

East Plant Area TSCA Vault Annual Report Calendar Year 2015

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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
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 2015
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
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 2015 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 (formerly Conestoga-Rovers and Associates, Inc. [CRA], which became GHD effective July 1, 2015) 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). 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 least monthly; however, monitoring was generally completed on a weekly basis in 2015, 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. 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 calendar year of 2016 will be submitted to U.S. EPA on or before July 15, 2017.

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 2015 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) 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 2015 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 if they occurred outside of the Exclusion Zone 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 the respective PCB concentration
- 6) The Vault inspection logs and maintenance activities

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

In 2015, 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 2015. 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 2015 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. Water from the Vault sumps is primarily treated through the SSC WTP, but can be treated through the 2,000 gpm treatment system, which is similar in design but has a much larger throughput capacity. Both the on-Facility SSC WTP and the 2,000 gpm treatment system discharge at Outfall 003 (combined treated effluent streams from the SSC WTP and 2,000 gpm treatment system), which is sampled monthly under the NPDES permit (NPDES Permit No. IN0003573). The SSC WTP was used to treat water removed from the Vault Sumps for all of 2015. Data collected during the 2015 calendar year were reported according to the NPDES permit.

The amount of water treated in and discharged from the SSC WTP and 2,000 gpm treatment system was recorded daily. A summary of the total monthly volume and daily average of treated water in the SSC WTP and 2,000 gpm treatment system for 2015 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 calendar year of 2015.

GHD completed inspections of the Vault Cover System on a quarterly basis (March 12, 2015, June 11, 2015, September 28, 2015, and December 16, 2015), coincident with inspection of the West Plant Area and East Plant Area Cover Systems. The findings of these inspections were previously

reported in the 1st, 2nd, 3rd, and 4th Quarterly Progress Reports for 2015 (submitted to U.S. EPA on April 15, July 15, and October 15, 2015 and January 15, 2016, respectively). A summary of the findings related to the Vault Cover System in 2015 is as follows:

- Some weed and clover growth
- Some bare spots (these areas were reseeded).
- Visual evidence of potential burrowing animals – likely moles (exterminator contacted to assess removal of moles)
 - Liner companies confirmed that moles do not burrow deep enough to damage the Cover System liners, therefore no risk to the Vault Cover System.

There were no significant findings (i.e. no issues that pose a risk to the integrity of the liners) for the Vault Cover System. Copies of the Cover System inspection forms can be found in Appendix B.

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 not necessary in 2015. The need to service the pumps is judged on the ability of the pumps to maintain the water levels in the sump. The Grundfos 40S submersible pump in the GUS did not require service, which was based on an assessment made by the pump's ability 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).

Piping and link-seals were inspected on a continuous basis throughout 2015.

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 March 19, 2015 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, CH-20, and CH-23 were monitored with the bi-annual Environmental Indicator (EI) CA750 monitoring program in 2015. EI CA750 groundwater samples were collected for the Facility, including samples downgradient from the Vault (e.g., GUS and 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.

In addition to sampling of the GUS, and three 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 2015 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.

The first semi-annual EI CA750 groundwater sampling event of 2015, including the GUS sump, was completed May 4 through 7, 2015, and the second semi-annual sampling event of 2015 was completed on November 2, 3, and 5, 2015.

Analytical results for PCBs for the first semi-annual sampling event of 2015 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 2015.

PCBs were detected at the following sampling locations: the GUS sump (32 J µg/L), corehole 9-4 (non-detect in parent sample, 0.098 J µg/L in duplicate sample), CH-23 (0.062 J µg/L for the parent sample and non-detect for the duplicate sample), and MW-X227Y054 (9.4 J µg/L). MW-X227Y054 had previous detections in May and November 2014, June and October 2013, and July 2012. Detections at other wells with previous recent detections (CH-42, CH-44, MW-X085Y070S-2, MW-X047Y236, MW-X060Y304, MW-X277Y100, MW-X315Y150, Tributary 3-3) were not observed during this event. The concentration of PCBs during this sampling event at corehole 9-4 and CH-23 were below the Maximum Contaminant Level (MCL) of 0.5 µg/L, while MW-X227Y054 and the GUS sump had concentrations above 0.5 µg/L.

At MW-X169Y058S-1, vinyl chloride was detected at a concentration of 4.3 µg/L, which is consistent with previous analytical results which have ranged from non-detect to 8.6 µg/L.

At the GUS sump, 1,3-Dichlorobenzene was detected at a concentration of 0.37 µg/L.

Analytical results for PCBs for the second semi-annual sampling event of 2015 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 2015.

PCBs were detected at the following sampling locations: the GUS sump and MW-X227Y054. The detection was 28 µg/L PCBs for the GUS sump. MW-X227Y054 had a detection of 8.3 µg/L for PCBs, consistent with previous detections in May 2015, May and November 2014, July 2012, June and October 2013, and May 2015. Detections at other wells with previous recent detections (corehole 9-4, CH-23, CH-42, CH-44, MW-X085Y070S-2, MW-X047Y236, MW-X060Y304, MW-X277Y100, MW-X315Y150, Tributary 3-3) were not observed during this event. The concentration of PCBs during this sampling event at MW-X227Y054 and the GUS sump (8.3 µg/L and 28 µg/L, respectively) were above the MCL of 0.5 µg/L.

At MW-X169Y058S-1, vinyl chloride was detected at a concentration of 2.9 µg/L, which is consistent with previous analytical results which have ranged from non-detect to 8.6 µg/L.

At the GUS sump, 1,3-Dichlorobenzene was detected at a concentration of 0.25J µg/L, which is consistent with the previous analytical result of 0.37 µg/L in May 2015.

Sample Quality

The analytical data collected during both the first and second half of 2015 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 2015; however, due to insufficient water volume present in the sump, there were several months where there was not enough water present in the sump to prime the pump and collect a sample. Ten samples were collected from the LCS and three from the LDS. Analytical data for samples collected from the LCS and LDS in 2015 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 2015.

Samples were collected monthly from the water in the LCS sump during 2015, with at least one sample collected per quarter, but with no samples collected in November and December. Attempts were made to collect a sample in November and December; however, these attempts were unsuccessful due to insufficient water volumes in the sump to prime the pump. Sampling results for the LCS sump ranged from non-detect to 0.42 $\mu\text{g/L}$ for Total PCBs in 2015, which is less than the 2.0 $\mu\text{g/L}$ Total PCBs peak in 2014. The maximum Total PCBs result was 1.8 $\mu\text{g/L}$ in 2013 and 15.3 $\mu\text{g/L}$ in 2012. Sample collection of water in the LDS sump was limited in 2015, due to insufficient water volumes in the sump to prime the pump for sample collection. Although sampling was attempted monthly, samples were only collected in July, September, and October of 2015. Therefore, the quarterly samples could not be collected per the PCP, due to a lack of available water. Sampling results for samples collected from the LDS sump in 2015 ranged from non-detect to 0.38 $\mu\text{g/L}$ for Total PCBs. The analytical results are consistent with the results for the samples collected in 2014 (results ranged from non-detect to 0.34 $\mu\text{g/L}$), which demonstrated a continued significant decrease from the maximum PCB concentration of 13 $\mu\text{g/L}$ in 2013.

Sample Quality

There were no sample quality issues for samples collected from the LCS and LDS sumps in 2015.

3.3 GUS Analytical Results

The GUS sump was added to the bi-annual EI CA750 monitoring program in 2015, per 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 and second half of 2015 sampling events for the EI CA750 monitoring program were 32 J µg/L and 28 µg/L, respectively. All analytical data for samples collected from the GUS in 2015 are presented in Table 3.5. These detections are likely due to the Vault's location downgradient of Area of Interest 21 Area 2 (AOI 21-2), where ≥50 mg/kg PCBs fill material is present, because the fill was impractical to remove without endangering a high pressure gas line. Also contributing to the PCB detections in the Vault GUS is the presence of materials impacted by PCBs under portions of the East Plant Area Cover System, which surrounds the Vault. We do not believe the PCB detections in the Vault GUS are related to the integrity of the liner systems comprising the Vault. Water pumped from the GUS is directed to and treated at the SSC WTP. Analytical results for samples collected from the treated water discharge stream from the SSC WTP 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 2015, water removed from the LCS, LDS and GUS was directed via permanent forcemain to the SSC WTP. An operational change was made in 2015 so that water removed from the LDS was no longer directed into the LCS sump. In 2015, the temporary overland hose used to direct discharge from the LDS sump was connected to the LDS hard/permanent piping within the LCS sump to directly transfer water pumped from LDS sump to the forcemain, then to the EQ tank located south of the on-Facility SSC WTP. At the EQ tank, the effluent from the Vault collection systems was also combined with water from three groundwater collection system wet wells prior to treatment in the WTP.

The SSC WTP is sampled monthly under the NPDES permit (NPDES Permit No. IN0003573) to discharge at Outfall 003. Sampling results for the SSC WTP were non-detect for Total PCBs for all samples collected in 2015. The analytical results for monthly samples collected from Outfall 003 in 2015 are presented in Table 3.6.

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 calendar year of 2015. All of the pumped leachate, leak detection liquid, and groundwater were treated by the on-Facility SSC WTP.

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 manually measured on a weekly basis throughout 2015. 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 can store 7 days worth of data).

Since the beginning of the Vault sump operations in 2006 until mid-2014, manual calculations were used 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. Now that the PLC logged flow volume data (for the LCS and GUS) and local flow meter readings (for each of the Vault systems) are routinely recorded, the total volume removed from each of the sumps based on flow meter readings will be used for year to year comparisons. 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 continues to be transported via forcemain and discharged for treatment in the on-Facility SSC, 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. 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. 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 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 were collected generally on a weekly basis (in excess of the monthly monitoring required by the PCP) in 2015. The automated system records the maximum level and total pumped quantities on a daily basis. During a routine maintenance inspection in late October 2015 it was observed that the PLC readings for daily total volume pumped from the LCS sump did not correspond to the local flow meter (mag meter) volume readings. The PLC was consistently recording zero volume but the local flow meter indicated that a volume had been pumped from the sump. A review of the PLC water levels confirmed that water had been pumped due to a drop in recorded maximum daily water level measurements. On November 2, 2015, the system programmer checked the automated system programming logic and discovered that the clock in the PLC at the Vault was set to the same exact time as the clock in the PLC in the WTP. As such, the PLC at the Vault was zeroing the daily data before the information could be transferred to the main PLC at the WTP across the cellular network (where Vault data is copied and recorded by field personnel). GHD reprogrammed the clock in the PLC at the Vault so that it lagged the main PLC clock by 30 seconds, to allow enough time for the data to be transferred from the PLC at the Vault across the cellular network to the main PLC. Following this reprogramming effort, the main PLC data for total daily volume pumped from the LCS sump corresponded to the PLC water level measurements and local flow meter readings.

As discussed in the September 18, 2014 Responses to U.S. EPA March 18, 2014 Comments (response A.4.c), the LCS sump storage is unconfined within the relatively large gravel layer that surrounds the manhole sump, thereby resulting in an underestimation of the net volume evacuated from the LCS when calculating the volume removed based solely on a change of head within the sump. This method of calculating the volume removed from the LCS is now used only to provide a means to compare data to prior calendar year volume calculations when PLC records and local flow meter readings did not exist as part of the system, or were not routinely recorded. The LCS total volume removed measurement based on the local flow meter readings began in May 2014 and will be used for year to year comparison of total annual volume removed moving forward, since it is deemed more accurate. The local flow meter is inspected and calibrated on an annual basis, per the manufacturer's recommendation, as part of the Vault Post-Closure maintenance requirements.

Manual water level measurements continued to be collected on at least a monthly basis, but were generally completed weekly throughout 2015. Throughout 2015, there was some variation between the manual water level measurements and PLC recorded water depths, up to a difference of approximately 20 inches. Generally, the differences in water elevation data can be attributed to the fact that the automated system records the daily maximum water level, which may not have occurred at the time that the instantaneous manual water level measurement was collected. In addition, variations in the PLC recorded levels versus the manual measurements are possible due to changes in field personnel obtaining the water levels and using different measurement reference points. GHD continues to validate the data collected by the automated system with the manual water level data (and vice versa in some cases) and volumes reported by the local flow meter.

With the following exception, the water elevation in the LCS was maintained within the operating limits set out in the PCP. On July 12, 2015, the water depth recorded at the PLC suggested that water level within the LCS sump rose above 36 inches (i.e. above 674.0 ft AMSL) and continued to slowly rise to a maximum depth of 40 inches (equivalent water surface elevation of 674.33 ft AMSL) on September 24, 2015, when pumping was manually initiated to bring the water elevation down to 22 inches deep (672.83 ft AMSL). Throughout this period, manual water level measurements in the LCS sump were collected on an approximate weekly basis for a total of 12 manual water level measurements in an attempt to verify the PLC depth readings. These measurements were

inconsistent with the water depths recorded at the PLC (four of the manual measurements indicated that the water level was below 36 inches deep or 674.0 ft AMSL) and did not correspond to the local flow meter readings. Pumping of the LCS sump occurred on two occasions during this period, on July 28, 2015 and August 25, 2015, for the purpose of the collection of a monthly water sample.

It should be noted that although the water level measurements at the PLC showed in excess of 36 inches of water depth in the sump, this condition could not be consistently verified by the manual measurements. In addition, if the PLC water levels were accurate, the average depth of leachate maintained over the footprint of the Vault remained less than 1 ft (see “equivalent depth of water over primary liner column in Table 2.1) maintaining compliance with Condition 31 of the Approvals (for further discussion, see the memorandum, *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*, CRA, September 18, 2014).

Based on further investigation it was determined that the lead pump for the LCS sump was inadvertently switched into manual mode, meaning that the pump would not activate unless it was manually switched on, explaining why the pumps did not automatically engage between July 12 and September 24, 2015. The standby or lag pump was placed in auto mode; however, the lag pump programming logic setting was such that it would not start pumping until the water level within the sump reached 48 inches. If the lead pump is placed in auto mode, pumping would be activated once the water level reaches 36 inches within the sump. GHD made adjustments to the automated system, so that both the lead and lag pumps were placed in auto mode. Additionally, pump activation settings were adjusted such that the lead pump will initiate pumping when the water level reaches 35 inches within the sump, and the lag pump will initiate pumping when the water level reaches 36 inches within the sump. The lag pump will only initiate pumping if the lead pump cannot keep the level below 35 inches, in which case, both pumps will run until the level in the LCS sump was lowered to 12 inches.

The total amount of water removed from the LCS in 2015 (approximately 930 gallons based on calculated levels removed, and 11,740 gallons based on local flow meter readings) represents an increase from the amount pumped in 2014 (approximately 700 gallons based on calculated levels removed, and 4,370 gallons based on flow meter readings).

5.2 Leak Detection System

Pumping at the LDS, via a portable pump discharging through overland hose that is connected to the hard piping within the LCS manhole (for direct discharge to the EQ tank via forcemain), occurred on three occasions in 2015 (July 28, September 24, and October 29). Pumping did not occur for the remainder of the months in 2015 due to the water level being too shallow for the pump intake.

The total amount of water removed from the LDS during the 2015 calendar year was approximately 680 gallons based on volume calculations and 1,600 gallons based on flow meter readings, which represents an increase from the amount pumped in 2014 (approximately 410 gallons based on calculated levels removed, and 750 gallons based on flow meter readings).

During 2015, the depth of water in the LDS was maintained between 0 ft and 1.6 ft AFOS (bottom of sump at 668.5 ft AMSL or 72.64 ft below the top of the sump), with the maximum depth of 1.6 ft AFOS (equivalent water surface elevation of 670.13 ft) measured on July 28, 2015. The water level

in the sump was pumped down to 668.8 ft AMSL (approximately 4 inches of water depth) immediately after the maximum water level was measured and recorded on July 28, 2015, consistent with the LDS sump operational procedures in the PCP.

The average daily flow rate was determined using the portable flow meter readings. The measured rate of pumping for the LDS ranged from 0.01 gallons/acre/day to 1.28 gallons/acre/day in 2015. The TSCA theoretical sustained Leakage Action Rate (LAR) is calculated in the PCP as 32,000 gallons/acre/day. Therefore no leaks are suspected based on the monitoring data collected in 2015, as the actual LAR is significantly lower than the theoretical LAR.

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. The automated pumping system was active throughout all of 2015, except for the period of November 19 to 20, when the system was shut off for testing of the level sensor.

Water level measurements were collected by the PLC on a daily basis, and manual water level measurements were collected on a weekly basis throughout 2015. For the majority of 2015, the automated pumping system maintained the water level in the GUS sump below the maximum allowable water level of 666.5 ft AMSL, or 4.33 ft of water depth in the sump. There are two exceptions for when the PLC recorded water level rose above 52 inches (666.51 ft AMSL), and it is believed that these are not actually what was recorded by the PLC, but rather transcription errors when the measurements were being read from the PLC screen and onto the monitoring log form, because the PLC was in working condition and pumping would have initiated if these values were representative of the conditions within the sump.

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 local flow meter at the LCS sump, the total volume removed from the GUS sump in 2015 was 2.51 million gallons, which is consistent with the volume removed from the sump in 2014.

6. Issues Encountered and Remedial Actions

The following is a list of issues, related to the Vault, encountered during the 2015 calendar year and actions taken to rectify the issues:

- Carried forward from 2014, pumping of the LCS and LDS to the equalization tank remained unseparated at the beginning of 2015 due to issues related to installation of a check valve and coordinating confined space repairs with the contractor and facility.
 - The check valve on the hard piping within the LCS sump was repaired on May 26, 2015 so that the temporary overland hoses directing discharge from the LDS sump are directly connected to the permanent hard piping within the LCS sump and then pumped directly to the EQ tank via the permanent forcemain, without ever entering the LCS sump.
- PLC readings for daily total volume pumped from the LCS sump did not correspond to the local flow meter (mag meter) volume readings, and in late October 2015 the PLC started to record zero volume whereas the local flow meter indicated that a volume had been pumped (see Section 5.1).

- The PLC water level records were checked to confirm that they supported the local flow meter readings such that a drop in recorded maximum daily water level measurements was observed coincident to an increase in the local flow meter reading.
- On November 2, 2015, the system programmer checked the automated system programming and realized that the clock at the PLC panel local to the LCS was set such that it was zeroing the daily data before the information could be transferred to the main PLC (where Vault data is copied and recorded by field personnel) across the cellular network. The system programmer reprogrammed the clock in the PLC at the Vault (local to the LCS) so that it lagged the main PLC clock by 30 seconds, to allow enough time for the data to be transferred from the PLC at the Vault across the cellular network to the main PLC. Following this reprogramming effort, the main PLC data for total daily volume pumped from the LCS sump appears to correspond to the PLC water level measurements and local flow meter readings. Local flow meter readings continue to be observed.
- As discussed in Section 5.1, in December 2015 it was determined that one of the pumps (the lead pump) in the LCS sump had been left in manual mode and was not initiating pumping at the programmed 36 inch depth set point. The second pump (lag pump) was in the automatic mode, but the second pump was programmed to trigger at 48 inches as a backup/support to the lead pump.
 - In the fall of 2015, the monitoring forms for collection and recording of the Vault sump data were amended to minimize the gap between data collection and interpretation of the data collected. The maximum water level recorded at the LCS sump within the 24-hour day is automatically stored at the PLC and retrieved by the Operator at the end of the week (the PLC displays seven days of data) and the electronic readings are transferred to the corresponding monitoring log form (GM and GHD are evaluating adding a data recording module when controls are relocated to the new GWTP). Typically, manual water level measurements are collected on the same day that the PLC data is recorded. The current version of the monitoring forms instruct the allowable operating limits for each of the respective Vault systems so that issues can be identified sooner and actions to rectify the issues are taken immediately as they are identified. If/when it is discovered that the water level exceeds the operating limits set out in the PCP (CRA, February 3, 2012), the Operator will first confirm the water levels by manually measuring and recording the water level in the sump and then begin efforts to lower the water levels within the sump, followed by troubleshooting to determine the cause of the.
 - The programming of the LCS automated system was evaluated to investigate why the pumps (lead and standby/lag pump) did not initiate pumping through the automated system when the water level indication on the PLC rose to the “pump on” set point of 36 inches water depth. The local panel at the LCS manhole was checked at the end of December 2015 to ensure that it was placed in AUTO mode, which would allow the SCADA system to communicate and control pumping operations within the LCS sump. Since the local panel was in AUTO mode, the next step was to check the SCADA program itself.
 - The SCADA system programming was examined on January 4, 2016 and it was discovered that the lead pump (confirmed to be set for pumping when the depth of water reaches 36 inches or an elevation of 674.0 ft AMSL) for the LCS sump was placed in manual mode, meaning that the pump would not activate unless it was manually switched on. The standby/lag pump was placed in auto mode; however, the lag pump setting was such that it would not start pumping to support the lead pump

until the water level within the sump reached 48 inches deep (equivalent water level of 675.0 ft AMSL). If the lead pump was placed in auto mode, pumping would be activated once the water level reaches 36 inches deep (674.0 ft AMSL) within the sump.

- In order to insure pumping of the LCS when water levels rise to near 36 inches, GHD completed programming changes to the automated system on January 13, 2016 so that both the lead and lag pumps are placed in auto mode. Additionally, pump activation settings were adjusted such that the lead pump will initiate pumping when the water level reaches 35 inches deep (673.92 ft AMSL) within the sump, and the lag pump will initiate pumping when the water level reaches 36 inches deep (674.0 ft AMSL) within the sump. These settings will insure that the water level does not rise above 36 inches even if the lead pump fails. Both lead and lag pump settings are such that pumping will occur until the water level in the sump is lowered to 12 inches deep (672.0 ft AMSL). In addition, if the lead pump is inadvertently left in Manual mode (e.g. for sampling), the lag pump will operate as intended and keep the water level below 674.0 ft AMSL.
- In addition to correcting the pumping set points within the SCADA system for the LCS automated pumping system, additional programming of the system added an alarm feature to notify Operators of a high water level in the LCS sump and/or the GUS sump.
- GUS manual measurements were inconsistent with PLC recorded water elevation data in that there was an average difference of approximately 8 inches between the two measurements, based on the data collected between January 1 and November 30, 2015.
 - GHD turned off the pumps at the GUS overnight from November 19th to 20th, 2015 for system testing, which included pulling the level sensor from the sump, cleaning it, and reinstalling it (allowing for the max level on November 19th, recorded at midnight, to be approximately the same as the value recorded first thing in the morning). GHD confirmed that the cable used to suspend the level sensor within the sump was installed without being wrapped around any of the pipes within the sump.
 - Field personnel were asked about reasons for variation in manual measurements.
 - Discussion with field staff determined there may have been variations about where the measurements are collected at the GUS manhole (i.e. a consistent reference location was not being used), which could account for inconsistencies between the manual measurements and PLC recorded data, up to 6 inches.
 - Field staff were retrained for proper manual measurement collection at the GUS manhole and a mark was made on the top of concrete at the GUS manhole to ensure the depth to water surface measurements would be collected from the same reference point atop the manhole.
 - The PLC settings were checked to ensure that the offset for the level transducer was consistent with the physical set up in the GUS sump and that PLC recorded values being transferred onto the monitoring log form are actual water levels within the sump (i.e. takes into account the offset of the level transducer) and not the raw transducer readings.
 - It was confirmed that there has been no modifications to the physical configuration of the level sensor set up within the GUS sump, which would affect the offset calculations for water depth.

- A survey of the Vault monitoring systems was conducted on December 7, 2015 to confirm the reference elevations at each of the sumps and update the last survey of the sump structures that was conducted in January 2012.
 - LCS and LDS top of concrete elevations were consistent with the January 2012 survey data.
 - The top of concrete elevation and top of HDPE elevation at the GUS manhole was approximately 0.5 ft lower than the January 2012 survey data.
 - The drop of approximately 0.5 ft is acceptable and can be explained by settlement below the GUS concrete structure (GUS concrete structure is not the full height of the sump; however, the LCS and LDS are full height structures).
 - The Vault monitoring structures were examined for evidence of settlement at the surface of the Vault on December 9, 2015, and there was no visual evidence of settlement (e.g. uneven surface).
 - The 2015 survey data was used to adjust the manual water level measurement data collected for 2015 and resulted in concurrence of the manual measurements and PLC recorded depths.
 - GHD will schedule another survey of the Vault monitoring structures in two years to monitor any additional changes from the current elevation data.
- Samples were collected monthly from water in the LCS sump during 2015, with the exception of November and December. Sampling was unsuccessful in the months of November and December due to pump malfunctions. It was originally believed to be due to insufficient water volume in the sump to prime the pump, however, as water levels continued to rise in 2016, it was identified that the pumps in the LCS were not functioning properly, requiring replacement. The LCS pump failure has previously been reported to U.S. EPA and IDEM. A permanent pump and piping replacement is being evaluated. In the interim a temporary pump has been placed in the LCS sump to maintain water levels. Additional information regarding the pump and piping replacement will be forwarded to the U.S. EPA as available and included in the 2016 Annual Report.

7. Spill Cleanup Reports

There were no on-Facility PCB spills that occurred in 2015. There were no spills on public roads.

8. Financial Assurance

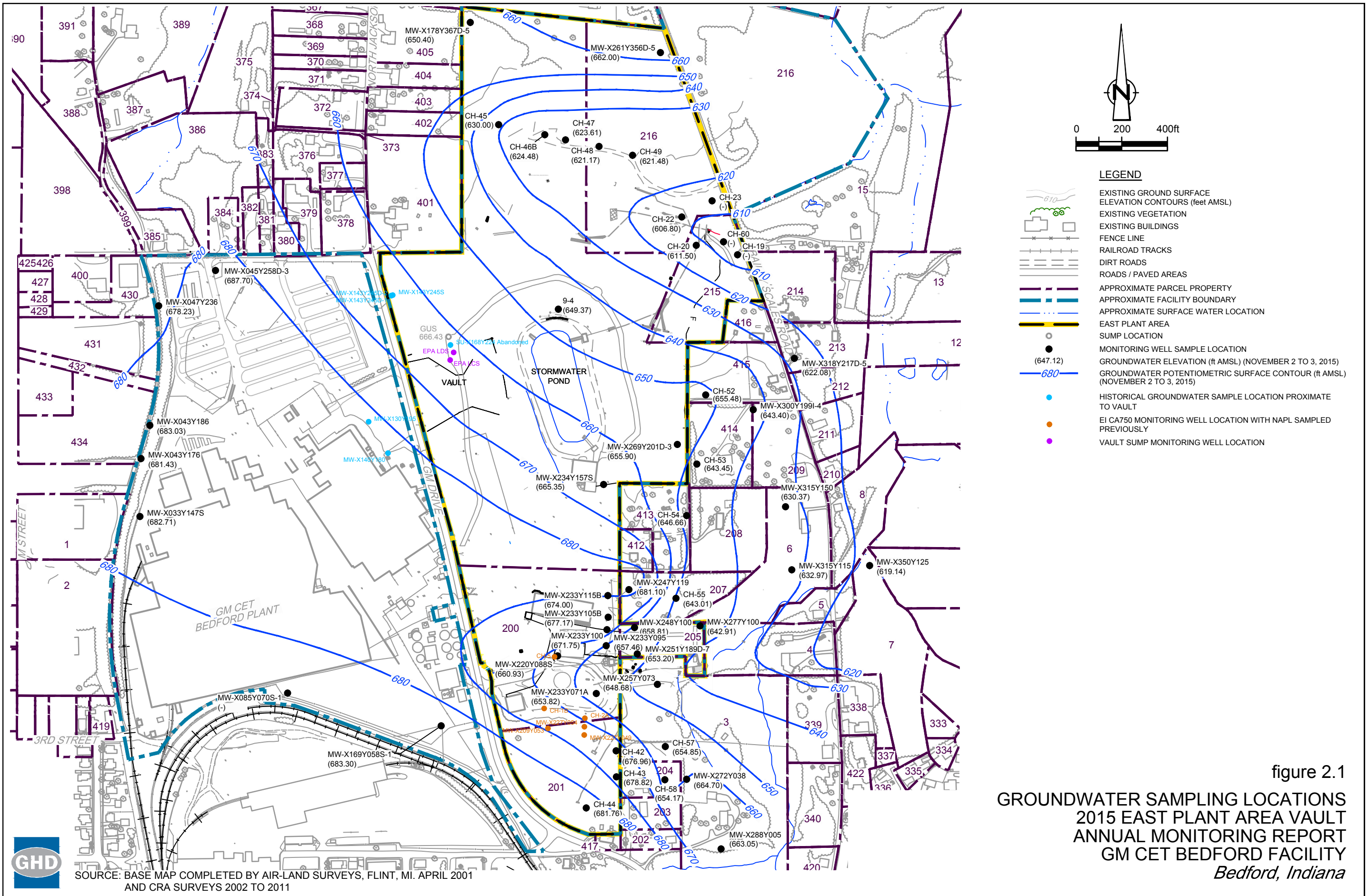
As required by the August 2014 RCRA AOC, a surety bond was obtained by GM in 2014 to provide financial assurance for the remaining Corrective Action tasks, including operation and maintenance related to the Vault, until the approval of the Corrective Measures Proposal (CMP); at which time costs to complete 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, 2015, which was approved by U.S. EPA on November 17, 2015. The surety bond in the amount of the approved financial assurance cost estimate remains in effect.

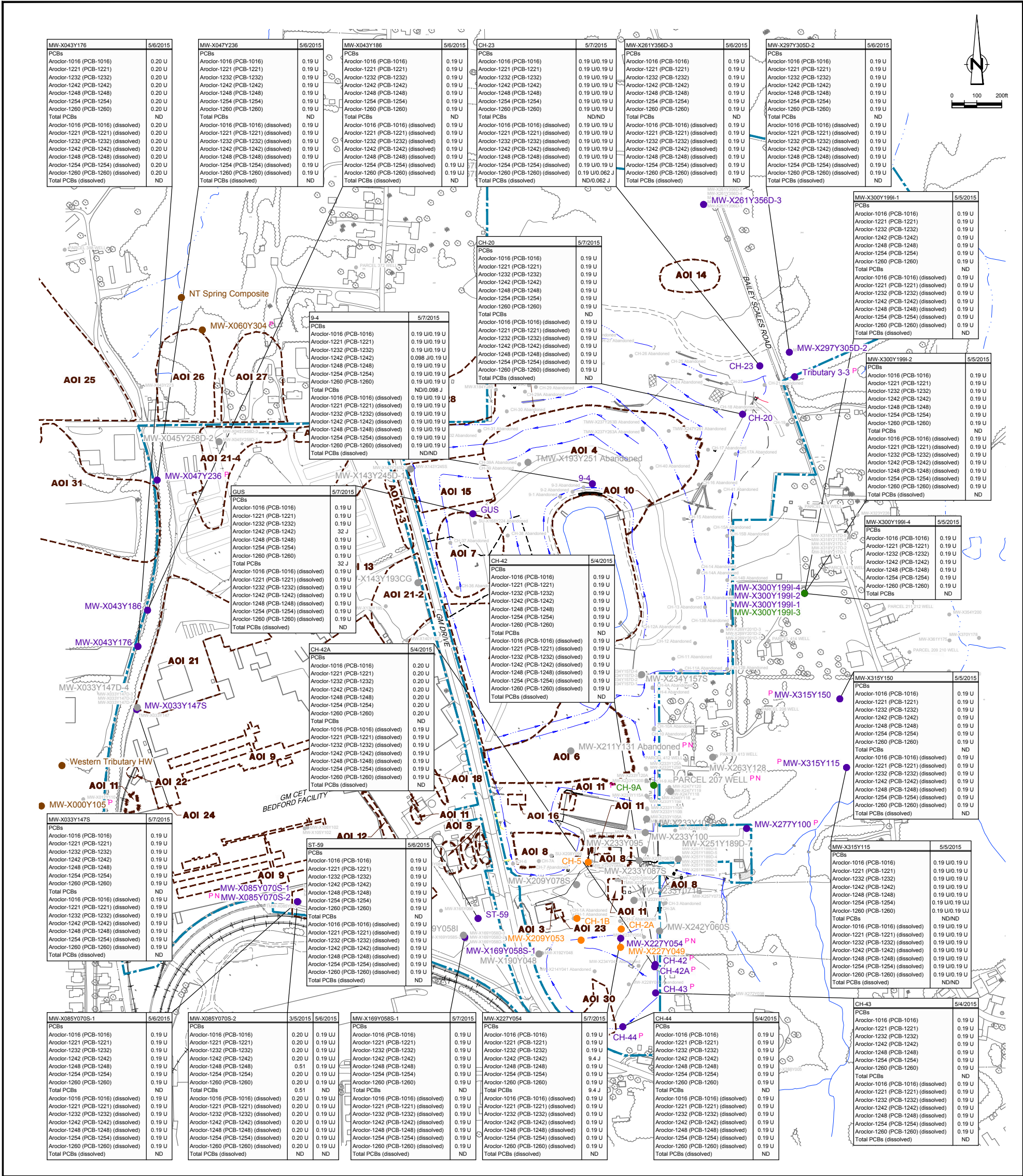
9. References

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

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

CRA, 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

- EXISTING BUILDINGS
- FENCE LINE
- 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 2015 EI 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

PREVIOUS PCB GROUNDWATER DETECTION

HISTORICAL NAPL DETECTION

AOI SUMMARY

AOI ID	Description
AOI 1	Former Railroad Operations and Minerals Processing Facility
AOI 2	Waste Storage Area
AOI 3	PCB Storage Areas
AOI 4	Former North Disposal Area
AOI 5	Former East Sand Disposal Area
AOI 6	Former Sludge Disposal and Fire Training Area
AOI 7	Former North Lagoon and Outfall 001
AOI 8	Former South Lagoons and Outfall 002
AOI 9	Service Tunnels
AOI 10	Existing Stormwater Lagoon and Outfall 003
AOI 11	Aboveground Storage Tanks
AOI 12	Area Affected by the Reclaimed Hydraulic Fluid Release
AOI 13	Underground Storage Tanks
AOI 14	McBride Cows Disposal Area
AOI 15	Former Equipment Storage Area
AOI 16	Former East Electrical Substation
AOI 17	Piston Building Oil Accumulations
AOI 18	Area Affected by the Henry System Discharge

AOI SUMMARY

AOI ID	Description
AOI 19	Area Affected by the Paint and Thinner Spill
AOI 20	Northern Portion of the Piston Building
AOI 21	Filled Ravine North of Die Cast Building
AOI 21-1	Former Drainage Valley Under Hourly Parking Lot
AOI 21-2	Former Drainage Valley Northeast of Piston and Office Buildings
AOI 21-3	Surface Water Ditches Located Along GM Drive and Breckenridge Road
AOI 21-4	Former Drainage Valley East of Electrical Sub-Station, Breckenridge Road
AOI 22	Tool Room Annex Dock Release
AOI 23	Area Affected by the 1996 Wastewater Treatment Filter Cake Release
AOI 24	Area Affected by the June 2000 Die Lube 5150 Release
AOI 25	Off-Site Suspected Fill Area - Parcel 398
AOI 26	Off-Site Suspected Fill Area - Parcels 384 & 386
AOI 27	Off-Site Suspected Fill Area - Parcels 381 & 382
AOI 28	Off-Site Suspected Fill Area - Parcel 401
AOI 29	Off-Site Suspected Fill Area - Parcel 399
AOI 30	On-Site Suspected Fill Area - Parcel 201
AOI 31	Off-Site Suspected Fill Area - Parcel 400

NOTE:

1) GM PROPERTY BOUNDARY SURVEY BY BLEDSOE RIGGERT GUERRETTAZ 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

SCALE VERIFICATION

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

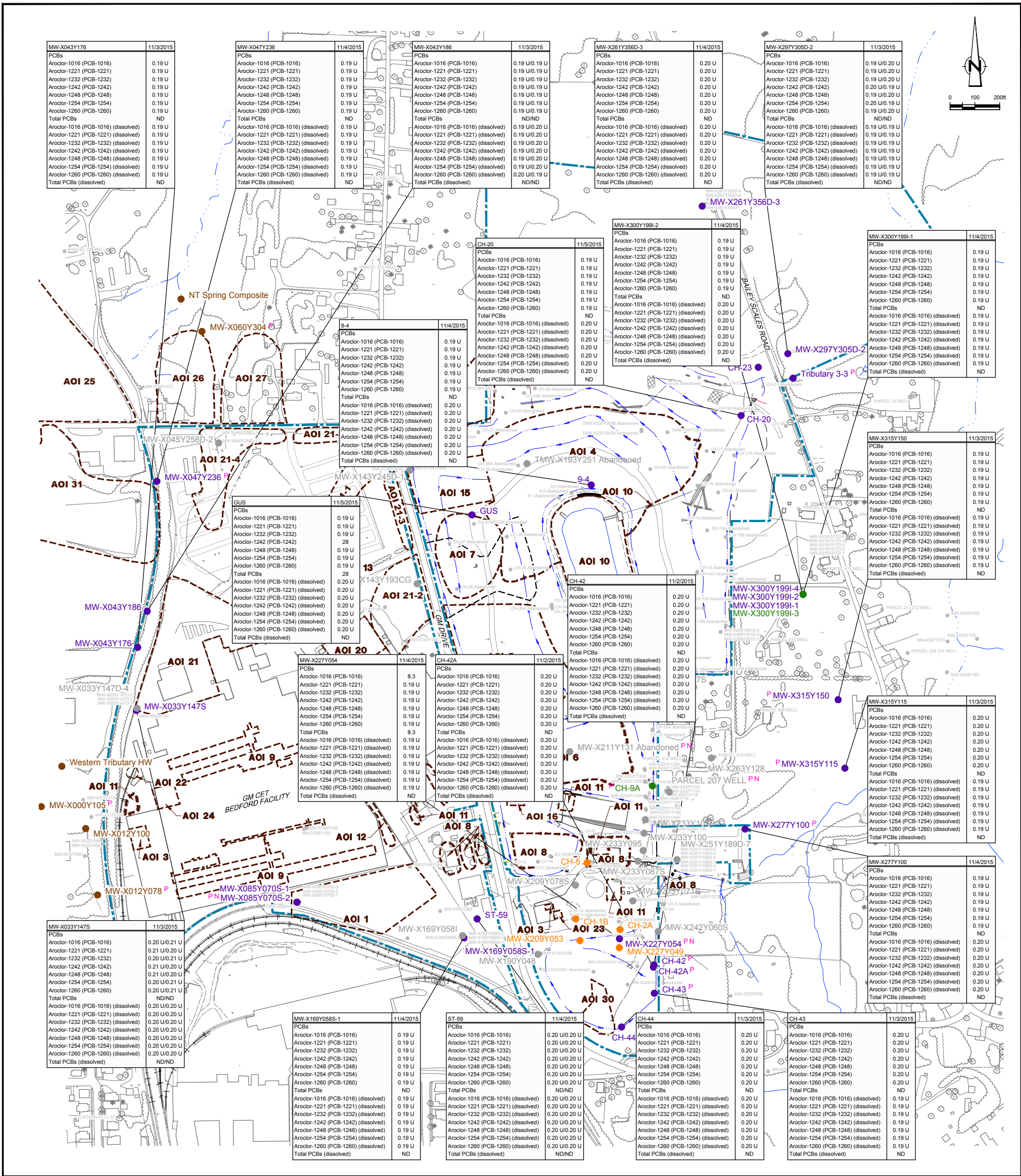
GM CET BEDFORD FACILITY
BEDFORD, INDIANA

2015 EAST PLANT AREA VAULT MONITORING REPORT

EL CA750 GROUNDWATER ANALYTICAL RESULTS
FOR PCBs FOR FIRST SEMI-ANNUAL EVENT OF 2015

Source Reference:
BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT MI. APRIL 2001.

Project Manager: J.M.	Reviewed By: S.S.	Date: OCTOBER 2006
Scale: AS SHOWN	Project No: 13968-00	Report No: 391
		Drawing No: figure 3.1



LEGEND			P		PREVIOUS PCB GROUNDWATER DETECTION	
	EXISTING BUILDINGS			P		
	FENCE LINE			N		HISTORICAL NAPL DETECTION
	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					
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AOI SUMMARY		AOI SUMMARY	
AOI ID	Description	AOI ID	Description
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AOI 17	Piston Building Oil Accumulations	AOI 31	Off-Site Suspected Fill Area - Parcel 400
AOI 18	Area Affected by the Henry System Discharge		

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1) GM PROPERTY BOUNDARY SURVEY BY BLEDSOE RIGGERT GUERRETTAZ 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

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GM CET BEDFORD FACILITY
BEDFORD, INDIANA

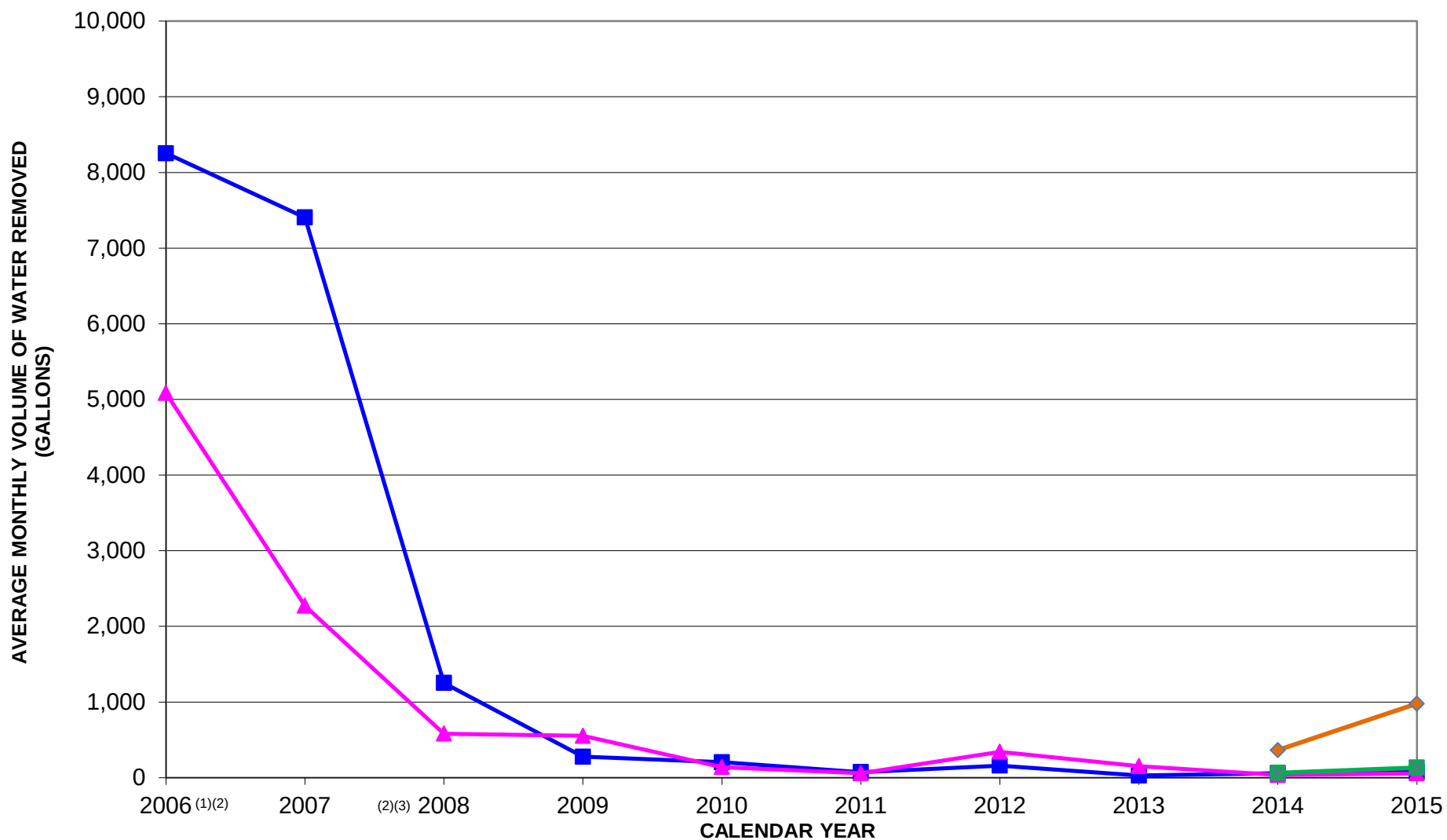
2015 EAST PLANT AREA VAULT MONITORING REPORT

EL CA750 GROUNDWATER ANALYTICAL RESULTS
FOR PCBs FOR SECOND SEMI-ANNUAL EVENT OF 2015

GHD

Source Reference:
BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT MI. APRIL 2001.

Project Manager: J.M.	Reviewed By: S.S.	Date: OCTOBER 2006
Scale: AS SHOWN	Project No: 13968-00	Report No: 391
		Drawing No: figure 3.2



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.

figure 5.1

SUMMARY OF AVERAGE MONTHLY VOLUME OF WATER REMOVED FROM LCS AND LDS
EAST PLANT AREA TSCA VAULT ANNUAL REPORT, CALENDAR YEAR 2015
GM CET BEDFORD FACILITY
Bedford, Indiana



Table 2.1

2015 Summary of Daily Leachate Collection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
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 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
12/8/2014	13:00	68.23	672.60	--	--	23	672.92	0.244	0	135,345	96	--	Last flow meter increase in 2014. Last manual measurement collected in 2014.
12/17/14	9:40	68.23	672.60	--	--	23	672.92	0.244	0	135,345	0	9	
12/18/14	--	--	--	--	--	23	672.92	0.244	0	--	--	10	
12/19/14	--	--	--	--	--	23	672.92	0.244	0	--	--	11	
12/20/14	--	--	--	--	--	23	672.92	0.244	0	--	--	12	
12/21/14	--	--	--	--	--	23	672.92	0.244	0	--	--	13	
12/22/14	--	--	--	--	--	24	673.00	0.349	0	--	--	14	
12/23/14	--	--	--	--	--	24	673.00	0.349	0	--	--	15	
12/24/14	--	--	--	--	--	24	673.00	0.349	0	--	--	16	
12/25/14	--	--	--	--	--	24	673.00	0.349	0	--	--	17	
12/26/14	--	--	--	--	--	24	673.00	0.349	0	--	--	18	
12/27/14	--	--	--	--	--	24	673.00	0.349	0	--	--	19	
12/28/14	--	--	--	--	--	24	673.00	0.349	0	--	--	20	
12/29/14	--	--	--	--	--	24	673.00	0.349	0	--	--	21	
12/30/14	--	--	--	--	--	24	673.00	0.349	0	--	--	22	
12/31/14	--	--	--	--	-24.5	24	673.00	0.349	0	-56	--	23	Estimated volume accumulated in sump at the end of 2014.
1/1/15	--	--	--	--	--	24	673.00	0.349	0	--	--	24	(a) Sample collected. Manually pumped.
1/2/15	--	--	--	--	--	24	673.00	0.349	0	--	--	25	
1/3/15	--	--	--	--	--	26	673.17	0.349	0	--	--	26	
1/4/15	--	--	--	--	--	24	673.00	0.349	0	--	--	27	
1/5/15	--	--	--	--	--	24	673.00	0.349	0	--	--	28	
1/6/15	--	--	--	--	--	25	673.08	0.349	0	--	--	29	
1/7/15	--	--	--	--	--	25	673.08	0.349	0	--	--	30	
1/8/15	--	--	--	--	--	26	673.17	0.349	0	--	--	31	
1/9/15	13:00	68.04	672.79	--	--	25	673.08	0.349	0	135,423	78	32	
1/10/15	--	--	--	--	--	25	673.08	0.349	0	--	--	1	
1/11/15	--	--	--	--	--	25	673.08	0.349	0	--	--	2	
1/12/15	--	--	--	--	--	25	673.08	0.349	0	--	--	3	
1/13/15	--	--	--	--	--	25	673.08	0.349	0	--	--	4	
1/14/15	--	--	--	--	--	25	673.08	0.349	0	--	--	5	
1/15/15	--	--	--	--	--	25	673.08	0.349	0	--	--	6	
1/16/15	--	--	--	--	--	25	673.08	0.349	0	--	--	7	
1/17/15	--	--	--	--	--	25	673.08	0.349	0	--	--	8	
1/18/15	--	--	--	--	--	25	673.08	0.349	0	--	--	9	
1/19/15	--	--	--	--	--	25	673.08	0.349	0	--	--	10	
1/20/15	11:35	68.17	672.66	0.1	27.50	25	673.08	0.349	0	135,423	0	11	
1/21/15	--	--	--	--	--	25	673.08	0.349	0	--	--	12	
1/22/15	--	--	--	--	--	25	673.08	0.349	0	--	--	13	
1/23/15	--	--	--	--	--	26	673.17	0.349	0	--	--	14	
1/24/15	--	--	--	--	--	26	673.17	0.349	0	--	--	15	
1/25/15	--	--	--	--	--	26	673.17	0.349	0	--	--	16	
1/26/15	--	--	--	--	--	26	673.17	0.349	0	--	--	17	
1/27/15	10:26	68.09	672.74	--	--	26	673.17	0.349	0	135,423	0	18	
1/28/15	--	--	--	--	--	26	673.17	0.349	0	--	--	19	
1/29/15	--	--	--	--	--	26	673.17	0.349	0	--	--	20	
1/30/15	--	--	--	--	--	26	673.17	0.349	0	--	--	21	
1/31/15	--	--	--	--	--	26	673.17	0.349	0	--	--	22	
2/1/15	--	--	--	--	--	27	673.25	0.349	0	--	--	23	
2/2/15	--	--	--	--	--	26	673.17	0.349	0	--	--	24	
2/3/15	--	--	--	--	--	26	673.17	0.349	0	--	--	25	
2/4/15	--	--	--	--	--	26	673.17	0.349	0	--	--	26	
2/5/15	--	--	--	--	--	26	673.17	0.349	0	--	--	27	
2/6/15	--	--	--	--	--	26	673.17	0.349	0	--	--	28	
2/7/15	--	--	--	--	--	27	673.25	0.349	0	--	--	29	
2/8/15	--	--	--	--	--	27	673.25	0.349	0	--	--	30	
2/9/15	--	--	--	--	--	26	673.17	0.349	0	--	--	31	

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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 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
2/10/15	13:10	67.9	672.98	--	--	27	673.25	0.349	0	135,506	83	32	Sample collected. Manually pumped.
2/11/15	--	--	--	--	--	27	673.25	0.349	0	--	--	1	
2/12/15	--	--	--	--	--	27	673.25	0.349	0	--	--	2	
2/13/15	--	--	--	--	--	27	673.25	0.349	0	--	--	3	
2/14/15	--	--	--	--	--	27	673.25	0.349	0	--	--	4	
2/15/15	--	--	--	--	--	27	673.25	0.349	0	--	--	5	
2/16/15	--	--	--	--	--	27	673.25	0.349	0	--	--	6	
2/17/15	--	--	--	--	--	27	673.25	0.349	0	--	--	7	
2/18/15	--	--	--	--	--	27	673.25	0.349	0	--	--	8	
2/19/15	--	--	--	--	--	27	673.25	0.349	0	--	--	9	
2/20/15	--	--	--	--	--	28	673.33	0.349	0	--	--	10	
2/21/15	--	--	--	--	--	28	673.33	0.349	0	--	--	11	
2/22/15	--	--	--	--	--	28	673.33	0.349	0	--	--	12	
2/23/15	13:26	67.8	673.08	--	--	27	673.25	0.349	0	135,506	0	13	
2/24/15	--	--	--	--	--	28	673.33	0.349	0	--	--	14	
2/25/15	--	--	--	--	--	28	673.33	0.349	0	--	--	15	
2/26/15	--	--	--	--	--	27	673.25	0.349	0	--	--	16	Sample collected. Manually pumped.
2/27/15	--	--	--	--	--	27	673.25	0.349	0	--	--	17	
2/28/15	--	--	--	--	--	28	673.33	0.349	0	--	--	18	
3/1/15	--	--	--	--	--	28	673.33	0.349	0	--	--	19	
3/2/15	--	--	--	--	--	28	673.33	0.349	0	--	--	20	
3/3/15	--	--	--	--	--	29	673.42	0.349	0	--	--	21	
3/4/15	13:21	67.76	673.07	--	--	28	673.33	0.349	0	135,585	79	22	
3/5/15	--	--	--	--	--	27	673.25	0.349	0	--	--	1	
3/6/15	--	--	--	--	--	28	673.33	0.349	0	--	--	2	
3/7/15	--	--	--	--	--	29	673.42	0.349	0	--	--	3	
3/8/15	--	--	--	--	--	28	673.33	0.349	0	--	--	4	
3/9/15	--	--	--	--	--	28	673.33	0.349	0	--	--	5	
3/10/15	11:00	67.61	673.22	--	--	28	673.33	0.349	0	135,585	0	6	
3/11/15	--	--	--	--	--	28	673.33	0.349	0	--	--	7	
3/12/15	--	--	--	--	--	28	673.33	0.349	0	--	--	8	
3/13/15	--	--	--	--	--	29	673.42	0.349	0	--	--	9	
3/14/15	--	--	--	--	--	29	673.42	0.349	0	--	--	10	
3/15/15	--	--	--	--	--	29	673.42	0.349	0	--	--	11	
3/16/15	--	--	--	--	--	29	673.42	0.349	0	--	--	12	Sample collected. Manually pumped.
3/17/15	10:00	67.42	673.41	--	--	30	673.50	0.476	0	--	--	13	
3/18/15	--	--	--	--	--	30	673.50	0.476	0	--	--	14	
3/19/15	--	--	--	--	--	28	673.33	0.349	0	--	--	15	
3/20/15	--	--	--	--	--	29	673.42	0.349	0	--	--	16	
3/21/15	--	--	--	--	--	29	673.42	0.349	0	--	--	17	
3/22/15	--	--	--	--	--	29	673.42	0.349	0	--	--	18	
3/23/15	--	--	--	--	--	29	673.42	0.349	0	--	--	19	
3/24/15	--	--	--	--	--	30	673.50	0.476	0	--	--	20	
3/25/15	--	--	--	--	--	30	673.50	0.476	0	--	--	21	
3/26/15	--	--	--	--	--	30	673.50	0.476	0	--	--	22	
3/27/15	--	--	--	--	--	29	673.42	0.349	0	--	--	23	
3/28/15	--	--	--	--	--	28	673.33	0.349	0	--	--	24	
3/29/15	--	--	--	--	--	31	673.58	0.476	0	--	--	25	
3/30/15	--	--	--	--	--	29	673.42	0.349	0	--	--	26	
3/31/15	--	--	--	--	--	30	673.50	0.476	0	--	--	27	
4/1/15	4:15	66.55	674.28	--	--	30	673.50	0.476	0	135,748	163	28	
4/2/15	--	--	--	--	--	30	673.50	0.476	0	--	--	1	
4/3/15	--	--	--	--	--	30	673.50	0.476	0	--	--	2	
4/4/15	--	--	--	--	--	29	673.42	0.349	0	--	--	3	
4/5/15	--	--	--	--	--	30	673.50	0.476	0	--	--	4	
4/6/15	--	--	--	--	--	30	673.50	0.476	0	--	--	5	
4/7/15	--	--	--	--	--	31	673.58	0.476	0	--	--	6	

Table 2.1

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Leachate Collection System													
Date	Time of Measurement (hh:mm)	Manual Depth to Water Level (feet below top of sump)	Manual Water Level 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
4/8/15	4:15	67.2	673.63	--	--	31	673.58	0.476	0	135,748	0	7	(b)
4/9/15	--	--	--	--	--	31	673.58	0.476	0	--	--	8	
4/10/15	--	--	--	--	--	31	673.58	0.476	0	--	--	9	
4/11/15	--	--	--	--	--	30	673.50	0.476	0	--	--	10	
4/12/15	--	--	--	--	--	31	673.58	0.476	0	--	--	11	
4/13/15	--	--	--	--	--	30	673.50	0.476	0	--	--	12	
4/14/15	4:00	67.11	673.72	--	--	30	673.50	0.476	0	135,748	0	13	
4/15/15	--	--	--	--	--	31	673.58	0.476	0	--	--	14	
4/16/15	--	--	--	--	--	31	673.58	0.476	0	--	--	15	
4/17/15	--	--	--	--	--	31	673.58	0.476	0	--	--	16	
4/18/15	--	--	--	--	--	33	673.75	0.476	0	--	--	17	
4/19/15	--	--	--	--	--	31	673.58	0.476	0	--	--	18	
4/20/15	5:00	66.34	674.49	--	--	31	673.58	0.476	0	135,748	0	19	
4/21/15	--	--	--	--	--	31	673.58	0.476	0	--	--	20	
4/22/15	--	--	--	--	--	31	673.58	0.476	0	--	--	21	
4/23/15	--	--	--	--	--	31	673.58	0.476	0	--	--	22	
4/24/15	--	--	--	--	--	31	673.58	0.476	0	--	--	23	
4/25/15	--	--	--	--	--	32	673.67	0.476	0	--	--	24	
4/26/15	--	--	--	--	--	31	673.58	0.476	0	--	--	25	
4/27/15	3:59	67.21	673.62	--	--	31	673.58	0.476	0	135,748	0	26	(a)
4/28/15	8:15	67.21	673.62	--	--	31	673.58	0.476	0	135,748	0	27	(a) Sample collected. Manually pumped.
4/29/15	--	--	--	--	--	32	673.67	0.476	0	--	--	28	(a)
4/30/15	--	--	--	--	--	31	673.58	0.476	0	--	--	29	
5/1/15	--	--	--	--	--	31	673.58	0.476	0	--	--	30	
5/2/15	--	--	--	--	--	32	673.67	0.476	0	--	--	31	
5/3/15	--	--	--	--	--	31	673.58	0.476	0	--	--	32	
5/4/15	16:10	67.1	673.73	--	--	31	673.58	0.476	0	135,822	74	33	
5/5/15	--	--	--	--	--	32	673.67	0.476	0	--	--	1	
5/6/15	--	--	--	--	--	32	673.67	0.476	0	--	--	2	
5/7/15	--	--	--	--	--	32	673.67	0.476	0	--	--	3	
5/8/15	--	--	--	--	--	31	673.58	0.476	0	--	--	4	
5/9/15	--	--	--	--	--	32	673.67	0.476	0	--	--	5	
5/10/15	15:50	67.05	673.78	--	--	32	673.67	0.476	0	135,822	0	6	
5/11/15	--	--	--	--	--	32	673.67	0.476	0	--	--	7	
5/12/15	--	--	--	--	--	31	673.58	0.476	0	--	--	8	
5/13/15	--	--	--	--	--	32	673.67	0.476	0	--	--	9	
5/14/15	--	--	--	--	--	33	673.75	0.476	0	--	--	10	
5/15/15	--	--	--	--	--	33	673.75	0.476	0	--	--	11	
5/16/15	--	--	--	--	--	32	673.67	0.476	0	--	--	12	
5/17/15	16:40	67.12	673.71	--	--	33	673.75	0.476	0	135,822	0	13	(a)
5/18/15	--	--	--	--	--	32	673.67	0.476	0	--	--	14	Sample collected. Manually pumped.
5/19/15	--	--	--	--	--	32	673.67	0.476	0	--	--	15	
5/20/15	--	--	--	--	--	33	673.75	0.476	0	--	--	16	
5/21/15	--	--	--	--	--	33	673.75	0.476	0	--	--	17	
5/22/15	--	--	--	--	--	33	673.75	0.476	0	--	--	18	
5/23/15	--	--	--	--	--	33	673.75	0.476	0	--	--	19	
5/24/15	--	--	--	--	--	33	673.75	0.476	0	--	--	20	
5/25/15	--	--	--	--	--	33	673.75	0.476	0	--	--	21	
5/26/15	7:45	67.31	673.52	0.2	40.19	33	673.75	0.476	0	135,898	76	22	
5/27/15	--	--	--	--	--	33	673.75	0.476	0	--	--	1	
5/28/15	--	--	--	--	--	33	673.75	0.476	0	--	--	2	
5/29/15	--	--	--	--	--	33	673.75	0.476	0	--	--	3	
5/30/15	--	--	--	--	--	34	673.83	0.476	0	--	--	4	
5/31/15	--	--	--	--	--	33	673.75	0.476	0	--	--	5	
6/1/15	15:25	67.3	673.53	--	--	33	673.75	0.476	0	135,898	0	6	
6/2/15	--	--	--	--	--	33	673.75	0.476	0	--	--	7	
6/3/15	--	--	--	--	--	33	673.75	0.476	0	--	--	8	

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Date	Time of Measurement (hh:mm)	Manual Depth to Water Level (feet below top of sump)	Manual Water Level Level Converted To Elevation (ft AMSL)	Water Depth Removed (feet)	Volume Removed ^(e) (gallons)	Water Level @ PLC ^(d) (inches)	PLC Water Level Converted To Elevation ^(d) (ft AMSL)	Equivalent Depth of Water over Primary Liner (inches)	Quantity Pumped @ PLC ^(f) (gallons removed)	Local Flow Meter Reading ^(c) (gallons)	Total Volume Pumped Between Flow Meter Readings (gallons)	Elapsed Time Between Flow Meter Readings (days)	Comments
6/4/15	--	--	--	--	--	33	673.75	0.476	0	--	--	9	(a) Sample collected.
6/5/15	--	--	--	--	--	33	673.75	0.476	0	--	--	10	
6/6/15	--	--	--	--	--	33	673.75	0.476	0	--	--	11	
6/7/15	--	--	--	--	--	33	673.75	0.476	0	--	--	12	
6/8/15	--	--	--	--	--	33	673.75	0.476	0	--	--	13	
6/9/15	7:26	67.11	673.72	--	--	33	673.75	0.476	0	135,898	0	14	
6/10/15	--	--	--	--	--	33	673.75	0.476	0	--	--	15	
6/11/15	--	--	--	--	--	34	673.83	0.476	0	--	--	16	
6/12/15	--	--	--	--	--	34	673.83	0.476	0	--	--	17	
6/13/15	--	--	--	--	--	34	673.83	0.476	0	--	--	18	
6/14/15	--	--	--	--	--	34	673.83	0.476	0	--	--	19	
6/15/15	--	--	--	--	--	34	673.83	0.476	0	--	--	20	
6/16/15	7:30	67.31	673.52	0.2	42.30	34	673.83	0.476	0	135,898	0	21	
6/17/15	--	--	--	--	--	34	673.83	0.476	0	--	--	22	
6/18/15	--	--	--	--	--	34	673.83	0.476	0	--	--	23	
6/19/15	--	--	--	--	--	35	673.92	0.476	0	--	--	24	
6/20/15	--	--	--	--	--	36	674.00	0.629	0	--	--	25	
6/21/15	--	--	--	--	--	36	674.00	0.629	0	--	--	26	
6/22/15	--	--	--	--	--	35	673.92	0.476	0	--	--	27	
6/23/15	--	--	--	--	--	35	673.92	0.476	0	--	--	28	
6/24/15	18:00	67.52	673.31	0.2	44.42	34	673.83	0.476	0	--	--	29	A local flow meter reading was accidentally recorded on the field form in the space for June 24th, but should have been recorded in the space for June 25th. This table presents the data on June 25th.
6/25/15	--	--	--	--	--	35	673.92	0.476	0	135,965	67	30	
6/26/15	--	--	--	--	--	35	673.92	0.476	0	--	--	1	(a)
6/27/15	--	--	--	--	--	36	674.00	0.629	0	--	--	2	
6/28/15	--	--	--	--	--	35	673.92	0.476	0	--	--	3	
6/29/15	18:00	67.31	673.52	--	--	36	674.00	0.629	0	135,965	0	4	
6/30/15	--	--	--	--	--	35	673.92	0.476	0	--	--	5	
7/1/15	--	--	--	--	--	35	673.92	0.476	0	--	--	6	
7/2/15	--	--	--	--	--	35	673.92	0.476	0	--	--	7	
7/3/15	--	--	--	--	--	35	673.92	0.476	0	--	--	8	
7/4/15	--	--	--	--	--	35	673.92	0.476	0	--	--	9	
7/5/15	--	--	--	--	--	35	673.92	0.476	0	--	--	10	
7/6/15	16:00	67.52	673.31	--	--	36	674.00	0.629	0	135,965	0	11	
7/7/15	--	--	--	--	--	36	674.00	0.629	0	--	--	12	
7/8/15	--	--	--	--	--	36	674.00	0.629	0	--	--	13	
7/9/15	--	--	--	--	--	36	674.00	0.629	0	--	--	14	
7/10/15	--	--	--	--	--	36	674.00	0.629	0	--	--	15	
7/11/15	--	--	--	--	--	36	674.00	0.629	0	--	--	16	
7/12/15	--	--	--	--	--	37	674.08	0.629	0	--	--	17	
7/13/15	--	--	--	--	--	37	674.08	0.629	0	--	--	18	
7/14/15	--	--	--	--	--	37	674.08	0.629	0	--	--	19	
7/15/15	16:28	67.63	673.20	--	--	36	674.00	0.629	0	135,964	-1	20	
7/16/15	--	--	--	--	--	36	674.00	0.629	0	--	--	21	(a)
7/17/15	--	--	--	--	--	36	674.00	0.629	0	--	--	22	
7/18/15	--	--	--	--	--	37	674.08	0.629	0	--	--	23	(a)
7/19/15	--	--	--	--	--	37	674.08	0.629	0	--	--	24	
7/20/15	--	--	--	--	--	37	674.08	0.629	0	--	--	25	(a)
7/21/15	--	--	--	--	--	37	674.08	0.629	0	--	--	26	
7/22/15	15:15	67.72	673.11	--	--	37	674.08	0.629	0	135,964	0	27	(a)
7/23/15	--	--	--	--	--	37	674.08	0.629	0	--	--	28	
7/24/15	--	--	--	--	--	37	674.08	0.629	0	--	--	29	(a)
7/25/15	--	--	--	--	--	37	674.08	0.629	0	--	--	30	

Table 2.1

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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 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
7/26/15	--	--	--	--	--	37	674.08	0.629	0	--	--	31	Sample collected. Manually pumped.
7/27/15	16:30	67.32	673.51	--	--	37	674.08	0.629	0	135,964	0	32	
7/28/15	8:30	66.74	674.09	--	--	37	674.08	0.629	0	135,964	0	33	
7/29/15	--	--	--	--	--	37	674.08	0.629	0	--	--	34	
7/30/15	--	--	--	--	--	37	674.08	0.629	0	--	--	35	
7/31/15	--	--	--	--	--	37	674.08	0.629	0	--	--	36	
8/1/15	--	--	--	--	--	37	674.08	0.629	0	--	--	37	
8/2/15	--	--	--	--	--	38	674.17	0.629	0	--	--	38	
8/3/15	--	--	--	--	--	38	674.17	0.629	0	--	--	39	
8/4/15	--	--	--	--	--	37	674.08	0.629	0	--	--	40	
8/5/15	16:10	68.32	672.51	1.6	334.20	38	674.17	0.629	0	136,047	83	41	(a)
8/6/15	--	--	--	--	--	38	674.17	0.629	0	--	--	1	
8/7/15	--	--	--	--	--	38	674.17	0.629	0	--	--	2	
8/8/15	--	--	--	--	--	38	674.17	0.629	0	--	--	3	
8/9/15	--	--	--	--	--	38	674.17	0.629	0	--	--	4	
8/10/15	--	--	--	--	--	38	674.17	0.629	0	--	--	5	
8/11/15	--	--	--	--	--	37	674.08	0.629	0	--	--	6	
8/12/15	16:10	66.3	674.53	--	--	38	674.17	0.629	0	136,047	0	7	
8/13/15	--	--	--	--	--	38	674.17	0.629	0	--	--	8	
8/14/15	--	--	--	--	--	38	674.17	0.629	0	--	--	9	
8/15/15	--	--	--	--	--	38	674.17	0.629	0	--	--	10	(a) Sampled vault
8/16/15	--	--	--	--	--	38	674.17	0.629	0	--	--	11	
8/17/15	16:20	67.52	673.31	--	--	38	674.17	0.629	0	136,047	0	12	
8/18/15	--	--	--	--	--	39	674.25	0.629	0	--	--	13	
8/19/15	--	--	--	--	--	39	674.25	0.629	0	--	--	14	
8/20/15	--	--	--	--	--	38	674.17	0.629	0	--	--	15	
8/21/15	--	--	--	--	--	38	674.17	0.629	0	--	--	16	
8/22/15	--	--	--	--	--	39	674.25	0.629	0	--	--	17	
8/23/15	--	--	--	--	--	39	674.25	0.629	0	--	--	18	
8/24/15	--	--	--	--	--	38	674.17	0.629	0	--	--	19	
8/25/15	7:30	66.61	674.22	--	--	38	674.17	0.629	0	136,047	0	20	(a)
8/26/15	--	--	--	--	--	38	674.17	0.629	0	--	--	21	
8/27/15	--	--	--	--	--	39	674.25	0.629	0	--	--	22	
8/28/15	--	--	--	--	--	39	674.25	0.629	0	--	--	23	
8/29/15	--	--	--	--	--	39	674.25	0.629	0	--	--	24	
8/30/15	--	--	--	--	--	39	674.25	0.629	0	--	--	25	
8/31/15	15:05	66.72	674.11	0.4	88.84	39	674.25	0.629	0	136,146	99	26	
9/1/15	--	--	--	--	--	39	674.25	0.629	0	--	--	1	
9/2/15	--	--	--	--	--	39	674.25	0.629	0	--	--	2	
9/3/15	--	--	--	--	--	39	674.25	0.629	0	--	--	3	
9/4/15	--	--	--	--	--	39	674.25	0.629	0	--	--	4	136,146
9/5/15	--	--	--	--	--	39	674.25	0.629	0	--	--	5	
9/6/15	--	--	--	--	--	39	674.25	0.629	0	--	--	6	
9/7/15	--	--	--	--	--	39	674.25	0.629	0	--	--	7	
9/8/15	16:10	66.7	674.13	--	--	40	674.33	0.629	0	136,146	0	8	
9/9/15	--	--	--	--	--	39	674.25	0.629	0	--	--	9	
9/10/15	--	--	--	--	--	39	674.25	0.629	0	--	--	10	
9/11/15	--	--	--	--	--	39	674.25	0.629	0	--	--	11	
9/12/15	--	--	--	--	--	39	674.25	0.629	0	--	--	12	
9/13/15	16:15	66.52	674.31	--	--	39	674.25	0.629	0	136,146	0	13	
9/14/15	--	--	--	--	--	39	674.25	0.629	0	--	--	14	136,146
9/15/15	--	--	--	--	--	39	674.25	0.629	0	--	--	15	
9/16/15	--	--	--	--	--	40	674.33	0.629	0	--	--	16	
9/17/15	--	--	--	--	--	40	674.33	0.629	0	--	--	17	
9/18/15	--	--	--	--	--	40	674.33	0.629	0	--	--	18	
9/19/15	--	--	--	--	--	40	674.33	0.629	0	--	--	19	
9/20/15	--	--	--	--	--	40	674.33	0.629	0	--	--	20	

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Leachate Collection System													
Date	Time of Measurement (hh:mm)	Manual Depth to Water Level (feet below top of sump)	Manual Water Level 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
9/21/15	--	--	--	--	--	40	674.33	0.629	0	--	--	21	^(a) Sampled vault. Manual water level measurement collected following pumping activities.
9/22/15	--	--	--	--	--	40	674.33	0.629	0	--	--	22	
9/23/15	--	--	--	--	--	39	674.25	0.629	0	--	--	23	
9/24/15	8:11	67.96	672.87	1.4	304.59	22	672.83	0.244	0	136,146	0	24	
9/25/15	--	--	--	--	--	22	672.83	0.244	0	--	--	25	
9/26/15	--	--	--	--	--	22	672.83	0.244	0	--	--	26	
9/27/15	--	--	--	--	--	23	672.92	0.244	0	--	--	27	
9/28/15	--	--	--	--	--	23	672.92	0.244	0	--	--	28	
9/29/15	--	--	--	--	--	23	672.92	0.244	0	--	--	29	
9/30/15	16:30	67.6	673.23	--	--	23	672.92	0.244	0	146,882	10,736	30	
10/1/15	--	--	--	--	--	23	672.92	0.244	0	--	--	1	
10/2/15	--	--	--	--	--	23	672.92	0.244	0	--	--	2	
10/3/15	--	--	--	--	--	23	672.92	0.244	0	--	--	3	
10/4/15	--	--	--	--	--	24	673.00	0.349	0	--	--	4	
10/5/15	--	--	--	--	--	23	672.92	0.244	0	--	--	5	
10/6/15	15:40	67.55	673.28	--	--	23	672.92	0.244	0	146,882	0	6	
10/7/15	--	--	--	--	--	23	672.92	0.244	0	--	--	7	
10/8/15	--	--	--	--	--	24	673.00	0.349	0	--	--	8	
10/9/15	--	--	--	--	--	24	673.00	0.349	0	--	--	9	
10/10/15	--	--	--	--	--	24	673.00	0.349	0	--	--	10	
10/11/15	--	--	--	--	--	24	673.00	0.349	0	--	--	11	
10/12/15	--	--	--	--	--	25	673.08	0.349	0	--	--	12	
10/13/15	--	--	--	--	--	24	673.00	0.349	0	--	--	13	
10/14/15	12:41	67.55	673.28	--	--	24	673.00	0.349	0	146,882	0	14	
10/15/15	--	--	--	--	--	23	672.92	0.244	0	--	--	15	
10/16/15	--	--	--	--	--	24	673.00	0.349	0	--	--	16	
10/17/15	--	--	--	--	--	24	673.00	0.349	0	--	--	17	
10/18/15	--	--	--	--	--	25	673.08	0.349	0	--	--	18	
10/19/15	--	--	--	--	--	24	673.00	0.349	0	--	--	19	
10/20/15	--	--	--	--	--	24	673.00	0.349	0	--	--	20	
10/21/15	--	--	--	--	--	24	673.00	0.349	0	--	--	21	
10/22/15	--	--	--	--	--	24	673.00	0.349	0	--	--	22	
10/23/15	--	--	--	--	--	25	673.08	0.349	0	--	--	23	
10/24/15	--	--	--	--	--	25	673.08	0.349	0	--	--	24	
10/25/15	--	--	--	--	--	24	673.00	0.349	0	--	--	25	
10/26/15	--	--	--	--	--	25	673.08	0.349	0	--	--	26	
10/27/15	--	--	--	--	--	26	673.17	0.349	0	--	--	27	
10/28/15	--	--	--	--	--	26	673.17	0.349	0	--	--	28	
10/29/15	15:40	67.76	673.07	--	--	24	673.00	0.349	0	146,882	0	29	Sample collected.
10/30/15	--	--	--	--	--	25	673.08	0.349	0	--	--	30	Prior to this date, the clock in the PLC at the Vault was set so that it was zeroing the data before it could get read by the main PLC across the cellular network. The fix was to set the clock at the Vault PLC so that it lags the main PLC by 30 seconds. This setting now allows the main PLC to record the total volume pumped by the automated system before it gets zeroed at the Vault PLC.
10/31/15	--	--	--	--	--	26	673.17	0.349	0	--	--	31	
11/1/15	--	--	--	--	--	25	673.08	0.349	0	--	--	32	
11/2/15	--	--	--	--	--	27	673.25	0.349	0	--	--	33	
11/3/15	--	--	--	--	--	27	673.25	0.349	0	--	--	34	
11/4/15	10:12	67.2	673.63	--	--	27	673.25	0.349	0	146,992	110	35	Manual measurement to water surface was recorded as 62.7 ft, but was confirmed that this was supposed to be 67.2 ft.
11/5/15	--	--	--	--	--	27	673.25	0.349	195	--	--	1	
11/6/15	--	--	--	--	--	28	673.33	0.349	0	--	--	2	

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11/7/15	--	--	--	--	--	29	673.42	0.349	0	--	--	3	^(g) Attempted sample collection; however, unsuccessful due to insufficient water volume in sump to prime pump.
11/8/15	--	--	--	--	--	27	673.25	0.349	0	--	--	4	
11/9/15	10:40	67.5	673.33	0.3	63.46	27	673.25	0.349	0	147,138	146	5	
11/10/15	--	--	--	--	--	27	673.25	0.349	0	--	--	1	
11/11/15	--	--	--	--	--	29	673.42	0.349	0	--	--	2	
11/12/15	--	--	--	--	--	29	673.42	0.349	0	--	--	3	
11/13/15	--	--	--	--	--	29	673.42	0.349	0	--	--	4	
11/14/15	--	--	--	--	--	27	673.25	0.349	0	--	--	5	
11/15/15	--	--	--	--	--	27	673.25	0.349	0	--	--	6	
11/16/15	10:15	67.45	673.38	--	--	29	673.42	0.349	0	147,138	0	7	
11/17/15	--	--	--	--	--	28	673.33	0.349	0	--	--	8	
11/18/15	--	--	--	--	--	29	673.42	0.349	0	--	--	9	
11/19/15	--	--	--	--	--	26	673.17	0.349	0	--	--	10	
11/20/15	--	--	--	--	--	28	673.33	0.349	0	--	--	11	
11/21/15	--	--	--	--	--	29	673.42	0.349	0	--	--	12	
11/22/15	--	--	--	--	--	27	673.25	0.349	0	--	--	13	
11/23/15	Not Recorded	67.4	673.43	--	--	28	673.33	0.349	0	147,138	0	14	
11/24/15	--	--	--	--	--	27	673.25	0.349	0	--	--	15	
11/25/15	--	--	--	--	--	28	673.33	0.349	0	--	--	16	
11/26/15	--	--	--	--	--	28	673.33	0.349	0	--	--	17	
11/27/15	--	--	--	--	--	28	673.33	0.349	0	--	--	18	
11/28/15	--	--	--	--	--	28	673.33	0.349	0	--	--	19	
11/29/15	--	--	--	--	--	28	673.33	0.349	0	--	--	20	
11/30/15	--	--	--	--	--	29	673.42	0.349	0	--	--	21	
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	673.28	--	--	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	673.48	--	--	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	673.63	--	--	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	673.63	--	--	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	

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Leachate Collection System													
Date	Time of Measurement (hh:mm)	Manual Depth to Water Level (feet below top of sump)	Manual Water Level 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
12/27/15	--	--	--	--	--	30	673.50	0.476	0	--	--	48	
12/28/15	12:15	67	673.83	--	--	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	

945

195

11,793

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) 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 it gets zeroed at the Vault PLC.
- (g) This may not be true. Pumps may not have been working but we were unaware of the issues with the pumps.

	Manual	PLC
Minimum Elevation (ft, AMSL)	672.51	672.83
Maximum Elevation (ft, AMSL)	674.53	674.33
Mean Elevation (ft, AMSL)	673.50	673.57
Number of Pumping Events	12	
(1) Total Volume Accumulation in LCS carried forward from 2014 (gallons) (based on local flow meter readings)		56
(2) Total Volume Accumulation in LCS from last pumping event to end of 2015 (gallons) (based on local flow meter readings)		1
(3) Total Volume Pumped from the LCS in 2015 (gallons) (based on local flow meter readings)		11,793
(4)=(3)-(1)+(2) Total Volume Accumulation Originating in the LCS in 2015 (gallons) (based on local flow meter readings)		11,738
(5) Total Volume Accumulation in LCS carried forward from 2014 (gallons) (based on volume removed calculations from flow meter readings)		24
(6) Total Volume Accumulation in LCS from last pumping event to end of 2015 (gallons) (based on volume removed calculations from flow meter readings) ^(g)		10
(7) Total Volume Pumped from the LCS in 2015 (gallons) (based on volume removed calculations)		945
(8)=(7)+(6)-(5) Total Volume Accumulation Originating in the LCS in 2015 (gallons) (based on volume removed calculations)		931

Note:

- (g) Last pumping event in 2015 on 11/9/15, first pumping event in 2016 on 4/9/16 when 31.7 gallons were calculated to be removed (52 days at end of 2015 not pumped, through first 162 of 2016 not pumped).

Table 2.2

2015 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
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
11/25/2014	9:20	72.44	668.70	1,301.5	38.1	9:38	72.62	668.5	27	12.8	0.07	Last pumping event in 2014. Last manual measurement collected in 2014. <i>Estimated volume accumulated in sump at the end of 2014.</i>
12/17/2014	9:48	72.52	668.62	---	---	--	---	---	22	0	0.48	
12/31/2014	--	--	--	---	-25.38 ^(e)	--	---	---	36	-120.2 ^(f)	0.48	
1/1/15	--	--	--	---	---	--	---	---	37	0.0	0.48	
1/2/15	--	--	--	---	---	--	---	---	38	0.0	0.48	
1/3/15	--	--	--	---	---	--	---	---	39	0.0	0.48	
1/4/15	--	--	--	---	---	--	---	---	40	0.0	0.48	
1/5/15	--	--	--	---	---	--	---	---	41	0.0	0.48	
1/6/15	--	--	--	---	---	--	---	---	42	0.0	0.48	
1/7/15	--	--	--	---	---	--	---	---	43	0.0	0.48	
1/8/15	--	--	--	---	---	--	---	---	44	0.0	0.48	
1/9/15	13:05	72.52	668.62	---	---	--	---	---	45	0.0	0.48	
1/10/15	--	--	--	---	---	--	---	---	46	0.0	0.48	
1/11/15	--	--	--	---	---	--	---	---	47	0.0	0.48	
1/12/15	--	--	--	---	---	--	---	---	48	0.0	0.48	
1/13/15	--	--	--	---	---	--	---	---	49	0.0	0.48	
1/14/15	--	--	--	---	---	--	---	---	50	0.0	0.48	
1/15/15	--	--	--	---	---	--	---	---	51	0.0	0.48	
1/16/15	--	--	--	---	---	--	---	---	52	0.0	0.48	
1/17/15	--	--	--	---	---	--	---	---	53	0.0	0.48	
1/18/15	--	--	--	---	---	--	---	---	54	0.0	0.48	
1/19/15	--	--	--	---	---	--	---	---	55	0.0	0.48	
1/20/15	11:40	72.52	668.62	---	---	--	---	---	56	0.0	0.48	
1/21/15	--	--	--	---	---	--	---	---	57	0.0	0.48	
1/22/15	--	--	--	---	---	--	---	---	58	0.0	0.48	
1/23/15	--	--	--	---	---	--	---	---	59	0.0	0.48	
1/24/15	--	--	--	---	---	--	---	---	60	0.0	0.48	
1/25/15	--	--	--	---	---	--	---	---	61	0.0	0.48	
1/26/15	--	--	--	---	---	--	---	---	62	0.0	0.48	
1/27/15	10:31	72.51	668.63	---	---	--	---	---	63	0.0	0.48	
1/28/15	--	--	--	---	---	--	---	---	64	0.0	0.48	
1/29/15	--	--	--	---	---	--	---	---	65	0.0	0.48	
1/30/15	--	--	--	---	---	--	---	---	66	0.0	0.48	
1/31/15	--	--	--	---	---	--	---	---	67	0.0	0.48	
2/1/15	--	--	--	---	---	--	---	---	68	0.0	0.48	
2/2/15	--	--	--	---	---	--	---	---	69	0.0	0.48	
2/3/15	--	--	--	---	---	--	---	---	70	0.0	0.48	
2/4/15	--	--	--	---	---	--	---	---	71	0.0	0.48	
2/5/15	--	--	--	---	---	--	---	---	72	0.0	0.48	
2/6/15	--	--	--	---	---	--	---	---	73	0.0	0.48	
2/7/15	--	--	--	---	---	--	---	---	74	0.0	0.48	
2/8/15	--	--	--	---	---	--	---	---	75	0.0	0.48	
2/9/15	--	--	--	---	---	--	---	---	76	0.0	0.48	
2/10/15	13:15	72.42	668.72	---	---	--	---	---	77	0.0	0.48	
2/11/15	--	--	--	---	---	--	---	---	78	0.0	0.48	
2/12/15	--	--	--	---	---	--	---	---	79	0.0	0.48	
2/13/15	--	--	--	---	---	--	---	---	80	0.0	0.48	
2/14/15	--	--	--	---	---	--	---	---	81	0.0	0.48	
2/15/15	--	--	--	---	---	--	---	---	82	0.0	0.48	
2/16/15	--	--	--	---	---	--	---	---	83	0.0	0.48	
2/17/15	--	--	--	---	---	--	---	---	84	0.0	0.48	
2/18/15	--	--	--	---	---	--	---	---	85	0.0	0.48	
2/19/15	--	--	--	---	---	--	---	---	86	0.0	0.48	
2/20/15	--	--	--	---	---	--	---	---	87	0.0	0.48	
2/21/15	--	--	--	---	---	--	---	---	88	0.0	0.48	

Table 2.2

2015 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
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
2/22/15	--	--	--	---	---	--	---	---	89	0.0	0.48	No water available to sample
2/23/15	14:16	72.41	668.73	---	---	--	---	---	90	0.0	0.48	
2/24/15	--	--	--	---	---	--	---	---	91	0.0	0.48	
2/25/15	--	--	--	---	---	--	---	---	92	0.0	0.48	
2/26/15	--	--	--	---	---	--	---	---	93	0.0	0.48	
2/27/15	--	--	--	---	---	--	---	---	94	0.0	0.48	
2/28/15	--	--	--	---	---	--	---	---	95	0.0	0.48	
3/1/15	--	--	--	---	---	--	---	---	96	0.0	0.48	
3/2/15	--	--	--	---	---	--	---	---	97	0.0	0.48	
3/3/15	--	--	--	---	---	--	---	---	98	0.0	0.48	
3/4/15	13:36	72.41	668.73	---	---	--	---	---	99	0.0	0.48	
3/5/15	--	--	--	---	---	--	---	---	100	0.0	0.48	
3/6/15	--	--	--	---	---	--	---	---	101	0.0	0.48	
3/7/15	--	--	--	---	---	--	---	---	102	0.0	0.48	
3/8/15	--	--	--	---	---	--	---	---	103	0.0	0.48	
3/9/15	--	--	--	---	---	--	---	---	104	0.0	0.48	
3/10/15	11:10	72.28	668.86	---	---	--	---	---	105	0.0	0.48	
3/11/15	--	--	--	---	---	--	---	---	106	0.0	0.48	
3/12/15	--	--	--	---	---	--	---	---	107	0.0	0.48	
3/13/15	--	--	--	---	---	--	---	---	108	0.0	0.48	
3/14/15	--	--	--	---	---	--	---	---	109	0.0	0.48	
3/15/15	--	--	--	---	---	--	---	---	110	0.0	0.48	
3/16/15	--	--	--	---	---	--	---	---	111	0.0	0.48	
3/17/15	10:20	72.26	668.88	---	---	--	---	---	112	0.0	0.48	
3/18/15	--	--	--	---	---	--	---	---	113	0.0	0.48	
3/19/15	--	--	--	---	---	--	---	---	114	0.0	0.48	
3/20/15	--	--	--	---	---	--	---	---	115	0.0	0.48	
3/21/15	--	--	--	---	---	--	---	---	116	0.0	0.48	
3/22/15	--	--	--	---	---	--	---	---	117	0.0	0.48	
3/23/15	--	--	--	---	---	--	---	---	118	0.0	0.48	
3/24/15	--	--	--	---	---	--	---	---	119	0.0	0.48	
3/25/15	--	--	--	---	---	--	---	---	120	0.0	0.48	
3/26/15	--	--	--	---	---	--	---	---	121	0.0	0.48	
3/27/15	--	--	--	---	---	--	---	---	122	0.0	0.48	
3/28/15	--	--	--	---	---	--	---	---	123	0.0	0.48	
3/29/15	--	--	--	---	---	--	---	---	124	0.0	0.48	
3/30/15	--	--	--	---	---	--	---	---	125	0.0	0.48	
3/31/15	--	--	--	---	---	--	---	---	126	0.0	0.48	
4/1/15	4:20	72.27	668.87	---	---	--	---	---	127	0.0	0.48	
4/2/15	--	--	--	---	---	--	---	---	128	0.0	0.48	
4/3/15	--	--	--	---	---	--	---	---	129	0.0	0.48	
4/4/15	--	--	--	---	---	--	---	---	130	0.0	0.48	
4/5/15	--	--	--	---	---	--	---	---	131	0.0	0.48	
4/6/15	--	--	--	---	---	--	---	---	132	0.0	0.48	
4/7/15	--	--	--	---	---	--	---	---	133	0.0	0.48	
4/8/15	4:19	71.55	669.59	---	---	--	---	---	134	0.0	0.48	
4/9/15	--	--	--	---	---	--	---	---	135	0.0	0.48	
4/10/15	--	--	--	---	---	--	---	---	136	0.0	0.48	
4/11/15	--	--	--	---	---	--	---	---	137	0.0	0.48	
4/12/15	--	--	--	---	---	--	---	---	138	0.0	0.48	
4/13/15	--	--	--	---	---	--	---	---	139	0.0	0.48	
4/14/15	4:10	71.95	669.19	---	---	--	---	---	140	0.0	0.48	
4/15/15	--	--	--	---	---	--	---	---	141	0.0	0.48	
4/16/15	--	--	--	---	---	--	---	---	142	0.0	0.48	
4/17/15	--	--	--	---	---	--	---	---	143	0.0	0.48	
4/18/15	--	--	--	---	---	--	---	---	144	0.0	0.48	

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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
4/19/15	--	--	--	---	---	--	---	---	145	0.0	0.48	(a)
4/20/15	5:10	72.30	668.84	---	---	--	---	---	146	0.0	0.48	
4/21/15	--	--	--	---	---	--	---	---	147	0.0	0.48	
4/22/15	--	--	--	---	---	--	---	---	148	0.0	0.48	
4/23/15	--	--	--	---	---	--	---	---	149	0.0	0.48	
4/24/15	--	--	--	---	---	--	---	---	150	0.0	0.48	
4/25/15	--	--	--	---	---	--	---	---	151	0.0	0.48	
4/26/15	--	--	--	---	---	--	---	---	152	0.0	0.48	
4/27/15	4:05	72.20	668.94	---	---	--	---	---	153	0.0	0.48	
4/28/15	8:30	72.26	668.88	---	---	--	---	---	154	0.0	0.48	
4/29/15	--	--	--	---	---	--	---	---	155	0.0	0.48	(a) insufficient water to sample
4/30/15	--	--	--	---	---	--	---	---	156	0.0	0.48	
5/1/15	--	--	--	---	---	--	---	---	157	0.0	0.48	
5/2/15	--	--	--	---	---	--	---	---	158	0.0	0.48	
5/3/15	--	--	--	---	---	--	---	---	159	0.0	0.48	
5/4/15	16:15	71.10	670.04	---	---	--	---	---	160	0.0	0.48	
5/5/15	--	--	--	---	---	--	---	---	161	0.0	0.48	
5/6/15	--	--	--	---	---	--	---	---	162	0.0	0.48	
5/7/15	--	--	--	---	---	--	---	---	163	0.0	0.48	
5/8/15	--	--	--	---	---	--	---	---	164	0.0	0.48	
5/9/15	--	--	--	---	---	--	---	---	165	0.0	0.48	(b)
5/10/15	16:00	71.20	669.94	---	---	--	---	---	166	0.0	0.48	
5/11/15	--	--	--	---	---	--	---	---	167	0.0	0.48	
5/12/15	--	--	--	---	---	--	---	---	168	0.0	0.48	
5/13/15	--	--	--	---	---	--	---	---	169	0.0	0.48	
5/14/15	--	--	--	---	---	--	---	---	170	0.0	0.48	
5/15/15	--	--	--	---	---	--	---	---	171	0.0	0.48	
5/16/15	--	--	--	---	---	--	---	---	172	0.0	0.48	
5/17/15	16:50	71.15	669.99	---	---	--	---	---	173	0.0	0.48	
5/18/15	--	--	--	---	---	--	---	---	174	0.0	0.48	
5/19/15	--	--	--	---	---	--	---	---	175	0.0	0.48	(a) no water to prime pumps (no sample taken). The check valve on the hard piping within the LCS sump was corrected so that water pumped from the LDS would be pumped to the hard piping in the LCS sump and then directly to the EQ tank via the forcemain. Water discharged from the LDS will no longer be pumped into the LCS sump.
5/20/15	--	--	--	---	---	--	---	---	176	0.0	0.48	
5/21/15	--	--	--	---	---	--	---	---	177	0.0	0.48	
5/22/15	--	--	--	---	---	--	---	---	178	0.0	0.48	
5/23/15	--	--	--	---	---	--	---	---	179	0.0	0.48	
5/24/15	--	--	--	---	---	--	---	---	180	0.0	0.48	
5/25/15	--	--	--	---	---	--	---	---	181	0.0	0.48	
				---	---	--	---				0.48	
5/26/15	8:00	72.03	669.11	---	---	--	---	---	182	0.0		
5/27/15	--	--	--	---	---	--	---	---	183	0.0	0.48	(a)
5/28/15	--	--	--	---	---	--	---	---	184	0.0	0.48	
5/29/15	--	--	--	---	---	--	---	---	185	0.0	0.48	
5/30/15	--	--	--	---	---	--	---	---	186	0.0	0.48	
5/31/15	--	--	--	---	---	--	---	---	187	0.0	0.48	
6/1/15	3:10	72.10	669.04	---	---	--	---	---	188	0.0	0.48	
6/2/15	--	--	--	---	---	--	---	---	189	0.0	0.48	
6/3/15	--	--	--	---	---	--	---	---	190	0.0	0.48	
6/4/15	--	--	--	---	---	--	---	---	191	0.0	0.48	
6/5/15	--	--	--	---	---	--	---	---	192	0.0	0.48	
6/6/15	--	--	--	---	---	--	---	---	193	0.0	0.48	

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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
6/7/15	--	--	--	---	---	--	---	---	194	0.0	0.48	(a)
6/8/15	--	--	--	---	---	--	---	---	195	0.0	0.48	
6/9/15	7:40	71.66	669.48	---	---	--	---	---	196	0.0	0.48	
6/10/15	--	--	--	---	---	--	---	---	197	0.0	0.48	
6/11/15	--	--	--	---	---	--	---	---	198	0.0	0.48	
6/12/15	--	--	--	---	---	--	---	---	199	0.0	0.48	
6/13/15	--	--	--	---	---	--	---	---	200	0.0	0.48	
6/14/15	--	--	--	---	---	--	---	---	201	0.0	0.48	
6/15/15	--	--	--	---	---	--	---	---	202	0.0	0.48	
6/16/15	7:40	72.03	669.11	---	---	--	---	---	203	0.0	0.48	(a) insufficient water volume for sampling.
6/17/15	--	--	--	---	---	--	---	---	204	0.0	0.48	
6/18/15	--	--	--	---	---	--	---	---	205	0.0	0.48	
6/19/15	--	--	--	---	---	--	---	---	206	0.0	0.48	
6/20/15	--	--	--	---	---	--	---	---	207	0.0	0.48	
6/21/15	--	--	--	---	---	--	---	---	208	0.0	0.48	
6/22/15	--	--	--	---	---	--	---	---	209	0.0	0.48	
6/23/15	--	--	--	---	---	--	---	---	210	0.0	0.48	
6/24/15	--	--	--	---	---	--	---	---	211	0.0	0.48	
6/25/15	18:10	72.51	668.63	---	---	--	---	---	212	0.0	0.48	(a)
6/26/15	--	--	--	---	---	--	---	---	213	0.0	0.48	
6/27/15	--	--	--	---	---	--	---	---	214	0.0	0.48	
6/28/15	--	--	--	---	---	--	---	---	215	0.0	0.48	
6/29/15	18:05	71.52	669.62	---	---	--	---	---	216	0.0	0.48	
6/30/15	--	--	--	---	---	--	---	---	217	0.0	0.48	
7/1/15	--	--	--	---	---	--	---	---	218	0.0	0.48	
7/2/15	--	--	--	---	---	--	---	---	219	0.0	0.48	
7/3/15	--	--	--	---	---	--	---	---	220	0.0	0.48	
7/4/15	--	--	--	---	---	--	---	---	221	0.0	0.48	
7/5/15	--	--	--	---	---	--	---	---	222	0.0	0.48	(a)
7/6/15	16:10	71.52	669.62	---	---	--	---	---	223	0.0	0.48	
7/7/15	--	--	--	---	---	--	---	---	224	0.0	0.48	
7/8/15	--	--	--	---	---	--	---	---	225	0.0	0.48	
7/9/15	--	--	--	---	---	--	---	---	226	0.0	0.48	
7/10/15	--	--	--	---	---	--	---	---	227	0.0	0.48	
7/11/15	--	--	--	---	---	--	---	---	228	0.0	0.48	
7/12/15	--	--	--	---	---	--	---	---	229	0.0	0.48	
7/13/15	--	--	--	---	---	--	---	---	230	0.0	0.48	
7/14/15	--	--	--	---	---	--	---	---	231	0.0	0.48	(a)
7/15/15	16:35	71.40	669.74	---	---	--	---	---	232	0.0	0.48	
7/16/15	--	--	--	---	---	--	---	---	233	0.0	0.48	
7/17/15	--	--	--	---	---	--	---	---	234	0.0	0.48	
7/18/15	--	--	--	---	---	--	---	---	235	0.0	0.48	
7/19/15	--	--	--	---	---	--	---	---	236	0.0	0.48	
7/20/15	--	--	--	---	---	--	---	---	237	0.0	0.48	
7/21/15	--	--	--	---	---	--	---	---	238	0.0	0.48	
7/22/15	15:28	71.63	669.51	---	---	--	---	---	239	0.0	0.48	(a)
7/23/15	--	--	--	---	---	--	---	---	240	0.0	0.48	
7/24/15	--	--	--	---	---	--	---	---	241	0.0	0.48	
7/25/15	--	--	--	---	---	--	---	---	242	0.0	0.48	
7/26/15	--	--	--	---	---	--	---	---	243	0.0	0.48	
7/27/15	16:35	71.78	669.36	---	---	--	---	---	244	0.0	0.48	
7/28/15	9:30	71.01	670.13	2,119.6	289.8	10:00	72.38	668.8	245	818.1	0.48	
7/29/15	--	--	--	---	---	--	---	---	1	0.0	1.28	Sample collected. Pumped to treatment system.
7/30/15	--	--	--	---	---	--	---	---	2	0.0	1.28	
7/31/15	--	--	--	---	---	--	---	---	3	0.0	1.28	
8/1/15	--	--	--	---	---	--	---	---	4	0.0	1.28	

Table 2.2

2015 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
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
8/2/15	--	--	--	---	---	--	---	---	5	0.0	1.28	(a) Insufficient water to sample.
8/3/15	--	--	--	---	---	--	---	---	6	0.0	1.28	
8/4/15	--	--	--	---	---	--	---	---	7	0.0	1.28	
8/5/15	16:00	72.32	668.82	---	---	--	---	---	8	0.0	1.28	
8/6/15	--	--	--	---	---	--	---	---	9	0.0	1.28	
8/7/15	--	--	--	---	---	--	---	---	10	0.0	1.28	
8/8/15	--	--	--	---	---	--	---	---	11	0.0	1.28	
8/9/15	--	--	--	---	---	--	---	---	12	0.0	1.28	
8/10/15	--	--	--	---	---	--	---	---	13	0.0	1.28	
8/11/15	--	--	--	---	---	--	---	---	14	0.0	1.28	
8/12/15	16:20	71.82	669.32	---	---	--	---	---	15	0.0	1.28	
8/13/15	--	--	--	---	---	--	---	---	16	0.0	1.28	
8/14/15	--	--	--	---	---	--	---	---	17	0.0	1.28	
8/15/15	--	--	--	---	---	--	---	---	18	0.0	1.28	
8/16/15	--	--	--	---	---	--	---	---	19	0.0	1.28	
8/17/15	16:15	71.91	669.23	---	---	--	---	---	20	0.0	1.28	
8/18/15	--	--	--	---	---	--	---	---	21	0.0	1.28	
8/19/15	--	--	--	---	---	--	---	---	22	0.0	1.28	
8/20/15	--	--	--	---	---	--	---	---	23	0.0	1.28	
8/21/15	--	--	--	---	---	--	---	---	24	0.0	1.28	
8/22/15	--	--	--	---	---	--	---	---	25	0.0	1.28	
8/23/15	--	--	--	---	---	--	---	---	26	0.0	1.28	
8/24/15	--	--	--	---	---	--	---	---	27	0.0	1.28	
8/25/15	7:35	72.10	669.04	---	---	--	---	---	28	0.0	1.28	
8/26/15	--	--	--	---	---	--	---	---	29	0.0	1.28	
8/27/15	--	--	--	---	---	--	---	---	30	0.0	1.28	
8/28/15	--	--	--	---	---	--	---	---	31	0.0	1.28	
8/29/15	--	--	--	---	---	--	---	---	32	0.0	1.28	
8/30/15	--	--	--	---	---	--	---	---	33	0.0	1.28	
8/31/15	15:15	72.00	669.14	---	---	--	---	---	34	0.0	1.28	
9/1/15	--	--	--	---	---	--	---	---	35	0.0	1.28	
9/2/15	--	--	--	---	---	--	---	---	36	0.0	1.28	
9/3/15	--	--	--	---	---	--	---	---	37	0.0	1.28	
9/4/15	--	--	--	---	---	--	---	---	38	0.0	1.28	
9/5/15	--	--	--	---	---	--	---	---	39	0.0	1.28	
9/6/15	--	--	--	---	---	--	---	---	40	0.0	1.28	
9/7/15	--	--	--	---	---	--	---	---	41	0.0	1.28	
9/8/15	16:00	72.00	669.14	---	---	--	---	---	42	0.0	1.28	
9/9/15	--	--	--	---	---	--	---	---	43	0.0	1.28	
9/10/15	--	--	--	---	---	--	---	---	44	0.0	1.28	
9/11/15	--	--	--	---	---	--	---	---	45	0.0	1.28	
9/12/15	--	--	--	---	---	--	---	---	46	0.0	1.28	
9/13/15	16:20	71.85	669.29	---	---	--	---	---	47	0.0	1.28	
9/14/15	--	--	--	---	---	--	---	---	48	0.0	1.28	
9/15/15	--	--	--	---	---	--	---	---	49	0.0	1.28	
9/16/15	--	--	--	---	---	--	---	---	50	0.0	1.28	
9/17/15	--	--	--	---	---	--	---	---	51	0.0	1.28	
9/18/15	--	--	--	---	---	--	---	---	52	0.0	1.28	
9/19/15	--	--	--	---	---	--	---	---	53	0.0	1.28	
9/20/15	--	--	--	---	---	--	---	---	54	0.0	1.28	
9/21/15	--	--	--	---	---	--	---	---	55	0.0	1.28	
9/22/15	--	--	--	---	---	--	---	---	56	0.0	1.28	
9/23/15	--	--	--	---	---	--	---	---	57	0.0	1.28	
9/24/15	8:20	71.37	669.77	2,639.5	217.9	9:01	72.4	668.7	58	519.9	1.28	Sample collected and excess volume pumped to permanent line in LCS sump that discharges directly to EQ tank.

Table 2.2

2015 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
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
9/25/15	--	--	--	---	---	--	---	---	1	0.0	0.01	Sump is dry.
9/26/15	--	--	--	---	---	--	---	---	2	0.0	0.01	
9/27/15	--	--	--	---	---	--	---	---	3	0.0	0.01	
9/28/15	--	--	--	---	---	--	---	---	4	0.0	0.01	
9/29/15	--	--	--	---	---	--	---	---	5	0.0	0.01	
9/30/15	16:40	72.32	668.82	---	---	--	---	---	6	0.0	0.01	
10/1/15	--	--	--	---	---	--	---	---	7	0.0	0.01	
10/2/15	--	--	--	---	---	--	---	---	8	0.0	0.01	
10/3/15	--	--	--	---	---	--	---	---	9	0.0	0.01	
10/4/15	--	--	--	---	---	--	---	---	10	0.0	0.01	
10/5/15	--	--	--	---	---	--	---	---	11	0.0	0.01	
10/6/15	15:45	72.00	669.14	---	---	--	---	---	12	0.0	0.01	
10/7/15	--	--	--	---	---	--	---	---	13	0.0	0.01	
10/8/15	--	--	--	---	---	--	---	---	14	0.0	0.01	
10/9/15	--	--	--	---	---	--	---	---	15	0.0	0.01	
10/10/15	--	--	--	---	---	--	---	---	16	0.0	0.01	
10/11/15	--	--	--	---	---	--	---	---	17	0.0	0.01	
10/12/15	--	--	--	---	---	--	---	---	18	0.0	0.01	
10/13/15	--	--	--	---	---	--	---	---	19	0.0	0.01	
10/14/15	16:00	71.98	669.16	---	---	--	---	---	20	0.0	0.01	
10/15/15	--	--	--	---	---	--	---	---	21	0.0	0.01	
10/16/15	--	--	--	---	---	--	---	---	22	0.0	0.01	
10/17/15	--	--	--	---	---	--	---	---	23	0.0	0.01	
10/18/15	--	--	--	---	---	--	---	---	24	0.0	0.01	
10/19/15	--	--	--	---	---	--	---	---	25	0.0	0.01	
10/20/15	15:50	72.70	668.44	---	---	--	---	---	26	0.0	0.01	
10/21/15	--	--	--	---	---	--	---	---	27	0.0	0.01	
10/22/15	--	--	--	---	---	--	---	---	28	0.0	0.01	
10/23/15	--	--	--	---	---	--	---	---	29	0.0	0.01	
10/24/15	--	--	--	---	---	--	---	---	30	0.0	0.01	
10/25/15	--	--	--	---	---	--	---	---	31	0.0	0.01	
10/26/15	--	--	--	---	---	--	---	---	32	0.0	0.01	
10/27/15	--	--	--	---	---	--	---	---	33	0.0	0.01	
10/28/15	--	--	--	---	---	--	---	---	34	0.0	0.01	
10/29/15	13:30	72.31	668.83	2,642.0	8.5	13:50	72.35	668.8	35	2.5	0.01	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	

Table 2.2

2015 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
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
11/19/15	--	--	--	---	---	--	---	---	21	0.0	0.85	Attempted sample collection; however, unsuccessful due to insufficient water volume in sump.
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	
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	Attempted sample collection; however, unsuccessful due to insufficient water volume in sump.
12/15/15	--	--	--	---	---	--	---	---	47	0.0	0.85	
12/16/15	--	--	--	---	---	--	---	---	48	0.0	0.85	
12/17/15	--	--	--	---	---	--	---	---	49	0.0	0.85	
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	

Table 2.2

2015 Summary of Daily Leak Detection System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
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
12/29/15	--	--	--	---	---	--	---	---	61	0.0	0.85	
12/30/15	--	--	--	---	---	--	---	---	62	0.0	0.85	
12/31/15	--	--	--	---	---	--	---	---	63	0.0	0.85	
Total					516.1					1340.5		

Notes:

ft AMSL - feet above mean sea level
Top of sump [top of concrete manhole] (feet AMSL): 741.14
Bottom of sump (feet AMSL): 668.5
Total depth of sump manhole (feet): 72.64
Inside diameter of sump (feet): 6
(--) Measurements were not collected.
(---) Water was not removed from the sump.

- (1) Water level in LDS not to rise above the primary liner system (670.0 ft AMSL) (or more than 18 inches of water depth or 71.14 ft from top of sump). Pumping must be initiated if water elevation is not within the appropriate limits. All corresponding information to be recorded on this form.
- (a) 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 eplased time from the prior pumping event and the area of the Vault footprint (7 acres).
- (e) This is an estimated calculated volume that is assumed to have accumulated in sump since last pumping event (11/25/14) to end of 2014. Water Level after pumping on 11/25/14 was at 668.5.
Water level increased 0.12 ft to 668.62 ft AMSL on 12/17/14 and remained constant to January 2015. The change the water level was used to calculate this estimated volume. (-1*0.12*3*3*3.14159*7.48051)
- (f) (0.477gal/ac/day*36days*7ac.) Last pumping event in 2015 on 10/29/2015, first pumping event in 2016 on 2/12/16 (106 days after 10/29/15), 319.4 gallons pumped. 12/31/2015 is 63 days after last pumping event in 2015."

Minimum water elevation (ft AMSL) 668.44
Maximum water elevation (ft AMSL) 670.13
Mean water elevation (ft AMSL) 669.14
Number of Pumping Events 3

(1)	Total Volume Accumulation carried forward from 2014 (gallons) (based on flow meter readings)	120
(2)	Total Volume Accumulation in LDS from last pumping event to end of 2015 (gallons) (based on flow meter readings)	375
(3)	Total Volume Pumped from the LDS in 2015 (gallons) (based on flow meter readings)	1,341
(4)=(3)-(1)+(2)	Net 2015 LDS Accumulation Volume (gallons) (based on flow meter readings)	1,595
(5)	Total Volume Accumulation carried forward from 2014 (gallons) (based on volume removed calculations)	25.4
(6)	Total Volume Accumulation from last pumping event to end of 2015 (gallons) (based on volume removed calculations) ^(g)	189.8
(7)	Total Volume Pumped from the LDS in 2015 (gallons) (based on volume removed calculations)	516.1
(8)=(7)+(6)-(5)	Net 2015 LDS Accumulation Volume (gallons) (based on volume removed calculations)	680.5

Note:

- (g) Last pumping event in 2015 on 10/29/2015, first pumping event in 2016 on 2/12/16 (106 days after 10/29/15), 319.4 gallons pumped. 12/31/2015 is 63 days after last pumping event in 2015.

Table 2.3
2015 Summary of Daily Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
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) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 Through 12/31/15 (gallons)	Total Volume Removed by Local Flow Meter (WWTP) (Gus + LCS Total) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 through 12/31/15 (gallons)	Volume Removed from Gus (Gus Only = WWTP - Local LCS Meter) 01/01/15 through 05/25/15 (Gus Only = WWTP - Local LCS Meter - Lds Portable Meter) 05/26/15 through 12/31/15 (gallons)	Elapsed Time between Flow Meter Readings (days)	Comments
12/8/14	13:20	72.03	666.96	51	666.43	0	0.0	4,164,115	4,028,770	61,816	--	Last flow meter increase in 2014.
12/9/14	--	--	--	52	666.51	11,650	116.5	--	--	--	1	
12/10/14	--	--	--	44	665.85	20,150	201.5	--	--	--	2	
12/11/14	--	--	--	44	665.85	0	0.0	--	--	--	3	
12/12/14	--	--	--	49	666.26	0	0.0	--	--	--	4	
12/13/14	--	--	--	51	666.43	0	0.0	--	--	--	5	
12/14/14	--	--	--	52	666.51	26,480	264.8	--	--	--	6	
12/15/14	--	--	--	52	666.51	6,460	64.6	--	--	--	7	
12/16/14	--	--	--	48	666.18	0	0.0	--	--	--	8	
12/17/14	10:10	73.11	665.88	23	664.10	80	0.8	--	--	--	9	
12/18/14	--	--	--	52	666.51	400	4.0	--	--	--	10	
12/19/14	--	--	--	47	666.10	29,160	291.6	--	--	--	11	
12/20/14	--	--	--	44	665.85	0	0.0	--	--	--	12	
12/21/14	--	--	--	44	665.85	0	0.0	--	--	--	13	
12/22/14	--	--	--	51	666.43	0	0.0	--	--	--	14	
12/23/14	--	--	--	52	666.51	20,250	202.5	--	--	--	15	
12/24/14	--	--	--	52	666.51	12,968	129.7	--	--	--	16	
12/25/14	--	--	--	46	666.01	0	0.0	--	--	--	17	
12/26/14	--	--	--	50	666.35	0	0.0	--	--	--	18	
12/27/14	--	--	--	52	666.51	0	0.0	--	--	--	19	
12/28/14	--	--	--	52	666.51	32,560	325.6	--	--	--	20	
12/29/14	--	--	--	44	665.85	0	0.0	--	--	--	21	
12/30/14	--	--	--	48	666.18	0	0.0	--	--	--	22	
12/31/14	--	--	--	52	666.51	18,175	181.8	--	--	-165,849	23	Estimated volume accumulated in sump at the end of 2014.
1/1/15	--	--	--	52	666.51	18,175	181.8	--	--	--	24	Unable to read tape for manual water level measurement.
1/2/15	--	--	--	41	665.60	15,250	152.5	--	--	--	25	
1/3/15	--	--	--	47	666.10	0	0.0	--	--	--	26	
1/4/15	--	--	--	51	666.43	0	0.0	--	--	--	27	
1/5/15	--	--	--	51	666.43	2,175	21.8	--	--	--	28	
1/6/15	--	--	--	47	666.10	31,700	317.0	--	--	--	29	
1/7/15	--	--	--	46	666.01	0	0.0	--	--	--	30	
1/8/15	--	--	--	50	666.35	0	0.0	--	--	--	31	
1/9/15	13:20	--	--	52	666.51	0	0.0	4,394,939	230,824	230,746	32	
1/10/15	--	--	--	52	666.51	32,890	328.9	--	--	--	1	
1/11/15	--	--	--	44	665.85	180	1.8	--	--	--	2	
1/12/15	--	--	--	44	665.85	0	0.0	--	--	--	3	
1/13/15	--	--	--	52	666.51	0	0.0	--	--	--	4	
1/14/15	--	--	--	52	666.51	32,365	323.7	--	--	--	5	
1/15/15	--	--	--	45	665.93	745	7.5	--	--	--	6	
1/16/15	--	--	--	50	666.35	0	0.0	--	--	--	7	
1/17/15	--	--	--	52	666.51	29,315	293.2	--	--	--	8	
1/18/15	--	--	--	44	665.85	4,325	43.3	--	--	--	9	
1/19/15	--	--	--	44	665.85	0	0.0	--	--	--	10	
1/20/15	11:28	73.19	665.80	51	666.43	0	0.0	4,494,656	99,717	99,717	11	
1/21/15	--	--	--	52	666.51	20,360	203.6	--	--	--	1	
1/22/15	--	--	--	52	666.51	3,185	31.9	--	--	--	2	
1/23/15	--	--	--	43	665.76	0	0.0	--	--	--	3	
1/24/15	--	--	--	48	666.18	0	0.0	--	--	--	4	
1/25/15	--	--	--	48	666.18	0	0.0	--	--	--	5	
1/26/15	--	--	--	51	666.43	10,535	105.4	--	--	--	6	
1/27/15	10:41	74.08	664.91	43	665.76	22,875	228.8	4,555,223	60,567	60,567	7	
1/28/15	--	--	--	43	665.76	0	0.0	--	--	--	1	
1/29/15	--	--	--	51	666.43	0	0.0	--	--	--	2	
1/30/15	--	--	--	52	666.51	0	0.0	--	--	--	3	
1/31/15	--	--	--	52	666.51	32,290	322.9	--	--	--	4	
2/1/15	--	--	--	45	665.93	0	0.0	--	--	--	5	
2/2/15	--	--	--	50	666.35	0	0.0	--	--	--	6	
2/3/15	--	--	--	52	666.51	0	0.0	--	--	--	7	
2/4/15	--	--	--	52	666.51	0	0.0	--	--	--	8	
2/5/15	--	--	--	52	666.51	0	0.0	--	--	--	9	
2/6/15	--	--	--	50	666.35	0	0.0	--	--	--	10	
2/7/15	--	--	--	52	666.51	0	0.0	--	--	--	11	
2/8/15	--	--	--	52	666.51	15,220	152.2	--	--	--	12	
2/9/15	--	--	--	49	666.26	16,530	165.3	--	--	--	13	
2/10/15	13:20	73.75	665.24	43	665.76	6,165	61.7	4,660,663	105,440	105,357	14	
2/11/15	--	--	--	43	665.76	0	0.0	--	--	--	1	

Table 2.3
2015 Summary of Daily Gravel Underdrain System Log
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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) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 Through 12/31/15 (gallons)	Total Volume Removed by Local Flow Meter (WWTP) (Gus + LCS Total) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 through 12/31/15 (gallons)	Volume Removed from Gus (Gus Only = WWTP - Local LCS Meter) 01/01/15 through 05/25/15 (Gus Only = WWTP - Local LCS Meter - Lds Portable Meter) 05/26/15 through 12/31/15 (gallons)	Elapsed Time between Flow Meter Readings (days)	Comments
2/12/15	--	--	--	48	666.18	0	0.0	--	--	--	2	Unable to read tape for manual water level measurement.
2/13/15	--	--	--	52	666.51	14,470	144.7	--	--	--	3	
2/14/15	--	--	--	41	665.60	14,300	143.0	--	--	--	4	
2/15/15	--	--	--	41	665.60	0	0.0	--	--	--	5	
2/16/15	--	--	--	47	666.10	0	0.0	--	--	--	6	
2/17/15	--	--	--	52	666.51	8,305	83.1	--	--	--	7	
2/18/15	--	--	--	52	666.51	19,115	191.2	--	--	--	8	
2/19/15	--	--	--	42	665.68	0	0.0	--	--	--	9	
2/20/15	--	--	--	50	666.35	0	0.0	--	--	--	10	
2/21/15	--	--	--	52	666.51	0	0.0	--	--	--	11	
2/22/15	--	--	--	52	666.51	25,895	259.0	--	--	--	12	
2/23/15	14:35	73.55	665.44	45	665.93	0	0.0	4,742,670	82,007	82,007	13	
2/24/15	--	--	--	50	666.35	0	0.0	--	--	--	1	
2/25/15	--	--	--	52	666.51	75	0.8	--	--	--	2	
2/26/15	--	--	--	52	666.51	24,380	243.8	--	--	--	3	
2/27/15	--	--	--	44	665.85	0	0.0	--	--	--	4	
2/28/15	--	--	--	48	666.18	0	0.0	--	--	--	5	
3/1/15	--	--	--	51	666.43	0	0.0	--	--	--	6	
3/2/15	--	--	--	52	666.51	15,265	152.7	--	--	--	7	
3/3/15	--	--	--	41	665.60	10,185	101.9	--	--	--	8	
3/4/15	13:53	--	--	47	666.10	0	0.0	4,792,465	49,795	49,716	9	
3/5/15	--	--	--	54	666.68	0	0.0	--	--	--	1	
3/6/15	--	--	--	52	666.51	20,835	208.4	--	--	--	2	
3/7/15	--	--	--	43	665.76	0	0.0	--	--	--	3	
3/8/15	--	--	--	48	666.18	0	0.0	--	--	--	4	
3/9/15	--	--	--	52	666.51	10,925	109.3	--	--	--	5	
3/10/15	11:15	72.71	666.28	42	665.68	19,585	195.9	4,813,280	20,815	20,815	6	
3/11/15	--	--	--	47	666.10	0	0.0	--	--	--	1	
3/12/15	--	--	--	47	666.10	0	0.0	--	--	--	2	
3/13/15	--	--	--	51	666.43	17,660	176.6	--	--	--	3	
3/14/15	--	--	--	43	665.76	11,140	111.4	--	--	--	4	
3/15/15	--	--	--	50	666.35	0	0.0	--	--	--	5	
3/16/15	--	--	--	50	666.35	0	0.0	--	--	--	6	
3/17/15	9:40	72.66	666.33	50	666.35	7,765	77.7	--	--	--	7	
3/18/15	--	--	--	42	665.68	20,580	205.8	--	--	--	8	
3/19/15	--	--	--	50	666.35	10	0.1	--	--	--	9	
3/20/15	--	--	--	52	666.51	0	0.0	--	--	--	10	
3/21/15	--	--	--	52	666.51	30,200	302.0	--	--	--	11	
3/22/15	--	--	--	47	666.10	0	0.0	--	--	--	12	
3/23/15	--	--	--	52	666.51	6,410	64.1	--	--	--	13	
3/24/15	--	--	--	42	665.68	18,960	189.6	--	--	--	14	
3/25/15	--	--	--	50	666.35	5	0.1	--	--	--	15	
3/26/15	--	--	--	52	666.51	9,925	99.3	--	--	--	16	
3/27/15	--	--	--	42	665.68	18,710	187.1	--	--	--	17	
3/28/15	--	--	--	51	666.43	0	0.0	--	--	--	18	
3/29/15	--	--	--	52	666.51	12,160	121.6	--	--	--	19	
3/30/15	--	--	--	43	665.76	15,390	153.9	--	--	--	20	
3/31/15	--	--	--	50	666.35	0	0.0	--	--	--	21	
4/1/15	4:30	72.68	666.31	52	666.51	1,155	11.6	5,012,428	199,148	198,985	22	
4/2/15	--	--	--	45	665.93	33,340	333.4	--	--	--	1	
4/3/15	--	--	--	47	666.10	0	0.0	--	--	--	2	
4/4/15	--	--	--	52	666.51	0	0.0	--	--	--	3	
4/5/15	--	--	--	52	666.51	23,090	230.9	--	--	--	4	
4/6/15	--	--	--	52	666.51	8,630	86.3	--	--	--	5	
4/7/15	--	--	--	45	665.93	0	0.0	--	--	--	6	
4/8/15	4:22	72.34	666.65	51	666.43	18,360	183.6	5,084,717	72,289	72,289	7	
4/9/15	--	--	--	52	666.51	12,170	121.7	--	--	--	1	
4/10/15	--	--	--	45	665.93	0	0.0	--	--	--	2	
4/11/15	--	--	--	52	666.51	12,930	129.3	--	--	--	3	
4/12/15	--	--	--	43	665.76	18,770	187.7	--	--	--	4	
4/13/15	--	--	--	51	666.43	0	0.0	--	--	--	5	
4/14/15	4:25	72.75	666.24	42	665.68	17,545	175.5	5,146,239	61,522	61,522	6	
4/15/15	--	--	--	45	665.93	10,400	104.0	--	--	--	1	
4/16/15	--	--	--	51	666.43	2,980	29.8	--	--	--	2	
4/17/15	--	--	--	44	665.85	38,820	388.2	--	--	--	3	
4/18/15	--	--	--	41	665.60	0	0.0	--	--	--	4	

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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) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 Through 12/31/15 (gallons)	Total Volume Removed by Local Flow Meter (WWTP) (Gus + LCS Total) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 through 12/31/15 (gallons)	Volume Removed from Gus (Gus Only = WWTP - Local LCS Meter) 01/01/15 through 05/25/15 (Gus Only = WWTP - Local LCS Meter - Lds Portable Meter) 05/26/15 through 12/31/15 (gallons)	Elapsed Time between Flow Meter Readings (days)	Comments
4/19/15	--	--	--	52	666.51	0	0.0	--	--	--	5	GUS sump was sampled as part of the EI CA750 sampling (GW-050715-SA-029).
4/20/15	5:20	72.70	666.29	52	666.51	21,715	217.2	5,204,450	58,211	58,211	6	
4/21/15	--	--	--	45	665.93	11,910	119.1	--	--	--	1	
4/22/15	--	--	--	51	666.43	0	0.0	--	--	--	2	
4/23/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
4/24/15	--	--	--	52	666.51	4,210	42.1	--	--	--	4	
4/25/15	--	--	--	44	665.85	31,740	317.4	--	--	--	5	
4/26/15	--	--	--	48	666.18	0	0.0	--	--	--	6	
4/27/15	4:00	72.71	666.28	51	666.43	0	0.0	5,273,959	69,509	69,509	7	
4/28/15	9:00	72.60	666.39	52	666.51	18,410	184.1	--	--	--	1	
4/29/15	--	--	--	44	665.85	17,125	171.3	--	--	--	2	
4/30/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
5/1/15	--	--	--	52	666.51	0	0.0	--	--	--	4	
5/2/15	--	--	--	52	666.51	34,205	342.1	--	--	--	5	
5/3/15	--	--	--	48	666.18	530	5.3	--	--	--	6	
5/4/15	16:20	71.10	667.89	51	666.43	11,030	110.3	5,344,155	70,196	70,122	7	
5/5/15	--	--	--	45	665.93	11,480	114.8	--	--	--	1	
5/6/15	--	--	--	51	666.43	0	0.0	--	--	--	2	
5/7/15	--	--	--	52	666.51	400	4.0	--	--	--	3	
5/8/15	--	--	--	52	666.51	80,010	800.1	--	--	--	4	
5/9/15	--	--	--	46	666.01	6,290	62.9	--	--	--	5	
5/10/15	16:10	71.10	667.89	51	666.43	0	0.0	5,409,409	65,254	65,254	6	
5/11/15	--	--	--	52	666.51	15,340	153.4	--	--	--	1	
5/12/15	--	--	--	44	665.85	15,125	151.3	--	--	--	2	
5/13/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
5/14/15	--	--	--	52	666.51	0	0.0	--	--	--	4	
5/15/15	--	--	--	52	666.51	20,490	204.9	--	--	--	5	
5/16/15	--	--	--	44	665.85	14,385	143.9	--	--	--	6	
5/17/15	--	--	--	51	666.43	0	0.0	5,468,584	59,175	59,175	7	
5/18/15	17:05	71.10	667.89	51	666.43	0	0.0	--	--	--	1	A local flow meter (WWTP) reading was accidentally recorded on the field form in the space for May 18th, but should have been recorded in the space for May 17th. This table presents the data on May 17th.
5/19/15	--	--	--	52	666.51	18,485	184.9	--	--	--	2	
5/20/15	--	--	--	43	665.76	16,585	165.9	--	--	--	3	
5/21/15	--	--	--	43	665.76	0	0.0	--	--	--	4	
5/22/15	--	--	--	51	666.43	0	0.0	--	--	--	5	
5/23/15	--	--	--	51	666.43	9,406	94.1	--	--	--	6	
5/24/15	--	--	--	42	665.68	25,975	259.8	--	--	--	7	
5/25/15	--	--	--	49	666.26	0	0.0	--	--	--	8	
5/26/15	8:10	72.86	--	51	666.43	90	0.9	5,559,043	90,459	90,383	9	
			666.13									
5/27/15	--	--	--	52	666.51	570	5.7	--	--	--	1	From May 26, 2015 forward, the volume pumped from the LDS should also be subtracted from the WWTP local flow meter reading, as the LDS now discharges via forcemain directly to the EQ Tank.
5/28/15	--	--	--	45	665.93	32,710	327.1	--	--	--	2	
5/29/15	--	--	--	45	665.93	1,715	17.2	--	--	--	3	
5/30/15	--	--	--	51	666.43	0	0.0	--	--	--	4	
5/31/15	--	--	--	52	666.51	0	0.0	--	--	--	5	
6/1/15	15:00	72.70	666.29	52	666.51	25,865	258.7	5,587,100	28,057	28,057	6	
6/2/15	--	--	--	45	665.93	4,700	47.0	--	--	--	1	
6/3/15	--	--	--	51	666.43	0	0.0	--	--	--	2	
6/4/15	--	--	--	52	666.51	0	0.0	--	--	--	3	
6/5/15	--	--	--	52	666.51	7,605	76.1	--	--	--	4	
6/6/15	--	--	--	52	666.51	27,530	275.3	--	--	--	5	
6/7/15	--	--	--	47	666.10	0	0.0	--	--	--	6	
6/8/15	--	--	--	51	666.43	0	0.0	--	--	--	7	
6/9/15	7:48	72.66	666.33	51	666.43	0	0.0	5,639,641	52,541	52,541	8	
6/10/15	--	--	--	52	666.51	29,885	298.9	--	--	--	1	
6/11/15	--	--	--	45	665.93	0	0.0	--	--	--	2	
6/12/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
6/13/15	--	--	--	51	666.43	0	0.0	--	--	--	4	
6/14/15	--	--	--	52	666.51	0	0.0	--	--	--	5	
6/15/15	--	--	--	52	666.51	30,090	300.9	--	--	--	6	
6/16/15	7:45	72.86	666.13	52	666.51	4,790	47.9	5,687,521	47,880	47,880	7	

Table 2.3
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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) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 Through 12/31/15 (gallons)	Total Volume Removed by Local Flow Meter (WWTP) (Gus + LCS Total) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 through 12/31/15 (gallons)	Volume Removed from Gus (Gus Only = WWTP - Local LCS Meter) 01/01/15 through 05/25/15 (Gus Only = WWTP - Local LCS Meter - Lds Portable Meter) 05/26/15 through 12/31/15 (gallons)	Elapsed Time between Flow Meter Readings (days)	Comments
6/17/15	--	--	--	44	665.85	65	0.7	--	--	--	1	
6/18/15	--	--	--	49	666.26	0	0.0	--	--	--	2	
6/19/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
6/20/15	--	--	--	51	666.43	25,670	256.7	--	--	--	4	
6/21/15	--	--	--	52	666.51	7,400	74.0	--	--	--	5	
6/22/15	--	--	--	52	666.51	0	0.0	--	--	--	6	
6/23/15	--	--	--	60	667.18	0	0.0	--	--	--	7	
6/24/15	--	--	--	51	666.43	0	0.0	--	--	--	8	
6/25/15	18:20	72.80	666.19	51	666.43	29,925	299.3	5,758,480	70,959	70,892	9	
6/26/15	--	--	--	44	665.85	6,020	60.2	--	--	--	1	
6/27/15	--	--	--	50	666.35	0	0.0	--	--	--	2	
6/28/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
6/29/15	18:15	72.34	666.65	62	667.35	10,475	104.8	5,773,555	15,075	15,075	4	
6/30/15	--	--	--	42	665.68	26,000	260.0	--	--	--	1	
7/1/15	--	--	--	47	666.10	0	0.0	--	--	--	2	
7/2/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
7/3/15	--	--	--	52	666.51	0	0.0	--	--	--	4	
7/4/15	--	--	--	52	666.51	30,295	303.0	--	--	--	5	
7/5/15	--	--	--	44	665.85	6,110	61.1	--	--	--	6	
7/6/15	16:15	72.70	666.29	51	666.43	0	0.0	5,846,357	72,802	72,802	7	
7/7/15	--	--	--	52	666.51	0	0.0	--	--	--	1	
7/8/15	--	--	--	52	666.51	16,970	169.7	--	--	--	2	
7/9/15	--	--	--	41	665.60	20,445	204.5	--	--	--	3	
7/10/15	--	--	--	49	666.26	0	0.0	--	--	--	4	
7/11/15	--	--	--	51	666.43	0	0.0	--	--	--	5	
7/12/15	--	--	--	52	666.51	4,815	48.2	--	--	--	6	
7/13/15	--	--	--	44	665.85	33,430	334.3	--	--	--	7	
7/14/15	--	--	--	46	666.01	765	7.7	--	--	--	8	
7/15/15	16:35	72.61	666.38	51	666.43	0	0.0	5,922,708	76,351	76,352	9	
7/16/15	--	--	--	52	666.51	0	0.0	--	--	--	1	
7/17/15	--	--	--	52	666.51	25,125	251.3	--	--	--	2	
7/18/15	--	--	--	50	666.35	0	0.0	--	--	--	3	
7/19/15	--	--	--	51	666.43	0	0.0	--	--	--	4	
7/20/15	--	--	--	52	666.51	9,155	91.6	--	--	--	5	
7/21/15	--	--	--	47	666.10	29,820	298.2	--	--	--	6	
7/22/15	15:40	72.92	666.07	51	666.43	0	0.0	5,990,498	67,790	67,790	7	
7/23/15	--	--	--	51	666.43	0	0.0	--	--	--	1	
7/24/15	--	--	--	47	666.10	0	0.0	--	--	--	2	
7/25/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
7/26/15	--	--	--	52	666.51	21,175	211.8	--	--	--	4	
7/27/15	16:40	72.85	666.14	41	665.60	17,385	173.9	6,038,698	48,200	48,200	5	
7/28/15	10:15	73.15	665.84	49	666.26	630	6.3	6,039,330	632	-186	1	
7/29/15	--	--	--	51	666.43	0	0.0	--	--	--	1	
7/30/15	--	--	--	51	666.43	0	0.0	--	--	--	2	
7/31/15	--	--	--	51	666.43	27,195	272.0	--	--	--	3	
8/1/15	--	--	--	52	666.51	11,100	111.0	--	--	--	4	
8/2/15	--	--	--	50	666.35	0	0.0	--	--	--	5	
8/3/15	--	--	--	51	666.43	0	0.0	--	--	--	6	
8/4/15	--	--	--	51	666.43	0	0.0	--	--	--	7	
8/5/15	15:50	73.22	665.77	52	666.51	25,050	250.5	6,091,414	52,084	52,001	8	
8/6/15	--	--	--	42	665.68	13,405	134.1	--	--	--	1	
8/7/15	--	--	--	49	666.26	0	0.0	--	--	--	2	
8/8/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
8/9/15	--	--	--	51	666.43	0	0.0	--	--	--	4	
8/10/15	--	--	--	52	666.51	15,000	150.0	--	--	--	5	
8/11/15	--	--	--	41	665.60	23,075	230.8	--	--	--	6	
8/12/15	15:30	73.52	665.47	47	666.10	0	0.0	6,154,033	62,619	62,619	7	
8/13/15	--	--	--	51	666.43	0	0.0	--	--	--	1	
8/14/15	--	--	--	51	666.43	0	0.0	--	--	--	2	
8/15/15	--	--	--	52	666.51	1,295	13.0	--	--	--	3	
8/16/15	--	--	--	45	665.93	32,925	329.3	--	--	--	4	
8/17/15	16:00	73.42	665.57	44	665.85	3,175	31.8	6,191,395	37,362	37,362	5	
8/18/15	--	--	--	50	666.35	0	0.0	--	--	--	1	
8/19/15	--	--	--	51	666.43	0	0.0	--	--	--	2	
8/20/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
8/21/15	--	--	--	52	666.51	10,635	106.4	--	--	--	4	

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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) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 Through 12/31/15 (gallons)	Total Volume Removed by Local Flow Meter (WWTP) (Gus + LCS Total) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 through 12/31/15 (gallons)	Volume Removed from Gus (Gus Only = WWTP - Local LCS Meter) 01/01/15 through 05/25/15 (Gus Only = WWTP - Local LCS Meter - Lds Portable Meter) 05/26/15 through 12/31/15 (gallons)	Elapsed Time between Flow Meter Readings (days)	Comments
8/22/15	--	--	--	42	665.68	26,620	266.2	--	--	--	5	
8/23/15	--	--	--	46	666.01	0	0.0	--	--	--	6	
8/24/15	--	--	--	50	666.35	0	0.0	--	--	--	7	
8/25/15	8:00	72.65	666.34	51	666.43	90	0.9	6,228,699	37,304	37,304	8	
8/26/15	--	--	--	51	666.43	0	0.0	--	--	--	1	
8/27/15	--	--	--	52	666.51	6,760	67.6	--	--	--	2	
8/28/15	--	--	--	44	665.85	30,285	302.9	--	--	--	3	
8/29/15	--	--	--	45	665.93	0	0.0	--	--	--	4	
8/30/15	--	--	--	49	666.26	0	0.0	--	--	--	5	
8/31/15	15:30	72.75	666.24	52	666.51	0	0.0	6,265,705	37,006	36,907	6	
9/1/15	--	--	--	51	666.43	0	0.0	--	--	--	1	
9/2/15	--	--	--	51	666.43	0	0.0	--	--	--	2	
9/3/15	--	--	--	52	666.51	23,105	231.1	--	--	--	3	
9/4/15	--	--	--	49	666.26	13,300	133.0	--	--	--	4	
9/5/15	--	--	--	47	666.10	0	0.0	--	--	--	5	
9/6/15	--	--	--	50	666.35	0	0.0	--	--	--	6	
9/7/15	--	--	--	51	666.43	0	0.0	--	--	--	7	
9/8/15	15:50	71.92	667.07	51	666.43	0	0.0	6,302,075	36,370	36,370	8	
9/9/15	--	--	--	51	666.43	0	0.0	--	--	--	1	
9/10/15	--	--	--	52	666.51	24,935	249.4	--	--	--	2	
9/11/15	--	--	--	41	665.60	10,995	110.0	--	--	--	3	
9/12/15	--	--	--	47	666.10	0	0.0	--	--	--	4	
9/13/15	16:30	71.83	667.16	50	666.35	0	0.0	6,337,970	35,895	35,895	5	
9/14/15	--	--	--	51	666.43	0	0.0	--	--	--	1	
9/15/15	--	--	--	51	666.43	0	0.0	--	--	--	2	
9/16/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
9/17/15	--	--	--	52	666.51	4,705	47.1	--	--	--	4	
9/18/15	--	--	--	44	665.85	32,250	322.5	--	--	--	5	
9/19/15	--	--	--	42	665.68	0	0.0	--	--	--	6	
9/20/15	--	--	--	47	666.10	0	0.0	--	--	--	7	
9/21/15	--	--	--	50	666.35	0	0.0	--	--	--	8	
9/22/15	--	--	--	51	666.43	0	0.0	--	--	--	9	
9/23/15	--	--	--	51	666.43	10,060	100.6	--	--	--	10	
9/24/15	17:00	72.50	666.49	51	666.43	885	8.9	6,385,819	47,849	47,329	11	
9/25/15	--	--	--	52	666.51	335	3.4	--	--	--	1	
9/26/15	--	--	--	50	666.35	32,320	323.2	--	--	--	2	
9/27/15	--	--	--	41	665.60	3,745	37.5	--	--	--	3	
9/28/15	--	--	--	46	666.01	0	0.0	--	--	--	4	
9/29/15	--	--	--	49	666.26	0	0.0	--	--	--	5	
9/30/15	16:45	72.55	666.44	50	666.35	0	0.0	6,422,185	36,366	25,630	6	
10/1/15	--	--	--	49	666.26	0	0.0	--	--	--	1	
10/2/15	--	--	--	51	666.43	0	0.0	--	--	--	2	
10/3/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
10/4/15	--	--	--	51	666.43	0	0.0	--	--	--	4	
10/5/15	--	--	--	52	666.51	10,715	107.2	--	--	--	5	
10/6/15	15:50	72.30	666.69	43	665.76	25,580	255.8	6,458,440	36,255	36,255	6	
10/7/15	--	--	--	42	665.68	0	0.0	--	--	--	1	
10/8/15	--	--	--	49	666.26	0	0.0	--	--	--	2	
10/9/15	--	--	--	50	666.35	0	0.0	--	--	--	3	
10/10/15	--	--	--	50	666.35	0	0.0	--	--	--	4	
10/11/15	--	--	--	50	666.35	0	0.0	--	--	--	5	
10/12/15	--	--	--	51	666.43	0	0.0	--	--	--	6	
10/13/15	--	--	--	52	666.51	12,215	122.2	--	--	--	7	
10/14/15	16:10	72.15	666.84	42	665.68	23,595	236.0	6,494,264	35,824	35,824	8	
10/15/15	--	--	--	32	664.85	0	0.0	--	--	--	1	
10/16/15	--	--	--	47	666.10	0	0.0	--	--	--	2	
10/17/15	--	--	--	48	666.18	0	0.0	--	--	--	3	
10/18/15	--	--	--	50	666.35	0	0.0	--	--	--	4	
10/19/15	--	--	--	50	666.35	0	0.0	--	--	--	5	
10/20/15	12:59	72.40	666.59	50	666.35	0	0.0	6,494,264	0	0	6	
10/21/15	--	--	--	50	666.35	0	0.0	--	--	--	1	
10/22/15	--	--	--	52	666.51	0	0.0	--	--	--	2	
10/23/15	--	--	--	52	666.51	27,580	275.8	--	--	--	3	
10/24/15	--	--	--	39	665.43	8,645	86.5	--	--	--	4	
10/25/15	--	--	--	42	665.68	0	0.0	--	--	--	5	
10/26/15	--	--	--	44	665.85	0	0.0	--	--	--	6	

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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) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 Through 12/31/15 (gallons)	Total Volume Removed by Local Flow Meter (WWTP) (Gus + LCS Total) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 through 12/31/15 (gallons)	Volume Removed from Gus (Gus Only = WWTP - Local LCS Meter) 01/01/15 through 05/25/15 (Gus Only = WWTP - Local LCS Meter - Lds Portable Meter) 05/26/15 through 12/31/15 (gallons)	Elapsed Time between Flow Meter Readings (days)	Comments
10/27/15	--	--	--	46	666.01	0	0.0	--	--	--	7	GHD turned off pumps overnight (11/19 to 11/20) for system testing. Level sensor for automated system was pulled from sump for cleaning, measurement, and then reinstalled. The distance from the top of concrete (elev. = 738.99 ft AMSL) to the bottom of the sensor was measured as 73.70 feet.
10/28/15	--	--	--	48	666.18	0	0.0	--	--	--	8	
10/29/15	9:36	72.75	666.24	50	666.35	85	0.9	6,530,539	36,275	36,273	9	
10/30/15	--	--	--	51	666.43	0	0.0	--	--	--	1	
10/31/15	--	--	--	51	666.43	0	0.0	--	--	--	2	
11/1/15	--	--	--	52	666.51	14,460	144.6	--	--	--	3	
11/2/15	--	--	--	51	666.43	21,105	211.1	--	--	--	4	
11/3/15	--	--	--	43	665.76	0	0.0	--	--	--	5	
11/4/15	10:27	71.60	667.39	43	665.76	0	0.0	6,566,068	35,529	35,419	6	
11/5/15	--	--	--	47	666.10	575	5.8	--	--	--	1	
11/6/15	--	--	--	48	666.18	0	0.0	--	--	--	2	
11/7/15	--	--	--	50	666.35	0	0.0	--	--	--	3	
11/8/15	--	--	--	51	666.43	0	0.0	--	--	--	4	
11/9/15	Not Recorded	72.60	666.39	51	666.43	0	0.0	6,566,646	578	432	5	
11/10/15	--	--	--	52	666.51	16,710	167.1	--	--	--	1	
11/11/15	--	--	--	41	665.60	19,350	193.5	--	--	--	2	
11/12/15	--	--	--	43	665.76	0	0.0	--	--	--	3	
11/13/15	--	--	--	43	665.76	0	0.0	--	--	--	4	
11/14/15	--	--	--	49	666.26	0	0.0	--	--	--	5	
11/15/15	--	--	--	50	666.35	0	0.0	--	--	--	6	
11/16/15	10:25	72.60	666.39	49	666.26	0	0.0	6,602,669	36,023	36,023	7	
11/17/15	--	--	--	51	666.43	0	0.0	--	--	--	1	
11/18/15	--	--	--	52	666.51	0	0.0	--	--	--	2	
11/19/15	Not Recorded	72.45	666.54	52	666.51	0	0.0	--	--	--	3	
11/20/15	--	--	--	52	666.51	20,150	201.5	--	--	--	4	
11/21/15	--	--	--	40	665.51	17,250	172.5	--	--	--	5	
11/22/15	--	--	--	47	666.10	0	0.0	--	--	--	6	
11/23/15	Not Recorded	72.75	666.24	49	666.26	0	0.0	6,640,299	37,630	37,630	7	
11/24/15	--	--	--	50	666.35	0	0.0	--	--	--	1	
11/25/15	--	--	--	50	666.35	0	0.0	--	--	--	2	
11/26/15	--	--	--	51	666.43	0	0.0	--	--	--	3	
11/27/15	--	--	--	52	666.51	1,185	11.9	--	--	--	4	
11/28/15	--	--	--	49	666.26	34,675	346.8	--	--	--	5	
11/29/15	--	--	--	42	665.68	2,335	23.4	--	--	--	6	
11/30/15	--	--	--	47	666.10	0	0.0	--	--	--	7	
12/1/15	--	--	--	49	666.26	0	0.0	--	--	--	8	
12/2/15	--	--	--	50	666.35	0	0.0	--	--	--	9	
12/3/15	11:20	72.55	666.44	50	666.35	0	0.0	6,678,453	38,154	38,154	10	
12/4/15	--	--	--	51	666.43	0	0.0	--	--	--	1	
12/5/15	--	--	--	52	666.51	22,170	221.7	--	--	--	2	
12/6/15	--	--	--	40	665.51	16,055	160.6	--	--	--	3	
12/7/15	10:30	73.20	665.79	46	666.01	0	0.0	6,716,643	38,190	38,190	4	
12/8/15	--	--	--	49	666.26	0	0.0	--	--	--	1	
12/9/15	--	--	--	50	666.35	0	0.0	--	--	--	2	
12/10/15	--	--	--	50	666.35	0	0.0	--	--	--	3	
12/11/15	--	--	--	51	666.43	0	0.0	--	--	--	4	
12/12/15	--	--	--	52	666.51	21,505	215.1	--	--	--	5	
12/13/15	--	--	--	40	665.51	16,745	167.5	--	--	--	6	
12/14/15	10:25	73.20	665.79	46	666.01	0	0.0	6,754,854	38,211	38,211	7	
12/15/15	--	--	--	49	666.26	0	0.0	--	--	--	1	
12/16/15	--	--	--	50	666.35	0	0.0	--	--	--	2	
12/17/15	--	--	--	50	666.35	0	0.0	--	--	--	3	
12/18/15	--	--	--	51	666.43	0	0.0	--	--	--	4	
12/19/15	--	--	--	52	666.51	6,610	66.1	--	--	--	5	
12/20/15	--	--	--	44	665.85	31,880	318.8	--	--	--	6	
12/21/15	11:50	73.50	665.49	43	665.76	0	0.0	6,793,304	38,450	38,450	7	
12/22/15	--	--	--	47	666.10	0	0.0	--	--	--	1	
12/23/15	--	--	--	50	666.35	0	0.0	--	--	--	2	
12/24/15	--	--	--	50	666.35	0	0.0	--	--	--	3	
12/25/15	--	--	--	50	666.35	0	0.0	--	--	--	4	
12/26/15	--	--	--	52	666.51	0	0.0	--	--	--	5	
12/27/15	--	--	--	52	666.51	30,235	302.4	--	--	--	6	

Table 2.3
2015 Summary of Daily Gravel Underdrain System Log
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
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) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 Through 12/31/15 (gallons)	Total Volume Removed by Local Flow Meter (WWTP) (Gus + LCS Total) 01/01/15 through 05/25/15 (Gus + LCS Total + LDS Total) 05/26/15 through 12/31/15 (gallons)	Volume Removed from Gus (Gus Only = WWTP - Local LCS Meter) 01/01/15 through 05/25/15 (Gus Only = WWTP - Local LCS Meter - Lds Portable Meter) 05/26/15 through 12/31/15 (gallons)	Elapsed Time between Flow Meter Readings (days)	Comments
12/28/15	Not Recorded	73.60	665.39	52	666.51	9,545	95.5	6,833,140	39,836	39,836	7	
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	
						2,510,991				2,655,892		

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).
(--) 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)	664.91	664.8
Maximum Elevation (ft, AMSL)	667.89	667.35
Mean Elevation (ft, AMSL)	666.31	666.25

Number of Pumping Events 157

(1)	Total Volume Accumulation in GUS carried forward from 2014 (gallons) (based on flow meter readings)	165,849
(2)	Total Volume Accumulation in GUS from last pumping event to end of 2015 (gallons) (based on flow meter readings)	17,733
(3)	Total Volume Pumped from the GUS in 2015 (gallons) (based on flow meter readings)	2,655,892
(3)-(1)+(2)	Total Volume Accumulation Originating in the GUS in 2015 (gallons) (based on flow meter readings)	2,507,776

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
1/1/15	--	673.0	669.5	--	667.5	--	666.5
1/2/15	--	673.0	669.5	--	667.5	--	665.6
1/3/15	--	673.2	669.5	--	667.5	--	666.1
1/4/15	--	673.0	669.5	--	667.5	--	666.4
1/5/15	--	673.0	669.5	--	667.5	--	666.4
1/6/15	--	673.1	669.5	--	667.5	--	666.1
1/7/15	--	673.1	669.5	--	667.5	--	666.0
1/8/15	--	673.2	669.5	--	667.5	--	666.3
1/9/15	672.8	673.1	669.5	668.6	667.5	--	666.5
1/10/15	--	673.1	669.5	--	667.5	--	666.5
1/11/15	--	673.1	669.5	--	667.5	--	665.8
1/12/15	--	673.1	669.5	--	667.5	--	665.8
1/13/15	--	673.1	669.5	--	667.5	--	666.5
1/14/15	--	673.1	669.5	--	667.5	--	666.5
1/15/15	--	673.1	669.5	--	667.5	--	665.9
1/16/15	--	673.1	669.5	--	667.5	--	666.3
1/17/15	--	673.1	669.5	--	667.5	--	666.5
1/18/15	--	673.1	669.5	--	667.5	--	665.8
1/19/15	--	673.1	669.5	--	667.5	--	665.8
1/20/15	672.7	673.1	669.5	668.6	667.5	665.8	666.4
1/21/15	--	673.1	669.5	--	667.5	--	666.5
1/22/15	--	673.1	669.5	--	667.5	--	666.5
1/23/15	--	673.2	669.5	--	667.5	--	665.8

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
1/24/15	--	673.2	669.5	--	667.5	--	666.2
1/25/15	--	673.2	669.5	--	667.5	--	666.2
1/26/15	--	673.2	669.5	--	667.5	--	666.4
1/27/15	672.7	673.2	669.5	668.6	667.5	664.9	665.8
1/28/15	--	673.2	669.5	--	667.5	--	665.8
1/29/15	--	673.2	669.5	--	667.5	--	666.4
1/30/15	--	673.2	669.5	--	667.5	--	666.5
1/31/15	--	673.2	669.5	--	667.5	--	666.5
2/1/15	--	673.3	669.5	--	667.5	--	665.9
2/2/15	--	673.2	669.5	--	667.5	--	666.3
2/3/15	--	673.2	669.5	--	667.5	--	666.5
2/4/15	--	673.2	669.5	--	667.5	--	666.5
2/5/15	--	673.2	669.5	--	667.5	--	666.5
2/6/15	--	673.2	669.5	--	667.5	--	666.3
2/7/15	--	673.3	669.5	--	667.5	--	666.5
2/8/15	--	673.3	669.5	--	667.5	--	666.5
2/9/15	--	673.2	669.5	--	667.5	--	666.3
2/10/15	673.0	673.3	669.5	668.7	667.5	665.2	665.8
2/11/15	--	673.3	669.5	--	667.5	--	665.8
2/12/15	--	673.3	669.5	--	667.5	--	666.2
2/13/15	--	673.3	669.5	--	667.5	--	666.5
2/14/15	--	673.3	669.5	--	667.5	--	665.6
2/15/15	--	673.3	669.5	--	667.5	--	665.6
2/16/15	--	673.3	669.5	--	667.5	--	666.1
2/17/15	--	673.3	669.5	--	667.5	--	666.5
2/18/15	--	673.3	669.5	--	667.5	--	666.5
2/19/15	--	673.3	669.5	--	667.5	--	665.7
2/20/15	--	673.3	669.5	--	667.5	--	666.3
2/21/15	--	673.3	669.5	--	667.5	--	666.5
2/22/15	--	673.3	669.5	--	667.5	--	666.5

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
2/23/15	673.1	673.3	669.5	668.7	667.5	665.4	665.9
2/24/15	--	673.3	669.5	--	667.5	--	666.3
2/25/15	--	673.3	669.5	--	667.5	--	666.5
2/26/15	--	673.3	669.5	--	667.5	--	666.5
2/27/15	--	673.3	669.5	--	667.5	--	665.8
2/28/15	--	673.3	669.5	--	667.5	--	666.2
3/1/15	--	673.3	669.5	--	667.5	--	666.4
3/2/15	--	673.3	669.5	--	667.5	--	666.5
3/3/15	--	673.4	669.5	--	667.5	--	665.6
3/4/15	673.1	673.3	669.5	668.7	667.5	--	666.1
3/5/15	--	673.3	669.5	--	667.5	--	666.7
3/6/15	--	673.3	669.5	--	667.5	--	666.5
3/7/15	--	673.4	669.5	--	667.5	--	665.8
3/8/15	--	673.3	669.5	--	667.5	--	666.2
3/9/15	--	673.3	669.5	--	667.5	--	666.5
3/10/15	673.2	673.3	669.5	668.9	667.5	666.3	665.7
3/11/15	--	673.3	669.5	--	667.5	--	666.1
3/12/15	--	673.3	669.5	--	667.5	--	666.1
3/13/15	--	673.4	669.5	--	667.5	--	666.4
3/14/15	--	673.4	669.5	--	667.5	--	665.8
3/15/15	--	673.4	669.5	--	667.5	--	666.3
3/16/15	--	673.4	669.5	--	667.5	--	666.3
3/17/15	673.4	673.5	669.5	668.9	667.5	666.3	666.3
3/18/15	--	673.5	669.5	--	667.5	--	665.7
3/19/15	--	673.3	669.5	--	667.5	--	666.3
3/20/15	--	673.4	669.5	--	667.5	--	666.5
3/21/15	--	673.4	669.5	--	667.5	--	666.5
3/22/15	--	673.4	669.5	--	667.5	--	666.1
3/23/15	--	673.4	669.5	--	667.5	--	666.5
3/24/15	--	673.5	669.5	--	667.5	--	665.7

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
3/25/15	--	673.5	669.5	--	667.5	--	666.3
3/26/15	--	673.5	669.5	--	667.5	--	666.5
3/27/15	--	673.4	669.5	--	667.5	--	665.7
3/28/15	--	673.3	669.5	--	667.5	--	666.4
3/29/15	--	673.6	669.5	--	667.5	--	666.5
3/30/15	--	673.4	669.5	--	667.5	--	665.8
3/31/15	--	673.5	669.5	--	667.5	--	666.3
4/1/15	674.3	673.5	669.5	668.9	667.5	666.3	666.5
4/2/15	--	673.5	669.5	--	667.5	--	665.9
4/3/15	--	673.5	669.5	--	667.5	--	666.1
4/4/15	--	673.4	669.5	--	667.5	--	666.5
4/5/15	--	673.5	669.5	--	667.5	--	666.5
4/6/15	--	673.5	669.5	--	667.5	--	666.5
4/7/15	--	673.6	669.5	--	667.5	--	665.9
4/8/15	673.6	673.6	669.5	669.6	667.5	666.7	666.4
4/9/15	--	673.6	669.5	--	667.5	--	666.5
4/10/15	--	673.6	669.5	--	667.5	--	665.9
4/11/15	--	673.5	669.5	--	667.5	--	666.5
4/12/15	--	673.6	669.5	--	667.5	--	665.8
4/13/15	--	673.5	669.5	--	667.5	--	666.4
4/14/15	673.7	673.5	669.5	669.2	667.5	666.2	665.7
4/15/15	--	673.6	669.5	--	667.5	--	665.9
4/16/15	--	673.6	669.5	--	667.5	--	666.4
4/17/15	--	673.6	669.5	--	667.5	--	665.8
4/18/15	--	673.8	669.5	--	667.5	--	665.6
4/19/15	--	673.6	669.5	--	667.5	--	666.5
4/20/15	674.5	673.6	669.5	668.8	667.5	666.3	666.5
4/21/15	--	673.6	669.5	--	667.5	--	665.9
4/22/15	--	673.6	669.5	--	667.5	--	666.4
4/23/15	--	673.6	669.5	--	667.5	--	666.4

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
4/24/15	--	673.6	669.5	--	667.5	--	666.5
4/25/15	--	673.7	669.5	--	667.5	--	665.8
4/26/15	--	673.6	669.5	--	667.5	--	666.2
4/27/15	673.6	673.6	669.5	668.9	667.5	666.3	666.4
4/28/15	673.6	673.6	669.5	668.9	667.5	666.4	666.5
4/29/15	--	673.7	669.5	--	667.5	--	665.8
4/30/15	--	673.6	669.5	--	667.5	--	666.4
5/1/15	--	673.6	669.5	--	667.5	--	666.5
5/2/15	--	673.7	669.5	--	667.5	--	666.5
5/3/15	--	673.6	669.5	--	667.5	--	666.2
5/4/15	673.7	673.6	669.5	670.0	667.5	667.9	666.4
5/5/15	--	673.7	669.5	--	667.5	--	665.9
5/6/15	--	673.7	669.5	--	667.5	--	666.4
5/7/15	--	673.7	669.5	--	667.5	--	666.5
5/8/15	--	673.6	669.5	--	667.5	--	666.5
5/9/15	--	673.7	669.5	--	667.5	--	666.0
5/10/15	673.8	673.7	669.5	669.9	667.5	667.9	666.4
5/11/15	--	673.7	669.5	--	667.5	--	666.5
5/12/15	--	673.6	669.5	--	667.5	--	665.8
5/13/15	--	673.7	669.5	--	667.5	--	666.4
5/14/15	--	673.8	669.5	--	667.5	--	666.5
5/15/15	--	673.8	669.5	--	667.5	--	666.5
5/16/15	--	673.7	669.5	--	667.5	--	665.8
5/17/15	673.7	673.8	669.5	670.0	667.5	--	666.4
5/18/15	--	673.7	669.5	--	667.5	667.9	666.4
5/19/15	--	673.7	669.5	--	667.5	--	666.5
5/20/15	--	673.8	669.5	--	667.5	--	665.8
5/21/15	--	673.8	669.5	--	667.5	--	665.8
5/22/15	--	673.8	669.5	--	667.5	--	666.4
5/23/15	--	673.8	669.5	--	667.5	--	666.4

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
5/24/15	--	673.8	669.5	--	667.5	--	665.7
5/25/15	--	673.8	669.5	--	667.5	--	666.3
5/26/15	673.5	673.8	669.5	669.1	667.5	666.1	666.4
5/27/15	--	673.8	669.5	--	667.5	--	666.5
5/28/15	--	673.8	669.5	--	667.5	--	665.9
5/29/15	--	673.8	669.5	--	667.5	--	665.9
5/30/15	--	673.8	669.5	--	667.5	--	666.4
5/31/15	--	673.8	669.5	--	667.5	--	666.5
6/1/15	673.5	673.8	669.5	669.0	667.5	666.3	666.5
6/2/15	--	673.8	669.5	--	667.5	--	665.9
6/3/15	--	673.8	669.5	--	667.5	--	666.4
6/4/15	--	673.8	669.5	--	667.5	--	666.5
6/5/15	--	673.8	669.5	--	667.5	--	666.5
6/6/15	--	673.8	669.5	--	667.5	--	666.5
6/7/15	--	673.8	669.5	--	667.5	--	666.1
6/8/15	--	673.8	669.5	--	667.5	--	666.4
6/9/15	673.7	673.8	669.5	669.5	667.5	666.3	666.4
6/10/15	--	673.8	669.5	--	667.5	--	666.5
6/11/15	--	673.8	669.5	--	667.5	--	665.9
6/12/15	--	673.8	669.5	--	667.5	--	666.4
6/13/15	--	673.8	669.5	--	667.5	--	666.4
6/14/15	--	673.8	669.5	--	667.5	--	666.5
6/15/15	--	673.8	669.5	--	667.5	--	666.5
6/16/15	673.5	673.8	669.5	669.1	667.5	666.1	666.5
6/17/15	--	673.8	669.5	--	667.5	--	665.8
6/18/15	--	673.8	669.5	--	667.5	--	666.3
6/19/15	--	673.9	669.5	--	667.5	--	666.4
6/20/15	--	674.0	669.5	--	667.5	--	666.4
6/21/15	--	674.0	669.5	--	667.5	--	666.5
6/22/15	--	673.9	669.5	--	667.5	--	666.5

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
6/23/15	--	673.9	669.5	--	667.5	--	667.2
6/24/15	673.3	673.8	669.5	--	667.5	--	666.4
6/25/15	--	673.9	669.5	668.6	667.5	666.2	666.4
6/26/15	--	673.9	669.5	--	667.5	--	665.8
6/27/15	--	674.0	669.5	--	667.5	--	666.3
6/28/15	--	673.9	669.5	--	667.5	--	666.4
6/29/15	673.5	674.0	669.5	669.6	667.5	666.7	667.3
6/30/15	--	673.9	669.5	--	667.5	--	665.7
7/1/15	--	673.9	669.5	--	667.5	--	666.1
7/2/15	--	673.9	669.5	--	667.5	--	666.4
7/3/15	--	673.9	669.5	--	667.5	--	666.5
7/4/15	--	673.9	669.5	--	667.5	--	666.5
7/5/15	--	673.9	669.5	--	667.5	--	665.8
7/6/15	673.3	674.0	669.5	669.6	667.5	666.3	666.4
7/7/15	--	674.0	669.5	--	667.5	--	666.5
7/8/15	--	674.0	669.5	--	667.5	--	666.5
7/9/15	--	674.0	669.5	--	667.5	--	665.6
7/10/15	--	674.0	669.5	--	667.5	--	666.3
7/11/15	--	674.0	669.5	--	667.5	--	666.4
7/12/15	--	674.1	669.5	--	667.5	--	666.5
7/13/15	--	674.1	669.5	--	667.5	--	665.8
7/14/15	--	674.1	669.5	--	667.5	--	666.0
7/15/15	673.2	674.0	669.5	669.7	667.5	666.4	666.4
7/16/15	--	674.0	669.5	--	667.5	--	666.5
7/17/15	--	674.0	669.5	--	667.5	--	666.5
7/18/15	--	674.1	669.5	--	667.5	--	666.3
7/19/15	--	674.1	669.5	--	667.5	--	666.4
7/20/15	--	674.1	669.5	--	667.5	--	666.5
7/21/15	--	674.1	669.5	--	667.5	--	666.1
7/22/15	673.1	674.1	669.5	669.5	667.5	666.1	666.4

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
7/23/15	--	674.1	669.5	--	667.5	--	666.4
7/24/15	--	674.1	669.5	--	667.5	--	666.1
7/25/15	--	674.1	669.5	--	667.5	--	666.4
7/26/15	--	674.1	669.5	--	667.5	--	666.5
7/27/15	673.5	674.1	669.5	669.4	667.5	666.1	665.6
7/28/15	674.1	674.1	669.5	670.1	667.5	665.8	666.3
7/29/15	--	674.1	669.5	--	667.5	--	666.4
7/30/15	--	674.1	669.5	--	667.5	--	666.4
7/31/15	--	674.1	669.5	--	667.5	--	666.4
8/1/15	--	674.1	669.5	--	667.5	--	666.5
8/2/15	--	674.2	669.5	--	667.5	--	666.3
8/3/15	--	674.2	669.5	--	667.5	--	666.4
8/4/15	--	674.1	669.5	--	667.5	--	666.4
8/5/15	672.5	674.2	669.5	668.8	667.5	665.8	666.5
8/6/15	--	674.2	669.5	--	667.5	--	665.7
8/7/15	--	674.2	669.5	--	667.5	--	666.3
8/8/15	--	674.2	669.5	--	667.5	--	666.4
8/9/15	--	674.2	669.5	--	667.5	--	666.4
8/10/15	--	674.2	669.5	--	667.5	--	666.5
8/11/15	--	674.1	669.5	--	667.5	--	665.6
8/12/15	674.5	674.2	669.5	669.3	667.5	665.5	666.1
8/13/15	--	674.2	669.5	--	667.5	--	666.4
8/14/15	--	674.2	669.5	--	667.5	--	666.4
8/15/15	--	674.2	669.5	--	667.5	--	666.5
8/16/15	--	674.2	669.5	--	667.5	--	665.9
8/17/15	673.3	674.2	669.5	669.2	667.5	665.6	665.8
8/18/15	--	674.3	669.5	--	667.5	--	666.3
8/19/15	--	674.3	669.5	--	667.5	--	666.4
8/20/15	--	674.2	669.5	--	667.5	--	666.4
8/21/15	--	674.2	669.5	--	667.5	--	666.5

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
8/22/15	--	674.3	669.5	--	667.5	--	665.7
8/23/15	--	674.3	669.5	--	667.5	--	666.0
8/24/15	--	674.2	669.5	--	667.5	--	666.3
8/25/15	674.2	674.2	669.5	669.0	667.5	666.3	666.4
8/26/15	--	674.2	669.5	--	667.5	--	666.4
8/27/15	--	674.3	669.5	--	667.5	--	666.5
8/28/15	--	674.3	669.5	--	667.5	--	665.8
8/29/15	--	674.3	669.5	--	667.5	--	665.9
8/30/15	--	674.3	669.5	--	667.5	--	666.3
8/31/15	674.1	674.3	669.5	669.1	667.5	666.2	666.5
9/1/15	--	674.3	669.5	--	667.5	--	666.4
9/2/15	--	674.3	669.5	--	667.5	--	666.4
9/3/15	--	674.3	669.5	--	667.5	--	666.5
9/4/15	--	674.3	669.5	--	667.5	--	666.3
9/5/15	--	674.3	669.5	--	667.5	--	666.1
9/6/15	--	674.3	669.5	--	667.5	--	666.3
9/7/15	--	674.3	669.5	--	667.5	--	666.4
9/8/15	674.1	674.3	669.5	669.1	667.5	667.1	666.4
9/9/15	--	674.3	669.5	--	667.5	--	666.4
9/10/15	--	674.3	669.5	--	667.5	--	666.5
9/11/15	--	674.3	669.5	--	667.5	--	665.6
9/12/15	--	674.3	669.5	--	667.5	--	666.1
9/13/15	674.3	674.3	669.5	669.3	667.5	667.2	666.3
9/14/15	--	674.3	669.5	--	667.5	--	666.4
9/15/15	--	674.3	669.5	--	667.5	--	666.4
9/16/15	--	674.3	669.5	--	667.5	--	666.4
9/17/15	--	674.3	669.5	--	667.5	--	666.5
9/18/15	--	674.3	669.5	--	667.5	--	665.8
9/19/15	--	674.3	669.5	--	667.5	--	665.7
9/20/15	--	674.3	669.5	--	667.5	--	666.1

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
9/21/15	--	674.3	669.5	--	667.5	--	666.3
9/22/15	--	674.3	669.5	--	667.5	--	666.4
9/23/15	--	674.3	669.5	--	667.5	--	666.4
9/24/15	672.9	672.8	669.5	669.8	667.5	666.5	666.4
9/25/15	--	672.8	669.5	--	667.5	--	666.5
9/26/15	--	672.8	669.5	--	667.5	--	666.3
9/27/15	--	672.9	669.5	--	667.5	--	665.6
9/28/15	--	672.9	669.5	--	667.5	--	666.0
9/29/15	--	672.9	669.5	--	667.5	--	666.3
9/30/15	673.2	672.9	669.5	668.8	667.5	666.4	666.3
10/1/15	--	672.9	669.5	--	667.5	--	666.3
10/2/15	--	672.9	669.5	--	667.5	--	666.4
10/3/15	--	672.9	669.5	--	667.5	--	666.4
10/4/15	--	673.0	669.5	--	667.5	--	666.4
10/5/15	--	672.9	669.5	--	667.5	--	666.5
10/6/15	673.3	672.9	669.5	669.1	667.5	666.7	665.8
10/7/15	--	672.9	669.5	--	667.5	--	665.7
10/8/15	--	673.0	669.5	--	667.5	--	666.3
10/9/15	--	673.0	669.5	--	667.5	--	666.3
10/10/15	--	673.0	669.5	--	667.5	--	666.3
10/11/15	--	673.0	669.5	--	667.5	--	666.3
10/12/15	--	673.1	669.5	--	667.5	--	666.4
10/13/15	--	673.0	669.5	--	667.5	--	666.5
10/14/15	673.3	673.0	669.5	669.2	667.5	666.8	665.7
10/15/15	--	672.9	669.5	--	667.5	--	664.8
10/16/15	--	673.0	669.5	--	667.5	--	666.1
10/17/15	--	673.0	669.5	--	667.5	--	666.2
10/18/15	--	673.1	669.5	--	667.5	--	666.3
10/19/15	--	673.0	669.5	--	667.5	--	666.3
10/20/15	--	673.0	669.5	668.4	667.5	666.6	666.3

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
10/21/15	--	673.0	669.5	--	667.5	--	666.3
10/22/15	--	673.0	669.5	--	667.5	--	666.5
10/23/15	--	673.1	669.5	--	667.5	--	666.5
10/24/15	--	673.1	669.5	--	667.5	--	665.4
10/25/15	--	673.0	669.5	--	667.5	--	665.7
10/26/15	--	673.1	669.5	--	667.5	--	665.8
10/27/15	--	673.2	669.5	--	667.5	--	666.0
10/28/15	--	673.2	669.5	--	667.5	--	666.2
10/29/15	673.1	673.0	669.5	668.8	667.5	666.2	666.3
10/30/15	--	673.1	669.5	--	667.5	--	666.4
10/31/15	--	673.2	669.5	--	667.5	--	666.4
11/1/15	--	673.1	669.5	--	667.5	--	666.5
11/2/15	--	673.3	669.5	--	667.5	--	666.4
11/3/15	--	673.3	669.5	--	667.5	--	665.8
11/4/15	678.1	673.3	669.5	669.2	667.5	667.4	665.8
11/5/15	--	673.3	669.5	--	667.5	--	666.1
11/6/15	--	673.3	669.5	--	667.5	--	668.7
11/7/15	--	673.4	669.5	--	667.5	--	666.3
11/8/15	--	673.3	669.5	--	667.5	--	666.4
11/9/15	673.3	673.3	669.5	669.0	667.5	666.4	666.4
11/10/15	--	673.3	669.5	--	667.5	--	666.5
11/11/15	--	673.4	669.5	--	667.5	--	665.6
11/12/15	--	673.4	669.5	--	667.5	--	665.8
11/13/15	--	673.4	669.5	--	667.5	--	665.8
11/14/15	--	673.3	669.5	--	667.5	--	666.3
11/15/15	--	673.3	669.5	--	667.5	--	666.3
11/16/15	673.4	673.4	669.5	670.0	667.5	666.4	666.3
11/17/15	--	673.3	669.5	--	667.5	--	666.4
11/18/15	--	673.4	669.5	--	667.5	--	666.5
11/19/15	--	673.2	669.5	--	667.5	666.5	666.5

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
11/20/15	--	673.3	669.5	--	667.5	--	666.5
11/21/15	--	673.4	669.5	--	667.5	--	665.5
11/22/15	--	673.3	669.5	--	667.5	--	666.1
11/23/15	673.4	673.3	669.5	669.0	667.5	666.2	666.3
11/24/15	--	673.3	669.5	--	667.5	--	666.3
11/25/15	--	673.3	669.5	--	667.5	--	666.3
11/26/15	--	673.3	669.5	--	667.5	--	666.4
11/27/15	--	673.3	669.5	--	667.5	--	666.5
11/28/15	--	673.3	669.5	--	667.5	--	666.3
11/29/15	--	673.3	669.5	--	667.5	--	665.7
11/30/15	--	673.4	669.5	--	667.5	--	666.1
12/1/15	--	673.4	669.5	--	667.5	--	666.3
12/2/15	--	673.4	669.5	--	667.5	--	666.3
12/3/15	673.3	673.2	669.5	669.1	667.5	666.4	666.3
12/4/15	--	673.3	669.5	--	667.5	--	666.4
12/5/15	--	673.3	669.5	--	667.5	--	666.5
12/6/15	--	673.4	669.5	--	667.5	--	665.5
12/7/15	673.5	673.4	669.5	669.2	667.5	665.8	666.0
12/8/15	--	673.4	669.5	--	667.5	--	666.3
12/9/15	--	673.4	669.5	--	667.5	--	666.3
12/10/15	--	673.4	669.5	--	667.5	--	666.3
12/11/15	--	673.3	669.5	--	667.5	--	666.4
12/12/15	--	673.3	669.5	--	667.5	--	666.5
12/13/15	--	673.5	669.5	--	667.5	--	665.5
12/14/15	673.6	673.6	669.5	669.4	667.5	665.8	666.0
12/15/15	--	673.3	669.5	--	667.5	--	666.3
12/16/15	--	673.5	669.5	--	667.5	--	666.3
12/17/15	--	673.3	669.5	--	667.5	--	666.3
12/18/15	--	673.3	669.5	--	667.5	--	666.4
12/19/15	--	673.3	669.5	--	667.5	--	666.5

Table 2.4

Summary of 2015 Water Elevations
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

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)	(feet AMSL)	GUS Water Elevation (PLC) (feet AMSL)
12/20/15	--	673.5	669.5	--	667.5	--	665.8
12/21/15	673.6	673.5	669.5	669.5	667.5	665.5	665.8
12/22/15	--	673.5	669.5	--	667.5	--	666.1
12/23/15	--	673.6	669.5	--	667.5	--	666.3
12/24/15	--	673.3	669.5	--	667.5	--	666.3
12/25/15	--	673.3	669.5	--	667.5	--	666.3
12/26/15	--	673.5	669.5	--	667.5	--	666.5
12/27/15	--	673.5	669.5	--	667.5	--	666.5
12/28/15	673.8	673.8	669.5	669.6	667.5	665.4	666.5
12/29/15	--	673.4	669.5	--	667.5	--	666.1
12/30/15	--	673.4	669.5	--	667.5	--	666.3
12/31/15	--	673.4	669.5	--	667.5	--	666.3

Table 2.5

2015 LCS, LDS, and GUS Maximum Water Elevation Summary
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

Date	Maximum Water Level (based on manual measurements), measured in feet										Remarks
	LCS ¹	LCS ¹	LCS ¹	LCS ¹	LDS ²	LDS ²	GUS ³	GUS ³	GUS ³	GUS ³	
	Manual Measurement Water Depth (ft)	Manual Measurement Water Surface Elev.	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-15	1.8	672.8	2.2	673.2	0.1	668.6	3.6	665.8	4.3	666.5	
Feb-15	2.1	673.1	2.3	673.3	0.2	668.7	3.3	665.4	4.3	666.5	
Mar-15	2.4	673.4	2.6	673.6	0.4	668.9	4.2	666.3	4.5	666.7	
Apr-15	3.5	674.5	2.8	673.8	1.1	669.6	4.5	666.7	4.3	666.5	
May-15	2.8	673.8	2.8	673.8	1.5	670.0	5.7	667.9	4.3	666.5	
Jun-15	2.7	673.7	3.0	674.0	1.1	669.6	4.5	666.7	5.2	667.3	
Jul-15	3.1	674.1	3.1	674.1	1.6	670.1	4.2	666.4	4.3	666.5	
Aug-15	3.5	674.5	3.3	674.3	0.8	669.3	4.2	666.3	4.3	666.5	
Sep-15	3.3	674.3	3.3	674.3	1.3	669.8	5.0	667.2	4.3	666.5	
Oct-15	2.3	673.3	2.2	673.2	0.7	669.2	4.7	666.8	4.3	666.5	
Nov-15	2.6	673.6	2.4	673.4	1.5	670.0	5.2	667.4	4.3	666.5	
Dec-15	2.8	673.8	2.8	673.8	1.1	669.6	4.3	666.4	4.3	666.5	

Notes:

AMSL Above mean sea level
ft feet

Diameter of LCS and LDS sumps = 6 feet

Diameter of Underdrain sump = 3 feet

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

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

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

Table 2.6

**2015 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 2015
GM CET Bedford Facility
Bedford, Indiana**

Month	SSC WTP Number of Operational Days	Volume of Water Treated/Discharged at SSC WTP (gallons x 10⁶)	Daily Average Water Treated/Discharged at the SSC WTP (gpm)	2,000 gpm Treatment System Number of Operational Days	Volume of Water Treated/Discharged at the 2,000 gpm Treatment System (gallons x 10⁶)	Daily Average Water Treated/Discharged at the 2,000 gpm Treatment System (gpm)	Total Volume of Water Treated/Discharged
Jan-15	30	1.439	33	1	0.253	176	1.692
Feb-15	27	0.465	12	0	0	0	0.465
Mar-15	31	3.193	72	5	8.07	1121	11.263
Apr-15	30	2.511	58	7	4.887	485	7.398
May-15	28	1.001	25	3	1.704	394	2.705
Jun-15	30	1.604	37	10	9.526	662	11.130
Jul-15	31	1.583	35	2	1.847	641	3.430
Aug-15	29	1.026	25	0	0	0	1.026
Sep-15	28	0.53	13	0	0	0	0.530
Oct-15	29	0.347	8	0	0	0	0.347
Nov-15	30	1.196	28	6	3.959	458	5.155
Dec-15	30	1.545	36	7	7.732	767	9.277
Total	353	16.440		41	37.978		54.418
Month Average	-	1.370		-	3.165		4.53
Daily Average	-	0.047		-	0.926		0.15

Table 3.1									
Summary of Total PCBs Analytical Results for EI CA750 2015 First Semi-Annual Groundwater Samples									
East Plant Area TSCA Vault Annual Report, Calendar Year 2015									
GM CET Bedford Facility									
Bedford, Indiana									
Area		East Plant Area	EastPlantArea	EastPlantArea	A007_EastPlantArea	A007_EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea
Sample Location:		GUS	9-4	9-4	CH-23	CH-23	CH-42	CH-42A	CH-43
Sample Identification:		GW-050715-SA-029	GW-050715-SA-024	GW-050715-SA-026	GW-050715-KC-028	GW-050715-KC-028-R	GW-050415-JL-001	GW-050415-JL-003	GW-050415-KC-002
Sample Date:		5/7/2015	5/7/2015	5/7/2015	5/7/2015	5/7/2015	5/4/2015	5/4/2015	5/4/2015
Sample Type:				Duplicate		Replicate			
Units									
PCBs									
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	32 J	0.19 U	0.098 J	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Total PCBs	µg/L	32 J	ND	0.098 J	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.062 J	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs (dissolved)	µg/L	ND	ND	ND	0.062 J	ND	ND	ND	ND
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
1,3-Dichlorobenzene	µg/L	0.37 J	1.0 U	1.0 U	1.0 U	--	--	--	--
1,4-Dichlorobenzene	µg/L	0.43 J	1.0 U	1.0 U	1.0 U	--	--	--	--
2-Chloroethyl vinyl ether	µg/L	10 U	10 U	10 U	10 U	--	--	--	--
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Bromoform	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Bromomethane (Methyl bromide)	µg/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	--	--	--	--
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Volatile Organic Compounds (VOCs) (cont'd)									
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Chloroethane	µg/L	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	--	--	--	--
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
trans-1,2-Dichloroethene	µg/L	0.76 J	1.0 U	1.0 U	1.0 U	--	--	--	--
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	--
Vinyl chloride	µg/L	0.31 J	1.0 U	1.0 U	1.0 U	--	--	--	--

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 2015 First Semi-Annual Groundwater Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	Plant_property	Plant_property	P209	P209	P209	P006	P006	P006
Sample Location:		CH-44	MW-X043Y176	MW-X047Y236	MW-X300Y199I-1	MW-X300Y199I-2	MW-X300Y199I-4	MW-X315Y115	MW-X315Y115	MW-X315Y150
Sample Identification:		GW-050415-KC-004	GW-050615-JL-011	GW-050615-JL-019	GW-050515-KC-010	GW-050515-KC-008	GW-050515-KC-006	GW-050515-JL-005	GW-050515-JL-007	GW-050515-JL-009
Sample Date:		5/4/2015	5/6/2015	5/6/2015	5/5/2015	5/5/2015	5/5/2015	5/5/2015	5/5/2015	5/5/2015
Sample Type:									Duplicate	
PCBs	Units									
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 UJ	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 UJ	0.19 U
Total PCBs	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	--	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	--	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	--	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	--	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	--	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	--	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.20 U	0.19 U	0.19 U	0.19 U	--	0.19 U	0.19 U	0.19 U
Total PCBs (dissolved)	µg/L	ND	ND	ND	ND	ND	--	ND	ND	ND
Volatile Organic Compounds (VOCs)										
1,1,1-Trichloroethane	µg/L	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	µg/L	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	µg/L	--	--	--	--	--	--	--	--	--
1,2-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.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Table 3.1

Summary of Total PCBs Analytical Results for EI CA750 2015 First Semi-Annual Groundwater Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

Area Sample Location: Sample Identification: Sample Date: Sample Type:		P015 Tributary 3-3 GW-050615-SA-016 5/6/2015	P015 Tributary 3-3 GW-050615-SA-017 5/6/2015 Duplicate	MonitoringWell_RFIBoundary _WestPlantArea MW-X033Y147S GW-050715-JL-027 5/7/2015	Plant_Property MW-X043Y186 GW-050615-JL-015 5/6/2015	A001MonitoringWell _WestPlantArea MW-X169Y058S-1 GW-050715-SA-021 5/7/2015	RFIBoundary _P216West MW-X261Y356D-3 GW-050615-KC-020 5/6/2015	P216GM_P216_east MW-X297Y305D-2 GW-050615-SA-018 5/6/2015	EastPlantArea MW-X227Y054 GW-050715-JL-023 5/7/2015
PCBs	Units								
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	9.4 J
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	µg/L	ND	ND	ND	ND	ND	ND	ND	9.4 J
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 UJ	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.19 U	0.19 U	0.19 UJ	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs (dissolved)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
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.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2015 Second Semi-Annual Groundwater Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	East Plant Area	MonitoringWell_RFIBoundary	MonitoringWell_RFIBoundary
Sample Location:		9-4	CH-42	CH-42A	CH-43	CH-44	GUS	_WestPlantArea	_WestPlantArea
Sample Identification:		GW-110415-KD-15	GW-110215-JL-02	GW-110215-JL-01	GW-110315-KD-03	GW-110315-KD-05	GW-110515-SA-22	MW-X033Y147S	MW-X033Y147S
Sample Date:		11/4/2015	11/2/2015	11/2/2015	11/3/2015	11/3/2015	11/5/2015	GW-110315-KD-07	GW-110315-KD-07~
Sample Type:								11/3/2015	11/3/2015
	Units								Replicate
PCBs									
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.21 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.21 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.21 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	28	0.20 U	0.21 U
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.21 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.21 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.21 U
Total PCBs	µg/L	ND	ND	ND	ND	ND	28	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U
Total PCBs (dissolved)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
1,1,2,2-Tetrachloroethane	µg/L	1.0 UJ	--	--	--	--	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-Dibromo-3-chloropropane (DBCP)	µg/L	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene dibromide)	µg/L	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	--	--	--	--	--
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	--	--	--	--	0.25 J	--	--
1,4-Dichlorobenzene	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--	--	--	--	--	--	--
2-Chloroethyl vinyl ether	µg/L	10 UJ	--	--	--	--	10 U	--	--
2-Hexanone	µg/L	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	--	--	--	--	--	--	--	--
Acetone	µg/L	--	--	--	--	--	--	--	--
Benzene	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
Bromodichloromethane	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
Bromoform	µg/L	1.0 UJ	--	--	--	--	1.0 U	--	--
Bromomethane (Methyl bromide)	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
Carbon disulfide	µg/L	--	--	--	--	--	--	--	--
Carbon tetrachloride	µg/L	1.0 UJ	--	--	--	--	1.0 U	--	--
Chlorobenzene	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
Chloroethane	µg/L	1.0 U	--	--	--	--	1.0 UJ	--	--
Chloroform (Trichloromethane)	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
Chloromethane (Methyl chloride)	µg/L	1.0 U	--	--	--	--	1.0 U	--	--

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2015 Second Semi-Annual Groundwater Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	East Plant Area	MonitoringWell_RFIBoundary	MonitoringWell_RFIBoundary
Sample Location:		9-4	CH-42	CH-42A	CH-43	CH-44	GUS	_WestPlantArea	_WestPlantArea
Sample Identification:		GW-110415-KD-15	GW-110215-JL-02	GW-110215-JL-01	GW-110315-KD-03	GW-110315-KD-05	GW-110515-SA-22	MW-X033Y147S	MW-X033Y147S
Sample Date:		11/4/2015	11/2/2015	11/2/2015	11/3/2015	11/3/2015	11/5/2015	GW-110315-KD-07	GW-110315-KD-07~
Sample Type:								11/3/2015	11/3/2015
	Units								Replicate
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	1.0 UJ	--	--	--	--	1.0 U	--	--
Cyclohexane	µg/L	--	--	--	--	--	--	--	--
Dibromochloromethane	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	--	--	--	--	1.0 UJ	--	--
Ethylbenzene	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
Isopropyl benzene	µg/L	--	--	--	--	--	--	--	--
Methyl acetate	µg/L	--	--	--	--	--	--	--	--
Methyl cyclohexane	µg/L	--	--	--	--	--	--	--	--
Methyl tert butyl ether (MTBE)	µg/L	--	--	--	--	--	--	--	--
Methylene chloride	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
Styrene	µg/L	--	--	--	--	--	--	--	--
Tetrachloroethene	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
Toluene	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
trans-1,2-Dichloroethene	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
trans-1,3-Dichloropropene	µg/L	1.0 UJ	--	--	--	--	1.0 U	--	--
Trichloroethene	µg/L	--	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
Trifluorotrichloroethane (Freon 113)	µg/L	--	--	--	--	--	--	--	--
Vinyl chloride	µg/L	1.0 U	--	--	--	--	1.0 U	--	--
Xylenes (total)	µg/L	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	--	--	--	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--	--	--	--
4-Methylphenol	µg/L	--	--	--	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--	--	--

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2015 Second Semi-Annual Groundwater Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

Area		EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	EastPlantArea	East Plant Area	MonitoringWell_RFIBoundary	MonitoringWell_RFIBoundary
Sample Location:		9-4	CH-42	CH-42A	CH-43	CH-44	GUS	_WestPlantArea	_WestPlantArea
Sample Identification:		GW-110415-KD-15	GW-110215-JL-02	GW-110215-JL-01	GW-110315-KD-03	GW-110315-KD-05	GW-110515-SA-22	MW-X033Y147S	MW-X033Y147S
Sample Date:		11/4/2015	11/2/2015	11/2/2015	11/3/2015	11/3/2015	11/5/2015	GW-110315-KD-07	GW-110315-KD-07~
Sample Type:								11/3/2015	11/3/2015
									Replicate
Units									
Acenaphthylene	µg/L	--	--	--	--	--	--	--	--
Acetophenone	µg/L	--	--	--	--	--	--	--	--
Anthracene	µg/L	--	--	--	--	--	--	--	--
Atrazine	µg/L	--	--	--	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--	--	--	--
Caprolactam	µg/L	--	--	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--	--	--
Chrysene	µg/L	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--	--	--	--
Dimethyl phthalate	µg/L	--	--	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	--	--	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--	--	--	--
Hexachloroethane	µg/L	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--	--	--	--
Isophorone	µg/L	--	--	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--	--	--
Pyrene	µg/L	--	--	--	--	--	--	--	--

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 2015 Second Semi-Annual Groundwater Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

Area		Plant_property	Plant_Property	Plant_Property	Plant_property	A001MonitoringWell	RFIBoundary	P205
Sample Location:		MW-X043Y176	MW-X043Y186	MW-X043Y186	MW-X047Y236	_WestPlantArea	_P216West	
Sample Identification:		GW-110315-JL-09	GW-110315-JL-08	GW-110315-JL-08~	GW-110415-JL-13	MW-X169Y058S-1	MW-X261Y356D-3	MW-X277Y100
Sample Date:		11/3/2015	11/3/2015	11/3/2015	11/4/2015	GW-110415-SA-18	GW-110415-KD-12	GW-110415-JL-19
Sample Type:				Replicate		11/4/2015	11/4/2015	11/4/2015
PCBs	Units							
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Total PCBs	µg/L	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U
Total PCBs (dissolved)	µg/L	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	µg/L	--	--	--	--	--		1.0 U
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	--	--		1.0 UJ
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 UJ
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	--	--	--	--	--		2.0 UJ
1,2-Dibromoethane (Ethylene dibromide)	µg/L	--	--	--	--	--		1.0 U
1,2-Dichlorobenzene	µg/L	--	--	--	--	--		1.0 U
1,2-Dichloroethane	µg/L	--	--	--	--	--		1.0 U
1,2-Dichloropropane	µg/L	--	--	--	--	--		1.0 U
1,3-Dichlorobenzene	µg/L	--	--	--	--	--		1.0 U
1,4-Dichlorobenzene	µg/L	--	--	--	--	--		1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--	--	--	--		10 U
2-Chloroethyl vinyl ether	µg/L	--	--	--	--			--
2-Hexanone	µg/L	--	--	--	--	--		10 UJ
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	--	--	--	--	--		10 UJ
Acetone	µg/L	--	--	--	--	--		10 U
Benzene	µg/L	--	--	--	--	--		1.0 U
Bromodichloromethane	µg/L	--	--	--	--	--		1.0 U
Bromoform	µg/L	--	--	--	--	--		1.0 UJ
Bromomethane (Methyl bromide)	µg/L	--	--	--	--	--		1.0 U
Carbon disulfide	µg/L	--	--	--	--	--		1.0 U
Carbon tetrachloride	µg/L	--	--	--	--	--		1.0 UJ
Chlorobenzene	µg/L	--	--	--	--	--		1.0 U
Chloroethane	µg/L	--	--	--	--	--		1.0 U
Chloroform (Trichloromethane)	µg/L	--	--	--	--	--		1.0 U
Chloromethane (Methyl chloride)	µg/L	--	--	--	--	--		1.0 U

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2015 Second Semi-Annual Groundwater Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

Area		Plant_property	Plant_Property	Plant_Property	Plant_property	A001MonitoringWell	RFIBoundary	P205
Sample Location:		MW-X043Y176	MW-X043Y186	MW-X043Y186	MW-X047Y236	_WestPlantArea	_P216West	
Sample Identification:		GW-110315-JL-09	GW-110315-JL-08	GW-110315-JL-08~	GW-110415-JL-13	MW-X169Y058S-1	MW-X261Y356D-3	MW-X277Y100
Sample Date:		11/3/2015	11/3/2015	11/3/2015	11/4/2015	GW-110415-SA-18	GW-110415-KD-12	GW-110415-JL-19
Sample Type:				Replicate		11/4/2015	11/4/2015	11/4/2015
	Units							
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--		1.0 U
cis-1,3-Dichloropropene	µg/L	--	--	--	--	--		1.0 UJ
Cyclohexane	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
Isopropyl benzene	µg/L	--	--	--	--	--		1.0 U
Methyl acetate	µg/L	--	--	--	--	--		10 U
Methyl cyclohexane	µg/L	--	--	--	--	--		1.0 U
Methyl tert butyl ether (MTBE)	µg/L	--	--	--	--	--		1.0 U
Methylene chloride	µg/L	--	--	--	--	--		1.0 U
Styrene	µg/L	--	--	--	--	--		1.0 U
Tetrachloroethene	µg/L	--	--	--	--	--		1.0 U
Toluene	µg/L	--	--	--	--	--		1.0 U
trans-1,2-Dichloroethene	µg/L	--	--	--	--	--		1.0 U
trans-1,3-Dichloropropene	µg/L	--	--	--	--	--		1.0 UJ
Trichloroethene	µg/L	--	--	--	--	--		1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	--	--	--	--	--		1.0 U
Trifluorotrichloroethane (Freon 113)	µg/L	--	--	--	--	--		1.0 U
Vinyl chloride	µg/L	--	--	--	--	2.9		1.0 U
Xylenes (total)	µg/L	--	--	--	--	--		2.0 U
Semi-Volatile Organic Compounds (SVOCs)								
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--	--	--	--		9.6 U
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--		9.6 U
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--		9.6 U
2,4-Dichlorophenol	µg/L	--	--	--	--	--		9.6 U
2,4-Dimethylphenol	µg/L	--	--	--	--	--		9.6 U
2,4-Dinitrophenol	µg/L	--	--	--	--	--		48 U
2,4-Dinitrotoluene	µg/L	--	--	--	--	--		9.6 U
2,6-Dinitrotoluene	µg/L	--	--	--	--	--		9.6 U
2-Chloronaphthalene	µg/L	--	--	--	--	--		9.6 U
2-Chlorophenol	µg/L	--	--	--	--	--		9.6 U
2-Methylnaphthalene	µg/L	--	--	--	--	--		9.6 U
2-Methylphenol	µg/L	--	--	--	--	--		9.6 U
2-Nitroaniline	µg/L	--	--	--	--	--		48 U
2-Nitrophenol	µg/L	--	--	--	--	--		9.6 U
3&4-Methylphenol	µg/L	--	--	--	--	--		9.6 U
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--		48 UJ
3-Nitroaniline	µg/L	--	--	--	--	--		48 U
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--		48 U
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--		9.6 U
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--		9.6 U
4-Chloroaniline	µg/L	--	--	--	--	--		9.6 U
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--		9.6 U
4-Methylphenol	µg/L	--	--	--	--	--		--
4-Nitroaniline	µg/L	--	--	--	--	--		48 U
4-Nitrophenol	µg/L	--	--	--	--	--		48 U
Acenaphthene	µg/L	--	--	--	--	--		9.6 U

Table 3.2

Summary of Total PCBs Analytical Results for EI CA750 2015 Second Semi-Annual Groundwater Samples
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

Area		Plant_property	Plant_Property	Plant_Property	Plant_property	A001MonitoringWell	RFIBoundary	P205
Sample Location:		MW-X043Y176	MW-X043Y186	MW-X043Y186	MW-X047Y236	_WestPlantArea	_P216West	
Sample Identification:		GW-110315-JL-09	GW-110315-JL-08	GW-110315-JL-08~	GW-110415-JL-13	MW-X169Y058S-1	MW-X261Y356D-3	MW-X277Y100
Sample Date:		11/3/2015	11/3/2015	11/3/2015	11/4/2015	GW-110415-SA-18	GW-110415-KD-12	GW-110415-JL-19
Sample Type:				Replicate		11/4/2015	11/4/2015	11/4/2015
	Units							
Acenaphthylene	µg/L	--	--	--	--	--		9.6 U
Acetophenone	µg/L	--	--	--	--	--		9.6 U
Anthracene	µg/L	--	--	--	--	--		9.6 U
Atrazine	µg/L	--	--	--	--	--		9.6 U
Benzaldehyde	µg/L	--	--	--	--	--		9.6 U
Benzo(a)anthracene	µg/L	--	--	--	--	--		9.6 U
Benzo(a)pyrene	µg/L	--	--	--	--	--		9.6 U
Benzo(b)fluoranthene	µg/L	--	--	--	--	--		9.6 U
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--		9.6 U
Benzo(k)fluoranthene	µg/L	--	--	--	--	--		9.6 U
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--		9.6 U
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--		9.6 U
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--		9.6 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--		9.6 U
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--		9.6 U
Caprolactam	µg/L	--	--	--	--	--		9.6 U
Carbazole	µg/L	--	--	--	--	--		9.6 U
Chrysene	µg/L	--	--	--	--	--		9.6 U
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--		9.6 U
Dibenzofuran	µg/L	--	--	--	--	--		9.6 U
Diethyl phthalate	µg/L	--	--	--	--	--		9.6 U
Dimethyl phthalate	µg/L	--	--	--	--	--		9.6 U
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--		9.6 U
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--		9.6 U
Fluoranthene	µg/L	--	--	--	--	--		9.6 U
Fluorene	µg/L	--	--	--	--	--		9.6 U
Hexachlorobenzene	µg/L	--	--	--	--	--		9.6 U
Hexachlorobutadiene	µg/L	--	--	--	--	--		9.6 U
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--		48 U
Hexachloroethane	µg/L	--	--	--	--	--		9.6 U
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--		9.6 U
Isophorone	µg/L	--	--	--	--	--		9.6 U
Naphthalene	µg/L	--	--	--	--	--		9.6 U
Nitrobenzene	µg/L	--	--	--	--	--		9.6 U
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--		9.6 U
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--		9.6 U
Pentachlorophenol	µg/L	--	--	--	--	--		9.6 U
Phenanthrene	µg/L	--	--	--	--	--		9.6 U
Phenol	µg/L	--	--	--	--	--		9.6 U
Pyrene	µg/L	--	--	--	--	--		9.6 U

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

Table 3.3

2015 Leachate Collection System Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

Sample Location: Sample Identification: Sample Date: Sample Type: Area		EPA LCS WL-AOI7-012715-GS-40069 1/27/2015	EPA LCS WL-AOI7-022515-GS-40073 2/25/2015	EPA LCS WL-AOI7-031715-GS-40231 3/17/2015	EPA LCS WL-AOI7-042815-GS-40236 4/28/2015	EPA LCS WL-AOI7-052615-GS-40241 5/26/2015
Units		A007	A007	A007	A007	A007
PCBs						
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	0.19 U	0.42	0.28	0.35
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	0.19 U	0.19 U	0.20 UJ	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U	0.19 U	0.20 UJ	0.19 U
Total PCBs	µg/L	ND	ND	0.42	0.28	0.35
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chloroethyl vinyl ether	µg/L	10 U	10 U	10 UJ	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

Table 3.3

2015 Leachate Collection System Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

Sample Location: Sample Identification: Sample Date: Sample Type: Area		EPA LCS WL-AOI7-061715-GS-40246 6/17/2015	EPA LCS WL-AOI7-072815-GS-40252 7/28/2015	EPA LCS WL-AOI7-082515-GS-40258 8/25/2015	EPA LCS WL-AOI7-092415-GS-40262 9/24/2015	EPA LCS WL-AOI7-102915-GS-40280 10/29/2015
		A007	A007	A007	A007	A007
Units						
PCBs						
Aroclor-1016 (PCB-1016)	µg/L	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.20 U	0.26	0.20 U	0.29	0.19 U
Aroclor-1248 (PCB-1248)	µg/L	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U
Total PCBs	µg/L	ND	0.26	ND	0.29	ND
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
2-Chloroethyl vinyl ether	µg/L	10 U	10 U	10 U	10 U	20 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Bromoform	µg/L	1.0 U	1.0 UJ	1.0 U	1.0 U	2.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 UJ	1.0 U	1.0 U	1.0 U	2.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 UJ	1.0 U	1.0 U	2.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 UJ	1.0 U	1.0 U	1.0 U	2.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 UJ	1.0 U	1.0 U	1.0 U	2.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U

Notes:

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

Table 3.4

**2015 Leak Detection System Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana**

Sample Location:		EPA LDS	EPA LDS	EPA LDS
Sample Identification:		WL-AOI7-072815-GS-40253	WL-AOI7-092415-GS-40263	WL-AOI7-102915-GS-40281
Sample Date:		7/28/2015	9/24/2015	10/29/2015
Area		A007	A007	A007
	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	0.38	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 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	0.19 U	0.19 U
Total PCBs	µg/L	ND	0.38	ND

Notes:

U - Not detected at the associated reporting limit.

Table 3.5

**2015 Gravel Underdrain System Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana**

Area		East Plant Area	East Plant Area
Sample Location:		GUS	GUS
Sample Identification:		GW-050715-SA-029	GW-110515-SA-22
Sample Date:		5/7/2015	11/5/2015
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	32 J	28
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	32 J	28
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.19 U	0.20 U
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.19 U	0.20 U
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.19 U	0.20 U
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	0.20 U
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.19 U	0.20 U
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.19 U	0.20 U
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.19 U	0.20 U
Total PCBs (dissolved)	µg/L	ND	ND
Volatile Organic Compounds (VOCs)			
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U
1,1,1,2-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-Dibromo-3-chloropropane (DBCP)	µg/L	--	--
1,2-Dibromoethane (Ethylene dibromide)	µg/L	--	--
1,2-Dichlorobenzene	µg/L	--	--
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	0.37 J	0.25 J
1,4-Dichlorobenzene	µg/L	0.43 J	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--
2-Chloroethyl vinyl ether	µg/L	10 U	10 U
2-Hexanone	µg/L	--	--
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	--	--
Acetone	µg/L	--	--
Benzene	µg/L	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 UJ	1.0 U
Carbon disulfide	µg/L	--	--
Carbon tetrachloride	µg/L	1.0 U	1.0 U

Table 3.5

**2015 Gravel Underdrain System Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana**

Area		East Plant Area	East Plant Area
Sample Location:		GUS	GUS
Sample Identification:		GW-050715-SA-029	GW-110515-SA-22
Sample Date:		5/7/2015	11/5/2015
Sample Type:			
	Units		
Volatile Organic Compounds (VOCs) (cont'd)			
Chlorobenzene	µg/L	1.0 U	1.0 U
Chloroethane	µg/L	1.0 UJ	1.0 UJ
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	--	--
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U
Cyclohexane	µg/L	--	--
Dibromochloromethane	µg/L	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 UJ
Ethylbenzene	µg/L	1.0 U	1.0 U
Isopropyl benzene	µg/L	--	--
Methyl acetate	µg/L	--	--
Methyl cyclohexane	µg/L	--	--
Methyl tert butyl ether (MTBE)	µg/L	--	--
Methylene chloride	µg/L	1.0 U	1.0 U
Styrene	µg/L	--	--
Tetrachloroethene	µg/L	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	0.76 J	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U
Trichloroethene	µg/L	--	--
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	µg/L	--	--
Vinyl chloride	µg/L	0.31 J	1.0 U
Xylenes (total)	µg/L	--	--

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

Table 3.6

2015 Water Treatment Plant (SSC WTP and 2,000 gpm Treatment System) Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
GM CET Bedford Facility
Bedford, Indiana

Sample Location: Sample Identification: Sample Date: Sample Type: Area		CRA WWTP Tag 66 WW-AOI10-010615-GS-40201 1/6/2015	CRA WWTP Tag 66 WW-AOI10-010615-GS-40201A 1/6/2015	CRA WWTP Tag 66 WW-AOI10-020415-GS-40213 2/4/2015	CRA WWTP Tag 66 WW-AOI10-030315-GS-40220 3/3/2015	CRA WWTP Tag 66 WW-AOI10-030315-GS-40221 3/3/2015 Duplicate	CRA WWTP Tag 66 WW-AOI10-040115-GS-40239 4/1/2015	CRA WWTP Tag 66 WW-AOI10-050515-GS-40243 5/5/2015
	Units	A010_EastPlant	A010_EastPlant	A010_EastPlant	A010_EastPlant	A010_EastPlant	A010_EastPlant	A010_EastPlant
PCBs								
Aroclor-1016 (PCB-1016)	µg/L	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	µg/L	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	µg/L	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	µg/L	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	µg/L	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	µg/L	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	µg/L	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	µg/L	ND	--	ND	ND	ND	ND	ND
General Chemistry								
Biochemical oxygen demand (carbonaceous)	µg/L	--	2000 U	--	--	--	--	--
Chemical oxygen demand (COD)	µg/L	--	17000	--	--	--	--	--
Nitrite/Nitrate	µg/L	--	420 B	--	--	--	--	--
Oil and grease (HEM), polar	µg/L	--	4700 U	--	--	--	--	--
Phosphorus	µg/L	--	100 U	--	--	--	--	--
Total kjeldahl nitrogen (TKN)	µg/L	--	5000 U	--	--	--	--	--
Total suspended solids (TSS)	µg/L	--	4000 U	--	--	--	--	--

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

Laboratory Flags:
B - Result detected in associated method blank.

Table 3.6

2015 Water Treatment Plant (SSC WTP and 2,000 gpm Treatment System) Monitoring Analytical Results
East Plant Area TSCA Vault Annual Report, Calendar Year 2015
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-AOI10-060415-GS-40258		WW-AOI10-070215-GS-40273		WW-AOI10-081015-GS-40282		WW-AOI10-090315-GS-40288		WW-AOI10-100615-GS-40295		WW-AOI10-110215-GS-40303		WW-AOI10-120315-GS-40312	
Sample Date:		6/4/2015		7/2/2015		8/10/2015		9/3/2015		10/6/2015		11/2/2015		12/3/2015	
Sample Type:															
Area		A010_EastPlant		A010_EastPlant		A010_EastPlant		A010_EastPlant		A010_EastPlant		A010_EastPlant		A010_EastPlant	
Units															
PCBs															
Aroclor-1016 (PCB-1016)	µg/L	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
Aroclor-1221 (PCB-1221)	µg/L	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
Aroclor-1232 (PCB-1232)	µg/L	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
Aroclor-1242 (PCB-1242)	µg/L	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
Aroclor-1248 (PCB-1248)	µg/L	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
Aroclor-1254 (PCB-1254)	µg/L	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
Aroclor-1260 (PCB-1260)	µg/L	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
Total PCBs	µg/L	ND		ND		ND		ND		ND		ND		ND	
General Chemistry															
Biochemical oxygen demand (carbonaceous)	µg/L	--		--		--		--		--		--		--	
Chemical oxygen demand (COD)	µg/L	--		--		--		--		--		--		--	
Nitrite/Nitrate	µg/L	--		--		--		--		--		--		--	
Oil and grease (HEM), polar	µg/L	--		--		--		--		--		--		--	
Phosphorus	µg/L	--		--		--		--		--		--		--	
Total kjeldahl nitrogen (TKN)	µg/L	--		--		--		--		--		--		--	
Total suspended solids (TSS)	µg/L	--		--		--		--		--		--		--	

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

Laboratory Flags:
B - Result detected in associated method blank.

Appendices

Appendix A

Sump Monitoring Logs

DAILY VAULT LOG
WATER PUMPED AND WATER LEVELS
GM CETC - BEDFORD, IN

Month / Year		JAN 120 / 5						
Day	Leachate Collection (LCS) @ PLC		LCS @ Local Display	Gravel Underdrain (GUS) @ PLC		GUS @ Local Display	Leak Detection (LDS) ¹	
	Gallons Pumped	Water Level (in)	Gallons Pumped ³	Gallons Pumped	Water Level (in)	Gallons Pumped ³	Gallons Pumped ²	
1	0	24	7875	18175	52			
2	0	24	0	15250	41			
3	0	26	0	0	47			
4	0	24	0	0	51			
5	0	24		2175	2451			
6	0	25		31700	2547			
7	0	25		0	46			
8	0	26		0	50			
9	0	25		0	52			
10	0	25		32890	52			
11	0	25		180	44			
12	0	25		0	44			
13	0	25		0	52			
14	0	25		32365	52			
15	0	25		745	45			
16	0	25		0	50			
17	0	25		29315	52			
18	0	25		4325	44			
19	0	25		0	44			
20	0	25		0	51			
21	0	25		20360	52			
22	0	25		013180	52	03185		
23	0	26		010005	43			
24	0	26		0	48			
25	0	26		010535	51			
26	0	26		22875	43	10535/51		
27	0	26		22875	43			
28	0	26		0	43			
29	0	26		0	51			
30	0	26		0	52			
31		26		32290	52			
TOTAL								

Notes: 1 - Leak Detection Gallons Pumped is measured using a flow meter while manually pumping the LDS to the LCS.

2 - Run the LCS in Manual Mode when pumping from the LDS to the LCS.

3 - Collect Total Flow Readings at Local Flow Meter Displays weekly to compare to PLC readings.

LEACHATE COLLECTION SYSTEM

YEAR: 2015 MONTH: Jun

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1					
2					
3					
4					
5					
6					
7					
8					
9	13:00	68.04			Local 135423
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20	11:35	68.17			Local 135423
21					
22					
23					
24					
25					
26					
27	10:26	68.05			135423
28					
29					
30					
31					

Notes:

Top of sump (feet AMSL) 740.83
 Bottom of sump (feet AMSL) 671.00

Total depth of sump manhole (feet) 69.83
 Inside diameter of sump (feet) 6

(1) Pump operating level between 1 ft (672.00 ft AMSL) and 3 ft (674.00 ft AMSL) of water in the LCS manhole.

LEAK DETECTION SYSTEM

YEAR: 2015

MONTH: Jan

DAY	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING feet below top of sump	FLOW METER READING gallons removed	TIME OF MEASUREMENT #	DEPTH TO WATER AFTER PUMPING feet below top of sump	COMMENTS
1						
2						
3						
4						
5						
6						
7						
8						
9	13:05	72.52				
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20	11:40	72.52				
21						
22						
23						
24						
25						
26						
27	10:31	72.51				
28						
29						
30						
31						

Notes:

Top of sump (feet AMSL) 741.14

Total depth of sump manhole (feet) 72.64

Bottom of sump (feet AMSL) 668.50

Inside diameter of sump (feet) 6.00

- (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 TOS). Pumping must be initiated if water elevation is not within the appropriate limits. All corresponding information to be recorded on this form.
- (2) Calculate the average daily LDS collection rate as the volume pumped divided by days between pumping = average gallons collected per day

GRAVEL UNDERDRAIN SYSTEM

YEAR: 2015

MONTH: JUN

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1					
2					
3					
4					
5					
6					
7					
8					
9	13:20	unable to read			4394939 at local
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20	11:28	73.19			4494656 (at local)
21					
22					
23					
24					
25					
26					
27	10:41	74.08			4555223 (at local)
28					
29					
30					
31					

Notes:

Top of sump (feet AMSL) 739.49

Total depth of sump manhole (feet) 77.31

Bottom of sump (feet AMSL) 662.18

Inside diameter of sump (feet) 3

(1) Pump operating level between 2 ft (664.18 ft AMSL) and 5 ft (667.18 ft AMSL) of water in the GUS manhole.

(2) Water level in the GUS not to rise above the secondary liner system (667.50 ft AMSL) (or more than 63.84 inches of water depth).

DAILY VAULT LOG
WATER PUMPED AND WATER LEVELS
GM CETC - BEDFORD, IN

Month / Year		February / 2015							
Day	Leachate Collection (LCS) @ PLC		LCS @ Local Display	Gravel Underdrain (GUS) @ PLC		GUS @ Local Display	Leak Detection (LDS) ¹		
	Gallons Pumped	Water Level (in)	Gallons Pumped ³	Gallons Pumped	Water Level (in)	Gallons Pumped ³	Gallons Pumped ²		
1	0	27		0	45				
2	0	26		0	50				
3	0	26		0	52				
4	0	26		0	52				
5	0	26		0	52				
6	0	26		0	50				
7	0	27		0	52				
8	0	27		15220	52				
9	0	26		16330	49				
10	0	27		6165	43				
11	0	27		0	43				
12	0	27		0	48				
13	0	27		14470	52				
14	0	27		17300	41				
15	0	27		0	41				
16	0	27		0	47				
17	0	27		8305	52				
18	0	27		19115	52				
19	0	27		0	42				
20	0	28		0	50				
21	0	28		0	52				
22	0	28		25895	52				
23	0	27		0	45				
24	0	28		0	50				
25	0	28		75	52				
26	0	27		24320	52				
27	0	27		0	44				
28	0	28		0	48				
29									
30									
31									
TOTAL									

- Notes: 1 - Leak Detection Gallons Pumped is measured using a flow meter while manually pumping the LDS to the LCS.
2 - Run the LCS in Manual Mode when pumping from the LDS to the LCS.
3 - Collect Total Flow Readings at Local Flow Meter Displays weekly to compare to PLC readings.

LEACHATE COLLECTION SYSTEM

YEAR: 2015 MONTH: Feb

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1					
2					
3					
4					
5					
6					
7					
8					
9					
10	13:10	67.85			135506 (at local)
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23	13:26	67.75			135506 (at local)
24					
25					
26					
27					
28					
29					
30					
31					

Notes:

Top of sump (feet AMSL) 740.83
Bottom of sump (feet AMSL) 671.00

Total depth of sump manhole (feet) 69.83
Inside diameter of sump (feet) 6

(1) Pump operating level between 1 ft (672.00 ft AMSL) and 3 ft (674.00 ft AMSL) of water in the LCS manhole.

LEAK DETECTION SYSTEM

YEAR: 2015

MONTH: Feb

DAY	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING (feet below top of sump)	FLOW METER READING (gallons removed)	TIME OF MEASUREMENT #2 (hh:mm)	DEPTH TO WATER AFTER PUMPING (feet below top of sump)	COMMENTS
1						
2						
3						
4						
5						
6						
7						
8						
9						
10	13:15	72.42				
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23	14:16	72.41				
24						
25						
26						
27						
28						
29						
30						
31						

Notes:

Top of sump (feet AMSL) 741.14

Total depth of sump manhole (feet) 72.64

Bottom of sump (feet AMSL) 668.50

Inside diameter of sump (feet) 6.00

- (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 TOS). Pumping must be initiated if water elevation is not within the appropriate limits. All corresponding information to be recorded on this form.
- (2) Calculate the average daily LDS collection rate as the volume pumped divided by days between pumping = average gallons collected per day

GRAVEL UNDERDRAIN SYSTEM

YEAR: 2015

MONTH: Feb

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1					
2					
3					
4					
5					
6					
7					
8					
9					
10	13:20	73.75			4660663 (at 100%)
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23	14:35	73.55			47742670 (at 100%)
24					
25					
26					
27					
28					
29					
30					
31					

Notes:

Top of sump (feet AMSL) 739.49

Total depth of sump manhole (feet) 77.31

Bottom of sump (feet AMSL) 662.18

Inside diameter of sump (feet) 3

(1) Pump operating level between 2 ft (664.18 ft AMSL) and 5 ft (667.18 ft AMSL) of water in the GUS manhole.

(2) Water level in the GUS not to rise above the secondary liner system (667.50 ft AMSL) (or more than 63.84 inches of water depth).

LEACHATE COLLECTION SYSTEM

YEAR: 2015

MONTH: March

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1			28	0	
2			28	0	
3			29		
④	13:21	67.76	28		135585 qt local
5			27		
6			28		
7			29		
8			28		
9			28		
⑩	11:00	67.61	28		135585 qt local
11			28		
12			28		
13			28		
14			29		
15			29		
16			29		
⑪	10:00	67.42	29.30		• Samples taken
18			29		
19			28		
20			29		
21			29		
22			29		
23			29		
24			30		
25			30		
26			30		
27			29		
⑫	5:24	67.42	28		135748 (local) Samples taken
29			31		
30			29		
31			30		

Notes:

Top of sump (feet AMSL) 740.83

Bottom of sump (feet AMSL) 671.00

Total depth of sump manhole (feet) 69.83

Inside diameter of sump (feet) 6

(1) Pump operating level between 1 ft (672.00 ft AMSL) and 3 ft (674.00 ft AMSL) of water in the LCS manhole.

LEAK DETECTION SYSTEM

YEAR: 2015MONTH: March

DAY	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING feet below top of sump	FLOW METER READING gallons removed	TIME OF MEASUREMENT #	DEPTH TO WATER AFTER PUMPING feet below top of sump	COMMENTS
1						
2						
3						
4	13:36	72.41	—	—	—	
5						
6						
7						
8						
9		72.28				
10	11:10	72.51 72.2	—	—	—	
11						
12						
13						
14						
15						
16						
17	10:20	72.20	—	—	—	No water available to sample
18						
19						
20						
21						
22						
23						
24	8:45	72.26	—	8:56	72.26	No water available to sample
25						
26						
27						
28						
29						
30						
31						

Notes:

Top of sump (feet AMSL) 741.14

Total depth of sump manhole (feet) 72.64

Bottom of sump (feet AMSL) 668.50

Inside diameter of sump (feet) 6.00

- (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 TOS). Pumping must be initiated if water elevation is not within the appropriate limits. All corresponding information to be recorded on this form.
- (2) Calculate the average daily LDS collection rate as the volume pumped divided by days between pumping = average gallons collected per day

GRAVEL UNDERDRAIN SYSTEM

YEAR: 2015

MONTH: March

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1			51	0	
2			52	15265	
3			41	10185	
4	13:53	unreadable	47	0	4792465 971ccg
5			54	0	
6			52	20835	
7			43	0	
8			48	0	
9			52	10925	
10	11:15	72.71	42	19585	4813280
11			47	0	
12			47	0	
13			51	17660	
14			43	11140	
15			50	0	
16			50	0	
17	9:40	72.66	50	17765	
18			42	20580	
19			50	10	
20			52	0	
21			52	30200	
22			47	0	
23			52	6410	
24			42	18960	
25			50	5	
26			52	9925	
27			42	18710	
28	10:00	72.66	51	0	
29			52	12160	
30			43	15390	
31			50	0	

Notes:

Top of sump (feet AMSL) 739.49

Total depth of sump manhole (feet) 77.31

Bottom of sump (feet AMSL) 662.18

Inside diameter of sump (feet) 3

(1) Pump operating level between 2 ft (664.18 ft AMSL) and 5 ft (667.18 ft AMSL) of water in the GUS manhole.

(2) Water level in the GUS not to rise above the secondary liner system (667.50 ft AMSL) (or more than 63.84 inches of water depth).

GRAVEL UNDERDRAIN SYSTEM

YEAR: 2015

MONTH: April

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
①	4:30	72.68	51 52	1155	5012428 (at local)
2			52 45	32340	
3			41 44	0	
4			42 32	0	
5			51 53	23090	
6			52 53	8630	
7			43 45	0	
8	4:22	72.34	48 51	18360	508 4717 @ LOCAL
9			52 52	12170	
10			42 45	0	
11			41 52	12960	
12			42 43	18770	
13			51 51	0	
14	4:25	72.75	45 43	17545	514 4239 (@ LOCAL)
15			50 45	10400	
16			50 51	2980	
17			50 44	38820	
18			42 44	0	
19			50 52	0	
20	5:20	72.70	52 52	21715	520 4450 (@ LOCAL)
21			52 45	11910	
22			47 51	0	
23			52 51	0	
24			48 52	4210	
25			50 44	31740	
26			52 48	0	
27	4:00	72.71	42 51	0	527 3959 (@ LOCAL)
28	9:00	72.66	51 52	18410	
29			50 51	117125	
30			53 51	0	
31			50		

Notes:

Top of sump (feet AMSL) 739.49

Total depth of sump manhole (feet) 77.31

Bottom of sump (feet AMSL) 662.18

Inside diameter of sump (feet) 3

(1) Pump operating level between 2 ft (664.18 ft AMSL) and 5 ft (667.18 ft AMSL) of water in the GUS manhole.

(2) Water level in the GUS not to rise above the secondary liner system (667.50 ft AMSL) (or more than 63.84 inches of water depth).

LEACHATE COLLECTION SYSTEM

YEAR: 2013

MONTH: April

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1	4:15	66.55	28 30	0	135748 (at local)
2			28 30		
3			28 30		
4			28 29		
5			28 30		
6			28 30		
7			28 31		
8	4:15	67.20	28 31		135748 at LOCAL
9			28 31		
10			28 31		
11			28 30		
12			28 31		
13			28 30		
14	4:00	67.11	28 30		135748 (@ LOCAL)
15			29 31		
16			29 31		
17			30 31		
18			30 33		
19			29 31		
20	5:00	66.34	29 31		135748 (@ LOCAL)
21			29 31		
22			29 31		
23			29 31		
24			30 31		
25			30 32		
26			30 31		
27	3:59	67.21	29 31		135748
28	8:15	67.21	28 31		135748 (@ LOCAL) Sampled
29			31 32		
30			29 31		
31			30	0	

Notes:

Top of sump (feet AMSL) 740.83

Bottom of sump (feet AMSL) 671.00

Total depth of sump manhole (feet) 69.83

Inside diameter of sump (feet) 6

(1) Pump operating level between 1 ft (672.00 ft AMSL) and 3 ft (674.00 ft AMSL) of water in the LCS manhole.

LEAK DETECTION SYSTEM

YEAR: 2015 MONTH: April

DAY	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING feet below top of sump	FLOW METER READING gallons removed	TIME OF MEASUREMENT #2 (hh:mm)	DEPTH TO WATER AFTER PUMPING feet below top of sump	COMMENTS
1	4:20	72.27				
2						
3						
4						
5						
6						
7						
8	4:19	71.55				
9						
10						
11						
12						
13						
14	4:10	71.95				
15						
16						
17						
18						
19						
20	5:10	72.30				
21						
22						
23						
24						
25						
26						
27	4:05	72.20				
28	8:30	72.26	-	-		Insufficient water to sample
29						
30						
31						

Notes:

Top of sump (feet AMSL) 741.14
Bottom of sump (feet AMSL) 668.50

Total depth of sump manhole (feet) 72.64
Inside diameter of sump (feet) 6.00

- (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 TOS). Pumping must be initiated if water elevation is not within the appropriate limits. All corresponding information to be recorded on this form.
(2) Calculate the average daily LDS collection rate as the volume pumped divided by days between pumping = average gallons collected per day

LEACHATE COLLECTION SYSTEM

YEAR: 2015

MONTH: MAY

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1			31	0	
2			32	0	
3			31	0	
4	4:10 PM	67.1	31	135822	135822 @ (LOCAL)
5			32	0	
6			32	0	
7			32	0	
8			31	0	
9			32	0	
10	3:50 PM	67.05	32	135822	135822 @ (LOCAL)
11			32	0	
12			31	0	
13			32	0	
14			33	0	
15			33	0	
16			32	0	
17	4:40 PM	67.12	33	135822	135822 @ (LOCAL)
18			32	0	
19			32	0	
20			33	0	
21			33	0	
22			33	0	
23			33	0	
24			33	0	
25			33	0	
26	7:45	67.31	33	135898	135898 at Local (sampled, pumped on manual)
27			33	0	
28			33	0	
29			33	0	
30			34	0	
31			33	0	

Notes:

Top of sump (feet AMSL) 740.83

Total depth of sump manhole (feet) 69.83

Bottom of sump (feet AMSL) 671.00

Inside diameter of sump (feet) 6

(1) Pump operating level between 1 ft (672.00 ft AMSL) and 3 ft (674.00 ft AMSL) of water in the LCS manhole.

LEAK DETECTION SYSTEM

YEAR: 2015

MONTH: May

DAY	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING (feet below top of sump)	FLOW METER READING (gallons removed)	TIME OF MEASUREMENT #2 (hh:mm)	DEPTH TO WATER AFTER PUMPING (feet below top of sump)	COMMENTS
1						
2						
3						
4	4:15 PM	71.1				
5						
6						
7						
8						
9						
10	4:00 PM	71.20				
11						
12						
13						
14						
15						
16						
17	4:50	71.15				
18						
19						
20						
21						
22						
23						
24						
25						
26	8:00	72.03				No water to prime pumps (no sample taken)
27						
28						
29						
30						
31						

Notes:

Top of sump (feet AMSL) 741.14

Total depth of sump manhole (feet) 72.64

Bottom of sump (feet AMSL) 668.50

Inside diameter of sump (feet) 6.00

(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 TOS). Pumping must be initiated if water elevation is not within the appropriate limits. All corresponding information to be recorded on this form.

(2) Calculate the average daily LDS collection rate as the volume pumped divided by days between pumping = average gallons collected per day

GRAVEL UNDERDRAIN SYSTEM

YEAR: 2018

MONTH: MAY

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL feet below top of sump	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1			52	0	
2			52	84205	
3			48	530	
4	4:20 PM	71.1	51	5344155 5344155 @ (LOCAL)	
5			45	11465	
6			51	0	
7			52	400	
8			52	80010	
9			46	6290	
10	4:10 PM	71.1	51	5409409 5409409 @ (LOCAL)	
11			52	15340	
12			44	15125	
13			51	0	
14			52	0	
15			52	20492	
16			44	14385	
17			51	0	
18	5:05	71.1	51	546554 546554 @ (LOCAL)	
19			52	18485	
20			43	16565	
21			43	0	
22			51	0	
23			51	9406	
24			42	25975	
25			49	0	
26	8:10	72.86	51	5557043 5557043	
27			52	570	
28			45	32710	
29			45	1715	
30			51	0	
31			52	0	

Notes:

Top of sump (feet AMSL) 739.49

Total depth of sump manhole (feet) 77.31

Bottom of sump (feet AMSL) 662.18

Inside diameter of sump (feet) 3

(1) Pump operating level between 2 ft (664.18 ft AMSL) and 5 ft (667.18 ft AMSL) of water in the GUS manhole.

(2) Water level in the GUS not to rise above the secondary liner system (667.50 ft AMSL) (or more than 63.84 inches of water depth).

DAILY VAULT LOG
WATER PUMPED AND WATER LEVELS
GM CETC - BEDFORD, IN

Month / Year		MAY / 20 15					Leak Detection (LDS) ¹
Day	Leachate Collection (LCS) @ PLC		LCS @ Local Display	Gravel Underdrain (GUS) @ PLC		GUS @ Local Display	
	Gallons Pumped	Water Level (in)	Gallons Pumped ³	Gallons Pumped	Water Level (in)	Gallons Pumped ³	Gallons Pumped ²
1	0	31		0	52		
2	0	32		84205	52		
3	0	31		530	48		
4	0	31		11030	51		
5	0	32		11480	45		
6	0	32		0	51		
7	0	32		400	52		
8	0	31		80010	52		
9	0	32		6290	46		
10	0	32		0	51		
11	0	32		15340	52		
12	0	31		15125	44		
13	0	32		0	51		
14	0	33		0	52		
15	0	2933		20490	52		
16	0	32		14385	44		
17	0	33		0	51		
18	0	32		0	51		
19	0	32		18485	52		
20	0	33		16585	43		
21	0	33		0	43		
22	0	33		0	51		
23	0	33		9406	51		
24	0	33		25975	42		
25	0	33		0	49		
26	0	33		90	51		
27	0	33		570	52		
28	0	33		32710	45		
29	0	33		1715	45		
30	0	34		0	51		
31	0	33		0	52		
TOTAL							

Notes: 1 - Leak Detection Gallons Pumped is measured using a flow meter while manually pumping the LDS to the LCS.
2 - Run the LCS in Manual Mode when pumping from the LDS to the LCS.
3 - Collect Total Flow Readings at Local Flow Meter Displays weekly to compare to PLC readings.

GRAVEL UNDERDRAIN SYSTEM

YEAR: 2015

MONTH: June

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1	8:00	72.7	55.200	25865	5587100 (at local)
2			45	4700	
3			51	0	
4			52	0	
5			52	7605	
6			52	27580	
7			47	0	
8			51	0	
9	11:48	72.66	51	0	5639641 (at local)
10			52	29885	
11			45	0	
12			51	0	
13			51	0	
14			53	0	
15			52	30090	
16	7:45	72.86	52	4790	5687521 (@ Local)
17			44	65	
18			49	0	
19			51	0	
20			51	25670	
21			52	7400	
22			52	0	
23			60	0	
24			51	0	
25	6:20	72.80	51	29925	5758480 (@ Local)
26			44	6020	
27			50	0	
28			51	0	
29	6:15pm	72.34	62	10475	
30			42	26000	5773555
31					

Notes:

Top of sump (feet AMSL) 739.49

Total depth of sump manhole (feet) 77.31

Bottom of sump (feet AMSL) 662.18

Inside diameter of sump (feet) 3

(1) Pump operating level between 2 ft (664.18 ft AMSL) and 5 ft (667.18 ft AMSL) of water in the GUS manhole.

(2) Water level in the GUS not to rise above the secondary liner system (667.50 ft AMSL) (or more than 63.84 inches of water depth).

LEAK DETECTION SYSTEM

YEAR: 2015MONTH: JUNE

DAY	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING feet below top of sump	FLOW METER READING gallons removed	TIME OF MEASUREMENT #2 (hh:mm)	DEPTH TO WATER AFTER PUMPING feet below top of sump	COMMENTS
1	3:10pm	72.1				
2						
3						
4						
5						
6						
7						
8						
9	7:40	71.66				
10						
11						
12						
13						
14						
15						
16	7:40	72.03				CR sampled (insufficient water for sampling)
17						
18						
19						
20						
21						
22						
23						
24						
25	6:10pm	72.51				
26						
27						
28						
29	6:05pm	71.52				
30						
31						

Notes:

Top of sump (feet AMSL) 741.14

Total depth of sump manhole (feet) 72.64

Bottom of sump (feet AMSL) 668.50

Inside diameter of sump (feet) 6.00

- (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 TOS). Pumping must be initiated if water elevation is not within the appropriate limits. All corresponding information to be recorded on this form.
- (2) Calculate the average daily LDS collection rate as the volume pumped divided by days between pumping = average gallons collected per day

LEACHATE COLLECTION SYSTEM

YEAR: 2015

MONTH: JUNE

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1	3:25 PM	67.3	33	0135898	135898 @ LOCAL
2			33	0	
3			33	0	
4			33		
5			33		
6			33		
7			33		
8			33		
9	4:26	67.11	33		135898 @ local
10			33		
11			34		
12			34		
13			34		
14			34		
15			34		
16	7:30	67.31	34		135898 @ LOCAL CHT Sampled
17			34		
18			34		
19			35		
20			36		
21			36		
22			35		
23			35		
24	6:00 PM	67.52	34		135965 @ LOCAL
25			35		
26			35		
27			36		
28			35		
29	6:00	67.31	36		135965 @ LOCAL
30			35	0	
31					

Notes:

Top of sump (feet AMSL) 740.83
 Bottom of sump (feet AMSL) 671.00

Total depth of sump manhole (feet) 69.83
 Inside diameter of sump (feet) 6

(1) Pump operating level between 1 ft (672.00 ft AMSL) and 3 ft (674.00 ft AMSL) of water in the LCS manhole.

LEACHATE COLLECTION SYSTEM

YEAR: 2015

MONTH: JULY

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1			0	35	
2				35	
3				33	
4				35	
5				35	
6	4:00 PM	67.52		36	135965 @ LOCAL
7				36	
8				36	
9				36	
10				36	
11				36	
12				37	
13				37	
14				37	
15	4:28 PM	67.63		36	135964 @ LOCAL
16				36	
17				36	
18				37	
19				37	
20				37	
21				37	
22	3:15 PM	67.72		37	135964 @ LOCAL
23				37	
24				37	
25				37	
26				37	
27	4:30 PM	67.32		37	135964 @ LOCAL
28	8:30	66.74		37	135964 @ local CRA sampled. Rm pump manually
29				37	
30				37	
31			0	37	

Notes:

Top of sump (feet AMSL) 740.83

Total depth of sump manhole (feet) 69.83

Bottom of sump (feet AMSL) 671.00

Inside diameter of sump (feet) 6

(1) Pump operating level between 1 ft (672.00 ft AMSL) and 3 ft (674.00 ft AMSL) of water in the LCS manhole.

LEAK DETECTION SYSTEM

YEAR: 2015

MONTH: JULY

DAY	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING (feet below top of sump)	FLOW METER READING (gallons removed)	TIME OF MEASUREMENT #	DEPTH TO WATER AFTER PUMPING (feet below top of sump)	COMMENTS
1						
2						
3						
4						
5						
6	4:40 PM	71.52				
7						
8						
9						
10						
11						
12						
13						
14						
15	4:35 PM	71.40				
16						
17						
18						
19						
20						
21						
22	3:28 PM	71.63				
23						
24						
25						
26						
27	4:35 PM	71.78				
28	9:30	71.01	21196	10:00	72.38	Sampled LDS. pumped to treatment system
29						
30						
31						

Notes:

Top of sump (feet AMSL) 741.14

Total depth of sump manhole (feet) 72.64

Bottom of sump (feet AMSL) 668.50

Inside diameter of sump (feet) 6.00

- (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 TOS). Pumping must be initiated if water elevation is not within the appropriate limits. All corresponding information to be recorded on this form.
- (2) Calculate the average daily LDS collection rate as the volume pumped divided by days between pumping = average gallons collected per day

GRAVEL UNDERDRAIN SYSTEM

YEAR: 2015 MONTH: JULY

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1			47	0	
2			51	0	
3			52	0	
4			52	30295	
5			44	6110	
6	4:15 PM	72.70	51	0	5846357 @ LOCAL
7			52	0	
8			52	16970	
9			41	20445	
10			49	0	
11			51	0	
12			52	4815	
13			44	33430	
14			46	765	
15	4:35	72.61	51	0	5922708 @ LOCAL
16			52	0	
17			52	25125	
18			50	0	
19			51	0	
20			52	9155	
21			42	29820	
22	3:40 PM	72.92	51	0	5990498 @ LOCAL
23			47 51	0	
24			51 47	0	
25			51 51	00000 0	
26			52 52	00000 21175	
27	4:40 PM	72.85	41 41	00000 17325	603 8698 @ LOCAL
28	10:15	73.15	49 49	00000 630	603 9330 @ LOCAL
29			51	0	
30			51	0	
31			51	27195	

Notes:

Top of sump (feet AMSL) 739.49

Total depth of sump manhole (feet) 77.31

Bottom of sump (feet AMSL) 662.18

Inside diameter of sump (feet) 3

(1) Pump operating level between 2 ft (664.18 ft AMSL) and 5 ft (667.18 ft AMSL) of water in the GUS manhole.

(2) Water level in the GUS not to rise above the secondary liner system (667.50 ft AMSL) (or more than 63.84 inches of water depth).

GRAVEL UNDERDRAIN SYSTEM

YEAR: 2015 MONTH: August

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL feet below top of sump	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1			52	11100	
2			50	0	
3			51	0	
4			51	0	
5	3:50 PM	73.22	52	28050	6091414 @ LOCAL
6			42	13405	
7			49	0	
8			51	0	
9			51	0	
10			52	15000	
11			41	23075	
12	3:30 PM	73.52	47	0	6154033 @ LOCAL
13			51	0	
14			51	0	
15			52	1295	
16			45	32925	
17	4:09 PM	73.42	44	3175	6191395 @ LOCAL
18			50	0	
19			51	0	
20			51	0	
21			52	10635	
22			42	26620	
23			46	0	
24			50	0	
25	8:00	72.65	51	90	6228699 @ LOCAL
26			51	0	
27			52	6760	
28			44	30285	
29			45	0	
30			49	0	
31	1530	72.75	50	0	6245705 @ LOCAL

Notes:

Top of sump (feet AMSL) 739.49

Total depth of sump manhole (feet) 77.31

Bottom of sump (feet AMSL) 662.18

Inside diameter of sump (feet) 3

(1) Pump operating level between 2 ft (664.18 ft AMSL) and 5 ft (667.18 ft AMSL) of water in the GUS manhole.

(2) Water level in the GUS not to rise above the secondary liner system (667.50 ft AMSL) (or more than 63.84 inches of water depth).

LEACHATE COLLECTION SYSTEM

YEAR: 2015 MONTH: August

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1			37	○	
2			38		
3			38		
4			37		
5	4:10 PM	68.32	38		136 047 @ LOCAL
6			38		
7			38		
8			38		
9			38		
10			38		
11			37		
12	4:10 PM	66.30	38		136 047 @ LOCAL
13			38		
14			38		
15			38		
16			38		
17	4:20 PM	67.52	38		136 047 @ LOCAL
18			37		
19			39		
20			38		
21			38		
22			37		
23			39		
24			38		
25	7:30	66.61	38		136 047 @ local Sampled vault
26			38		
27			39		
28			39		
29			39		
30			39		
31	1505	66.72	39		136 149 @ LOCAL

Notes:

Top of sump (feet AMSL) 740.83
 Bottom of sump (feet AMSL) 671.00

Total depth of sump manhole (feet) 69.83
 Inside diameter of sump (feet) 6

(1) Pump operating level between 1 ft (672.00 ft AMSL) and 3 ft (674.00 ft AMSL) of water in the LCS manhole.

LEAK DETECTION SYSTEM

YEAR: 2015

MONTH: August

DAY	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING feet below top of sump	FLOW METER READING gallons removed	TIME OF MEASUREMENT #2 (hh:mm)	DEPTH TO WATER AFTER PUMPING feet below top of sump	COMMENTS
1						
2						
3						
4						
5	4:00 pm	72.32				
6						
7						
8						
9						
10						
11						
12	4:20 pm	71.82				
13						
14						
15						
16						
17	4:15 pm	71.91				
18						
19						
20						
21						
22						
23						
24						
25	7:35	72.10				Insufficient water to sample
26						
27						
28						
29						
30						
31	1515	72.00				

Notes:

Top of sump (feet AMSL) 741.14

Total depth of sump manhole (feet) 72.64

Bottom of sump (feet AMSL) 668.50

Inside diameter of sump (feet) 6.00

- (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 TOS). Pumping must be initiated if water elevation is not within the appropriate limits. All corresponding information to be recorded on this form.
- (2) Calculate the average daily LDS collection rate as the volume pumped divided by days between pumping = average gallons collected per day

YEAR: 2015

MONTH: Sept

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL (feet below top of sump)	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1			39	0	
2			39	0	
3			39	0	
4			39	0	
5			39	0	
6			39	0	
7			39	0	
8	4:10 PM	66.70	40	0	136 1496 @ LOCAL
9			39	0	
10			39	0	
11			39	0	
12			39	0	
13	4:15 PM	66.52	39	0	136 146 @ LOCAL
14			39	0	
15			39	0	
16			40	0	
17			40	0	
18			40	0	
19			40	0	
20			40	0	
21			40	0	
22			40	0	
23		67.96	39	0	
24	8:11	67.96	22	0	136 146 @ local Sampled
25			22	0	
26			22	0	
27			23	0	
28			23	0	
29			23	0	
30	4:30	67.6	23	0	146 882 @ LOCAL
31					

Notes:

Top of sump (feet AMSL) 740.83

Total depth of sump manhole (feet) 69.83

Bottom of sump (feet AMSL) 671.00

Inside diameter of sump (feet) 6

(1) Pump operating level between 1 ft (672.00 ft AMSL) and 3 ft (674.00 ft AMSL) of water in the LCS manhole.

LEAK COLLECTION SYSTEM

YEAR: 2018MONTH: Sept

DAY	TIME OF MEASUREMENT #1 (hh:mm)	DEPTH TO WATER BEFORE PUMPING (feet below top of sump)	FLOW METER READING (gallons removed)	TIME OF MEASUREMENT #2 (hh:mm)	DEPTH TO WATER AFTER PUMPING (feet below top of sump)	COMMENTS
1						
2						
3						
4						
5						
6						
7						
8	4:00 PM	72.00				
9						
10						
11						
12						
13	4:20 PM	71.85				
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24	8:20	71.37	2639.5	9:01	72.40	Sampled, pumped to LCS flow meter - 2639.5 gal
25						
26						
27						
28						
29						
30	4:40	72.32				
31						

Notes:

Top of sump (feet AMSL) 741.14

Total depth of sump manhole (feet) 72.64

Bottom of sump (feet AMSL) 668.50

Inside diameter of sump (feet) 6.00

- (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 TOS). Pumping must be initiated if water elevation is not within the appropriate limits. All corresponding information to be recorded on this form.
- (2) Calculate the average daily LDS collection rate as the volume pumped divided by days between pumping = average gallons collected per day

YEAR: 2015

MONTH: Sept

DAY	TIME OF MEASUREMENT (hh:mm)	MANUAL DEPTH TO WATER LEVEL feet below top of sump	WATER LEVEL @ PLC (inches)	QUANTITY PUMPED @ PLC (gallons removed)	COMMENTS
1			51	0	
2			51	0	
3			52	23105	
4			40	13300	
5			47	0	
6			50	0	
7			51	0	
8	3:50	71.82	51	0	6302075 @ LOCAL
9			51	0	
10			52	24035	
11			41	10995	
12			47	0	
13	4:30 PM	71.83	50	0	6337970 @ LOCAL
14			51	0	
15			51	0	
16			51	0	
17			52	4705	
18			44	32250	
19			42	0	
20			47	0	
21			50	0	
22			51	0	
23			51	10060	
24	5:00 PM	72.5	51	885	6385219 @ LOCAL
25			52	335	
26			50	32320	
27			41	3745	
28			46	0	
29			49	0	
30	4:45	72.55	50	0	6422185 @ LOCAL
31					

Notes:

Top of sump (feet AMSL) 739.49

Total depth of sump manhole (feet) 77.31

Bottom of sump (feet AMSL) 662.18

Inside diameter of sump (feet) 3

(1) Pump operating level between 2 ft (664.18 ft AMSL) and 5 ft (667.18 ft AMSL) of water in the GUS manhole.

(2) Water level in the GUS not to rise above the secondary liner system (667.50 ft AMSL) (or more than 63.84 inches of water depth).

YEAR: 2015MONTH: October

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		23	672.91	0				
2		23	672.91	0				
3		23	672.91	0				
4		24	673	0				
5		23	672.91	0				
6	3:40pm	23	672.91	0	67.55	673.28	146882	
7		23	672.91	0				
8		24	673	0				
9		24	673	0				
10		24	673	0				
11		24	673	0				
12		25	673.08	0				
13		24	673	0				
14	3:45pm	24	673	0	67.33	673.5	146882	
15		23	672.91	0				
16		24	673	0				
17		24	673	0				
18		25	673.08	0				
19		24	673	0				
20	12:41pm	24	673	0	67.55	673.28	146882	
21		24	673	0				
22		24	673	0				
23		25	673.08	0				
24		25	673.08	0				
25		24	673	0				
26		25	673.08	0				
27		26	673.14	0				
28		26	673.16	0				
29	3:40pm	24	673	0	67.76	673.07	146882	
30		25	673.08	0				
31		26	673.16	0				

YEAR: 2015

MONTH: October

LEAK DETECTION SYSTEM

REV. 3
October 1, 2015
Page 1 of 1

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

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 (a, b) 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									Last date Pumped September 24, 2015 2639.5
2									
3									
4									
5									
6	03:45pm	72.0							
7									
8									
9									
10									
11									
12									
13									
14	04:00pm	71.98							
15									
16									
17									
18									
19									
20	12:50pm	72.7							
21									
22									
23									
24									
25									
26									
27									
28									
29	01:30pm	72.31	01:50pm	72.35	2642.0		2.5	0.01	
30									
31									

YEAR: 2015

MONTH: October

GRAVEL UNDERDRAIN SYSTEM

REV. 3
October 1, 2015
Page 1 of 1

Notes: Top of sump [top of HDPE] (feet AMSL): 739.49

Bottom of sump (feet AMSL): 662.18

Inside diameter of sump (feet): 3

Total depth of sump manhole (feet): 77.31

Pump operating level between 2.5 ft (664.68 ft AMSL or 74.81 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.

- (a) Water level not to rise above 52 inches deep (equates to a water level of 666.5 ft AMSL or 72.99 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 72.99 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 72.99 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION ^(b) (ft AMSL) = 739.49 - (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		49	666.26	0				
2		51	666.43	0				
3		51	666.43	0				
4		51	666.43	0				
5		52	666.51	10715				
6	3:50PM	43	665.76	25580	72.3	667.19	6458440	
7		42	665.68	0				
8		49	666.26	0				
9		50	666.35	0				
10		50	666.35	0				
11		50	666.35	0				
12		51	666.43	0				
13		52	666.51	12215				
14	4:10PM	42	665.68	23595	72.15	667.34	6494264	
15		32	664.85	0				
16		47	666.10	0				
17		48	666.18	0				
18		50	666.35	0				
19		50	666.35	0				
20	12:59PM	50	666.35	0	72.4	667.09	6494264	
21		50	666.35	0				
22		52	666.51	0				
23		52	666.51	27580				
24		39	665.43	8645				
25		42	665.68	0				
26		44	665.85	0				
27		46	666.01	0				
28		48	666.18	0				
29	9:36AM	50	666.35	85	72.75	666.74	6530539	
30		51	666.43	0				
31		51	666.43	0				

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		25	673.08	0				
2		27	673.25	0				
3		27	673.25	0				
4	10:12 AM	27	673.25	0	62.7	678.13	146992	
5		27	673.25	195				
6		28	673.33	0				
7		29	673.42	0				
8		27	673.25	0				
9	1040	27	673.25	0	67.5	673.33	147138	
10		27	673.25	0				
11		29	673.42	0				
12		29	673.42	0				
13		29	673.42	0				
14		27	673.25	0				
15		27	673.25	0				
16	1015	29	673.42	0	67.45	673.38	147138	
17		28	673.33	0				
18		29	673.42	0				
19	1015	26	673.16	0				
20		28	673.33	0				
21		29	673.42	0				
22		27	673.25	0				
23		28	673.33	0	67.4	673.43	147139	
24		27	673.25	0				
25		28	673.33	0				
26		28	673.33	0				
27		28	673.33	0				
28		28	673.33	0				
29		27	673.33	0				
30		29	673.42	0				
X								

YEAR: 2015 MONTH: November

LEAK DETECTION SYSTEM

REV. 3
October 1, 2015
Page 1 of 1

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

DAY	TIME OF MANUAL MEASUREMENT #1 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #1 ^(a, b) BEFORE PUMPING (ft below top of sump) *should not be less than 71.14 ft*	TIME OF MANUAL MEASUREMENT #2 (hh:mm)	MANUAL DEPTH TO WATER LEVEL #2 ^(a, b) AFTER PUMPING (ft below top of sump) *should not be less than 71.14 ft*	(X) LOCAL FLOW METER READING ^(c) (gallons)	(Y) ELAPSED TIME BETWEEN PUMPING EVENTS (days)	(Z) VOLUME PUMPED (gallons) = $X_2 - X_1$	AVERAGE DAILY FLOW RATE ^(c, d) (gal/day/acre) = (Z / Y) / 7	COMMENTS Note when samples are collected, any maintenance activities occur, any calibration/reprogramming efforts, etc.
1									
2									
3									
4	10:17 AM	71.9							
5									
6									
7									
8									
9	1045	72.1							
10									
11									
12									
13									
14									
15									
16	1030	71.1							
17									
18									
19									
20									
21									
22									
23	1030	72.1							
24									
25									
26									
27									
28									
29									
30									
X									

YEAR: 2015 MONTH: November

GRAVEL UNDER DRAIN SYSTEM

REV. 3
October 1, 2015
Page 1 of 1

Notes: Top of sump [top of HDPE] (feet AMSL): 739.49

Bottom of sump (feet AMSL): 662.18

Inside diameter of sump (feet): 3

Total depth of sump manhole (feet): 77.31

Pump operating level between 2.5 ft (664.68 ft AMSL or 74.81 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.

- (a) Water level not to rise above 52 inches deep (equates to a water level of 666.5 ft AMSL or 72.99 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 72.99 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 72.99 ft*	(2) CONVERT MANUAL DEPTH TO WATER LEVEL TO ELEVATION (b) (ft AMSL) = 739.49 - (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		52	666.51	14460				
2		51	666.43	21105				
3		43	665.76	0				
4	10:27 AM	43	665.76	0	71.6	667.89	6566068	
5		47	666.09	575				
6		48	666.18	0				
7		50	666.35	0				
8		51	666.43	0				
9		51	666.43	0	72.6	666.89	10516646	
10		52	666.51	16710				
11		41	665.59	19350				
12		43	665.76	0				
13		43	665.76	0				
14		49	666.26	0				
15		50	666.35	0				
16	10:25	49	666.26	0	72.6	666.89	66002669	
17		51	666.43	0				
18		52	666.51	0				
19		52	666.51	0	72.45	667.04		
20		52	666.51	20150				
21		40	665.51	17250				
22		47	666.09	0				
23		49	666.26	0	72.75	666.74	6640299	
24		50	666.35	0				
25		50	666.35	0				
26		51	666.43	0				
27		52	666.51	1185				
28		49	666.26	34675				
29		42	665.68	2335				
30		47	666.09	0				
X								

- 1019, PLC measurement
1325/72.95

11/20/15 cleaned sensor.
Possible bad reading

YEAR: 2015 MONTH: December

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		29	673.42	0				
2		29	673.42	0				
3	1104	26	673.16	0	67.55	673.28	147138	
4		27	673.25	0				
5		28	673.33	0				
6		29	673.42	0				
7	1020	29	673.42	0	67.35	673.48	147138	
8		29	673.42	0				
9		29	673.42	0				
10		29	673.42	0				
11		28	673.33	0				
12		28	673.33	0				
13		30	673.50	0				
14	1000	31	673.58	0	67.2	673.63	147138	
15		28	673.33	0				
16		30	673.50	0				
17		28	673.33	0				
18		28	673.33	0				
19		28	673.33	0				
20		30	673.50	0				
21	1140	30	673.50	0	67.2	673.63	147138	
22		30	673.50	0				
23		31	673.58	0				
24		28	673.33	0				
25		28	673.33	0				
26		30	673.50	0				
27		30	673.50	0				
28	12:15	34	673.83	0	67.0	673.83	147138	
29		29	673.42	0				
30		29	673.42	0				
31		29	673.42	0				

insufficient water
to sample

YEAR: 2015 MONTH: December

LEAK DETECTION SYSTEM

REV. 3
October 1, 2015
Page 1 of 1

Notes: Top of sump [top of concrete manhole] (feet AMSL): 741.14 Bottom of sump (feet AMSL): 668.60 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	1112	72							
4									
5									
6									
7	1025	71.9							
8									
9									
10									
11									
12									
13									
14	1005	71.7							
15									
16									
17									
18									
19									
20									
21	1145	71.6							
22									
23									
24									
25									
26									
27									
28	1220	71.5							
29									
30									
31									

insufficient water to sample

YEAR: 2015

MONTH: December

GRAVEL UNDERDRAIN SYSTEM

New

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.

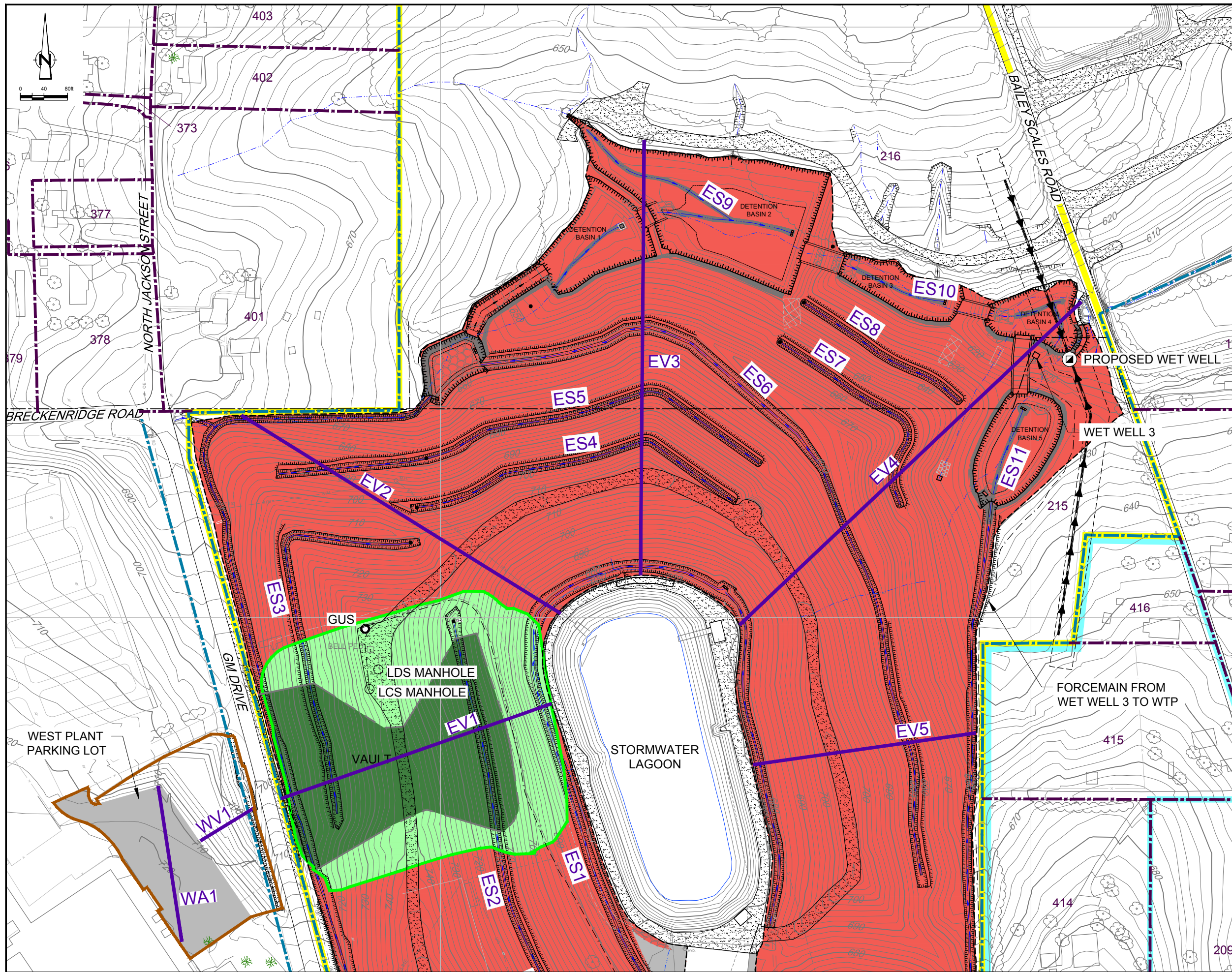
DAY	TIME OF MANUAL MEASUREMENT (hh:mm)	(Y) WATER LEVEL DEPTH AT PLC (a) (inches) *should not be more than 52 inches*	(1) CONVERT PLC WATER DEPTH TO ELEVATION (a) (ft AMSL) = [(Y)/12] + 662.18 *should not be more than 666.5 ft AMSL*	QUANTITY PUMPED @ PLC (gallons removed)	(X) MANUAL DEPTH TO WATER LEVEL (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		49	666.26	0				
2		50	666.34	0				
3	11:20	50	666.34	0	72.55	666.44	6678453	
4		51	666.43	0				
5		52	666.51	22170				
6		40	665.51	16055				
7	10:30	46	666.01	0	73.2	665.79	6716643	
8		49	666.26	0				
9		50	666.34	0				
10		50	666.34	0				
11		51	666.43	0				
12		52	666.51	21505				
13		40	665.51	16745				
14	10:25	46	666.01	0	73.2	665.79	6754854	
15		49	666.26	0				
16		50	666.34	0				
17		50	666.34	0				
18		51	666.43	0				
19		52	666.51	6610				
20		44	665.84	31880				
21	11:50	43	665.76	0	73.5	665.49	6793304	
22		47	666.09	0				
23		50	666.34	0				
24		50	666.34	0				
25		50	666.34	0				
26		52	666.51	0				
27		52	666.51	30235				
28		52	666.51	9545	73.6	665.39	6833140	
29		47	666.09	0				
30		50	666.34	0				
31		50	666.34	0				

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**

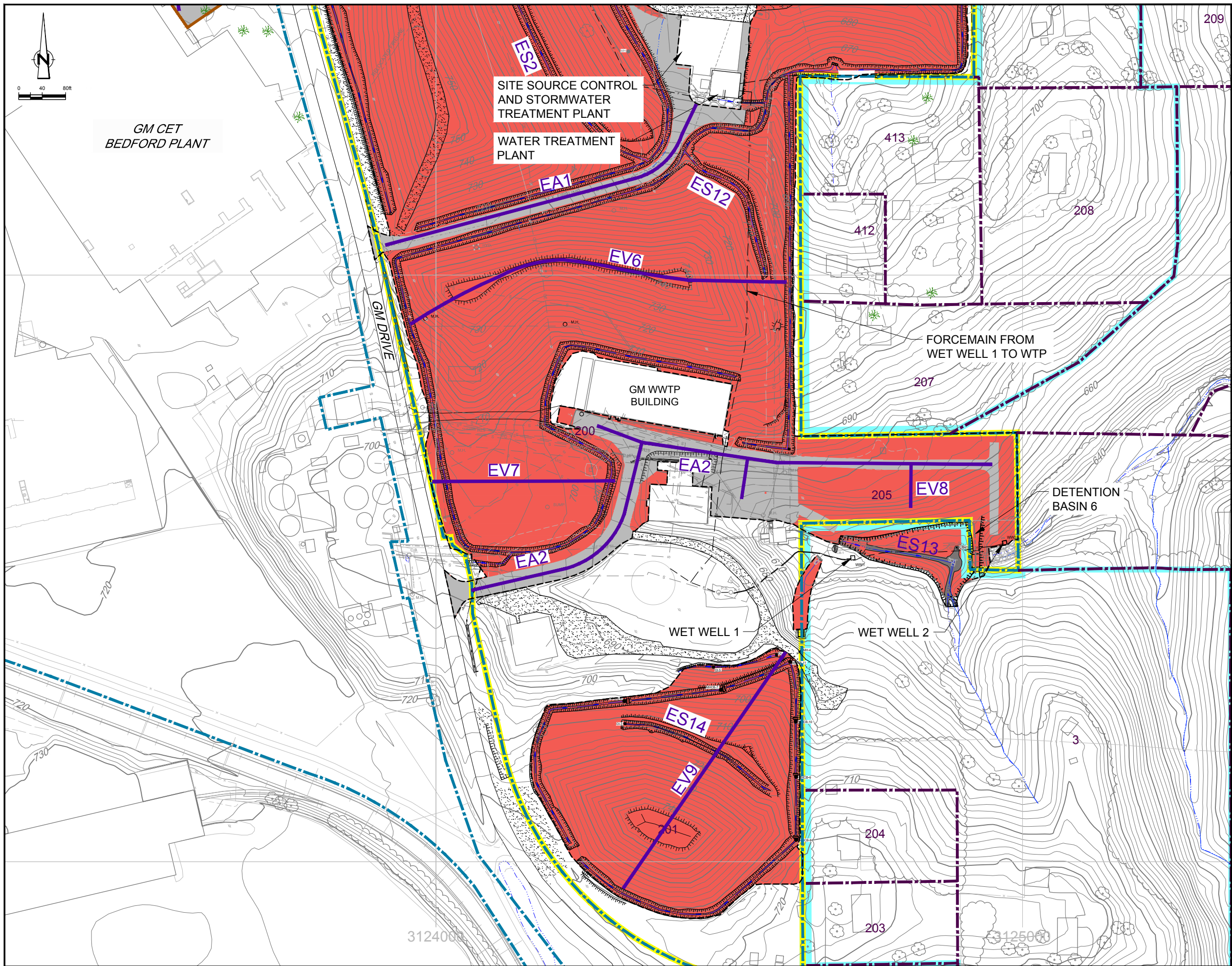
INTERIM OPERATIONS, MAINTENANCE AND MONITORING PLAN
EAST PLANT COVER SYSTEM

**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 2015

TABLE D.1

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

Date of Inspection:		March 12, 2015		Weather:		Overcast, 45°F	
Inspector:		G. Seng, K. Krumm					
ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED		
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED				
VEGETATED SOIL COVER							
	<u>Transect EV1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	ok				
		- EXPOSURE OF LINER	ok				
		- EROSION	ok				
		- LOCALIZED SETTLEMENT/SLUMPING	ok				
		- PONDING OF WATER/DRAINAGE	ok				
		- SIGNS OF BURROWING BY ANIMALS	ok				
		- ROOTING OF TREES	ok				
	<u>Transect EV2</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	ok				
		- EXPOSURE OF LINER	ok				
		- EROSION	ok				
		- LOCALIZED SETTLEMENT/SLUMPING	ok				
		- PONDING OF WATER/DRAINAGE	ok				
		- SIGNS OF BURROWING BY ANIMALS	ok				
		- ROOTING OF TREES	ok				

* New grass had not started to grow much at the time of the inspection

TABLE D.1

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

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<u>Transect EV3</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	ok		* grass appears thin - check on new growth in June 2015	
	- EXPOSURE OF LINER	ok			
	- EROSION	ok			
	- LOCALIZED SETTLEMENT/SLUMPING	ok			
	- PONDING OF WATER/DRAINAGE	ok			
	- SIGNS OF BURROWING BY ANIMALS	mole		contact line company about impact	
	- ROOTING OF TREES	ok			
<u>Transect EV4</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	ok		check sporadic growth in June 2015	
	- EXPOSURE OF LINER	ok			
	- EROSION	ok			
	- LOCALIZED SETTLEMENT/SLUMPING	ok			
	- PONDING OF WATER/DRAINAGE	ok			
	- SIGNS OF BURROWING BY ANIMALS	mole		check w/ liner co. about impact	
	- ROOTING OF TREES	ok			

TABLE D.1

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

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<u>Transect EV5</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	chk		Sparse growth on "pond side" - check on growth in June 2015	
	- EXPOSURE OF LINER	chk			
	- EROSION	chk			
	- LOCALIZED SETTLEMENT/SLUMPING	chk			
	- PONDING OF WATER/DRAINAGE	chk			
	- SIGNS OF BURROWING BY ANIMALS	mkls			
	- ROOTING OF TREES	chk			
<u>Transect EV6</u> X 8	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	chk			
	- EXPOSURE OF LINER	chk			
	- EROSION	chk			
	- LOCALIZED SETTLEMENT/SLUMPING	chk			
	- PONDING OF WATER/DRAINAGE	chk			
	- SIGNS OF BURROWING BY ANIMALS	chk			
	- ROOTING OF TREES	chk			

TABLE D.1

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

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<u>Transect EV7</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	ok			
	- EXPOSURE OF LINER	ok			
	- EROSION	ok			
	- LOCALIZED SETTLEMENT/SLUMPING	ok			
	- PONDING OF WATER/DRAINAGE	ok			
	- SIGNS OF BURROWING BY ANIMALS	ok			
	- ROOTING OF TREES	ok			
<u>Transect EV8</u> 6	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	ok			
	- EXPOSURE OF LINER	ok			
	- EROSION *	ok			
	- LOCALIZED SETTLEMENT/SLUMPING	ok			
	- PONDING OF WATER/DRAINAGE	ok			
	- SIGNS OF BURROWING BY ANIMALS	noles		check w/ liner co.	
	- ROOTING OF TREES	ok			

* erosion along ^{GM} powerpoles, outside the cap limits,
 ~ across the street from the substation

TABLE D.1

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

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<u>Transect EV9</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	ok			
	- EXPOSURE OF LINER	ok			
	- EROSION	ok			
	- LOCALIZED SETTLEMENT/SLUMPING	ok			
	- PONDING OF WATER/DRAINAGE	ok			
	- SIGNS OF BURROWING BY ANIMALS	ok			
	- ROOTING OF TREES *		ditch	pull up trees/saplings	by April 2014
<u>Transect EV10</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS				
	- ROOTING OF TREES				

* ~~these~~ saplings present in the outside berm at the top of the ~~landfill~~^{cover} where the cover is adjacent to wooded areas

TABLE D.1

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

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<u>Transect WV1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	ok			
	- EXPOSURE OF LINER	ok			
	- EROSION	ok			
	- LOCALIZED SETTLEMENT/SLUMPING	ok			
	- PONDING OF WATER/DRAINAGE	ok			
	- SIGNS OF BURROWING BY ANIMALS	ok			
	- ROOTING OF TREES	ok			
<u>ASPHALT COVER</u>					
<u>Transect EA1</u>	- QUALITY OF ASPHALT COVER	ok			
	- PRESENCE OF CRACKING OR DISCOLORATION	ok			
<u>Transect EA2</u>	- QUALITY OF ASPHALT COVER	ok			
	- PRESENCE OF CRACKING OR DISCOLORATION		cracking noted	contact paver co. & get cost to fill crack	
<u>Transect WA1</u>	- QUALITY OF ASPHALT COVER	ok			
	- PRESENCE OF CRACKING OR DISCOLORATION		cracking	contact paver co. & get cost to fill cracks	
<u>ACCESS ROAD</u>					
<u>ACCESS ROAD</u>	- EROSION	ok			
	- OBSTRUCTIONS/DEBRIS	ok			
	- POTHOLES	ok			
	- DAMAGE CAUSED BY VEHICULAR TRAFFIC	ok			

* road showing signs of washboarding. May need to regrade in the future

TABLE D.1

EAST PLANT COVER INSPECTION LOG
EAST PLANT COVER SYSTEM CONSTRUCTION CERTIFICATION REPORT
GM CETC 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 DITCH					
<u>Transect ES1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	dh			
	- EROSION	dh			
	- OBSTRUCTIONS	dh			
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION		debris	debris removed during inspection	
	- SIGNS OF BURROWING BY ANIMALS	dh			
	- ROOTING OF TREES	dh			
<u>Transect ES2</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	dh			
	- EROSION	dh			
	- OBSTRUCTIONS	dh			
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	dh			
	- SIGNS OF BURROWING BY ANIMALS	dh			
	- ROOTING OF TREES	dh			

Generally, the grass seems to be slow in growing through the erosion control matting- but it is growing + doesn't show erosion issues

TABLE D.1

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

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<u>Transect ES3</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	de			
	- EROSION	de			
	- OBSTRUCTIONS	de			
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	de			
	- SIGNS OF BURROWING BY ANIMALS	de			
	- ROOTING OF TREES	de			
<u>Transect ES4</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	de			
	- EROSION	de			
	- OBSTRUCTIONS	de			
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	de			
	- SIGNS OF BURROWING BY ANIMALS	de			
	- ROOTING OF TREES	de			
<u>Transect ES5</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	de			
	- EROSION	de			
	- OBSTRUCTIONS	de			
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	de			
	- SIGNS OF BURROWING BY ANIMALS	de			
	- ROOTING OF TREES	de			

TABLE D.1

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

ITEM		TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
			NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
	<u>Transect ES6</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	de			
		- EROSION	de			
		- OBSTRUCTIONS	de			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	de			
		- SIGNS OF BURROWING BY ANIMALS	de			
		- ROOTING OF TREES	de			
	<u>Transect ES7</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	de			
		- EROSION	de			
		- OBSTRUCTIONS	de			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	de			
		- SIGNS OF BURROWING BY ANIMALS	de			
		- ROOTING OF TREES	de			
	<u>Transect ES8</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	de			
		- EROSION	de			
		- OBSTRUCTIONS	de			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	de			
		- SIGNS OF BURROWING BY ANIMALS	de			
		- ROOTING OF TREES	de			

TABLE D.1

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

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<u>Transect ES9</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK			
	- EROSION	OK			
	- OBSTRUCTIONS	OK			
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION		rip rap washed away SES got out \$ to repair w/ bigger rip rap	need to wait until spring rain ceases so it is dry when doing the repair	
	- SIGNS OF BURROWING BY ANIMALS	OK			
	- ROOTING OF TREES	OK			
<u>Transect ES10</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK			
	- EROSION	OK			
	- OBSTRUCTIONS	OK			
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION		debris in catch basin removed debris at time of inspection		
	- SIGNS OF BURROWING BY ANIMALS	OK			
	- ROOTING OF TREES	OK			
<u>Transect ES11</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK			
	- EROSION	OK			
	- OBSTRUCTIONS	OK			
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK			
	- SIGNS OF BURROWING BY ANIMALS	OK			
	- ROOTING OF TREES	OK			

TABLE D.1

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

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<u>Transect ES12</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	dk			
	- EROSION	dk			
	- OBSTRUCTIONS	dk			
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	dk			
	- SIGNS OF BURROWING BY ANIMALS	dk			
	- ROOTING OF TREES	dk			
<u>Transect ES13</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	dk			
	- EROSION	dk			
	- OBSTRUCTIONS	dk			
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	dk			
	- SIGNS OF BURROWING BY ANIMALS	dk			
	- ROOTING OF TREES		trees removed during inspection		
<u>Transect ES14</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	dk			
	- EROSION	dk			
	- OBSTRUCTIONS	dk			
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	dk			
	- SIGNS OF BURROWING BY ANIMALS	dk			
	- ROOTING OF TREES	dk			

Appendix B-3

Second Quarter 2015

TABLE D.1

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

Date of Inspection: June 11 2015 Weather: Hot, 93° Humid
Inspector: G. Seng Temperature: _____

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	OK		Some weed and clear growth	
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	OK			
		- ROOTING OF TREES	OK			
	<u>Transect EV2</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		some clear growth	
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	✓		minimal moles	
		- ROOTING OF TREES	OK			

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	OK		clover and wildflower growth some bare spots	
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	✓		moles	
		- ROOTING OF TREES	OK			
	<u>Transect EV4</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		clover growth some bare spots	
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	✓		moles	
		- ROOTING OF TREES	OK			
	<u>Transect EV5</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		Heavy clover growth small tree sprouts	June 11, 2015 tree sprouts removed
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	✓		moles	
		- ROOTING OF TREES	✓			trees removed

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	OK		Some Bare spots	
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	OK		some moles	
		- ROOTING OF TREES	OK			
	<u>Transect EV7</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK			
		- EXPOSURE OF LINER	OK			
		- EROSION	OK		see note *	
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	OK			
		- ROOTING OF TREES	OK			
	<u>Transect EV8</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK			
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	OK			
		- ROOTING OF TREES	OK			

*Erosion along Gm power poles, outside cap limits, across from Substation

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	✓		Few bare spots southside	
	- EXPOSURE OF LINER	OK			
	- EROSION	OK			
	- LOCALIZED SETTLEMENT/SLUMPING	OK			
	- PONDING OF WATER/DRAINAGE	OK			
	- SIGNS OF BURROWING BY ANIMALS	OK			
	- ROOTING OF TREES	✓		tree removed from center	trees removed June 11, 2015
Transect WV1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK			
	- EXPOSURE OF LINER	OK			
	- EROSION	OK			
	- LOCALIZED SETTLEMENT/SLUMPING	OK			
	- PONDING OF WATER/DRAINAGE	OK			
	- SIGNS OF BURROWING BY ANIMALS	OK			
	- ROOTING OF TREES	OK			

Small saplings have taken root where the cover is adjacent to wooded areas
Saplings have been removed.

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	OK			
		- PRESENCE OF CRACKING OR DISCOLORATION	OK			
	Transect EA2	- QUALITY OF ASPHALT COVER	OK			
		- PRESENCE OF CRACKING OR DISCOLORATION		some cracking		Contract in works for Seal coating
	Transect WA1	- QUALITY OF ASPHALT COVER	OK			
		- PRESENCE OF CRACKING OR DISCOLORATION		Some cracking		Contract for repairs in progress
ACCESS ROAD						
	ACCESS ROAD	- EROSION	OK			
		- OBSTRUCTIONS/DEBRIS	OK			
		- POTHOLES	OK			
		- DAMAGE CAUSED BY VEHICULAR TRAFFIC	OK			

TABLE D.1

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

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
SWALE/DRAINAGE DITCHES					
	<u>Transect ES1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		
		- EROSION	OK		
		- OBSTRUCTIONS	OK		
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK		
		- SIGNS OF BURROWING BY ANIMALS	OK		
		- ROOTING OF TREES	OK		
	<u>Transect ES2</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK	clover and weed growth	
		- EROSION	OK		
		- OBSTRUCTIONS	OK		
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK		
		- SIGNS OF BURROWING BY ANIMALS	OK		
		- ROOTING OF TREES	OK		
	<u>Transect ES3</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		
		- EROSION	OK		
		- OBSTRUCTIONS	OK		
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK		
		- SIGNS OF BURROWING BY ANIMALS	OK		
		- ROOTING OF TREES	OK		

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	OK		clover growth
		- EROSION	OK		
		- OBSTRUCTIONS	OK		
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK		
		- SIGNS OF BURROWING BY ANIMALS	✓	mole	
		- ROOTING OF TREES	OK		
	Transect ES5	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		clover and weed growth some bare spots
		- EROSION	OK		
		- OBSTRUCTIONS	OK		
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK		
		- SIGNS OF BURROWING BY ANIMALS	OK		
		- ROOTING OF TREES	✓		small trees
	Transect ES6	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		
		- EROSION	OK		
		- OBSTRUCTIONS	OK		
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK		
		- SIGNS OF BURROWING BY ANIMALS	OK		
		- ROOTING OF TREES	OK		

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	OK		
		- EROSION	OK		
		- OBSTRUCTIONS	OK		
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK		
		- SIGNS OF BURROWING BY ANIMALS	OK		
		- ROOTING OF TREES	OK		
			Transect ES8	QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK
- EROSION	OK				
- OBSTRUCTIONS	OK				
- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK				
- SIGNS OF BURROWING BY ANIMALS	OK				
- ROOTING OF TREES	OK				
	Transect ES9			QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK
		- EROSION	OK		
		- OBSTRUCTIONS	OK		
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK	* SES to Make repairs when weather permits	
		- SIGNS OF BURROWING BY ANIMALS	OK	Ⓟ	
		- ROOTING OF TREES	OK		

* Washout of low flow channel, RipRap. exposed liner

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

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	OK		
		- EROSION	OK		
		- OBSTRUCTIONS	OK		
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK		
		- SIGNS OF BURROWING BY ANIMALS	OK		
		- ROOTING OF TREES	✓	Some rooting trees	trees removed
			<u>Transect ES13</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK
- EROSION	OK				
- OBSTRUCTIONS	OK				
- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK				
- SIGNS OF BURROWING BY ANIMALS	OK				
- ROOTING OF TREES	OK				



Photo 1: EV1 Vault cover facing northwest



Photo 2: EV1 Vault cover (and East Plant Area cover beyond) facing east



Cover System Inspection 2nd Quarter 2015



Photo 3: EV2 East Plant Area cover facing northwest



Photo 4: EV3 East Plant Area cover facing northwest



Cover System Inspection 2nd Quarter 2015



Photo 5: EV3 East Plant Area cover facing south



Photo 6: EV4 East Plant Area cover facing northeast



Cover System Inspection 2nd Quarter 2015



Photo 7: EV5 East Plant Area cover facing northeast



Photo 8: EV6 East Plant Area cover facing east



Cover System Inspection 2nd Quarter 2015



Photo 9: EV6 erosion rut outside cap limit



Cover System Inspection 2nd Quarter 2015



Photo 10: EV6 East Plant Area cover facing southwest



Cover System Inspection 2nd Quarter 2015



Photo 11: ES14 drainage swale facing east



Cover System Inspection 2nd Quarter 2015



Photo 12: EV9 East Plant Area cover facing south (removed tree growth at time of inspection)



Photo 13: EV9 East Plant Area cover facing east (at base of slope)



Cover System Inspection 2nd Quarter 2015



Photo 14: ES14 East Plant Area cover facing northwest



Photo 15: EV9 East Plant Area cover facing south



Cover System Inspection 2nd Quarter 2015



Photo 16: EV9 patchy vegetation



Cover System Inspection 2nd Quarter 2015



Photo 17: ES2 drainage swale facing north



Photo 18: ES5 drainage swale facing west



Cover System Inspection 2nd Quarter 2015



Photo 19: ES5 drainage swale facing northeast



Cover System Inspection 2nd Quarter 2015



Photo 20: ES6 drainage swale facing southwest, channel erosion.



Cover System Inspection 2nd Quarter 2015



Photo 21: EV9 rip rap erosion at storm drain into detention basin #2 facing west



Cover System Inspection 2nd Quarter 2015



Photo 22: ES10 channel through detention basin #3 facing east



Cover System Inspection 2nd Quarter 2015



Photo 23: ES11 detention basin #5 facing north



Cover System Inspection 2nd Quarter 2015



Photo 24: EA2 crack near WWTP aeration basin facing north



Cover System Inspection 2nd Quarter 2015



Photo 25: EA2 facing east, cracks in asphalt west of Parcel 205



Cover System Inspection 2nd Quarter 2015



Photo 26: WV1 West Plant Area cover facing southwest



Photo 27: Phoslock Application in the stormwater pond facing southwest



Cover System Inspection 2nd Quarter 2015

Appendix B-4

Third Quarter 2015

TABLE D.1

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

Date of Inspection: 9-28-15 Weather: Sunny Clear
Inspector: G. Seng / M. Curtis Temperature: 80° 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	OK	weed growth		
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	OK			
		- ROOTING OF TREES	OK			
	<u>Transect EV2</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK	Some clover growth		
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	✓		minimal moles	
		- ROOTING OF TREES	OK			

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	OK			
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	✓		mole	
		- ROOTING OF TREES	OK			
	Transect EV4	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		weed growth some bare spots	
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	✓		mole	
		- ROOTING OF TREES	OK			
	Transect EV5	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		weed and few small trees	trees removed
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	✓		mole	
		- ROOTING OF TREES	✓		small trees	trees removed

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	OK		Bare spots weed growth	
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	✓		moles	
		- ROOTING OF TREES	✓		small trees	cut trees
	<u>Transect EV7</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		weed growth	
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<u>Transect EV8</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		weed growth bare spots	
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	OK			
		- ROOTING OF TREES	OK			

Erosion along GM Drive power poles, across from substation

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	✓		bare spots weeds	
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	OK			
		- ROOTING OF TREES	✓		Small trees	trees removed
	<u>Transect WV1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK			
		- EXPOSURE OF LINER	OK			
		- EROSION	OK			
		- LOCALIZED SETTLEMENT/SLUMPING	OK			
		- PONDING OF WATER/DRAINAGE	OK			
		- SIGNS OF BURROWING BY ANIMALS	OK			
		- ROOTING OF TREES	OK			

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	OK			
		- PRESENCE OF CRACKING OR DISCOLORATION	OK			
	Transect EA2	- QUALITY OF ASPHALT COVER	OK			
		- PRESENCE OF CRACKING OR DISCOLORATION	✓	some cracks		to be sealed
	Transect WA1	- QUALITY OF ASPHALT COVER	OK			
		- PRESENCE OF CRACKING OR DISCOLORATION	✓	some cracks		to be sealed
ACCESS ROAD						
	ACCESS ROAD	- EROSION	OK			
		- OBSTRUCTIONS/DEBRIS	OK			
		- POTHOLES	OK			
		- DAMAGE CAUSED BY VEHICULAR TRAFFIC	OK			

TABLE D.1

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

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
SWALE/DRAINAGE DITCHES					
	<u>Transect ES1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		
		- EROSION	OK		
		- OBSTRUCTIONS	OK		
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK		
		- SIGNS OF BURROWING BY ANIMALS	OK		
		- ROOTING OF TREES	OK		
	<u>Transect ES2</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK	weed growth small bare spots	
		- EROSION	OK		
		- OBSTRUCTIONS	OK		
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK		
		- SIGNS OF BURROWING BY ANIMALS	OK		
		- ROOTING OF TREES	OK		
	<u>Transect ES3</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		
		- EROSION	OK		
		- OBSTRUCTIONS	OK		
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK		
		- SIGNS OF BURROWING BY ANIMALS	OK		
		- ROOTING OF TREES	OK		

TABLE D.1

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

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED	
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES (CONTINUED)						
	<u>Transect ES4</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK		weed growth bird spots	
		- EROSION	OK			
		- OBSTRUCTIONS	OK			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK			
		- SIGNS OF BURROWING BY ANIMALS	✓		moles	
		- ROOTING OF TREES				
	<u>Transect ES5</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK			
		- EROSION	OK			
		- OBSTRUCTIONS	OK			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK			
		- SIGNS OF BURROWING BY ANIMALS	OK			
		- ROOTING OF TREES	OK✓		small trees	trees removed
	<u>Transect ES6</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	OK			
		- EROSION	OK			
		- OBSTRUCTIONS	OK			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK			
		- SIGNS OF BURROWING BY ANIMALS	✓		moles	
		- ROOTING OF TREES	OK			

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	OK		weeds	
		- EROSION	OK			
		- OBSTRUCTIONS	OK			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK			
		- SIGNS OF BURROWING BY ANIMALS	OK			
		- ROOTING OF TREES	OK			
			<u>Transect ES8</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓	
- EROSION	OK					
- OBSTRUCTIONS	OK					
- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK					
- SIGNS OF BURROWING BY ANIMALS	OK					
- ROOTING OF TREES	OK					
	<u>Transect ES9</u>			- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓	
		- EROSION	OK			
		- OBSTRUCTIONS	OK			
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION	OK			
		- SIGNS OF BURROWING BY ANIMALS	OK			
		- ROOTING OF TREES	OK			

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

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



Photo 1: EV1 Vault cover facing northwest



Photo 2: EV1 Vault cover (and East Plant Area cover beyond) facing east



Cover System Inspection 3rd Quarter 2015



Photo 3: EV2 East Plant Area cover facing northwest



Photo 4: EV3 East Plant Area cover facing north



Cover System Inspection 3rd Quarter 2015



Photo 5: EV4 East Plant Area cover facing northeast



Photo 6: EV4 East Plant Area cover facing northeast across Pilot Trench alignment



Cover System Inspection 3rd Quarter 2015



Photo 7: EV5 East Plant Area cover facing northeast



Photo 8: EV5 East Plant Area cover facing northwest



Cover System Inspection 3rd Quarter 2015



Photo 9: EV6 East Plant Area cover facing east



Cover System Inspection 3rd Quarter 2015



Photo 10: EV6 erosion rut outside cap limit



Cover System Inspection 3rd Quarter 2015



Photo 11: EV6 East Plant Area cover facing southwest



Photo 12: EV7 East Plant Area cover facing north



Cover System Inspection 3rd Quarter 2015



Photo 13: EV8 East Plant Area cover (Parcel 205) facing north



Cover System Inspection 3rd Quarter 2015



Photo 14: EV9 East Plant Area cover facing south (removed tree growth at time of inspection)



Cover System Inspection 3rd Quarter 2015



Photo 15: EV9 East Plant Area cover facing south (at base of slope)



Photo 16: EV9 East Plant Area cover facing east



Cover System Inspection 3rd Quarter 2015



Photo 17: EV9 East Plant Area cover facing south



Cover System Inspection 3rd Quarter 2015



Photo 18: EV9 patchy vegetation



Cover System Inspection 3rd Quarter 2015



Photo 19: ES2 drainage swale facing north



Cover System Inspection 3rd Quarter 2015



Photo 20: ES3 channel facing south.



Cover System Inspection 3rd Quarter 2015



Photo 21: ES5 drainage swale facing west



Photo 22: ES5 drainage swale facing northeast



Cover System Inspection 3rd Quarter 2015



Photo 23: ES6 facing southeast



Cover System Inspection 3rd Quarter 2015



Photo 24: ES6 drainage swale facing west, channel erosion.



Cover System Inspection 3rd Quarter 2015



Photo 25: ES8 and ES10 facing north across detention basin 3



Cover System Inspection 3rd Quarter 2015



Photo 26: ES9 rip rap erosion at storm drain into detention basin #2 facing west



Photo 27: ES11 detention basin #5 facing north



Cover System Inspection 3rd Quarter 2015



Photo 28: ES13 detention basin 6 facing east



Cover System Inspection 3rd Quarter 2015



Photo 29: ES14 drainage swale facing east



Cover System Inspection 3rd Quarter 2015



Photo 30: EA2 crack near WWTP aeration basin facing north



Cover System Inspection 3rd Quarter 2015



Photo 31: EA2 facing east, cracks in asphalt west of Parcel 205



Cover System Inspection 3rd Quarter 2015



Photo 32: WV1 West Plant Area cover facing west



Cover System Inspection 3rd Quarter 2015

Appendix B-5

Fourth Quarter 2015

TABLE D.1

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

Date of Inspection: 12-16-15 Weather: OVERCAST + RAIN
Inspector: G. Seng / M. Curt's Temperature: 45°

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	✓		heavy weed growth some bare spots	
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect EV2</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS	✓		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	✓		heavy weed growth some bare spots	
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
		- ROOTING OF TREES				
	<u>Transect EV4</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
		- EXPOSURE OF LINER				
		- EROSION	✓		light erosion	
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
		- ROOTING OF TREES				
	<u>Transect EV5</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/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	✓		heavy weed growth some bare spots	
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS	✓		Ground Hog Holes	
		- ROOTING OF TREES				
	<u>Transect EV7</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
		- EXPOSURE OF LINER				
		- EROSION		✓	rip rap rock	October seven son repaired
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
		- ROOTING OF TREES				
	<u>Transect EV8</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS	✓		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	✓		heavy weed growth some bare spots	
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
		- ROOTING OF TREES				
	<u>Transect WV1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/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	✓	fill cracks, sealcoat	
	Transect EA2	- QUALITY OF ASPHALT COVER			
		- PRESENCE OF CRACKING OR DISCOLORATION	✓	sealcoat + fill cracks	
	Transect WA1	- QUALITY OF ASPHALT COVER			
		- PRESENCE OF CRACKING OR DISCOLORATION	✓	sealcoat; fill cracks	
ACCESS ROAD					
	ACCESS ROAD	- EROSION	✓	fill with gravel	
		- OBSTRUCTIONS/DEBRIS			
		- POTHOLES	✓	fill with gravel	
		- DAMAGE CAUSED BY VEHICULAR TRAFFIC	✓	fill with gravel	

TABLE D.1

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

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED	
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
SWALE/DRAINAGE DITCHES						
	<u>Transect ES1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
		- ROOTING OF TREES				
	<u>Transect ES2</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
		- ROOTING OF TREES				
	<u>Transect ES3</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	✓		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	✓		heavy weed growth some bare spots	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
		- ROOTING OF TREES				
			Transect ES5	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓	
- EROSION						
- OBSTRUCTIONS						
- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION						
- SIGNS OF BURROWING BY ANIMALS	✓				mole holes	
- ROOTING OF TREES						
	Transect ES6			- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓	
		- EROSION	✓		light erosion	
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	✓		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	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect ES8</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect ES9</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		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	✓		heavy weed growth some bare spots	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
		- ROOTING OF TREES				
	Transect ES11	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
		- ROOTING OF TREES				
	Transect ES12	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS	✓		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 ES13</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect ES13</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS				
	- ROOTING OF TREES				



Photo 1: EV1 Vault cover facing northwest.



Photo 2: EV1 Vault cover facing North.



Cover System Inspection 4th Quarter 2015



Photo 3: EV1 Vault cover facing East.



Cover System Inspection 4th Quarter 2015



Photo 4: EV2 East Plant Area cover facing northwest.



Photo 5: EV3 East Plant Area cover facing north.



Cover System Inspection 4th Quarter 2015



Photo 6: EV4 East Plant Area cover facing northeast.



Photo 7: EV4 East Plant Area cover facing southwest.



Cover System Inspection 4th Quarter 2015



Photo 8: EV5 East Plant Area cover facing northeast.



Cover System Inspection 4th Quarter 2015



Photo 9: EV6 East Plant Area cover facing east.



Cover System Inspection 4th Quarter 2015



Photo 10: EV6 erosion rut repairs outside cap limit.



Cover System Inspection 4th Quarter 2015



Photo 11: EV6 East Plant Area cover facing southeast.



Cover System Inspection 4th Quarter 2015



Photo 12: EV6 evidence of possible animal burrowing.



Cover System Inspection 4th Quarter 2015



Photo 13: EV7 East Plant Area cover facing north.



Cover System Inspection 4th Quarter 2015



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



Cover System Inspection 4th Quarter 2015



Photo 15: EV8 East Plant Area cover (Parcel 205) facing south.



Cover System Inspection 4th Quarter 2015



Photo 16: EV9 East Plant Area cover facing east.



Cover System Inspection 4th Quarter 2015



Photo 17: EV9 East Plant Area cover facing south.



Cover System Inspection 4th Quarter 2015



Photo 18: EV9 East Plant Area cover facing north.



Cover System Inspection 4th Quarter 2015



Photo 19: EV9 patchy vegetation.



Cover System Inspection 4th Quarter 2015



Photo 20: ES1 and ES2 drainage swale facing north.



Cover System Inspection 4th Quarter 2015



Photo 21: ES3 channel facing north.



Cover System Inspection 4th Quarter 2015



Photo 22: ES4 drainage swale facing west.



Cover System Inspection 4th Quarter 2015



Photo 23: ES5 drainage swale facing west.



Cover System Inspection 4th Quarter 2015



Photo 24: ES5 drainage swale facing northeast.



Photo 25: ES6 facing northeast.



Cover System Inspection 4th Quarter 2015



Photo 26: ES6 drainage swale east of the Stormwater Pond facing north.



Photo 27: ES6 drainage swale facing east, repaired channel erosion.



Cover System Inspection 4th Quarter 2015



Photo 28: ES8 and ES10 facing west across detention basin 3.



Cover System Inspection 4th Quarter 2015



Photo 29: ES11 detention basin #5 facing north.



Cover System Inspection 4th Quarter 2015



Photo 30: ES13 detention basin 6 facing west.



Cover System Inspection 4th Quarter 2015



Photo 31: ES14 drainage swale facing east.



Cover System Inspection 4th Quarter 2015



Photo 32: ES14 drainage swale facing northeast.



Cover System Inspection 4th Quarter 2015



Photo 33: EA2 crack near WWTP aeration basin facing north.



Cover System Inspection 4th Quarter 2015



Photo 34: EA2 facing north, cracks in asphalt west of Parcel 205.



Cover System Inspection 4th Quarter 2015



Photo 35: EA2 facing west, cracks in asphalt west of Parcel 205.



Cover System Inspection 4th Quarter 2015



Photo 36: WV1 West Plant Area cover facing northwest.



Cover System Inspection 4th Quarter 2015

Appendix C

Mag Meter Verification Certification

Plant Documentation

20.03.2015 09:56:15

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GM/Conestoga

Customer

FIT-LCS

Order code

PROMAG 50 W DN40

Device type

F1095C16000

Serial number

V2.04.00

Software Version Transmitter

03/19/2015

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

02:28 PM

Verification time

Verification result Transmitter: Passed

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

FieldCheck Details

500170

Production number

Test510

Software Version

07/2014

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

07/2014

Last Calibration Date

Date

Operator's Sign

Mark A.
Rodgers

Inspector's Sign

Digitally signed by Mark A. Rodgers
 DN: cn=Mark A. Rodgers, o=Turnkey
 Instrument Solutions, ou=003,
 email=mark.rodgers@turnkeyinstrumentsolu-
 tions.com, c=US
 Date: 2015.03.20 10:03:21 -04'00'

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/Conestoga	Plant	Bedford, IN
Order code	FIT-LCS	Tag Name	-----
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	03/19/2015	Verification time	02:28 PM

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 %	0.66 %
✓		7.967 gal/m (10.0%)	1.50 %	0.04 %
✓		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	-0.001 mA
✓		4.800 mA (5%)	0.05 mA	-0.001 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.001 mA
✓		12.000 mA (50.0%)	0.05 mA	0.000 mA
✓		20.000 mA (100%)	0.05 mA	0.004 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	3.894 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..191.699 mV	1.808 mV

Legend of symbols

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

FieldCheck: Parameters Transmitter

Customer	GM/Conestoga	Plant	Bedford, IN
Order code	FIT-LCS	Tag Name	-----
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	03/19/2015	Verification time	02:28 PM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	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.

119.0

Plant Documentation

20.03.2015 09:55:10

! = out of range

= not read or communication error

* = parameter changed

Flowmeter Verification Certificate Transmitter

GM/Conestoga

Customer

Order code

PROMAG 50 W DN40

Device type

F1095B16000

Serial number

V2.04.00

Software Version Transmitter

03/19/2015

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

01:21 PM

Verification time

Verification result Transmitter: Passed

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

FieldCheck Details

500170

Production number

Test510

Software Version

07/2014

Last Calibration Date

Simubox Details

8695304

Production number

1.00.01

Software Version

07/2014

Last Calibration Date

Date

Operator's Sign

Mark A.
Rodgers

Inspector's Sign

Digitally signed by Mark A. Rodgers
 DN: cn=Mark A. Rodgers, o=Turnkey
 Instrument Solutions, ou=003,
 email=mark.rodgers@turnkeyinstrumentsol
 utions.com, c=US
 Date: 2015.03.20 10:07:39 -04'00'

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/Conestoga	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	03/19/2015	Verification time	01:21 PM

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 %	0.64 %
✓		7.967 gal/m (10.0%)	1.50 %	0.06 %
✓		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	0.001 mA
✓		4.800 mA (5%)	0.05 mA	0.001 mA
✓		5.600 mA (10.0%)	0.05 mA	0.002 mA
✓		12.000 mA (50.0%)	0.05 mA	0.003 mA
✓		20.000 mA (100%)	0.05 mA	0.006 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..142.668 mV	0.822 mV

Legend of symbols

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

FieldCheck: Parameters Transmitter

Customer	GM/Conestoga	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	03/19/2015	Verification time	01:21 PM

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 gal/m	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.

121.0

www.ghd.com

