

Offset Project Report Form  
Carbon Credit Solutions Inc. Tillage Project #28

Project Developer:  
Carbon Credit Solutions Inc.

Prepared by:  
Carbon Credit Solutions Inc.

Reporting Period:  
January 1<sup>st</sup>, 2015 to December 31, 2017

Date:  
June 18, 2018

## Greenhouse Gas Assertion

Project Developer:

Carbon Credit Solutions Inc.

Carley Laxdal

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Project Documents:

Carbon Credit Solutions Inc. Tillage Project #28

Carbon Credit Solutions Inc. Tillage Project, December 1<sup>st</sup> 2015

Quantification Protocol for Conservation Cropping, Version 1.0 April 2012

Project Identification:

Carbon Credit Solutions Inc. Tillage Project #28

January 1<sup>st</sup>, 2015 to December 31<sup>st</sup>, 2017

This Project consists of the aggregation of greenhouse gas (“GHG”) emission reductions generated through the change in best management practices used by participants in the implementation of no-till systems on agricultural lands situated in the Province of Alberta. Carbon Credit Solutions Inc. has quantified GHG emission reductions created by individual farm participants and aggregated them into a single project. These GHG emission reductions have been generated in accordance with the “Quantification Protocol for Conservation Cropping”, Version 1.0 April 2012 (“The Protocol”).

The project sites are farm locations in Alberta. A full list of spatial locations is provided separately.

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Emission Reduction or Sequestration Assertion:

| Vintage   | Gas Type        | Quantity (tCO <sub>2</sub> e) |
|---|-----------------|-------------------------------|
| 2015<br>January 1 <sup>st</sup> 2015 to December<br>31 <sup>st</sup> 2015 | CO <sub>2</sub> | 33,337                        |
| 2016<br>January 1 <sup>st</sup> 2016 to December<br>31 <sup>st</sup> 2016 | CO <sub>2</sub> | 55,741                        |
| 2017<br>January 1 <sup>st</sup> 2017 to December<br>31 <sup>st</sup> 2017 | CO <sub>2</sub> | 114,135                       |
| Total Quantity  |                 | 203,213                       |

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Project Developer Signature:

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 greenhouse gas assertion, the accompanying project report on which it is based. Based upon reasonable investigation, including my inquiry of those individuals responsible for obtaining 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 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 18<sup>th</sup> day of June 2018.

Signature: 

Name: Richard Kennedy

Title: Director of Project Development

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## 1.0 Contact Information

Table 1: Project Contact Information

| Project Developer Contact Information  | Additional Contact Information   |
|--|--|
| Carbon Credit Solutions Inc.   | Carbon Credit Solutions Inc.   |
| Carley Laxdal  | Richard Kennedy  |
| 1-724 East Lake Road NE  | 1/724 East Lake Road NE  |
| Airdrie, Alberta, T4A 2J5  | Airdrie, Alberta, T4A 2J5  |
| 403-912-9132   | 403-912-9132   |
| <a href="http://www.carboncreditsolutions.ca">www.carboncreditsolutions.ca</a>       | <a href="http://www.carboncreditsolutions.ca">www.carboncreditsolutions.ca</a>         |
| <a href="mailto:carley@carboncreditsolutions.ca">carley@carboncreditsolutions.ca</a> | <a href="mailto:richard@carboncreditsolutions.ca">richard@carboncreditsolutions.ca</a> |

### Authorized Project Contact (if applicable)

N/A

## 2.0 Project Scope and Site Description

Table 2: Project Information

|                                |  |
|--------------------------------|--|
| Project title                  | Carbon Credit Solutions Inc. Tillage Project #28   |
| Project purpose and objectives | All farms in the project are using No-Till conservation cropping systems as outlined in the Protocol, and have provided data and evidence demonstrating compliance with the Protocol requirements. |
| Activity start date            | January 1 <sup>st</sup> , 2015   |
| Offset start date              | January 1 <sup>st</sup> , 2015   |
| Offset crediting period        | January 1 <sup>st</sup> , 2015 to December 31 <sup>st</sup> , 2020   |

|  |  |
|--|--|
| Reporting period covered by the project      | January 1 <sup>st</sup> , 2015 to December 31 <sup>st</sup> , 2017   |
| Actual emission reductions/<br>sequestration | 2015 – 33,337<br>2016 – 55,741<br>2017 – 114,135   |
| Unique site identifier                       | The project sites are farm locations in Alberta. A full list of spatial locations is provided separately.  |
| Is the project located in Alberta?           | Yes  |
| Project boundary                             | Within Alberta   |
| Ownership                                    | CCSI has the purchased right to register and sell the emission reductions from this project by contractual agreement with the farms involved. Land title records exist to demonstrate land ownership, and Consent Forms signed by all landowners exist to demonstrate ownership of offsets where the landowner and farmer are not the same. Master contracts between the farmer and CCSI establish CCSI's right to purchase, register, and sell the offsets. |

## 2.1 Project Implementation

This Project consists of the aggregation of greenhouse gas emission reductions generated from the reductions of greenhouse gas emissions through the change in best management practices used by participants in the implementation of no-till systems. The quantification of reductions achieved by the Project is based on actual measurements and monitoring, and follows the quantification procedures detailed in the Protocol. Each participant provided evidence as stipulated in the Protocol to ensure all eligibility was met and all criteria were followed. This process is described in detail in the Offset Project Plan for Tillage Project #28, and was consistently following for the duration of this project.

The Project did not deviate from the Offset Project Plan for Tillage Project #28, except that CCSI has improved their process by adding Spot Checks to our file processing. For every 4 files completed per agent CCSI makes follow-up calls and asks the farmer a series of questions to ensure their answers are matching up with the original application.

## 2.2 Protocol

Quantification Protocol for Conservation Cropping, Version: 1.0, April 2012.

All farms in the project are using No-Till conservation cropping systems as outlined in the Protocol, and have provided data and evidence demonstrating compliance with the Protocol requirements.

## 2.3 Risks

Risks identified are described in the Project Plan along with mitigation strategies.

## 3.0 Project Quantification

### 3.1 Summary Table Non-Levied Emissions

| Vintage <sup>1</sup>       | Gas Type <sup>2</sup> | Baseline Emissions | Project Emissions | Total Reduction or Sequestration |
|----------------------------|-----------------------|--------------------|-------------------|----------------------------------|
| 2015                       | CO <sub>2</sub>       |                    |                   | 33,337                           |
| Total 2015                 | CO <sub>2</sub> e     |                    |                   | 33,337                           |
| 2016                       | CO <sub>2</sub>       |                    |                   | 55,741                           |
| Total 2016                 | CO <sub>2</sub> e     |                    |                   | 55,741                           |
| 2017                       | CO <sub>2</sub>       |                    |                   | 114,135                          |
| Total 2017                 | CO <sub>2</sub> e     |                    |                   | 114,135                          |
| Total for Reporting Period | CO <sub>2</sub> e     |                    |                   | 203,213                          |

<sup>1</sup> - If the reporting period spans more than one year, provide summary for each year separately

<sup>2</sup> - Indicate if gas type is not applicable for this project

### 3.1 Summary Table Levied Emissions and Biogenic CO<sub>2</sub>

| Vintage <sup>1</sup> | Gas Type <sup>2</sup> | Baseline Emissions | Project Emissions | Total Reduction or Sequestration |
|----------------------|-----------------------|--------------------|-------------------|----------------------------------|
|----------------------|-----------------------|--------------------|-------------------|----------------------------------|

N/A

<sup>1</sup> - If the reporting period spans more than one year, provide summary for each year separately

<sup>2</sup> - Indicate if gas type is not applicable for this project

### 3.2 Calculations

The GHG reductions or removals (in tonnes CO<sub>2</sub>e) were calculated, including clearly identifying all inputs, emission factors, equations and methods, using the Protocol and its inputs, tables, emission factors, equations and methods. Our process described in the Offset Project Plan for Tillage Project #28 has been consistency followed.

### No Tillage

The coefficients and calculations used by the CCSI software program in the calculation of no tillage GHG emission reductions uses the coefficients and calculations specified in the Protocol.

In Table 1 below, the column titles provide the equation used to calculate default coefficients use in calculating greenhouse gas emission reductions. The baseline adjusted default coefficients to multiply by the number of hectares.

Table 1

| Tillage Change | Emission Factor | Assurance Factor $\ddagger$ | Nitrous Oxide Reduction $\yen$ | Energy Reduction $\epsilon$ | Total Coefficient |
|----------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------|
| Parkland       |                 |                             |                                |                             |                   |
| FT to NT       | 0.25            | 0.875                       | 0.012                          | 0.054                       | 0.28              |
| Dry Prairie    |                 |                             |                                |                             |                   |
| FT to NT       | 0.13            | 0.925                       | 0.003                          | 0.021                       | 0.14              |

The co-efficient for irrigated lands in the Dry Prairie Region is the same as the Parkland soil co-efficient as stated on page 39 of the Tillage Protocol.

Quantification of the reductions, removals and reversals of relevant SS's for each of the greenhouse gases has used the methodologies outlined in Table 2 below, found on page 30 of the Tillage Protocol. Table 2 uses the emissions factors listed above in Table 1 as stated in Appendix A page 49 of the Tillage Protocol. These calculation methodologies serve to complete the following three equations for calculating the emission reductions from the comparison of the baseline and Project conditions). The calculations and emissions factors above and below in Tables 1 and 2 have been used in this project.

Table 2

|   |
|---|
| Emission Reduction = Emissions Baseline – Emissions Project   |
| Emissions Baseline = Emissions Energy Use + (Emissions Carbon Sequestration X Reserve Discount Factor) + Emissions Nitrogen |
| Emissions Project = 0   |
| Where:  |
| Emissions Baseline = sum of the emissions under the baseline condition  |



|   |
|---|
| Emissions Energy Use = component of emissions change under source/sink B9   |
| Herbicide Production to source sink P9; and emissions change under source/sink B14 to P14 for Field Operations (Table 11)                               |
| Emissions Carbon Sequestration = carbon component of emissions change under source/sink B13 Soil Carbon Dynamics to P13 Soil Carbon Dynamics (Table 11) |
| Sequestered Carbon Reserve discount factor = Factor to account for reversals of carbon sequestration due to tillage events.                             |
| Emissions Nitrogen = component of emissions change under source/sink B13 Soil Nitrogen Dynamics to P13 Soil Nitrogen Dynamics (Table 11)                |
| Emissions Project = sum of the emissions under the project condition  |

Actual emission reductions are calculated for the Parkland Region in the following manner.

Seeded Acres / 2.471 Acres/Hectare \* 0.28 Tonnes CO<sub>2</sub>e/Hectare

100 acres / 2.471 Acres/ Hectare\* 0.28 Tonnes/Hectare= 11.33 Tonnes CO<sub>2</sub>e

No parts of the Tillage Protocol elements have been excluded in this Project. There were no quantification elements contained within the Tillage Protocol that were unique to the Project. No flexibility mechanisms were used.

#### 4.0 References

Alberta Environment. 2012. Quantification Protocol For Conservation Cropping

Alberta Environment. 2018. Standard for Greenhouse Gas Emission Offset Project Developers

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### Appendix A: Supporting Information