

*Crop
Production
Services*



Project Report

Carbon Reduction Offset Project - Series 13

December 30th 2013

Table of Contents

1. Project scope and description	3
2. Reporting period	6
3. Details of changes to project	6
4. Calculation methodology for GHG removals	6
5. Removal totals	10
6. Project Contact Information	11
7. Signature of Project Developer – Aggregator	11

1. Project scope and description

Project Title: Carbon Reduction Offset Project – Series 13

Project start date: Applies an adjusted baseline for sector-wide adoption levels based on 2006 Census of Agriculture, applied to all projects of this type.

Credit start date: Jan 1st 2012

Credit end date: Dec 31st 2012

Expected lifetime of the project: As the CROP Series 13 Project is to some extent a continuation of previous CPS-C projects, the timelines highlighted below include the activities that have lead up to this most recent Series. It is expected that there will be additional CROP series projects in future which will continue either through to the end of 2021 or earlier if AESRD CO₂e Emission Management system ends or is replaced.

Project Purpose and objectives: This project uses the Alberta Environment *Conservation Cropping Protocol, Version 1, April 2012*, referred to hereafter as the “Conservation Cropping Protocol”. The protocol quantifies greenhouse gas (GHG) emission offsets associated with a change from conventional or full tillage (FT) to Reduced-till (RT) or No-till (NT) on agricultural soils within Alberta. The project adheres to the requirements for offset eligibility as specified in the regulation and guidance documents for the Alberta Offset System. **Table 1.1** lists the requirements and, for each one, the way in which the project satisfies the requirement:

Table 1.1 – Evidence of project eligibility (not specific to any protocol)

Requirement (<i>Technical Guidance for Offset Project Developers, Version 4.0, February 2013</i>)	Project-specific actions and details demonstrating compliance
Result from actions taken on or after January 1, 2002 ¹	Only tillage practices occurring on or after Jan 1, 2012 will be considered for crediting.
Be real, demonstrable, quantifiable	Data records contain details of crop types, number of acres, specifications of equipment used to conduct practices, and irrigation. This data is collected by experienced sales representatives and CPS-C staff who compile the data through a combination of interviews with the farmer and examination of cropping records and equipment. In all cases, a combination of photographs of equipment, documented equipment inspections, equipment purchase receipts and custom seeder declarations have been provided as additional evidence supporting the tillage practices asserted.
Not be required by law	CPS-C, in its capacity as Project Proponent, has researched current legislation for the Province of Alberta and can find nothing stipulating reduction in tillage on farm land.
Have clearly established ownership	All properties are checked for ownership by CPS-C against current land titles. The current landowner

¹ The opportunity to register credits from the 2002-2011 period has expired, so only activities from 2012 will be considered for crediting in this project.

	must contract with the farmer in order for the land to be included in the project. The farmer in turn contracts with CPS-C, so that at the point of verification CPS-C is clearly established as the owner of the credits.
Be counted once for compliance purposes	Prior to producing final reports, automated checks are run to ensure that no data has been included twice in the project, and that data has not been included in any previous CROP project.
Be verified by a qualified third party	The project has been verified by Millenium EMS Solutions Ltd., an independent verifying body. The Verification Report, Verification Statement, Conflict of Interest Checklist and Statement of Qualification have been submitted to Alberta Environment.
Have occurred in Alberta	All properties are checked by CPS-C against current Alberta land titles.

In accordance with the Conservation Cropping Protocol’s rules for project eligibility, the following guidelines provide a minimum set of criteria for the inclusion of individual producers in the aggregation project: This project has adhered to these guidelines, and evidence has been provided that the following criteria have been met as outlined in **Table 1.2**:

Table 1.2 – Evidence of project eligibility (Specific to Conservation Cropping Protocol)

Requirement (Conservation Cropping Protocol, Version 1, April 2012)	Project-specific actions and details demonstrating compliance
Farms produced annual crops on the land under contract, as confirmed by producer affirmations and farm records	<p>Farm records and affirmations that show this, and are in evidence in the project include:</p> <ul style="list-style-type: none"> • Electronic Field Information Sheets (FISs) detailing lands under contract and crops produced • Paper Data Collection Sheets detailing lands under contract and crops produced • Crop Insurance statements detailing lands and insured crops • Farm records (Crop plans, spreadsheets) detailing lands and crops • Receipts for purchase or cleaning of annual crop seed
For any land included in the project, the producer employed a No-Till practice, according to the definitions set out in the Conservation Cropping Protocol (Table 1.3 below), and supported by producer affirmations and farm records.	<p>Producers provide raw data essential for determining whether or not the farm meets eligibility requirements of the protocol, including opener width and shank spacing of equipment used, number of passes made for seeding, manure/ fertilizer application etc. Additional evidence also includes:</p> <ul style="list-style-type: none"> • Photographs of equipment • Documented inspections of equipment • Equipment purchase receipts • Custom seeder receipts

Table 1.3 – Tillage definitions used for the project

Tillage System	Cropped Land Period ²	Fallow Period ³
No Till	Up to two passes with low-disturbance openers (up to 38%) ^{4,5} or one pass with a slightly higher disturbance opener (up to 46%) to apply seed, fertilizer or manure ⁶ , discretionary tillage of up to 10% ⁵ , no cultivation	No cultivations
Reduced Till	Soil disturbance to apply seed, fertilizer, or manure exceeds no till definition and/or one cultivation in fall or spring	One to two cultivations
Full Till	More than one cultivation between harvest and subsequent seeding if no fallow in that period, or, more than three cultivations between harvest to subsequent seeding if fallow	More than two cultivations

Notes:

¹ The Peace River Lowland ecoregion is contained within the Parkland zone.

² Cropped land period applies to the management cycle that terminates at harvest, (e.g. harvest to harvest defines the cropped land period). This includes land preparation for seeding which may occur in the previous fall.

³ Fallow period extends from harvest for one full year to the next fall.

⁴ Percentage values associated with openers are based on maximum opener width (e.g. 5 inch openers actually measure 5.5 inches) divided by the shank spacing of the implement.

⁵ Additional operations with harrows, packers, or similar non-soil disturbing implements are accepted. Where a second low soil disturbance operation is performed it is normally for injection of fertilizer or manure.

⁶ Discretionary tillage of up to 10% means that up to 10% of the surface area of a single agricultural field may be cultivated to address specific management issues. These areas are determined on an annual basis, meaning that specific areas may change from year to year.

Actual Emission Removals: 44,854 tonnes CO₂e (2012 vintage year)

Applicable Quantification Protocol: Conservation Cropping Protocol, Version 1, April 2012

Other environmental attributes: None

Project Site: This is an aggregated project consisting of multiple farm sites in Alberta. A spatial locator will be submitted as part of the Reporting requirements, which will detail individual legal land locations.

Ownership: CPS-C has established ownership of Emission Reductions through a purchase agreement with the farmer and in addition, where the farmer is not the owner of the land, with the landowner(s) named on land title.

Reporting details: Reporting and verification for the project will occur once, in December 2013

Verification details: Millenium EMS Solutions Ltd. is a professional engineering firm with expertise in GHG Quantification methodologies, GHG verification and validation, and emissions inventories. Qualifications of the team members included experience in GHG validation and verification, including working with tillage projects in the Alberta Offset System, specific knowledge and experience of eligible/ non-eligible farming practices and farm equipment.

Project Activity: Details of how the project meets eligibility requirements are provided in tables 1.1 and 1.2 above

Project Registration: This project will be registered only in the Alberta Offset System

2. Reporting period

The Reporting Period is from January 1, 2012 to December 31, 2012. Section 5 of this document provides a statement of GHG emission reductions in tonnes of CO₂e for each year of the reporting period.

3. Details of changes to project

There were no modifications made to calculation procedures, data collection and/or record keeping procedures, emission factors or other variables as stipulated in the Project Plan document (Appendix A) nor were there any changes to the legal requirements of the Project.

4. Calculation methodology for GHG reductions

The Conservation Cropping Protocol prescribes two discrete sets of coefficients according to two EcoZones (Parkland and Dry Prairie). For this project we have followed the dataset of Dry Prairie/ Parkland lands provided by Alberta Agriculture as a basis for determining the Ecozone for each individual property.

Quantification of the reductions, removals and reversals of relevant SS's for each of the Greenhouse Gases was completed using the coefficients outlined in the Conservation Cropping Protocol.

The basic formula for arriving at a total coefficient to be used per hectare of annual crop in either of the two Ecozones under Reduced-Till or No-Till conditions is stipulated as:

Total Coefficient = (Net SOC Coefficient * Assurance factor) + (Net N₂O Coefficient) + (Net Energy Coefficient)

In order to complete this equation for applicable EcoZones and tillage practices, CPS-C referred to tables 4.1 and 4.2 below (provided in the Conservation Cropping Protocol):

Table 4.1 - Baseline Adjusted emission factors for 2012 through 2021 (inclusive) for No Till (NT) management

Ecozone	Practice	Baseline Adjusted Emission Factors		
		Sequestration of Soil Organic Carbon (t CO ₂ e ha ⁻¹ yr ⁻¹)	N ₂ O Reduction (t CO ₂ e ha ⁻¹ yr ⁻¹)	Energy Reduction (t CO ₂ e ha ⁻¹ yr ⁻¹)
Parkland	NT	0.25	0.012	0.054
Dry Prairie	NT	0.13	0.0030	0.021

Table 4.2 - Assurance factors by region and practice type

Ecozone	Factor	No Till
Parkland	Reserve Factor	87.5%
	Chosen Number of Reversals	2.5
	Range of Reversals	Range: 1-4
Dry Prairie	Reserve Factor	92.5%
	Chosen Number of Reversals	1.5
	Range of Reversals	1 – 2

Hence, using the example of land in the Parkland EcoZone under No-Till conditions:

Total Coefficient (per hectare) = (Net SOC Coefficient * Assurance factor) + (Net N20 Coefficient) + (Net Energy Coefficient)

$$= (0.25 * 0.875) + 0.012 + 0.054$$

$$= 0.28475$$

Total Coefficient (per acre) = Total coefficient (per hectare) * conversion factor hectares → acres

$$= 0.28 * 0.4047$$

$$= 0.115238325 \text{ or } \mathbf{0.12} \text{ (2 significant figures)}$$

An example from the project would be **property A** with land use for 2012 asserted as 150 acres of Barley under No-Till conditions. The property qualifies as Barley is an annual crop. The property being located in the Parkland region, the above coefficient would apply. Hence, the total number of credits generated would be:

$$150 * 0.12 = \mathbf{18} \text{ credits}$$

Total coefficients derived by region, tillage practice and irrigation details, from the same basic formula and used in the same calculation as above, are shown in **Table 4.3** below.

Table 4.3 – Total coefficients used for project

EcoZone	Sequestration of Carbon	*Reserve Discount Factor	+N ₂ O Reduction	+Energy Reduction	Total Tonnes per Hectare	/hectare to acre conversion factor	Total Tonnes per Acre	Total Tonnes per Acre - Rounded to 2 significant places*
Parkland	0.25	0.875	0.012	0.054	0.28475	2.47	0.1152834	0.12
Dry Prairie - Non-Irrigated	0.13	0.925	0.003	0.021	0.14425	2.47	0.0584008	0.058
Dry Prairie - Irrigated	0.25	0.925	0.003	0.021	0.25525	2.47	0.10334	0.10

5. Removal totals

Using the methodology outlined in Section 4 above, further details of which can be found within the Project Plan and the Conservation Cropping Protocol document, the total volume of Carbon Offset Credits recorded for this project is stated below:

Carbon Offset Credits:

Credit Recording Period: *January 1, 2012 to December 31, 2012.*

Emission Type: *Unit of measurement is tonne of CO₂E.*

Quantity: **44,854** *tCO₂e*

Comprising:

44,854 *tCO₂e 2012 Vintage*

6. Project Contact Information

Proponent	Verifier
Crop Production Services (Canada) Inc.	Millenium EMS Solutions Ltd.
PO Box 939	Suite 325, 1925 – 18th Avenue N.E.
Didsbury, Alberta	Calgary, AB
T0M 0W0	T2E 7T8
Contact: Richard Kennedy	Elizabeth Logan
Title: General Manager	
Tel: (403) 335 2433	403 270 4707
Fax: (403) 335 4738	403 283 2647
Email: Richard.kennedy@cpsagu.ca	elogan@mems.ca
Consecutive Verifications for CPS-C: 1	

7. Signature of Project Developer

I am a duly authorized corporate officer of the Project Developer mentioned above and have personally examined and am familiar with the information submitted in this Offset Project Report and the associated Offset Project Plan including the accompanying GHG Assertion on which it is based. Based upon reasonable investigation, including my inquiry of those individuals responsible for attaining the information, I hereby warrant that the submitted information is true, accurate and complete to the best of my knowledge and belief, and that all matters affecting the validity of the emission reduction claim or the protocol(s) upon which it is based have been fully disclosed. I understand that any false statement made in the submitted information may result in de-registration and serialization of credits and may be punishable as a criminal offence in accordance with provincial or federal statutes.

The project developer has executed this offset project report as of the 30th day of December 2013.

Project Name: **Carbon Reduction Offset Project – Series 13**
 Project Developer: **Crop Production Services (Canada) Inc.**

Signature:	 p.p.
Date:	December 30th 2013
Name:	Kevin Helash
Title:	Vice President