

VERIFICATION REPORT FOR THE CLINTON LANDFILL NO. 2 GAS COLLECTION AND COMBUSTION PROJECT



Document Prepared By First Environment, Inc.

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Summary:

The Clinton Landfill No. 2 Gas Collection and Combustion Project (The Project) consists of the expansion of an active landfill gas collection system that captures methane and destroys it in flares and in engines located on site. These activities result in a net reduction of greenhouse gas (GHG) emissions. This report covers the verification of GHG emission reductions from the destruction of landfill gas during the period from January 1, 2012 through December 31, 2012. First Environment, Inc. (First Environment) conducted the verification from March to June 2013.

The Project's monitoring plan, as defined in the validated VCS Project Description (VCS PD), served as the basis of verification activities. The verification scope covered the implementation of the monitoring plan and assessment of conformance with relevant requirements from the VCS PD.

During the verification process, First Environment issued several corrective action and clarification requests – all of which were addressed sufficiently by TerraPass, Inc. The Project claims emission reductions of 110,440 metric tonnes CO₂e. First Environment is reasonably assured that the Clinton Landfill No. 2 Gas Collection and Combustion Project meets all relevant VCS requirements and has correctly implemented the monitoring plan in the validated VCS PD, with minor deviations as described below.

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1 INTRODUCTION

This report is provided to TerraPass, Inc. (TerraPass) as a deliverable of the Verified Carbon Standard (VCS) project verification process for the Clinton Landfill No. 2 Gas Collection and Combustion Project (the Project). This report covers the verification of greenhouse gas (GHG) emission reductions from the destruction of landfill gas that otherwise would be vented to the atmosphere during the period from January 1 through December 31, 2012. First Environment, Inc. (First Environment) conducted the verification from March to June 2013.

1.1 Objective

The purpose of this verification was, through review of appropriate evidence, to establish that:

- the Project conforms to the requirements of the verification criteria discussed in Section 1.2; and
- the data reported are accurate, complete, consistent, transparent, and free of material error or omission.

1.2 Scope and Criteria

The specific scope metrics for the verification are outlined in the table below:

Reporting Period	• January 1 – December 31, 2012
Emission Sources Verified	• Emission reductions (expressed in units of carbon dioxide equivalents (CO₂e)) resulting from methane destruction • Project emissions of CO₂ from fossil fuel combustion, and purchased electricity
Definition of Materiality	• Misstatements of greater than five percent of the Project's GHG assertion • Qualitative non-conformities with Standards of Verification described below

The following table outlines the guidance and protocols used to conduct this verification:

Standards of Verification	• VCS Standard: VCS Version 3, 4 October 2012, v3.3 (VCS Standard) • Validated VCS PD (VCS PD), Version 1.51, November 12, 2009 • Approved CDM methodology ACM0001, "Consolidated baseline and monitoring methodology for landfill gas project activities", Version 10 (ACM0001)
Verification Process	• VCS Standard • VCS Program Guide, VCS Version 3, 4 October, v3.4 • ISO 14064-3: Specification with guidance for the validation and verification of greenhouse gas assertions, 2006

The Monitoring Report dated June 14, 2013, Version 6.0 titled "*Clinton Landfill #2 Gas Collection and Combustion VCS Monitoring Report*" was also reviewed to inform the verification assessment.

1.3 Level of Assurance

First Environment and TerraPass have agreed that a reasonable level of assurance be applied for the Project.

1.4 Summary Description of the Project

The Project is located at the Clinton Landfill No. 2, 9560 Heritage Road in Clinton, Illinois, DeWitt County (latitude and longitude are 40° 6' 51.411" and -88° 57' 28.7994", respectively). The project activity consists of the voluntary capture of landfill gas (LFG) through an expanded active collection system and destruction of this LFG in two 1.6- megawatt (MW) Caterpillar 3520C engine generator sets and two open flares. The Project achieves emission reductions through the destruction of methane that would have otherwise been released directly to the atmosphere.

The VCS PD provides additional details regarding the project activity.

2 VALIDATION PROCESS, FINDINGS, AND CONCLUSION

2.1 Validation Process

The validation process consisted of an assessment of the project implementation, as described in the Monitoring Report, against the validation criteria. The validation criteria considered in the assessment of any deviations included the approved CDM methodology, "*Consolidated baseline and monitoring methodology for landfill gas project activities*," Version 10, all referenced methodological tools, and the VCS Standard, 4 October 2012, v3.3. First Environment reviewed justification for each deviation in order to confirm that it was consistent with the underlying methodology and did not negatively impact the conservativeness or accuracy of the emission reduction assertion.

2.2 Validation Findings

2.2.1 Gap Validation

Not Applicable

2.2.2 Methodology Deviations

No new methodology deviations were identified during the current verification. See Section 4.1 for a listing of previously validated methodology deviations.

2.2.3 Project Description Deviations

The following project description deviation was identified in the Monitoring Report and approved for the Project during the current verification:

- The VCS PD states that the methane concentration of LFG combusted at the energy facility will be recorded using either a Landtec GEM-2000 or Elkins Envision methane analyzer. During the reporting period, a Landtec GEM-2000, Elkins Envision, and Landtec GEM-5000 methane analyzers were used to record methane concentration at the energy facility. First Environment approved this deviation because the use of the new Landtec GEM-5000 analyzer provides similar, if not improved, accuracy of methane concentration readings.

2.2.4 New Project Activity Instances

Not Applicable

2.3 Validation Conclusion

The project description deviation described in Section 2.2.3 did not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, and the Project remained in compliance with ACM0001 and VCS requirements. In addition, TerraPass provided an appropriate description and justification of this deviation in the Monitoring Report.

3 VERIFICATION PROCESS

3.1 Method and Criteria

To review the Project's GHG information, the following verification process was used:

- conflict of interest review;
- selection of Audit Team;
- kick-off meeting with TerraPass;
- review of the VCS PD;
- development of the verification plan and sampling plan;
- site visit;
- desktop review and evaluation of raw data, calculations, and supporting documentation for the period under review;
- follow-up interaction with TerraPass for corrective action or supplemental data as needed; and
- final statement and report development.

The verification process was utilized to gain an understanding of the Project's GHG emission sources and reductions and to evaluate and verify the collection and handling of data, the calculations that lead to the results, and the means for reporting the associated data and results.

Conflict of Interest Review

Prior to beginning any verification project, First Environment conducts an evaluation to identify any potential conflicts of interest associated with the project. No potential conflicts were found for this project.

Audit Team

First Environment's Audit Team consisted of the following individuals who were selected based on their verification experience, as well as familiarity with landfill gas operations:

Jeff Daley – Lead Verifier
Howard Kanter – Verifier
Iris Caldwell – Internal Reviewer

Audit Kick-off

The verification audit was initiated with a kick-off conference call on April 9, 2013 between First Environment and TerraPass. The communication focused on confirming the verification scope, objectives, criteria, schedule, and the data required for the verification.

Project Description Review

The Audit Team reviewed the VCS PD as a basis for developing the verification plan.

Development of the Verification Plan

The Audit Team formally documented its verification plan as well as determined the data-sampling plan. The verification plan was developed based on discussion of key elements of the verification process during the kick-off meeting. TerraPass was afforded the opportunity to comment on key elements of the plan for verification. Based on items discussed and agreed upon with TerraPass, the plan identified the First Environment team members, project level of assurance, materiality threshold, and standards of evaluation and reporting for the verification. It also provided an outline of the verification process and established project deliverables. A separate sampling plan was designed to review all project elements in areas of high risk of inaccuracy or non-conformance.

Site Visit

First Environment performed a site visit on May 16, 2011 as part of the verification process for a previous verification period. The site visit included review of site operations, data collection processes, and information management systems, as well as interviews with key project personnel. During the kick-off meeting, TerraPass confirmed that no significant operational or data management changes had occurred since the site visit; therefore, a repeat site visit for this verification period was deemed unnecessary.

Desktop Review

The Audit Team performed a desktop review of the Monitoring Report, GHG emission reduction assertion, and supporting documentation, as further described in Section 3.2 below.

Corrective Actions and Supplemental Information

The Audit Team issued requests for supplemental information, corrective action, and clarification during the verification process. The corrective action and clarification requests and the responses provided by TerraPass are summarized in Section 3.5.

Verification Reporting

Verification reporting documents the verification process and identifies its findings and results. Verification reporting consists of this report and a separate Deed of Representation to be submitted to the VCS Association.

3.2 Document Review

During the verification process, First Environment reviewed the Project's Monitoring Report, GHG emission reduction assertion, and supporting documentation for the current verification period to ensure consistency with the validated VCS PD and ACM0001. Discrepancies between project documentation and the verification criteria were considered material and identified for corrective action. Monitoring deviations required appropriate justification from TerraPass. Additionally, First Environment assessed the GHG emission reduction assertion and underlying monitoring data to determine if either contained material or immaterial misstatements. The results of these reviews are discussed in greater detail below.

3.3 Interviews

Through the course of verification activities, First Environment conducted phone interviews with the following project personnel to inform the verification process:

- Nick Facciola – TerraPass, Inc.

3.4 Site Inspections

No site inspections were performed during the verification process as identified in Section 3.1 above.

3.5 Resolution of Any Material Discrepancy

The Audit Team issued requests for corrective action and clarification during the verification process. TerraPass' responses were sufficient to resolve all corrective action and clarification requests. The corrective action and clarification requests and the responses provided are summarized in the tables below:

ID	Corrective Action Request	Participant Response	Verification Conclusion
1	The field calibrations prior to each use for the Elkins Envision portable methane analyzer indicated calibration results with a greater than five percent drift on the following days: - March 19, 2012; - March 26, 2012; - September 27, 2012; - October 11, 2012; - November 30, 2012; - December 2, 2012	The methane concentration data recorded on these days from the Elkins Envision portable analyzer has been excluded from the emission reduction calculations. Because the portable analyzer is calibrated prior to each use, and all of the other field calibrations passed their respective calibration checks, no other methane data used in the emission reduction assertion was affected.	Response is acceptable.

ID	Clarification Request	Participant Response	Verification Conclusion
1	Please clarify the time periods when the Elkins Envision methane analyzer was used during the reporting period and further clarify if the Landtec GEM portable methane analyzers were used to take methane content readings for gas flow to the engines.	The Elkins Envision methane analyzer was used by DeWitt Energy only, while the Landtec GEM units were used only by the landfill personnel. All of the methane content readings were taken at the energy plant inlet sample port.	Response is acceptable
2	Two sets of records were provided to support methane content measurements taken at the engines using the portable analyzers. Please confirm why multiple measurements were taken on the same date between the two records (e.g. March 26, 2012, April 23, 2012).	Multiple methane content readings occurred because two parties (landfill staff and energy center staff) took readings on the same day. Both sets of recorded methane values were used for the purposes of quantifying emission reductions.	Response is acceptable
3	The monthly average methane contents measured at Flare No. 2 are consistently higher (5 to 10 percentage points) than the Flare No. 1 monthly averages. Please clarify the source of this discrepancy.	The methane content difference is because the blowers at each flare skid are designed differently. The Flare No. 2 blower is a centrifugal blower and is a much more improved design and better quality than the Flare No. 1 blower, which is a fan type blower. Therefore Flare No. 1 has always had a minor problem with pulling in a little ambient air from a minor seal leak around the motor shaft running the blower, which is lowering the	Response is acceptable

ID	Clarification Request	Participant Response	Verification Conclusion
		methane concentration.	
4	In the raw data files for Flare No. 1, channel 7 appears to have been removed between March 2012 and April 2012. Please confirm which data columns represent the relevant monitoring data during this period, in particular between March 21, 2012 and March 31, 2012.	The data files were altered which caused a shift in the channel columns. The emission reductions have been revised to pull the relevant flow data.	Response is acceptable
5	Please clarify why LFG destroyed in Flare No. 2 is quantified based on totalized LFG flow rather than average LFG flow.	As a preferred accounting method, when totalizer data is available that is what is used for emission reduction calculation purposes. When the Rosemount flow meter was installed at Flare No. 1, totalizer readings were not available so LFG flow is based on continuously recorded data.	Response is acceptable
6	Please clarify why electricity generation data reported on the Logmaster records appears fixed across several days, specifically: - Engine No. 1: May 29th through May 31, 2012, October 8th through October 14, 2012; - Engine Nos. 1 & 2: December 12th through December 16, 2012	The engines were operating during these periods. However, the kWh production was simply set to a fixed production output.	Response is acceptable.
7	During the period from July 10 to July 15, 2012 the Logmaster report indicates either low or zero power generation. However, the LFG totalizer data during this period indicates significant flow. Please clarify the source of this discrepancy.	The DeWitt Energy Plant Facility shut down on July 11 th at 7pm due to a blower skid malfunction. During the period from July 10 th through July 15 th , 2012 the engine generators were in standby mode. When the engines are in standby mode, the gas flow totalizer will continue to monitor some flow yet no power output will be shown because the generator is disengaged from the engine during standby mode.	Response is acceptable.
8	The August 14, 2012 factory calibration record for the Landtec GEM (GM12085) portable analyzer indicated the analyzer was over reporting by 8.16 percent. Please clarify what effects the result of this factory calibration record has on the methane data obtained from this analyzer and used in the emission reduction assertion.	The GEM unit was being operated according to manufacturer specification. The unit was factory calibrated bi-annually and field-calibrated to a reference gas before each use. The field-calibrations indicated the analyzer was operating properly prior to each use. The manufacturer confirmed that the factory calibration "as found" results are not an indication of the analyzer's performance in the field. Rather, it	Response is acceptable.

ID	Clarification Request	Participant Response	Verification Conclusion
		is only a reflection of that test on that day, and the instrument's accuracy could have drifted during shipping. Therefore, no adjustments are made to the methane concentration readings.	

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The Project is implemented according to the description provided in the VCS PD, except where noted above in Section 2. The Project became operational on January 27, 2007. The nine-year project crediting period began on July 1, 2009 and ends on June 30, 2018. The Project's start date and crediting period were previously confirmed during validation. Emission reductions are claimed for LFG destroyed on site in the two engine generator sets and in the two open flares. No data and/or variables presented in the Monitoring Report differ from those stated in the VCS PD, except where noted above in Section 2.

TerraPass provided an attestation, dated April 5, 2013, indicating that GHG emission reduction credits for the verification period will be registered only with VCS and not under any other GHG program. Additionally, the approved validation body confirmed during the validation process that GHG emission reduction credits had not been registered under another GHG program.

First Environment confirmed through interviews with project personnel that no operational or management changes had occurred since the previous site visit. The following topics were discussed with project personnel during the previous verification site visit and re-confirmed during the current verification process:

- the data collection process used to generate reports, and
- internal documents and protocols that set guidelines for the data collection process.

The information gathered during these discussions and review was used to assess the Project's data management systems and its controls for sources of potential errors and omissions. The primary aspects of the Project's monitoring plan are described below.

LFG flow to the engines and to the two open flares was monitored continuously using three separate Rosemount 3095 Multivariable Mass Flow Transmitters. Flow data were recorded continuously on a Yokogawa data recorder. For the first five days of the reporting period, LFG flow to Flare No. 1 was measured using a Veris Veribar flow sensor with a Barton FCX transmitter. Because calibration documentation could not be produced for the Veris Veribar and Barton meters, the recorded flow data from January 1 through January 5, 2012 has been excluded from emission reduction quantification. The engine flow meter was factory calibrated on April 21, 2010. The flow meters for Flares Nos. 1 and 2 were factory calibrated on December 17, 2010 and April 20, 2010, respectively. All three calibrations meet the manufacturer's requirements of a factory calibration every five years. Both the engine flow meter and the Flare No. 2 flow meter were subsequently field calibrated by the manufacturer on April 12, 2012. Results of these tests indicated the meters were operating accurately. Because the flow meter on Flare No. 1 was installed on January 5, 2012, a field calibration was not conducted. However, a field flow verification test of the Flare No. 1 flow meter was conducted on March 27, 2012 which indicated the meter was under reporting flow due to the inherent loss of meter accuracy at low flow rates. First Environment reviewed all of the calibration records which indicated that the meters were operating accurately, with the exception of the Flare No. 1 flow meter verification test which was under reporting flow due to the inherent loss of meter accuracy at low flow rates. Because the Flare No. 1 meter was underreporting flow, recorded data was not adjusted in the emission reduction calculations as under reporting flow is conservative. First

Environment confirmed that the flow meter calibration frequency is consistent with ACM0001 and the validated VCS PD.

Methane concentration of LFG destroyed in the engines was monitored using Elkins Earthworks Envision, Landtec GEM-2000, and Landtec GEM-5000 portable methane analyzers. The methane readings were manually recorded on an approximately weekly basis. Each portable analyzer was also field calibrated prior to each use. Table 1 summarizes the time periods each analyzer was used and the dates that factory calibrations occurred:

Table 1: Methane Analyzer Use and Calibration

Analyzer	Time period meter was used	Factory Calibrated
Elkins Earthworks Envision	March – December 2012	3/17/2011; 2/8/2012
Landtec GEM-2000 (s/n: GM07332)	January 2012	11/29/2011
Landtec GEM-2000 (s/n: GM12085)	January – July 2012	1/10/2012; 8/14/2012; 12/27/2012
Landtec GEM-2000 (s/n: GM13734)	August – October 2012	7/18/2012
Landtec GEM-5000 (s/n: GM500309)	May, June, November and December 2012	4/24/2012

Methane concentration of LFG destroyed in the flares was monitored using two Siemens Ultramat 23 continuous gas analyzers. The analyzers for Flares Nos. 1 and 2 were factory calibrated on March 15, 2010 and February 11, 2010, respectively. Both the Flare No. 1 analyzer and Flare No. 2 analyzer were field calibrated to span gas quarterly on the following dates: February 13, June 14, September 13, and December 13, 2012. These field calibrations meet the manufacturer's requirements of an annual field calibration to a span gas. There is no manufacturer requirement for factory calibration. First Environment reviewed these calibration records, which indicated that both meters were operating accurately.

Electricity consumption is determined using utility invoices from the electricity supplier. The quantity of propane combusted is also determined based on supplier's invoices.

The operation hours of the engines are monitored to ensure that methane is only flowing to the engines when they are operating. The operation of both flares was monitored through the flare's thermocouple temperature readings.

The following methodology deviation was previously validated for the Project:

- The default flare efficiency of the open flare was assigned a value of 96 percent as opposed to the 50 percent default efficiency for open flare as found in the *"Tool to determine project emissions from flaring gases containing methane"*, Version 1.0. First Environment approved the methodology deviation because the 96 percent flare efficiency is representative of the typical flare efficiency for an open flare operated under United States (US) Environmental Protection Agency (EPA) 40CFR60.18 as is the case for the project flare. Furthermore, the applied flare efficiency yields a more accurate representation of emission reductions.

The following Project Description deviations were previously validated for the Project:

- The VCS PD states that the monitored parameters for the engines would be reported using a web-based reporting tool. During the verification period, the methane concentration of the LFG combusted in the engines is monitored manually by facility personnel using a portable methane

analyzer. First Environment approved this deviation because the monitoring procedure employed at the engines does not have a negative impact on the emission reduction assertion.

- The VCS PD states that the amount of electricity generated by the project engine will be monitored directly from the electricity meters themselves. During the verification period, the amount of electricity generated was monitored from engine log reports generated by the utility company from electricity meter readings. First Environment approved this deviation because the alternate source of data does not have an impact on the emission reduction assertion as this data is used solely to confirm the operation of the project engines.
- The VCS PD states that engine operating hours will be monitored daily and tracked through daily records of the engine uptime. During the verification period, the engine operating hours were monitored continuously by a totalized output of operating hours and recorded daily. First Environment approved this deviation because the alternate measurement frequency provides a more accurate record of engine operability.
- The VCS PD states that the standard temperature and pressure of the flow measurements taken for all project equipment is 68°F and one atmosphere of pressure (14.696 psi), respectively. The flow measurements taken at the engines and Flare No. 1 are based on 60°F and one atmosphere of pressure, while the flow measurements taken at Flare No. 2 are based on 60°F and 14.73psi. First Environment approved this deviation because the methane density used in the calculations of emissions from each destruction device utilizes the correct methane density for which standard conditions the flow is being measured at.

The validation process for the Project did not identify any additional deviations, except where noted above in Section 2.

4.2 Accuracy of GHG Emission Reduction or Removal Calculations

Emission reductions are calculated ex-post using the approach indicated in ACM0001. First Environment reviewed the emission reduction calculations for the verification period to ensure accuracy in the formulas applied and the raw data and default factors used as inputs. First Environment's review assessed whether emission reductions were free of material misstatement. The formulas were tested and found to be consistent with the calculations described in ACM0001.

Project monitoring data for methane fraction ($W_{CH_4, power\ plant}$) and LFG collected and destroyed ($LFG_{electricity, 2012}$) are used to calculate the amount of methane destroyed by the project engines ($MD_{electricity}$). The total monthly quantities of LFG are determined by taking the difference in the continuous flow totalizer readings and summing them over each month of the reporting period. The flow meter automatically corrects flow data to the standard conditions of 60°F and 1 atm. Since methane readings were not recorded continuously, a 95 percent lower confidence interval is taken over the entire reporting period to find the annual average methane content of the LFG sent to the engines. Total methane destroyed is converted from a volumetric to a mass flow using a methane density of 0.04226 lb CH_4 /scf.

Methane destroyed by the flares ($MD_{flare\ 1}$ and $MD_{flare\ 2}$) is calculated using project monitoring data for LFG collected and destroyed ($LFG_{flare\ 1, 2012}$ and $LFG_{flare\ 2, 2012}$) and methane fraction ($W_{CH_4, flare\ 1}$ and $W_{CH_4, flare\ 2}$). The flow meter for Flare No. 1 automatically corrects flow data to standard conditions of 60°F and 1 atm. The Flare No. 2 flow meter automatically corrects flow data to the reference conditions of 60°F and 14.73 psia. Flow data for which the recorded flare temperature was below 500°F are excluded from emission reduction calculations. Flow data are aggregated monthly and annually. An annual aggregate of methane content data is used to calculate total methane destroyed in the flares. Total methane destroyed is converted from a volumetric to a mass flow using a methane density of 0.04226 lb CH_4 /scf and 0.04235 lb CH_4 /scf for Flares Nos. 1 and 2, respectively.

Project emissions from electricity use and propane consumption are deducted from the overall emission reductions created by the Project. Project emissions are quantified by multiplying the activity data by the appropriate emission factor specified in the validated VCS PD. A transmission and distribution loss factor of seven percent is accounted for in the quantification of project emissions from electricity use and is sourced from the 2010 EIA Annual Energy Review report, as per the VCS PD.

As per the VCS PD and consistent with ACM0001, an adjustment factor is calculated and applied to account for methane generated in the baseline that may have been captured and destroyed to comply with regulations or contractual requirements. First Environment confirmed that the adjustment factor is calculated correctly as 25.8 percent, in conformance with the VCS PD, using a baseline efficiency factor of 16.1 percent and calculated project efficiency factor of 62.4 percent.

The verification process focused on the evaluation of quantification spreadsheets to ensure that they were consistent with the formulas and equations described in ACM0001. Copies of the raw data used in the calculations; including methane concentration and LFG flow were compared with the values used in the final calculations and tested for transcription and mathematical errors.

The Audit Team performed an independent recalculation of the emission reductions from the verification period using the available raw flow, methane, electricity, and propane consumption data. Material misstatements were identified for correction by TerraPass as described in Section 3.5.

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

TerraPass provided adequate documentation for the emission reduction calculations as well as its management systems around the data collection process. Specifically, First Environment was provided a Monitoring Report prepared in accordance with the VCS program template, transparent calculation spreadsheets, calibration records, and electronic data associated with the LFG destruction, and operating hours of each destruction device. The evidence provided is consistent with the requirements of ACM0001 and the validated VCS PD and meets generally accepted evidentiary standards for best practice in GHG accounting.

4.4 Management and Operational System

TerraPass has adequate management and operational systems in place with respect to monitoring and reporting, as determined through observation during the previous site visit and the current desktop review of project documentation.

5 VERIFICATION CONCLUSION

First Environment was retained to provide verification services for the Project's GHG emission reductions assertion based on the following fundamentals:

- *Level of assurance:* Reasonable assurance.
- *Objectives of verification:* To assure project conformance with the VCS Standard, the CDM Methodology ACM0001, and the validated VCS PD.
- *Verification criteria:* VCS Standard, CDM Methodology ACM0001, and the validated VCS PD.
- *Definition of materiality:* Misstatements of greater than five percent of the GHG assertion and qualitative non-conformities with the validated VCS PD are considered material.
- *Scope, including:*
 - o *Boundaries of the assertion:* Clinton County landfill and DeWitt Energy Associates facility operations;
 - o *The physical infrastructure, facilities, and activities within the assertion:* LFG collection and destruction operations;

- o *GHG sources, sinks, and reservoirs included within the assertion:* Methane emission reductions expressed as carbon dioxide-equivalents and carbon dioxide emissions from the operation of project equipment; and
- o *The time period for the assertion:* January 1, 2012 through December 31, 2012.

Based on the assessments performed and the historical evidence collected, First Environment concludes with a reasonable level of assurance that the Project implementation and the emission reductions of the Project resulting from the capture and combustion of methane gas for the period from January 1 through December 31, 2012, as documented in the Monitoring Report, Version 6.0 dated June 14, 2013, are:

- consistent with the validated VCS PD of November 12, 2009;
- in conformance with the VCS Standard, 4 October 2012, v3.3 and the CDM Methodology ACM0001 (Version 10);
- without material discrepancy; and
- meeting the minimum level of accuracy of at least 95 percent.

Verified GHG emission reductions or removals:

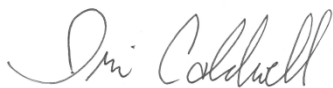
GHG Emission Reductions or Removals <i>January 1 through December 31, 2012</i>	tCO ₂ e
Baseline Emissions	110,672
Project Emissions	232
Leakage	0
Net GHG emission reductions or removals	110,440

6 LEAD AUDITOR SIGNATURE



Jeff Daley
Environmental Specialist

7 INTERNAL REVIEWER SIGNATURE



Iris Caldwell, P.E.
Senior Engineer