VERIFICATION AND CERTIFICATION REPORT

ETR Copiulemu S.A.

Copiulemu Landfill Gas Project (Center for the Storage and transfer, recovery and control of waste, treatment and disposal of industrial and household waste)

SGS Climate Change Programme
SGS United Kingdom Ltd
SGS House
217-221 London Road
Camberley Surrey
GU15 3EY
United Kingdom

Date of Issue:	**Project Number:**
30/07/2008	CDM.Ver0036 (UNFCCC Project Ref 0096)
Project Title:	
Copiulemu landfill gas project (Center for the Storage and Transfer, Recovery and Control of Waste, Treatment and Disposal of Industrial and Household Waste)	
Organisation:	**Client:**
SGS United Kingdom Limited	Group Machiels
Publication of Monitoring Report:	
Monitoring Period:	December 1rst 2006 up to July 31rst 2007.
First Monitoring Version and Date:	(Version 1), (16/08/ 2007)
Final Monitoring Version and Date:	(Version 3), (30/07/2008)

Summary:

SGS United Kingdom Ltd has performed a second periodic verification of the CDM project Ref.0096.
The verification includes confirming the implementation of the monitoring plan of the registered PDD Ref.0096 and the application of the monitoring methodology as per ACM0001 ver1 *Consolidated methodology for landfill gas project activities* dated 3 September 2004. A site visit was conducted during verification to verify the data submitted in the monitoring report. There were one finding raised during verification.

The project involves the collection and combustion of landfill gas in an operational landfill site that otherwise would be released to the atmosphere, thus converting its methane content into CO_2 and reducing its greenhouse gas effect.
The landfill gas collection system includes: pipeline net and vertical wells to extract gas, gas headers designed as a looping system in order to allow for partial or total loss of header function in one direction without losing gas system functionality; condensate extraction and storage system designed at strategic low points; a blower to extract the landfill gas and a flare equipped with metering station.

SGS confirms that the project is implemented in accordance with the validated and registered Project Design Document. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 16,215 tCO2e during period 1st December 2006 up to July 31st 2007.

Subject:			
CDM Verification			
Verification Team:			
Aurea Nardelli – Lead Assessor Carolina Campos – Assessor			☒ No Distribution (without permission from the Client or responsible organisational unit)
Technical Review:	**Trainee Technical Reviewer:**		
Date: 01-08-2008 Name: Sanjeev Kumar	Date: 30-07-2008 Name: Vikrant Badve		☐ Limited Distribution
Authorised Signatory:			
Name: Siddharth Yadav Date: 1st August 2008			☐ Unrestricted Distribution
Revision Number:	**Date:**	**Number of Pages:**	
0	10-06-2008	16	
1	30-07-2008	16	

Abbreviations

CAR	Corrective Action Request
NIR	New Information Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalent
DNA	Designated National Authority
DOE	Designated Operational Entities
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
ODA	Official Development Assistance
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change

Table of Content

1. Introduction

1.1 Objective

SGS United Kingdom Ltd has been contracted by *Group Machiels* to perform an independent verification of its CDM project *Copiulemu landfill gas project (Center for the Storage and Transfer, Recovery and Control of Waste, Treatment and Disposal of Industrial and Household Waste)* owned by its affiliate *ETR Copiulemu S.A.*. CDM projects must undergo periodic audits and verification of emission reductions as the basis for issuance of Certified Emission Reductions (CERs).

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- The emissions report conforms with the requirements of the monitoring plan in the registered PDD and the approved methodology; and
- The data reported are complete and transparent.

1.2 Scope

The scope of the verification is the independent and objective review and ex post determination of the monitored reductions in GHG emission by the project activity. The verification is based on the validated and registered project design document and the monitoring report. The project is assessed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures and related rules and guidance.

SGS has, based on the recommendations in the Validation and Verification Manual, employed a risk-based approach in the verification, focusing on the identification of significant reporting risks and the reliability of project monitoring.

The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 Project Activity and Period Covered

This engagement covers emissions and emission reductions from anthropogenic sources of greenhouse gases included within the project boundary of the following project and period.

Title of Project Activity:	Copiulemu landfill gas project (Center for the Storage and Transfer, Recovery and Control of Waste, Treatment and Disposal of Industrial and Household Waste)
UNFCCC Registration Number:	*0096*
Monitoring Period Covered in this Report	December 1^{rst} 2006 up to July 31^{rst} 2007.
Project Participants	*Copiulemu S.A.* affiliate of the Belgian *Group Machiels*
Location of the Project Activity:	The project is located near Copiulemu town in the VIII Region, Concepción, Chile

The project involves the installation of a landfill gas extraction system, in an operating landfill site, to lead it to a flare station. The project objective is the collection and combustion of landfill gas that otherwise would have been released to the atmosphere reducing the GHG emission converting its methane content into CO_2 reducing its greenhouse gas effect.

2. Methodology

2.1 General Approach

SGS' approach to the verification is a two-stage process.

In the first stage, SGS completed a strategic review and risk assessment of the projects activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the monitoring report.

At the end of this stage, SGS produced a Periodic Verification Checklist which, based on the risk assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

Using the Periodic Verification checklist, SGS verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved a site visit and a desk review of the monitoring report. This verification report describes the findings of this assessment.

2.2 Verification Team for this Assessment

Name	Role	SGS Office
Aurea Nardelli	Lead assessor	Brazil
Carolina Campos	Assessor/Trainee lead assessor	Chile

2.3 Means of Verification

2.3.1 Review of Documentation

The validated PDD, the monitoring report submitted by the client and additional background documents related to the project performance were reviewed. A complete list of all documents reviewed is attached in section 8 of this report.

2.3.2 Site Visits

As part of the verification, the following on-site inspections have been performed

Location: **Copiulemu SA main office**	
Date: **August 28th of 2007**	
Coverage	***Source of information / Persons interviewed***
Monitoring frequency of methane concentration in the landfill gas, flare exhaust gas efficiency determination. *Calibration of monitoring equipment* *A review of ERs calculations, data sources and records, interviews with personnel on charge of project activities, observations of established practices.*	Manuel Rodriguez (operations chief) Patrick Laevers (director)

2.4 Reporting of Findings

As an outcome of the verification process, the team can raise different types of findings

In general, where insufficient or inaccurate information is available and clarification or new information is required the team shall raise a New Information Request (NIR) specifying what additional information is required.

Where a non-conformance arises the team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

I. the verification is not able to obtain sufficient evidence for the reported emission reductions or part of the reported emission reductions. In this case these emission reductions shall not be verified and certified;

II. the verification has identified misstatements in the reported emission reductions. Emission reductions with misstatements shall be discounted based on the verifiers ex-post determination of the achieved emission reductions

The verification process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a NIR may result in a CAR. Information or clarifications provided as a result of an NIR may also lead to a CAR.

Observations may be raised which are for the benefit of future projects and future verification actors. These have no impact upon the completion of the verification activity.

Corrective Action Requests and New Information Requests are detailed in Periodic Verification Checklist. The Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

2.5 Internal Quality Control

Following the completion of the assessment process and a recommendation by the Assessment Team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.

3. Verification Findings

3.1 Project Documentation and Compliance with the Registered PDD

The published Monitoring report Document ID: CDM0096-M2 ver1 dated 16th August 2007 is based in a consistent way with the methodology ACM0001 ver1 *consolidated methodology for landfill gas project activities* dated 3 September 2004 which the project was registered against. There is no issue pending from the validation report.

There are no differences between the methodology, PDD and the monitoring plan implemented. It was verified that the project involved a landfill gas extraction and flaring system being the boundary the landfill site.
The greenhouse gas emission reduction achieved by the project activity during the monitoring period reported was calculated as the difference between the amount of methane actually combusted (*MDproject,y*) and the amount of methane that would have been destroyed/combusted during the year in the absence of the project activity (*MDreg,y*) calculated applying a validated adjustment factor to the amount of methane actually combusted , times the approved Global Warming Potential value for methane ($GWPCH_4$) minus the quantity of electricity used by landfill gas extraction and project installations multiplied by the CO_2 emissions intensity of the grid electricity (*CEFelectricity,y*).

3.2 Monitoring Results

Based on the approved monitoring methodology, validated PDD and monitoring plan, the monitoring parameters presented in the monitoring report were assessed. The following section discusses the issues raised for checking each parameter and their closure.

1) Total amount of landfill gas captured and flared (Nm^3): There is a ventury flow meter with a recording device installed in the LFG control room. The meter measures and registers the total amount of LFG flared (Nm^3) . As the project does not utilize the landfill gas for any other purposes apart from flaring, the $LFG_{flared,y}$ = $LFG_{total,y}$, LFG flow is only measured at one point. A pressure and temperature meters are installed and connected directly to the PLC, being the output in the screen the volume of LFG in Nm^3. So there is no requirement to measure LFG temperature and pressure separately. Data is accumulated continuously by the device. Accumulated daily data is recorded on a paper form by the landfill gas station operator. This value is subtracted to the day after automatically on ERs spreadsheet in order to calculate the volume flared each day. Meters were inspected and no evidence of damaged were found, all the data monitored on paper records was checked and compared with excel ERs calculation sheets and no differences were observed and manufacturer meters calibration certificates are still valid. It was verified that during Feb 1st until Feb 23rd 2007 the blower failed, and no landfill gas could be extracted in consequence o emission reductions were generated those days. It was verified that the flare exhaust thermocouple that burned in the past verification was replaced on 01/12/2006.

2) Landfill gas pressure: A pressure meter is installed and provides data to the system, which automatically corrects the flow of LFG (and provides it in Nm^3). Data are manually recorded (on a paper form) once a day, but is not used for ERs calculations. The pressure is recorded in “mbar”. It was physically inspected and no evidence of damaged were found and manufacturer meters calibration certificates are still valid.

3) Landfill gas temperature: A temperature sensor is installed and provides data to the system, that automatically corrects the flow of LFG (and provides it in Nm^3). Data is collected daily and registered on a paper form. These records are not used for ERs calculations. It was physically inspected and no evidence of damaged were found and manufacturer meters calibration certificates are still valid.

4) Electricity consumption: An electricity meter that registers the consumption in an accumulative way in KWh is installed to measure the electricity consumption of the extraction of landfill gas. The meter is calibrated and It has an error less than 1% (Ref 16). The operator read the accumulated value (kWh) of electricity consumed by the flare station and records the value in a paper form. The information is passed to the

operations chief who check the value and enter the data on emission reduction excel calculation sheet which automatically make the conversion to MWh. The equations were checked in the ERs sheets and no errors were found.

The monitoring protocol (ref5) on page 15 says that Equipment is being serviced by the electricity company but it is no right because the meter is located inside Copiulemu installation so an observation was raised to define a propper calibration or check to assure the quality of the information in the future.

5) Flare combustion efficiency: the reported value is 98.6% for the whole verification period based in a study performed by the project as a function of temperature but it does not comply with the methodology ACM0001 ver1 that require to measure the methane content in the flare exhaust gas at least quarterly and EB answer to the request for deviation sent by SGS (Ref 24 and 25) that require to determine the efficiency annually measuring the methane content in the exhaust gas and if it otherwise is not measured a 90% shall be applied.

The 98.6% value was measured from methane exhaust content values (0.1% on August 2nd and 3rd 2006 applying the lowest value of methane content in the biogas during the first period registered on may 21st 2006, according the EB response the measurement of efficiency shall be done on a yearly basis so it is necessary to have efficiency measurement for June and July 2007 to verify it. Otherwise have to apply a 90% default value to follow EB decision. The project answered that they performed a measurement in 2nd December 2006 (ref21) and get the value 98.79%. This value was applied to new emission reductions calculations provided by the project proponent the same day of the audit.

6) Methane fraction in LFG (%): The methane concentration in LFG has been measured daily once using portable gas analyzers factory calibrated and periodically assessed against gas standards. There is a standard collection point in the LFG station room where the sample is taken. Data is manually registered on a paper form. The single daily readings are used for ERs calculation. All the reported data was cross checked with paper records on site and no difference was found.

The trend of the reported values was observed in a graph and variations were detected (Ref 19). A NIR 1 was raised to require more information to assure the methodology achievement ACM0001 ver1 (page 6) regarding monitoring frequency: “The fraction of methane in the landfill gas (wCH_4,y) should be measured with a continuous analyzer or, alternatively, with periodical measurements, at a 95% confidence level, using calibrated portable gas meters and taking a statistically valid number of sample. The continuous methane analyser should be the preferred option because the methane content of landfill gas captured can vary by more than 20% during a single day due to gas capture network conditions (dilution with air at wellheads, leakage on pipes, etc.”

To answer to the NIR 1, the project provided a study (Ref 20) According to their monitoring protocol they performed hourly measurements of the landfill gas methane concentration in a total of 7 randomly chosen days along the monitoring period of 243 days. With that information the project calculated the daily mean, standard deviation and write in each day a p value >5% without calculate it. Even though the dispersion of hourly measurements was acceptable the reported “p>5%” do not have statistical sense, because the p value is the minimum probability which a null hypothesis can be rejected in the hypothesis’ test methodology which do not have a direct relation with the construction of confidence intervals that ACM0001 ver1 requests. Considering that, the following observation was raised: it is necessary to improve the data statistical analysis to assure the achievement of the methodology every verification period.

To close out NIR 1, all the daily data collected during the monitoring period (243 data) were considered and analyzed (Ref 19). The trend of the monitoring period was found erratic so monthly intervals where determined. The higher confidence limit monthly values determined were used to decrease the upper reported values of methane except for February because this month has few data. This way the data was adjusted to a 95% confidence interval. Then it was verified that this adjustment give a difference of 1.1% in the final ERs calculated. This difference was discounted from the total ER verified.

7) Regulatory requirements relating to landfill gas projects

There are no local regulatory requirements related that can affect additionality or the adjustment factor as it was confirmed by SGS with the waste division of the environmental government authority.

3.3 Remaining Issues, CAR's, FAR's from Previous Validation or Verification

There are no remaining Issues, CAR's, FAR's from validation and previous verification.

The previous verification was closed out during the last week of August 2007 when the second verification on site visit was performed.

3.4 Project Implementation

Project was implemented and equipment installed as described in the registered PDD;

3.5 Completeness of Monitoring

The reporting procedures reflect the content of the monitoring plan. The monitoring mechanism is effective and reliable

3.6 Accuracy of Emission Reduction Calculations

The calculation of emission reductions published was found to be not correct. It was verified that the value of flare efficiency reported was calculated with information measured in May 2006. New data were provided, and an error in the ERs calculation sheet formula was found for Dec 2006 where the $MD_{project}$ is equal to MD_{reg} (407.92 tCO_2e). Two observations were raised, to define an electricity meter calibration and to improve the statistical analysis of the methane concentration data and monitoring.The details of the reported and the verified values for all parameters are listed in section 4.

3.7 Quality of Evidence to Determine Emission Reductions

Critical parameters used for the determination of the Emission Reductions are discussed above in section 3.2 All the data recorded is in compliance with the monitoring report. Excepting that the published monitoring report mentions that the reported value of methane concentration is a daily average which it was incorrect, a observation was raised to incorporate the revision of that in the second monitoring report.

3.8 Management System and Quality Assurance

The company involved in the project has competent persons and a clear responsibilities assignment determined to comply with project QA/QC. It was verified the consistency of information flow, the competence of persons interviewed developing the ERs reporting system and the management commitment directly involved in the development of the project. Therefore we can affirm that the management system of the CDM project is in place; with the responsibilities properly identified and in place. However the findings of this verification can demonstrate that it is necessary to improve the management approach to report the ERs.

3.9 Data from External Sources

As described in the registered PDD (Ref.1), published monitoring report and confirmed during the site visit, the external data used comprise:
AF adjustment factor: considered as 17% in the approved and registered PDD, was used to calculate baseline emissions.

CO2 emission factor for the grid: a default value 0.987 tCO2e/MWh was applied, as approved in the validation process and confirmed in the registered PDD. The source of this value is "EM model by the German Öko Institut, which is the value for a conventional coal fired power plant, a newer model by the Öko Institut (available at http://www.oeko.de/service/gemis/en/index.htm). This default value was considered conservative because the Chilean grid is dominated by hydro power, so the current emission factor is lower. It is also considered a conservative approach because the project does not involve electricity production and its electricity consumption is small. The project developer will show as part of the annual monitoring, that the value of 0.987 is still conservative by comparing this CEF to the CEF as calculated in other CDM project that supply to the Chilean electricity grid.

Methane Global Warming Potential value: 21 tCO2e / tCH4 (IPCC and ACM0001 version 1).

Methane density: 0.0007168 tCH4/m3CH4 at standard conditions of 0° Celsius and 1.013 bar (mentioned in ACM0001 version 2)

The factors used in the calculation spreadsheets were in line with the methodology and the registered PDD.

4. Calculation of Emission Reductions

Reported Value		**Verified Value (MR ver2)**		**Verified Value (MR ver3)**	
Month	ERs tCO2e	Month	ERs tCO2e	Month	ERs tCO2e
Dec 2006	1,989.66	Dec 2006	1,993.50	Dec 2006	1,932
Jan 2007	2,157.42	Jan 2007	2,161.59	Jan 2007	2,137
Feb 2007	304.40	Feb 2007	304.99	Feb 2007	305
Mar 2007	2,199.43	Mar 2007	2,203.67	Mar 2007	2,185
April 2007	2,274.65	April 2007	2,279.04	April 2007	2,267
May 2007	2,059.50	May 2007	2,063.48	May 2007	2,056
June 2007	2,265.96	June 2007	2,270.34	June 2007	2,243
July 2007	3,120.13	July 2007	3,126.15	July 2007	3,090
Total	16,371.	Total CERs	16,403	**Total CERs**	**16,215**

The verified emission reductions were calculated with the following formula:

ERs = (LFG(Nm^3_{LFG}) * W_{CH4}(%Nm^3_{CH4}/Nm^3_{LFG}) * 7.168*10^{-4}(ton $_{CH4}$/Nm^3_{CH4})* flare efficiency (%) *21)(1 – 0.17) – (electricity consumed*CEF)

Where the volume of landfill gas captured and flared each day (LFG(Nm^3_{LFG}) is multiplied by the LFG methane concentration (W_{CH4}(%Nm^3_{CH4}/Nm^3_{LFG}),the density of methane, and methane global warming potential minus the baseline emission determined by the validated adjustment factor (17%) and the emissions related to the electricity consumption

The difference between the reported and verified ERs is explained because some error in the excel calculation formula for example in Dec 2006 the $MD_{project}$ was equal to MD_{reg} (407.92 tCO_2e), using a wrong cell in the excel file $MD_{project}$ was calculated with SUMMA (O194:O224) and the correct is SUMMA (N194:N224) because the column O is related to $MD_{reg.}$ .The project change the flare efficiency from 98,6% to 98.79%.

Based on the verified value, the following emission reduction calculation was verified

Month	**tCH_4/day**	**MDflared, y tCH4**	**MDproject y tCO2e**	**MDreg y tCO2e**	**EGy MWh**	**Emissions from Electricity Consumption tCO2e**	**ER y tCO2e**
Dec 2006	112.29	110.93	2,329.57	396.03	2.00	1.97	**1,932,**
Jan 2007	124.30	122.80	2,578.80	438.40	2.97	2.94	**2,137**
Feb 2007	17.73	17.52	367.86	62.54	0.34	0.33	**305**
March 2007	127.06	125.52	2,635.97	448.11	3.23	3.19	**2,185**
April 2007	131.85	130.25	2,735.33	465.01	3.69	3.64	**2,267**
May 2007	119.63	118.19	2,481.92	421.93	3.96	3.91	**2,056**
June 2007	130.48	128.90	2,706.87	460.17	3.86	3.81	**2,243**
July 2007	179.76	177.58	3,729.26	633.97	4.95	4.89	**3,090**
Total tCO2e			**19,565.56**	**3,326.15**		**24.68**	**16,215**

5. Recommendations for Changes in the Monitoring Plan

The monitoring plan is implemented and fulfils the requirements of the registered PDD and approved methodology ACM0001 version 1. No recommendations are made.

6. Overview of Results

Assessment Against the Provisions of Decision 17/CP.7:

Is the project documentation in accordance with the requirements of the registered PDD and relevant provision of decision 17/CP.7, EB decisions and guidance and the COP/MOP?

Yes. The results of the compliance assessment are recorded in the verification checklist which is used as an internal report only.

Have on-site inspections been performed that may comprise, inter alia, a review of performance records, interviews with project participants and local stakeholders, collection of measurements, observations of established practices and testing of the accuracy of monitoring equipment?

Yes. Carolina Campos Assessor/Trainee Lead Assessor visited the sites and undertook interviews, collected data, audited the implementation of procedures, checked calibration certificates and checked data, inter alia.

The results of the site visits are recorded in the verification checklist which is used as an internal report only.

The evidences have been checked and collected. The revised monitoring report is attached with this verification report.

Has data from additional sources been used? If yes, please detail the source and significance.

AF adjustment factor: considered as 17% in the approved and registered PDD, was used to calculate baseline emissions. It has a high significance.

CO2 emission factor for the grid: a default value 0.987 tCO2e/MWh was applied, as approved in the validation process and confirmed in the registered PDD. The source of this value is "EM model by the German Öko Institut, which is the value for a conventional coal fired power plant, a newer model by the Öko Institut (available at http://www.oeko.de/service/gemis/en/index.htm). This default value was considered conservative because the Chilean grid is dominated by hydro power, so the current emission factor is lower. It is also considered a conservative approach because the project does not involve electricity production and its electricity consumption is small. The project developer will show as part of the annual monitoring, that the value of 0.987 is still conservative by comparing this CEF to the CEF as calculated in other CDM project that supply to the Chilean electricity grid. It has low significance.

Methane Global Warming Potential value: 21 tCO2e / tCH4 (IPCC and ACM0001 version 1). It has high significance.

Methane density: 0.0007168 tCH4/m3CH4 at standard conditions of 0° Celsius and 1.013 bar (mentioned in ACM0001 version 2). It has medium significance.

Please review the monitoring results and verify that the monitoring methodologies for the estimation of reductions in anthropogenic emissions by sources have been applied correctly and their documentation is complete and transparent.

Yes. The monitoring methodology has been correctly applied and the monitoring report and supporting references are complete and transparent.

Have any recommendations for changes to the monitoring methodology for any future crediting period been issued to the project participant?

No recommendations are made

Determine the reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the CDM project activity, based on the data and information using calculation procedures consistent with those contained in the registered project design document and the monitoring plan.

The data used in anthropogenic emission reduction calculation is consistent with those contained in the registered PDD and monitoring plan. The emission reduction was 60,083 *tCO_2 for the period* Dec 1st 2006 up to July 31st 2007 *as per calculation from the annual estimation made from the registered PDD (page 23 section E6). The actual emission reduction has been verified as* 16,215 *tCO2 for the period* 1st Dec 2006 up to 31st July 2007.

Identify and inform the project participants of any concerns related to the conformity of the actual project activity and its operation with the registered project design document. Project participants shall address the concerns and supply relevant additional information.

"No such non conformity of the actual project activity and its operation with the registered project design document has been observed."

Post monitoring report on UNFCCC website

Yes, the monitoring report is available at ref.0096 on UNFCCC website

http://cdm.unfccc.int/Projects/DB/DNV-CUK1126875537.72/iProcess/SGS-UKL1188294574.74/view

7. Verification and Certification Statement

SGS United Kingdom Ltd has been contracted by *Group Machiels* to perform the verification of the emission reductions reported for the CDM project *Copiulemu landfill gas project (Center for the Storage and Transfer, Recovery and Control of Waste, Treatment and Disposal of Industrial and Household Waste)* and UNFCCC Reference Number 0096 in the period December 1rst 2006 up to July 31rst 2007.

The verification is based on the validated and registered project design document and the monitoring report for this project. Verification is performed in accordance with section I of Decision 3/CMP.1, and relevant decisions of the CDM EB and CoP/MoP. The scope of this engagement covers the verification and certification of greenhouse gas emission reductions generated by the above project during the above mentioned period, as reported in Monitoring Report version 3 dated on 30th July 2008.

The management of the E.T.R. Copiulemu S.A. is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project Monitoring Report version 3. Calculation and determination of GHG emission reductions from the project is the responsibility of the management of the *Copiulemu landfill gas project (Center for the Storage and Transfer, Recovery and Control of Waste, Treatment and Disposal of Industrial and Household Waste)*. The development and maintenance of records and reporting procedures are in accordance with the monitoring report.

It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the period December 1rst 2006 up to July 31rst 2007 based on the reported emission reductions in the Monitoring Report version 3 dated July 30th 2008 for the same period.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, SGS planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

SGS confirms that the project is implemented as described in the validated and registered project design documents. Based on the information we have seen and evaluated, we confirm the following:

Project Title:	*Copiulemu landfill gas project (Center for the Storage and Transfer, Recovery and Control of Waste, Treatment and Disposal of Industrial and Household Waste)*
UNFCCC Reference Number:	0096
Registered PDD and Approved Used for Verification:	PDD of Copiulemu Landfill Gas Project (no data or version are provided in the document, as registered on UNFCCC website on 3rd December 2005, n° 0096).
Methodology Used for Verification:	Consolidated Baseline methodology for landfill gas project activities ACM0001 version1 dated September 3rd 2004.
Applicable Period:	December 1rst 2006 up to July 31rst 2007
Total GHG Emission Reductions Verified:	16,215 tCO2e

Signed on behalf of the Verification Body by Authorized Signatory

Signature: 

Name: Siddharth Yadav
Date: 1st August 2008

8. Document References

/1/ PDD for Copiulemu Landfill Gas Project (no data or version are provided in the document, as registered on UNFCCC website on 3rd December 2005, CDM n° 0096).

/2/ Copiulemu Landfill Gas Project Validation Report. DNV, Report Nº 2005-0531 Revision Nº2, 16th September 2005.

/3/ Consolidated Baseline methodology for landfill gas project activities ACM0001 ver1

/4/ Monitoring Report first verification period version 1 Copiulemu 0096-M1 dated on 20th December 2006 publicly available on UNFCCC website.

/5/ ERs Copiulemu Of. ERs calculation sheet reported on monitoring report version 1

/6/ Monitoring protocol for Copiulemu Landfill Gas (LFG) Project, version 6, Ecosecurities 01 Julio 2007. Document elaborated by the project proponent that includes the details of monitoring, quality assurance and reporting project´s activities

/7/ PRO 2 Flare Technical Specifications Declaration (Flare manufacturer technical specifications declaration)

/8/ DWS letter 210906 (letter informing the equipment calibration frequency)

/9/ Copiulemu Ventury Flowmeter S/N 210602025 Type VT150 70 Calibration Certificate

/10/ Differential Pressure Transmitter Copiulemu EJA110 A calibration certificate

/11/ Gas Analyser GA 2000 Serial GA08228 Certificate of Calibration number GA08228L0201005

/12/ O2 N2 Gas Standar Analityc Report number 546 Cilinder number FF37646 Certificate of standard quality of the O2 gas standard used to check the gas analyzers

/13/ CH4 CO2 Gas Standar Analityc Report number 56 cilinder number LL34651 Certificate of standard quality of the CH4 gas standard used to check the gas analyzers

/14/ Yokogawa Gauge pressure transmeter Test Certificate number 27EA12251

/15/ LFG Temperature Sensors Certificate of Conformity

/16/ Calibration certificate of the electricity meter

/17/ GA2000 Gas Analyzer operating manual

/18/ Ga-25 Calibration Certificate. Manufacturer calibration certificate of the gas analyzer GA25

/19/ Informe Copiulemu Segundo Periodo. In this document can be seen methane concentration variations and confidence intervals defined by SGS

/20/ Copiulemu second verification hourly measurement frequency CH4. Data and analysis done by the project to demonstrate that the frequency of monitoring assure a 95% of confidence level.

/21/ FE 2006 CDM Copiulemu. Data and calculation to determine flare efficiency with data measured on December 2nd 2006

/22/ Copiulemu methane SGS analysis. Analysis performed by SGS to verify that one daily sample of methane concentration complies with a 95% confidence level.

/23/ ERs Copiulemu . SGS took the reported ERS calculation sheet and decrease the higher methane concentrations reported replacing the values by the upper limit values of the determined monthly confidence intervals

/24/ F_CDM_DEV_V1_Copiulemu. Request for deviation sent by SGS to the UNFCCC regarding flare efficiency measurement

/25/ Copiulemu. Answer from the EB to the request for deviation

/26/ Thermocouple CDM Copiulemu. Answer sent by the project proponent to SGS on October 21rst 2007 regarding the flare exhaust thermocouple failure.

/27/ Blower quotation and invoice. Quotation and invoice of the blower that failed on February.

/28/ Monitoring Report second verification period version 2 (Document ID: CDM0096-M2) dated on October 18th 2007 publicly available on UNFCCC website.

/29/ Second version of ERs calculation spreadsheet *ERs Copiulemu (second Verification)*

/30/ Monitoring Report second verification period version 3 (Document ID: CDM0096-M2) dated on July 30th 2008.

- o0o -