEM

REV. 3
October 1, 2015
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 1.0 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 GUS 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	1310	31	673.58	0	67.1	673.73	147139	
2		32	673.66	0				
3		33	673.35	0				
4		31	673.58	0				
5		32	673.66	0				
6		32	673.66	0				
7		34	673.83	0				
8	1235	33	673.35	0	66.9	673.93	147139	
9		32	673.66	0				
10		32	673.66	0				
11		32	673.66	0				
12		33	673.35	0				
13		32	673.66	0				
14		34	673.83	0				
15	1410	34	673.83	0	66.8	674.03	147139	
16		33	673.35	0				
17		31	673.58	0				
18		34	673.83	0				
19		32	673.66	0				
20		31	673.58	0				
21		30	673.50	0				
22	1020	29	673.41	0	66.9	673.93	147139	
23		31	673.58	0				
24		33	673.35	0				
25		33	673.35	0				
26		28	673.33	0				
27		30	673.50	0				
28		31	673.58	0				
29		29	673.41	0				
30								
31								

YEAR: 2016

MONTH: February

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	1320	40	665.51	20570	74.05	664.94	7082322	
2		48	666.18	0				
3		50	666.34	0				
4		50	666.34	0				
5		52	666.51	0				
6		52	666.51	33875				
7		43	665.76	1785				
8	1250	50	666.34	0	72.65	666.34	7125796	
9		50	666.34	0				
10		50	666.34	0				
11		52	666.51	15255				
12		40	665.51	26935				
13		47	666.09	0				
14		50	666.34	0				
15	1425	50	666.34	0	72.5	666.49	7167939	
16		51	666.43	0				
17		52	666.51	22260				
18		41	665.60	18680				
19		48	666.18	0				
20		50	666.34	0				
21		50	666.34	0				
22	1030	51	666.43	0	72.5	666.49	7208872	
23		52	666.51	24960				
24		41	665.60	16060				
25		41	665.60	0				
26		50	666.34	0				
27		50	666.34	0				
28		52	666.51	1630				
29		50	666.34	33315				
30								
31								

YEAR: 2016 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	1315	71.5							
2									
3									
4									
5									
6									
7									
8	1240	70.85							
9									
10									
11									
12	3:30	70.9	3:59	72.41	3272.9				
13									
14									
15	1415	72.2							
16									
17									
18									
19									
20									
21									
22	1025	72.3							
23									
24									
25									
26									
27									
28									
29									
30									
31									

YEAR: 2016 MONTH: March

LEACHATE COLLECTION SYSTEM

REV. 3
October 1, 2015
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 1.0 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 GUS 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	0930	30	673.50	0	66.7	673.3	147139	
2		28	673.33	0				
3		29	673.41	0				
4		28	673.33	0				
5		29	673.41	0				
6		29	673.41	0				
7		29	673.41	0				
8	1610	29	673.41	0	66.75	674.08	147139	
9		28	673.33	0				
10		28	673.33	0				
11		27	673.25	0				
12		28	673.33	0				
13		28	673.33	0				
14	0950	27	673.25	0	66.45	674.38	147139	
15		28	673.33	0				
16		27	673.25	0				
17		28	673.33	0				
18		28	673.33	0				
19		28	673.33	0				
20		27	673.25	0				
21	1400	28	673.33	0	66.75	674.08	147139	
22		28	673.33	0				
23		28	673.33	0				
24		29	673.41	0				
25		26	673.16	0				
26		27	673.25	0				
27		27	673.25	0				
28	1200	29	673.41	0	66.85	673.98	147139	
29		29	673.41	0				
30		29	673.41	0				
31		29	673.41	0				

YEAR: 2016 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 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 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	0940	72.0							
2									
3									
4									
5									
6									
7									
8	1620	72.1							
9									
10									
11									
12									
13									
14	1000	72.0							
15									
16									
17									
18									
19									
20									
21	1405	72.0							
22									
23									
24									
25									
26									
27									
28	1210	71.85							
29									
30									
31									

not enough water to test

YEAR: 2016

MONTH: MARCH

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	0950	44	665.84	49.55	73.3	665.69	7289678	
2		49	666.26	0				
3		50	666.34	0				
4		51	666.49	0				
5		52	666.51	18440				
6		40	665.51	24560				
7		49	666.26	0				
8	1630	50	666.34	0	72.5	666.49	7332633	
9		50	666.34	0				
10		52	666.51	9155				
11		42	665.68	33235				
12		47	666.09	940				
13		49	666.26	0				
14	1010	50	666.34	0	72.5	666.49	7375934	
15		52	666.51	9805				
16		41	665.59	32805				
17		47	666.09	1250				
18		50	666.34	0				
19		50	666.34	0				
20		52	666.51	16690				
21		40	665.51	27385	73.75	665.24	7455520	
22		49	666.26	0				
23		50	666.34	0				
24		50	666.34	0				
25		50	666.43	24170				
26		52	666.51	21215				
27		41	665.59	0				
28		49	666.26	0	72.45	666.54	7554690	
29		50	666.34	0				
30		49	666.26	29150				
31		49	666.26	16385				

Notes: Top of sump [top of concrete manhole] (feet AMSL): 740.83 Pump operating level between 1.0 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 GUS manhole.								
Total depth of sump manhole (feet): 69.83								
Inside diameter of sump (feet): 6								
Bottom of sump (feet AMSL): 671.00								
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).								
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).								
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)	(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 ELEVATION (b) (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING (c) (gallons)	COMMENTS
1		29	673.41					
2		29	673.41					
3		29	673.41					
4	1630	29	673.41		66.80			
5		29	673.41					
6		29	673.41					
7		30	673.50		66.75			
8		31	673.58		66.70			
9		31	673.58					
10		32	673.66					
11		32	673.66				147.189	
12		31	673.58				147.189	
13		33	673.75					
14		33	673.75					
15		0	-		66.7			
16		0	-					
17		0	-					
18		0	-					
19		-	-					
20		-	-		66.85			
21		-	-		66.85			
22		-	-		66.80			
23		-	-		67.80			
24		-	-		67.5			
25		-	-		67.5			
26		-	-		67.81			
27		-	-		66.81			
28		-	-		66.92			
29		-	-		66.99			
30		-	-		66.81			
31		-	-					

Pumping in auto/pumping in hand (No flow)

both pumps b7d

Pulled both pumps

Pumping by hand

Manual measurements only

Pumping in water pumping in hand
 (No flow)
 both pumps bad
 Pulled both pumps
 Pumping by hand
 manual measurements only

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 = 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 (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 (ft below top of sump) *should not be less than 71.14 ft*	LOCAL FLOW METER READING (a) (gallons)	ELAPSED TIME BETWEEN PUMPING EVENTS (days)	VOLUME PUMPED (gallons) $= X_2 - X_1$	AVERAGE DAILY FLOW RATE (c,d) (gal/day/acre) $= (Z / Y) / 7$	COMMENTS
1									
2									
3									
4	1640	71.7							
5									
6									
7									
8									
9									
10									
11									
12	1430	72.5							
13									
14									
15									
16									
17									
18	1010	71.35							
19									
20									
21									
22									
23									
24									
25	13:26	74.29							
26									
27									
28									
29									
30									
31									

GRAVEL UNDERDRAIN SYSTEM

YEAR: 2016 MONTH: April

Notes: 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 Pump operating level between 2.5 ft (664.68 ft AMSL) or 74.31 ft below the top of sump (666.5 ft AMSL) or 72.49 ft below the top of sump (666.5 ft AMSL) 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 52 inches below the top of sump (equates to a water level of 666.5 ft AMSL or 72.49 ft below the top of sump). 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 F1095B18000). Readings are cumulative unless noted otherwise.									
DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC (inches)	(1) CONVERT PLC WATER DEPTH TO ELEVATION (ft AMSL) = [(Y)/12] + 662.18	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL (ft below top of sump)	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION (ft AMSL) = 738.99 - (X)	LOCAL FLOW METER READING (gallons)	COMMENTS	
1		49	666.26	0				Pumping manually, Problems with sensor manually pumping down 1320 manual reading 71.7 Pumping by hand sensor not working manual readings ok	
2		49	666.26	0					
3		49	666.26	920					
4	1650	49	666.26	21800	73.4	665.59			
5		49	666.26	16330					
6		49	666.26	17520					
7		49	666.26	0					
8		50	666.34	0					
9		52	666.51	1875					
10		50	666.34	32720					
11		45	665.93	10690					
12	1440	49	666.26	0	72.5	666.49	705645		
13		49	666.26	0					
14		52	666.51	0					
15		54	666.68	0	72				
16		57	666.93	0					
17		59	667.10	41890					
18	1020	60	667.18	0	71.5	667.49	7660263		
19		63	667.43	0	71.52				
20		64	675.51	13875	72.52				
21		60	667.18	32665	72.0				
22		43	665.76	16765	72.15				
23		44	665.84	0	72.86				
24		47	666.09	0	72.54				
25	13:36	49	666.26	15075	73.99				
26		44	665.84	32715					
27		38	665.34	9755					
28		40	665.51	320					
29		42	665.18	16325	72.82				
30		31	664.76	82455					
31									

YEAR: 2016 MONTH: MAY

LEACHATE COLLECTION SYSTEM

REV. 3
October 1, 2015
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 1.0 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 GUS 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 (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 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	671.00	0				
2		0	671.00	0				
3		0	671.00	0				
4		0	671.00	0				
5		0	671.00	0				
6		0	671.00	0				
7		0	671.00	0				
8		0	671.00	0				
9	1350	0	671.00	0				
10		0	671.00	0	66.2	674.63		- manually pumping
11		0	671.00	0				
12		0	671.00	0				
13		0	671.00	0	67.3	673.53		- manually pumping
14		0	671.00	0				
15		0	671.00	0				
16		0	671.00	0				
17		34	673.83	0				
18		33	673.75	0				
19		0	671.00	0				
20		0	671.00	0				
21		0	671.00	0				
22		0	671.00	0				
23		0	671.00	0				
24		0	671.00	0				
25	1225	0	671.00	0				
26		0	671.00	0	68.8	672.03		- Pumping done
27		0	671.00	0				
28		0	671.00	0				
29		0	671.00	0				
30		0	671.00	0				
31	1040	0	671.00	0	69.7	671.13		

YEAR: 2016 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									
2									
3									
4									
5									
6									
7									
8									
9	1400	72.25							
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25	1300	72.3							
26									
27									
28									
29									
30									
31	1045	72.3							

YEAR:

2016

MONTH:

MAY

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		20	663.84	22325				
2		23	664.09	3310				
3		31	664.76	0				
4		37	665.26	0				
5		37	665.26	0				
6		39	665.43	0				
7		40	665.51	0				
8		43	665.76	0				
9		46	666.00	12005	71.75	667.24		- Pumping in HAND mode
10		50	666.34	31755				
11		48	666.18	10100				
12		51	666.43	390				
13		54	666.68	975				- Pumping in HAND
14		56	666.96	0				
15		59	667.09	0				
16		60	667.18	12985				
17		57	666.93	15185				
18		59	667.09	6345				
19		61	667.26	9305				
20		64	667.51	8750				
21		66	667.68	0				
22		68	667.84	0				
23		69	667.93	18660				
24		63	667.43	33115				- Pumping in hand
25		56	666.46	32890				
26		35	665.09	32415				
27		38	665.34	13955				
28		46	666.01	0				
29		46	666.01	0				
30		48	666.26	0				
31	1050	49	666.26	0	72.5	666.49		

YEAR: 2016 MONTH: June

LEACHATE COLLECTION SYSTEM

REV. 3
October 1, 2015
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 1.0 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 GUS 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 (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		0	671.00	0				
2		0	671.00	0				
3		0	671.00	0				
4		0	671.00	0				
5		0	671.00	0				
6	1320	0	671.00	0	69.7	671.13		
7		0	671.00	0				
8		0	671.00	0				
9		0	671.00	0				
10		0	671.00	0				
11		0	671.00	0				
12		0	671.00	0				
13		0	671.00	0				
14		0	671.00	0				
15		0	671.00	0				
16		0	671.00	0				
17		0	671.00	0				
18		0	671.00	0				
19		0	671.00	0				
20	0955	0	671.00	0	69.6	671.23		
21		0	671.00	0				
22		0	671.00	0				
23		0	671.00	0				
24		0	671.00	0				
25		0	671.00	0				
26		0	671.00	0				
27		0	671.00	0				
28		0	671.00	0				
29		0	671.00	0				
30		0	671.00	0				
31								

YEAR: 2016 MONTH: June

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	1310	72.35							
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20	1000	72.3							
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									

YEAR: 2016 MONTH: June

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		38	665.34					
2		46	666.01					
3		49	666.26					
4		49	666.26					
5		49	666.26					
6		49	666.26					
7		67	667.76					
8		65	667.59					
9		60	667.18					
10		59	667.09					
11		57	666.57					
12		54	666.68					
13		56	666.84					
14		52	666.51					
15		47	666.09					
16		37	665.26					
17		42	665.68					
18		47	666.09					
19		48	666.18					
20	1045	49	666.26		72.6	666.39		
21		38	665.34					
22		28	664.51					
23		29	664.59					
24		36	665.18					
25		42	665.68					
26		42	665.68					
27		48	666.18					
28		49	666.26					
29		50	666.34					
30		51	666.53					
31								

YEAR: 2016 MONTH: July

LEACHATE COLLECTION SYSTEM

REV. 3
October 1, 2015
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 1.0 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 GUS 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 (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	671.00	0				
2		0	671.00	0				
3		0	671.00	0				
4		0	671.00	0				
5		0	671.00	0				
6		0	671.00	0				
7		0	671.00	0				
8		0	671.00	0				
9		0	671.00	0				
10		0	671.00	0				
11		0	671.00	0				
12		0	671.00	0				
13		0	671.00	0				
14		0	671.00	0				
15		0	671.00	0				
16		0	671.00	0				
17		0	671.00	0				
18		0	671.00	0				
19		0	671.00	0				
20	1405	0	671.00	0	69.5	671.33		
21		0	671.00	0				
22		0	671.00	0				
23		0	671.00	0				
24		0	671.00	0				
25		0	671.00	0				
26		0	671.00	0				
27		0	671.00	0				
28		0	671.00	0				
29		0	671.00	0				
30		0	671.00	0				
31		0	671.00	0				

YEAR: 2016

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									
5									
6	1035	72.3							
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20	1400	72.3							
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									

YEAR: 2016 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 (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		45	665.93	22145				- manually Pumping
2		48	666.18	0				
3		49	666.26	0				
4		51	666.43	0				
5		51	666.43	0				
6		51	666.43	0				
7		51	666.43	18625				- manually Pumping
8		51	666.43	19350				- manually Pumping
9	1025	49	666.26	645 *	72.5	666.49		
10		51	666.43	740 *				
11		51	666.43	16555				- manually Pumping
12		45	665.93	30660				- manually Pumping
13		34	665.01	26635				- manually Pumping
14		30	664.68	4190				- manually Pumping
15		37	665.28	415 *				
16		43	665.76	460 *				
17		48	666.18	420 *				
18		48	666.18	9510				- manually Pumping
19		36	665.18	28040				- manually Pumping
20		28	664.51	8320				- manually Pumping
21		37	665.28	415 *				
22		43	665.76	45 *				
23		47	666.09	135 *				
24		48	666.18	0				
25		48	666.18	440 *				
26		50	666.34	805 *				
27		51	666.43	7995				- manually Pumping
28		43	665.76	4955				- manually Pumping
29		35	665.09	27350				- manually Pumping
30		17	663.59	9215				- manually Pumping
31								- manually Pumping

GRD 013968

We are getting false readings on quantities pumped @ PLC
There is A * by false readings

YEAR: _____

MONTH: _____

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 66.83 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 (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		0	671.0	0				
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	0850	0	671.0	0	69.4	671.43		
11		0	671.0	0				
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		0	671.0	0				
21		0	671.0	0				
22		0	671.0	0				
23		0	671.0	0				
24	1125	0	671.0	0	69.3	671.53		
25	1330	0	671.0	0	69.3	671.53		
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		0	671.0	0				

YEAR:

2014

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 LOS 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									
7									
8									
9									
10	0853	72.3							
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24	1130	72.25							
25									
26									
27									
28									
29									
30									
31									

YEAR: 2016

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 (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 (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 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		30	664.68	2440			8600832	MANUALLY Pumping The Automatic is not working We are trying to resolve the issue
2		38	665.34	125			8608272	
3		45	665.93	125			8608272	
4		48	666.18	75			8608272	
5		48	666.18	0			8608272	
6		49	666.26	0			8608272	
7		49	666.26	0			8603272	
8		51	666.43	2350			8603272	MANUALLY Pumping
9		64	667.51	25485			8605622	
10	0900	54	666.68	26680	73.8	665.19	8631167	
11		48	666.18	6975			8657787	MANUALLY Pumping
12	1140	55	666.76	5	75.65	663.34	8664762	
13		61	667.26	2935			8664762	
14		48	666.18	21955			8667697	
15		34	665.01	7670			8689652	
16		46	666.01	3420			8697322	
17		52	666.51	7125			8700742	
18	1534	43	665.76	10245	75.35	663.64	8707867	MANUALLY Pumping
19		48	666.18	8300			8718112	
20		53	666.59	145			8726412	
21		60	667.18	355			8726412	
22	0930	62	667.34	11305	73.0	665.99	8726412	
23		47	666.09	21220			8741764	
24	1135	47	666.09	4335	75.3	663.69	8762984	
25	1335	52	666.51	8240	73.85	665.14	8770602	MANUALLY Pumping
26	0830	48	666.18	6465	75.35	663.64	8778220	
27	1045	56	666.84	0	74.86	664.13	8778220	
28	0700	62	667.34	0	73.75	665.24	8778220	
29	0830	63	667.59	17840	72.8	666.19	8781274	
30	1533	46	666.06	16430	75.25	663.74	8811920	
31	0830	50	666.34	12150	75.25	663.74	8824070	

* Are false readings on the PLC. We believe the site source water is pushing backwards through flow meter. We installed a new level sensor in ~~GUS~~ and we are getting false depth readings on PLC GUS

YEAR: 2014

MONTH: September

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 (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 (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) $= X_2 - X_1$	AVERAGE DAILY FLOW RATE (gallons/day/acre) $= (Z / Y) / 7$	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1	0850	72.3							
2									
3									
4									
5									
6									
7									
8	1305	72.2							
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23	1344	72.15							
24									
25									
26									
27									
28									
29	1230	72.15	1300		4145.8	180 days	309.7	14 gal/min	
30									
31									

YEAR: 2012

MONTH: September

GRAVEL UNDERDRAIN SYSTEM

REV. 4
December 9, 2015
Page 1 of 1

Notes: Top of sump (top of concrete) (feet AMSL): 738.99

Bottom of sump (feet AMSL): 662.18

Inside diameter of sump (feet): 3

Total depth of sump manhole (feet): 76.81

Pump operating level between 2.5 ft (664.66 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	0855	48	666.18	3790	75.25	663.74	8827722	
2	1130	57	666.93	0	73.6	665.39	8827722	
3	0920	60	667.18	13570	72.9	666.09	8827722	
4	1145	40	665.51	16275	73.8	665.19	8859896	
5	0830	48	666.18	3015	73.8	665.19	8859896	
6	0835	55	666.76	5600	73.8	665.19	8859896	
7	0840	41	665.59	15985	74.6	664.39	8875881	
8	1301	46	666.01	4795	75.45	663.54	8875888	
9	0924	56	666.88	280 *	73.82	665.17	8885272	
10	0945	63	667.43	320 *	73.85	665.14	8885272	
11	2020	64	667.57	345 *	73.85	665.14	8885272	
12	1620	65	667.95	10910	74.1	664.89	8891924	
13	1042	47	666.09	22065	75.4	663.59	8914138	
14	1535	49	666.26	3450	75.4	663.59	8921038	
15	1615	54	666.68	7245	73.5	665.49	8921050	
16	1515	45	665.93	10290	75.3	663.69	8938248	
17	1510	56	666.84	5525	73.6	665.39	8938280	
18	0830	44	665.84	18630	74.6	664.39	8951805	
19	0830	33	664.93	5780	75.3	663.69	8965360	
20	1109	33	664.93	0	73.95	665.04	8967866	
21	0830	33	664.93	0	73.35	665.64	8967866	
22	0930	33	664.93	12595	72.9	666.09	89679912	
23	1355	23	664.93	17040	75.3	663.69	8992968	
24	0930	45	665.93	5165	75.6	663.69	9001854	
25	1300	45	665.93	755 *	73.5	665.49	9001854	
26	0830	62	667.34	0	73.1	664.90	9001900	
27	0900	64	667.51	15855	72.8	666.19	9001942	
28	0830	51	666.43	8755	75.3	663.69	9023828	
29	0830	55	666.76	7450	73.8	665.19	9023828	
30	0830	55	666.76	2585	72.9	666.09	9023828	
31								

GHD 013968

* False PLC Readings. PLC + sensor not giving accurate readings
 Taking manual depth readings everyday.
 Quantity Pumped is giving false readings marked with *

YEAR: 2016

MONTH: September

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 (a) (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION (a) (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	0855	0	671.0	0	69.15	671.68		
2		0	671.0	0				
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	1300	0	671.0	0	69.1	671.73		
9		0	671.0	0				
10		0	671.0	0				
11		0	671.0	0				
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		0	671.0	0				
21		0	671.0	0				
22		0	671.0	0				
23	1334	0	671.0	0	69.0	671.83		
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	1200	0	671.0	0				MANUALLY PUMPING
30								
31								

2016

October

LEACHATE COLLECTION SYSTEM

Notes: Top of sump [top of concrete manhole] (feet AMSL): 740.83

Bottom of sump (feet AMSL): 671.00

Inside diameter of sump (feet): 6

Total depth of sump manhole (feet): 69.83

Pump operating level between 1.5 ft (672.50 ft AMSL or 68.83 ft below the top of sump) and 3 ft (674.00 ft AMSL or 66.83 ft below the top of sump) of water in the LCS manhole.

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

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC (a) (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION (a) (ft AMSL) = [(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL (b) (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION (b) (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING (c) (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1		0	671.0	0				
2		0	671.0	0				
3		0	671.0	0				
4	0816	0	671.0	0	69.9	670.93		
5	0815	0	671.0	0	69.9	670.93		
6	0815	0	671.0	0	69.9	670.93		
7	819	0	671.0	0	69.9	670.93		
8	9:10	0	671.0	0	69.9	670.93		
9	11:26	0	671.0	0	69.9	670.93		
10	0815	0	671.0	0	69.9	670.93		
11	0815	0	671.0	0	69.9	670.93		
12	0815	0	671.0	0	69.9	670.93		
13	0815	0	671.0	0	69.9	670.93		
14	0815	0	671.0	0	69.9	670.93		
15	0812	0	671.0	0	69.9	670.93		
16	0812	0	671.0	0	69.9	670.93		
17	0810	0	671.0	0	69.9	670.93		
18	1239	0	671.0	0	69.9	670.93		
19	0815	0	671.0	0	69.9	670.93		
20	0730	0	671.0	0	69.9	670.93		
21	0830	0	671.0	0	69.9	670.93		
22	0815	0	671.0	0	69.9	670.93		
23	0820	0	671.0	0	69.9	670.93		
24	0815	0	671.0	0	69.9	670.93		
25	0810	0	671.0	0	69.9	670.93		
26	0810	0	671.0	0	69.9	670.93		
27	0810	0	671.0	0	69.9	670.93		
28	0810	0	671.0	0	69.9	670.93		
29	0810	0	671.0	0	69.9	670.93		
30	0810	0	671.0	0	69.9	670.93		
31	0810	0	671.0	0	69.9	670.93		

NO local Total

YEAR: 2016 MONTH: October

LEAK DETECTION SYSTEM

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

- (a) Water level not to rise above 18 inches deep (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.
 (b) If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.
 (c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.
 (d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 (a, b) BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 (a, b) AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING (e) (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	0820	72.5							
5	0820	72.5							
6	0820	72.5							
7	9:10	72.5							
8	9:15	72.5							
9	11:29	72.5							
10	0820	72.5							
11	0820	72.5							
12	0817	72.5							
13	0815	72.5							
14	0820	72.5							
15	0821	72.5							
16	0820	72.5							
17	0822	72.5							
18	1245	72.5							
19	0820	72.5							
20	0740	72.5							
21	0830	72.5							
22	0820	72.5							
23	0825	72.5							
24	0820	72.5							
25	0815	72.5							
26	0820	72.5							
27	0820	72.5							
28	0820	72.5							
29	0820	72.5							
30	0820	72.5							
31	0820	72.5							

YEAR:

2016

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	62	667.34	0	72.9	666.09	9032880	PLC Reading false Installed new sensors need adjusted
2	1300	65	667.59	12830	72.9	666.09	9033530	
3	0830	53	666.59	17235	72.9	666.09	9054080	
4	0830	47	666.09	11470	75.9	663.69	9070396	
5	0830	50	666.34	9755	73.9	665.09	9073750	
6	0830	50	666.34	4655	75.3	663.69	9085808	
7	0830	54	666.68	0	75.3	663.69	9087296	
8	0830	61	667.26	0	73.9	665.09	9087296	
9	0830	64	667.51	0	72.7	666.29	9087296	
10	0830	65	667.59	13870	72.7	666.29	9087338	
11	0830	44	665.84	18780	72.7	666.29	9115326	MANUALLY pumping GUS into poly tank
12	0825	48	666.18	2955	75.3	663.69	9122786	
13	0830	51	666.43	8675	72.85	666.14	9122792	
14	0830	48	666.18	3135	75.3	663.69	9134478	
15	0832	56	666.84	0	73.75	665.24	9134478	
16	0834	60	667.18	0	73.1	665.89	9134502	
17	0830	62	667.34	13170	72.85	666.14	9134532	
18	1300	57	666.93	215 *	73.65	665.34	9147284	
19	0830	61	667.26	0	73.15	665.84	9147284	
20	0745	60	667.18	0	72.75	666.24	9147284	
21	0830	60	667.18	0	72.65	666.34	9147284	*out of compliance - Temp. Pump * Failure working on new pump
22	0830	60	667.18	0	72.55	666.44	9147284	
23	0830	60	667.18	0	72.5	666.49	9147284	
24	0830	65	667.59	0	72.5	666.49	9147284	
25	0825	65	667.59	0	72.6	666.39	9147284	
26	0830	65	667.59	0	72.2	666.79 *	9147284	
27	0830	65	667.59	790	72.1	666.89 *	9147284	
28	0830	65	667.59	545	71.9	667.09 *	9148288	
29	0830	65	667.59	300	71.9	667.09 *	9148676	
30	0830	65	667.59	310	71.7	667.29 *	9148976	
31	0830	65	667.59		71.5	667.49 *	9149280	

GHD 013968

10/27/16 started manually pumping into force main in LCS. Pumping to EQ tank @ SWTP

10/18/16 Quantity Pumped false reading

started
Pumping

AR: 2016 MONTH: November

LEACHATE COLLECTION SYSTEM

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

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

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

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

DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC (a) (inches) *should not be more than 36 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION (a) (ft AMSL) = [(Y)/12] + 671.00 *should not be more than 674.00 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL (b) (ft below top of sump) *should not be less than 66.83 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION (b) (ft AMSL) = 740.83 - (X) *should not be more than 674.00 ft AMSL*	LOCAL FLOW METER READING (c) (gallons)	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc. ** (1) and (2) should be compared and any discrepancies between measurements explained here.
1	0810	0	671.00	0	69.9	670.93		
2	0810	0	671.00	0	69.9	670.93		
3	0812	0	671.00	0	69.9	670.93		
4	0810	0	671.00	0	69.9	670.93		
5	0810	0	671.00	0	69.8	670.93		
6	0815	0	671.00	0	69.85	670.98		
7	0815	0	671.00	0	69.8	671.03		
8	0900	0	671.00	0	69.75	671.08		
9	-	0	671.00	0	-	-		
10		0	671.00	0				
11		0	671.00	0				
12		0	671.00	0				
13		0	671.00	0				
14		0	671.00	0				
15		0	671.00	0				
16		0	671.00	0				
17		0	671.00	0				
18		0	671.00	0				
19		0	671.00	0				
20		0	671.00	0				
21		0	671.00	0				
22		0	671.00	0				
23		0	671.00	0				
24		0	671.00	0				
25		0	671.00	0				
26		0	671.00	0				
27		0	671.00	0				
28		0	671.00	0				
29		0	671.00	0				
30	0830	0	671.00	0	69.7	671.13		
31								

Water level take is getting hard to get readings in GUS

YEAR: 2016 MONTH: November

LEAK DETECTION SYSTEM

Notes: Top of sump [top of concrete manhole] (feet AMSL): 741.14 Bottom of sump (feet AMSL): 668.50 Inside diameter of sump (feet): 6 Total depth of sump manhole (feet): 72.64
 (a) Water level not to rise above 18 inches deep (equates to a water level of 670.0 ft AMSL or 71.14 ft below top of the sump). Pumping must be initiated if the water level is above 670.00 ft AMSL.
 (b) If water level is equal to or exceeds one foot over the primary liner (equates to a water level of 671.5 ft AMSL or 69.99 ft below the top of the sump), initiate pumping and notify the PM immediately.
 (c) Compare the collection rate/average daily flow rate to the Action Leakage Rate (ALR) of 32,000 gallons/acre/day. An increase in the collection rate, or collection rate comparable to the Action Leakage Rate may indicate a leak in one of the liners. Notify the PM immediately of any significant changes in the LDS collection rate and if the collection rate exceeds the Action Leakage Rate of 32,000 gallons/acre/day.
 (d) Example average daily flow rate calculation: Vault footprint = 7 acres (this value is constant). Local flow meter reading on September 1 (X_1) = 22,000 gallons. Local flow meter reading on October 3 (X_2) = 58,000 gallons. Elapsed time between pumping events (Y) = 33 days. Volume pumped ($X_2 - X_1$) = (Z) = 58,000 - 22,000 = 36,000 gallons. Average daily flow rate (Z / Y) / 7 = (36,000 / 33) / 7 acres = 155 gallons/day/acre. Therefore, the average daily flow rate < ALR.

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 ^(a, b) BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 ^(a, b) AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING ^(c) (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE ^(c, d) (gal/day/acre) = $(Z / Y) / 7$	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1	0820	72.5							
2	0821	72.5							
3	0820	72.5							
4	0820	72.5							
5	1420	72.45							
6	1530	72.45							
7	0800	72.45							
8	0910	72.45							
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30	0830	72.4							
31									

YEAR: 2016

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 (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 (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	0830	65	667.59	625	71.4	667.59	9149880	Temp. Pump Pumping to SWTPED tank Pumping 2-3 times A day
2	0900	65	667.59	565	71.4	667.59	9150347	
3	0830	65	667.59	345	71.25	667.74	9150814	
4	0830	65	667.59	490	71.15	667.84	9151206	
5	1430	65	667.59	735	71.0	667.99	9151620	
6	1552	65	667.59	985	70.95	668.04	9152426	
7	0830	65	667.59	11610	70.95	668.04	9153326	
8	0940	65	667.59	6775	71.2	667.89	9164896	
9	0830	65	667.59	19285	71.5	667.49	9180417	
10	0830	65	667.59	18985	71.7	667.29	9195938	
11	1711	69	667.93	15270	72.2	666.79	9220522	
12	1005	67	667.86	15860	72.4	666.59	9232064	
13	0930	63	667.43	18135	73.0	665.99	9249190	
14	0851	65	667.76	17965	73.4	665.59	9266316	
15	0817	50	666.34	13820	73.9	665.09	9284168	
16	0817	50	666.34	10725	73.45	665.54	9290914	* not able to get manual reading
17	0815	40	665.51	9225	74.9	664.09	9300943	
18	0830	49	665.76	4470	74.9	664.09	9310950	
19	0900	47	666.09	0	74.3	664.69	9310950	
20	1845	51	666.43	2895	73.7	665.29	9315289	
21	0830	46	666.01	13795	*	-	9318189	
22	0830	40	665.51	5925	*	-	9326520	
23	0830	38	665.34	4090	*	-	9326520	
24	0830	45	665.93	0	*	-	9339520	
25	0830	50	666.34	2245	*	-	9349188	
26	0830	38	665.34	13230	*	-	9354017	
27	0830	42	665.68	1760	*	-	9358846	
28	0830	44	665.89	6075	*	-	9360382	
29	0830	43	665.76	6905	*	-	9367507	
30	0830	37	665.26	5370	*	-	9379254	

GHD 013968

PLC is giving false readings
* could not get reading - Tape won't

YEAR: 2016 MONTH: December

LEAK DIRECTION 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 (equals 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	0840	72.35							
6									
7									
8									
9									
10									
11									
12	0842	72.35							
13									
14									
15									
16									
17									
18									
19	0838	72.3							
20									
21									
22									
23									
24									
25									
26									
27	0845	72.3							
28									
29									
30									
31									

AR: 2016

MONTH: December

LEACHATE COLLECTION SYSTEM

January 15
Page 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	0				
2		0	671.0	0				
3		0	671.0	0				
4		0	671.0	0				
5	0835	0	671.0	0	69.7	671.13		
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		0	671.0	0				
12	0839	0	671.0	0	69.6	671.23		
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	0831	0	671.0	0	69.6	671.23		
20		0	671.0	0				
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	0840	0	671.0	0	69.6	671.23		
28		0	671.0	0				
29		0	671.0	0				
30		0	671.0	0				
31		0	671.0	0				

YEAR: 2016

MONTH: December

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	41	665.59	3295	*		937712	
2	0830	23	664.09	6840	*		9380493	
3	0530	40	665.51	2885	*		9387373	
4	0630	45	665.93	5020	*		9390218	
5	0830	24	664.18	6925	*		9398836	
6	0834	24	664.18	5220	*		9404360	
7	0836	38	665.34	3315	*		9407408	
8	0831	42	665.68	5895	*		9410699	
9	0840	25	664.26	5720	*		9419094	
10	0936	43	665.76	1040	*		9423409	
11	0931	48	666.18	2280	*		9427506	
12	0829	42	665.68	11515	*		9431732	
13	0830	24	664.18	5805	*		9440072	
14	0841	36	665.18	5240	*		9450953	
15	0832	36	665.18	4075	*		9456195	
16	0836	45	665.93	0	*		9456195	
17	0828	47	666.09	9940	*		9460270	
18	0832	47	666.09	6775	*		9470210	
19	0830	23	664.09	5990	*		9476985	
20	0831	23	664.09	4105	*		9482475	
21	0830	38	665.34	0	*		9482475	
22	0732	46	666.01	3890	*		9486580	
23	0728	50	666.34	14085	*		9483089	
24	0729	37	665.26	6295	*		9497174	
25	0730	22	664.01	1370	*		9503469	
26	0734	45	665.93	9765	*		9504839	
27	0826	38	665.34	6575	*		9514604	
28	0820	38	665.34	6245	*		9522294	
29	0732	22	664.01	6365	*		9529576	
30	0736	22	664.01	6235	*		9535982	
31		41	665.59	5795	*		9542307	

GHD 013968

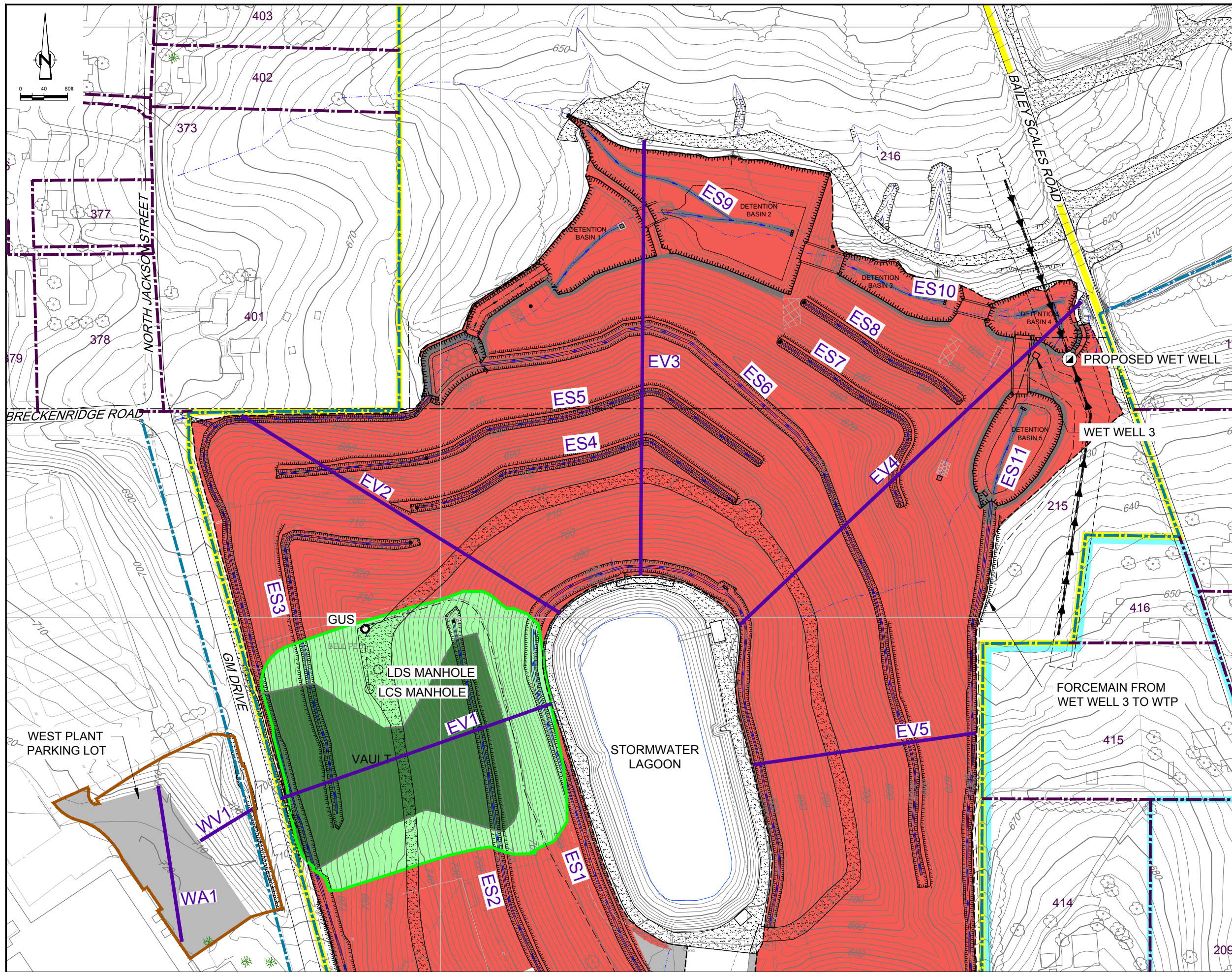
* - NO manual readings. Attempting to get measurement several times A day.

Appendix B

Cover System Inspection Logs

Appendix B-1

Cover System Inspection Locations



LEGEND

- EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL)
- 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 GM PROPERTY BOUNDARY
- APPROXIMATE PROPERTY BOUNDARY
- EXISTING STORM SEWER
- WEST PLANT COVER LIMIT
- VAULT LIMIT
- EAST PLANT COVER LIMIT
- DRAINAGE DITCH
- ASPHALT PAVEMENT AREA
- LOW FLOW CHANNEL
- EAST PLANT AREA
- GM LLC OWNED RESIDENTIAL
- 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 PILOT TRENCH
- VAULT GROUNDWATER UNDERDRAIN SYSTEM SUMP
- LEAK DETECTION SYSTEM SUMP
- LEACHATE COLLECTION SYSTEM SUMP
- TRANSECT

TRANSECT LABELING

- E EAST PLANT COVER
- V VEGETATIVE COVER
- A ASPHALT COVER
- W WEST PLANT COVER
- S SWALE

SCALE VERIFICATION

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

**GM CET BEDFORD FACILITY
BEDFORD, INDIANA**

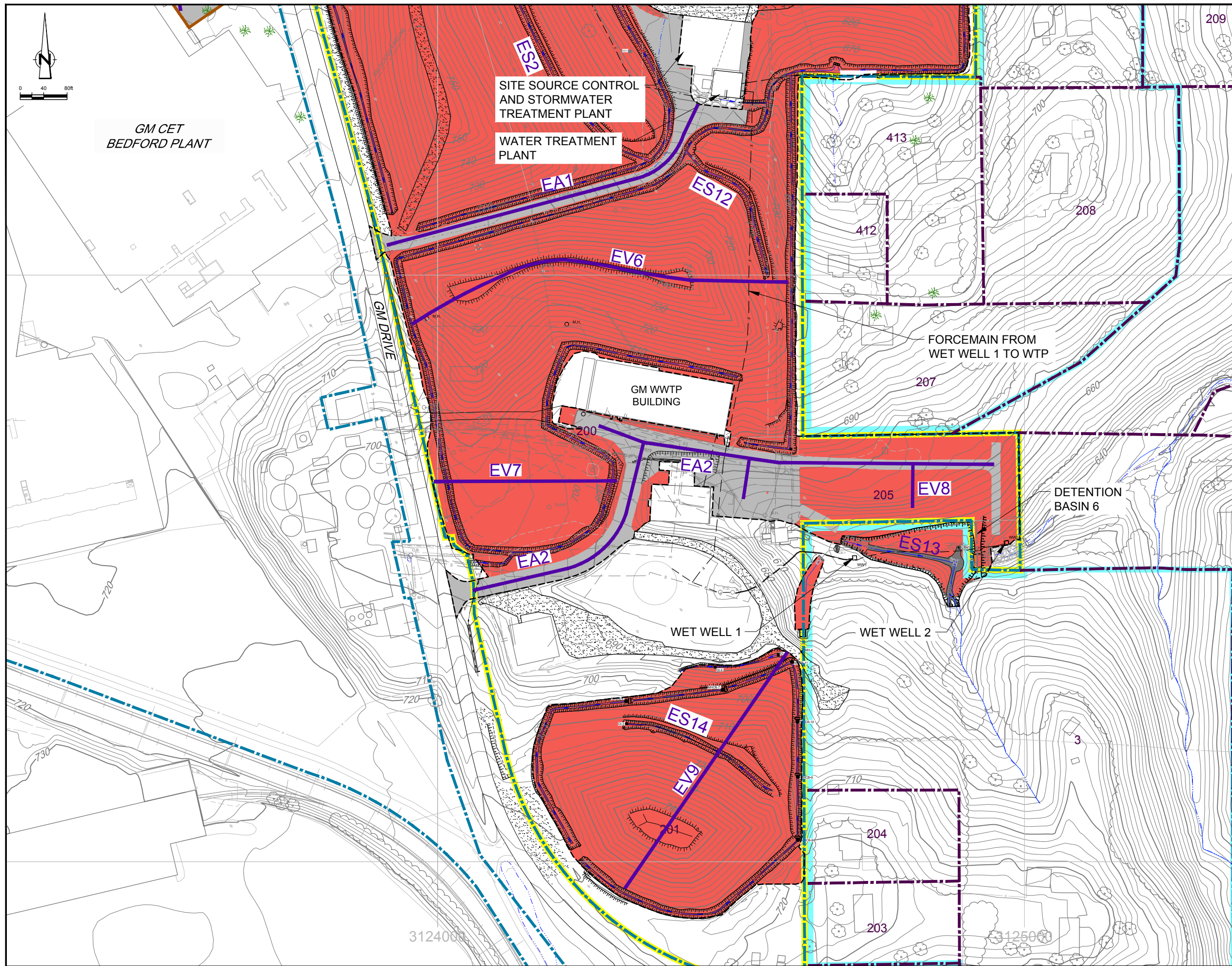
INTERIM OPERATIONS, MAINTENANCE AND MONITORING PLAN
EAST PLANT COVER SYSTEM

**EAST PLANT COVER SYSTEM INSPECTIONS
NORTHERN SECTION AND WEST PLANT
COVER SYSTEM INSPECTIONS**

CRA CONESTOGA-ROVERS & ASSOCIATES

Source Reference:
BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI, APRIL 2001
AND CRA SURVEYS 2002 TO 2008

Project Manager: J.M.	Reviewed By: P.G.	Date: FEBRUARY 2015
Scale: 1:80	Project N°: 13968-00	Report N°: 350
		Drawing N°: figure D.1



LEGEND

- EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL)
- 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 GM PROPERTY BOUNDARY
- APPROXIMATE PROPERTY BOUNDARY
- EXISTING STORM SEWER
- WEST PLANT COVER LIMIT
- VAULT LIMIT
- EAST PLANT COVER LIMIT
- DRAINAGE DITCH
- ASPHALT PAVEMENT AREA
- LOW FLOW CHANNEL
- EAST PLANT AREA
- GM LLC OWNED RESIDENTIAL
- 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 PILOT TRENCH
- VAULT GROUNDWATER UNDERDRAIN SYSTEM SUMP
- LEAK DETECTION SYSTEM SUMP
- LEACHATE COLLECTION SYSTEM SUMP
- TRANSECT

TRANSECT LABELING

- E EAST PLANT COVER
- V VEGETATIVE COVER
- A ASPHALT COVER
- W WEST PLANT COVER
- S SWALE

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
SOUTHERN SECTION**

CRA CONESTOGA-ROVERS & ASSOCIATES

Source Reference:
BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI, APRIL 2001
AND CRA SURVEYS 2002 TO 2008

Project Manager: J.M.	Reviewed By: P.G.	Date: FEBRUARY 2015
Scale: 1:80	Project N°: 13968-00	Report N°: 350
		Drawing N°: figure D.2

Appendix B-2

First Quarter 2016

TABLE D.1

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

Date of Inspection: 3-30-16 Weather: Sunny
Inspector: M. Curtis / G. Seng Temperature: 64°

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	X		mole holes	
		- 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	X		mole holes	
		- 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 EV3</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	X		mole holes	
		- ROOTING OF TREES				
	<u>Transect EV4</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	X		slight erosion	
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- ROOTING OF TREES				
	<u>Transect EV5</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	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)					
	<u>Transect EV6</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	X		groundhog hole
		- ROOTING OF TREES			
	<u>Transect EV7</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	X		mole holes
		- ROOTING OF TREES			
	<u>Transect EV8</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	X		mole holes
		- 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	X		mole holes	
		- 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						
	Transect ES1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	trees need cut
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- ROOTING OF TREES				
	Transect ES2	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	trees need cut
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- ROOTING OF TREES				
	Transect ES3	- 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	
		- 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 ES4	- 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	
		- ROOTING OF TREES				
	Transect ES5	- 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	
		- ROOTING OF TREES				
	Transect ES6	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	
		- EROSION	X		slight erosion	
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- 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	X		mole holes	
		- ROOTING OF TREES				
	<u>Transect ES8</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	
		- ROOTING OF TREES				
	<u>Transect ES9</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	
		- 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 ES10</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
		- ROOTING OF TREES			
	<u>Transect ES11</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 ES12</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			

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	
		- ROOTING OF TREES				
	<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				
		- ROOTING OF TREES				



Photo 1: ES6 south of EV5 East Plant Area Cover facing North



Cover System Inspection 1ST Quarter 2016



Photo 2: Looking north toward ES11 East Plant Area Cover



Cover System Inspection 1ST Quarter 2016



Photo 3: Looking Northeast along EV4 East Plant Area Cover toward ES7, ES8, ES10, and ES11



Photo 4: Looking Northeast along EV4 East Plant Area Cover



Cover System Inspection 1ST Quarter 2016



Photo 5: EV3 East Plant Area Cover facing North toward ES9 (Detention Basins 1 and 2) and ES6



Photo 6: Looking along ES5 East Plant Area Cover facing West



Cover System Inspection 1ST Quarter 2016



Photo 7: ES6 East Plant Area Cover facing South



Cover System Inspection 1ST Quarter 2016



Photo 8: ES5 East Plant Area Cover, east of EV2, facing West



Cover System Inspection 1ST Quarter 2016



Photo 9: EV1 Vault Cover System, looking South along ES3



Photo 10: Looking West at WV1 West Plant Area Cover System



Cover System Inspection 1ST Quarter 2016



Photo 11: Facing East toward ES1 East Plant Area Cover



Photo 12: Bare spots near ES2 East Plant Area Cover System facing West



Cover System Inspection 1ST Quarter 2016



Photo 13: Weed growth and bare spots along ES1 East Plant Area Cover System facing South



Cover System Inspection 1ST Quarter 2016



Photo 14: EV8 East Plant Area cover (Parcel 205) facing East



Photo 15: ES12 East Plant Area Cover System looking North



Cover System Inspection 1ST Quarter 2016



Photo 16: Looking South toward EA2 East Plant Area Cover at EV7



Photo 17: Evidence of burrowing at EV7 East Plant Area Cover



Cover System Inspection 1ST Quarter 2016



Photo 18: EV9 East Plant Area Cover System at ES14



Photo 19: EV9 (Parcel 201) East Plant Area Cover looking East



Cover System Inspection 1ST Quarter 2016

Appendix B-3

Second Quarter 2016

TABLE D.1

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

Date of Inspection: 6/16/2016

SUNNY

Inspector: MIKE CURTIS

91 DEGREES

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	X		mole holes	
		- ROOTING OF TREES			small trees	cut down small trees 06/16/2016
	<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	X		mole holes	
		- 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	X		mole holes	
		- 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	X		mole holes	
		- 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)						
	<u>Transect EV6</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	X		groundhog hole	
		- ROOTING OF TREES				
	<u>Transect EV7</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	X		mole holes	
		- ROOTING OF TREES				
	<u>Transect EV8</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	X		mole holes	
		- 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	X		mole holes	
		- 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						
	Transect ES1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	trees need cut
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- ROOTING OF TREES				
	Transect ES2	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	trees need cut
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- ROOTING OF TREES				
	Transect ES3	- 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	
		- 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 ES4	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	
		- ROOTING OF TREES				
	Transect ES5	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	
		- ROOTING OF TREES				
	Transect ES6	QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	
		- EROSION	X		slight erosion	
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- 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	X		mole holes
		- ROOTING OF TREES			
	<u>Transect ES8</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
		- ROOTING OF TREES			
	<u>Transect ES9</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
		- 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	
		- ROOTING OF TREES				
	Transect ES11	- 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				
	Transect ES12	- 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				

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 ES13	- 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	
		- ROOTING OF TREES				
	Transect ES13	- 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				



Photo 1: EV1 Vault Cover System, looking west along ES3.



Cover System Inspection 2nd Quarter 2016



Photo 2: EV1 north edge of Vault Cover facing northwest.



Cover System Inspection 2nd Quarter 2016



Photo 3: Facing northwest across pond toward EV2 East Plant Area Cover.



Cover System Inspection 2nd Quarter 2016



Photo 4: ES4 East Plant Area Cover, east of EV2, facing north.



Cover System Inspection 2nd Quarter 2016



Photo 5: Patchy vegetative growth ES6 East Plant Area Cover.



Cover System Inspection 2nd Quarter 2016



Photo 6: Looking along ES5 East Plant Area Cover facing east.



Cover System Inspection 2nd Quarter 2016



Photo 7: EV3 East Plant Area Cover facing North toward ES9
(Detention Basins 1 and 2) and ES6.



Cover System Inspection 2nd Quarter 2016



Photo 8: Patchy vegetative growth at EV5.



Cover System Inspection 2nd Quarter 2016



Photo 9: Looking west toward ES11 East Plant Area Cover.



Cover System Inspection 2nd Quarter 2016



Photo 10: EV6 East Plant Area Cover facing southeast.



Photo 11: EV6 East Plant Area cover facing southeast.



Cover System Inspection 2nd Quarter 2016



Photo 12: Weed growth and patchy spots along ES1 East Plant Area
Cover System facing South.



Cover System Inspection 2nd Quarter 2016



Photo 13: EV6 and EV8 East Plant Area cover (Parcel 205) facing south.



Cover System Inspection 2nd Quarter 2016



Photo 14: ES14 East Plant Area Cover System looking North.



Cover System Inspection 2nd Quarter 2016



Photo 15: Looking South from EV6.



Cover System Inspection 2nd Quarter 2016



Photo 16: Facing north across EV8 from ES13.



Cover System Inspection 2nd Quarter 2016



Photo 17: Woodchuck of burrowing at EV7 East Plant Area Cover.



Cover System Inspection 2nd Quarter 2016



Photo 18: EV9 East Plant Area Cover System at ES14.



Cover System Inspection 2nd Quarter 2016

Appendix B-4

Third Quarter 2016

TABLE D.1

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

Date of Inspection: 9/30/2016 sunny

Inspector: mike curtis 67 degrees F

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	X		mole holes	
		- 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	X		mole holes	
		- 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	X		mole holes	
		- 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	X		mole holes	
		- 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	X		mole holes	
		- 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	X		mole holes	
		- 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	X		mole holes	
		- 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						
	Transect ES1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	trees need cut
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- ROOTING OF TREES				
	Transect ES2	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	trees need cut
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- ROOTING OF TREES				
	Transect ES3	- 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	
		- 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 ES4	- 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	
		- ROOTING OF TREES				
	Transect ES5	- 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	
		- ROOTING OF TREES				
	Transect ES6	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	
		- EROSION	X		slight erosion	
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- 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 ES7	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	
		- ROOTING OF TREES				
	Transect ES8	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	
		- ROOTING OF TREES				
	Transect ES9	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	
		- 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	
		- ROOTING OF TREES				
	Transect ES11	- 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				
	Transect ES12	- 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				

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	
		- ROOTING OF TREES				
	<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				
		- ROOTING OF TREES				



Photo 1: EV1 Vault Cover System.



Cover System Inspection Third Quarter 2016



Photo 2: Patchy vegetative growth at EV2 East Plant Area Cover, southwest of ES4



Cover System Inspection Third Quarter 2016



Photo 3: Vegetative growth along GM Drive, west of ES3 East Plant Area Cover.



Cover System Inspection Third Quarter 2016



Photo 4: EV2 East Plant Area Cover facing southeast towards the Stormwater Pond.



Cover System Inspection Third Quarter 2016



Photo 5: Sign of animal habitat at ES5 East Plant Area Cover.



Cover System Inspection Third Quarter 2016



Photo 6: Looking along ES5 East Plant Area Cover facing north.



Cover System Inspection Third Quarter 2016



Photo 7: EV3 East Plant Area Cover facing North toward ES9.



Cover System Inspection Third Quarter 2016



Photo 8: Patchy vegetative growth between ES7 and ES8.



Cover System Inspection Third Quarter 2016



Photo 9: EV4 East Plant Area Cover looking northeast toward ES11 East Plant Area Cover.



Cover System Inspection Third Quarter 2016



Photo 10: Looking south towards Stormwater Pond.



Cover System Inspection Third Quarter 2016



Photo 11: Vegetative growth along EV5 East Plant Area facing west towards lagoon



Cover System Inspection Third Quarter 2016



Photo 12: Vegetative growth south of EV5 facing east.



Cover System Inspection Third Quarter 2016



Photo 13: Slight topsoil erosion at ES12 East Plant Area Cover System.



Cover System Inspection Third Quarter 2016



Photo 14: Weed growth at ES12 East Plant Area Cover.



Cover System Inspection Third Quarter 2016



Photo 15: Facing southwest towards EV7 from EV6.



Cover System Inspection Third Quarter 2016



Photo 16: Slight topsoil erosion at EV6 East Plant Area Cover.



Cover System Inspection Third Quarter 2016



Photo 17: East Plant Area Cover System west of ES2.



Cover System Inspection Third Quarter 2016



Photo 18: EV7 East Plant Area Cover facing south towards EV9.



Cover System Inspection Third Quarter 2016



Photo 19: EV9 East Plant Area Cover facing south.



Cover System Inspection Third Quarter 2016



Photo 20: ES14 East Plant Area Cover vegetation.



Cover System Inspection Third Quarter 2016

Appendix B-5

Fourth Quarter 2016

TABLE D.1

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

Date of Inspection: 12/21/2016

Weather: sunny

Inspector: Mike Curtis

45 degrees F

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	X		mole holes	
		- 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	X		mole holes	
		- 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	X		mole holes	
		- 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	X		mole holes	
		- 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	X		mole holes	
		- 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	X		mole holes	
		- 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 EV9	- 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		mole holes	
		- ROOTING OF TREES				
	Transect WV1	- 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						
	Transect ES1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	trees need cut
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- ROOTING OF TREES				
	Transect ES2	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	trees need cut
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- ROOTING OF TREES				
	Transect ES3	- 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	
		- 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 ES4	- 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	
		- ROOTING OF TREES				
	Transect ES5	- 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	
		- ROOTING OF TREES				
	Transect ES6	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	X		heavy weed growth and some bare spots	
		- EROSION	X		slight erosion	
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	X		mole holes	
		- 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 ES7	- 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	
		- ROOTING OF TREES				
	Transect ES8	- 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	
		- ROOTING OF TREES				
	Transect ES9	- 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	
		- 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	
		- ROOTING OF TREES				
	Transect ES11	- 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				
	Transect ES12	- 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				

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	
		- ROOTING OF TREES				
	<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				
		- ROOTING OF TREES				



Photo 1: EV1 Vault Cover System west slope vegetation



Cover System Inspection Fourth Quarter 2016



Photo 2: EV1 Vault Cover facing west toward pond



Cover System Inspection Fourth Quarter 2016



Photo 3: Tree at ES2



Cover System Inspection Fourth Quarter 2016



Photo 4: Patchy vegetative growth at EV2



Cover System Inspection Fourth Quarter 2016



Photo 5: Vegetative growth along GM Drive, west of ES3 East Plant
Area Cover facing west



Cover System Inspection Fourth Quarter 2016



Photo 6: EV2 East Plant Area Cover facing northwest



Cover System Inspection Fourth Quarter 2016



Photo 7: Rip-rap erosion at ES6 East Plant Area Cover



Cover System Inspection Fourth Quarter 2016



Photo 8: EV3 East Plant Area Cover facing north (CH-29D)



Cover System Inspection Fourth Quarter 2016



Photo 9: Temporary pumping lines in ES1 East Plant Area
Cover at north end of Pond



Cover System Inspection Fourth Quarter 2016



Photo 10: ES9 East Plant Area Cover



Cover System Inspection Fourth Quarter 2016



Photo 11: ES9 East Plant Cover System facing east through detention basins



Cover System Inspection Fourth Quarter 2016



Photo 12: EV4 East Plant Area Cover looking northeast toward
ES11 East Plant Area Cover



Cover System Inspection Fourth Quarter 2016



Photo 13: Looking north along ES11 East Plant Area Cover



Cover System Inspection Fourth Quarter 2016



Photo 14: Vegetative growth along EV5 East Plant Area facing east, away from pond



Cover System Inspection Fourth Quarter 2016



Photo 15: Former animal burrow near ES6 East Plant Area Cover



Cover System Inspection Fourth Quarter 2016



Photo 16: Patchy growth at ES12 East Plant Area Cover



Cover System Inspection Fourth Quarter 2016



Photo 17: Facing west along EV7 East Plant Cover



Cover System Inspection Fourth Quarter 2016



Photo 18: East Plant Area Cover System southeast of EV6



Cover System Inspection Fourth Quarter 2016



Photo 19: ES14 East Plant Area Cover facing south towards EV8 and ES13



Cover System Inspection Fourth Quarter 2016



Photo 20: EV9 East Plant Area Cover patchy vegetation.



Cover System Inspection Fourth Quarter 2016

Appendix C

Mag Meter Verification Certification

Flowmeter Verification Certificate Transmitter

GM/GHD

Customer

Order code

PROMAG 50 W DN40

Device type

F1095C16000

Serial number

V2.04.00

Software Version Transmitter

03/31/2016

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

11:23 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

07/2015

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

07/2015

Last Calibration Date

Mark A.
Rodgers

Digitally signed by Mark A. Rodgers
DN: cn=Mark A. Rodgers, o=Turnkey
Instrument Solutions, ou,
email=mark.rodgers@turnkeyinstrum
entsolutions.com, c=US
Date: 2016.03.31 13:18:34 -04'00'

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	GM/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	03/31/2016	Verification time	11:23 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 %	0.36 %
✓		7.967 gal/m (10.0%)	1.50 %	0.03 %
✓		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	-0.002 mA
✓		4.800 mA (5%)	0.05 mA	-0.003 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.003 mA
✓		12.000 mA (50.0%)	0.05 mA	-0.002 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	3.200 ms	0.000..10.200 ms	3.895 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..229.578 mV	44.535 mV

Legend of symbols

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

FieldCheck: Parameters Transmitter

Customer	GM/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	03/31/2016	Verification time	11:23 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.

121.0

Flowmeter Verification Certificate Transmitter

GM/GHD

Customer

Order code

PROMAG 50 W DN40

Device type

F1095B16000

Serial number

V2.04.00

Software Version Transmitter

03/31/2016

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

09:34 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

07/2015

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

07/2015

Last Calibration Date

Mark A. Rodgers

Digitally signed by Mark A. Rodgers
DN: cn=Mark A. Rodgers,
o=Turnkey Instrument Solutions,
ou,
email=mark.rodgers@turnkeyinstru-
mentsolutions.com, c=US
Date: 2016.03.31 13:21:17 -0400

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	GM/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	03/31/2016	Verification time	09:34 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 %	0.37 %
✓		7.967 gal/m (10.0%)	1.50 %	0.02 %
✓		39.836 gal/m (50.0%)	1.50 %	0.01 %
✓		79.672 gal/m (100%)	1.50 %	0.01 %
	Current Output 1			
✓		4.000 mA (0%)	0.05 mA	-0.003 mA
✓		4.800 mA (5%)	0.05 mA	-0.003 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.004 mA
✓		12.000 mA (50.0%)	0.05 mA	0.000 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	3.868 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..107.369 mV	26.300 mV

Legend of symbols

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

FieldCheck: Parameters Transmitter

Customer	GM/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	03/31/2016	Verification time	09:34 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.

117.0

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