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Verification Report

Carbon-TF B.V.

1st Periodic Verification of the

**CMM utilization on the Coal Mine No 22 Kommunarskaya of the State
Holding Joint-Stock Company “GOAO Shakhtoupravlenye Donbass”**

JI Track 2 project

UNFCCC UA2000013 / JI0078

Monitoring period 1: 07-07-2008 to 31-03-2010

Report No. **600500457**

16 March 2011

TÜV SÜD Industrie Service GmbH
Carbon Management Service
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Report No.	Date of first issue	Version No.:	Revision date	No. of pages
600500457	October 29, 2010	5	16-03-2011	20
Subject:			1 st Periodic Verification under JI Track 2	
Executing Operational Unit:				
TÜV SÜD Industrie Service GmbH, Carbon Management Service Westendstrasse 199 - 80686 Munich, Federal Republic of Germany				
Project Participant (client):				
Carbon-TF B.V. (client) Postbus 531 5900 AM Venlo Netherlands				
State Holding Joint-Stock Company "GOAO Shakhtoupravlenye Donbass" Budenovsky Rayon 83059 Donetsk Ukraine				
Registration number / Project Title			Project UA2000013: CMM utilization on the Coal Mine No 22 Kommunarskaya of the State Holding Joint-Stock Company "GOAO Shakhtoupravlenye Donbass" (registered on 30/12/2009)	
Monitoring period:			Period in total from 07-07-2008 to 31-03-2010 with the following sub periods: 07-07-2008 to 31-12-2008 01-01-2009 to 31-12-2009 01-01-2010 to 31-03-2010	
First Monitoring Report (version/date)			Version 1b / 16-04-2010	
Final Monitoring Report (version/date)			Version 9 / 15-03-2011	

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Summary:

TÜV SÜD Industrie Service GmbH has performed the 1st periodic verification of the approved JI project (Track 2):

CMM utilization on the Coal Mine No 22 Kommunaraskaya of the State Holding Joint-Stock Company "GOAO Shakhtoupravlenye Donbass".

The project comprises the use of CMM for the production of the heat, the generation of the electricity and for the flaring.

Carbon-TF is responsible for the preparation of the GHG emission data and the reported GHG emission reductions.

A document review, followed by a site visit was conducted to verify the information submitted by the project participant regarding the present verification period. By doing so results of the previous verification conducted for the purpose of Greening AAUs were considered.

Based on the assessment carried out, the verifier confirms:

- implementation of the following project activities presented in the approved PDD:
 - installation of gas-fired boilers (five upgraded smaller boilers with a total capacity of 5,835kW instead of two new ones with a total capacity of 6,300kW as provided in the PDD);
 - installation of the ventilation air heater with 2,700kW total firing capacity (instead of a ventilation air heater with 3,000kW firing capacity);
 - installation of one cogeneration unit of 1,350kWel capacity;
 - installation of the flare (total capacity of the 10,000kW instead of the 5,000kW as provided in the PDD);
- the presented deviations to the registered PDD have been accepted by TÜV SÜD, since the additionality has been proven for current implementation status of the project and the project boundary has remained unchanged;
- installation of the second cogeneration unit is delayed, what is caused by the lack of finances as per information delivered by the coal mine; this was accepted by the TÜV SÜD, since the project participants have confirmed their efforts to implement the project fully in accordance with the PDD;
- electronic monitoring system as per the approved monitoring plan has been implemented at the CHP unit and the flare (handwritten journals were used for the flare in the period from 20/12/2008 till 27/01/2009);
- the ventilation air heater and the boilers have not been monitored during the verification period; therefore emission reductions from these sources have not been claimed;
- the calculation of emission reductions was done in a conservative way in respect of the available monitored data;
- the installed equipment essential for generating emission reductions runs reliably and the meters are calibrated appropriately;
- the project is generating emission reductions.

The verifier confirms that the GHG emission reductions are calculated without material misstatements. Our opinion refers to the project GHG emissions and resulting GHG emission reductions reported, determined using the valid and approved project baseline, its monitoring plan and its associated documents.

Based on the information we have seen and evaluated, we confirm that the implementation of the project resulted in the following emission reductions:

1,639 tCO_{2e} from 07/07/2008 till 31/12/2008

64,834 tCO_{2e} from 01/01/2009 till 31/12/2009

8,671 tCO_{2e} from 01/01/2010 till 31/03/2010

The total GHG emission reduction for the monitoring period 07/07/2008 till 31/03/2010 is **75,144 t CO_{2e}**.

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<p>Assessment Team Leader: Thomas Kleiser</p> <p>Assessment Team Members: Dr. Albert Geiger Dr. Volodymyr Ilchenko</p>	<p>Veto Person: Javier Castro</p> <p>Certification Body responsible: Rachel Zhang</p>
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Abbreviations

ACM	Approved Consolidated Methodology
AIE	Accredited Independent Entity
BM	Build Margin
CAR	Corrective Action Request
CM	Combined Margin
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
CO_{2e}	Carbon dioxide equivalent
CAR	Corrective action request
CR	Clarification Request
DFP	Designated Focal Point
EF	Emission Factor
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission Reduction
EUR	Emission Reduction Units
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Greenhouse Gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
IRL	Information Reference List
JI	Joint Implementation
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-Governmental Organisation
OM	Operational Margin
PDD	Project Design Document
PP	Project Participant
QA/QC	Quality assurance/quality control
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UNFCCC	United Nations Framework Convention on Climate Change
DVM	Determination and Verification Manual

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Main Documents (referred to in this report)

Methodology (name / version)	ACM0008, Version 03	
Scope	8; 10	
Technical Area	8.1; 10.3	
Determined PDD:	Version 06, date 06-07-2009 (registered on 30/12/2009)	
Revised Monitoring Plan:	n.a.	
	Version	Date
Published Monitoring Report	1b	16-04-2010
Revised Monitoring Report	9	15-03-2011
Project documentation link:	http://ji.unfccc.int/JIITLProject/DB/T6JUIRM9RAOEQ5YHZT23Y2VSEU4NSG/details	

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Annex 1: DVM and TÜV SÜD Verification Protocols

Annex 2: Information Reference List

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1 INTRODUCTION

1.1 Objective

Carbon-TF has commissioned (contract from 17-02-2010) an independent verification by TÜV SÜD Industrie Service GmbH (TÜV SÜD) of its approved and registered JI project:

"CMM utilization on the Coal Mine No 22 Kommunarskaya o the State Holding Joint-Stock Company "GOAO Shakhtoupravlenye Donbass""

This report summarizes the findings of the JI verification (initial and first periodic) (Track 2) for the period from July 7th, 2008, to March 31th, 2010.

The objective of the verification work is the systematic, independent and documented evaluation of a greenhouse gas assertion against JI requirements (Track 2). According to this assessment TÜV SÜD shall:

- ensure that the project activity has been implemented and operated as per the final approved PDD "CMM utilization on the Coal Mine No 22 Kommunarskaya o the State Holding Joint-Stock Company "GOAO Shakhtoupravlenye Donbass" (Version 06, 06-07-2009, IRL1).
- all physical features (technology, project equipment, monitoring and metering equipment) of the project are in place,
- ensure that the published MR and other supporting documents provided are complete, verifiable and in accordance with applicable JI requirements,
- ensure that the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan,
- evaluate the data recorded and stored.

1.2 Scope

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the Accredited Independent Entity.

The verification is based on the submitted monitoring report, the determination report and the previous verification reports. These documents are reviewed against the determined project design document including its monitoring plan, the requirements of the Kyoto Protocol, the JI Guidelines as well as related rules and guidance by the CMP and JISC.

For the verification purpose TÜV SÜD applies detailed (project/methodology(-ies) specific) protocols, which incorporate requirements of the CDM Validation and Verification Manual (VVM) (IRL34) issued in November, 2008 . In December 2009 the JI Determination and Verification Manual (DVM) (IRL33) in its first version was published. Although the question list of the DVM is not obligatory and the questions are already covered by the former question list to a large extent, TÜV SÜD has elaborated - for transparency reasons - the issues presented in the DVM and involved them in the verification process in form of an optional DVM verification protocol. These questions are put in front – in Annex 1 – to the following meth specific question list for the verification of the respective project.

Based on the requirements in the DVM, TÜV SÜD has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

The verification considers both quantitative and qualitative information on emission reductions.

The verification is not meant to provide any consultancy towards the client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the monitoring activities.

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1.3 GHG Project Description

Project activity:	CMM utilization on the Coal Mine No 22 Kommunarskaya of the State Holding Joint-Stock Company "GOAO Shakhtoupravlenye Donbass"
UNFCCC registration number:	UA2000013
Project Participants:	Carbon-TF State Holding Joint-Stock Company "GOAO Shakhtoupravlenye Donbass"
Location of the project:	Donetsk Oblast, Ukraine WKS84 coordinates: 48°06'58" N, 38°16'05" E
Date of registration:	30-12-2009
Starting date of the crediting period:	07-07-2008

The purpose of this project is the avoidance of methane emissions at the coal mine "No 22 Kommunarskaya".

Coal Mine Methane, drained and recovered from operating mine works, is used in this project for the following purposes:

- electricity production;
- heat generation;
- flaring.

The implementation status of the project in the verification period is as follows:

- installation of the upgraded previously coal-fired boilers (five upgraded smaller boilers with a total capacity of 5,835kW instead of two new ones with a total capacity of 6,300MW as provided in the PDD);
- installation of the ventilation air heater (two modules of approx. 1,000kW and one module of 750kW instead of three modules each of 1,000kW firing capacity);
- installation of one cogeneration unit of 1,350kWel;
- installation of the flare (total capacity of the 10,000kW instead of the 5,000kW given in the PDD);

Instead of two new boilers five used ones have been installed because of economic reasons and more efficient control of the heat production depending on the heat demand (especially in the transition period winter/summer).

Ventilation air heater of smaller total capacity (3 modules with 2,700kW of total capacity) was installed instead of heater with 3,000kW total capacity.

The installation of the second cogeneration unit is delayed, what is caused by the financial crises as per the statement of the coal mine (IRL31).

Because of the high gas amount available the flare burner has been upgraded from 5MW to 10MW burning capacity. The unchanged flaring efficiency of the modified burner has been confirmed by the manufacture of the equipment (Pro2 Anlagentechnik GmbH, Germany) (IRL66).

All these deviations in the project design have been accepted by the TÜV SÜD, since the participants have demonstrated their efforts to implement the project fully in accordance with the PDD and where able to demonstrate that the delays and changes in project design did not affect the additionality of the project by providing the financial analysis on the basis of actual costs (IRL32).

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2 METHODOLOGY

2.1 Verification Process

The verification process is based on the approach depicted in the Determination and Verification Manual (DVM) issued by JISC in 2009 (IRL33).

Standard auditing techniques have been adopted for the verification process. The verification team performs first a desk review, followed by an on-site visit, which results in the completion of a protocol that includes all the findings. The next step involves the evaluation of the findings through direct communication with the PPs and the preparation of the verification report. Afterwards the verification report and other supporting documents undergo an internal quality control by the CB "climate and energy" before submission to the JISC.

2.2 Verification Team

The appointment of the verification team takes into account the technical area(s), sectoral scope(s) and relevant host country experience required amongst team members for verifying the ER achieved by the project activity in the relevant monitoring period for this verification.

The verification team consisted of the following members:

Name	Qualification	Coverage of scope	Coverage of technical area	Host country experience
Thomas Kleiser	ATL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dr. Albert Geiger	GHG-A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dr. Volodymyr Ilchenko	GHG-A	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

Thomas Kleiser is the Assessment Team Leader of the project with a background in physics and meteorology. Till 31st of December 2008 he was head of the division CDM and JI at TÜV SÜD Industrie Service GmbH conducting more than 90 validations/determinations and verifications of CDM and JI projects. In this position he was responsible for validation/determination, verification and certification processes for GHG mitigation projects as well as trainings for internal auditors. Since 1st of January 2009 he is head of the "Certification Body" of TÜV SÜD.

Dr. Volodymyr Ilchenko is a GHG verifier for CO₂-emission reduction projects at the department "TÜV Carbon Management Service" in the head office of TÜV SÜD Industrie Service GmbH in Munich, Germany. He holds a M.Sc. degree in electrical engineering and has a PhD in mechanical engineering. He has received training on the contents and objectives of GHG auditing for climate change projects and is responsible in his current position for the validation/determination and verification audits for JI, CDM and VCS projects. Before joining TÜV SÜD he worked as development engineer in the field of heating systems.

Dr. Albert Geiger is a GHG verifier for CO₂-emission reduction projects of the scopes 8, 10 and 13 at the department "Environmental Service" of TÜV SÜD. He has done more than 15 CDM and JI projects and holds a PhD in geological sciences and does environmental consulting in soil and water protection as well as waste management at TÜV SÜD since 1999.

2.3 Review of Documents

The Monitoring Report version 1b (IRL9) submitted by the PP was made publicly available on the UNFCCC website on the 20th of April 2010 before the verification activities started. The

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published MR was assessed based on all the relevant documents. The aims of the desk review were:

- verification of the data completeness and the information presented in the MR,
- check of the MR compliance with respect to the monitoring plan depicted in the approved PDD (frequency of measurements, the quality of the metering equipment including calibration; and QA/QC procedures),
- evaluation of the data management and QA/QC system in the context of their influence on the generation and reporting of emission reductions.

A complete list of all documents reviewed is available in Annex 2 of this report.

2.4 On-site Assessment and follow-up Interviews

During 29-04-2010, TÜV SÜD performed a physical site inspection including on-site interviews (IRL4) with the project participants to:

- confirm the implementation and operation of the project,
- review the data flow for generating, aggregating and reporting of the monitoring parameters,
- confirm the correct implementation of procedures for operation and data collection,
- cross-check the information provided in the MR with other sources,
- check the monitoring equipment against the monitoring plan presented in the PDD and the applied methodology, including calibrations, maintenance, etc.,
- review the calculations and assumptions used to obtain the GHG data and ER,
- check if the QC/QA procedures are in place for preventing and correcting of errors or/and omissions in the reported data.

A list of the persons interviewed during this verification activity is included in Annex 2.

2.5 Quality of Evidence to Determine Emission Reductions

Among several evidences submitted, the following relevant and reliable evidence material has been used by the audit team during the verification process:

- Licenses
- Raw data
- Data from cross-checking instruments
- Handwritten Journals
- Analysis
- Calibration documents
- Quality assurance and quality control documents (Monitoring Manual)

Sufficient evidences and data covering the full verification period is available to validate the figures stated in the final MR (IRL7). The source of the evidences and data will be discussed in chapter 3 of this report. The protocol gives a clear reference to sources assessed and is the basis for the conclusions of the audit team.

Specific cross-checks have been done in cases when further sources were available. The monitoring report figures were checked by the audit team against the raw data. It can be confirmed that the above mentioned deviations in the data collection system to the approved monitoring plan do not influence the quality of the emission reductions estimation.



2.6 Resolution of Clarification, Corrective Action and Forward Action Requests

The objective of this phase of the verification process is to resolve any outstanding issues, which require clarification for TÜV SÜD's conclusion on the reported GHG emission reduction. The findings raised as Forward Action Requests (FARs) (if any) indicated in previous reports (determination/verification) were discussed and resolved during this phase through communication between the PP and TÜV SÜD.

Concerns raised during the desk review, the on-site audit assessment and the follow up interviews are documented together with the according responses provided by the project participants in Annex 1 (verification protocols) to guarantee the transparency of the verification process.

A Corrective Action Request is raised where TÜV SÜD identifies:

- non-conformities in monitoring and/or reporting with the monitoring plan and/or methodology;
- that the evidence provided is not sufficient to prove conformity;
- mistakes in assumptions, data or calculations that impact the ER calculations;
- FARs raised during determination or previous verifications that are not solved until the on-site visit.

A Clarification Request is raised where TÜV SÜD does not have enough information or the information is not transparent in order to confirm a statement or data.

A Forward Action Request is raised where TÜV SÜD identifies that monitoring and/or reporting require special attention or adjustments for the next verification period.

Information or clarifications provided as a response to a CAR, CR or FAR could also lead to a new request.

2.7 Internal Quality Control

As a final step of the verification process, the verification documents including the verification report and the annexes have to undergo an internal quality control by the Certification Body (CB) “climate and energy”, i.e. each report has to be finally approved either by the Head of the CB or the Deputy (a Veto person can be used). In case one of these two persons is part of the assessment team, the approval can only be given by the person who is not a part of the assessment team. If the documents have been satisfactorily approved, the Request for Issuance is submitted to the JISC along with the relevant documents.

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3 VERIFICATION RESULTS

In the following sections, the results of the verification are stated. The verification results relate to the project performance as documented and described in the approved PDD (IRL1) and the final Monitoring Report (09-03-2011, version 8) (IRL7). The verification findings for each verification subject are presented below.

3.1 FARs from Determination / Previous Verification

No FARs from previous verifications.

3.2 Project Implementation

The project has been implemented as follows (for more details see Annex 1).

Registered PDD	Implemented project
2 new gas boilers with a total firing capacity of 6,300kW	5 modified gas boilers with a total firing capacity of 5,835kW
1 flare with a firing capacity of 5 MW	1 flare with a firing capacity of 5 MW (upgraded to 10 MW)
2 CHP units with a firing capacity of 2 x 1,350kW	1 CHP units with a firing capacity of 1,350kW
Ventilation Air Heater (3 modules) with a total firing capacity of 3,000kW	Ventilation Air Heater (3 modules) with a total firing capacity of 2,750kW

The project as described above is completely operational that was confirmed during on-site visit. According to the table above the project is not fully implemented yet: The implementation of 1 CHP is still pending. Because of the incomplete project implementation the Joint State Holding Joint-Stock Company "GOAO Shakhtoupravlenye Donbass" was asked by TÜV SÜD about the new implementation date for the installation of the second CHP unit. In response to this request PP provided an official response (IRL31), in which the implementation of the whole project has been confirmed and for the installation of the second CHP unit the spring period of the year 2011 has been fixed. According to the company, the delay in the installation of the second CHP is caused by the lack of financial resources due to the global financial crisis. The new installation date for the second flare is presented in the Chapter A.7 of the MR (IRL7).

Instead of two new boilers five used ones have been installed because of economic reasons and more efficient heat production control in dependence on the heat demand especially in the transition periods. Ventilation air heater of 2,700kW total firing capacity was installed instead of a ventilation air heater of 3,000kW total firing capacity. Because of the high gas amount available the flare burner has been upgraded from 5MW to 10MW burning capacity. The unchanged flaring efficiency of the modified burner has been confirmed by the manufacture of the equipment (Pro2 Anlagentechnik GmbH, Germany) (IRL66).

On request of TÜV SÜD a revised investment calculation has been presented by Carbon-TF with the purpose to demonstrate that even with the changes in the project design and delayed installation of the second CHP unit the project remains additional. This new analysis considers the new installation date and the actual costs (IRL32). According to this new analysis, which was done according to the analysis presented in the registered PDD, the NPV fulfills the benchmark criteria of the registered PDD ($NPV < 0$). Hence, the project is still additional and thus there are no doubts that the project is qualified as JI project.

Furthermore, taking into account the "Procedures regarding changes during project implementation", issued JISC (IRL35), TÜV SÜD confirms that the conditions defined by

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paragraph 33 of the JI guidelines are still met for the project, and that the changes do not alter the original determination opinion for the project. Specifically, TÜV SÜD confirms that:

- (a) The physical location of the project has not changed;
- (b) The emission sources have not changed;
- (c) Baseline scenario has not changed.
- (d) The changes are consistent with the applied methodology.

3.3 Compliance of the Monitoring System with the Monitoring Plan

The ventilation air heater and the boilers have not been monitored during the verification period. A monitoring system has been implemented at the CHP unit and the flare in accordance with the monitoring plan presented in the approved PDD (as published on UNFCCC JI website).

The electronic monitoring system was put into operation on 27/01/2009 simultaneously with the commissioning of CHP unit. In the period from 20/12/2008 till 27/01/2009 data from handwritten journals were used for calculation of the emission reductions by the flare. This has been accepted by TÜV SÜD, since the quality of the handwritten data was proved by cross-checking with the electronically recorded data for the period where both data sets were available.

In the period from 27/01/2009 till 16/09/2009 the amount of methane sent to the CHP unit due to the missing flow measurement equipment was calculated on the basis of the electricity produced and efficiency of CHP unit. This has been accepted by TÜV SÜD, since the calculation was performed in a transparent and conservative manner by considering the possible sources of error.

All parameters during the monitoring period were monitored and evaluated as per the Monitoring Plan. Moreover, the monitoring parameters were optionally written down in journals, which were used for the cross-check purposes.

Hereby following parameters have been verified (meter specific details see chapter 2.2. of the protocol):

Flare

Data / Parameter:	MM _{Fl}
Data unit:	tCH ₄
Description:	Methane sent to flare
Source of data used:	Calculated from normalized flow data and methane concentration
Means of verification/Comments:	Check of the electronic data and calculation approach; cross-check with handwritten journals
Cross-check	The cross-check has shown no inconsistencies of the raw data with the figures used for the calculation of emission reduction

Data / Parameter:	EFF _{Fl}
Data unit:	%
Description:	Efficiency of methane destruction through flaring
Source of data used:	IPCC
Means of verification/Comments:	Check of the IPCC Tool
Cross-check	N/A

Cogeneration Unit

Data / Parameter:	MM _{ELEC}
Data unit:	tCH ₄

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Description:	Methane sent to cogeneration unit
Source of data used:	Calculated from normalized flow data and methane concentration since 16/09/2009 Calculated on the basis of electric power generation and efficiency of the CHP unit in the period from 27/01/2009 till 16/09/2009
Means of verification/Comments:	Check of the electronic data and calculation approach; cross-check with handwritten journals
Cross-check	The cross-check has shown no inconsistencies of the raw data with the figures used for the calculation of emission reduction

Data / Parameter:	GEN_v
Data unit:	MWh
Description:	Electricity generation by project
Source of data used:	Monitored data
Means of verification/Comments:	Check of the electronic data; cross-check with handwritten journals
Cross-check	The cross-check has shown no inconsistencies of the raw data with the figures used for the calculation of emission reduction

Data / Parameter:	$CONS_{ELEC}$
Data unit:	MWh
Description:	Additional electricity consumption for capture and use or destruction of methane
Source of data used:	Monitored data (calculated using operation hours of the flare)
Means of verification/Comments:	Check of the electronic data; cross-check with handwritten journals
Cross-check	The cross-check has shown no inconsistencies of the raw data with the figures used for the calculation of emission reduction

Data / Parameter:	PC_{CH4}
Data unit:	%
Description:	Concentration (in mass) of methane in extracted gas (%), measured on wet basis
Source of data used:	IR measurement
Means of verification/Comments:	Check of the electronic data; cross-check with handwritten journals
Cross-check	The cross-check has shown no inconsistencies of the raw data with the figures used for the calculation of emission reduction

Data / Parameter:	PC_{NMHC}
Data unit:	%
Description:	NMHC concentration (in mass) in extracted gas
Source of data used:	Chemical Analysis by the Respirator Institute. The Respirator Institute is accredited. Hence, the equipment used has to be calibrated according to the requirements..
Means of verification/Comments:	Check of the accreditation certificate
Cross-check	NA

The monitoring activities are strictly organized and written down in the Monitoring Manual (IRL37). The responsibilities are determined and quality assurance measures are implemented on-site. The clear distribution of the monitoring duties has been demonstrated by the staff

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during the on-site visit. The monitoring procedures have been punctually updated, if required, since last verification.

The personal got regular training on monitoring procedures. An introductory training was held at the beginning of the monitoring period followed by an update on 27 January 2009 (see IRL38). The next training is planned in 2011.

3.4 Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

All information needed of the assessment of data and calculation of greenhouse gas emission reductions was available.

The reported data used for the calculation of the emission reductions have been cross-checked against other sources available as explained above in chapter 3.3. As result, the verifier confirms that the data are consistent and viable.

The input data of the calculations have been checked against the raw data. The verifier confirms that there are no deviations between raw data and input data.

In some periods break downs of the electronic monitoring system happened and thus there were gaps in the monitored data. These periods were not considered in the calculation of the emission reductions. This is conservative.

Furthermore, all formulae used in the calculations have been checked against the approved PDD. The verifier confirms that the methods and formulae used to obtain the baseline, project and leakage emissions are appropriate.

All the emission factors and default values are explicitly mentioned in the monitoring report. The external grid emission factor was fixed ex-ante.

The manual transfer of data was cross checked. No mistakes have been detected.

The observations of the audit team left no doubt that the monitoring process has been finally implemented in accordance with the Monitoring Plan presented in the determined PDD and with the procedures described in the Monitoring Manual. Moreover, a thorough error analysis (IRL40) was conducted and presented by the project participants as well.

TÜV SÜD confirms that:

- data sources used for calculating emission reductions are clearly identified, reliable and transparent;
- that the raw data used in calculation of the emission reductions (IRL7) are conservative because the possible errors are considered (flare 1.79%, CHP unit 1.69%);
- that the input data are viable and consistent with raw data;
- the methods and formulae used to obtain the baseline, project and leakage emissions are appropriate and without any mistakes;
- the calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner.

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4 SUMMARY OF FINDINGS

The verifier can confirm that the published MR and related documents are complete and verifiable in accordance with the JI requirements. All the findings raised by the verification team, the responses by the PPs and the conclusion of the audit team are presented in Annex 1.

The means of verification and resulting changes in the MR or related documents are summarized in the table below:

Clarification Request 1:
The serial number of the Deutz engine in the MR is not correct. Please revise.
CR 1, means of verification
On-site finding
CR 1, changes in the MR or related documents
Revision of the MR
Clarification Request 2:
Please present the mining licence which was valid till 20/06/2009.
CR 2, means of verification
Evidence by document (IRL39)
CR 2, changes in the MR or related documents
No changes in the MR
Clarification Request 3:
The project is not completely implemented yet. Please show the significance of the deviations on the additionality of the project.
CR 3, means of verification
On-site findings
CR 3, changes in the MR or related documents
Presentation of the financial analysis
Clarification Request 4:
Please provide the calibration protocols of all meters mentioned in the MR.
CR 4, means of verification
Evidence by documents (IRL20,21)
CR 4, changes in the MR or related documents
No changes in the MR
Clarification Request 5:
Please give the serial number or the inventory number of the temperature meter. The serial number of the Binos 100 is not correctly cited in the MR. Please revise.
CR 5, means of verification
On-site finding
CR 5, changes in the MR or related documents
Revision of the MR
Clarification Request 6:
Please include the measurement ranges into table 5 of the MR.
CR 6, means of verification
Evidence by documents
CR 6, changes in the MR or related documents
Revision of the MR

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Clarification Request 7:
The thermocouple has been changed during monitoring. Please describe the first meter, including the serial number and when the meter has been changed (table 4 of the MR).
CR 7, means of verification
Evidence by documents
CR 7, changes in the MR or related documents
No changes in the MR
Clarification Request 8:
The thermocouple has been changed during monitoring. Please describe the first meter, including the serial number and when the meter has been changed (table 4 of the MR).
CR 8, means of verification
See CR 7
CR8, changes in the MR or related documents
See CR 7
Clarification Request 9:
Please specify the calibration requirements of the e-meters.
CR 9, means of verification
Evidence by documents, http://www.iec.ch
CR 9, changes in the MR or related documents
No changes in the MR
Clarification Request 10 :
Please specify the uncertainty level of the e-meters in the MR.
CR 10, means of verification
Evidence by documents (GOST-Standard)
CR 10, changes in the MR or related documents
Revision of the MR
Clarification Request 11:
Meter DEIF is not mentioned in table 4 of the MR. Please insert and describe the positions of the E-meters in the electricity cycle.
CR 11, means of verification
On-site finding
CR 11, changes in the MR or related documents
Revision of the MR
Clarification Request 12:
Please provide documents showing the sampling principle, the sampling methodology, the methodology of the sample analysis, the detection limits, the levels of uncertainty and the measurement ranges.
CR 12, means of verification
Evidence by documents (IRL26, 27)
CR 12, changes in the MR or related documents
No changes in the MR
Clarification Request 13:
Please present a summary of the error propagation in the MR (D.2.)
CR 13, means of verification

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Error analysis by Carbon-TF (IRL40)
CR 13, changes in the MR or related documents
The MR has been revised
<u>Corrective Action Request 1:</u>
In the revised financial calculation the annual values for the heat and power production for the whole project life time of 10 years should be applied instead of the average values over the first five years. Please adjust the calculation accordingly.
CAR 1, means of verification
Evidence by documents (IRL32)
CAR 1, changes in the MR or related documents
Revision of the financial analysis
<u>Corrective Action Request 2:</u>
Costs related to the vacuum pumping station have been included in the capital expenditures of the project. However, the vacuum pumping station is not within the project boundary. Please justify the utilization of these costs in the financial analysis or remove them from the capital expenditures.
CAR 2, means of verification
Evidence by documents (IRL32)
CAR 2, changes in the MR or related documents
Revision of the financial analysis
<u>Corrective Action Request 3:</u>
Please provide evidences that the flaring efficiency of the modified flare remained unchanged.
CAR 2, means of verification
Evidence by the document (IRL66)
CAR 2, changes in the MR or related documents
Revision of the MR
<u>Forward Action Request 1:</u>
Please provide till the next verification a Monitoring Manual including the Quality Management/QM procedures.
FAR 1, means of verification
Check during the next audit
FAR 1, changes in the MR or related documents
n/a
<u>Forward Action Request 2:</u>
A project permission issued by the Ukrainian environmental authority has to be presented to the verifier at the next verification date.
FAR 2, means of verification
Check during the next audit
FAR 2, changes in the MR or related documents
n/a

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5 VERIFICATION STATEMENT

TÜV SÜD Industrie Service GmbH has performed the 1st periodic verification of the determined JI project (Track 2): CMM utilization on the Coal Mine No 22 Kommunarskaya of the State Holding Joint-Stock Company "GOAO Shakhtoupravlenye Donbass".

The project comprises the use of CMM for the production of heat, electricity and for flaring.

Carbon-TF is responsible for the preparation of the GHG emission data and the reported GHG emission reductions.

A document review, followed by a site visit was conducted to verify the information submitted by the project participant regarding the present verification period. Based on the assessment carried out, the verifier confirms the following:

- implementation of the following project activities presented in the approved PDD:
 - installation of gas-fired boilers (five upgraded smaller boilers with a total capacity of 5,835kW instead of two new ones with a total capacity of 6,300kW as provided in the PDD);
 - installation of the ventilation air heater with 2,700kW total firing capacity (instead of a ventilation air heater with 3,000kW firing capacity);
 - installation of one cogeneration unit of 1,350kW capacity;
 - installation of the flare (total capacity of the 10,000kW instead of the 5,000kW as provided in the PDD);
- the presented deviations to the registered PDD have been accepted by TÜV SÜD, since the additionality has been proven for current implementation status of the project and the project boundary has remained unchanged;
- installation of the second cogeneration unit is delayed, what is caused by the lack of finances as per information delivered by the coal mine; this was accepted by the TÜV SÜD, since the project participants have confirmed their efforts to implement the project fully in accordance with the PDD;
- electronic monitoring system as per the approved monitoring plan has been implemented at the CHP unit and the flare (handwritten journals were used for the flare in the period from 20/12/2008 till 27/01/2009);
- the ventilation air heater and the boilers have not been monitored during the verification period; therefore emission reductions from these sources have not been claimed;
- the calculation of emission reductions was done in a conservative way in respect of the available monitored data;
- the installed equipment essential for generating emission reductions runs reliably and the meters are calibrated appropriately;
- the project is generating emission reductions.

Our opinion is based on the project GHG emissions and resulting GHG emission reductions reported, which have been determined through the approved project baseline, monitoring plan and associated documents.

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Based on the information we have checked and evaluated, we confirm the following statement:

Reporting period:

From 07-07-2008 to 31-03-2010

Verified emissions:

Period 07-07-2008 to 31-12-2008:

Baseline emissions:	1,909	t CO _{2e}
Project emissions:	270	t CO _{2e}
Leakage emission:	N/A	t CO _{2e}
Emission reductions:	1,639	t CO_{2e}

Period 01-01-2009 to 31-12-2009:

Baseline emissions:	74,645	t CO _{2e}
Project emissions:	9,811	t CO _{2e}
Leakage emission:	N/A	t CO _{2e}
Emission reductions:	64,834	t CO_{2e}

Period 01-01-2010 to 31-03-2010:

Baseline emissions:	9,870	t CO _{2e}
Project emissions:	1,199	t CO _{2e}
Leakage emission:	N/A	t CO _{2e}
Emission reductions:	8,671	t CO_{2e}

Total Emission Reductions: 75,144 t CO_{2e}

Munich, 16-03-2011

A handwritten signature in blue ink that reads 'Rachel Zhang'.

Rachel Zhang
Certification Body "climate and energy"
TÜV SÜD Industrie Service GmbH

Munich, 16-03-2011

A handwritten signature in blue ink that reads 'Thomas Kleiser'.

Thomas Kleiser
Assessment Team Leader

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Annex 1: DVM and TÜV SÜD Verification Protocols

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Annex 2: Information Reference List