2015 Post-Construction Reclamation Assessment Report

2015 Milk River PCRA/Reclamation Project
Township 001 Range 16 W4M
Township 002 Range 16 W4M
Near Milk River, Alberta

Trace Project No. 500-270-04
January 28, 2016

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Executive Summary

Plains Midstream Canada retained Trace Associates Inc. to conduct a third year post-construction reclamation assessment (PCRA) of the Milk River Pipeline Project, near Milk River, Alberta. The objective of the PCRA was to determine if equivalent land capability has been achieved along the pipeline right-of-way (RoW) by comparing current conditions to adjacent controls and baseline conditions established in the 2013 Post-construction assessment; utilizing methods derived from the 2010 Reclamation Criteria for Wellsites and Associated Facilities for grasslands, and the 2010 Reclamation Criteria for Wellsites and Associated Facilities for cultivated lands; methods used depended on vegetation, landscape, and soil variability identified along the pipeline RoW, as determined by a qualified assessor.

Investigation transects along the 16.7 kilometre (km) pipeline RoW were assessed at a minimum of every 200-300 metres. Assessments along the RoW consisted of qualitatively and quantitatively assessing the trenchline, work area, travel area, and a control location (preferably undisturbed if paralleling another pipeline) adjacent to the RoW on native grasslands, cultivated, hay, and pasture lands. The pipeline RoW is located on approximately 10.1 km of native grassland, 3.0 km of cultivated cereal crops, and 3.6 km of cultivated tame pasture. A total of 90 assessment locations were evaluated along the pipeline RoW in the 2015 PCRA. Vegetation parameters were assessed based on: plant health, height, and density; species composition; percent cover; and weed growth. Soil parameters assessed included topsoil thickness, topsoil and subsoil texture, compaction, and admixing. Landscape parameters were assessed for surface stoniness, contour, erosion, and subsidence. Wetlands and watercourses intersecting the pipeline RoW were assessed for hydrological function, health, erosion, revegetation success, and contour.

A total of 90 assessment locations were completed along the pipeline RoW during the 2015 PCRA. Of the 56 vegetation assessments completed (native grasslands and cultivated lands) along the disturbed portions of the pipeline RoW, 18 (32%) meet equivalent land capability at this time. The remaining assessment locations (68%) are on the right trajectory for meeting equivalent land capability; however, are not currently meeting equivalent land capability, due to variances of either percent vegetation cover, height, vigour, seed head length, presence of nuisance and/or noxious weeds, or a combination of the aforementioned, when compared to adjacent controls. Overall topsoil depths were comparable to controls along the pipeline RoW, where applicable. The majority of pipeline RoW located on native prairie grassland was trenched and, therefore, had areas of no topsoil on the pipeline trench. Minor landscape deficiencies were noted in the 2013 assessment with reclamation work completed in 2014 and assessed in 2015. Six of the eighteen wetland/watercourse assessment locations assessed in 2013 required minor reclamation work, which was completed in 2014. The remaining 12 assessment locations were monitored in 2014 and 2015 for potential erosion issues as vegetation is reestablished.

There were no areas observed during the 2015 PCRA that will require major soil reclamation work at this time; Major soil reclamation is referring to reclamation that would require large soil moving equipment.

Eighteen of the 56 vegetation assessment points conducted in 2015 are meeting equivalent land capability, which is an increase from zero assessment points meeting equivalent land capability in the 2013 PCA. Rare plants were not previously assessed in the 2013 PCRA report, which was addressed in the January 14, 2015 National Energy Board Information Request response completed in 2015.The establishment of rare plants

on the disturbed portions of the pipeline RoW noted in the 2015 PCRA suggests conditions are favorable for the continued succession of rare plant populations.

Eight of the 18 watercourse/wetland assessment points (44%) conducted in 2015 are meeting equivalent land capability, which is an increase from zero assessment points meeting equivalent land capability in the 2013 PCRA.

The 3% of soil assessment locations that did not meet equivalent land capability requirements in 2015 are an improvement from the 21% that were identified in the 2013 PCRA that required soil mitigation or monitoring.

The 3% of landscape assessment locations that did not meet equivalent land capability requirements in 2015 are an improvement from the 44% that were identified in the 2013 PCRA that required mitigation or monitoring.

Table of Contents

Executive Summary ii

Table of Contents iv

1.0 Introduction 1
- 1.1 Objective and Scope of Work 1
- 1.2 Approval Requirements 2

2.0 Methods 2
- 2.1 General Methods 2
- 2.2 Vegetation Assessment 3
- 2.3 Rare Plants 3
- 2.4 Soil Assessment 4
- 2.5 Landscape Assessment 4
- 2.6 Watercourse and Wetland Assessment 4
- 2.7 Utility and Right-of-Way Locating 5

3.0 Results 5
- 3.1 Vegetation Assessment 5
- 3.2 Rare Plants 7
- 3.3 Soil Assessment 7
- 3.4 Landscape Assessment 8
- 3.5 Watercourse and Wetland Assessment 8

4.0 Recommendations 9

5.0 Limitations of Report 9

6.0 Closure and Quality Management 10

7.0 References 11

FIGURES

Figure 1 .....Site Location and Study Area Boundary
Figure 2 .....2015 Post-Construction Assessment - Map 1
Figure 3 .....2015 Post-Construction Assessment - Map 2
Figure 4 .....2015 Post-Construction Assessment - Map 3
Figure 5 .....2015 Post-Construction Assessment - Map 4
Figure 6 .....2014-2015 Post-Construction Assessment Recommendations - Map 1
Figure 7 .....2014-2015 Post-Construction Assessment Recommendations - Map 2
Figure 8 .....2014-2015 Post-Construction Assessment Recommendations - Map 3
Figure 9 .....2014-2015 Post-Construction Assessment Recommendations - Map 4

TABLES

Table 1 .....Post-Construction Reclamation Assessment Summary (Vegetation and Landscape)
Table 2 .....Post-Construction Reclamation Assessment Summary (Rare Plants and Vegetation Survey)
Table 3 .....Post-Construction Reclamation Assessment Summary (Soils)
Table 4 .....Post-Construction Reclamation Assessment Summary (Watercourses and Wetlands)
Table 5 .....Post-Construction Reclamation Assessment Summary (Consultation Log)
Table 6 .....Post-Construction Reclamation Assessment Summary (Recommendations)

APPENDICES

Appendix A.....Trace Associates Inc. Environmental Report – General Conditions
Appendix B.....Sample Vegetation and Soil Assessment Field Forms
Appendix C.....Right-of-Way Photographs
Appendix D.....Post-Construction Reclamation Assessment Species Ranking

1.0 Introduction

Plains Midstream Canada (Plains) retained Trace Associates Inc. (Trace) to prepare the following post-construction reclamation assessment (PCRA) report for regulatory compliance related to the National Energy Board (NEB) project approval Order XO-P384-011-2012 and Amending Order AO-001-XO-P384-011-2012 along the pipeline construction project named Milk River Pipeline Replacement or Project, referred to hereinafter as the "Milk River Pipeline Project." The 2015 PCRA report was prepared to fulfill the year three submission requirements of the NEB Order XO-P384-011-2012, and is a continuation of the year one (2013) Post-Construction Assessment Report (Trace, 2014). Plains provided Trace with authorization to proceed with this PCRA on May 31, 2013. The 2015 assessment was completed in accordance with the Post-Construction Reclamation Assessment Proposal submitted by Trace (Trace, 2013).

The following assessments were completed along the Plains pipeline right-of-way (RoW) in 2015:

- A vegetation assessment to investigate vegetation establishment (percent cover), overall health, height, density, species compositions, and presence of noxious or prohibited noxious weeds.
- Early and late season rare plant assessments to investigate the status of rare plants along the RoW and determine the effectiveness of mitigations.
- A soil assessment to investigate reclamation areas where topsoil/subsoil mixing, topsoil replacement depth and texture, surface gravel/stone size and density, subsoil compaction, trenchline subsidence, surface soil cracking, and erosion work was completed.
- A watercourse crossing and wetlands assessment to investigate any issues affecting the drainage, contours, and function of watercourse crossings or wetlands impacted by the Milk River Pipeline Project.

Trace personnel conducted this work in accordance with Trace's Environmental Report – General Conditions (Appendix A), and the Master Service Agreement between Plains and Trace.

1.1 Objective and Scope of Work

The objectives of the project were to assess the pipeline construction work that was completed in 2012 along the 16.7 kilometre (km) pipeline RoW noted in the Environmental Protection Plan (EPP) for the Proposed Milk River Pipeline Replacement Project (Tera, 2012). As per section 12.0 (11) of the EPP, Plains is required to:

> Prepare a Post-Construction Monitoring Report that documents the results of soils, vegetation, watercourse and wetland monitoring, comments/complaints from landowners, as well as any remedial measures taken. The report will also document whether specific reclamation issues have been successfully resolved or if they remain unresolved. Proposed mitigation and remediation techniques to address unresolved issues will be documented in the Post-Construction Monitoring Report. Provide copies to the NEB prior to the calendar year end of the first growing season following final clean-up and reclamation of the RoW.

The Milk River Pipeline Project RoW was assessed from the legal subdivision (LSD) 01-06-001-16 W4M valve site to the LSD 08-21-002-16 W4M terminal site, near Milk River, Alberta. The assessed RoW was an estimated length of 16.7 km and was located in: Sections 06, 07, 18, 19, 30, 31, and 32 of Township 001, Range 16 W4M; and Sections 04, 05, 09, 16, and 21 of Township 002, Range 16 W4M.

The general location of the pipeline RoW is presented in Figure 1. Aerial photographs of the pipeline RoW assessed for the PCRA are presented as Figures 2-5.

1.2 Approval Requirements

The goal of pipeline reclamation is to achieve equivalent capability when compared to the state of the land prior to construction and to adjacent controls. Equivalent land capability occurs when: "the ability of the land to support various land uses after conservation and reclamation is similar to the ability that existed prior to an activity being conducted on the land" (GOA, 2014). NEB project approval Order XO-P384-011-2012 describes several categories, which are responsible for achieving equivalent land capability, that are to be monitored and assessed. As per Section 5 of the NEB Order XO-P384-011-2012 (NEB, 2012):

> Plains shall file with the Board, a post-construction monitoring report that:
>
> a) Describes the methodology used for monitoring criteria established for evaluating success and the results found
>
> b) Identifies the issues to be monitored, including but not limited to the unexpected issues that arose during constriction, and their locations
>
> c) Describes the current status of issues (resolved or unresolved), any deviations from plans, and corrective actions undertaken
>
> d) Assesses the effectiveness of mitigation (planned and corrective) measures applied against the criteria for success
>
> e) Includes details of consultation undertaken with appropriate provincial and federal authorities
>
> f) Provides proposed measures and the schedule that Plains would implement to address ongoing issues or concerns
>
> g) Includes an assessment of wetland habitat and native prairie habitat. The report shall address, but not be limited to, issues pertaining to wetland health and functionality; soil productivity; erosion and compaction; reclamation of native prairie, weeds, rare plant species and species at risk.

2.0 Methods

2.1 General Methods

The following general methods were implemented for the Milk River Pipeline Project PCRA, to establish baseline conditions in 2013 and reassessed in 2015. The 2015 PCRA was conducted in May, June, and July 2015:

- Complete vegetation, landscape, and soil inspections at locations investigated in 2013, with a focus of assessment on the RoW where reclamation was completed in 2014. Utilizing methods derived from the 2010 Reclamation Criteria for Wellsites and Associated Facilities for Native Grasslands (ESRD, 2013a), and the 2010 Reclamation Criteria for Wellsites and Associated Facilities for Cultivated Lands (ESRD, 2013b); methods used depended on vegetation, landscape, and soil variability identified along the RoW, as determined by the qualified assessor.
- Vegetation and soil assessment forms were utilized to record all field observations; example forms are attached in Appendix B.

- Photographs taken of general RoW conditions, including vegetation cover at assessment locations, and of reclamation areas are included as Appendix C. Additional photographs of the RoW are available upon request.
- Aerial photograph alignment sheets are attached showing the assessment locations and areas that received reclamation in 2014 and 2015.
- Assessment locations along the RoW were recorded and mapped using a hand-held global positioning system unit using the Universal Transverse Mercator Projection to the North American Datum of 1983 (UTM Zone 12, NAD 83) coordinate system.

2.2 Vegetation Assessment

The following methods were used during the vegetation assessment of the Milk River Pipeline Project conducted July 22 and 23, 2015, for grasslands and cultivated tame pasture portions of the pipeline RoW, and July 29 and 30, 2015, for the cultivated portions of the pipeline RoW:

- The vegetation was assessed at transects along the RoW, with sample points located on the pipeline trench, work area, travel area (where identifiable), and adjacent control. Vegetation assessment locations were consistent with those assessed in 2013 (Trace, 2015).
- Characteristics assessed on grassland included vegetation height, vigour, native species diversity (dominant 3-4 species), approximate vegetative cover percentages (live, litter, and bare), weed coverage rating, and dominant weed species (Table 1). Controls were also assessed along with the reclamation areas, and the quantification of the success of the reclamation comes from the application of a standard, which is discussed in Section 2.1.
- Characteristics assessed on cultivated cereal crops included vegetation height, vigour, density, seed head length, weed coverage rating, and dominant weed species (Table 1). Controls were also assessed along with the reclamation areas, and the quantification of the success of the reclamation comes from the application of a standard, which is discussed in Section 2.1.
- Quantified vegetation cover/density using a ¼ metre (m) Daubenmire frame on grassland locations. The frame was randomly placed at each transect location on the trenchline, work area, travel area, and control area for comparison. This was used to assess and collect a portion of the information for the vegetation field form.
- Identify and record concentrations of nuisance, noxious, and prohibited noxious weed species at each transect location on the trenchline, work area, travel area, and control area for comparison.

Vegetation assessment data collected is presented in Table 1.

2.3 Rare Plants

Rare plants were assessed using the Alberta Native Plant Council Guidelines for Rare Vascular Plant Surveys in Alberta (ANPC, 2012). Rare plant surveys were conducted by survey transects using a meandering technique, identifying all possible vegetation species within the pipeline RoW and adjacent control areas. Efforts were concentrated on locations of rare plants previously identified by Tera Environmental Consultants (Tera) (Tera, 2012). When rare plants or rare plant communities were observed, a more detailed search of the area was conducted to delineate the extent of the rare plant or rare plant communities. Survey efforts were carried out until no new species could be identified within the surveyed area. Plants that were unable to be confirmed in the field, were collected, provided the population

could sustain the loss of said individuals, and were keyed using additional resources not suitable for the field.

The Site was searched on foot to determine the presence of rare plants, rare plant communities, species composition and the presence of weeds on June 9, 2015, for the early season survey and July 22, 2015, for the late season survey (refer to Table 2).

The intent of the rare plant surveys was to confirm the presence or absence of rare plants for the Milk River Pipeline Project, and evaluate success of mitigation techniques used during the pipeline construction. This objective entails consideration of all species for which some information exists in the area of the project, and is relevant to the assessment of biodiversity in the area.

Rare plant and vegetation survey information is presented in Table 2.

2.4 Soil Assessment

The methods used by Trace personnel to complete the soil assessment were as follows:

- Soil inspection locations were hand-excavated using a drain spade, to a depth of 30 centimetres, on the pipeline trench, work area, travel area where identifiable and adjacent control locations off of the RoW at transect assessment locations. The majority of 2015 soil inspections on the trenchline were compared to work area, travel area, and control data collected in 2013, as control conditions are deemed constant.
- Soil compaction was visually assessed and noted based on soil structure and the presence of exped or horizontal roots.
- The Canadian System of Soil Classification (SCWG, 1998) was used as a reference when collecting soil information along the RoW.
- Recorded topsoil depth, topsoil and subsoil texture, percent admixing in topsoil, and visual evidence of soil compaction.
- Topsoil admixing was visually assessed based on pipeline construction practices, and calcium carbonate reaction with 10% hydrochloric acid.

Soil assessment data collected is presented in Table 3.

2.5 Landscape Assessment

- Assessed surface stoniness at each soil assessment location, focusing on sites where reclamation was completed in 2014.
- Completed notation of areas with potential or existing subsidence and soil erosion.
- Identified areas with potential or existing contour issues (micro and meso), focusing on sites where reclamation was completed in 2014.

Landscape assessment data collected is presented in Table 1, with surface stoniness recorded in Table 3.

2.6 Watercourse and Wetland Assessment

The methods used by Trace personnel to assess the watercourses and wetlands encountered along the pipeline RoW were based on the visual assessment of the pipeline trench, work, and travel area surface contour, revegetation success, hydrologic function and health, and evidence of erosion. The visual indicators

were assessed to determine compatibility with the surrounding landscape, contours, and evidence of unobstructed surface water drainage, which included the following assessment indicators:

- Subsidence/settling on the pipeline trench
- Evidence of surface water ponding or altered water drainage patterns
- Evidence of water erosion along the RoW

Watercourse and wetland assessment data collected in coordination with vegetation data is presented in Table 4.

2.7 Utility and Right-of-Way Locating

Trace personnel reviewed aerial photographs with pipeline RoWs from the Abacus Datagraphics Ltd. AbaData website (www.abacusdatagraphics.com) for utility and RoW information. The utility locating activities and methods are summarized below:

- Directed an independent utility locator (Allwest Line Locators Ltd. [Allwest]), of Taber, Alberta, to identify the RoWs located in cultivated fields that required assessment.
- Allwest staked the RoWs requiring assessment in pasture and cultivated fields, as well as any foreign pipeline crossings.
- Trace personnel removed all stakes from the RoWs as the assessment was completed.

3.0 Results

3.1 Vegetation Assessment

The majority of the RoW assessed was located on grassland, with approximately 10.1 km (60%) of the pipeline RoW consisting of native prairie vegetation. The remainder of the RoW was located on cultivated fields with cereal crops (approximately 3.0 km [18%]), and tame pasture or hay vegetation (approximately 3.6 km [22%]).

Assessment location data along with specific comments related to vegetation are contained within Table 1 and are discussed below:

- Of the 56 vegetation assessments completed (native grasslands and cultivated lands) along the disturbed portions of the pipeline RoW, 18 (32%) meet equivalent land use at this time, based on meeting an 80% vegetation guideline, from the guidelines referenced in Section 2.1. The remaining assessment locations (68%) are on the right trajectory for meeting equivalent land capability; however, are not currently meeting equivalent land capability due to variances of either percent vegetation cover, height, vigour, seed head length, presence of nuisance and/or noxious weeds, or a combination of the aforementioned, when compared to adjacent controls.
- The 2013 PCRA report focused on natural revegetation along portions of the pipeline RoW that is located on native prairie, which had limited revegetation success. Based on Plains, landowner, and occupant communications regarding the revegetation of the pipeline RoW, a proactive approach was taken to revegetate the native prairie and tame pasture portions of the pipeline RoW in 2014. Portions of the pipeline RoW located within native grasslands or tame pasture were seeded to specified native or tame seed mixes, as indicated in Figures 6-9. Generally, native vegetation and tame pasture were observed as

being in the initial stages of natural revegetation. Examples of this are shown in Photographs 1-6, 10-12, and 15-24 in Appendix C. Photographs 7, 13, and 14 show examples of cultivated cereal crops. The native seed mixes that were used on the portions of pipeline RoW located on native prairie were approved by Mr. Robert Oakley of Alberta Environment and Parks (AEP), formerly Alberta Environment and Sustainable Resource Development. The initial seed mixture approved and used is as follows:

- Needle and Thread (Stipa comata) – 30%
- June Grass (Koeleria macrantha) – 20%
- Western Wheatgrass (Agropyron smithii) - 15%
- Northern Wheatgrass (Agropyron dasystachyum) – 15%
- Blue grama (Bouteloua gracilis) - 10%
- Green Needlegrass (Stipa viridula) – 10%

- Trace coordinated seed mixes with Pickseed Canada Inc. and reviewed seed certificates. Seed certificates were provided to AEP (for publicly owned lands) and the respective landowners/occupants for seeding along the RoW. One occupant along the RoW did not approve of the AEP approved native seed mix due to the presence of needle grasses and expressed the risk of "lumpy jaw" in his cattle. As a result, an additional seed mix was developed for seeding on portions of the RoW located at NE¼ and SE¼-19-001-16-W4M, NE¼ and SE¼-30-001-16-W4M, and SE¼-31-001-16-W4M. This revised native seed mix was presented to AEP and approved by Mr. Robert Oakley. The revised native seed mix consisted of the same seed lots comprising the original native seed mix, and consisted of the following species composition:
  - June Grass – 30%
  - Western Wheatgrass - 20%
  - Northern Wheatgrass – 20%
  - Blue grama - 30%
- The range of vegetation heights, vigour (health), native or tame species information, and weed concentration are recorded in Table 1 along with general vegetation comments.
- The percentages of live, litter, or bare ground at native prairie assessment locations were recorded and are presented in Table 1.
- Natural revegetation on native prairie allows for weeds to establish, which is the initial stage of succession. Photograph 6 in Appendix C shows a RoW with weed establishment.
- No prohibited noxious (GOA, 2011) weeds were identified during the assessment. Canada thistle, hounds tongue, and yellow toadflax are classified as noxious weeds (GOA, 2011) and were identified as having low to trace concentrations at assessment locations 100, 206, 307, and 316 (approximately 5% of the assessment locations). Sweet yellow clover is considered a nuisance weed, but was abundant at RoW locations 126, 312, 314, and 318 (approximately 5% of the assessment locations).
- Japanese brome was identified at assessment location 104, with existing growth of this noxious weed (GOA, 2011) very abundant and appears to be originating from off site. Vegetation management to control the increase of Japanese brome and some Downy brome on the RoW in 2014 and 2015 was implemented through spot spraying of herbicide and hand rogueing.
- Downy brome was identified on and off site at assessment location 330 in 2013. This location continued to be monitored in 2014 and 2015 to ensure that the agronomic species within the RoW are well established. Hand rogueing was completed in 2014 and 2015.

Eighteen of the 56 vegetation assessment points conducted in 2015 are meeting equivalent land capability, which is an increase from zero assessment points meeting equivalent land capability in the 2013 PCRA.

Refer to Table 1 for vegetation assessment locations that were noted to have weeds present on the RoW and should be monitored for future growth and management.

3.2 Rare Plants

Two rare plant surveys (early and late season) were conducted on June 9 and July 22, 2015. The results of the rare plants surveys can found in Table 2. Previously identified rare plants were assessed along the native prairie portions of the pipeline RoW, with efforts focused on previously noted occurrences identified previously by Tera (Tera, 2012). Occurrences of cock's comb cats-eye (*Cryptantha celosioides*), velvety golden rod (*Solidago mollis*), and tufted hymenopappus (*Hymenopappus filifolius*) were identified in 2015 in similar locations as previously identified by Tera (Tera, 2012); however, overall density of rare plants was less than previously noted. Additional rare plants, other than those previously identified, were observed on and off the RoW and can be found in Table 2. Mitigation techniques employed during the pipeline construction appear to have been effective at maintaining the rare plant occurrences located along the pipeline RoW.

Rare plants were not previously assessed in the 2013 PCRA report, which was addressed in the January 14, 2015 NEB Information Request response completed in 2015. The 2015 PCRA noted occurrences of rare plants establishing along portions of pipeline RoW located on native prairie, specifically in rare plant community areas initially identified before pipeline construction. The establishment of rare plants on the disturbed portions of the pipeline RoW suggests conditions are favorable for the continued succession of rare plant populations.

3.3 Soil Assessment

The soil assessment findings are correlated with soil conditions (texture and structure), including lack of topsoil, admixing, topsoil depth, compaction, and surface soil cracks. Of the soil assessment locations that did not meet reclamation requirements in 2013, 21% failed the assessment criteria and required soil reclamation activities including one or more of the following; contouring, topsoil additions, paratill and/or rotospiking, with locations noted in Table 3 attached.

Overall, topsoil depths were comparable along the pipeline RoW. The majority of the pipeline RoW located on native prairie grassland that was constructed with narrow trenching had no topsoil present on the pipeline trench. This is a result of pipeline trenching, which is a recommended practice requested on public land by AEP. Topsoil depths are noted for each assessment location in Table 3, along with soil physical parameters collected. The 2015 soil assessment concentrated on areas where reclamation was completed in 2014. No soil assessment or reclamation was completed in NE-18-001-16 W4M, as per the landowner request in 2014. Minor soil reclamation was identified and reclaimed by hand raking and additional seeding at locations 334, 335, and 336 in 2015. These three locations comprised 3% of the entire soil assessment locations.

The 3% of soil assessment locations that did not meet equivalent land capability requirements in 2015 are an improvement from the 21% that were identified in the 2013 PCRA that required soil mitigation or monitoring. No soil assessment locations were identified in 2015 that would require major soil reclamation. Major soil reclamation refers to the need for large soil moving equipment (i.e., tandem dump trucks and grader).

3.4 Landscape Assessment

The 2013 landscape assessment findings along the RoW included subsidence, contour differences (micro and meso contour), surface water ponding, and erosion. Minor landscape deficiencies were noted at 44% of the landscape assessment locations and consisted of minor issues with contour, subsidence, erosion, surface stoniness, and/or a combination of the aforementioned, when compared to adjacent controls.

Soil reclamation was completed in 2014 to correct subsidence, contour differences (micro and meso contour), surface water ponding, surface soil cracking and soil erosion. These areas were assessed in 2015 during the soil assessments; Locations requiring reclamation in 2015 are noted above in Section 3.3.

The subsidence and minor contour noted at inspection location 129 in 2013 is not affecting agricultural operations; therefore, no soil reclamation work was completed in 2014 or 2015. The increased surface stoniness locations identified in the 2013 PCRA (108 and 200) had reclamation completed at them in 2014. The two locations were comparable to control surface stoniness conditions in 2015.

Minor soil reclamation was identified and reclaimed by hand raking and additional seeding at locations 334, 335, and 336 in 2015.

The 3% of landscape assessment locations that did not meet equivalent land capability requirements in 2015 are an improvement from the 44% that were identified in the 2013 PCRA that required mitigation or monitoring. No landscape assessment locations were identified in 2015 that would require major soil reclamation. Major soil reclamation refers to the need for large soil moving equipment (i.e., grader or land leveling equipment).

3.5 Watercourse and Wetland Assessment

Eighteen watercourse/wetland assessments were completed along the pipeline RoW. The wetland assessment findings along the RoW include subsidence, surface contour differences, surface water ponding, and erosion. Eight of the 18 watercourses (approximately 44%), are meeting equivalent land capability, and have been successfully reclaimed. The remaining 10 watercourses are on the right trajectory and will require ongoing monitoring until vegetation is comparable to the adjacent controls. Three wetlands assessments were completed along the pipeline RoW in 2015. Two of the three assessments completed (approximately 66%) are successfully reclaimed with mitigations employed during construction of the pipeline RoW. Refer to Table 4 for wetland assessment locations with areas of concern and to Table 6 for mitigation suggestions.

Eight of the 18 watercourse/wetland assessment points (44%) conducted in 2015 are meeting equivalent land capability, which is an increase from zero assessment points meeting equivalent land capability in the 2013 PCRA. Photograph 22 in Appendix C shows evidence of subsidence at wetland assessment location 206.

4.0 Recommendations

The recommendations table (Table 6), along with the Figures 6-9, contains the locations or segments of the RoW with mitigative reclamation recommendations or suggested monitoring. The recommendations table (Table 6), along with Figures 6-9, should be referred to for specific reclamation recommendations or monitoring. Overall, the main recommendation for 2016 is to continue vegetation monitoring and weed management.

Areas of increased weed growth, or areas along the RoW where natural revegetation on native prairie is establishing, should continue to be monitored in May-August 2016, for continued vegetation management.

Specific soil, vegetation, landscape, and wetland comments, along with recommended reclamation or monitoring for 2016, are noted in Table 6.

Areas of the pipeline RoW where reclamation measures were implemented in 2014 and 2015, as indicated in Figures 6-9 should continue to be monitored and assessed to measure success. Successful reclamation would be assessed against adjacent controls and AEP 2010 Reclamation Criteria for Wellsites and Associated Facilities (ESRD, 2013a; ESRD, 2013b) as well as the overall trajectory to equivalent land capability.

As per NEB project approval Order XO-P384-011-2012 and Amending Order AO-001-XO-P384-011-2012, "On or before 31 January after each of the first, third, fifth and tenth complete growing seasons following the commencement of operation of the Project, Plains shall file with the Board, a post-construction monitoring report..."; a PCRA has been completed for the first growing season (Trace, 2015); therefore, a complete post-construction monitoring assessment should also be planned for 2017 and 2022.

5.0 Limitations of Report

This report is based solely on the conditions which existed along the RoW at the time of Trace's investigation. The client, and any other parties using this report with the express written consent of the client and Trace, acknowledges that conditions affecting the environmental assessment of RoW can vary with time and that the conclusions and recommendations set out in this report are based on the observations completed at the time of the assessment.

The client, and any other party using this report with the express written consent of the client and Trace, also acknowledges that the conclusions and recommendations set out in this report are based on limited observations and testing along the RoW and that conditions may vary along the RoW which, in turn, could affect the conclusions and recommendations made.

The client acknowledges that Trace is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment, or development of the RoW, the decisions on which are the sole responsibility of the client.

6.0 Closure and Quality Management

We trust that this meets your present requirements. Should you have any questions or comments, please contact Mr. Shilliday at our Lethbridge office.

Respectfully submitted,

Trace Associates Inc.

January 28, 2016

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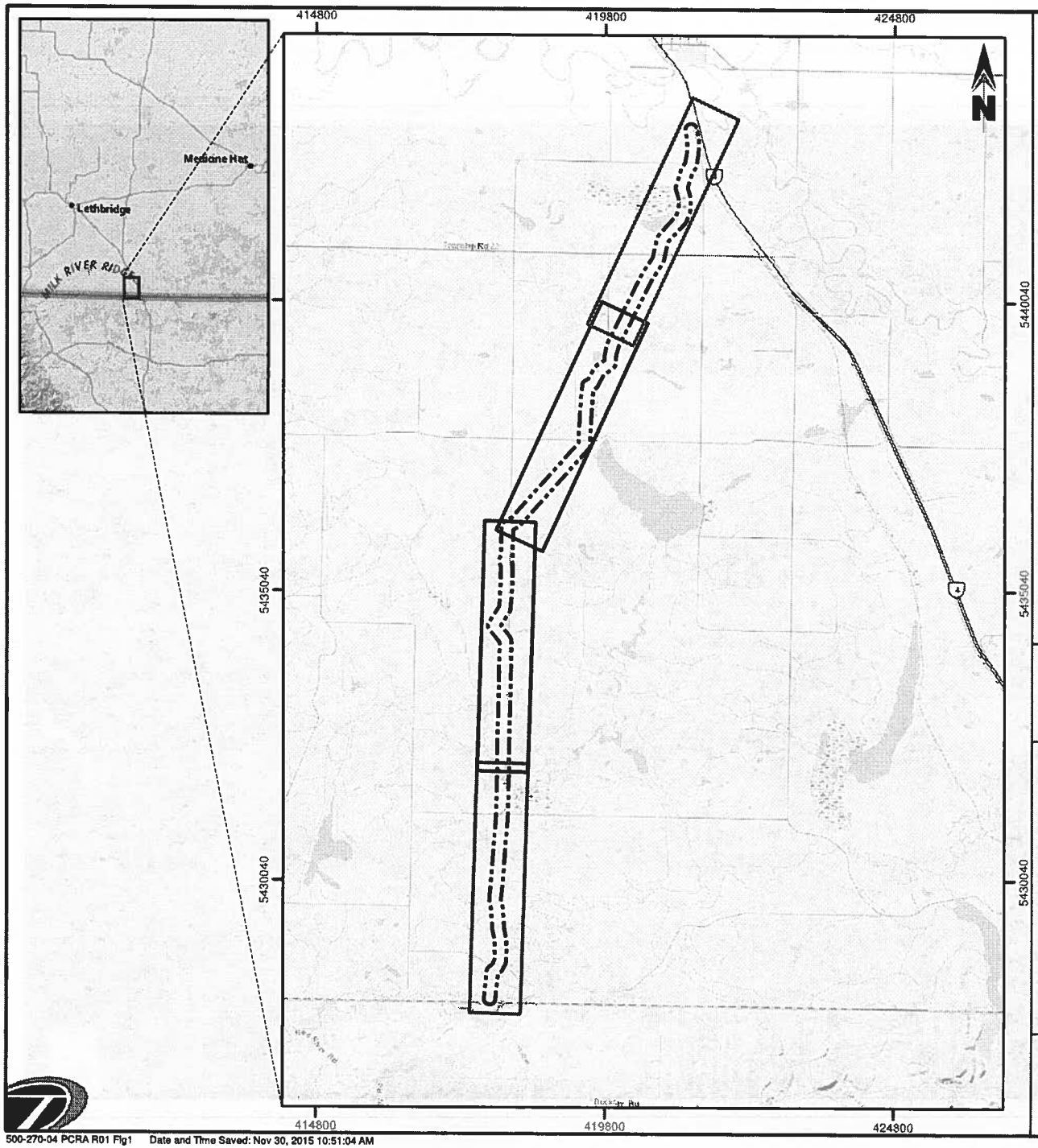
FIGURES



SITE LOCATION AND STUDY AREA BOUNDARY

2015 Post-Construction Reclamation Assessment Report
Township 001 Range 16 W4M
Township 002 Range 16 W4M
Near Milk River, Alberta

Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project
Trace Project No. 500-270-04

Legend
- Map 1
- Map 2
- Map 3
- Map 4
- Study Area Boundary

0 1 2 3 Km

Scale: 1:100,000

Notes:
1. Original in colour.
2. Original plot size 8.5x11.
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4. Last field update was done on October 21, 2015.

Coordinate System
1. Coordinate System: NAD 1983 UTM Zone 12N

Reference Data Sources
1. Trace field data from October 2015.
2. Base data supplied by ESRI.

Revisions
1. Revision No: 0 Revision: N/A Drawn By: JLB
Date: Nov.30,2015 Checked By: CHS

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Figure No.
1

500-270-04 PCRA R01 Fig1 Date and Time Saved: Nov 30, 2015 10:51:04 AM

2015 POST-CONSTRUCTION RECLAMATION ASSESSMENT - MAP 1

2015 Post-Construction Reclamation Assessment Report
Township 001 Range 16 W4M
Township 002 Range 16 W4M
Near Milk River, Alberta

Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project
Trace Project No. 500-270-04

Legend

- Kilometre Post
- Assessment Point Location
- Linear Assessment Location
- Pipeline Right-of-Way
- Waterbody
- Wetland
- Ephemeral Watercourse
- Permanent Watercourse
- Quarter Section Grid

0 200 400 600 M

Scale: 1:15,000

Notes:

1. Original in colour.
2. Original plot size 11x17.
3. This map is for reference purposes only and is not to be used for surveying, engineering or legal purposes. No warranties, either expressed or implied, are made by Trace for the accuracy, completeness, reliability, usability or suitability of the information presented, as generated by Trace or other third party sources. Users should refer to the original source datasets to ascertain the usability of the information displayed.
4. Last field update was on October 21, 2015.

Coordinate System

1. Coordinate System: NAD 1983 UTM Zone 12N

Reference Data Sources

1. Trace field data from October 21, 2015.
2. Imagery supplied by ESRI, 2014.
3. Pipeline Right-of-Way supplied by Abacus Datagraphics.
4. Watercourse and waterbody data supplied by AltaLIS.

Revisions

1. Revision No: 0 Revision: N/A Drawn By: JLB
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Figure No.
2

500-270-04 PCRA R01 Fig2 Date and Time Saved: Nov 30, 2015 1:14:38 PM

2015 POST-CONSTRUCTION RECLAMATION ASSESSMENT - MAP 2

2015 Post-Construction Reclamation Assessment Report
Township 001 Range 16 W4M
Township 002 Range 16 W4M
Near Milk River, Alberta

Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project
Trace Project No. 500-270-04

Legend

- Kilometre Post
- Assessment Point Location
- Linear Assessment Location
- Pipeline Right-of-Way
- Waterbody
- Wetland
- Ephemeral Watercourse
- Permanent Watercourse
- Quarter Section Grid

0 200 400 600 M

Scale: 1:15,000

Notes:

1. Original in colour.
2. Original plot size 11x17.
3. This map is for reference purposes only and is not to be used for surveying, engineering or legal purposes. No warranties, either expressed or implied, are made by Trace for the accuracy, completeness, reliability, usability or suitability of the information presented, as generated by Trace or other third party sources. Users should refer to the original source datasets to ascertain the usability of the information displayed.
4. Last field update was on October 21, 2015.

Coordinate System

1. Coordinate System: NAD 1983 UTM Zone 12N

Reference Data Sources

1. Trace field data from October 21, 2015.
2. Imagery supplied by ESRI, 2014.
3. Pipeline Right-of-Way supplied by Abacus Datagraphics.
4. Watercourse and waterbody data supplied by AltaLIS.

Revisions

1. Revision No: 0 Revision: N/A Drawn By: JLB
Date: Nov.30,2015 Checked By: CHS

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Figure No.
3

500-270-04 PCRA R01 Fig3 Date and Time Saved: Nov 30, 2015 1:18:07 PM

2015 POST-CONSTRUCTION RECLAMATION ASSESSMENT - MAP 3

2015 Post-Construction Reclamation Assessment Report
Township 001 Range 16 W4M
Township 002 Range 16 W4M
Near Milk River, Alberta

Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project
Trace Project No. 500-270-04

Legend

- Kilometre Post
- Assessment Point Location
- Linear Assessment Location
- Pipeline Right-of-Way
- Waterbody
- Wetland
- Ephemeral Watercourse
- Permanent Watercourse
- Quarter Section Grid

0 200 400 600 M

Scale: 1:15,000

Notes:

1. Original in colour.
2. Original plot size 11x17.
3. This map is for reference purposes only and is not to be used for surveying, engineering or legal purposes. No warranties, either expressed or implied, are made by Trace for the accuracy, completeness, reliability, usability or suitability of the information presented, as generated by Trace or other third party sources. Users should refer to the original source datasets to ascertain the usability of the information displayed.
4. Last field update was on October 21, 2015.

Coordinate System

1. Coordinate System: NAD 1983 UTM Zone 12N

Reference Data Sources

1. Trace field data from October 21, 2015.
2. Imagery supplied by ESRI, 2014.
3. Pipeline Right-of-Way supplied by Abacus Datagraphics.
4. Watercourse and waterbody data supplied by AltaLIS.

Revisions

1. Revision No: 0 Revision: N/A Drawn By: JLB
Date: Nov.30,2015 Checked By: CHS

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Figure No.
4

500-270-04 PCRA R01 Fig4 Date and Time Saved: Nov 30, 2015 1:17:23 PM

2015 POST-CONSTRUCTION RECLAMATION ASSESSMENT - MAP 4

2015 Post-Construction Reclamation Assessment Report
Township 001 Range 16 W4M
Township 002 Range 16 W4M
Near Milk River, Alberta

Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project
Trace Project No. 500-270-04

Legend

- Kilometre Post
- Assessment Point Location
- Linear Assessment Location
- Pipeline Right-of-Way
- Waterbody
- Wetland
- Ephemeral Watercourse
- Permanent Watercourse
- Quarter Section Grid

0 200 400 600 M

Scale: 1:15,000

Notes:

1. Original in colour.
2. Original plot size 11x17.
3. This map is for reference purposes only and is not to be used for surveying, engineering or legal purposes. No warranties, either expressed or implied, are made by Trace for the accuracy, completeness, reliability, usability or suitability of the information presented, as generated by Trace or other third party sources. Users should refer to the original source datasets to ascertain the usability of the information displayed.
4. Last field update was on October 21, 2015.

Coordinate System

1. Coordinate System: NAD 1983 UTM Zone 12N

Reference Data Sources

1. Trace field data from October 21, 2015.
2. Imagery supplied by ESRI, 2014.
3. Pipeline Right-of-Way supplied by Abacus Datagraphics.
4. Watercourse and waterbody data supplied by AltaLIS.

Revisions

1. Revision No: 0 Revision: N/A Drawn By: JLB
Date: Nov.30,2015 Checked By: CHS

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Figure No. 5

500-270-04 PCRA R01 Fig5 Date and Time Saved: Nov 30, 2015 1:18:30 PM

500-270-04 PCRA R01 Fig6 Date and Time Saved: Nov 27, 2015 4:06:48 PM

2014-2015 POST-CONSTRUCTION RECLAMATION - MAP 1

2015 Post-Construction Reclamation Assessment Report
Township 001 Range 16 W4M
Township 002 Range 16 W4M
Near Milk River, Alberta

Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project
Trace Project No. 500-270-04

Legend

- Kilometre Post
- Assessment Point Location
- Linear Assessment Location
- Pipeline Right-of-Way
- Native Seed Mix (Revised)
- Native Seed Mix (Original)
- HayPro Dry Mix
- Crested wheatgrass
- Contour
- Topsoil Addition
- Waterbody
- Wetland
- Ephemeral Watercourse
- Permanent Watercourse
- Quarter Section Grid

0 200 400 600 M

Scale: 1:15,000

Notes:

1. Original in colour.
2. Original plot size 11x17.
3. This map is for reference purposes only and is not to be used for surveying, engineering or legal purposes. No warranties, either expressed or implied, are made by Trace for the accuracy, completeness, reliability, usability or suitability of the information presented, as generated by Trace or other third party sources. Users should refer to the original source datasets to ascertain the usability of the information displayed.
4. Last field update was on October 21, 2015.

Coordinate System

1. Coordinate System: NAD 1983 UTM Zone 12N

Reference Data Sources

1. Trace field data from October 21, 2015.
2. Imagery supplied by ESRI/DigitalGlobe, 2014.
3. Pipeline Right-of-Way supplied by Abacus Datagraphics.
4. Watercourse and waterbody data supplied by AltaLIS.

Revisions

1. Revision No: 0 Revision: N/A Drawn By: JLB
Date: Nov.27,2015 Checked By: CHS

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Figure No.
6

2014-2015 POST-CONSTRUCTION RECLAMATION - MAP 2

2015 Post-Construction Reclamation Assessment Report
Township 001 Range 16 W4M
Township 002 Range 16 W4M
Near Milk River, Alberta

Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project
Trace Project No. 500-270-04

Legend

- Kilometre Post
- Assessment Point Location
- Linear Assessment Location
- Pipeline Right-of-Way
- Native Seed Mix (Revised)
- Native Seed Mix (Original)
- HayPro Dry Mix
- Crested wheatgrass
- Contour
- Topsoil Addition
- Waterbody
- Wetland
- Ephemeral Watercourse
- Permanent Watercourse
- Quarter Section Grid

0 200 400 600 M

Scale: 1:15,000

Notes:

1. Original in colour.
2. Original plot size 11x17.
3. This map is for reference purposes only and is not to be used for surveying, engineering or legal purposes. No warranties, either expressed or implied, are made by Trace for the accuracy, completeness, reliability, usability or suitability of the information presented, as generated by Trace or other third party sources. Users should refer to the original source datasets to ascertain the usability of the information displayed.
4. Last field update was on October 21, 2015.

Coordinate System

1. Coordinate System: NAD 1983 UTM Zone 12N

Reference Data Sources

1. Trace field data from October 21, 2015.
2. Imagery supplied by ESRI, 2014.
3. Pipeline Right-of-Way supplied by Abacus Datagraphics.
4. Watercourse and waterbody data supplied by AltaLIS.

Revisions

1. Revision No: 0 Revision: N/A Drawn By: JLB
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Figure No. 7

500-270-04 PCRA R01 Fig7 Date and Time Saved: Nov 27, 2015 4:08:17 PM

2014-2015 POST-CONSTRUCTION RECLAMATION - MAP 3

2015 Post-Construction Reclamation Assessment Report
Township 001 Range 16 W4M
Township 002 Range 16 W4M
Near Milk River, Alberta

Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project
Trace Project No. 500-270-04

Legend

- Kilometre Post
- Assessment Point Location
- Linear Assessment Location
- Pipeline Right-of-Way
- Native Seed Mix (Revised)
- Native Seed Mix (Original)
- HayPro Dry Mix
- Crested wheatgrass
- Contour
- Topsoil Addition
- Waterbody
- Wetland
- Ephemeral Watercourse
- Permanent Watercourse
- Quarter Section Grid

0 200 400 600 M

Scale: 1:15,000

Notes:

1. Original in colour.
2. Original plot size 11x17.
3. This map is for reference purposes only and is not to be used for surveying, engineering or legal purposes. No warranties, either expressed or implied, are made by Trace for the accuracy, completeness, reliability, usability or suitability of the information presented, as generated by Trace or other third party sources. Users should refer to the original source datasets to ascertain the usability of the information displayed.
4. Last field update was on October 21, 2015.

Coordinate System

1. Coordinate System: NAD 1983 UTM Zone 12N

Reference Data Sources

1. Trace field data from October 21, 2015.
2. Imagery supplied by ESRI, 2014.
3. Pipeline Right-of-Way supplied by Abacus Datagraphics.
4. Watercourse and waterbody data supplied by AltaLIS.

Revisions

1. Revision No: 0 Revision: N/A Drawn By: JLB
Date: Nov.27,2015 Checked By: CHS

Trace ASSOCIATES

Figure No.
8

500-270-04 PCRA R01 Fig8 Date and Time Saved: Nov 27, 2015 4:13:20 PM

2014-2015 POST-CONSTRUCTION RECLAMATION - MAP 4

2015 Post-Construction Reclamation Assessment Report
Township 001 Range 16 W4M
Township 002 Range 16 W4M
Near Milk River, Alberta

Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project
Trace Project No. 500-270-04

Legend

- Kilometre Post
- Assessment Point Location
- Linear Assessment Location
- Pipeline Right-of-Way
- Native Seed Mix (Revised)
- Native Seed Mix (Original)
- HayPro Dry Mix
- Crested wheatgrass
- Contour
- Topsoil Addition
- Waterbody
- Wetland
- Ephemeral Watercourse
- Permanent Watercourse
- Quarter Section Grid

0 200 400 600 M

Scale: 1:15,000

Notes:

1. Original in colour.
2. Original plot size 11x17.
3. This map is for reference purposes only and is not to be used for surveying, engineering or legal purposes. No warranties, either expressed or implied, are made by Trace for the accuracy, completeness, reliability, usability or suitability of the information presented, as generated by Trace or other third party sources. Users should refer to the original source datasets to ascertain the usability of the information displayed.
4. Last field update was on October 21, 2015.

Coordinate System

1. Coordinate System: NAD 1983 UTM Zone 12N

Reference Data Sources

1. Trace field data from October 21, 2015.
2. Imagery supplied by ESRI, 2014.
3. Pipeline Right-of-Way supplied by Abacus Datagraphics.
4. Watercourse and waterbody data supplied by AltaLIS.

Revisions

1. Revision No: 0 Revision: N/A Drawn By: JLB
Date: Nov.27,2015 Checked By: CHS

Trace ASSOCIATES

Figure No. 9

500-270-04 PCRA R01 Fig9 Date and Time Saved: Nov 27, 2015 4:12:09 PM

TABLES

TABLE 1 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Vegetation and Landscape)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-279-04

Assessment Information / Topsoil

Assessment Location	Land Use	Inspection Date (dd-mmm-yy)	Vegetation Height (cm)	Vegetation Vigour (G/F/P)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (mm)	Common Weed Species Name
[illegible]									
2013-100	Grassland	11-Jul-13	N/A	N/A	Needle and thread, scarlet mallow, western wheat grass, blue grama	Live 16 Bare 30 Litter 3	N/A	N/A	Yellow toadflax, kochia, purslane, Russian thistle, dandelion, redroot pigweed, goosefoot, bull thistle
2015-100	Grassland	22-Jul-15	N/A	N/A	Western wheat grass, northern wheat grass, June grass	Live 65 Bare 30 Litter 5	N/A	N/A	Yellow toadflax, thistle
2013-101*	Grassland	11-Jul-13	-	-	-	-	-	-	-
2015-101*	Grassland	22-Jul-15	-	-	-	-	-	-	-
2013-102*	Grassland	11-Jul-13	N/A	N/A	Western wheat grass, snowberry	Live 5 Bare 90 Litter 5	N/A	N/A	Wild licorice, stinkweed, redroot pigweed, prostrate pigweed, annual sow thistle, kochia, Russian thistle, goosefoot
2015-102*	Grassland	22-Jul-15	N/A	N/A	Western wheat grass, June grass, green needle grass	Live 85 Bare 5 Litter 10	N/A	N/A	Downy brome, Japanese brome
2013-103**	Grassland	11-Jul-13	-	-	-	-	-	-	-
2015-103**	Grassland	22-Jul-15	N/A	N/A	Western wheat grass, June grass, northern wheatgrass	Live 80 Bare 10 Litter 10	N/A	N/A	Downy brome, Japanese brome
2013-104**	Grassland	11-Jul-13	-	-	-	-	-	-	-
2015-104**	Grassland	22-Jul-15	N/A	N/A	Blue grama, western wheat grass, fringed sage	Live 75 Bare 10 Litter 15	N/A	N/A	Downy brome, Japanese brome
2013-105	Grassland	11-Jul-13	N/A	N/A	-	Live 0 Bare 100 Litter 0	N/A	N/A	N/A
2015-105	Grassland	22-Jul-15	N/A	N/A	Blue grama, fringed sage, snowberry	Live 70 Bare 20 Litter 10	N/A	N/A	-
2013-106	Grassland	11-Jul-13	N/A	N/A	Goosefoot, snowberry	Live 25 Bare 70 Litter 5	N/A	N/A	N/A
2015-106	Grassland	22-Jul-15	N/A	N/A	Western wheat grass, blue grama, June grass	Live 60 Bare 25 Litter 15	N/A	N/A	-
2013-107*	Grassland	11-Jul-13	-	-	-	-	-	-	-
2015-107*	Grassland	22-Jul-15	-	-	-	-	-	-	-
[illegible]									
2013-108	Grassland	11-Jul-13	N/A	N/A	Snowberry, redroot pigweed	Live 1 Bare 98 Litter 1	N/A	N/A	Redroot pigweed, kochia, dandelion, wild tomato
2015-108	Grassland	22-Jul-15	N/A	N/A	Western wheat grass, blue grama, fringed sage	Live 65 Bare 25 Litter 10	N/A	N/A	-
2013-109*	Grassland	11-Jul-13	-	-	-	-	-	-	-
2015-109*	Grassland	22-Jul-15	-	-	-	-	-	-	-
2013-110	Grassland	11-Jul-13	N/A	N/A	Needle and thread, snowberry	Live 10 Bare 85 Litter 5	N/A	N/A	Goosefoot
2015-110	Grassland	22-Jul-15	N/A	N/A	Blue grama, western wheat grass, fringed sage	Live 75 Bare 15 Litter 10	N/A	N/A	-

Work Area

Assessment Location	Vegetation Height (cm)	Vegetation Vigour (G/F/P)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (mm)	Common Weed Species Name
2013-100	N/A	N/A	Needle and thread, scarlet mallow, western wheat grass, blue grama	Live 15 Bare 80 Litter 5	N/A	N/A	Yellow toadflax, kochia, purslane, Russian thistle, dandelion, redroot pigweed, goosefoot, bull thistle
2015-100	N/A	N/A	Western wheat grass, northern wheat grass, June grass	Live 70 Bare 10 Litter 20	N/A	N/A	Yellow toadflax, thistle
2013-101*	-	-	-	-	-	-	-
2015-101*	-	-	-	-	-	-	-
2013-102*	N/A	N/A	Western wheat grass	Live 10 Bare 90 Litter 0	N/A	N/A	Wild licorice, stinkweed, redroot pigweed, prostrate pigweed, annual sow thistle, kochia, Russian thistle, goosefoot
2015-102*	N/A	N/A	Western wheat grass, June grass, green needle grass	Live 85 Bare 5 Litter 10	N/A	N/A	Downy brome, Japanese brome
2013-103**	-	-	-	-	-	-	-
2015-103**	N/A	N/A	Western wheat grass, June grass, northern wheatgrass	Live 85 Bare 5 Litter 10	N/A	N/A	Downy brome, Japanese brome
2013-104**	-	-	-	-	-	-	-
2015-104**	N/A	N/A	Blue grama, western wheat grass, fringed sage	Live 80 Bare 10 Litter 10	N/A	N/A	Downy brome, Japanese brome
2013-105	N/A	N/A	Blue grama, northern wheat grass, needle and thread	Live 50 Bare 40 Litter 10	N/A	N/A	N/A
2015-105	N/A	N/A	Blue grama, fringed sage, snowberry	Live 90 Bare 5 Litter 5	N/A	N/A	N/A
2013-106	N/A	N/A	Scarlet mallow, goosefoot	Live 50 Bare 50 Litter 0	N/A	N/A	N/A
2015-106	N/A	N/A	Western wheat grass, blue grama, June grass	Live 70 Bare 15 Litter 15	N/A	N/A	N/A
2013-107*	-	-	-	-	-	-	-
2015-107*	-	-	-	-	-	-	-
2013-108	N/A	N/A	Western wheat grass, snowberry, [illegible]	Live 10 Bare 85 Litter 5	N/A	N/A	Redroot pigweed, kochia, dandelion, wild tomato
2015-108	N/A	N/A	Western wheat grass, blue grama, fringed sage	Live 70 Bare 20 Litter 10	N/A	N/A	-
2013-109*	-	-	-	-	-	-	-
2015-109*	-	-	-	-	-	-	-
2013-110	N/A	N/A	Needle and thread, western wheat grass, blue grama	Live 70 Bare 15 Litter 15	N/A	N/A	Goosefoot
2015-110	N/A	N/A	Blue grama, western wheat grass, fringed sage	Live 80 Bare 10 Litter 10	N/A	N/A	-

Trench Portion

Assessment Location	Vegetation Height (cm)	Vegetation Vigour (G/F/P)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (mm)	Common Weed Species Name
2013-100	N/A	N/A	Needle and thread, scarlet mallow, western wheat grass, blue grama	Live 35 Bare 60 Litter 5	N/A	N/A	Yellow toadflax, kochia, purslane, Russian thistle, dandelion, redroot pigweed, goosefoot, bull thistle
2015-100	N/A	N/A	Western wheat grass, northern wheat grass, June grass	Live 70 Bare 10 Litter 20	N/A	N/A	Yellow toadflax, thistle
2013-101*	-	-	-	-	-	-	-
2015-101*	-	-	-	-	-	-	-
2013-102*	N/A	N/A	Western wheat grass, snowberry	Live 5 Bare 90 Litter 5	N/A	N/A	Wild licorice, stinkweed, redroot pigweed, prostrate pigweed, annual sow thistle, kochia, Russian thistle, goosefoot
2015-102*	N/A	N/A	Western wheat grass, June grass, green needle grass	Live 90 Bare 5 Litter 5	N/A	N/A	Downy brome, Japanese brome
2013-103**	-	-	-	-	-	-	-
2015-103**	N/A	N/A	Western wheat grass, June grass, northern wheatgrass	Live 85 Bare 5 Litter 10	N/A	N/A	Downy brome, Japanese brome
2013-104**	-	-	-	-	-	-	-
2015-104**	N/A	N/A	Blue grama, western wheat grass, fringed sage	Live 80 Bare 10 Litter 10	N/A	N/A	Downy brome, Japanese brome
2013-105	N/A	N/A	Blue grama, scarlet mallow, needle and thread	Live 60 Bare 25 Litter 15	N/A	N/A	N/A
2015-105	N/A	N/A	Blue grama, fringed sage, snowberry	Live 90 Bare 5 Litter 5	N/A	N/A	N/A
2013-106	N/A	N/A	Western wheat grass, blue grama, blue bur	Live 75 Bare 5 Litter 20	N/A	N/A	N/A
2015-106	N/A	N/A	Western wheat grass, blue grama, June grass	Live 70 Bare 20 Litter 10	N/A	N/A	N/A
2013-107*	-	-	-	-	-	-	-
2015-107*	-	-	-	-	-	-	-
2013-108	N/A	N/A	Northern wheat grass, snowberry, silky lupine	Live 15 Bare 80 Litter 5	N/A	N/A	Redroot pigweed, kochia, dandelion, wild tomato
2015-108	N/A	N/A	Western wheat grass, blue grama, fringed sage	Live 70 Bare 20 Litter 10	N/A	N/A	-
2013-109*	-	-	-	-	-	-	-
2015-109*	-	-	-	-	-	-	-
2013-110	N/A	N/A	Needle and thread, western wheat grass, bastard toadflax	Live 75 Bare 10 Litter 15	N/A	N/A	Goosefoot
2015-110	N/A	N/A	Blue grama, western wheat grass, fringed sage	Live 80 Bare 10 Litter 10	N/A	N/A	-

Control Area / Vegetation and Landscape Comments / GPS Coordinates

Assessment Location	Vegetation Height (cm)	Vegetation Vigour (G/F/P)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (mm)	Common Weed Species Name	Comments	UTM NAD 83 (Zone 12)
2013-100	N/A	N/A	Needle and thread, scarlet mallow, western wheat grass, blue grama	Live 55 Bare 5 Litter 40	N/A	N/A	N/A	-	417,798 mE, 5,427,878 mN
2015-100	N/A	N/A	Western wheat grass, northern wheat grass, June grass	Live 75 Bare 10 Litter 15	N/A	N/A	Yellow toadflax, thistle	-	417,798 mE, 5,427,878 mN
2013-101*	-	-	-	-	-	-	-	Erosion issues along hill (N/S direction) 30 cm x 1 m - 417,910 mE, 5,428,108 mN	417,910 mE, 5,428,108 mN to 417,910 mE 5,428,118 mN
2015-101*	-	-	-	-	-	-	-	-	417,910 mE, 5,428,108 mN to 417,910 mE 5,428,116 mN
2013-102*	N/A	N/A	Needle and thread, silky lupine, snowberry	Live 70 Bare 0 Litter 30	N/A	N/A	N/A	No vegetation management at this time	417,830 mE, 5,428,280 mN
2015-102*	N/A	N/A	Western wheat grass, June grass, green needle grass	Live 80 Bare 10 Litter 10	N/A	N/A	Downy brome, Japanese brome	-	417,830 mE, 5,428,280 mN
2013-103**	-	-	-	-	-	-	-	Water crossing; minor erosion	417,830 mE, 5,428,374 mN
2015-103**	N/A	N/A	Western wheat grass, June grass, northern wheatgrass	Live 80 Bare 5 Litter 15	N/A	N/A	Downy brome, Japanese brome	-	417,830 mE, 5,428,374 mN
2013-104**	-	-	-	-	-	-	Fireweed and Japanese brome	Water crossing; monitor minor subsidence/erosion; Note: fireweed and Japanese brome off site	417,846 mE, 5,428,446 mN
2015-104**	N/A	N/A	Blue grama, western wheat grass, fringed sage	Live 90 Bare 5 Litter 5	N/A	N/A	Downy brome, Japanese brome	-	417,846 mE, 5,428,446 mN
2013-105	N/A	N/A	June grass, slender wheat grass, needle and thread	Live 65 Bare 5 Litter 30	N/A	N/A	N/A	Monitor grass and weed growth	417,830 mE, 5,428,516 mN
2015-105	N/A	N/A	Blue grama, fringed sage, snowberry	Live 90 Bare 5 Litter 5	N/A	N/A	N/A	-	417,830 mE, 5,428,516 mN
2013-106	N/A	N/A	Needle and thread, blue grama, slender wheat grass	Live 65 Bare 5 Litter 30	N/A	N/A	N/A	Monitor vegetation and weeds; Weeds are helping retain soil	417,865 mE, 5,428,631 mN
2015-106	N/A	N/A	Western wheat grass, blue grama, June grass	Live 80 Bare 10 Litter 10	N/A	N/A	N/A	-	417,865 mE, 5,428,631 mN
2013-107*	-	-	-	-	-	-	-	Scalped surface soil in area; some contour differences; reached over trenchline; Monitor erosion at 417,882 mE, 5,428,628 mN	417,882 mE, 5,428,628 mN
2015-107*	-	-	-	-	-	-	-	-	417,882 mE, 5,428,628 mN
2013-108	N/A	N/A	Slender wheat grass, needle and thread, [illegible]	Live 75 Bare 5 Litter 20	N/A	N/A	N/A	Monitor weeds	417,885 mE, 5,428,869 mN
2015-108	N/A	N/A	Western wheat grass, blue grama, fringed sage	Live 85 Bare 10 Litter 5	N/A	N/A	-	-	417,885 mE, 5,428,869 mN
2013-109*	-	-	-	-	-	-	-	Slight contour difference on RoW 417,882 mE, 5,428,917 mN; multiple small drainages in area	417,882 mE, 5,428,917 mN
2015-109*	-	-	-	-	-	-	-	-	417,882 mE, 5,428,917 mN
2013-110	N/A	N/A	June grass, needle and thread, fringed sage	Live 65 Bare 10 Litter 25	N/A	N/A	N/A	-	417,947 mE, 5,429,170 mE
2015-110	N/A	N/A	Blue grama, western wheat grass, fringed sage	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	417,947 mE, 5,429,170 mE

TABLE 1 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Vegetation and Landscape)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Assessment Location	Land Use	Inspection Date (dd-mm-yr)	Trenchline: Vegetation Height (cm)	Trenchline: Vegetation Vigour [illegible]	Trenchline: Native & Tame Species Diversity – Dominant Species	Trenchline: Approx. % Cover	Trenchline: Plants per 1 m Row	Trenchline: Seed Head Length (cm)	Trenchline: Common Weed Species Name
[illegible]									
2013-111	Grassland	11-Jul-13	N/A	N/A	Snowberry, blue grama	Live 5 Bare 93 Litter 2	N/A	N/A	-
2015-111	Grassland	22-Jul-15	N/A	N/A	Western wheat grass, blue grama, needle and thread	Live 70 Bare 20 Litter 10	N/A	N/A	-
2013-112	Grassland	11-Jul-13	-	-	-	-	-	-	-
2015-112	Grassland	22-Jul-15	-	-	-	-	-	-	-
2013-113*	Grassland	11-Jul-13	-	-	-	-	-	-	-
2015-113*	Grassland	22-Jul-15	-	-	-	-	-	-	-
2013-114	Grassland	11-Jul-13	N/A	N/A	Milk vetch	Live 5 Bare 95 Litter 0	N/A	N/A	Dandelion
2015-114	Grassland	22-Jul-15	N/A	N/A	Fringed sage, blue grama, western wheat grass	Live 40 Bare 55 Litter 5	N/A	N/A	-
2013-115	Grassland	11-Jul-13	N/A	N/A	Blue grama	Live 1 Bare 93 Litter 6	N/A	N/A	Redroot pigweed
2015-115	Grassland	22-Jul-15	N/A	N/A	Fringed sage, blue grama, western wheat grass	Live 30 Bare 60 Litter 10	N/A	N/A	-
[illegible]									
2013-116*	Grassland	11-Jul-13	-	-	-	-	-	-	-
2015-116*	Grassland	22-Jul-15	N/A	N/A	Fringed sage, blue grama, needle and thread	Live 55 Bare 40 Litter 5	N/A	N/A	-
2013-117	Grassland	11-Jul-13	N/A	N/A	Fringed sage, blue grama	Live 2 Bare 98 Litter	N/A	N/A	Plantain, redroot pigweed
2015-117	Grassland	22-Jul-15	N/A	N/A	Western wheat grass, needle and thread, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-118	Grassland	11-Jul-13	N/A	N/A	Redroot pigweed	Live 1 Bare 98 Litter 1	N/A	N/A	Bull thistle
2015-118A	Grassland	26-Jun-15	-	-	-	-	-	-	-
2015-118	Grassland	22-Jul-15	N/A	N/A	Western wheat grass, needle and thread, blue grama	Live 70 Bare 15 Litter 15	N/A	N/A	-
[illegible]									
2013-119*	Cultivated	11-Jul-13	-	-	-	-	-	-	-
2015-119*	Cultivated		-	-	-	-	-	-	-
2013-120*	Cultivated	11-Jul-13	-	-	-	-	-	-	-
2015-120*	Cultivated		-	-	-	-	-	-	-
2013-121*	Cultivated	11-Jul-13	-	-	-	-	-	-	-
2015-121*	Cultivated		-	-	-	-	-	-	-
2013-122*	Cultivated	11-Jul-13	-	-	-	-	-	-	-
2015-122*	Cultivated		-	-	-	-	-	-	-

Assessment Location	Work Area: Vegetation Height (cm)	Work Area: Vegetation Vigour [illegible]	Work Area: Native & Tame Species Diversity – Dominant Species	Work Area: Approx. % Cover	Work Area: Plants per 1 m Row	Work Area: Seed Head Length (cm)	Work Area: Common Weed Species Name
2013-111	N/A	N/A	Western wheat grass, scarlet mallow	Live 10 Bare 90 Litter 0	N/A	N/A	-
2015-111	N/A	N/A	Western wheat grass, scarlet mallow	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-112	-	-	-	-	-	-	-
2015-112	-	-	-	-	-	-	-
2013-113*	-	-	-	-	-	-	-
2015-113*	-	-	-	-	-	-	-
2013-114	N/A	N/A	Western wheat grass, June grass, needle and thread	Live 55 Bare 25 Litter 20	N/A	N/A	Dandelion
2015-114	N/A	N/A	Fringed sage, blue grama, western wheat grass	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-115	N/A	N/A	Blue grama, needle and thread, bastard toadflax	Live 60 Bare 30 Litter 10	N/A	N/A	Redroot pigweed
2015-115	N/A	N/A	Fringed sage, blue grama, western wheat grass	Live 70 Bare 15 Litter 15	N/A	N/A	-
2013-116*	-	-	-	-	-	-	-
2015-116*	N/A	N/A	Fringed sage, blue grama, needle and thread	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-117	N/A	N/A	Mouse-eared chickweed	Live 1 Bare 93 Litter 6	N/A	N/A	Plantain, redroot pigweed
2015-117	N/A	N/A	Western wheat grass, needle and thread, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-118	N/A	N/A	Blue grama, pasture sage, wavyleaved thistle	Live 40 Bare 5 Litter 55	N/A	N/A	Bull thistle
2015-118A	-	-	-	-	-	-	-
2015-118	N/A	N/A	Western wheat grass, needle and thread, blue grama	Live 70 Bare 15 Litter 15	N/A	N/A	-
2013-119*	-	-	-	-	-	-	-
2015-119*	-	-	-	-	-	-	-
2013-120*	-	-	-	-	-	-	-
2015-120*	-	-	-	-	-	-	-
2013-121*	-	-	-	-	-	-	-
2015-121*	-	-	-	-	-	-	-
2013-122*	-	-	-	-	-	-	-
2015-122*	-	-	-	-	-	-	-

Assessment Location	Travel Portion: Vegetation Height (cm)	Travel Portion: Vegetation Vigour [illegible]	Travel Portion: Native & Tame Species Diversity – Dominant Species	Travel Portion: Approx. % Cover	Travel Portion: Plants per 1 m Row	Travel Portion: Seed Head Length (cm)	Travel Portion: Common Weed Species Name
2013-111	N/A	N/A	Needle and thread, western wheat grass, blue grama	Live 50 Bare 10 Litter 40	N/A	N/A	-
2015-111	N/A	N/A	Needle and thread, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-112	-	-	-	-	-	-	-
2015-112	-	-	-	-	-	-	-
2013-113*	-	-	-	-	-	-	-
2015-113*	-	-	-	-	-	-	-
2013-114	N/A	N/A	June grass, needle and thread, blue grama	Live 60 Bare 5 Litter 35	N/A	N/A	Dandelion
2015-114	N/A	N/A	Fringed sage, blue grama, western wheat grass	Live 85 Bare 10 Litter 5	N/A	N/A	-
2013-115	N/A	N/A	-	Live 0 Bare 100 Litter 0	N/A	N/A	Redroot pigweed
2015-115	N/A	N/A	Fringed sage, blue grama, western wheat grass	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-116*	-	-	-	-	-	-	-
2015-116*	N/A	N/A	Fringed sage, blue grama, needle and thread	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-117	N/A	N/A	Blue grama, bastard toadflax	Live 25 Bare 70 Litter 5	N/A	N/A	Plantain, redroot pigweed
2015-117	N/A	N/A	Western wheat grass, needle and thread, blue grama	Live 85 Bare 10 Litter 5	N/A	N/A	-
2013-118	N/A	N/A	Needle and thread, blue grama, pasture sage	Live 75 Bare 10 Litter 15	N/A	N/A	Bull thistle
2015-118A	-	-	-	-	-	-	-
2015-118	N/A	N/A	Western wheat grass, needle and thread, blue grama	Live 70 Bare 20 Litter 10	N/A	N/A	-
2013-119*	-	-	-	-	-	-	-
2015-119*	-	-	-	-	-	-	-
2013-120*	-	-	-	-	-	-	-
2015-120*	-	-	-	-	-	-	-
2013-121*	-	-	-	-	-	-	-
2015-121*	-	-	-	-	-	-	-
2013-122*	-	-	-	-	-	-	-
2015-122*	-	-	-	-	-	-	-

Assessment Location	Control Area: Vegetation Height (cm)	Control Area: Vegetation Vigour [illegible]	Control Area: Native & Tame Species Diversity – Dominant Species	Control Area: Approx. % Cover	Control Area: Plants per 1 m Row	Control Area: Seed Head Length (cm)	Control Area: Common Weed Species Name	Vegetation and Landscape Concerns: Comments	GPS Coordinates: UTM NAD 83 (Zone 12)
2013-111	N/A	N/A	Blue grama, needle and thread, Sandberg's blue grass	Live 65 Bare 5 Litter 30	N/A	N/A	N/A	-	417,918 mE, 5,428,866 mN
2015-111	N/A	N/A	Blue grama, needle and thread, Sandberg's blue grass	Live 85 Bare 5 Litter 10	N/A	N/A	-	-	417,918 mE, 5,428,866 mN
2013-112	-	-	-	-	-	-	-	Minor cattle rutting	417,891 mE, 5,428,654 mN
2015-112	-	-	-	-	-	-	-	-	417,891 mE, 5,428,654 mN
2013-113*	-	-	-	-	-	-	-	Erosion along trenchline approximately 30 m in length	417,887 mE, 5,428,760 mN
2015-113*	-	-	-	-	-	-	-	-	417,887 mE, 5,428,760 mN
2013-114	N/A	N/A	Needle and thread, slender wheat grass, June grass	Live 70 Bare 5 Litter 25	N/A	N/A	N/A	-	417,911 mE, 5,428,930 mN
2015-114	N/A	N/A	Fringed sage, blue grama, western wheat grass	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	417,911 mE, 5,428,930 mN
2013-115	N/A	N/A	Blue grama, slender wheat grass, bastard toadflax	Live 70 Bare 5 Litter 25	N/A	N/A	N/A	Vegetation not established but should revegetate naturally	417,944 mE, 5,430,323 mN
2015-115	N/A	N/A	Fringed sage, blue grama, western wheat grass	Live 80 Bare 15 Litter 5	N/A	N/A	-	-	417,944 mE, 5,430,323 mN
2013-116*	-	-	-	-	-	-	-	Minor subsidence and contouring issues 40-50 m long (low disturbance issue). Cattle impacts (minor) as well	417,896 mE, 5,430,487 mN
2015-116*	N/A	N/A	Fringed sage, blue grama, needle and thread	Live 85 Bare 10 Litter 5	N/A	N/A	-	-	417,896 mE, 5,430,487 mN
2013-117	N/A	N/A	Blue grama, needle and thread, low sedge	Live 45 Bare 10 Litter 45	N/A	N/A	N/A	-	417,969 mE, 5,430,656 mN
2015-117	N/A	N/A	Western wheat grass, needle and thread, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	417,969 mE, 5,430,656 mN
2013-118	N/A	N/A	Needle and thread, June grass, bastard toadflax	Live 80 Bare 5 Litter 15	N/A	N/A	N/A	Monitor vegetation	418,003 mE, 5,431,096 mN
2015-118A	-	-	-	-	-	-	-	-	417,992 mE, 5,430,992 mN
2015-118	N/A	N/A	Western wheat grass, needle and thread, blue grama	Live 80 Bare 5 Litter 15	N/A	N/A	-	-	418,003 mE, 5,431,096 mN
2013-119*	-	-	-	-	-	-	-	Soil erosion at end of field	418,026 mE, 5,432,083 mN
2015-119*	-	-	-	-	-	-	-	-	418,026 mE, 5,432,083 mN
2013-120*	-	-	-	-	-	-	-	Erosion and subsidence on trenchline approximately 30 m in length; minor compaction on work area of RoW. No vegetation - summer fallow	418,023 mE, 5,432,191 mN
2015-120*	-	-	-	-	-	-	-	-	418,023 mE, 5,432,191 mN
2013-121*	-	-	-	-	-	-	-	1 cm of eroded soil over topsoil on trenchline; Ponding over trenchline 418,028 mE, 5,432,405 mN for approximately 20 m	418,028 mE, 5,432,431 mN
2015-121*	-	-	-	-	-	-	-	-	418,028 mE, 5,432,431 mN
2013-122*	-	-	-	-	-	-	-	Summer fallow	418,036 mE, 5,432,743 mN
2015-122*	-	-	-	-	-	-	-	-	418,036 mE, 5,432,743 mN

TABLE 1 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Vegetation and Landscape)
2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Assessment Information			Topsoil							
Assessment Location	Land Use	Inspection Date	Vegetation Height (cm)	Vegetation Vigour	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name	
[illegible]										
2013-123	Grassland	11-Jul-13	N/A	N/A	-	Live 0 Bare 100 Litter 0	N/A	N/A	Stinkweed, foxtail barley	
2016-123	Grassland	22-Jul-16	N/A	N/A	Kentucky bluegrass, western wheat grass, rough hair grass	Live 85 Bare 5 Litter 10	N/A	N/A	-	
2013-124	Grassland	11-Jul-13	N/A	N/A	Western wheat grass	Live 1 Bare 99 Litter 0	N/A	N/A	Dandelion	
2016-124	Grassland	22-Jul-16	N/A	N/A	Western wheat grass, northern wheat grass, blue grama	Live 65 Bare 25 Litter 10	N/A	N/A	-	
2013-125	Grassland	11-Jul-13	N/A	N/A	Needle and thread	Live 1 Bare 99 Litter 0	N/A	N/A	N/A	
2016-125	Grassland	22-Jul-16	N/A	N/A	Needle and thread, western wheat grass, fringed sage	Live 65 Bare 25 Litter 10	N/A	N/A	-	
[illegible]										
2013-126*	Grassland	11-Jul-13	N/A	N/A	Yellow clover	Live 60 Bare 40 Litter 0	N/A	N/A	Sweet yellow clover very abundant on trenchline	
2016-126*	Grassland	22-Jul-16	N/A	N/A	Needle and thread, western wheat grass, blue grama	Live 30 Bare 60 Litter 10	N/A	N/A	-	
2013-127*	Grassland	11-Jul-13	-	-	-	-	-	-	-	
2016-127*	Grassland	22-Jul-16	-	-	-	-	-	-	-	
[illegible]										
2013-128	Grassland	11-Jul-13	N/A	N/A	Scarlet mallow	Live 20 Bare 80 Litter 0	N/A	N/A	Plantain	
2016-128	Grassland	22-Jul-16	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 30 Bare 65 Litter 5	N/A	N/A	-	
2013-129*	Grassland	11-Jul-13	N/A	N/A	Scarlet mallow, fringed sage	Live 3 Bare 97 Litter 0	N/A	N/A	N/A	
2016-129*	Grassland	22-Jul-16	N/A	N/A	Western wheat grass, fringed sage, needle and thread	Live 50 Bare 40 Litter 10	N/A	N/A	-	
2013-130	Grassland	11-Jul-13	N/A	N/A	-	Live 0 Bare 100 Litter 0	N/A	N/A	Bull thistle	
2016-130	Grassland	22-Jul-16	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 40 Bare 55 Litter 5	N/A	N/A	-	
2013-131*	Grassland	11-Jul-13	-	-	-	-	-	-	-	
2016-131*	Grassland	22-Jul-16	-	-	-	-	-	-	-	
[illegible]										
2013-132	Grassland	11-Jul-13	N/A	N/A	Northern wheat grass	Live 1 Bare 99 Litter 0	N/A	N/A	N/A	
2016-132	Grassland	22-Jul-16	N/A	N/A	Fringed sage, blue grama, western wheat grass	Live 35 Bare 60 Litter 5	N/A	N/A	-	
2013-133*	Grassland	11-Jul-13	-	-	-	-	-	-	-	
2016-133*	Grassland	22-Jul-16	-	-	-	-	-	-	-	
2013-134*	Grassland	11-Jul-13	-	-	-	-	-	-	-	
2016-134*	Grassland	22-Jul-16	-	-	-	-	-	-	-	
2013-135	Grassland	11-Jul-13	N/A	N/A	-	Live 0 Bare 100 Litter 0	N/A	N/A	Bull thistle	
2016-135	Grassland	22-Jul-16	N/A	N/A	Western wheatgrass, needle and thread, fringed sage	Live 70 Bare 20 Litter 10	N/A	N/A	-	
2013-136**	Grassland	11-Jul-13	-	-	-	-	-	-	-	
2016-136*	Grassland	22-Jul-16	N/A	N/A	Blue grama, fringed sage, western wheat grass	Live 80 Bare 10 Litter 10	N/A	N/A	-	
2013-137*	Grassland	11-Jul-13	-	-	-	-	-	-	-	
2016-137*	Grassland	22-Jul-16	-	-	-	-	-	-	-	

Assessment Location	Work Area						
	Vegetation Height (cm)	Vegetation Vigour	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name
2013-123	N/A	N/A	Western wheat grass, Kentucky bluegrass, gumweed	Live 85 Bare 5 Litter 10	N/A	N/A	Stinkweed, foxtail barley
2016-123	N/A	N/A	Kentucky bluegrass, western wheat grass, rough hair grass	Live 90 Bare 5 Litter 5	N/A	N/A	-
2013-124	N/A	N/A	Scarlet mallow, dandelion, western wheat grass	Live 15 Bare 80 Litter 5	N/A	N/A	Dandelion
2016-124	N/A	N/A	Western wheat grass, northern wheat grass, blue grama	Live 75 Bare 10 Litter 15	N/A	N/A	-
2013-125	N/A	N/A	Scarlet mallow, needle and thread	Live 20 Bare 80 Litter 0	N/A	N/A	-
2016-125	N/A	N/A	Needle and thread, western wheat grass, fringed sage	Live 85 Bare 10 Litter 5	N/A	N/A	-
2013-126*	N/A	N/A	June grass, yellow clover, needle and thread	Live 65 Bare 30 Litter 5	N/A	N/A	Sweet yellow clover
2016-126*	N/A	N/A	Needle and thread, western wheat grass, blue grama	Live 80 Bare 15 Litter 5	N/A	N/A	-
2013-127*	-	-	-	-	-	-	-
2016-127*	-	-	-	-	-	-	-
2013-128	N/A	N/A	Scarlet mallow, western wheat grass	Live 15 Bare 85 Litter 0	N/A	N/A	Plantain
2016-128	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-129*	N/A	N/A	Northern wheat grass, blue grama, scarlet mallow	Live 20 Bare 75 Litter 5	N/A	N/A	N/A
2016-129*	N/A	N/A	Western wheat grass, fringed sage, needle and thread	Live 75 Bare 10 Litter 15	N/A	N/A	-
2013-130	N/A	N/A	Blue grama, golden aster, June grass	Live 75 Bare 20 Litter 5	N/A	N/A	Bull thistle
2016-130	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-131*	-	-	-	-	-	-	-
2016-131*	-	-	-	-	-	-	-
2013-132	N/A	N/A	June grass, needle and thread, blue grama	Live 85 Bare 10 Litter 5	N/A	N/A	N/A
2016-132	N/A	N/A	Fringed sage, blue grama, western wheat grass	Live 80 Bare 15 Litter 5	N/A	N/A	-
2013-133*	-	-	-	-	-	-	-
2016-133*	-	-	-	-	-	-	-
2013-134*	-	-	-	-	-	-	-
2016-134*	-	-	-	-	-	-	-
2013-135	N/A	N/A	Needle and thread, June grass	Live 60 Bare 35 Litter 5	N/A	N/A	Bull thistle
2016-135	N/A	N/A	Western wheatgrass, needle and thread, fringed sage	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-136**	-	-	-	-	-	-	-
2016-136*	N/A	N/A	Blue grama, fringed sage, western wheat grass	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-137*	-	-	-	-	-	-	-
2016-137*	-	-	-	-	-	-	-

Assessment Location	Travel Portion						
	Vegetation Height (cm)	Vegetation Vigour	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name
2013-123	N/A	N/A	Western wheat grass, Kentucky bluegrass	Live 85 Bare 5 Litter 10	N/A	N/A	Stinkweed, foxtail barley
2016-123	N/A	N/A	Kentucky bluegrass, western wheat grass, rough hair grass	Live 90 Bare 5 Litter 5	N/A	N/A	-
2013-124	N/A	N/A	Needle and thread, blue grama, June grass	Live 65 Bare 20 Litter 15	N/A	N/A	Dandelion
2016-124	N/A	N/A	Western wheat grass, northern wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-125	N/A	N/A	Needle and thread, scarlet mallow, June grass	Live 75 Bare 10 Litter 15	N/A	N/A	-
2016-125	N/A	N/A	Needle and thread, western wheat grass, fringed sage	Live 85 Bare 10 Litter 5	N/A	N/A	-
2013-126*	N/A	N/A	Needle and thread, yellow clover, western wheat grass	Live 85 Bare 5 Litter 10	N/A	N/A	Sweet yellow clover
2016-126*	N/A	N/A	Needle and thread, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-127*	-	-	-	-	-	-	-
2016-127*	-	-	-	-	-	-	-
2013-128	N/A	N/A	Western wheat grass, blue grama, golden aster	Live 10 Bare 85 Litter 5	N/A	N/A	Plantain
2016-128	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-129*	N/A	N/A	Northern wheat grass, scarlet mallow, fringed sage	Live 70 Bare 20 Litter 10	N/A	N/A	N/A
2016-129*	N/A	N/A	Western wheat grass, fringed sage, needle and thread	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-130	N/A	N/A	Blue grama, needle and thread, golden aster	Live 65 Bare 15 Litter 20	N/A	N/A	Bull thistle
2016-130	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 85 Bare 10 Litter 5	N/A	N/A	-
2013-131*	-	-	-	-	-	-	-
2016-131*	-	-	-	-	-	-	-
2013-132	N/A	N/A	June grass, blue grama, scarlet mallow	Live 65 Bare 10 Litter 25	N/A	N/A	-
2016-132	N/A	N/A	Fringed sage, blue grama, western wheat grass	Live 70 Bare 20 Litter 10	N/A	N/A	-
2013-133*	-	-	-	-	-	-	-
2016-133*	-	-	-	-	-	-	-
2013-134*	-	-	-	-	-	-	-
2016-134*	-	-	-	-	-	-	-
2013-135	N/A	N/A	Needle and thread, fringed sage, blue grama	Live 85 Bare 5 Litter 10	N/A	N/A	Bull thistle
2016-135	N/A	N/A	Western wheatgrass, needle and thread, fringed sage	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-136**	-	-	-	-	-	-	-
2016-136*	N/A	N/A	Blue grama, fringed sage, western wheat grass	Live 75 Bare 15 Litter 10	N/A	N/A	-
2013-137*	-	-	-	-	-	-	-
2016-137*	-	-	-	-	-	-	-

Assessment Location	Control Area							Vegetation and Landscape Comments	GPS Coordinates
	Vegetation Height (cm)	Vegetation Vigour	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name	Comments	UTM NAD 83 (Zone 12)
2013-123	N/A	N/A	Western wheat grass, Kentucky bluegrass	Live 80 Bare 10 Litter 10	N/A	N/A	N/A	Monitor vegetation	416,041 mE, 5,432,680 mN
2016-123	N/A	N/A	Kentucky bluegrass, western wheat grass, rough hair grass	Live 90 Bare 5 Litter 5	N/A	N/A	-	-	416,041 mE, 5,432,680 mN
2013-124	N/A	N/A	Needle and thread, blue grama, June grass	Live 70 Bare 5 Litter 25	N/A	N/A	N/A	-	416,050 mE, 5,433,305 mN
2016-124	N/A	N/A	Western wheat grass, northern wheat grass, blue grama	Live 85 Bare 5 Litter 10	N/A	N/A	-	-	416,050 mE, 5,433,305 mN
2013-125	N/A	N/A	Needle and thread, June grass	Live 50 Bare 5 Litter 45	N/A	N/A	N/A	-	416,040 mE, 5,433,437 mN to 416,040 mE, 5,433,502 mN
2016-125	N/A	N/A	Needle and thread, western wheat grass, fringed sage	Live 85 Bare 5 Litter 10	N/A	N/A	-	-	416,040 mE, 5,433,437 mN to 416,040 mE, 5,433,502 mN
2013-126*	N/A	N/A	June grass, needle and thread, western wheat grass	Live 85 Bare 5 Litter 10	N/A	N/A	Sweet yellow clover	Abundant Sweet yellow clover, reduced vegetation on travel portion of RoW	416,035 mE, 5,433,730 mN
2016-126*	N/A	N/A	Needle and thread, western wheat grass, blue grama	Live 85 Bare 5 Litter 10	N/A	N/A	-	-	416,035 mE, 5,433,730 mN
2013-127*	-	-	-	-	-	-	-	Transition subsidence approximately 10-15 m long Note: from fence north to 417,982 mE, 5,434,393 minor rill erosion	416,082 mE, 5,434,179 mN
2016-127*	-	-	-	-	-	-	-	-	416,082 mE, 5,434,179 mN
2013-128	N/A	N/A	Needle and thread, low sedge, western wheat grass	Live 75 Bare 10 Litter 15	N/A	N/A	N/A	Cattle causing impacts to vegetation	417,999 mE, 5,434,432 mN
2016-128	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	417,999 mE, 5,434,432 mN
2013-129*	N/A	N/A	Northern wheat grass, June grass, golden aster	Live 60 Bare 5 Litter 35	N/A	N/A	N/A	-	416,040 mE, 5,434,731 mN
2016-129*	N/A	N/A	Western wheat grass, fringed sage, needle and thread	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	416,040 mE, 5,434,731 mN
2013-130	N/A	N/A	June grass, blue grama, golden aster	Live 75 Bare 5 Litter 20	N/A	N/A	N/A	Monitor future vegetation	416,070 mE, 5,434,945 mN to 416,070 mE, 5,434,954 mN
2016-130	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 5 Litter 15	N/A	N/A	-	-	416,070 mE, 5,434,945 mN to 416,070 mE, 5,434,954 mN
2013-131*	-	-	-	-	-	-	-	-	416,078 mE, 5,435,140 mN
2016-131*	-	-	-	-	-	-	-	-	416,078 mE, 5,435,140 mN
2013-132	N/A	N/A	Sandberg's blue grass, June grass, needle and thread	Live 85 Bare 0 Litter 15	N/A	N/A	N/A	Vegetation establishing	416,083 mE, 5,435,513 mN
2016-132	N/A	N/A	Fringed sage, blue grama, western wheat grass	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	416,083 mE, 5,435,513 mN
2013-133*	-	-	-	-	-	-	-	Contour difference in draw approximately 10 m in length	416,089 mE, 5,435,632 mN
2016-133*	-	-	-	-	-	-	-	-	416,089 mE, 5,435,632 mN
2013-134*	-	-	-	-	-	-	-	Contour difference in draw	416,089 mE, 5,435,632 mN
2016-134*	-	-	-	-	-	-	-	-	416,089 mE, 5,435,632 mN
2013-135	N/A	N/A	Northern wheat grass, needle and thread, June grass	Live 90 Bare 0 Litter 10	N/A	N/A	N/A	-	416,086 mE, 5,435,750 mN
2016-135	N/A	N/A	Western wheatgrass, needle and thread, fringed sage	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	416,086 mE, 5,435,750 mN
2013-136**	-	-	-	-	-	-	-	Surface water ponding 10 m x 5-7 m in travel and transition portion of RoW	416,086 mE, 5,435,807 mN
2016-136*	N/A	N/A	Blue grama, fringed sage, western wheat grass	Live 85 Bare 5 Litter 10	N/A	N/A	-	-	416,086 mE, 5,435,807 mN
2013-137*	-	-	-	-	-	-	-	-	416,089 mE, 5,435,871 mN to 416,091 mE, 5,435,962 mN
2016-137*	-	-	-	-	-	-	-	-	416,089 mE, 5,435,871 mN to 416,091 mE, 5,435,962 mN

TABLE 1 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Vegetation and Landscape)
2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-278-04

Assessment Information			Trenchline						
Assessment Location	Land Use	Inspection Date (d/m/yr)	Vegetation Height (cm)	Vegetation Vigour (N/F/G)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name
[illegible]									
2013-200*	Grassland	11-Jul-13	N/A	N/A	Stinkweed, western wheat grass	Live 3 Bare 95 Litter 2	N/A	N/A	Stinkweed, redroot pigweed
2016-200*	Grassland	22-Jul-16	N/A	N/A	Sweet clover, western wheat grass, northern wheat grass	Live 90 Bare 5 Litter 5	N/A	N/A	Sweet clover, downy brome
2013-201	Grassland	11-Jul-13	N/A	N/A	Western wheat grass	Live 3 Bare 97 Litter 0	N/A	N/A	N/A
2016-201	Grassland	22-Jul-16	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 50 Bare 35 Litter 15	N/A	N/A	-
2013-202*	Grassland	11-Jul-13	-	-	-	-	-	-	-
2016-202*	Grassland	22-Jul-16	-	-	-	-	-	-	-
2013-203	Cultivated	11-Jul-13	43	Fair	Wheat	N/A	21	0	Stinkweed
2016-203*	Cultivated	30-Jul-16	49	-	Wheat	N/A	11	7	Prostrate Pigweed
2013-204**	Cultivated	11-Jul-13	-	-	-	-	-	-	-
2016-204**	Cultivated	30-Jul-16	63	-	Wheat	N/A	11	7	Prostrate Pigweed, Kochia
2013-205	Cultivated	11-Jul-13	78	Good	Wheat	N/A	35	7	N/A
2016-205*	Cultivated		-	-	-	-	-	-	-
2013-206**	Grassland	11-Jul-13	-	-	-	-	-	-	Canada thistle, kochia
2016-206**	Grassland	22-Jul-16	N/A	N/A	Smooth brome, green needle grass, western wheat grass	Live 90 Bare 5 Litter 5	N/A	N/A	Canada thistle, kochia
[illegible]									
2013-300	Grassland	18-Jul-13	N/A	N/A	Western wheat grass, June grass, needle and thread, blue grama	Live 5 Bare 85 Litter 9	N/A	N/A	Pigweed
2016-300	Grassland	23-Jul-16	N/A	N/A	Western wheat grass, northern wheat grass, needle and thread	Live 35 Bare 60 Litter 5	N/A	N/A	-
2013-301**	Grassland	18-Jul-13	-	-	-	-	-	-	-
2016-301*	Grassland	23-Jul-16	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
[illegible]									
2013-302	Grassland	18-Jul-13	N/A	N/A	Blue grama, June grass, scarlet mallow	Live 30 Bare 60 Litter 10	N/A	N/A	Dandelion, wild tomato, pigweed, goosefoot
2016-302	Grassland	23-Jul-16	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 70 Bare 25 Litter 5	N/A	N/A	-
2013-303*	Grassland	18-Jul-13	-	-	-	-	-	-	-
2016-303*	Grassland	23-Jul-16	-	-	-	-	-	-	-
2013-304	Grassland	18-Jul-13	N/A	N/A	June grass, needle and thread	Live 20 Bare 75 Litter 5	N/A	N/A	Dandelion
2016-304	Grassland	23-Jul-16	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 40 Bare 55 Litter 5	N/A	N/A	-
2013-305	Grassland	18-Jul-13	N/A	N/A	Scarlet mallow, needle and thread	Live 10 Bare 90 Litter 0	N/A	N/A	Tansy mustard, kochia
2016-305	Grassland	23-Jul-16	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 35 Bare 55 Litter 10	N/A	N/A	-
[illegible]									
2013-306	Grassland	18-Jul-13	N/A	N/A	Western wheat grass, needle and thread, blue grama	Live 20 Bare 75 Litter 5	N/A	N/A	Kochia, tansy mustard, wild tomato,
2016-306	Grassland	23-Jul-16	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 35 Bare 60 Litter 5	N/A	N/A	-

Assessment Location	Work Area						
	Vegetation Height (cm)	Vegetation Vigour (N/F/G)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name
2013-200*	N/A	N/A	Alfalfa, western wheat grass	Live 15 Bare 85 Litter 0	N/A	N/A	Stinkweed, redroot pigweed
2016-200*	N/A	N/A	Sweet clover, western wheat grass, northern wheat grass	Live 90 Bare 5 Litter 5	N/A	N/A	Sweet clover, downy brome
2013-201	N/A	N/A	Western wheat grass, slender wheat grass	Live 60 Bare 40 Litter 0	N/A	N/A	N/A
2016-201	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 85 Bare 10 Litter 5	N/A	N/A	-
2013-202*	-	-	-	-	-	-	-
2016-202*	-	-	-	-	-	-	-
2013-203	52	Fair	Wheat	N/A	27	7	Stinkweed
2016-203*	-	-	-	-	-	-	-
2013-204**	-	-	-	-	-	-	-
2016-204**	-	-	-	-	-	-	-
2013-205	80	Fair	Wheat	N/A	28	7.5	N/A
2016-205*	-	-	-	-	-	-	-
2013-206**	-	-	-	-	-	-	Canada thistle, kochia
2016-206**	N/A	N/A	Smooth brome, green needle grass, western wheat grass	Live 90 Bare 5 Litter 5	N/A	N/A	Canada thistle, kochia
2013-300	N/A	N/A	Western wheat grass, June grass, needle and thread, blue grama	Live 50 Bare 40 Litter 10	N/A	N/A	Pigweed
2016-300	N/A	N/A	Western wheat grass, northern wheat grass, needle and thread	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-301**	-	-	-	-	-	-	-
2016-301*	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 75 Bare 20 Litter 5	N/A	N/A	-
2013-302	N/A	N/A	Blue grama, June grass, scarlet mallow, western wheat grass	Live 50 Bare 30 Litter 20	N/A	N/A	Dandelion, wild tomato, pigweed, goosefoot
2016-302	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 80 Bare 15 Litter 5	N/A	N/A	-
2013-303*	-	-	-	-	-	-	-
2016-303*	-	-	-	-	-	-	-
2013-304	N/A	N/A	June grass, blue grama, needle and thread	Live 75 Bare 10 Litter 15	N/A	N/A	Dandelion
2016-304	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-305	N/A	N/A	Needle and thread, blue grama, scarlet mallow, prairie sage	Live 40 Bare 50 Litter 10	N/A	N/A	Tansy mustard, kochia
2016-305	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 85 Bare 10 Litter 5	N/A	N/A	-
2013-306	N/A	N/A	June grass, needle and thread, blue grama, prairie sage	Live 85 Bare 5 Litter 10	N/A	N/A	Kochia, tansy mustard, wild tomato,
2016-306	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-

Assessment Location	Travel Portion						
	Vegetation Height (cm)	Vegetation Vigour (N/F/G)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name
2013-200*	N/A	N/A	Western wheat grass, golden aster	Live 70 Bare 20 Litter 10	N/A	N/A	Stinkweed, redroot pigweed
2016-200*	N/A	N/A	Sweet clover, western wheat grass, northern wheat grass	Live 90 Bare 5 Litter 5	N/A	N/A	Sweet clover, downy brome
2013-201	N/A	N/A	Western wheat grass, Sandberg's bluegrass, slender wheat grass	Live 80 Bare 10 Litter 10	N/A	N/A	-
2016-201	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-202*	-	-	-	-	-	-	-
2016-202*	-	-	-	-	-	-	-
2013-203	64	Fair	Wheat	N/A	21	7.5	Stinkweed
2016-203*	-	-	-	-	-	-	-
2013-204**	-	-	-	-	-	-	-
2016-204**	-	-	-	-	-	-	-
2013-205	75	Good	Wheat	N/A	23	8.5	N/A
2016-205*	-	-	-	-	-	-	-
2013-206**	-	-	-	-	-	-	Canada thistle, kochia
2016-206**	N/A	N/A	Smooth brome, green needle grass, western wheat grass	Live 90 Bare 5 Litter 5	N/A	N/A	Canada thistle, kochia
2013-300	N/A	N/A	Western wheat grass, June grass, needle and thread, blue grama	Live 70 Bare 20 Litter 10	N/A	N/A	Pigweed
2016-300	N/A	N/A	Western wheat grass, northern wheat grass, needle and thread	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-301**	-	-	-	-	-	-	-
2016-301*	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-302	N/A	N/A	Blue grama, June grass, western wheat grass, needle and thread	Live 60 Bare 20 Litter 20	N/A	N/A	Dandelion, wild tomato, pigweed, wavy-leaved thistle, goosefoot
2016-302	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-303*	-	-	-	-	-	-	-
2016-303*	-	-	-	-	-	-	-
2013-304	N/A	N/A	Blue grama, needle and thread, June grass, western wheat grass	Live 80 Bare 10 Litter 10	N/A	N/A	Dandelion
2016-304	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-305	N/A	N/A	June grass, blue grama, needle and thread, western wheat grass	Live 50 Bare 20 Litter 30	N/A	N/A	Tansy mustard, kochia
2016-305	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 80 Bare 15 Litter 5	N/A	N/A	-
2013-306	N/A	N/A	Needle and thread, June grass, blue grama, snowberry	Live 60 Bare 10 Litter 30	N/A	N/A	Kochia, tansy mustard, wild tomato,
2016-306	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-

Assessment Location	Control Area							Vegetation and Landscape Concerns	GPS Coordinates
	Vegetation Height (cm)	Vegetation Vigour (N/F/G)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name	Comments	UTM NAD 83 (Zone 12)
2013-200*	N/A	N/A	Western wheat grass, Sandberg's blue grass, silver sage	Live 80 Bare 5 Litter 15	N/A	N/A	N/A	Poor vegetation establishment; Water course requires monitoring; Recontouring near fence (approximately 10m x 10m area)	418,607 mE, 5,431,214 mN
2016-200*	N/A	N/A	Sweet clover, western wheat grass, northern wheat grass	Live 85 Bare 5 Litter 10	N/A	N/A	Sweet clover, downy brome	-	418,607 mE, 5,431,214 mN
2013-201	N/A	N/A	Western wheat grass, Sandberg's blue grass, slender wheat grass	Live 75 Bare 0 Litter 25	N/A	N/A	N/A	-	418,913 mE, 5,431,451 mN
2016-201	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 85 Bare 5 Litter 10	N/A	N/A	-	-	418,913 mE, 5,431,461 mN
2013-202*	-	-	-	-	-	-	-	No data collected at this point	-
2016-202*	-	-	-	-	-	-	-	No data collected at this point	-
2013-203	88	Excellent	Wheat	N/A	33	8	N/A	Vegetation is not as far along as controls, just heading out and shorter on RoW; hail damage to crop	418,914 mE, 5,431,588 mN
2016-203*	75	-	Wheat	N/A	12	8	Prostrate Pigweed	-	418,914 mE, 5,431,588 mN
2013-204**	-	-	-	-	-	-	-	Water course - 9 m x 12 m area; 20 m in length Ponds off end on site	418,916 mE, 5,431,786 mN
2016-204**	75	-	Wheat	N/A	12	8	Kochia		418,916 mE, 5,431,786 mN
2013-205	80	Good	Wheat	N/A	19	7	N/A	-	418,923 mE, 5,431,817 mN
2016-205*	-	-	-	-	-	-	-		418,923 mE, 5,431,817 mN
2013-206**	-	-	-	-	-	-	Canada thistle, kochia	Saline lowland, comparable to off site	418,827 mE, 5,4310,889 mN
2016-206**	N/A	N/A	Smooth brome, green needle grass, western wheat grass	Live 90 Bare 5 Litter 5	N/A	N/A	Canada thistle, kochia	-	418,827 mE, 5,4310,889 mN
2013-300	N/A	N/A	Western wheat grass, June grass, needle and thread, blue grama	Live 80 Bare 15 Litter 5	N/A	N/A	N/A	-	418,082 mE, 5,430,079 mN
2016-300	N/A	N/A	Western wheat grass, northern wheat grass, needle and thread	Live 85 Bare 5 Litter 10	N/A	N/A	-	-	418,082 mE, 5,430,079 mN
2013-301**	-	-	-	-	-	-	-	Water crossing	418,095 mE, 5,430,101 mN
2016-301*	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	418,095 mE, 5,430,101 mN
2013-302	N/A	N/A	Blue grama, June grass, needle and thread	Live 80 Bare 5 Litter 15	N/A	N/A	N/A	Weeds establishing	418,237 mE, 5,430,345 mN
2016-302	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	N/A	-	418,237 mE, 5,430,345 mN
2013-303*	-	-	-	-	-	-	-	Subsidence from 418,263 mE, 5,430,273 mN to 418,276 mE, 5,430,299 mN	418,263 mE, 5,430,273 mN to 418,276 mE, 5,430,289 mN
2016-303*	-	-	-	-	-	-	-	-	418,263 mE, 5,430,273 mN to 418,276 mE, 5,430,289 mN
2013-304	N/A	N/A	Needle and thread, June grass, blue grama, scarlet mallow	Live 75 Bare 5 Litter 20	N/A	N/A	N/A	Vegetation establishing	418,412 mE, 5,430,443 mN
2016-304	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 5 Litter 15	N/A	N/A	-	-	418,412 mE, 5,430,443 mN
2013-305	N/A	N/A	June grass, needle and thread, western wheat grass	Live 80 Bare 5 Litter 15	N/A	N/A	N/A	Vegetation establishing	418,500 mE, 5,430,651 mN
2016-305	N/A	N/A	Western wheat grass, fringed sage, blue grama	Live 85 Bare 5 Litter 10	N/A	N/A	-	-	418,500 mE, 5,430,651 mN
2013-306	N/A	N/A	Needle and thread, June grass, western wheat grass, snowberry	Live 60 Bare 5 Litter 35	N/A	N/A	N/A	-	418,772 mE, 5,430,843 mN
2016-306	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	418,772 mE, 5,430,843 mN

TABLE 1 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Vegetation and Landscape)
2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Assessment Information / Trenchline

Assessment Location	Land Use	Inspection Date (dd-mmm-yy)	Vegetation Height (cm)	Vegetation Vigour (NPRR)	Native & Tame Species Diversity: Dominant Species	Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name
[illegible] W4M									
2013-307	Grassland	18-Jul-13	N/A	N/A	Western wheat grass	Live 15 Bare 85 Litter 5	N/A	N/A	Canada thistle, dandelion.
2016-307	Grassland	23-Jul-16	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 30 Bare 60 Litter 10	N/A	N/A	-
2013-308**	Grassland	18-Jul-13	-	-	-	-	-	-	-
2016-308*	Grassland	23-Jul-16	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 30 Bare 65 Litter 5	N/A	N/A	-
2013-309*	Grassland	18-Jul-13	-	-	-	-	-	-	-
2016-309*	Grassland	23-Jul-16	-	-	-	-	-	-	-
2013-310*	Grassland	18-Jul-13	-	-	-	-	-	-	-
2016-310*	Grassland	23-Jul-16	-	-	-	-	-	-	-
[illegible] W4M									
2013-311**	Grassland	18-Jul-13	-	-	-	-	-	-	-
2016-311*	Grassland	23-Jul-16	N/A	N/A	Northern wheat grass, western wheat grass, needle and thread	Live 75 Bare 15 Litter 10	N/A	N/A	-
2013-312	Grassland	18-Jul-13	N/A	N/A	Pigweed	Live 15 Bare 80 Litter 5	N/A	N/A	Pigweed, goosefoot, bull thistle, tansy mustard, sweet yellow clover
2016-312	Grassland	23-Jul-16	N/A	N/A	Fringed sage, western wheat grass, northern wheat grass	Live 60 Bare 30 Litter 10	N/A	N/A	-
2013-313**	Grassland	18-Jul-13	-	-	-	-	-	-	-
2016-313*	Grassland	23-Jul-16	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 70 Bare 15 Litter 15	N/A	N/A	-
2013-314	Grassland	18-Jul-13	N/A	N/A	Pigweed	Live 5 Bare 95 Litter 0	N/A	N/A	Pigweed, goosefoot, sweet yellow clover, kochia
2016-314	Grassland	23-Jul-16	N/A	N/A	Fringed sage, western wheat grass, needle and thread	Live 70 Bare 20 Litter 10	N/A	N/A	-
2013-315*	Grassland	18-Jul-13	-	-	-	-	-	-	-
2016-315*	Grassland	23-Jul-16	-	-	-	-	-	-	-
[illegible] W4M									
2013-316	Grassland	18-Jul-13	N/A	N/A	Pigweed	Live 10 Bare 90 Litter 0	N/A	N/A	Pigweed, goosefoot, Canada thistle, dandelion.
2016-316	Grassland	23-Jul-16	N/A	N/A	Western wheat grass, fringed sage, northern wheatgrass	Live 65 Bare 30 Litter 5	N/A	N/A	-
2013-317**	Grassland	18-Jul-13	-	-	-	-	-	-	-
2016-317*	Grassland	23-Jul-16	N/A	N/A	Western wheat grass, northern wheat grass, fringed sage	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-318	Cultivated	18-Jul-13	N/A	N/A	Pigweed, vetch sp.	Live 20 Bare 75 Litter 5	N/A	N/A	Pigweed, goosefoot, wild mustard, dandelion, crested wheat grass, sweet yellow clover originating off site
2016-318	Cultivated	23-Jul-16	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-319*	Cultivated	18-Jul-13	-	-	-	-	-	-	-
2016-319*	Cultivated	23-Jul-16	-	-	-	-	-	-	-

Work Area

Assessment Location	Vegetation Height (cm)	Vegetation Vigour (NPRR)	Native & Tame Species Diversity: Dominant Species	Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name
2013-307	N/A	N/A	June grass, blue grama, needle and thread	Live 50 Bare 10 Litter 40	N/A	N/A	Canada thistle, dandelion.
2016-307	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 70 Bare 20 Litter 10	N/A	N/A	-
2013-308**	-	-	-	-	-	-	-
2016-308*	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-309*	-	-	-	-	-	-	-
2016-309*	-	-	-	-	-	-	-
2013-310*	-	-	-	-	-	-	-
2016-310*	-	-	-	-	-	-	-
2013-311**	-	-	-	-	-	-	-
2016-311*	N/A	N/A	Northern wheat grass, western wheat grass, needle and thread	Live 80 Bare 15 Litter 5	N/A	N/A	-
2013-312	N/A	N/A	Western wheat grass, needle and thread, northern wheat grass, wild barley, sedges close to wetland	Live 35 Bare 50 Litter 15	N/A	N/A	Pigweed, goosefoot, bull thistle, tansy mustard, sweet yellow clover
2016-312	N/A	N/A	Fringed sage, western wheat grass, northern wheat grass	Live 85 Bare 5 Litter 10	N/A	N/A	-
2013-313**	-	-	-	-	-	-	-
2016-313*	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-314	N/A	N/A	Prairie sagewort, sedges, June grass	Live 30 Bare 60 Litter 10	N/A	N/A	Pigweed, goosefoot, sweet yellow clover, kochia
2016-314	N/A	N/A	Fringed sage, western wheat grass, needle and thread	Live 70 Bare 20 Litter 10	N/A	N/A	-
2013-315*	-	-	-	-	-	-	-
2016-315*	-	-	-	-	-	-	-
2013-316	N/A	N/A	Crested wheat grass, goosefoot	Live 15 Bare 80 Litter 5	N/A	N/A	Pigweed, goosefoot, Canada thistle, dandelion,
2016-316	N/A	N/A	Western wheat grass, fringed sage, northern wheatgrass	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-317**	-	-	-	-	-	-	-
2016-317*	N/A	N/A	Western wheat grass, northern wheat grass, fringed sage	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-318	N/A	N/A	Crested wheat grass, June grass, mustard	Live 50 Bare 40 Litter 10	N/A	N/A	Pigweed, goosefoot, wild mustard, dandelion, crested wheat grass, sweet yellow clover originating off site
2016-318	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 85 Bare 5 Litter 10	N/A	N/A	-
2013-319*	-	-	-	-	-	-	-
2016-319*	-	-	-	-	-	-	-

Travel Portion

Assessment Location	Vegetation Height (cm)	Vegetation Vigour (NPRR)	Native & Tame Species Diversity: Dominant Species	Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name
2013-307	N/A	N/A	June grass, blue grama, western wheat grass, needle and thread	Live 50 Bare 20 Litter 30	N/A	N/A	Canada thistle, dandelion.
2016-307	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-308**	-	-	-	-	-	-	-
2016-308*	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 85 Bare 10 Litter 5	N/A	N/A	-
2013-309*	-	-	-	-	-	-	-
2016-309*	-	-	-	-	-	-	-
2013-310*	-	-	-	-	-	-	-
2016-310*	-	-	-	-	-	-	-
2013-311**	-	-	-	-	-	-	-
2016-311*	N/A	N/A	Northern wheat grass, western wheat grass, needle and thread	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-312	N/A	N/A	Western wheat grass	Live 30 Bare 65 Litter 5	N/A	N/A	Pigweed, goosefoot, bull thistle, tansy mustard, sweet yellow clover
2016-312	N/A	N/A	Fringed sage, western wheat grass, northern wheat grass	Live 85 Bare 5 Litter 10	N/A	N/A	-
2013-313**	-	-	-	-	-	-	-
2016-313*	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-314	N/A	N/A	June grass, pigweed	Live 40 Bare 40 Litter 20	N/A	N/A	Pigweed, goosefoot, sweet yellow clover, kochia
2016-314	N/A	N/A	Fringed sage, western wheat grass, needle and thread	Live 75 Bare 20 Litter 5	N/A	N/A	-
2013-315*	-	-	-	-	-	-	-
2016-315*	-	-	-	-	-	-	-
2013-316	N/A	N/A	Silver sage, June grass	Live 50 Bare 45 Litter 5	N/A	N/A	Pigweed, goosefoot, Canada thistle, dandelion,
2016-316	N/A	N/A	Western wheat grass, fringed sage, northern wheatgrass	Live 85 Bare 5 Litter 10	N/A	N/A	-
2013-317**	-	-	-	-	-	-	-
2016-317*	N/A	N/A	Western wheat grass, northern wheat grass, fringed sage	Live 75 Bare 20 Litter 5	N/A	N/A	-
2013-318	N/A	N/A	Gumweed, crested wheat grass, wild barley	Live 60 Bare 30 Litter 10	N/A	N/A	Pigweed, goosefoot, wild mustard, dandelion, crested wheat grass, sweet yellow clover originating off site
2016-318	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-319*	-	-	-	-	-	-	-
2016-319*	-	-	-	-	-	-	-

Control Area / Vegetation and Landscape Comments / GPS Coordinates

Assessment Location	Vegetation Height (cm)	Vegetation Vigour (NPRR)	Native & Tame Species Diversity: Dominant Species	Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name	Comments	UTM NAD 83 (Zone 12)
2013-307	N/A	N/A	June grass, needle and thread, blue grama	Live 55 Bare 5 Litter 40	N/A	N/A	Bull thistle	Vegetation establishing	416,893 mE, 5,437,085 mN
2016-307	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	416,893 mE, 5,437,085 mN
2013-308**	-	-	-	-	-	-	-	Water crossing at 416,887 mE, 5,437,286 mN Minor erosion, meander, vegetation establishing	416,883 mE, 5,437,086 mN
2016-308*	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	416,893 mE, 5,437,085 mN
2013-309*	-	-	-	-	-	-	-	Potential water crossing, vehicle tracks throughout area	416,283 mE, 5,437,413 mN
2016-309*	-	-	-	-	-	-	-	-	416,283 mE, 5,437,413 mN
2013-310*	-	-	-	-	-	-	-	416,438 mE, 5,437,573 mN erosion on hill from cattle	416,438 mE, 5,437,573 mN
2016-310*	-	-	-	-	-	-	-	-	416,438 mE, 5,437,573 mN
2013-311**	-	-	-	-	-	-	-	Water crossing contour is good Evidence of cattle impacts - soil pugging	416,425 mE, 5,437,708 mN
2016-311*	N/A	N/A	Northern wheat grass, western wheat grass, needle and thread	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	416,425 mE, 5,437,708 mN
2013-312	N/A	N/A	Needle and thread, June grass, western wheat grass	Live 30 Bare 55 Litter 15	N/A	N/A	Sweet yellow clover	Monitor weeds, watch for yellow sweet clover encroachment - originated off site	416,440 mE, 5,437,867 mN
2016-312	N/A	N/A	Fringed sage, western wheat grass, northern wheat grass	Live 80 Bare 5 Litter 15	N/A	N/A	-	-	416,440 mE, 5,437,867 mN
2013-313**	-	-	-	-	-	-	-	-	416,448 mE, 5,438,138 mN
2016-313*	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	416,448 mE, 5,438,138 mN
2013-314	N/A	N/A	June grass, needle and thread, sedge sp.	Live 40 Bare 50 Litter 10	N/A	N/A	N/A	Weeds establishing	416,491 mE, 5,438,274 mN
2016-314	N/A	N/A	Fringed sage, western wheat grass, needle and thread	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	416,491 mE, 5,438,274 mN
2013-315*	-	-	-	-	-	-	-	Water crossing contour is good Evidence of cattle impacts - soil pugging	416,463 mE, 5,438,391 mN
2016-315*	-	-	-	-	-	-	-	-	416,463 mE, 5,438,391 mN
2013-316	N/A	N/A	Silver sage, smooth brome, crested wheat grass, June grass	Live 60 Bare 30 Litter 10	N/A	N/A	Sweet yellow clover, crested wheat grass	Canada thistle noted; reclaimed vegetation area approximately 75 m wide	416,486 mE, 5,438,567 mN
2016-316	N/A	N/A	Western wheat grass, fringed sage, northern wheatgrass	Live 80 Bare 10 Litter 10	N/A	N/A	-	Manure has been spread over area by landowner	416,486 mE, 5,438,567 mN
2013-317**	-	-	-	-	-	-	-	Water crossing; low area with subsidence and cattle impacts 20 m x 2 m x 0.30 m 416,588 mE, 5,438,838 mN Erosion from 416,832, 5,438,862 mN to low area	416,588 mE, 5,438,838 mN
2016-317*	N/A	N/A	Western wheat grass, northern wheat grass, fringed sage	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	416,588 mE, 5,438,838 mN
2013-318	N/A	N/A	Crested wheat grass, June grass, gumweed	Live 55 Bare 40 Litter 5	N/A	N/A	Sweet yellow clover	-	416,595 mE, 5,438,859 mN
2016-318	N/A	N/A	Fringed sage, western wheat grass, blue grama	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	416,595 mE, 5,438,859 mN
2013-319*	-	-	-	-	-	-	-	No baled barley off site (in immediate vicinity but near lake) Grasses establishing - blue grama and crested wheat grass	416,608 mE, 5,438,934 mN
2016-319*	-	-	-	-	-	-	-	-	416,608 mE, 5,438,934 mN

TABLE 1 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Vegetation and Landscape)
2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-279-04

Assessment Information / Trenchline

Assessment Location	Land Use	Inspection Date (dd-mmm-yy)	Vegetation Height (cm)	Vegetation Vigour (G/F/P)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name
[illegible] W4M									
2013-320	Cultivated	18-Jul-13	45	Fair	Cereal Crop	N/A	21	6	Kochia, pigweed, buckwheat
2016-320	Cultivated	20-Jul-16	40	-	Cereal Crop	N/A	16	4.5	Kochia
2013-321*	Cultivated		-	-	-	-	-	-	-
2016-321*	Cultivated	20-Jul-16	55	-	Cereal Crop	N/A	18	7	-
[illegible] W4M									
2013-322	Cultivated	18-Jul-13	35	Fair	Cereal Crop	N/A	9	6	Kochia
2016-322	Cultivated	20-Jul-16	40	Good	Alfalfa	Live 80 Litter 5	N/A	N/A	Kochia
2013-323*	Cultivated	18-Jul-13	70	Good	Cereal Crop	N/A	13	7	Buckwheat, kochia
2016-323*	Cultivated	20-Jul-16	30	Poor	Alfalfa	Live 8	N/A	N/A	Kochia
2013-324*	Cultivated	18-Jul-13	-	-	-	-	-	-	-
2016-324*	Cultivated	20-Jul-16	20	Poor	Alfalfa/Kochia	Live 50 Litter 5 Bare 45	N/A	N/A	Kochia
2013-325*	Cultivated	18-Jul-13	-	-	-	-	-	-	-
2016-325*	Cultivated	20-Jul-16	20	Poor	Alfalfa/Kochia	Live 80 Litter 5 Bare 15	N/A	N/A	Kochia, russian thistle
2013-326	Cultivated	18-Jul-13	-	-	-	-	-	-	-
2016-326	Cultivated	20-Jul-16	40	Poor	Alfalfa	Live 85 Litter 5 Bare 10	N/A	N/A	Kochia, russian thistle
[illegible] W4M									
2013-327	Cultivated	18-Jul-13	N/A	N/A	Buckwheat, crested wheat grass, pigweed	Live 30 Bare 60 Litter 10	N/A	N/A	Buckwheat, kochia, goosefoot, wild mustard, pigweed, alfalfa
2016-327	Cultivated	23-Jul-16	N/A	N/A	Crested wheat grass, western wheat grass	Live 35 Bare 45 Litter 20	N/A	N/A	Downy brome
2013-328*	Cultivated	18-Jul-13	-	-	-	-	-	-	-
2016-328*	Cultivated	23-Jul-16	-	-	-	-	-	-	-
2013-329	Cultivated	18-Jul-13	N/A	N/A	Crested wheat grass, western wheat grass	Live 35 Bare 50 Litter 15	N/A	N/A	Pigweed, smooth brome, buckwheat, flixweed, kochia, dandelion
2016-329	Cultivated	23-Jul-16	N/A	N/A	Crested wheat grass, smooth brome, western wheat grass	Live 50 Bare 30 Litter 20	N/A	N/A	Downy brome
[illegible] W4M									
2013-330*	Cultivated	18-Jul-13	-	-	-	-	-	-	-
2016-330*	Cultivated		-	-	-	-	-	-	-
[illegible] W4M									
2013-331	Cultivated	18-Jul-13	N/A	N/A	Crested wheat grass	Live 5 Bare 85 Litter 10	N/A	N/A	goosefoot, crested wheat grass
2016-331	Cultivated	23-Jul-16	N/A	N/A	Smooth brome, crested wheat grass, alfalfa	Live 75 Bare 15 Litter 10	N/A	N/A	-
2013-332*	Cultivated	18-Jul-13	-	-	-	-	-	-	-
2016-332*	Cultivated	23-Jul-16	N/A	N/A	Smooth brome, crested wheat grass	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-333	Cultivated	18-Jul-13	N/A	N/A	Buckwheat, crested wheat grass, June grass	Live 25 Bare 70 Litter 5	N/A	N/A	Buckwheat, kochia, goosefoot, pigweed
2016-333	Cultivated	23-Jul-16	N/A	N/A	Crested wheat grass, smooth brome	Live 70 Bare 10 Litter 20	N/A	N/A	-
2013-334*	Grassland	18-Jul-13	-	-	-	-	-	-	-
2016-334*	Grassland	23-Jul-16	-	-	-	-	-	-	-

Work Area

Assessment Location	Vegetation Height (cm)	Vegetation Vigour (G/F/P)	Dominant Species	Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name
2013-320	82	Good	Cereal Crop	N/A	27	7	Kochia, pigweed, buckwheat
2016-320	-	-	-	-	-	-	-
2013-321*	-	-	-	-	-	-	-
2016-321*	-	-	-	-	-	-	-
2013-322	40	Fair	Cereal Crop	N/A	12	6	Kochia
2016-322	40	Good	Alfalfa	Live 80	N/A	N/A	Kochia
2013-323*	65	Fair	Cereal Crop	N/A	12	6	Buckwheat, kochia
2016-323*	30	Poor	Alfalfa/Kochia	Live 60	N/A	N/A	Kochia
2013-324*	-	-	-	-	-	-	-
2016-324*	40	Poor	Alfalfa/Kochia	Live 80 Litter 5 Bare 15	N/A	N/A	Kochia
2013-325*	-	-	-	-	-	-	-
2016-325*	20	Poor	Alfalfa/Kochia	Live 80 Litter 5 Bare 15	N/A	N/A	Kochia, russian thistle
2013-326	-	-	-	-	-	-	-
2016-326	40	Poor	Alfalfa/Kochia	Live 85 Litter 5 Bare 10	-	-	Kochia
2013-327	N/A	N/A	Crested wheat grass	Live 55 Bare 40 Litter 5	N/A	N/A	Buckwheat, kochia, goosefoot, wild mustard, pigweed, alfalfa
2016-327	N/A	N/A	Crested wheat grass, western wheat grass	Live 40 Bare 40 Litter 20	N/A	N/A	Downy brome
2013-328*	-	-	-	-	-	-	-
2016-328*	-	-	-	-	-	-	-
2013-329	N/A	N/A	Smooth brome	Live 85 Bare 10 Litter 5	N/A	N/A	Pigweed, smooth brome, buckwheat, flixweed, kochia, dandelion
2016-329	N/A	N/A	Smooth brome	Live 70 Bare 10 Litter 20	N/A	N/A	Downy brome
2013-330*	-	-	-	-	-	-	-
2016-330*	-	-	-	-	-	-	-
2013-331	N/A	N/A	Crested wheat grass, gumweed, June grass	Live 60 Bare 30 Litter 10	N/A	N/A	goosefoot, crested wheat grass
2016-331	N/A	N/A	Smooth brome, crested wheat grass, alfalfa	Live 80 Bare 5 Litter 15	N/A	N/A	-
2013-332*	-	-	-	-	-	-	-
2016-332*	N/A	N/A	Smooth brome, crested wheat grass	Live 70 Bare 20 Litter 10	N/A	N/A	-
2013-333	N/A	N/A	June grass, pasture sage, gumweed, western wheat grass	Live 70 Bare 30 Litter 10	N/A	N/A	Buckwheat, kochia, goosefoot, pigweed
2016-333	N/A	N/A	Crested wheat grass, smooth brome	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-334*	-	-	-	-	-	-	-
2016-334*	-	-	-	-	-	-	-

Travel Radius

Assessment Location	Vegetation Height (cm)	Vegetation Vigour (G/F/P)	Dominant Species	Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name
2013-320	75	Good	Cereal Crop	N/A	25	7	Kochia, pigweed, buckwheat
2016-320	-	-	-	-	-	-	-
2013-321*	-	-	-	-	-	-	-
2016-321*	-	-	-	-	-	-	-
2013-322	60	Good	Cereal Crop	N/A	14	6	Kochia
2016-322	50	Good	Alfalfa	Live 85	N/A	N/A	Kochia
2013-323*	65	Fair	Cereal Crop	N/A	14	6	Buckwheat, kochia
2016-323*	40	Poor	Cereal Crop	Live 40	N/A	N/A	Kochia
2013-324*	-	-	-	-	-	-	-
2016-324*	30	Fair	Alfalfa	Live 80 Litter 5 Bare 15	N/A	N/A	-
2013-325*	-	-	-	-	-	-	-
2016-325*	30	Fair	Alfalfa	Live 80 Litter 5 Bare 15	N/A	N/A	-
2013-326	-	-	-	-	-	-	-
2016-326	45	Good	Alfalfa	Live 85 Litter 5 Bare 10	N/A	N/A	Kochia, russian thistle
2013-327	N/A	N/A	Crested wheat grass, buckwheat	Live 75 Bare 20 Litter 5	N/A	N/A	Buckwheat, kochia, goosefoot, wild mustard, pigweed, alfalfa
2016-327	N/A	N/A	Crested wheat grass, western wheat grass	Live 60 Bare 25 Litter 15	N/A	N/A	Downy brome
2013-328*	-	-	-	-	-	-	-
2016-328*	-	-	-	-	-	-	-
2013-329	N/A	N/A	Crested wheat grass, flixweed, smooth brome, dandelion	Live 85 Bare 5 Litter 5	N/A	N/A	Pigweed, smooth brome, buckwheat, flixweed, kochia, dandelion
2016-329	N/A	N/A	Crested wheat grass, flixweed, smooth brome, dandelion	Live 80 Bare 10 Litter 10	N/A	N/A	Downy brome
2013-330*	-	-	-	-	-	-	-
2016-330*	-	-	-	-	-	-	-
2013-331	N/A	N/A	June grass, crested wheat grass, gumweed	Live 60 Bare 30 Litter 10	N/A	N/A	goosefoot, crested wheat grass
2016-331	N/A	N/A	Smooth brome, crested wheat grass, alfalfa	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-332*	-	-	-	-	-	-	-
2016-332*	N/A	N/A	Smooth brome, crested wheat grass	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-333	N/A	N/A	June grass, sage, needle and thread, western wheat grass	Live 75 Bare 5 Litter 20	N/A	N/A	Buckwheat, kochia, goosefoot, pigweed
2016-333	N/A	N/A	Crested wheat grass, smooth brome	Live 80 Bare 10 Litter 10	N/A	N/A	-
2013-334*	-	-	-	-	-	-	-
2016-334*	-	-	-	-	-	-	-

Control Area / Vegetation and Landscape Comments / GPS Coordinates

Assessment Location	Vegetation Height (cm)	Vegetation Vigour (G/F/P)	Dominant Species	Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name	Comments	VTM NAD 83 (Zone 12)
2013-320	67	Good	Cereal Crop	N/A	33	8	Kochia, pigweed, buckwheat	-	418,865 mE, 5,438,865 mN
2016-320	70	-	Cereal Crop	N/A	22	8	Kochia	-	418,865 mE, 5,438,865 mN
2013-321*	-	-	-	-	-	-	-	Less vegetation, minor subsidence and erosion to 418,879 mE, 5,439,201 mN	418,875 mE, 5,439,136 mN
2016-321*	65	-	Cereal Crop	N/A	22	7.5	-	-	418,879 mE, 5,439,136 mN
2013-322	66	Fair	Cereal Crop	N/A	30	5	Kochia	Less dense vegetation from assessment location to 418,443 mE, 5,439,220 mN	418,820 mE, 5,439,397 mN
2016-322	60	Good	Alfalfa	Live 85	N/A	N/A	Kochia	-	418,820 mE, 5,439,397 mN
2013-323*	82	Excellent	Cereal Crop	N/A	18	5	Buckwheat, kochia	-	420,020 mE, 5,439,505 mN
2016-323*	65	Good	Alfalfa	Live 85	N/A	N/A	Kochia	-	420,038 mE, 5,439,505 mN
2013-324*	-	-	-	-	-	-	-	420,882 mE, 5,439,575 mN – no organics 40 x 20 m. Vegetation less dense and poor health / growing only	420,882 mE, 5,439,575 mN
2016-324*	30	Good	Alfalfa	Live 85 Litter 5 Bare 10	N/A	N/A	Kochia	-	420,882mE, 5,439,575 mN
2013-325*	-	-	-	-	-	-	-	Reduced vegetation on west side of RoW from 420,136 mE, 5,439,734 mN to 420,171 mE, 5,439,792 mN	420,136 mE, 5,439,734 mN to 420,171 mE, 5,439,792 mN
2016-325*	60	Good	Alfalfa	Live 85 Litter 5 Bare 10	N/A	N/A	Kochia	-	420,136 mE, 5,439,734 mN to 420,171 mE, 5,439,792 mN
2013-326	-	-	-	-	-	-	-	Reduced vegetation area (approximately 10 m x 10 m)	420,161 mE, 5,439,844 mN
2016-326	60	Good	Alfalfa	Live 85 Litter 5 Bare 5	N/A	N/A	Kochia	-	420,161 mE, 5,439,844 mN
2013-327	N/A	N/A	Crested wheat grass	Live 65 Bare 20 Litter 10 [illegible]	N/A	N/A	Crested wheat grass	Tame pasture	420,357 mE, 5,440,139 mN
2016-327	N/A	N/A	Crested wheat grass, western wheat grass	Live 70 Bare 15 Litter 10 [illegible]	N/A	N/A	Downy brome	-	420,357 mE, 5,440,139 mN
2013-328*	-	-	-	-	-	-	-	Increased weed growth 420,380 mE, 5,440,235 mN	420,380 mE, 5,440,235 mN
2016-328*	-	-	-	-	-	-	-	-	420,380 mE, 5,440,235 mN
2013-329	N/A	N/A	Crested wheat grass, flixweed, dandelion, foxtail barley	Live 85 Bare 5 Litter 5	N/A	N/A	Crested wheat grass, flixweed, dandelion, foxtail barley	Water crossing: Monitor contour at 420,516 mE, 5,440,457 mN for subsidence (2 m x 1 m) and at 420,846 mE, 5,440,548 mN for subsidence (1 m x 1 m)	420,502 mE, 5,440,481 mN to 420,780 mE, 5,440,775 mN
2016-329	N/A	N/A	Crested wheat grass, flixweed, dandelion, foxtail barley	Live 80 Bare 10 Litter 5	N/A	N/A	Downy brome	-	420,502 mE, 5,440,481 mN to 420,780 mE, 5,440,775 mN
2013-330*	-	-	-	-	-	-	N/A	Gravelly at surface; Vegetation coming through (crested wheat grass); Increased weed growth - downy brome (on and off RoW), sow thistle, penny cress, wild mustard; bare area approximately 30 m wide; vegetation establishing	420,760 mE, 5,440,775 mN
2016-330*	-	-	-	-	-	-	-	-	420,760 mE, 5,440,775 mN
2013-331	N/A	N/A	June grass, needle and thread	Live 75 Bare 10 Litter 15	N/A	N/A	N/A	-	420,764 mE, 5,441,074 mN
2016-331	N/A	N/A	Smooth brome, crested wheat grass, alfalfa	Live 80 Bare 10 Litter 5	N/A	N/A	-	-	420,765 mE, 5,441,074 mN
2013-332*	-	-	-	-	-	-	-	Water crossing - monitor for surface water ponding 420,766 mE, 5,441,132 mN	420,766 mE, 5,441,132 mN
2016-332*	N/A	N/A	Smooth brome, crested wheat grass	Live 85 Bare 5 Litter 10	N/A	N/A	-	-	420,766 mE, 5,441,132 mN
2013-333	N/A	N/A	June grass, gumweed, scarlet mallow	Live 45 Bare 50 Litter 5	N/A	N/A	N/A	-	421,088 mE, 5,441,473 mN
2016-333	N/A	N/A	Crested wheat grass, smooth brome	Live 80 Bare 10 Litter 10	N/A	N/A	-	-	421,088 mE, 5,441,473 mN
2013-334*	-	-	-	-	-	-	-	Water crossing - heavily impacted by cattle. More rutting and pugging on east side of RoW; water crossing to 421,150 mE, 5,441,710 mN, contour difference	421,162 mE, 5,441,631 mN
2016-334*	-	-	-	-	-	-	-	-	421,162 mE, 5,441,631 mN

TABLE 1 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Vegetation and Landscape)
2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Assessment Information			Transects								Wetlands								Trend Points								Control Area								Vegetation and Landscape Comments	GPS Coordinates
Assessment Location	Land Use	Reclamation Date (Month)	Vegetation Height (cm)	Vegetation Vigour (0/5/10)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name	Vegetation Height (cm)	Vegetation Vigour (0/5/10)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name	Vegetation Height (cm)	Vegetation Vigour (0/5/10)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name	Vegetation Height (cm)	Vegetation Vigour (0/5/10)	Native & Tame Species Diversity: Dominant Species	Native & Tame Species Diversity: Approx. % Cover	Plants per 1 m Row	Seed Head Length (cm)	Common Weed Species Name	Comments	UTM NAD 83 (Zone 12)
2013-336*	Grassland	15-Jul-13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Surface water ponding on west and east boundaries of RoW	421,161 mE, 5,441,805 mN
2015-335*	Grassland	23-Jul-15	NA	NA	Smooth brome, crested wheat grass	Low 70 Sparse 10 Litter 15	NA	NA	-	NA	NA	Smooth brome, crested wheat grass	Low 75 Sparse 15 Litter 10	NA	NA	-	NA	NA	Smooth brome, crested wheat grass	Low 60 Sparse 5 Litter 15	NA	NA	-	NA	NA	Smooth brome, crested wheat grass	Low 60 Sparse 5 Litter 15	NA	NA	-	-	421,161 mE, 5,441,805 mN
2013-339*	Grassland	15-Jul-13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Subsidence and soil crushing at 421,169 mE, 5,441,828 mN - west side of RoW; approximately 0.40 m in depth	421,169 mE, 5,441,828 mN
2015-339*	Grassland	23-Jul-15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	421,169 mE, 5,441,828 mN
2013-337	Cultivated	15-Jul-13	NA	NA	Gaoselect, mustard, lambs	Low 60 Bare 30 Litter 10	NA	NA	Blue bur, redroot pigweed, lamb's quarter, goosefoot, mustard, lambs, stinkweed	NA	NA	Goosefoot	Low 30 Bare 60 Litter 0	NA	NA	Blue bur, redroot pigweed, lamb's quarter, goosefoot, mustard, lambs, stinkweed	NA	NA	Alfalfa	Low 60 Bare 40 Litter 10	NA	NA	Blue bur, redroot pigweed, lamb's quarter, goosefoot, mustard, lambs, stinkweed	NA	NA	Alfalfa	Low 60 Bare 30 Litter 10	NA	NA	NA	Increased weed growth	421,163 mE, 5,442,818 mN
2015-337	Cultivated	23-Jul-15	NA	NA	Smooth brome, crested wheat grass, alfalfa	Low 55 Bare 40 Litter 10	NA	NA	-	NA	NA	Smooth brome, crested wheat grass, alfalfa	Low 60 Bare 30 Litter 10	NA	NA	-	NA	NA	Smooth brome, crested wheat grass, alfalfa	Low 70 Bare 20 Litter 10	NA	NA	-	NA	NA	Smooth brome, crested wheat grass, alfalfa	Low 60 Bare 5 Litter 15	NA	NA	-	-	421,163 mE, 5,442,818 mN
2013-338	Cultivated	15-Jul-13	NA	NA	Flixweed, goosefoot	Low 60 Bare 40 Litter 10	NA	NA	Pussy cress, flixweed, goosefoot, wild mustard, pigweed, lambs	NA	NA	Alfalfa	Low 60 Bare 30 Litter 10	NA	NA	Pussy cress, flixweed, goosefoot, wild mustard, pigweed, lambs	NA	NA	Flixweed, goosefoot, lambs	Low 80 Bare 40 Litter 5	NA	NA	Pussy cress, flixweed, goosefoot, wild mustard, pigweed, lambs	NA	NA	Alfalfa	Low 70 Bare 30 Litter 10	NA	NA	NA	Increased weed growth	421,200 mE, 5,442,842 mN
2015-338	Cultivated	23-Jul-15	NA	NA	Alfalfa, smooth brome	Low 60 Bare 30 Litter 20	NA	NA	-	NA	NA	Alfalfa, smooth brome	Low 70 Bare 15 Litter 15	NA	NA	-	NA	NA	Alfalfa, smooth brome	Low 60 Bare 30 Litter 10	NA	NA	-	NA	NA	Alfalfa, smooth brome	Low 60 Bare 30 Litter 10	NA	NA	-	-	421,200 mE, 5,442,842 mN
2013-335*	Cultivated	15-Jul-13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Tame pasture	421,209 mE, 5,442,412 mN
2015-335*	Cultivated	23-Jul-15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	421,209 mE, 5,442,412 mN
2013-340	Cultivated	15-Jul-13	NA	NA	Oats, barley	Low 40 Bare 60 Litter 20	NA	NA	Goosefoot, lambs, pigweed, buckwheat	NA	NA	Oats, barley, lambs, goosefoot	Low 60 Bare 30 Litter 20	NA	NA	Goosefoot, lambs, pigweed, buckwheat	NA	NA	Oats, lambs	Low 40 Bare 50 Litter 5	NA	NA	Goosefoot, lambs, pigweed, buckwheat	NA	NA	Oats, barley	Low 50 Bare 40 Litter 10	NA	NA	NA	-	421,385 mE, 5,442,839 mN
2015-340	Cultivated	30-Jul-15	70	Good	Wheat	Low 85 Bare 10 Litter 5	16	7	Lambs	80	Good	Wheat	Low 80 Bare 5 Litter 5	20	6	Goosefoot, lambs	80	Good	Wheat	Low 85 Bare 10 Litter 5	NA	6	Lambs	85	Good	Wheat	Low 85 Bare 10 Litter 5	21	6	Lambs, goosefoot	-	421,385 mE, 5,442,839 mN
2013-341	Cultivated	15-Jul-13	NA	NA	Oats	Low 40 Bare 60 Litter 10	NA	NA	Goosefoot, lambs, buckwheat	NA	NA	Oats, buckwheat	Low 60 Bare 30 Litter 10	NA	NA	Goosefoot, lambs, buckwheat	NA	NA	Oats, goosefoot, lambs	Low 60 Bare 40 Litter 10	NA	NA	Goosefoot, lambs, buckwheat	NA	NA	Oats, pigweed	Low 60 Bare 20 Litter 20	NA	NA	NA	-	421,383 mE, 5,442,870 mN
2015-341	Cultivated	30-Jul-15	95	Good	Wheat	Low 90 Bare 5 Litter 5	15	8	Lambs	95	Good	Wheat	Low 90 Bare 5 Litter 5	22	6	Lambs	100	Good	Wheat	Low 90 Bare 5 Litter 5	NA	6	Lambs	100	Good	Wheat	Low 90 Bare 5 Litter 5	22	6	Lambs	-	421,383 mE, 5,442,870 mN
2013-342	Cultivated	15-Jul-13	-	-	-	-	-	-	Pussy cress	-	-	-	-	-	-	Pussy cress	-	-	-	-	-	-	Pussy cress	-	-	-	-	-	-	-	Contour (disked out cross approximately 5 m x 5 m)	421,394 mE, 5,442,865 mN
2015-342*	Cultivated	30-Jul-15	95	Good	Wheat	Low 90 Bare 5 Litter 5	16	8	Lambs	90	Good	Wheat	Low 90 Bare 5 Litter 5	22	6	Lambs	100	Good	Wheat	Low 90 Bare 5 Litter 5	NA	6	Lambs	105	Good	Wheat	Low 90 Bare 5 Litter 5	23	6	Lambs	-	421,394 mE, 5,442,865 mN
2013-343*	Cultivated	15-Jul-13	-	-	-	-	-	-	Pussy cress	-	-	-	-	-	-	Pussy cress	-	-	-	-	-	-	Pussy cress	-	-	-	-	-	-	-	Increased weeds; evidence of past surface water ponding; cattle rubbed tree (approximately 8 m x 7 m)	421,376 mE, 5,442,865 mN
2015-343*	Cultivated	30-Jul-15	30	Fair	Wheatgrass	Low 70 Bare 20 Litter 10	NA	NA	-	30	Fair	Wheatgrass, alfalfa	Low 70 Bare 20 Litter 10	NA	NA	Lambs	30	Fair	Wheatgrass	Low 70 Bare 20 Litter 10	NA	NA	-	55	Good	Alfalfa	Low 75 Bare 10 Litter 15	NA	NA	-	-	421,376 mE, 5,442,865 mN
2013-344*	Cultivated	15-Jul-13	-	-	-	-	-	-	Pussy cress, lambs, buckwheat	-	-	-	-	-	-	Pussy cress, lambs, buckwheat	-	-	-	-	-	-	Pussy cress, lambs, buckwheat	-	-	-	-	-	-	-	Subsidence and soil crushing on west boundary of RoW (approximately 0.40 m in depth); evidence of past surface water ponding with cattle damage (approximately 0.10-0.20 m in depth)	421,387 mE, 5,442,837 mN
2015-344*	Cultivated	30-Jul-15	30	Fair	Wheatgrass	Low 70 Bare 20 Litter 10	NA	NA	Lambs, yellow clover	30	Fair	Wheatgrass, alfalfa	Low 70 Bare 20 Litter 10	NA	NA	Lambs	30	Fair	Wheatgrass	Low 70 Bare 20 Litter 10	NA	NA	Lambs, yellow clover	55	Good	Alfalfa	Low 70 Bare 10 Litter 15	NA	NA	-	-	421,387 mE, 5,442,837 mN

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Legend:
* = Vegetation assessment was not completed at the assessment location
cm = Centimetres
NA = Not applicable
sp. = Species
m = Metres
GPS = Global positioning system
d-m-y = Day-month-year
w = Watercourse assessment
RoW = Right-of-way
G/P/P = Goose/Pelican
- = No information / not measured

Notes: UTM NAD 83 - GPS coordinates referenced to the North American Datum of 1983, Universal Transverse Mercator Projection system.

Trace ASSOCIATES

TABLE 2 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Rare Plant and Vegetation Survey)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Scientific Name	Common Name	Rankings**					Status	Field Comments
		Global[1]	Federal[2]	Sub-regional[1]	Provincial[3]	Provincially Listed[3]	Origin[1]	
Forbs								
Achillea millefolium	Common yarrow	G5	F4	S5	P4	No	Native	-
Allium textile	Prairie onion	G5?	F4	S5	P4	No	Native	-
Anaphalis margaritacea	Pearly everlasting	G5	F4	S4	P4	No	Native	-
Anemone multifida	Cut-leaved anemone	G5	F4	S5	P4	No	Native	-
Antennaria aprica	Low everlasting	G5	F4	S5	P4	No	Native	-
Antennaria neglecta	Broad-leaved everlasting	G5	F4	S5	P4	No	Native	-
Antennaria parvifolia	Small-leaved pussytoes	G5	F4	S5	P4	No	Native	-
Antennaria pulcherrima	Showy pussytoes	G5	F4	S4	P4	No	Native	-
Antennaria rosea	Rosy everlasting	G5	F4	S5	P4	No	Native	-
Antennaria spp.	Unidentified pussytoes species	-	-	-	-	No	Native	-
Antennaria parvifolia	Small-leaved everlasting	G5	F4	S5	P4	No	Native	-
Arabis holboellii	Reflexed rock cress	G5	F4	S5	P4	No	Native	-
Artemisia frigida	Fringed sage	G5	F4	S5	P4	No	Native	-
Artemisia ludoviciana	Prairie sagewort	G5	F4	S5	P4	No	Native	-
Artemisia cana	Silver sagebrush	G5	F4	S4	P4	No	Native	-
Aster laevis	Smooth aster	G5	F4	S5	P4	No	Native	-
Aster spp.	Unidentified aster species	-	-	-	-	No	Unknown	-
Astragalus agrestis	Field milk-vetch	G5	F4	S5	P4	No	Native	-
Astragalus americanus	American milk vetch	G5	F4	S5	P4	No	Native	-
Astragalus crassicarpus	Ground-plum	G5	F4	S3S5	P4	No	Native	-
Astragalus dasyglottis	Purple milk vetch	G5	F4	S5	P4	No	Native	-
Astragalus pectinatus	Narrow-leaved milk vetch	G5	F4	S5	P4	No	Native	-
Astragalus spp.	Unidentified milk vetch species	-	-	-	-	No	Unknown	-
Atriplex nuttallii	Nuttall's atriplex	-	-	-	-	No	Native	-
Campanula rotundifolia	Common harebell	G5	F4	S5	P4	No	Native	-
Cerastium arvense	Field mouse-ear chickweed	G5	F4	S5	P4	No	Native	-
Cerastium nutans	Long-stalked mouse-ear chickweed	G5	F4	S4	P4	No	Native	-
Chenopodium spp.	Unidentified goosefoot species	-	-	-	-	No	Unknown	-
Cirsium undulatum	Wavy-leaved thistle	G5	F4	S3	P4	No	Native	-
Comandra umbellata	Bastard's toadflax	G5	F4	S5	P4	No	Native	-
Coryphantha vivipara	Cushion cactus	G5	F4	S3	P4	No	Native	-
Cryptantha celosioides	Cock's-comb cat's-eye	G5	F2	S2S3	P3	No	Native	Tracked[1]
Dodecatheon pulchellum	Saline shooting star	G5	F4	S5	P4	No	Native	-
Draba nemorosa	Annual whitlow-grass	G5	F4	S5	P4	No	Native	-
Erigeron compositus	Tufted fleabane	G5	F4	S5	P4	No	Native	-
Eriogonum flavum	Yellow umbrella plant	G5	F4	S5	P4	No	Native	-
Erigeron spp.	Unidentified fleabane species	-	-	-	-	No	Unknown	-
Erysimum inconspicuum	Small-flowered rocket	G5	F4	S5	P4	No	Native	-
Eurybia conspicua	Showy aster	G5	F4	S5	P4	No	Native	-
Gaillardia aristata	Gaillardia	G5	F4	S5	P4	No	Native	-
Galium boreale	Northern bedstraw	G5	F4	S5	P4	No	Native	-
Gentianella amarella	Felwort	G5	F4	S5	P4	No	Native	-
Gentiana spp.	Unidentified gentian species	-	-	-	-	No	Unknown	-
Geranium viscosissimum	Sticky purple geranium	G5	F4	S3	P4	No	Native	Watched[1]
Geum triflorum	Three-flowered avens	G5	F4	S5	P4	No	Native	-
Glycyrrhiza lepidota	Wild licorice	G5	F4	S4	P4	No	Native	-
Grindelia squarrosa	Gumweed	G5	F4	S4S5	P4	No	Native	-
Gutierrezia sarothrae	Broomweed	G5	F4	S4	P4	No	Native	-
Heterotheca villosa	Golden aster	G5	F4	S5	P4	No	Native	-
Heuchera parvifolia	Small-leaved alumroot	G5	F3	S3	P3	No	Native	-
Hymenopappus filifolius	Tufted hymenopappus	G5	F3	S3	P2	No	Native	Watched[1]
Hymenoxys richardsonii	Colorado rubber plant	G5	F4	S4	P4	No	Native	-
Krascheninnikovia lanata	Winter-fat	G5	F4	S4	P4	No	Native	-
Lithospermum incisum	Narrow-leaved puccoon	G5	F4	S4S5	P4	No	Native	-
Lithospermum ruderale	Woolly gromwell	G5	F4	S5	P4	No	Native	-
Lupinus sericeus	Silky lupine	G5	F4	S5	P4	No	Native	-
Lupinus spp.	Unidentified lupine species	-	-	-	-	No	Native	-
Monarda fistulosa	Wild bergamot	G5	F4	S5	P4	No	Native	-
Monolepis nuttalliana	Spear-leaved goosefoot	G5	F4	S5	P4	No	Native	-
Musineon divaricatum	Leafy musineon	G5	F4	S3	P4	No	Native	-
Oenothera suffrutescens	Scarlet butterflyweed	G5	F4	S4	P4	No	Native	-
Opuntia polyacantha	Prickly pear cactus	G5	F4	S5	P4	No	Native	-
Oxytropis monticola	Late yellow locoweed	G5?	F4	S5	P4	No	Native	-
Oxytropis spp.	Unidentified locoweed species	-	-	-	-	No	Native	-
Oxytropis splendens	Showy locoweed	G5	F4	S5	P4	No	Native	-
Peritoma serrulata	Bee plant	G5	F4	S3	P4	No	Native	-
Penstemon confertus	Yellow beardtongue	G4	F4	S5	P4	No	Native	-
Penstemon nitidus	Smooth blue beardtongue	G5	F4	S5	P4	No	Native	-
Phlox hoodii	Moss phlox	G5	F4	S5	P4	No	Native	-
Plantago eriopoda	Saline plantain	G5	F4	S5	P4	No	Native	-
Potentilla norvegica	Rough cinquefoil	G5	F4	S5	P4	No	Native	-
Potentilla pensylvanica	Prairie cinquefoil	G5	F4	S5	P4	No	Native	-
Ratibida columnifera	Prairie coneflower	G5	F4	S4	P4	No	Native	-
Rumex occidentalis	Western dock	G5T5	F4	S5	P4	No	Native	-
Rumex triangulivalvis	Narrow-leaved dock	G5	F4	S5	P4	No	Native	-
Salicornia rubra	Samphire	G5	F4	S5	P4	No	Native	-
Selaginella densa	Prairie selaginella	G5	F4	S5	P4	No	Native	-
Senecio canus	Prairie groundsel	G5	F4	S5	P4	No	Native	-
Sisyrinchium montanum	Blue-eyed grass	G5	F4	S5	P4	No	Native	-
Solidago missouriensis	Low goldenrod	G5	F4	S5	P4	No	Native	-
Solidago mollis	Velvety goldenrod	G5	F4	S3	P4	No	Native	Watched[1]
Solidago simplex	Goldenrod	G5	F4	S5	P4	No	Native	-
Sphaeralcea coccinea	Scarlet mallow	G5	F4	S5	P4	No	Native	-
Sisyrinchium montanum	Common blue-eyed grass	G5	F4	S5	P4	No	Native	-
Thermopsis rhombifolia	Golden bean	G5	F4	S5	P4	No	Native	-
Townsendia hookeri	Hooker's townsendia	G5	F4	S3	P4	No	Native	-
Vicia americana	Wild vetch	G5	F4	S5	P4	No	Native	-
Xanthisma grindelioides	Toothed ironplant	G5	F4	S4	P4	No	Native	-
Xanthisma spinulosum	Spiny ironplant	G5	F4	S3	P4	No	Native	-
Zigadenus venenosus	Death camas	G5	F4	S4	P4	No	Native	-
Graminoids								
Agrostis scabra	Tickle grass	G5	F4	S5	P4	No	Native	-
Bouteloua gracilis	Blue grama	G5	F4	S5	P4	No	Native	-
Calamagrostis canadensis	Bluejoint	G5	F4	S5	P4	No	Native	-
Carex duriuscula	Low sedge	G5	F4	S5	P4	No	Native	-
Carex filifolia	Thread-leaved sedge	G5	F4	S5	P4	No	Native	-
Danthonia parryi	Parry oat grass	G5	F4	S5	P4	No	Native	-
Deschampsia cespitosa	Tufted hair grass	G5	F4	S5	P4	No	Native	-
Distichlis stricta	Salt grass	GNR	F4	S4	P4	No	Native	-
Elymus lanceolatus	Northern wheatgrass	G5	F4	S5	P4	No	Native	-
Elymus trachycaulus	Slender wheatgrass	G5	F4	S5	P4	No	Native	-
Festuca hallii	Plains rough fescue	G4	F4	S5	P4	No	Native	-
Festuca idahoensis	Idaho fescue	G5	F4	S4	P4	No	Native	-
Helictotrichon hookeri	Hooker's oat grass	G5	F4	S5	P4	No	Native	-
Hesperostipa comata	Needle and thread	G5	F4	S5	P4	No	Native	-
Hordeum jubatum	Foxtail barley	G5	F4	S5	P4	No	Native	-
Koeleria macrantha	June grass	G5	F4	S5	P4	No	Native	-
Leymus innovatus	Hairy wild rye	G5	F4	S5	-	No	Native	-
Nassella viridula	Green needle grass	G5	F4	S5	P4	No	Native	-
Pascopyrum smithii	Western wheatgrass	G5	F4	S4	P4	No	Native	-
Phalaris arundinacea	Canary reed grass	G5	F4	S5	P4	No	Native	-
Poa interior	Inland blue grass	G5	F4	S5	P4	No	Native	-
Poa palustris	Fowl blue grass	G5	F4	S5	P4	No	Native	-
Poa pratensis	Kentucky blue grass	G5	F4	S5	P4	No	Native	-
Poa secunda	Sandberg blue grass	G5	F4	S5	P4	No	Native	-
Poa spp.	Unidentified blue grass species	-	-	-	-	No	Unknown	-
Shrubs								
Amelanchier alnifolia	Saskatoon	G5	F4	S5	P4	No	Native	-
Elaeagnus commutata	Silverberry	G5	F4	S5	P4	No	Native	-
Juniperus horizontalis	Creeping juniper	G5	F4	S5	P4	No	Native	-
Prunus virginiana	Choke cherry	G5	F4	S5	P4	No	Native	-
Rhus trilobata	Skunk brush	G5	F4	S3	P4	No	Native	-
Rosa arkansana	Prairie rose	G5	F4	S4	P4	No	Native	-
Rosa woodsii	Wood's rose	G5	F4	S5	P4	No	Native	-
Symphoricarpos occidentalis	Buckbrush	G5	F4	S5	P4	No	Native	-
Weeds and Introduced Species								
Agropyron pectiniforme	Crested wheatgrass	G5TNR	F7	SNA	P7	No	Non-native	-
Artemisia absinthium	Absinthe wormwood	GNR	F7	SNA	P7	No	Non-native	-
Bromus inermis ssp. inermis	Smooth brome	G5TNR	F7	SNA	P7	No	Non-native	-
Bromus japonicus	Japanese brome	GNR	F7	SNA	P7	No	Non-native	Noxious[4]
Bromus tectorum	Downy brome	GNR	F7	SNA	P7	No	Non-native	Noxious[4]
Capsella bursa-pastoris	Shepherd's purse	GNR	F7	SNA	P7	No	Non-native	-
Chenopodium album	Lamb's quarters	G5	F7	SNA	P7	No	Non-native	-
Cirsium arvense	Canada thistle	GNR	F7	SNA	P7	No	Non-native	Noxious[4]
Cirsium vulgare	Bull thistle	GNR	F7	SNA	P7	No	Non-native	-
Cynoglossum officinale	Common hound's-tongue	GNR	F7	SNA	P7	No	Non-native	Noxious[4]
Dactylis glomerata	Orchard grass	GNR	F7	SNA	P7	No	Non-native	-
Descurainia sophia	Flixweed	GNR	F7	SNA	P7	No	Non-native	-
Fallopia convolvulus	Wild buckwheat	GNR	F7	SNA	P7	No	Non-native	-
Festuca ovina	Sheep fescue	GNR	F7	SNA	P7	No	Non-native	-
Kochia scoparia	Kochia	GNR	F7	SNA	P7	No	Non-native	-
Lactuca serriola	Prickly lettuce	GNR	F7	SNA	P7	No	Non-native	-
Lappula squarrosa	Bluebur	GNR	F7	SNA	P7	No	Non-native	-
Linaria dalmatica	Dalmatian toadflax	G5	F7	SNA	P7	No	Non-native	Noxious[4]
Matricaria discoidea	Pineapple weed	G5	F7	SNA	P7	No	Non-native	-
Medicago lupulina	Black medick	GNR	F7	SNA	P7	No	Non-native	-
Medicago sativa	Alfalfa	GNR	F7	SNA	P7	No	Non-native	-
Melilotus alba	White sweet-clover	G5	F7	SNA	P7	No	Non-native	-
Melilotus officinalis	Yellow sweet-clover	GNR	F7	SNA	P7	No	Non-native	-
Phleum pratense	Common timothy	GNR	F7	SNA	P7	No	Non-native	-
Plantago major	Common plantain	G5	F4	SNA	P7	No	Non-native	-
Poa compressa	Canada blue grass	GNR	F7	SNA	P7	No	Non-native	-
Potentilla argentea	Silvery cinquefoil	GNR	F7	SNA	P7	No	Non-native	-
Rumex crispus	Curled dock	GNR	F7	SNA	P7	No	Non-native	-
Senecio vulgaris	Common groundsel	GNR	F7	SNA	P7	No	Non-native	-
Sonchus arvensis	Annual sow thistle	GNR	F7	SNA	P7	No	Non-native	-
Taraxacum officinale	Common dandelion	G5	F7	SNA	P7	No	Non-native	-
Thlaspi arvense	Stinkweed	GNR	F7	SNA	P7	No	Non-native	-
Tragopogon dubius	Common goat's beard	GNR	F7	SNA	P7	No	Non-native	-
Trifolium hybridum	Alsike clover	GNR	F7	SNA	P7	No	Non-native	-
Trifolium repens	White clover	GNR	F7	SNA	P7	No	Non-native	-
Trifolium spp.	Unidentified clover species	GNR	F7	SNA	P7	No	Non-native	-

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Legend:
- d-m-y = Day-month-year
- - = No comment
- spp. = Species
- * = Information not available
- ✓ = Observed
- U = Unknown
- G# = Global rank
- F# = Federal rank
- S# = Sub-regional rank
- P# = Provincial rank
- ? = Inexact or uncertain rank
- G#G# / S#S# / T#T# = Status falls between two ranks
- GNR / SNR / TNR = Species not ranked
- SNA = A conservation status rank is not applicable to the element
- T# = Rank for subspecific taxon (subspecies, variety, or population); appended to the global rank for the full species

Notes: ** See Table 4 for a description of the ranking system and rank definitions.

TABLE 1 - POST-CONSTRUCTION ASSESSMENT SUMMARY (Soils)

TABLE 3 - POST-CONSTRUCTION ASSESSMENT SUMMARY (Soils)

[illegible]

TABLE 4 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Watercourses and Wetlands)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

ASSESSMENT INFORMATION				WATERCOURSE ASSESSMENTS					WETLAND ASSESSMENTS						
Year	Approximate Kilometre Post	Land Use	Inspection Date (d-m-y)	Type	Vegetation Cover	Erosion	Success of Mitigations/Reclamation (Functionality)	Recommendations	Wetland Classification	Species Composition	Health	Function	Erosion	Success of Mitigations	Recommendations
SEY-08-001-16 W4M															
2013	16.5	Grassland	11-Jul-13	Ephemeral	Graminoid / Upland	Minor erosion	Successful once vegetation is fully established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	16.5	Grassland	19-May-15	Ephemeral	Graminoid / Upland	Minor rill erosion	Soils appear stabilized. Vegetation is becoming well established and is on the right trajectory	Monitor vegetation 2016	-	-	-	-	-	-	-
2013	16.4	Grassland	11-Jul-13	Ephemeral	Graminoid / Upland	Minor erosion	Successful once vegetation is fully established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	16.4	Grassland	19-May-15	Ephemeral	Graminoid / Upland	No erosion	Vegetation is becoming well established and is on the right trajectory	Monitor vegetation 2016 (anticipate 2016 will be the final year)	-	-	-	-	-	-	-
NEY-08-001-16 W4M															
2013	15.8	Grassland	11-Jul-13	Ephemeral	Graminoid / Upland	No erosion	Successful once vegetation is fully established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	15.8	Grassland	19-May-15	Ephemeral	Graminoid / Upland	No erosion	Vegetation is becoming well established and is on the right trajectory	Monitor vegetation 2016 (anticipate 2016 will be the final year)	-	-	-	-	-	-	-
NEY-07-001-16 W4M															
2013	14.0	Grassland	11-Jul-13	Ephemeral	Graminoid / Upland	Minor erosion from livestock	Successful once vegetation is fully established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	14.0	Grassland	19-May-15	Ephemeral	Graminoid / Upland	No erosion	Vegetation is becoming well established and is on the right trajectory	Monitor vegetation 2016	-	-	-	-	-	-	-
SEY-18-001-16 W4M															
2013	13.3	Grassland	11-Jul-13	Ephemeral	Graminoid / Upland	No erosion	Successful once vegetation is fully established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	13.3	Grassland	19-May-15	Ephemeral	Graminoid / Upland	No erosion	Successful	No further action required	-	-	-	-	-	-	-
2013	12.8	Cultivated	11-Jul-13	Ephemeral	Cultivated	No erosion	Successful once vegetation is fully established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	12.8	Cultivated	19-May-15	Ephemeral	Cultivated	No erosion	Successful	No further action required.	-	-	-	-	-	-	-
NEY-18-001-16 W4M															
2013	12.6	Cultivated	11-Jul-13	Class D	Graminoid / Upland	No erosion	Successful, watercourse was horizontally directionally drilled with no impacts observed to watercourse. Watercourse is functioning and comparably vegetated to the upstream and downstream portions of the Class D watercourse.	No further action required.	-	-	-	-	-	-	-
2015	12.6	Cultivated	19-May-15	Class D	Graminoid / Upland	No erosion	Successful	No further action required.	-	-	-	-	-	-	-
NEY-19-001-16 W4M															
2013	10.8	Grassland	11-Jul-13	-	-	-	-	-	Class I Wetland	Wetland portion is dominantly western wheatgrass, yellow sweet clover, and traces of foxtail barley.	Hydrologic function was maintained with mitigations implemented in the reclamation at the time of construction. RoW vegetation is establishing.	Hydrologically functioning as a Class I wetland. Ecologically, vegetation requires establishment.	No evidence of erosion.	Successful once vegetation is established	Continue to monitor vegetation growth and reassess in 2015.
2015	10.8	Grassland	11-Jul-13	-	-	-	-	-	Class I Wetland	Wetland portion is dominantly western wheatgrass, yellow sweet clover, and traces of foxtail barley.	Hydrologic function was maintained with mitigations implemented in the reclamation at the time of construction.	Functioning as a Class I wetland	No evidence of erosion.	Vegetation is becoming well established and is on the right trajectory.	Continue to monitor vegetation growth and reassess in 2016.

TABLE 4 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Watercourses and Wetlands)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

ASSESSMENT INFORMATION				WATERCOURSE ASSESSMENTS					WETLAND ASSESSMENTS						
Year	Approximate Kilometre Post	Land Use	Inspection Date (d-m-y)	Type	Vegetation Cover	Erosion	Success of Mitigations/Reclamation (Functionality)	Recommendations	Wetland Classification	Species Composition	Health	Function	Erosion	Success of Mitigations	Recommendations
NEY-30-001-16 W4M															
2013	10.2	Grassland	11-Jul-13	-	-	-	-	-	Class I Wetland	Wetland portion is dominantly foxtail barley and western wheatgrass.	Hydrologic function was maintained with mitigations implemented at time of construction. Trenchline and travel portion of RoW vegetation establishing; however, is outside of the Class I wetland (RoW skirts around the wetland).	Functioning as a Class I wetland	Erosion on the trenchline and travel portion of the RoW, adjacent to the Class I wetland, was caused by livestock.	Successful	Monitor vegetation growth on trenchline and travel portion of RoW, which is adjacent to the Class I wetland.
2015	10.2	Grassland	19-May-15	-	-	-	-	-	Class I Wetland	Wetland portion is dominantly foxtail barley and western wheatgrass.	No Change	Functioning as a Class I wetland	Minor livestock impacts to trenchline portion of RoW, adjacent to wetland.	Successful	Monitor vegetation growth on trenchline portion of RoW, which is adjacent to the Class I wetland.
NEY-30-001-16 W4M															
2013	8.6	Grassland	11-Jul-13	Ephemeral	Graminoid / Upland	-	Successful once vegetation is fully established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	8.6	Grassland	19-May-15	Ephemeral	Graminoid / Upland	-	Vegetation is becoming well established and is on the right trajectory.	Monitor vegetation 2016 (anticipate 2016 will be the final year)	-	-	-	-	-	-	-
SEY-31-001-16 W4M															
2013	8.3	Grassland	18-Jul-13	Ephemeral	Graminoid / Upland	No erosion	Successful once vegetation is fully established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	8.3	Grassland	19-May-15	Ephemeral	Graminoid / Upland	No erosion	Successful	No further action required.	-	-	-	-	-	-	-
NEY-32-001-16 W4M															
2013	6.7	Grassland	18-Jul-13	Ephemeral	Graminoid / Upland	Minor erosion noted in 2013	Vegetation is establishing and stabilizing soils. No further earthworks required. Successful once vegetation fully established.	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	6.7	Grassland	19-May-15	Ephemeral	Graminoid / Upland	No erosion	Vegetation is becoming well established and is on the right trajectory.	Monitor vegetation 2016	-	-	-	-	-	-	-
SEY-05-002-16 W4M															
2013	6.2	Grassland	18-Jul-13	Ephemeral	Graminoid / Upland	Minor erosion from livestock	Successful once vegetation is established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	6.2	Grassland	19-May-15	Ephemeral	Graminoid / Upland	No erosion	Successful	No further action required.	-	-	-	-	-	-	-
2013	5.5	Grassland	18-Jul-13	Ephemeral	Graminoid / Upland	Minor erosion from livestock	Successful once vegetation is established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	5.5	Grassland	19-May-15	Ephemeral	Graminoid / Upland	Minor erosion from livestock	Manure has been applied to the soil by the landowner, impeding vegetation growth. Successful once vegetation is established	Monitor vegetation establishment in 2016	-	-	-	-	-	-	-
NEY-05-002-16 W4M															
2013	5.1	Grassland	18-Jul-13	Ephemeral	Graminoid / Upland	Minor erosion from livestock	Pipeline reclamation was successful regarding soils; however, livestock have caused pugging at this location during wet conditions (present in control assessment also). Successful once vegetation is established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-

TABLE 4 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Watercourses and Wetlands)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

ASSESSMENT INFORMATION				WATERCOURSE ASSESSMENTS					WETLAND ASSESSMENTS						
Year	Approximate Kilometre Post	Land Use	Inspection Date (d-m-y)	Type	Vegetation Cover	Erosion	Success of Mitigations/Reclamation (Functionality)	Recommendations	Wetland Classification	Species Composition	Health	Function	Erosion	Success of Mitigations	Recommendations
2015	5.1	Grassland	19-May-15	Ephemeral	Graminoid / Upland	No erosion	Successful	No further action required.	-	-	-	-	-	-	-
NW-09-002-16 W4M															
2013	3.2	Cultivated	18-Jul-13	Ephemeral	Tame Pasture	No erosion	Successful once vegetation is established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	3.2	Cultivated	19-May-15	Ephemeral	Tame Pasture	No erosion	Successful	No further action required.	-	-	-	-	-	-	-
SE-16-002-16 W4M															
2013	2.2	Cultivated	18-Jul-13	Ephemeral	Tame Pasture	No erosion	Successful once vegetation is established	Monitor vegetation establishment in 2015	-	-	-	-	-	-	-
2015	2.2	Cultivated	19-May-15	Ephemeral	Tame Pasture	No erosion	Successful	No further action required.	-	-	-	-	-	-	-
2013	1.6*	Grassland	18-Jul-13	Ephemeral	Graminoid / Upland	Minor erosion from livestock	Pipeline reclamation was successful regarding soils; however, livestock have caused pugging at this location during wet conditions. Successful once vegetation is established.	Monitor vegetation establishment in 2015	Class I Wetland	Wetland portion is dominantly smooth brome, foxtail barley, and western wheatgrass.	Hydrologic function was maintained with mitigations implemented at time of construction. Trenchline and travel portion of RoW vegetation establishing; however, RoW is outside of the Class I wetland (RoW skirts around the wetland).	Functioning as a Class I wetland	Erosion on the trenchline and travel portion of the RoW, adjacent to the Class I wetland, was caused by livestock.	Successful	Monitor vegetation growth on trenchline and travel portion of RoW.
2015	1.6*	Grassland	19-May-15	Ephemeral	Graminoid / Upland	Minor erosion from livestock	Pipeline reclamation was successful regarding soils; however, livestock have caused pugging at this location during wet conditions. Successful once vegetation is established.	Monitor vegetation establishment in 2016	Class I Wetland	Wetland portion is dominantly smooth brome, foxtail barley, and western wheatgrass.	No Change	Functioning as a Class I wetland	Minor livestock impacts to trenchline portion of RoW, adjacent to wetland.	Successful	Monitor vegetation on trenchline portion of RoW.

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	0	1.1	JSF	24-Nov-2015	CHS	27-Nov-2015	28-Jan-2016

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Legend:
d-m-y = Day-month-year
RoW = Right-of-way
\- = No information / not measured
* = Watercourse and wetland assessment completed at the same location

Trace ASSOCIATES

TABLE 5 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Consultation Log)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

CONSULTANT INFORMATION			
Name	Date (d-m-y)	Reason for Consultation	Comments
Wrayco Farms Ltd.	13-May-15	Requesting permission to access the RoW, discuss 2015 reclamation monitoring and any concerns about the pipeline reclamation.	Sent email message and left voicemail to call Trace if they had concerns about access or work to be completed. No response to email or phone message.
William Kaupp and Lindsay Kaupp	13-May-15	Requesting permission to access the RoW, discuss 2015 reclamation monitoring and any concerns about the pipeline reclamation.	Access to the RoW granted. Complaint about poor grass establishment on the RoW.
Ken Balog and Nora Balog (Occupants)	13-May-15	Requesting permission to access the RoW, discuss 2015 reclamation monitoring and any concerns about the pipeline reclamation.	Access to the RoW granted. Complaint about downy brome along RoW.
Darwin Balog	13-May-15	Requesting permission to access the RoW, discuss 2015 reclamation monitoring and any concerns about the pipeline reclamation.	Access to the RoW granted. No complaints about RoW.
Matthew Beckman (Occupant)	13-May-15	Requesting permission to access the RoW, discuss 2015 reclamation monitoring and any concerns about the pipeline reclamation.	Access to the RoW granted. Complaint about poor vegetation establishment.
Melford Friedrick and Brian Friedrick (Occupants)	13-May-15	Requesting permission to access the RoW, discuss 2015 reclamation monitoring and any concerns about the pipeline reclamation.	Access to the RoW granted. Request and reminder that all gates be closed.
Joseph Baczuk	13-May-15	Requesting permission to access the RoW, discuss 2015 reclamation monitoring and any concerns about the pipeline reclamation.	Access to the RoW granted. No complaints about RoW.
Miami Hutterian Brethren	13-May-15	Requesting permission to access the RoW, discuss 2015 reclamation monitoring and any concerns about the pipeline reclamation.	Left message to call Trace if they had concerns about access or work to be completed. No response to phone message.
Shawn Balog (Occupant)	13-May-15	Requesting permission to access the RoW, discuss 2015 reclamation monitoring and any concerns about the pipeline reclamation.	Left message to call Trace if they had concerns about access or work to be completed. No response to phone message.
Wrayco Farms Ltd.	27-May-15	Confirming access to the RoW to conduct vegetation management.	Wray Swanson confirmed access to the RoW.
Melford Friedrick and Brian Friedrick (Occupants)	27-May-15	Confirming access to the RoW to conduct vegetation management.	Brian Friedrick confirmed access to the RoW.
Darwin Balog	27-May-15	Confirming access to the RoW to conduct vegetation management.	Lori Balog confirmed access to RoW, left message for Darwin to call Trace if he had any concerns. No response from Darwin.
Ken Balog and Nora Balog (Occupants)	27-May-15	Confirming access to the RoW to conduct vegetation management.	Access to RoW confirmed, complaint about downy brome on RoW.
Shawn Balog (Occupant)	27-May-15	Discuss potential access to the RoW to conduct vegetation management, discuss 2015 reclamation monitoring and any concerns about the pipeline reclamation.	Acknowledgment of access to RoW confirmed, complaint about soil compaction on RoW. (No landowner permission obtained to complete reclamation since 2014)
Joseph Baczuk	27-May-15	Confirming access to the RoW to conduct vegetation management.	Access to the RoW confirmed, no complaints about RoW.
Matthew Beckman (Occupant)	27-May-15	Confirming access to the RoW to conduct vegetation management.	Access to the RoW confirmed.
Miami Hutterian Brethren	27-May-15	Confirming access to the RoW to conduct vegetation management.	Willy confirmed access to RoW, advised to leave message for Tim. Left message to call Trace if they had concerns about access or work to be completed. No response to phone message.
Melford Friedrick and Brian Friedrick (Occupants)	02-Jun-15	Notified Brian Friedrick that vegetation management activities were completed.	Concerned about annual weeds on the RoW.
Joseph Baczuk	09-Sep-15	Requesting permission to access the right of way, perform decompaction and reclamation activities.	No answering machine available.
Darwin & Lori Balog	09-Sep-15	Call to discuss any concerns regarding the status of the RoW	Left message to call Trace if they had any concerns about the RoW reclamation status or condition. No response to message.
Miami Hutterian Brethren	09-Sep-15	Call to discuss any concerns regarding the status of the RoW	Left message to call Trace if they had any concerns about the RoW reclamation status or condition. No response to message.
Miami Hutterian Brethren	09-Sep-15	Call to discuss any concerns regarding the status of the RoW	Left message to call Trace if they had any concerns about the RoW reclamation status or condition. No response to message.
Matthew Beckman	09-Sep-15	Call to discuss any concerns regarding the status of the RoW	Complaint regarding poor vegetation establishment and concern about growth establishment.
Wrayco Farms Ltd	09-Sep-15	Call to discuss any concerns regarding the status of the RoW	Left email and voicemail message to call Trace if they had any concerns about the RoW reclamation status or condition.
Melford and Brian Friedrick	09-Sep-15	Call to discuss any concerns regarding the status of the RoW	No complaints regarding RoW reclamation.
William Kaupp	09-Sep-15	Call to discuss any concerns regarding the status of the RoW	Left message to call Trace with any concerns about the RoW reclamation status or condition. No response to message.
Joseph Baczuk	16-Sep-15	Requesting permission to access the right of way, perform decompaction and reclamation activities.	No answering machine available.
Shawn Balog (Occupant)	16-Sep-15	Follow up to discuss potential decompaction and reclamation activities. (Landowner permission was not obtained to complete reclamation in 2015)	Left message to call Trace regarding potential decompaction and reclamation activities. No response to phone message.
Darwin & Lori Balog	16-Sep-15	Call to discuss any concerns regarding the status of the RoW	Left message to call Trace if they had any concerns about the RoW reclamation status or condition. No response to message.
Wrayco Farms Ltd	16-Sep-15	Call to discuss any concerns regarding the status of the RoW	Charlotte Swanson informed Trace personnel that Wray Swanson was in poor health and hospitalized and was unavailable for comment.
William Kaupp	16-Sep-15	Call to discuss any concerns regarding the status of the RoW	Left message to call Trace with any concerns about the RoW reclamation status or condition. No response to message.
Ken Balog and Nora Balog (Occupants)	16-Sep-15	Call to discuss any concerns regarding the status of the RoW	Complaint regarding downy brome on RoW.
Joseph Baczuk	22-Sep-15	Requesting permission to access the right of way, perform decompaction and reclamation activities.	Trace personnel was advised that Joseph Baczuk is residing at an assisted living facility. Trace personnel were also informed by neighbours that Mr. Baczuk's wife was in poor health. Due to these personal circumstances, follow-up on reclamation work communications was postponed.
Ken Balog and Nora Balog (Occupants)	25-Sep-15	Met on site to discuss pipeline reclamation condition	Complaint regarding downy brome on RoW.
Darwin Balog	21-Oct-15	Requesting permission to access to the RoW to conduct minor reclamation	Access to the RoW confirmed.

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	0	1.1	CMT	10-Nov-2015
	Checked by	**Last checked**	**Last printed**	
	CHS	27-Nov-2015	30-Nov-2015	

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Legend:
d-m-y = Day-month-year
RoW = Right-of-way
- = No information

Trace ASSOCIATES

TABLE 6 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Recommendations)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Assessment Information			Vegetation and Landscape	Soils	Recommendations	Recommendations	GPS Coordinates
Assessment Location	Land Use	Inspection Date (d-m-y)	Comments	Comments	Recommendations	Recommendations	UTM NAD 83 (Zone 12)
SEY-06-001-16 W4M							
100	Grassland	11-Jul-13	-	Minor contour difference on east edge of RoW	Contour east edge of pipeline RoW; monitor natural revegetation and weeds in 2014	No soil reclamation required; monitor vegetation growth in 2016	417,798 mE, 5,427,976 mN
101*	Grassland	11-Jul-13	Erosion issues along hill (N/S direction) 30 cm x 1 m - 417,819 mE, 5,428,100 mN		Recontour/reclaim erosion; monitor for future erosion	No soil reclamation required; vegetation establishing in 2015; Monitor vegetation in 2016	417,819 mE, 5,428,100 mN to 417,819 mE 5,428,116 mN
102	Grassland	11-Jul-13	No vegetation management at this time	417,831 mE, 542,827 mN - erosion along hill to 417,830 mE, 5,428,286 mN	Reclaim rill erosion on side slopes; monitor natural revegetation and weeds in 2014	No soil reclamation required; monitor vegetation growth in 2016	417,830 mE, 5,428,286 mN
103**	Grassland	11-Jul-13	Water crossing; minor erosion		Reclaim minor erosion at water crossing	No soil reclamation required; monitor vegetation growth in 2016	417,839 mE, 5,428,374 mN
104**	Grassland	11-Jul-13	Water crossing; monitor minor subsidence/erosion; Note: flixweed and Japanese brome off site		Monitor minor subsidence and erosion	No soil reclamation required; monitor vegetation growth in 2016	417,846 mE, 5,428,448 mN
105	Grassland	11-Jul-13	Monitor grass and weed growth	Work area - 0.5 cm of C horizon on surface; vegetation establishing	Monitor for natural revegetation and weeds in 2014	No soil reclamation required; monitor vegetation growth in 2016	417,926 mE, 5,428,516 mN
106	Grassland	11-Jul-13	Monitor vegetation and weeds; Weeds are helping retain soil	Minor contour difference on east RoW boundary, no work required; monitor	Monitor for natural revegetation and weeds in 2014	No soil reclamation required; monitor vegetation growth in 2016	417,985 mE, 5,428,631 mN
107**	Grassland	11-Jul-13	Scalped surface soil in area; some contour differences; roached over trenchline; Monitor erosion at 417,982 mE, 5,428,628 mN		Recontour trenchline roach and areas of surface soil scalping; monitor erosion at 417,982 mE, 5,428,628 mN	No soil reclamation required; monitor vegetation growth in 2016	417,982 mE, 5,428,628 mN
NEY-06-001-16 W4M							
108	Grassland	11-Jul-13	Monitor weeds	Large rocks at top of hill (upper slope); Contour difference at 417,987 mE, 5,428,908 mN to 417,986 mN, 5,428,953 mN	Pick large rocks, monitor for erosion and reassess contour; at 417,987 mE, 5,428,908 mN to 417,986 mN, 5,428,953 mN in 2014	No soil reclamation required; monitor vegetation growth in 2016	417,988 mE, 5,428,860 mN
109**	Grassland	11-Jul-13	Slight contour difference on RoW 417,982 mE, 5,429,017 mN; multiple small drainages in area		Monitor drainages to confirm contour is not affecting natural surface water flow	No soil reclamation required; monitor vegetation growth in 2016	417,982 mE, 5,429,017 mN
110	Grassland	11-Jul-13	-	Scalped surface soil area on west side of RoW; Minor contour issues	Monitor erosion and contour; No additional work at this time	No soil reclamation required; monitor vegetation growth in 2016	417,947 mE, 5,429,170 mE
SEY-07-001-16 W4M							
111	Grassland	11-Jul-13	-	Trenchline soils admixed	Monitor for natural revegetation and weeds in 2014	Monitor vegetation growth in 2016	417,918 mE, 5,429,595 mN
112	Grassland	11-Jul-13	Minor cattle rutting		Monitor for natural revegetation and weeds in 2014	Monitor vegetation growth in 2016	417,891 mE, 5,429,654 mN
113*	Grassland	11-Jul-13	Erosion along trenchline approximately 30 m in length		Reclaim minor erosion	No soil reclamation required; monitor vegetation growth in 2016	417,897 mE, 5,429,768 mN
114	Grassland	11-Jul-13	-	Minor/sporadic surface soil scalping on travel portion	Monitor for natural revegetation and weeds in 2014	Monitor vegetation growth in 2016	417,911 mE, 5,429,930 mN
115	Grassland	11-Jul-13	Vegetation not established but should revegetate naturally	Minor surface erosion	Monitor for natural revegetation and weeds in 2014; monitor minor surface erosion	No soil reclamation required; monitor vegetation growth in 2016	417,944 mE, 5,430,323 mN

TABLE 6 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Recommendations)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Assessment Information			Vegetation and Landscape	Soils	Recommendations	Recommendations	GPS Coordinates
Assessment Location	Land Use	Inspection Date (d-m-y)	Comments	Comments	Recommendations	Recommendations	UTM NAD 83 (Zone 12)
NEY-07-001-16 W4M							
116*•	Grassland	11-Jul-13	Minor subsidence and contouring issues 40-50 m long (low area/contour issue); Cattle impacts (minor) as well		Recontour RoW and monitor for subsidence on trenchline in 2014	No soil reclamation required; monitor vegetation growth in 2016	417,956 mE, 5,430,497 mN
117	Grassland	11-Jul-13	-	Travel portion - some compaction; roots getting through; Some scalping; Recontouring required from Site 117 to 418,000 mE, 5,431,017 mN; Trenchline is roached	Recontour from site 117 to 418,000 mE, 5,431,017 mN	No soil reclamation required; monitor vegetation growth in 2016	417,969 mE, 5,430,689 mN
118	Grassland	11-Jul-13	Monitor vegetation	Contour issue on trenchline	Recontour over trenchline; Monitor for natural revegetation and weeds in 2014	No soil reclamation required; monitor vegetation growth in 2016	418,003 mE, 5,431,098 mN
NEY-18-001-16 W4M							
119*•	Cultivated	11-Jul-13	Soil erosion at end of field	Soil erosion at end of field	Monitor soil erosion in 2014 and determine in normal cultivation practices have alleviated issue; assess vegetation in 2014	No landowner permission to complete soil reclamtion; assess cultivated crop in 2016	418,026 mE, 5,432,003 mN
120*	Cultivated	11-Jul-13	Erosion and subsidence on trenchline approximately 20 m in length; minor compaction on work area of RoW; No vegetation - summer fallow		Reclaim erosion and subsidence area in fall 2014; assess vegetation in 2014	No landowner permission to complete soil reclamtion; assess cultivated crop in 2016	418,023 mE, 5,432,101 mN
121*	Cultivated	11-Jul-13	1 cm of eroded soil over topsoil on trenchline; Ponding over trenchline 418,028 mE, 5,432,455 mN for approximately 20 m		Reclaim (add topsoil) in the surface water ponding area on the trenchline	No landowner permission to complete soil reclamtion; assess cultivated crop in 2016	418,028 mE, 5,432,431 mN
122*	Cultivated	11-Jul-13	Summer fallow	Fill erosion on trenchline and east edge of ROW; work/add straw	Reclaim (add topsoil) to the erosion on the trenchline; may need to crimp in straw or implement other erosion control	No landowner permission to complete soil reclamtion; assess cultivated crop in 2016	418,035 mE, 5,432,743 mN
SEY-19-001-16 W4M							
123	Grassland	11-Jul-13	Monitor vegetation	Subsidence on trenchline from site 123 to 70 m north; Gleying in control and travel	Reclaim trenchline subsidence (add topsoil) from assessment location 123 to approximately 70 m north	No soil reclamation required; monitor vegetation growth in 2016	418,041 mE, 5,432,860 mN
124	Grassland	11-Jul-13	-	-	No actions required	-	418,050 mE, 5,433,305 mN
125	Grassland	11-Jul-13	-	Soil erosion on east edge of ROW; Minor contour approximately 125 m; sporadic along 125 m length	Reclaim erosion on east boundary of RoW and minor contour difference (approximately 125 m in length)	No soil reclamation required; monitor vegetation growth in 2016	418,049 mE, 5,433,437 mN to 418,049 mE, 5,433,562 mN
NEY-19-001-16 W4M							
126	Grassland	11-Jul-13	Abundant Sweet yellow clover; reduced vegetation on travel portion of RoW	Some minor surface soil scalping areas	Monitor for natural revegetation and weeds in 2014	Monitor vegetation growth in 2016	418,055 mE, 5,433,739 mN
127*	Grassland	11-Jul-13	Trenchline subsidence approximately 10-15 m long Note: from fence north to 417,892 mE, 5,434,353 minor rill erosion		Reclaim trenchline subsidence (add topsoil) and rill erosion	No soil reclamation required; monitor vegetation growth in 2016	418,062 mE, 5,434,170 mN

TABLE 6 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Recommendations)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Assessment Information			Vegetation and Landscape	Soils	Recommendations	Recommendations	GPS Coordinates
Assessment Location	Land Use	Inspection Date (d-m-y)	Comments	Comments	Recommendations	Recommendations	UTM NAD 83 (Zone 12)
SE¼-30-001-16 W4M							
128	Grassland	11-Jul-13	Cattle causing impacts to vegetation	Assessment location west of wet area; surface water ponding. 25 m x 6 m, located north of site 128 at 417,863 mE, 5,434,528 mN; Cattle impacts	Reclaim area to alleviate surface water ponding (add topsoil and recontour)	-	417,860 mE, 5,434,432 mN
129	Grassland	11-Jul-13	-	Subsidence and contouring issues; Compaction on travel portion but vegetation coming through; Note: contour/subsidence issue at 418,076 mE, 5,434,845 mN (see site 130) 10 m long x 1 m wide	Reclaim subsidence (add topsoil) and contour	Subsidence and contour minor, continue to monitor in 2016 to ensure soil reclamation is not needed; monitor vegetation growth in 2016	418,049 mE, 5,434,731 mN
130	Grassland	11-Jul-13	Monitor future vegetation	Subsidence/contour issues noted between GPS coordinates listed; Note: site 129 GPS coordinates listed for subsidence	Reclaim subsidence (add topsoil) and contour	No soil reclamation required; monitor vegetation growth in 2016	418,076 mE, 5,434,845 mN to 418,076 mE, 5,434,954 mN
131*	Grassland	11-Jul-13	-	Minor contour differences; subsoil material on pipeline trench from trenching	No soil reclamation recommended at this time; Monitor for natural revegetation and weeds in 2014	Monitor vegetation growth in 2016	418,078 mE, 5,435,140 mN
NE¼-30-001-16 W4M							
132	Grassland	11-Jul-13	Vegetation establishing	Cattle impacts (minor)	Monitor for natural revegetation and weeds in 2014	Monitor vegetation growth in 2016	418,083 mE, 5,435,513 MN
133*	Grassland	11-Jul-13	Contour difference in draw (approximately 10 m in length)		Recontour RoW in draw	No soil reclamation required; monitor vegetation growth in 2016	410,086 mE, 5,435,632 mN
134*	Grassland	11-Jul-13	Contour difference in draw		Recontour RoW in draw	No soil reclamation required; monitor vegetation growth in 2016	410,086 mE, 5,435,632 mN
135	Grassland	11-Jul-13	-	Contour differences and subsidence	Reclaim subsidence (add topsoil) and contour	No soil reclamation required; monitor vegetation growth in 2016	418,086 mE, 5,435,786 mN
136**	Grassland	11-Jul-13	Surface water ponding 10 m x 5-7 m in travel and trenchline portion of RoW		Reclaim area to alleviate surface water ponding (add topsoil and recontour)	-	418,086 mE, 5,435,807 mN
137*	Grassland	11-Jul-13	-	Trenchline erosion from base of hill to top of hill at assessment location	Reclaim trenchline erosion with minor contour work	No soil reclamation required; monitor vegetation growth in 2016	418,089 mE, 5,435,871 mN to 418,091 mE, 5,435,982 mN

TABLE 6 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Recommendations)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Assessment Information			Vegetation and Landscape	Soils	Recommendations	Recommendations	GPS Coordinates
Assessment Location	Land Use	Inspection Date (d-m-y)	Comments	Comments	Recommendations	Recommendations	UTM NAD 83 (Zone 12)
SEY-18-001-16 W4M							
200*	Grassland	11-Jul-13	Poor vegetation establishment; Water course requires monitoring; Recontouring near fence (approximately 15 m x 15 m area)	Cattle impacts evident in low areas; Increased rocks on RoW; Water course requires monitoring; Recontouring near fence (15m x 15m area)	Pick rocks on RoW; reclaim trenchline (add topsoil) and recontour	No soil reclamation required; monitor vegetation growth in 2016	418,007 mE, 5,431,214 mN
201	Grassland	11-Jul-13	-	Cattle impacts evident; topsoil admixed on trenchline; contour difference	Recontour section of RoW	No soil reclamation required; monitor vegetation growth in 2016	418,013 mE, 5,431,451 mN
202*	Grassland	11-Jul-13	No data collected at this point		-	-	-
203	Cultivated	11-Jul-13	Vegetation is not as far along as controls, just heading out and shorter on ROW; hail damage to crop	Minor subsidence from location to fenceline; Shallow topsoil depth on travel portion of RoW (west); Monitor east to 418,012 mE, 5,431,663 mN	Monitor subsidence in 2014 and determine in normal cultivation practices have alleviated issue; assess vegetation in 2014	No soil reclamation required, monitor vegetation growth in 2016	418,014 mE, 5,431,568 mN
204**	Cultivated	11-Jul-13	Water course - 9 m x 12 m area; 20 m in length; Ponds off and on site		Monitor area in 2014	-	418,015 mE, 5,431,786 mN
205	Cultivated	11-Jul-13	-	-	-	-	418,022 mE, 5,431,817 mN
206**	Cultivated	11-Jul-13	Saline lowland; comparable to off site	Subsidence at 418,023 mE, 5,431,931 mN; 0.30 m in depth x 1.5 m in length x 0.50 m wide; Saline lowland, comparable to off site	Reclaim subsidence (add topsoil)	-	418,027 mE, 5,4319,680 mN
SEY-31-001-16 W4M							
300	Grassland	18-Jul-13	-	Subsidence approximately 0.20 m in depth - with cattle impacts; Contour differences - rill erosion from fence to site 300; Subsidence approximately 20 m in length	Reclaim minor subsidence and contour differences	No soil reclamation required; monitor vegetation growth in 2016	418,092 mE, 5,436,079 mN
301**	Grassland	18-Jul-13	Water crossing	Water crossing; minor contour difference - slight rill erosion on east and west boundaries of trenchline, may cause future surface water ponding	Monitor water crossing area in 2014 to determine if trenchline affects water flow or causes ponding	-	418,095 mE, 5,436,161 mN

TABLE 6 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Recommendations)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Assessment Information			Vegetation and Landscape	Soils	Recommendations	Recommendations	GPS Coordinates
Assessment Location	Land Use	Inspection Date (d-m-y)	Comments	Comments	Recommendations	Recommendations	UTM NAD 83 (Zone 12)
SW¼-32-001-16 W4M							
302	Grassland	18-Jul-13	Weeds establishing	Minor subsidence on southern portion of RoW inflection point;	Monitor area for potential increased soil erosion, surface water ponding and potential subsidence in 2014	No soil reclamation required; monitor vegetation growth in 2016	418,237 mE, 5,436,245 mN
303*	Grassland	18-Jul-13	Subsidence from 418,263 mE, 5,436,273 mN to 418,276 mE, 5,436,288 mN		Reclaim subsidence (add topsoil)	No soil reclamation required; monitor vegetation growth in 2016	418,263 mE, 5,436,273 mN to 418,276 mE, 5,436,288 mN
304	Grassland	18-Jul-13	Vegetation establishing	Minor rill erosion noted on trenchline	Monitor for natural revegetation and weeds in 2014	Monitor vegetation growth in 2016	418,412 mE, 5,436,443 mN
305	Grassland	18-Jul-13	Vegetation establishing	Minor rill erosion - monitor only; Surface soil scraping noted on east side of RoW; Travel portion of RoW increased coarse fragments in profile and compacted; Subsidence 1 m x 1 m x 0.3 m at 418,642 mE, 5,436,698 mN	Reclaim subsidence (add topsoil) and contour	No soil reclamation required; monitor vegetation growth in 2016	418,599 mE, 5,436,651 mN
NW¼-32-001-16 W4M							
306	Grassland	18-Jul-13	-	Draw- potential water crossing; Subsidence - in draw, may impede potential water flow at 418,849 mE, 5,436,929 mN	Monitor minor subsidence at 418,849 mE, 5,436,929 mN	No soil reclamation required; monitor vegetation growth in 2016	418,772 mE, 5,436,843 mN
NE¼-32-001-16 W4M							
307	Grassland	18-Jul-13	Vegetation establishing	-	Monitor for natural revegetation and weeds in 2014	Monitor vegetation growth in 2016	418,993 mE, 5,437,085 MN
308**	Grassland	18-Jul-13	Water crossing at 419,097 mE, 5,437,206 mN Minor erosion, monitor, vegetation establishing	Water crossing; Minor erosion, monitor	Monitor water crossing at 419,097 mE, 5,437,206 mN for additional erosion	-	419,097 mE, 5,437,206 mN
309**	Grassland	18-Jul-13	Potential water crossing, vehicle tracks throughout area		Monitor for natural revegetation and weeds in 2014	-	419,283 mE, 5,437,413 mN
310*	Grassland	18-Jul-13	419,426 mE, 5,437,573 mN erosion on hill face (north)	Minor erosion on hill face (north) 419,426 mE, 5,437,573 mN	Monitor for natural revegetation and weeds in 2014	Monitor vegetation growth in 2016	419,426 mE, 5,437,573 mN
SE¼-05-002-16 W4M							
311**	Grassland	18-Jul-13	Water crossing contour is good; Evidence of cattle impacts - soil pugging		Monitor for potential surface water ponding, due to soil pugging	No soil reclamation required; monitor vegetation growth in 2016	419,425 mE, 5,437,708 mN
312	Grassland	18-Jul-13	Monitor weeds, watch for yellow sweet clover encroachment - originated off site	Erosion from wind - even in controls Mid slope	Monitor for natural revegetation and weeds in 2014	Monitor vegetation growth in 2016	419,440 mE, 5,437,957 mN
313*	Grassland	18-Jul-13	-	Erosion from wind - even in controls Mid slope; 419,448 mE, 5,438,139	Monitor for natural revegetation and weeds in 2014	Monitor vegetation growth in 2016	419,448 mE, 5,438,139 mN
314	Grassland	18-Jul-13	Weeds establishing	Bare areas on and off RoW	Monitor for natural revegetation and weeds in 2014	Monitor vegetation growth in 2016	419,461 mE, 5,438,274 mN
315**	Grassland	18-Jul-13	Water crossing contour is good Evidence of cattle impacts - soil pugging	Erosion from eroded channel to west; Second channel at 419,464 mE, 5,438,384 mN; Monitor erosion; coming from off site, but worse on site	Monitor erosion areas in 2014 to determine if mitigative actions are required	No soil reclamation required, monitor vegetation growth in 2016	419,463 mE, 5,438,361 mN

TABLE 6 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Recommendations)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Assessment Information			Vegetation and Landscape	Soils	Recommendations	Recommendations	GPS Coordinates
Assessment Location	Land Use	Inspection Date (d-m-y)	Comments	Comments	Recommendations	Recommendations	UTM NAD 83 (Zone 12)
NE¼-05-002-16 W4M							
316	Grassland	18-Jul-13	Canada thistle noted; reduced vegetation area approximately 70 m wide	High erosion potential, lots of sand; Work area has lots of deposition; Minor subsidence along northeast portion of RoW inflection point	Monitor erosion areas in 2014 to determine if mitigative actions are required	No soil reclamation required; monitor vegetation growth in 2016	419,486 mE, 5,438,587 mN
317*•	Grassland	18-Jul-13	Water crossing; low area with subsidence and cattle impacts 20 m x 2 m x 0.30 m 419,568 mE, 5,438,630 mN Erosion from 419,632, 5,438,662 mN to low area		Reclaim subsidence (add topsoil) and contour/work erosion area	-	419,568 mE, 5,438,630 mN
318	Grassland	18-Jul-13	-	Potential soil erosion area on east boundary of RoW	Monitor for potential soil erosion, natural revegetation, and weeds in 2014	No soil reclamation required; monitor vegetation growth in 2016	419,688 mE, 5,438,850 mN
319*	Grassland	18-Jul-13	No foxtail barley off site (in immediate vicinity but near lake) Grasses establishing - blue gramma and crested wheat grass	Minor rocks at fenceline	Monitor weeds in 2014, determine vegetation management plan for foxtail barley	Monitor vegetation growth in 2016	419,808 mE, 5,438,934 mN
NW¼-04-002-16 W4M							
320	Cultivated	18-Jul-13	-	Major erosion along trenchline and RoW towards fence; Note: erosion / less dense vegetation off site as well; Erosion and surface soil cracking evident from fenceline (west) to 419,875 mE, 5,439,002 mN	Reclaim erosion with topsoil addition and cultivating	No soil reclamation required; monitor vegetation growth in 2016	419,865 mE, 5,438,968 mN
321*	Cultivated	11-Jul-13	Less vegetation, minor subsidence and erosion to 419,879 mE, 5,439,201 mN	Minor subsidence and erosion to 419,879 mE, 5,439,201 mN	Monitor erosion and vegetation in 2014	No soil reclamation required; monitor vegetation growth in 2016	419,878 mE, 5,439,136 mN
SW¼-09-002-16 W4M							
322	Cultivated	18-Jul-13	Less dense vegetation from assessment location to 419,443 mE, 5,439,339 mN	Composted manure spread on east side of RoW and trenchline - approximately 24 cm in depth; Caused contour difference and weeds	Monitor vegetation in 2014	Monitor vegetation growth in 2016	419,920 mE, 5,439,297 mN
323	Cultivated	18-Jul-13	-	Composted manure on trenchline and east portion of work area; Manure ends at 420,059 mE, 5,439,566 mN	Monitor vegetation in 2014	Monitor vegetation growth in 2016	420,028 mE, 5,439,505 mN
324*	Cultivated	18-Jul-13	420,062 mE, 5,439,578 mN - no organics 40 m x 20 m; Vegetation less dense and poor health / ripening early	No composted manure	Monitor vegetation in 2014	Monitor vegetation growth in 2016	420,062mE, 5,439,578 mN
325*	Cultivated	18-Jul-13	Reduced vegetation on west side of RoW from 420,136 mE, 5,439,724 mN to 420,171 mE, 5,439,792 mN	-	Monitor vegetation in 2014	Monitor vegetation growth in 2016	420,136 mE, 5,439,724 mN to 420,171 mE, 5,439,792 mN
326	Cultivated	18-Jul-13	Reduced vegetation area (approximately 15 m x 15 m)	10 m x 10 m dished out area (contour) 15 m x 15 m bare area	Reclaim dished out area - add topsoil and contour	No soil reclamation required; monitor vegetation growth in 2016	420,191 mE, 5,439,844 mN

TABLE 6 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Recommendations)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Assessment Information			Vegetation and Landscape	Soils	Recommendations	Recommendations	GPS Coordinates
Assessment Location	Land Use	Inspection Date (d-m-y)	Comments	Comments	Recommendations	Recommendations	UTM NAD 83 (Zone 12)
NWY-09-002-16 W4M							
327	Grassland	18-Jul-13	Tame pasture	Subsidence from 420,325 mE, 5,490,107 mN to 420,338 mE, 5,5440,132 mN	Reclaim subsidence and monitor weed growth in 2014	No soil reclamation required; monitor vegetation growth in 2016	420,337 mE, 5,440,126 MN
328*'	Grassland	18-Jul-13	Increased weed growth 420,309 mE, 5,490,238 mN	-	Monitor weed growth in 2014	-	420,389 mE, 5,440,238 mN
329*	Grassland	18-Jul-13	Water crossing; Monitor contour at 420,518 mE, 5,440,497 mN for subsidence (2 m x 1 m) and at 420,546 mE, 5,440,549 mN for subsidence (1 m x 1 m)	-	Monitor minor subsidence areas in 2014 for potential increased subsidence	No soil reclamation required; monitor vegetation growth in 2016	420,502 mE, 5,440,461 mN to 420,700 mE, 5,440,775 mN
NEY-09-002-16 W4M							
330*	Grassland	18-Jul-13	Gravelly at surface; Vegetation coming through (crested wheat grass); Increased weed growth - downy brome (on and off RoW), sow thistle, penny cress, wild mustard; bare area approximately 25 m wide; vegetation establishing	Subsidence 4 m x 1 m at 420,608 mE, 5,440,679 mN; Gravelly at surface	Monitor weed growth in 2014	No soil reclamation required; monitor vegetation growth in 2016	420,700 mE, 5,440,775 mN
SEY-16-002-16 W4M							
331	Grassland	18-Jul-13	-	-	Monitor vegetation in 2014	Monitor vegetation growth in 2016	420,766 mE, 5,441,074 mN
332*'	Grassland	18-Jul-13	Water crossing - monitor for surface water ponding 420,786 mE, 5,441,132 mN	-	Monitor location for surface water ponding in 2014	-	420,786 mE, 5,441,132 mN
333	Grassland	18-Jul-13	-	Subsidence and minor erosion on east side of RoW; Minor subsidence on west side of RoW	Monitor minor subsidence and erosion; monitor vegetation in 2014	No soil reclamation required; monitor vegetation growth in 2016	421,095 mE, 5,441,473 mN
334*'	Grassland	18-Jul-13	Water crossing - heavily impacted by cattle More rutting and pugging on west side of RoW; water crossing to 421,158 mE, 5,441,710 mN, contour difference	-	Monitor vegetation and water crossing in 2014	No soil reclamation required; monitor vegetation growth in 2016	421,152 mE, 5,441,631 mN
NEY-16-002-16 W4M							
335*	Grassland	18-Jul-13	Surface water ponding on west and east boundaries of RoW 421,161 mE, 5,441,805 mN	-	Recontour to alleviate surface water ponding	No soil reclamation required; monitor vegetation growth in 2016	421,161 mE, 5,441,805 mN
336*	Grassland	18-Jul-13	Subsidence and soil cracking at 421,160 mE, 5,441,826 mN - west side of RoW; approximately 0.40 m in depth	-	Reclaim subsidence (add topsoil) and contour	No soil reclamation required; monitor vegetation growth in 2016	421,160 mE, 5,441,826 mN
337	Grassland	18-Jul-13	Increased weed growth	-	Monitor weed growth in 2014	Monitor vegetation growth in 2016	421,103 mE, 5,442,018 mN
338	Grassland	18-Jul-13	Increased weed growth	-	Monitor weed growth in 2014	Monitor vegetation growth in 2016	421,200 mE, 5,442,342 mN
339*	Grassland	18-Jul-13	Tame pasture	Increased gravel on surface and bare area near north fence / road	Monitor vegetation in 2014	Monitor vegetation growth in 2016	421,258 mE, 5,442,412 mN

TABLE 6 - POST-CONSTRUCTION RECLAMATION ASSESSMENT SUMMARY (Recommendations)

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Assessment Information			Vegetation and Landscape	Soils	Recommendations	Recommendations	GPS Coordinates
Assessment Location	Land Use	Inspection Date (d-m-y)	Comments	Comments	Recommendations	Recommendations	UTM NAD 83 (Zone 12)
SE¼-21-002-16 W4M							
340	Grassland	18-Jul-13	-	-	-	Monitor vegetation growth in 2016	421,295 mE, 5,442,633 mN
341	Grassland	18-Jul-13	-	-	-	Monitor vegetation growth in 2016	421,303 mE, 5,442,870 mN
342*	Grassland	18-Jul-13	Contour (dished out area approximately 5 m x 8 m)	-	Reclaim contour difference area with topsoil and recontour	No soil reclamation required; monitor vegetation growth in 2016	421,294 mE, 5,442,885 mN
343*	Grassland	18-Jul-13	Increased weeds; evidence of past surface water ponding; cattle rutted area (approximately 9 m x 7 m)	-	Reclaim surface water ponding area with topsoil and recontour	No soil reclamation required; monitor vegetation growth in 2016	421,278 mE, 5,442,985 mN
344*	Grassland	18-Jul-13	Subsidence and soil cracking on west boundary of RoW (approximately 0.40 m in depth); evidence of past surface water ponding with cattle damage (approximately 0.10-0.20 m in depth)	-	Reclaim subsidence and surface water ponding area with addition of topsoil and recontour	No soil reclamation required; monitor vegetation growth in 2016	421,267 mE, 5,443,037 mN

Document Control:	Revision	Version	Entered by	Entered on	Checked by	Last checked	Last printed
	0	1.1	JSF	25-Nov-2015	CHS	27-Nov-2015	28-Jan-2016

File Name: 500-270-04 2015 PCRA R01 T06.xlsx

Legend:
* = Soil and/or vegetation assessment not completed
* = Wetland and /or watercourse assessment location
m = Metres
cm = Centimetres
GPS = Global positioning system
- = No information / no concerns
RoW = Right-of-way
d-m-y = Day-month-year

Notes: UTM NAD 83 - GPS coordinates referenced to the North American Datum of 1983, Universal Transverse Mercator Projection system.

Trace ASSOCIATES

APPENDIX A

Trace Associates Inc. Environmental Report – General Conditions

Environmental Report – General Conditions

1.0 Use of Report

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 assessment.

This report and the assessments and recommendations contained in it are intended for the sole use of Trace Associates Inc.'s (Trace's) client. Trace 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 Trace's client (hereunder referred to as the "Client") or an approved agent of the Client. Any unauthorized use of or reliance on 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 Trace. The Client agrees that it shall use the report for its own internal purposes and it shall not provide the report to another party other than an approved agent.

2.0 Limitation of Report

This report is based solely on the conditions that existed on site at the time of Trace's investigation. The Client, and any other parties using this report with the express written consent of the Client and Trace, acknowledge that conditions affecting the environmental assessment of the site can vary with time and that the conclusions and recommendations set out in this report are time sensitive.

The Client, and any other party using this report with the express written consent of the Client and Trace, also acknowledge that the conclusions and recommendations set out in this report are based on limited observations and testing on the subject site and that conditions may vary across the site which, in turn, could affect the conclusions and recommendations made.

The Client acknowledges that Trace is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the site, the decisions on which are the sole responsibility of the Client.

3.0 Information Provided to Trace by Others

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

4.0 Limitation of Liability

The Client recognizes that property containing contaminants and hazardous wastes creates a high risk of claims brought by third parties arising from the presence of those materials. In consideration of these risks, and in consideration of Trace providing the services requested, the Client agrees that Trace's liability shall be limited as follows:

(1) With respect to any claims brought against Trace by the Client for damages of any kind whatsoever, including without limitation, incidental, consequential, exemplary or punitive, for any reason whatsoever arising out of the provision or failure to provide services hereunder the amount of such claim and the extent of Trace's liability shall be limited to the amount of fees paid by the Client to Trace under this Agreement.

(2) With respect to claims brought by third parties arising out of the presence of contaminants or hazardous wastes on the subject site, the Client agrees to indemnify, defend, and hold harmless Trace from and against any and all claim or claims, action or actions, demands, damages, penalties, fines, losses, costs and expenses of every nature and kind whatsoever, including solicitor-client costs, arising or alleged to arise either in whole or part out of services provided by Trace.

5.0 Job Site Safety

Trace is only responsible for the activities of its employees on the job site and is not responsible for the safety or supervision of any other persons whatsoever. The presence of Trace personnel on the job site shall not be construed in any way to relieve the Client or any other persons on site from their responsibility for job site safety.

T 1.877.418.7223 (1.877.41TRACE)
www.traceassociates.ca

6.0 Disclosure of Information by Client

The Client agrees to fully cooperate with Trace with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client acknowledges that in order for Trace to properly provide the service, Trace requires and shall rely upon the full disclosure and accuracy of any and all such information.

7.0 Standard of Care

Services performed by Trace for this report have been conducted in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Engineering and scientific judgment have been applied in developing the conclusions and/or recommendations provided in this report. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of this report.

8.0 Emergency Procedures

The Client undertakes to inform Trace of all hazardous conditions, or possible hazardous conditions that are known to it. The Client recognizes that the activities of Trace may uncover previously unknown hazardous materials or conditions and that such discovery may result in the necessity to undertake emergency procedures to protect Trace employees, other persons, and the environment. These procedures may involve additional costs outside of any budgets previously agreed upon. The Client agrees to pay Trace for any expenses incurred as a result of such discoveries and to compensate Trace through payment of additional fees and expenses for time spent by Trace to deal with the consequences of such discoveries.

9.0 Notification of Authorities

The Client acknowledges that 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 Trace in its reasonably exercised discretion.

10.0 Ownership of Instruments of Service

The Client acknowledges that all reports, plans, and data generated by Trace during the performance of the work and other documents prepared by Trace are considered its professional work product and shall remain the copyright property of Trace.

11.0 Alternate Report Format

Where Trace submits both electronic file and hard copy versions of reports, drawings and other documents and deliverables (collectively termed "Trace's instruments of professional service"), the Client agrees that only the signed and sealed hard copy versions shall be considered final and legally binding. The hard copy versions submitted by Trace shall be the original documents for record and working purposes, and, in the event of a dispute or discrepancies, the hard copy versions shall govern over the electronic versions.

The Client agrees that both electronic file and hard copy versions of Trace's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except Trace. The Client warrants that Trace's instruments of professional service will be used only and exactly as submitted by Trace and for the purpose for which such instruments of professional service were intended.

The Client recognizes and agrees that electronic files submitted by Trace have been prepared and submitted using specific software and hardware systems. Trace makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

12.0 Governing Law

The validity, construction and performance of this Agreement shall be governed by the laws in effect in the Province of Alberta.

APPENDIX B

Sample Vegetation and Soil Assessment Field Forms

Post-Construction Reclamation Assessment (Pipelines)

Vegetation

Client: _____ Project No. _____

Date: _____ Assessors: _____ Site #: _____

Legal Location: _____ Land Use: _____

GPS Coordinates (NAD83): E_____ N _____

	Trenchline	Work Area	Travel Portion	Control Area
Cultivated Crop				
Plant Height (cm)				
Plant Health (E/G/F/P)				
Plant Density (0.1 m^2) / Plants Per 1 m Row				
Seed Head Length (cm)				
Native Grassland/Tame Pasture				
Live Cover (%)				
Bare Mineral Soil (%)				
Litter Cover (%)				
Species Composition (%)				

Weed species present:

Comments and Mitigation Required:

Recommendations for future monitoring or follow-up work:

Photo #'s: _____

Post-Construction Reclamation Assessment (Pipelines)

Soils

Client: _____ Project No. _____

Date: _____ Assessors: _____ Site #: _____

Legal Location: _____ Land Use: _____

GPS Coordinates (NAD83): E _____ N _____

	Trenchline	Work Area	Travel Portion	Control Area
Topsoil Depth (cm)				
Topsoil Texture				
Subsoil Texture (if topsoil depth <30 cm)				
Admixing (%) (if topsoil depth <30 cm)				
Evidence of Soil Compaction				
Surface Stoniness (rate S1-S6)				
Recontouring Required (Y/N)				
Erosion (Y/N)				

Comments and Mitigation Required:

Recommendations for future monitoring or follow-up work:

Photo #'s: _____

APPENDIX C

Right-of-Way Photographs

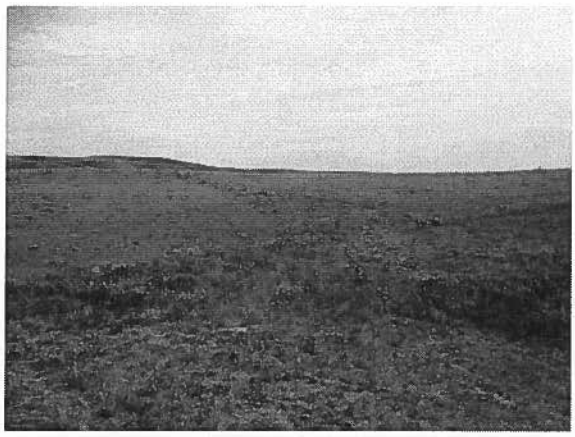

Photo 1: Section 06-001-16 W4M, facing north along pipeline right-of-way (RoW), near assessment location 100 (June 29, 2015).

Photo 2: Section 06-001-16 W4M, facing south along pipeline RoW, near assessment location 101 (June 29, 2015).

Photo 3: Section 06-001-16 W4M, facing south along pipeline RoW at vegetated slopes (June 10, 2015).

Photo 4: Section 07-001-16 W4M, facing north at erosion along pipeline RoW (June 29, 2015).

Photo 5: Section 07-001-16 W4M, facing south along RoW showing vegetative cover (June 29, 2015).

Photo 6: Section 07-001-16 W4M, facing west along RoW at vegetative cover (June 29, 2015).

Photo 7: Section 18-001-16 W4M, facing south along RoW, showing crop stress (July 30, 2015).

Photo 8: Section 18-001-16 W4M, facing east across RoW at watercourse crossing (May 19, 2015).

Photo 9: Section 18-001-16 W4M, facing north along pipeline RoW at erosion (June 29, 2015).

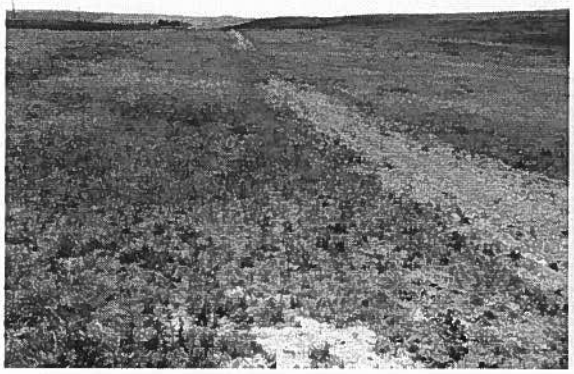

Photo 10: Section 19-001-16 W4M, facing south along RoW (May 19, 2015).

Photo 11: Section 30-001-16 W4M, facing east from RoW showing ephemeral wetland (May 19, 2015).

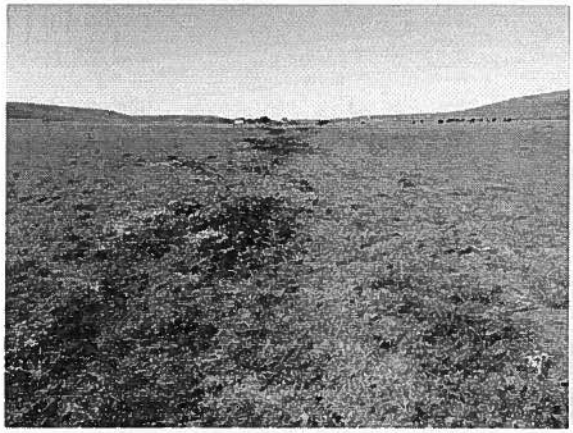

Photo 12: Section 05-002-16 W4M, facing north along RoW showing landowner amendment (May 19, 2015).

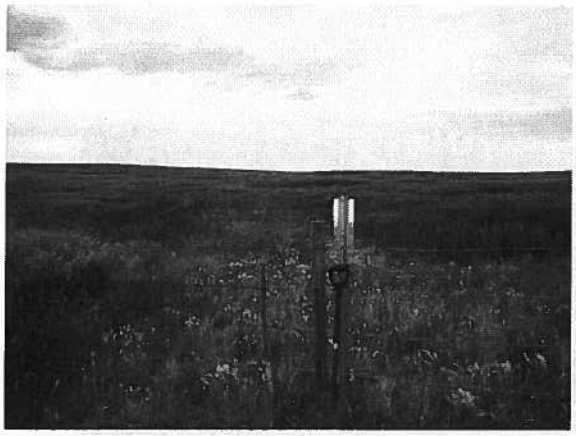

Photo 13: Section 04-002-16 W4M, facing east along RoW from section fenceline (June 29, 2015).

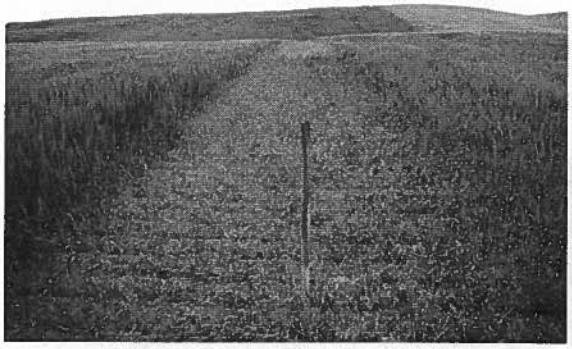

Photo 14: Section 04-002-16 W4M, facing south along RoW showing crop stress (June 29, 2015).

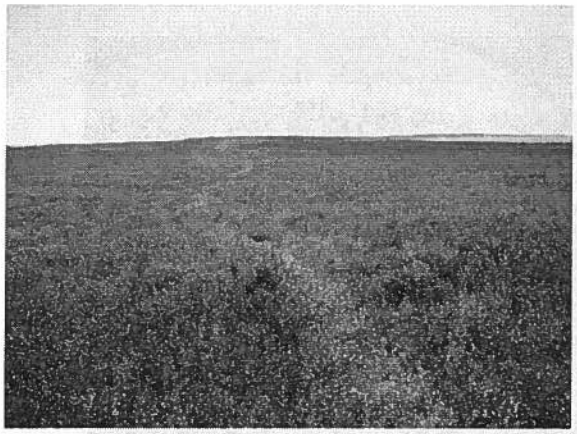

Photo 15: Section 09-002-16 W4M, facing northeast along RoW (July 30, 2015).

Photo 16: Section 09-002-16 W4M, facing northeast along RoW, showing cattle impacts (June 30, 2015).

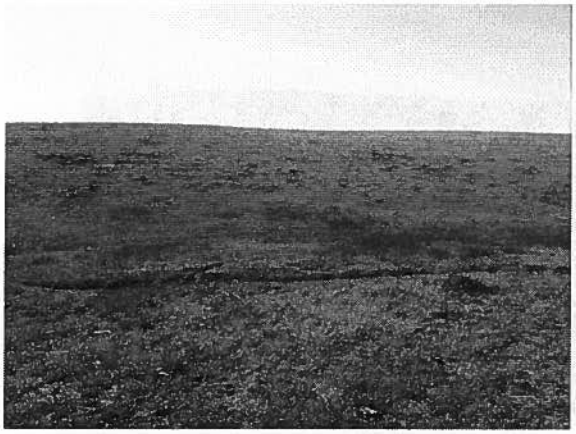

Photo 17: Section 09-002-16 W4M, facing south at RoW, showing ephemeral watercourse near Kilometre (km) Post 3.2 (May 20, 2015).

Photo 18: Section 09-002-16 W4M, facing northeast along RoW (May 20, 2015).

Photo 19: Section 16-002-16 W4M, view of velvety goldenrod on RoW near km Post 1.3 (July 22, 2015).

Photo 20: Section 16-002-16 W4M, facing north along RoW (June 29, 2015).

Photo 21: Section 16-002-16 W4M, facing north along pipeline RoW, showing cattle impacts, from assessment location 335 (July 18, 2013).

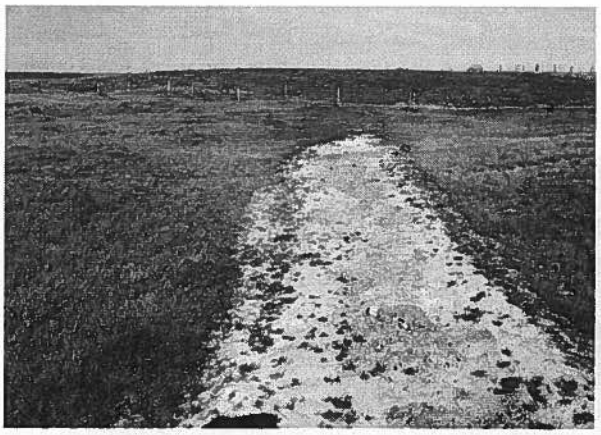

Photo 22: Section 16-002-16 W4M, facing north along pipeline RoW, showing saline area comparison prior to raking (October 21, 2015).

Photo 23: Section 16-002-16 W4M; facing south along RoW, showing hand seeded and raked area (October 21, 2015).

Photo 24: Section 16-002-16 W4M; facing north along RoW, showing hand seeded and raked area (October 21, 2015).

Photo 25: Section 21-002-16 W4M, facing south along cropped RoW (July 30, 2015).

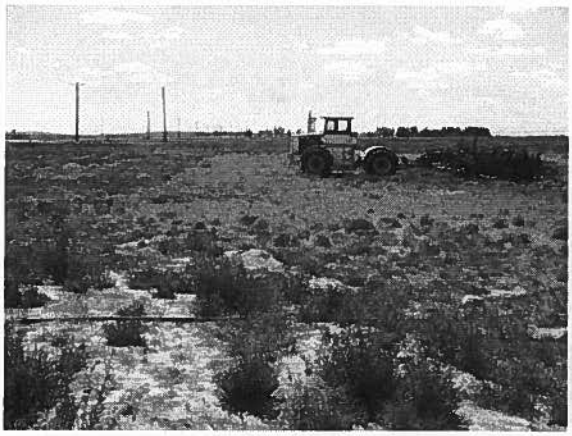

Photo 26: Section 21-002-16 W4M, facing south along RoW (July 30, 2015).

APPENDIX D

Post-Construction Assessment Species Ranking

APPENDIX D - VEGETATION AND WILDLIFE RANKING SYSTEM DEFINITIONS

2015 Post-Construction Reclamation Assessment Report - Plains Midstream Canada
2015 Milk River PCRA/Reclamation Project, Township 001 Range 16 W4M, Township 002 Range 16 W4M, near Milk River, Alberta
Trace Project No. 500-270-04

Rank / Code	Definition
NatureServe Ranking System (Global and Sub-regional Rankings)[1]	
1 =	Critically imperiled
2 =	Imperiled
3 =	Vulnerable
4 =	Apparently Secure
5 =	Secure
U =	Possibly in peril, but status uncertain; more information needed
H =	Historically known; may be rediscovered
X =	Believed to be extinct; historical records only, continue search
S =	Species
SNR =	A species not ranked; a rank has not yet assigned or the species has not been evaluated
SNA =	A conservation status rank is not applicable to the element
G#G# / S#S# =	Numeric range rank: a range between two of the numeric ranks; denotes range of uncertainty about the exact rarity of the species
T =	Rank for subspecific taxon (subspecies, variety, or population); appended to the global rank for the full species
B =	Breeding status of a migratory species
N =	Non-breeding status of a migratory species
Q =	Taxonomic questions or problems involved, more information needed; appended to the global rank
# =	A modifier to SX or SH; the species has been reintroduced but the population is not yet established
? =	Inexact or uncertain; for numeric ranks, denotes inexactness
Wild Species Ranking System (Federal and Provincial Rankings)[2]	
0.2 =	Extinct
0.1 =	Extirpated
1 =	At Risk
2 =	May Be At Risk
3 =	Sensitive
4 =	Secure
5 =	Undetermined
6 =	Not Assessed
7 =	Exotic
8 =	Accidental

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