TETRA TECH EBA

VERIFICATION REPORT FOR ALTAGAS PROCESSING PARTNERSHIP'S

ALTAGAS TURIN ACID GAS INJECTION PROJECT

PRESENTED TO

Blue Source Canada ULC

FEBRUARY 2014
ISSUED FOR USE
FILE: ENVONG03018

This page intentionally left blank.

Tetra Tech EBA Inc.
Riverbend Atrium One, 115, 200 Rivercrest Drive SE
Calgary, AB T2C 2X5 CANADA
Tel 403.203.3355 Fax 403.203.3301

PROJECT SUMMARY

Project Title	AltaGas Turin Acid Gas Injection Project
Project Description	The project involves greenhouse gas (GHG) emission reductions from implementing an acid gas injection (AGI) program—allowing for a net reduction in direct greenhouse gas (GHG) emissions due to the geological storage of carbon dioxide (CO_2) and acid gas and as a result of reduced fossil fuel usage to treat sulphur emissions.
Project Location	The project is located in Alberta. The injection well is located near Turin, Alberta. LSD: 12-19-12-18 W4M (Turin Sour Gas Processing Plant); 03-25-012-19 W4 (Injection Well) Latitude: 50.01327° (Plant); 50.020623° (Injection Well) Longitude : -112.458632° (Plant); -112.475712° (Injection Well)
Project Start Date	November 30, 2004
Credit Start Date	January 1, 2005
Credit Duration Period	Initial project credit duration period: January 1,2005 – December 31, 2012 Crediting extension period: January 1, 2013 – December 31, 2017
Verification Period	This verification covers the period from January 1, 2013 to December 31, 2013
Expected Lifetime of the Project	The project is expected to permanently sequestrate acid gas
Emissions Reductions Achieved	2013: 83,540 tCO2 e
Quantification Protocol	Quantification Protocol for Acid Gas Injection (Version 1.0, May 2008)
Other Environmental Attributes	N/A
Project Registration	This project is only registered once and in one offset system - the Alberta Offset Registry.

Ownership	AltaGas Processing Partnership is the sole owner of the Turin Sour Gas Processing Plant and all offsets created under this project are owned by AltaGas Processing Partnership.
Project Activity	The activities undertaken include capture and permanent sequestration of the entire acid gas stream, which results in a net reduction in direct greenhouse gas (GHG) emissions due to the geological storage of carbon dioxide (CO2) and acid gas and a reduction of fossil fuel usage to treat sulphur emissions. The AltaGas Turin Acid Gas Injection Offset Project (the Project) meets the requirements for offset eligibility as outlined in section 3.1 of the Technical Guidance for Offset Project Developers (version 4.0, February 2013). In particular: 1. The project occurs in Alberta: as outlined above; 2. The project results from actions not otherwise required by law and beyond business as usual and sector common practices: Offsets being claimed under this project originate from a voluntary action. The project activity (i.e. AGI) occurs at a non-regulated facility and is not required by law. The protocol uses a government approved quantification protocol, which before its termination indicated the activity was undertaken by less than 40% of the industry and was therefore not considered to be sector common practice; the protocol was terminated in 2013 as the activity was no longer considered “additional.” As per the termination notice, 'existing projects that were approved and listed on the Alberta Offset Registry will be eligible for the remainder of their crediting period'. However, a 5 year crediting extension for this Project was approved allowing AltaGas to continue generating offsets for the Project. 3. The Project results from actions taken on or after January 1, 2002, as outlined above; 4. The project reductions/removals are real, demonstrable, quantifiable and verifiable: the Project is creating real reductions that are not a result of shutdown, cessation of activity or drop in production levels. The emission reductions are demonstrable, quantifiable and verifiable as outlined in the remainder of this plan. 5. The project has clearly established ownership: The Proponent owns 100% of the AGI activities at the Plant. Credits created from the specified reduction activity have not been created, recorded or registered in more than one trading registry for the same time period. 6. The project will be counted once for compliance purposes: The Project credits will be registered with the Alberta Emissions Offset Registry (AEOR) which tracks the creation, sale and retirement of credits. Credits created from the specified reduction activity have not been, and will not be, created, recorded or registered in more than one trading registry for the same time

	period.
Project Contact	AltaGas Processing Partnership Stefan Dimic Suite 1700, 355 4th Avenue SW Calgary, AB T2P 0J1 Phone: (403) 691 7031 Fax: (403) 691 7576 Stefan.dimic@altagas.ca www.altagas.com Blue Source Canada ULC Tooraj Moulai Suite 700, 717 7th Avenue SW Calgary, AB T2P 0Z3 Phone: (403) 262 3026 x259 Fax: (403) 269 3024 tooraj@bluesourcecan.com www.bluesourcecan.com

VERIFICATION SUMMARY

Objective	The objective of the verification is to identify key assertions, data sources, methods, and procedures relevant to the Project Report, and to assess conformity with *Climate Change Emissions Management Act*, the *Alberta Specified Gas Emitters Regulation* (SGER), and the relevant guidance issued by Alberta Environment and Sustainable Resource Development (Alberta ESRD). The verification process determines whether the assertions of reported greenhouse gas (GHG) reductions are free from material errors, omissions and misstatements and are fair representations of the GHG data and information and are prepared in accordance with Alberta ESRD's *Quantification Protocol for Acid Gas Injection* (Version 1.0, May 2008), related criteria and associated guidance documents on GHG quantification, monitoring, and reporting in Alberta.
Summary	Tetra Tech EBA Inc. (Tetra Tech EBA) has conducted GHG verification for AltaGas Processing Partnership's AltaGas Turin Acid Gas Injection Project. The GHG reductions for the offset project are 83,540 tonnes CO_2e generated between January 1, 2013 and December 31, 2013. The project involves greenhouse gas (GHG) emission reductions from implementing an acid gas injection (AGI) program—allowing for a net reduction in direct greenhouse gas (GHG) emissions due to the geological storage of carbon dioxide (CO_2) and acid gas, and as a result of reduced fossil fuel usage to treat sulphur emissions. The verification undertaken by Tetra Tech EBA's verification team was completed in accordance with the ISO 14064 Part 3 – Greenhouse Gases: Specification with Guidance for the Validation and Verification of Greenhouse Gas Assertions (ISO 14064:3) and the verification guidance contained within the Alberta ESRD's Technical Guidance for Offset Project Developers (Version 4.0, February 2013). The verification was undertaken to provide a reasonable level of assurance with respect to the GHG emission reduction offset project. The verification criterion was undertaken based on Alberta ESRD's approved quantification methodology, Quantification Protocol for Acid Gas Injection (Version 1.0, May 2008), the SGER, and associated guidance documents. Based on the review and analysis conducted by Tetra Tech EBA, Blue Source Project Report (dated February 11, 2014) and 83,540 t CO_2e generated between January 1, 2013 and December 31, 2013 are free from material errors, omissions and misstatements and are fair representations of the GHG data and information, and are prepared in accordance with the related criteria and associated guidance documents on GHG quantification, monitoring, and reporting in Alberta..
Lead Verifier	Nelson Lee, M.A.S., P.Eng.
Team Members	Mr. Nelson Lee, M.A.Sc., P.Eng., Lead Verifier/Designated Signing Authority Ms. Nancy Wellhausen, Peer Reviewer Mr. Min Si, M.N.R.M., Verifier Ms. Michèle Elsen, B.Sc., Project Manager

Subject Matter Expert	N/A
Peer Reviewer	Nancy Wellhausen
Designated Signing Authority	Nelson Lee, M.A.S., P. Eng.
Verification Date	September 26, 2013 – February 20, 2014
Site Visits Date	October 29, 2013
Office Visit Date	September 26, 2013
Report Date	February 20, 2014

TABLE OF CONTENTS

LIST OF TABLES IN TEXT

APPENDIX SECTIONS

APPENDICES

Appendix A Verification Plan
Appendix B Statement of Qualifications
Appendix C Conflict of Interest Checklist
Appendix D Statement of Verification
Appendix E Tetra Tech's General Conditions

LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Blue Source Canada ULC and their agents. Tetra Tech EBA Inc. does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than Blue Source Canada ULC, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this report is subject to the terms and conditions stated in Tetra Tech EBA's Services Agreement. Tetra Tech EBA's General Conditions are provided in Appendix E of this report.

(Please note that effective January 1, 2014 our legal name changed from EBA Engineering Consultants Ltd. to Tetra Tech EBA Inc.).

1.0 INTRODUCTION

Tetra Tech EBA Inc. (Tetra Tech EBA) was contracted by Blue Source Canada ULC (Blue Source) to conduct verification of greenhouse gas (GHG) emission reductions for the AltaGas Turin Acid Gas Injection Project. The project was developed under the Alberta Environment's Quantification Protocol for Acid Gas Injection (Version 1.0, May 2008).

1.1 Project Description

The offset project involves GHG emission reductions by geologically sequestering CO_2 contained in the acid gas stream and by reducing fossil fuel consumption normally required to supplement the acid gas flaring and sulphur recovery operations.

The project was developed under the Alberta Environment's *Quantification Protocol for Acid Gas Injection* (Version 1.0, May 2008). The project was implemented after January 1, 2002. The initial project credit duration was for eight years starting January 1, 2005 and ending December 31, 2012. Alberta Environment and Sustainable Resource Development (Alberta ESRD) has granted, in a letter dated April 23, 2013, a 5 year Crediting Extension Period, to run from January 1, 2013, - December 31, 2017. The crediting period covered by this report is January 1, 2013 until December 31, 2013.

Table 1: Offset Project Information

Geographical Location	The Project is an acid gas injection (AGI) project located at the AltaGas Processing Partnership Turin Sour Gas Processing Plant located near Turin, Alberta. LSD: 12-19-12-18 W4M (Turin Sour Gas Processing Plant); 03-25-012-19 W4 (Injection Well) Latitude: 50.01327° (Plant); 50.020623° (Injection Well) Longitude : -112.458632° (Plant); -112.475712° (Injection Well)
Organizational Structure	AltaGas Processing Partnership is the sole owner of the Turin Sour Gas Processing Plant and all offsets created under this project are owned by AltaGas Processing Partnership.
Activities and Processes	Acid Gas Injection in Natural Gas Processing facility
Actual Emissions Reductions	The total project emission reductions as a result of this project since January 1, 2005 (the project credit start date) are listed here: 2005: 106,454 t CO_2e/year 2006: 85,326 t CO_2e/year 2007: 101,554 t CO_2e/year 2008: 96,359 t CO_2e/year 2009: 90,990 t CO_2e/year 2010: 71,674 t CO_2e/year 2011: 62,701 t CO_2e/year 2012: 79,578 t CO_2e/year 2013: 83,540 tonnes of CO_2e/year **Total: 778,176 tonnes CO_2e**
Relevant Greenhouse Gases	Carbon dioxide (CO_2), Methane (CH_4), and Nitrous oxide (N_2O)
Reporting Period	January 1, 2013 to December 31, 2013
End Product	Natural Gas
Calculation Methodology	The Calculation methodology is described in detail in the AltaGas Turin Acid Gas Injection Offset Project Report (Version 1.0, February 11, 2014).

1.2 Baseline Description

Given the requirement to reduce sulphur emissions, the baseline condition for the AltaGas Turin Acid Gas Injection Offset Project is the installation of Selectox three stage Claus process facility at the plant, to convert H2S to S2. The installation of the Claus process would result in over 98% recovery of the H2S as S2(s), there would still be some SO2 emitted to the atmosphere during normal operation or during non-routine acid gas flaring using sales gas to meet operating permit requirements. Essentially all of the CO2 separated from the natural gas and all of the CO2 produced from fuel gas consumed to operate the Claus plant and to flare the acid gas under upset conditions would have been emitted to the atmosphere. In addition, the resulting S2(s) product from the Claus plant would have had to be handled on site and shipped to markets. This would have resulted in small quantities of emissions of GHG.

The calculation methodology is described in detail in the AltaGas Turin Acid Gas Injection Offset Project Report (Version 1.0, February 11, 2014).

1.3 Changes to baseline or project conditions

The plant had to undergo maintenance during the month of May of 2013 and was shutdown for a number of days. Following this turnaround period, injection meter 3B was experiencing problems with its recordings. As a result the Vortex meter (FE-400) was used to measure the acid gas injection volumes (as recorded in S30 Reports) for the months of June to December. The Vortex meter is positioned after the acid gas compressor and all readings are corrected to Standard Temperature and Pressure (STP) conditions (i.e. 15° C and 101.325 kPa).

Changes have been made to the methodology for the quantification including the determination of the incinerator fuel gas requirements in the baseline and the volumes of tail gas produced as modelled by the SULSIM. These changes and the formulas used were required in order to meet the principle of accuracy as described in ISO 14064-2. These changes and the formulas used were required in order to meet the principle of accuracy as described in ISO 14064-2. These changes are described in detail in the AltaGas Turin Acid Gas Injection Offset Project Report (Version 1.0, February 11, 2014).

2.0 OBJECTIVE

The objective of the verification is to identify key assertions, data sources, methods, and procedures pertinent to the Project Report, and to assess conformity with *Climate Change Emissions Management Act*, the *Alberta Specified Gas Emitters Regulation* (SGER), and the relevant guidance issued by Alberta ESRD. The verification process determines whether the assertions of reported GHG reductions are free from material errors, omissions and misstatements and are fair representations of the GHG data and information, and are prepared in accordance with the Alberta ESRD's *Quantification Protocol for Acid Gas Injection* (Version 1.0, May 2008), related criteria and associated guidance documents on GHG quantification, monitoring, and reporting in Alberta.

3.0 SCOPE

The GHG reductions being verified are 83,540 t CO_2e generated between January 1, 2013 and December 31, 2013.

As the verifier for the project, Tetra Tech EBA assessed the offset projects, GHG assertions, and the supporting data against Blue Source's offset project plan, offset project report, and any relevant government criteria, including the approved quantification protocol. A 5% materiality threshold was set to assess errors, omissions, and discrepancies in the projects as required by the Alberta Offset System. The scope and level of effort of this verification were conducted to a reasonable level of assurance in accordance with Canadian Standards Association (CAN/CSA)-International Organization for Standardization (ISO) 14064-3-06 – GHG's – Part 3:

Specification with Guidance for the Validation and Verification of GHG Assertions (Adopted ISO 14064-3:2006, First Edition, 2006).

4.0 PROGRAM CRITERIA

Tetra Tech EBA has conducted sufficient and appropriate procedures to ensure that the GHG assertions, the Project Plan, and Project Report satisfy the standards and guidelines presented in the following documents:

- Alberta's Climate Change and Emissions Management Act, S.A. 2003, c. C-16.7;
- Alberta Specified Gas Emitters Regulation 2007;
- SGER, Technical Guidance Document for Offset Project Developers (Version 4.0, February 2013);
- SGER, Technical Guidance for Greenhouse Gas Verification at Reasonable Level Assurance (Version 1.0, January 2013); and
- Quantification Protocol for Acid Gas Injection (Version 1.0, May 2008).

5.0 FINAL VERIFICATION

5.1 Verification Strategy

Tetra Tech EBA understands:

- Under the baseline condition, the emissions from incineration of fuel gas accounted for 57%, and from incineration of acid gas accounted for 39% of total baseline emissions; and
- Under the project condition, the emissions from electricity used for acid gas dehydration and compression processes represented 79%, from upset flaring of fuel gas represent 9%, and from upset flaring of acid gas represent 11% of total project emissions.

Tetra Tech EBA has developed this strategy to verify the GHG emissions reductions in 2013 by the AltaGas Turin Acid Gas Injection Project.

Beginning with the current equipment list, Tetra Tech EBA built a checklist to record observations, interviews, and recorded reviews from our site visit. During the site visit, equipment kilowatts (kW) rating for dehydration and compression equipment were examined, meter locations were observed, and data management and record keeping procedures were reviewed. At the same time we interviewed operators about calibration, downtimes and related applicable information.

Calculations verification began with source data from the AltaGas data management system. We observed the equipment kW rating and the associated metering, and cross-check against the records in Blue Source's calculator. Staff involved along the data flow were interviewed to verify the data flow process and the data and information management system.

Once comfortable that the raw or source data was in order, Tetra Tech EBA worked through the useful reports to verify that the calculations are performed correctly. Staff involved along the data flow were interviewed to verify the quantification methodology.

Tetra Tech EBA also worked from the assertion to review the calculations and data input.

Finally, the GHG assertion was checked against the Notice of Creation for consistency. Errors were calculated and reported, if any.

The verification plan is included in Appendix A. The verification plan establishes and outlines the terms of engagement, level of assurance, objective, criteria, scope, and materiality threshold. It also describes the range of procedures applied to ensure the verification objective was met.

5.2 Sample Plan

The sampling plan guides and ensures that sufficient and appropriate evidence is identified and assessed, in support of the principles and quantification methodology that formed the emission reduction assertion made by Blue Source. The sampling plan also ensures that sufficient and appropriate evidence has been collected and reviewed to disclose any material discrepancies that contribute to the GHG assertions, if such exists. The following is a summary of key parameters examined:

- Ownership for offsets generated;
- Project boundaries;
- Methodologies, emission factors, and conversions used;
- Comparability with the baseline;
- Conformance to the program criteria;
- Integrity of the responsible party's data management system and controls;
- GHG data and information, including type of evidence collected, verification testing, and crosschecking;
- Comparison of the GHG assertion to Alberta offset program requirements;
- Gas analysis;
- Electricity usages
- Volume of acid gas injected
- Volume of acid gas flared
- Volume of fuel gas consumed
- Volume of fuel gas consumed in the sulphur unit in the baseline condition; and
- Volume of fuel gas consumed in the incinerator in the baseline condition.

The key line items for the quantification of GHG reductions were sampled as presented in Table 2.

Table 2: Sample Plan of Source Data

Category/Line item	Total # records	Sample size	% Sampled
Operating hours of Acid Gas Compressor	12 months	12 months	100%
kW rating of equipment	4 equipment	4 equipment	100%
Meter Readings (for Acid Gas and Fuel Gas)	3 meters x 12 months	36 records sampled	100%
Acid Gas Analysis	12 months	8 months	67%
Fuel Gas Composition	12 months	12 months	100%

In addition to supporting documentation for the verification, the verification team reviewed Blue Source's risk control procedures, QA/QC procedures, client application process, data flow process, security and database processes, etc.

5.2.1 Office Visits

An office visit was conducted on September 26, 2013 by Mr. Nelson Lee. The office visit particularly assessed and observed Blue Source's data management system, examined QA/QC procedures, and tested controls in the data management system. Blue Source's data flow process, and risks, controls and processes document were reviewed. The effectiveness of the data management system's QA/QC procedures and controls was assessed. Staff involved along the data flow were interviewed.

5.2.2 Site Visits

A site visit was conducted on October 29, 2013 by verifier Mr. Nelson Lee and Mr. Min Si. During the site visit, meter locations were observed, operators were interviewed, data management system was examined, calibration records were reviewed, and equipment energy ratings were crosschecked.

5.3 Verification Procedures

The Tetra Tech EBA verification team reviewed, recalculated, vouched, retraced, and confirmed data and calculations provided by Blue Source. In addition, supporting documentation and records were reviewed. Site visits were conducted on October 29, 2013 by verifier Mr. Nelson Lee and Mr. Min Si, and an office visit conducted on September 26, 2013 by verifier Mr. Nelson Lee.

Upon completion of the tasks described above, Tetra Tech EBA summarized the initial findings, and forwarded them to Blue Source. This provided Blue Source with the opportunity to clarify information to address any outstanding discrepancies prior to finalizing the verification report.

The verification procedures performed for key parameters are presented in Table 3.

Table 3: Verification Procedures for Key Parameters

Parameter	Procedure
Project boundaries	Reviewed the project plan and project report. Conducted site visits.
Methodologies, emission factors, and conversions used	Reviewed the project plan, project report, quantification method, and verification data packages downloaded from the database.
Comparability with the baseline	Reviewed the calculation
Conformance to the program criteria	Reviewed the project plan, project report, and calculation methodologies.. Built a checklist to check against program criteria.
Integrity of the responsible party's data management system and controls	Conducted site visits to observe data transfer process, and interviewed operators on site. Reviewed management of GHG information system and records retention policy.
GHG data and information, including type of evidence collected, verification testing, and crosschecking	Reviewed S30 reports, original gas analysis, simulation report, compressor operating hours Cross-checked original data sources against Blue Source's Calculator
Comparison of the GHG assertion to Alberta offset program requirements	Reviewed the project plan, project report, calculation methodologies, evidence of ownership, and geographic boundary.
Credit Ownership	Reviewed Project Plan and Report
Electricity usages	Reviewed equipment energy ratings, and checked equipment operating hours
Volume of acid gas injected	Conducted site visits to observe meter locations. Checked meter calibration records. Interviewed operators for data transfer procedures
Volume of acid gas flared	Conducted site visits to observe meter locations. Checked meter calibration records.
Volume of fuel gas consumed	Checked S30 Reports. Checked meter locations and calibration records.
Volume of fuel gas consumed in the incinerator in the baseline condition	Checked meter locations and calibration records Reviewed simulation reports Reviewed Blue Source's Calculator Cross-checked original data sources against Blue Source's Calculator
Volume of acid gas consumed in the incinerator in the baseline condition	Checked meter locations and calibration records Reviewed simulation reports Reviewed Blue Source's Calculator Cross-checked original data sources against Blue Source's Calculator

6.0 VERIFICATION SCHEDULE

The verification schedule is presented in Table 4.

Table 4: Verification Schedule

Task	Date
Project start date (kick off meeting with client)	September 26, 2013
Site visit	October 29, 2013
Documentation and GHG reports transfer	November 4, 2013 – February 3, 2014
Data collection, reviews, and interviews	November 4, 2013 – February 3, 2014
Issuance of Corrective Action Requests (CARs) report	February 7, 2014
Response to CARs	February 10, 2014
Submit “Issued for Review” report	February 18, 2014
Submit “Issued for Use” report	February 20, 2014

7.0 VERIFICATION FINDINGS

7.1 Sampling Findings

The final verification results based on the sample plan are presented in Table 5

Table 5: Sampling Findings

Parameter	Results
Project boundaries	**No discrepancies found** Project Plan and Report align with boundaries identified in the Protocol and Project Plan.
Methodologies, emission factors, and conversions used	**No discrepancies found** Methodologies, emission factors and conversions are stated in the Project Plan and Project Report. Project Plan and Report align with the Protocol.
Comparability with the baseline	**No discrepancies found** The Project Plan and Report align with the Protocol.
Conformance to the program criteria	**No discrepancies found** The project plan, project report, calculation methodologies align with the Protocol and program criteria.
Integrity of the responsible party's data management system and controls	**No discrepancies found** Tetra Tech EBA tested the effectiveness of the Blue Source’s QA/QC procedures and data management system controls. Tetra Tech EBA reviewed the risk, controls & processes document and identified no discrepancies.

Parameter	Results
GHG data and information, including type of evidence collected, verification testing, and crosschecking	**No discrepancies found** Tetra Tech EBA reviewed the client application document, data flow diagram, and records retention policy. Tetra Tech EBA reviewed S30 reports, simulation reports, etc Tetra Tech EBA cross-checked original gas analyses
Comparison of the GHG assertion to Alberta offset program requirements	**No discrepancies found** The project plan, project report, calculation methodologies align with the Protocol defined and Alberta offset program requirements.
Credit Ownership	**No discrepancies found** The project plan and project report state the credit ownership.
Electricity usages	**No discrepancies found** Tetra Tech EBA reviewed equipment energy ratings and operating hours
Volume of acid gas injected	**No discrepancies found** Tetra Tech EBA observed meter location for recording acid gas injected and reviewed simulation report
Volume of acid gas flared	**No discrepancies found** Tetra Tech EBA reviewed S30 reports
Volume of fuel gas consumed	**No discrepancies found** Tetra Tech EBA reviewed S30 reports
Volume of fuel gas consumed in the incinerator in the baseline condition	**No discrepancies found** Tetra Tech EBA reviewed the calculation for fuel gas consumed
Volume of acid gas consumed in the incinerator in the baseline condition	**No discrepancies found** Tetra Tech EBA reviewed the calculation for acid gas consumed

7.2 Immaterial Misstatements, Omissions, Or Errors

Immaterial misstatements, omissions, or errors and their resolutions, if applicable, identified during verification activities are provided in Table 6.

Table 6: List of Immaterial Misstatements Omissions or Errors and Resolutions

Issue Number	Issue Description	Resolutions
1	Tail Gas Composition with source: Sulphur Experts (2014), "AltaGas Turin SRU Simulation Report January 2014", Page16 does not correspond to entries? Calculator Data Entry E 94- E116.	**Resolved** Sulphur Experts averages the compositions. A working spreadsheet sent by Sulphur Experts was provided.
2	The calculation of the LHV for Tail Gas differs from the calculation for the LHV for the Fuel Gas (not all of gas components are used).	**Resolved** Blue Source corrected the LHV for TG to use all components which have a mol% greater than zero or are combustible.
3	Reference Values for LHV (ideal gas conditions) for Data Entry F94-F116 are only available at a cost. Source: Gas Processors Association. 2008. GPA Standard 2145-09: Table of Physical Properties for Hydrocarbons and Other Compounds of Interest to the Natural Gas Industry.	**Satisfactory** File provided by Blue Source
4	Tail Gas: Values for CO and CS2 cannot be found in document. Also value for nC5H12 should be 138.4 according to the document for Cell F113 2/7/2014.	**Resolved** References for CO and CS2 have been updated and included in the calculators. The Turin calculator has been updated to include the heating value for n-C5H12.
5	Density of molecules at 15°C and 101.325kPa with source: Gas Processors Association. 2008. GPA Standard 2145-09: Table of Physical Properties for Hydrocarbons and Other Compounds of Interest to the Natural Gas Industry cannot be located. Cells Data Entry: C170-N 170.	**Satisfactory** File provided by Blue Source
6	Fuel Gas Compositions for the months of January - June are missing.	**Satisfactory** File provided: A1 Turin Fuel Analysis Jan-Jun 2013.pdf
7	ZEDI: Gas Volume Statement; Turin Gas Plant (12-19-012-18 W4); Fuel to Flare: meter code 151 source data for the months of October, November, December are missing for Calculator Data Entry F37-F39. Please provide ZEDI reports for those months.	**Satisfactory** File Provided: FuelToFlare_Oct_Nov_2013.pdf and FuelToFlare_Dec_2013.pdf
8	The Project Plan (v3.0 February 4) for Turin is not complete. Please provide complete updated project plan.	**Satisfactory** Updated Project Plan with Appendices provided.

7.3 Material Discrepancies

The verification team identified no material discrepancies in the data and documents presented by Blue Source.

7.4 Records of Clarification during Verification

Table 7: List of Clarifications

Number	Description	Clarification provided by Blue Source
1	Ratio of Fuel Gas to Tail Gas for Incineration L41- L60: (LHVCombined - LHVTG) ÷ (LHVFG - LHVCombined) unclear why this formula for calcuating FG:AG was used.	**Satisfactory** This equation is outlined in the protocol in Table 2.4 under SS B6 Incineration (pg30). It is used to determine the minimum heating value of the tail gas and fuel gas streams to ensure effective combustion based on the LHVcombined referenced from AER's Directive 060: Upstream Petroleum Industry Flaring, Incinerating, and Venting (November 2006)
2	For the volume of Acid Gas used for the Baseline Calculations; the meter readings from 3B at the Gas injection site were used rather than the Acid Gas volume from meter FE-003A before the compressor. This volume represents the volume of compressed Acid Gas and is therefore smaller than the volume of Acid Gas from meter 3A.	**Satisfactory** The injected volumes are based on the injection well meter because both measurements are corrected to STP conditions (101.325 kPa and 15 C) and it does not matter which meter is used on the basis of whether the acid gas volumes in the baseline were compressed or not. The meter at the injection well is more accurate as it accounts for fugitive losses in the project condition which Blue Source estimates would also be similar under the baseline conditions for the SRU. Using a smaller volume of Acid Gas results in smaller emissions in the baseline conditions. Verifiers believe it is a more conservative approach to calculate the CO2 offsets using this smaller volume.

8.0 STATEMENT OF VERIFICATION

The findings presented herein were used to make a reasonable level of assurance as defined by Alberta ESRD's Technical Guidance for Offset Project Developers (Version 4.0, February 2013).

Based on the review and analysis conducted by Tetra Tech EBA, the AltaGas Turin Acid Gas Injection Project Report (dated February 11 2014, Version 1.0) and 83,540 tonnes of carbon dioxide equivalents (t CO_2e) of emission reductions generated from the offset project - AltaGas Turin Acid Gas Injection Project between January 1, 2013 and December 31, 2013 are free from material errors, omissions and misstatements and are fair representations of the GHG data and information, and are prepared in accordance with the related criteria and associated guidance documents on GHG quantification, monitoring, and reporting in Alberta. The conclusion presented is confined to GHG emission reductions and does not address other offset quality issues that may be defined outside the SGER.

A signed Statement of Qualifications is included in Appendix B. A signed Conflict of Interest Checklist is included in Appendix C. A signed Statement of Verification is included in Appendix D.

9.0 CONFIRMATIONS

As Alberta ESRD required, the verifier has confirmed the following information:

- Consistency of offset project information across offset project documentation;
- Offset project locations;
- Methodology documents exists;
- Offset project contact and the amount of GHG emission reductions; and
- Completeness and accuracy of process and data flow diagram.

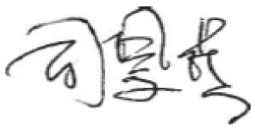
10.0 CLOSURE AND LIMITATIONS OF LIABILITY

Tetra Tech EBA has undertaken the verification of the asserted emission reductions associated with the AltaGas Turin Acid Gas Injection Project in accordance with ISO 14064:3 and Technical Guidance for Offset Project Developers (Version 4.0, February 2013). Tetra Tech EBA has assessed the offset project GHG assertions using reasonably ascertainable information as defined by ISO 14064-3, obtained from a review of operational and regulatory records and available literature and documents. Site visit and interview with employees conducted on October 29, 2013 were believed to be reliable and knowledgeable to further review data management and data acquisition methods. The assessment represents the condition in the subject area at the time of the assessment. Tetra Tech EBA did not conduct direct GHG emissions monitoring or other actual environmental data sampling or analysis as part of this verification.

The purpose of this report is to identify noted exceptions and observations, in the quantification of emission reductions. This report is not intended to imply exhaustive compliance or non-compliance by the verification team. The verification team has made diligent effort to sample applicable information available regarding emission reductions at the facility during the verification. It should be noted that the relatively short time frame allowed for only general findings and the verifier may not have identified all potential aspects at the facility. Observations, exceptions and conclusions are based on the judgment of the verifier.

Issued in Vancouver BC, February 20, 2014.

Respectfully submitted,
Tetra Tech EBA Inc.



Prepared by:
Min Si, M.N.R.M., CEM
Verifier
Environment Practice
Direct Line: 403.723.1565
Min.Si@tetratech.com

Reviewed by:
Nelson Lee, M.A.Sc., P.Eng.
Lead Verifier & Designated Signing Authority
Environment Practice
Direct Line: 604.685.0017 x345
Nelson.Lee@tetratech.com

/gc

APPENDIX A
VERIFICATION PLAN

TETRA TECH EBA

February 20, 2014

ISSUED FOR USE
FILE: ENVONG03018

Blue Source Canada
717 7th Avenue SW, Suite 700
Calgary, Alberta T2P 0Z3

Attention: Mr. Graham Harris

Subject: Verification Plan for AltaGas Processing Partnership's AltaGas Turin Acid Gas Injection Project for 2013 Vintage Year

(Please note that effective January 1, 2014 our legal name changed from EBA Engineering Consultants Ltd. to Tetra Tech EBA Inc.)

1.0 INTRODUCTION

1.1 Verification Objectives

Blue Source Canada ULC (Blue Source) has contracted Tetra Tech EBA Inc. (Tetra Tech EBA) to verify emissions reductions from AltaGas Turin Acid Gas Injection Project for 2013 vintage year.

The objective of the Verification Plan is to identify key assertions, data sources, methods, and procedures pertinent to the 2013 greenhouse gas (GHG) assertion, and to assess conformity with Climate Change Emissions Management Act, the Alberta Specified Gas Emitters Regulation (SGER), and the relevant guidance issued by Alberta Environment and Sustainable Resources Development (Alberta ESRD). The verification plan facilitates the process of assessment of the completeness, conservativeness, consistency, accuracy and transparency of the information provided by Blue Source.

1.2 Scope

The GHG reductions being verified are 83,540 t CO2e generated between January 1, 2013 and December 31, 2013, generated from the AltaGas Turin Acid Gas Injection Project.

This third party verification plan contains the verification procedures that will be applied to address risks in the 2013 GHG emissions assertion for Blue Source. The verification is confined to the facility boundary and equipment as defined by Blue Source and facility data for the period January 1, 2013 through December 31, 2013.

1.3 Verification Assurance

The scope and level of effort of this verification is planned to achieve a reasonable level of assurance as required to satisfy SGER.

1.4 Verification Criteria

The verification criteria are to ensure that the GHG assertion satisfies the standards and guidelines presented in the following documents:

Tetra Tech EBA Inc.
Riverbend Atrium One, 115, 200 Rivercrest Drive SE
Calgary, AB T2C 2X5 CANADA
Tel 403.203.3355 Fax 403.203.3301

- Alberta's Climate Change and Emissions Management Act, S.A. 2003, c. C-16.7;
- Alberta Specified Gas Emitters Regulation, 2007;
- SGER, Technical Guidance Document for Offset Project Developers (Version 4.0, February 2013);
- SGER, Technical Guidance for Greenhouse Gas Verification at Reasonable Level Assurance (Version 1.0, January 2013); and
- Quantification Protocol for Acid Gas Injection (Version 1.0, May 2008).

1.5 Verification Standards

Tetra Tech EBA's verification will be conducted in accordance with Canadian Standards Association (CAN/CSA)-International Organization for Standardization (ISO) 14064-3-06 – GHG's – Part 3: Specification with Guidance for the Validation and Verification of GHG Assertions (Adopted ISO 14064-3:2006, First Edition, 2006).

2.0 DATA MANAGEMENT SYSTEM

A new data management system called ZEDI was implemented in 2012 by the Project Proponent. In general, the data flow processes employed for this Project consist of manual or electronic data capture and reporting, and manual entry of monthly totals or average values into a Quantification Calculator developed by Blue Source. The volume of acid gas injected and acid gas flared are metered and connected to the AltaGas data management system. The metered volumes are uploaded automatically once per day to the AltaGas data management system. The volume of fuel gas consumed to supplement flaring is measured continuously and recorded by meter. The composition of acid gas is measured monthly by a third party laboratory and entered into the Quantification Calculator manually by Blue Source.

The complete data and information management system remains to be determined, evaluated and documented in the verification report.

3.0 CONTROL ENVIRONMENT

The critical components for an effective system of internal controls for the data management system will be examined, specifically assessing if:

- Management has established and documented standard procedures for IT operations, including managing, monitoring, and responding to security, availability, and processing integrity events;
- Controls exist to maintain processing continuity during operator shift changes by providing for the formal handover of activity, status updates, and reports on current operations;
- System event data are sufficiently retained to provide chronological information and logs to enable the reconstruction, review, and examination of the time sequences of processing or batch jobs;
- IT management has defined, documented, and implemented a problem management system to ensure that all operational events that are not part of the standard operation (incidents, problems, and errors) are recorded, analyzed, and resolved in a timely manner;
- The problem management system provides for adequate audit trail facilities, which allow tracing from incident to underlying cause; and
- QA/QC procedures have been established by Blue Source for the GHG quantification.

4.0 MATERIALITY

As per Alberta ESRD, a standard materiality threshold of 5% is used for this verification.

5.0 STRATEGIC ANALYSIS AND RISK ASSESSMENT

5.1 Verification Strategy

Tetra Tech EBA understands:

- Under the baseline condition, the emissions from incineration of fuel gas accounted for 57%, and from incineration of acid gas accounted for 39% of total baseline emissions; and
- Under the project condition, the emissions from electricity used for acid gas dehydration and compression processes represented 79%, from upset flaring of fuel gas represent 9%, and from upset flaring of acid gas represent 11% of total project emissions.

Tetra Tech EBA has developed this strategy to verify the GHG emissions reductions in 2013 by the AltaGas Turin Acid Gas Injection Project.

Beginning with the current equipment list, Tetra Tech EBA built a checklist to record observations, interviews, and recorded reviews from our site visit. During the site visit, equipment kilowatts (kW) rating for dehydration and compression equipment were examined, meter locations were observed, and data management and record keeping procedures were reviewed. At the same time we interviewed operators about calibration, downtimes and related applicable information.

Calculations verification began with source data from the AltaGas data management system. We observed the equipment kW rating and the associated metering, and cross-check against the records in Blue Source's calculator. Staff involved along the data flow were interviewed to verify the data flow process and the data and information management system.

Once comfortable that the raw or source data was in order, Tetra Tech EBA worked through the useful reports to verify that the calculations are performed correctly. Staff involved along the data flow were interviewed to verify the quantification methodology.

Tetra Tech EBA also worked from the assertion to review the calculations and data input.

Finally, the GHG assertion was checked against the Notice of Creation for consistency. Errors were calculated and reported, if any.

5.2 Risk Assessment

As part of the verification process, a risked-based verification and sampling plan must be developed that outlines the amount and type of evidence necessary to achieve the agreed level of assurances; methodologies for determining representative samples; and risks of potential errors, omissions or misrepresentatives. To develop a compliant verification and sampling plan, our verification team utilizes the Risk Assessment process.

The risk assessment includes considerations associated with regulatory requirements, GHG program requirements, industry/sector specific factors, and other non-technical risks. Tetra Tech EBA has completed a detail risk assessment that is recorded in our working files

5.3 Inherent Risk

Inherent risk is the risk of error that occurs as a result of the lack of capacity by staff; the size/complexity of the organization or GHG project; the industrial sector; and/or, the technologies or processes being applied in the organization or GHG project. We regard this risk as **medium to low** due to:

- Collection procedures for quantification include both automatic and manual processes (medium risk);
- The quantification of offset credits is completed using the Blue Source offset quantification tool, this tool has been used and verified for multiple vintage years (low risk); and
- The acid gas injection system has been implemented for several years, adequate staff capacity is assumed to be available (low risk).

5.4 Control Risk

Control risk is the risk that the proponent's control system will not detect and rectify a discrepancy. Control risk is determined to be **medium** due to:

- Data used for emission reduction quantification consists of manually recorded data, metered data capture, circular charts to record gas flow and manual entry of monthly total averaged into the Blue Source offset quantification tool (medium to high risk);
- Data is collected using a combination of manual data entry and automatic download (medium risk); and
- Blue Source completes an internal senior review in order to check both calculations and reports for transcription errors and omissions, correctly functioning links and formulas as part of their QA/QC (low risk).

5.5 Detection Risk

Detection risk is the risk that the Tetra Tech EBA verification team will not identify a material discrepancy. Detection risk is determined to be **low** due to:

- Reasonable level of assurance requires a medium to low detection risk; and
- Inherent risk and control risk have a resulting combined medium to high risk.

Note: Tetra Tech EBA's Quality Management System uses ISO 9001:2008 as a source of ideas that reinforce the firm's processes, but not to bend the firm to fit the standard. The result is quality practices that are integrated into our business so that quality is an intrinsic part of our work processes.

6.0 VERIFICATION PROCEDURE

As indicated in the risk assessment section, verification procedures will include a number of quantitative and qualitative checks. In this verification, several types of testing will be performed, including test of detail and test of control. The sampling and testing procedures specific to this verification are listed Table 1.

Table 1: Verification Procedure

Category/ Line Item	Verification Objective	Risk/Concern Identified	Procedure
GHG Assertion	Accuracy	Inaccuracy	▪ Conduct a site visit to determine meter locations ▪ Review calculations
	Occurrence and responsibility	Non-existence	▪ Conduct a site visit
	Completeness	Incomplete emission sources disclosed	▪ Conduct a site visit
	Cut-off	Improper metering	▪ Conduct a site visit ▪ Review records
	Consistency	Inconsistent quantification	▪ Review calculations ▪ Review Project Plan and Project Report
	Classification	Inappropriate emissions types, presentation, and description	▪ Review calculations ▪ Review Project Plan and Project Report
Volume of Acid Gas Injected and Flared	Completeness	Improper measurement of volume of acid gas on site	▪ Conduct a site visit to determine meter locations and identification numbers ▪ Reconcile meter identification numbers with meters identified in Project Plan and Report ▪ Trace meter records to emissions calculations ▪ Review Gas Processing Plant ▪ Sulphur Balance Report (S-30)
	Accuracy	Inaccurate calculations and measurement for the volume of acid gas injected and flared	▪ Check calculations ▪ Review Gas Processing Plant ▪ Sulphur Balance Report (S-30)
			▪ Inspect calibration records ▪ Review QA/QC procedures
Composition of Acid Gas	Accuracy	Inaccurate gas analysis	▪ Observe the system of sampling gas
			▪ Inspect original gas analysis reports ▪ Inspect data entries
Volume of Fuel Gas Consumed in the Project Condition	Accuracy	Inaccurate measurement	▪ Inspect records
			▪ Inspect calibration records ▪ Review QA/QC procedures
Electricity	Cut-off	Improper operating hours	▪ Inspect operating hours
	Accuracy	Inaccurate equipment specification	▪ Inspect equipment kw rating
Volume of Fuel Gas Consumed from Claus unit Operation in the Baseline Condition	Accuracy	Inaccurate estimation	▪ Inspect equipment specification ▪ Review engineering reports

7.0 VERIFICATION TEAM

Table 2 lists the verification team members and their roles.

Table 2: Verification Team

Name	Role
Mr. Nelson Lee, M.A.Sc., P.Eng.	Lead Verifier / Designated Signing Authority
Ms. Nancy Wellhausen	Peer Reviewer
Ms. Michèle Elsen, B.Sc.	Verifier / Project Manager
Mr. Min Si, M.N.R.M.	Verifier

8.0 SCHEDULE

The schedule for the verification is presented in Table 3.

Table 3: Schedule of Verification Activities

Task	Date
Project start date (kick off meeting with client)	September 26, 2013
Site visit	October 29, 2013
Documentation and GHG reports transfer	November 4, 2013 – February 3, 2014
Data collection, reviews, and interviews	November 4, 2013 – February 3, 2014
Issuance of Corrective Action Requests (CARs) report	February 7, 2014
Response to CARs	February 10, 2014
Submit “Issued for Review” report	February 18, 2014
Submit “Issued for Use” report	February 20, 2014

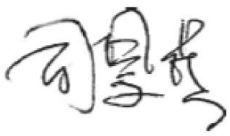
9.0 SAMPLING PLAN

As recommended in the Technical Guidance for Greenhouse Gas Verification at Reasonable Level Assurance (February 2013), the specifics of the sampling plan are not provided. The confidential sampling plan has been prepared to guide the verifier and ensure that sufficient and appropriate evidence is provided to support the principles and quantification methodology that formed the emission reduction assertion made by Blue Source.

10.0 CLOSURE

We trust this letter report meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully Submitted,
Tetra Tech EBA Inc.



Prepared by:
Min Si, M.N.R.M., CEM
Verifier
Environment Practice
Direct Line: 403.723.1565
Min.Si@tetratech.com

Reviewed by:
Nelson Lee, M.A.Sc., P.Eng.
Lead Verifier & Designated Signing Authority
Environment Practice
Direct Line: 604.685.0017 x345
Nelson.Lee@tetratech.com

/gc

APPENDIX B
STATEMENT OF QUALIFICATIONS

TETRA TECH EBA

February 20, 2014

ISSUED FOR USE
FILE: ENVONG03018

Blue Source Canada
717 7th Avenue SW, Suite 700
Calgary, Alberta T2P 0Z3

Attention: Mr. Graham Harris

Dear Mr. Harris,

Subject: Statement of Qualification
AltaGas Processing Partnership's AltaGas Turin Acid Gas Injection Project for 2013 Vintage Year

1.0 INTRODUCTION

Tetra Tech EBA Inc. (Tetra Tech EBA) has completed the verification for emission reductions for AltaGas Processing Partnership's AltaGas Turin Acid Gas Injection Project for the period of January 1, 2013 to December 31, 2013.

This signed statement of qualifications is submitted in conjunction with Tetra Tech EBA's Verification Report for verification of emissions reductions for AltaGas Processing Partnership's AltaGas Turin Acid Gas Injection Project under the Alberta Environment and Sustainable Resource Development's (ESRD) Specified Gas Emitters Regulation.

Tetra Tech EBA's verification team meets the requirements of Section 18 of the Alberta Specified Gas Emitters Regulation (SGER). Each member of the verification team has the required technical knowledge of greenhouse gas quantification methodologies, in addition to in-depth experience in the development of emission inventories.

The table below lists the verification team members and their roles.

Table 1: Verification Team

Name	Role
Mr. Nelson Lee, M.A.Sc., P.Eng.	Lead Verifier / Designated Signing Authority
Ms. Nancy Wellhausen	Peer Reviewer
Ms. Michèle Elsen, B.Sc.	Verifier / Project Manager
Mr. Min Si, B.Sc., M.N.R.M.	Verifier

The verification team is guided by Nelson Lee who is the lead verifier for the project. Mr. Lee was responsible for scheduling and assigning verification tasks between the verification team members and has provided integral input into all aspects of the verification.

Mr. Si and Ms. Elsen performed desktop verification procedures including analysis of production and emissions data and the correct application of the verification criteria. They also assisted with writing the verification report. Mr. Si and Mr. Lee were responsible for the development of the Verification and Sampling Plan. Mr. Lee and Mr. Si performed the site visits.

Tetra Tech EBA Inc.
Riverbend Atrium One, 115, 200 Rivercrest Drive SE
Calgary, AB T2C 2X5 CANADA
Tel 403.203.3355 Fax 403.203.3301

2.0 VERIFICATION TEAM QUALIFICATIONS

The verification team meets the requirements under SGER and contains the required knowledge of GHG emission quantification methodologies. They have experience in completing third party reviews and audits related to emission inventories, including verifications in Alberta. Tetra Tech EBA's GHG Practice Leader, Nelson Lee, is a CSA certified GHG verifier and registered professional engineer in Alberta.

Mr. Nelson Lee, M.A.Sc., P.Eng. is the designated signing authority for this verification.

Mr. Lee is a Lead GHG Verifier with experience in managing the GHG verification work, including the conduct of on-site visits. He has recently verified ten GHG offset projects and fifteen GHG reports, in accordance with ISO 14064:2006 Part 1, Part 2, and Part 3 that are publically available. He also led the review of GHG reporting methodologies, making recommendations for improvement for three pulp mills in accordance with ISO 14064-1:2006. Mr. Lee has also taught public courses on ISO 14064-1:2006 and has developed courses on Part 2 and Part 3, which were delivered internally in January 2011. Mr. Lee is a CSA certified GHG verifier with over 25 years of experience. He is a professional engineer in the Provinces of Alberta, British Columbia, and Saskatchewan, and leads Tetra Tech EBA's GHG and Climate Change practice.

Mr. Lee was the co-tutor of Lloyd's Register Quality Assurance's (LRQAs) (40 hours) assurance auditing course and was a team member on two assurance assessments where attestations were provided for two large multi-national energy companies' CSR reports. He has twice tutored the LRQA GHG emissions quantification course (ISO 14064-1:2006) and once in British Columbia. He has conducted over ten ISO 14064-3:2006 compliant validations and verifications to limited and reasonable levels of assurance.

Mr. Min Si, M.N.R.M. is the verifier for this verification.

Mr. Min Si is an Environmental Scientist with Tetra Tech EBA, A Tetra Tech Company in Calgary. He has a strong background in energy efficiency, GHG quantification and verification, and carbon offset project design. Mr. Si has worked on GHG verification and quantification projects for a wide range of sectors, including oil and gas, agriculture, manufacturing, etc. His emission experience includes GHG life cycle assessment, GHG quantification and verification for carbon offset projects, compliance report verification, National Pollution Registry Inventory (NPRI) and corporate GHG reporting.

Ms. Michèle Elsen, B.Sc. is the Project Manager for this verification.

Ms. Michèle Elsen is an Environmental Scientist and Project Management Coordinator with a B.Sc. in Environmental Sciences. She worked for an Energy Consulting and Environmental Education company helping school districts reduce and track their GHG emissions. She compiled that company's Action Plans for the Canadian GHG Challenge Registry and has 4 years' experience in completing energy audits and has organized and presented over 140 hands-on workshops on energy conservation.

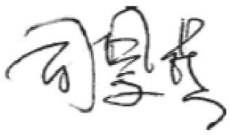
Ms. Nancy Wellhausen is the Peer Reviewer for this verification.

Ms. Wellhausen is a senior GHG Lead Verifier and air quality and inventory specialist with over 20 years of experience. She has served in the role of Independent Peer Reviewer for six GHG report verifications in BC in 2012 alone. She is registered with the California Air Resources Board as a GHG Lead Verifier. She has led numerous projects supporting clients for the AB 32 verification services by identifying and verifying entity boundaries, emissions sources, emissions factors, electricity transactions, data reviews, measurements, and calculations to minimize any uncertainty in the GHG emissions data.

3.0 CLOSURE

If there are any questions or clarifications regarding the team's qualifications or roles please contact the undersigned.

Sincerely,
Tetra Tech EBA Inc.



Prepared by:
Min Si, M.N.R.M., CEM
Verifier
Environment Practice
Direct Line: 403.723.1565
Min.Si@tetratech.com

Reviewed by:
Nelson Lee, M.A.Sc., P.Eng.
Lead Verifier & Designated Signing Authority
Environment Practice
Direct Line: 604.685.0017 x345
Nelson.Lee@tetratech.com

/gc

APPENDIX C
CONFLICT OF INTEREST CHECKLIST

TETRA TECH EBA

February 20, 2014

ISSUED FOR USE
FILE: ENVONG03018

Blue Source Canada
717 7th Avenue SW, Suite 700
Calgary, Alberta T2P 0Z3

Attention: Mr. Graham Harris

Dear Mr. Harris,

Subject: Conflict of Interest Checklist for AltaGas Processing Partnership's AltaGas Turin Acid Gas Injection Project for 2013 Vintage Year

Tetra Tech EBA Inc. (Tetra Tech EBA) has completed the verification for emission reductions for AltaGas Processing Partnership's AltaGas Turin Acid Gas Injection Project for the period of January 1, 2013 to December 31, 2013.

As a requirement of the Alberta Offset System, Tetra Tech EBA conducts an internal conflict of interest assessment to ensure the potential for conflicting interest on each verification project, on the part of the verifier and the operation is reviewed and minimized. The following checklist is provided.

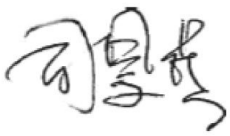
Question	Yes	No	Specifics
1. Can the verifying organization or the verification team members directly benefit from a financial interest in the Project Developer or the Project Developer's Project?		X	N/A
For example: ▪ Owning shares of the Project Developer; ▪ Having a close business relationship with the Project Developer; ▪ Contingent fees relating to the results of the engagement; ▪ Potential employment with the Project Developer; or ▪ Undue concern about the possibility of losing the verification or other fees from the Project Developer.			
2. Can the verifying organization or verification team members be in a position of assessing their own work?		X	N/A
For example: ▪ Provided greenhouse gas consultation services to the project; ▪ Provided validation for the project; ▪ If providing non-greenhouse gas work for the company, consideration needs to be given as to how potential and perceived conflict of interests can be managed; or ▪ A member of the verification team was previously employed with the company.			
3. Does the verifying organization or a member of the verification team, or a person in the chain of command for the verification, promote or be perceived to promote, a project developer's position or opinion to the point that objectivity may, or may be perceived to be, compromised?		X	N/A

Tetra Tech EBA Inc.
Riverbend Atrium One, 115, 200 Rivercrest Drive SE
Calgary, AB T2C 2X5 CANADA
Tel 403.203.3355 Fax 403.203.3301

Question	Yes	No	Specifics
For example: ▪ Dealing in, or being a promoter of, greenhouse gas credits on behalf of a project developer; or ▪ Acting as an advocate on behalf of the project developer in litigation or in resolving disputes with third parties.			
4. Is one or more of the verification team too sympathetic to the project developer's interests by virtue of a close relationship with a project developer, its directors, officer or employees?		X	N/A
For example: ▪ A person on the verification team has a close personal relationship with a person who is in a senior greenhouse gas compilation role at the project developer; or ▪ The verification team or a person of influence on the verification team has accepted significant gifts or hospitality from the project developer.			
5. Is a member of the verification team or a person in the chain of command is deterred from acting objectively and exercising professional skepticism by threats, actual or perceived, from the directors, officers or employees of the Project Developer.		X	N/A
For example: ▪ The threat of being replaced as a third party verifier due to a disagreement with the application of an greenhouse gas quantification protocol; ▪ Fees from the project developer represent a large percentage of the overall revenues of the verifying organization; ▪ The application of pressure to inappropriately reduce the extent of work performed in order to reduce or limit fees; or ▪ Threats of litigation from the project developer.			

Tetra Tech EBA has found no potential for conflict of interest of this verification project as documented by our interval review process.

Sincerely,
Tetra Tech EBA Inc.



Prepared by:
Min Si, M.N.R.M., CEM
Verifier
Environment Practice
Direct Line: 403.723.1565
Min.Si@tetratech.com

Reviewed by:
Nelson Lee, M.A.Sc., P.Eng.
Lead Verifier & Designated Signing Authority
Environment Practice
Direct Line: 604.685.0017 x345
Nelson.Lee@tetratech.com

/gc

APPENDIX D
STATEMENT OF VERIFICATION

TETRA TECH EBA

February 20, 2014

ISSUED FOR USE
FILE: ENVONG03018

Alberta Environment and Sustainable Resource Development
12th Floor, Baker Centre
10025 – 106 Street
Edmonton, Alberta, T5J 1G4

Attention: Director Climate Change Secretariat

Subject: Statement of Verification for AltaGas Processing Partnership's AltaGas Turin Acid Gas Injection Project for 2013 Vintage Year

(Please note that effective January 1, 2014 our legal name changed from EBA Engineering Consultants Ltd. to Tetra Tech EBA Inc.).

1.0 INTRODUCTION

Tetra Tech EBA Inc. (Tetra Tech EBA) has reviewed the GHG emission reduction presented for for AltaGas Processing Partnership's AltaGas Turin Acid Gas Injection Project for the period of January 1, 2013 to December 31, 2013. The project involves greenhouse gas (GHG) emission reductions from implementing an acid gas injection (AGI) program—allowing for a net reduction in direct greenhouse gas (GHG) emissions due to the geological storage of carbon dioxide (CO2) and acid gas, and as a result of reduced fossil fuel usage to treat sulphur emissions.

1.1 Objective

The objective of the verification is to identify key assertions, data sources, methods, and procedures pertinent to the Project Report, The Project Plan, and to assess conformity with Climate Change Emissions Management Act, the Alberta Specified Gas Emitters Regulation (SGER), and the relevant guidance issued by Alberta Environment and Sustainable Resources Development (ESRD). The verification process determines whether the assertions of reported GHG reductions are free from material errors, omissions and misstatements and fair representations in accordance with the Alberta ESRD's Quantification Protocol for Acid Gas Injection (Version 1.0, May 2008), related criteria and associated guidance documents on GHG quantification, monitoring, and reporting in Alberta.

1.2 GHG Assertion

The asserted emission reductions are 83,540 tonnes of CO_2e generated between January 1, 2013 and December 31, 2013, generated from the AltaGas Turin Acid Gas Injection Project.

1.3 Role and Responsibilities

Blue Source was responsible for the preparation and presentation of information within the Reports. Tetra Tech EBA was responsible for determining whether anything has come to our attention to suggest that the GHG emission reduction is not presented fairly in accordance with Alberta Environment's approved quantification

Tetra Tech EBA Inc.
Riverbend Atrium One, 115, 200 Rivercrest Drive SE
Calgary, AB T2C 2X5 CANADA
Tel 403.203.3355 Fax 403.203.3301

methodology, Quantification Protocol for Acid Gas Injection (Version 1.0, May 2008), the Specified Gas Emitters Regulation (SGER), and associated guidance documents.

The Tetra Tech EBA verification team, including roles and responsibilities are listed in Table 1.

Table 1: Verification Team

Name	Role	Responsibilities
Mr. Nelson Lee, M.A.Sc., P.Eng.	Lead Verifier / Designated Signing Authority	Lead verification, including desktop review, and site visit. Review verification deliverables, adherence to ISO 14064-3, regulatory compliance, and technical soundness.
Mr. Min Si, M.N.R.M.	Verifier	Assist with verification activities, including verification planning, desktop review, HQ visit and verification report.
Ms. Michèle Elsen, B.Sc.	Project Manager / Verifier	Assist with verification activities, including verification planning, desktop review, HQ visit and verification report.
Ms. Nancy Wellhausen	Peer Reviewer	Review verification deliverables for adherence to ISO 14064-3 and regulatory compliance

2.0 SCOPE

2.1 Program Criteria

Tetra Tech EBA has conducted sufficient and appropriate procedures to ensure that the GHG assertions, the Project Plans, and Project Reports satisfy the standards and guidelines presented in the following documents:

- Alberta's Climate Change and Emissions Management Act, S.A. 2003, c. C-16.7;
- Alberta Specified Gas Emitters Regulation (SGER) 2007;
- SGER, Technical Guidance Document for Offset Project Developers, (Version 4.0, February 2013);
- SGER, Technical Guidance for Greenhouse Gas Verification at Reasonable Level Assurance (Version 1.0, January 2013); and
- SGER, Quantification Protocol for Acid Gas Injection (Version 1.0, May 2008).

2.2 Standard

The scope and level of effort of this verification were conducted to a reasonable level of assurance in accordance with Canadian Standards Association (CAN/CSA)-International Organization for Standardization (ISO) 14064-3-06 – GHG's – Part 3: Specification with Guidance for the Validation and Verification of GHG Assertions (Adopted ISO 14064-3:2006, First Edition 2006).Verification Procedures.

2.3 Verification Procedures

The Tetra Tech EBA verification team reviewed, recalculated, vouched, retraced, and confirmed data and calculations provided by Blue Source. In addition, supporting documentation and records were reviewed. Site

visits were conducted on October 29, 2013 by verifier Mr. Nelson Lee and Mr. Min Si, and an office visit conducted on September 26, 2013 by verifier Mr. Nelson Lee.

The office visits assessed Blue Source's data management system, examined QA/QC procedures, and tested controls in the data management system. Blue Source's data flow process, and risks, controls and processes documents were reviewed. The effectiveness of the data management system's QA/QC procedures and controls was assessed.

The site visit observed meter locations, interviewed operators, examined data management system, reviewed calibration records, and inspected equipment energy ratings.

The supporting documentation reviewed includes, but was not limited to S30 reports, gas analysis reports, simulation reports, equipment specifications, etc.

Upon completion of the tasks described above, Tetra Tech EBA summarized the initial findings, and forwarded them to Blue Source. This provided Blue Source with the opportunity to clarify information to address any outstanding discrepancies prior to finalizing the verification report.

3.0 OPINION

Based on the review and analysis conducted by Tetra Tech EBA, Blue Source Project Report (dated February 11, 2014, Version 1.0) and 83,540 tonnes of carbon dioxide equivalents (t CO2e) of emission reductions generated from the offset project - AltaGas Turin Acid Gas Injection Project between January 1, 2013 and December 31, 2013 are free from material errors, omissions and misstatements and are fair representations of the GHG data and information and are prepared in accordance with the related criteria and associated guidance documents on GHG quantification, monitoring, and reporting in Alberta. The conclusion presented is confined to GHG emission reductions and does not address other offset quality issues that may be defined outside the SGER.

4.0 LIMITATIONS AND LIABILITY

Tetra Tech EBA has undertaken the verification of the asserted emission reductions associated with the AltaGas Turin Acid Gas Injection Project in accordance with ISO 14064:3 and Technical Guidance for Offset Project Developers (Version 4.0, February 2013). Tetra Tech EBA has assessed the offset project GHG assertions using reasonably ascertainable information as defined by ISO 14064-3, obtained from a review of operational and regulatory records and available literature and documents. Site visit and interview with employees conducted on October 29, 2013 were believed to be reliable and knowledgeable to further review data management and data acquisition methods. The assessment represents the condition in the subject area at the time of the assessment. Tetra Tech EBA did not conduct direct GHG emissions monitoring or other actual environmental data sampling or analysis as part of this verification.

The purpose of this report is to identify noted exceptions and observations, in the quantification of emission reductions. This report is not intended to imply exhaustive compliance or non-compliance by the verification team. The verification team has made diligent effort to sample applicable information available regarding emission reductions at the facility during the verification. It should be noted that the relatively short time frame allowed for only general findings and the verifier may not have identified all potential aspects at the facility. Observations, exceptions and conclusions are based on the judgment of the verifier.

Issued in Vancouver BC, February 20, 2014.

Respectfully submitted,
Tetra Tech EBA Inc.

Prepared by:
Min Si, M.N.R.M., CEM
Verifier
Environment Practice
Direct Line: 403.723.1565
Min.Si@tetratech.com

Reviewed by:
Nelson Lee, M.A.Sc., P.Eng.
Lead Verifier & Designated Signing Authority
Environment Practice
Direct Line: 604.685.0017 x345
Nelson.Lee@tetratech.com

/gc

APPENDIX E

TETRA TECH'S GENERAL CONDITIONS

GENERAL CONDITIONS

GEO-ENVIRONMENTAL REPORT

This report incorporates and is subject to these “General Conditions”.

1.1 USE OF REPORT AND OWNERSHIP

This report pertains to a specific site, a specific development, and a specific scope of work. It is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site or proposed development would necessitate a supplementary investigation and assessment.

This report and the assessments and recommendations contained in it are intended for the sole use of TETRA TECH’s client. TETRA TECH does not accept any responsibility for the accuracy of any of the data, the analysis or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than TETRA TECH’s Client unless otherwise authorized in writing by TETRA TECH. Any unauthorized use of the report is at the sole risk of the user.

This report is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of TETRA TECH. Additional copies of the report, if required, may be obtained upon request.

1.2 ALTERNATE REPORT FORMAT

Where TETRA TECH submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed TETRA TECH’s instruments of professional service); only the signed and/or sealed versions shall be considered final and legally binding. The original signed and/or sealed version archived by TETRA TECH shall be deemed to be the original for the Project.

Both electronic file and hard copy versions of TETRA TECH’s instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except TETRA TECH. The Client warrants that TETRA TECH’s instruments of professional service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client’s current or future software and hardware systems.

1.3 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by TETRA TECH in its reasonably exercised discretion.

1.4 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of the report, TETRA TECH may rely on information provided by persons other than the Client. While TETRA TECH endeavours to verify the accuracy of such information when instructed to do so by the Client, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information which may affect the report.