



Resource Report 7

Soils

Permian Basin Expansion Project

FERC Docket No. CP26-____-000

May 2026

RESOURCE REPORT 7 - SOILS	
MINIMUM FILING REQUIREMENTS	
INFORMATION	DATA SOURCE
1. Identify, describe, and group by milepost the soils affected by the proposed pipeline and aboveground facilities – 18 CFR § 380.12(I)(1)	Table 7.2-1; Appendix 7A; Appendix 7B
2. For aboveground facilities that would occupy sites over 5 acres, determine the acreage of prime farmland soils that would be affected by construction and operation – 18 CFR § 380.12(I)(2)	Table 7.2-1
3. Describe by milepost potential impacts on soils – 18 CFR § 380.12(I)(3,4)	Section 7.3
4. Identify proposed mitigation to minimize impact on soils and compare with the staff's Upland Erosion Control, Revegetation, and Maintenance Plan – 18 CFR § 380.12(I)(5)	Section 7.3
ADDITIONAL INFORMATION OFTEN MISSING AND RESULTING IN DATA REQUESTS	
If the applicant generally proposes to adopt the Federal Energy Regulatory Commission staff's <i>Upland Erosion Control, Revegetation, and Maintenance Plan</i> except at certain locations, identify, on a site-specific basis, locations where alternative measures are proposed, and describe the alternative measures that will ensure an equal or greater level of protection.	Not applicable
Identify invasive species and/or noxious weeds that occur in the area and measures to prevent the introduction and/or spread of these species (if not addressed in Resource Report 3).	Resource Report 3, Section 3.2, and Appendix 3A
Provide documentation of consultation with the U.S. Department of Agriculture's Natural Resources Conservation Service or other applicable agencies regarding seed mixes, erosion control, and invasive species/noxious weeds.	Resource Report 1, Appendix 1C

Contents

7.0 SOILS..... 7-1

7.1 EXISTING SOIL RESOURCES 7-1

7.2 EXISTING SOIL LIMITATIONS 7-1

 7.2.1 Prime Farmland..... 7-3

 7.2.2 Water and Wind Erosion Hazard 7-3

 7.2.3 Drainage Classifications and Hydric Soils 7-3

 7.2.4 Compaction and Rutting Potential 7-3

 7.2.5 Corrosion Potential 7-4

 7.2.6 Shallow Bedrock..... 7-4

 7.2.7 Revegetation Concerns 7-4

7.3 GENERAL CONSTRUCTION/OPERATION IMPACT MITIGATION 7-4

7.4 REFERENCES 7-7

List of Tables

Table 7.2-1 Soil Limitations Within the Project Area..... 7-2

List of Appendices

- Appendix 7A Soil Map Units Within the Project Area
- Appendix 7B Soil Map Units Crossed by the Pipeline Routes

Abbreviations and Acronyms

BMP	best management practice
CFR	Code of Federal Regulations
CP	cathodic protection
FERC	Federal Energy Regulatory Commission
Northern	Northern Natural Gas Company
NRCS	Natural Resources Conservation Service
Plan	FERC Upland Erosion Control, Revegetation, and Maintenance Plan
Project	Permian Basin Expansion Project
ROW	right of way
SSURGO	Soil Survey Geographic Database
USDA	U.S. Department of Agriculture

7.0 SOILS

Northern Natural Gas Company (Northern) owns and operates a natural gas transmission pipeline system and associated aboveground facilities in New Mexico and Texas. Northern is seeking a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act, as amended, for its Permian Basin Expansion Project (Project).

The Project includes constructing approximately 15.1 miles of 24-inch-diameter and 1.1 miles of new 16-inch-diameter pipelines, a new International Organization for Standardization-rated 7,700 horsepower compressor station, one interconnect with Transwestern Pipeline Company, LLC within the existing Phillips 66 Linam Ranch Plant, one bi-directional receiver within Northern's existing launcher facility, replacing a recycle valve at Northern's Plains compressor station, and one new delivery point for the customer at the Gaines County Generating Station.

In accordance with the FERC regulations at 18 Code of Federal Regulations (CFR) 380.12(i), *Resource Report 7 – Soils* describes the soils that would be affected by the proposed project, the effect on those soils, and measures proposed to minimize or avoid impact.

7.1 EXISTING SOIL RESOURCES

Mapped soil series within the Project area were identified from the Soil Survey Geographic Database (SSURGO) (Soil Survey Staff, 2025). The Project is predominately within Kimbrough soils, with about 55 percent of soils crossed by the Project. The Kimbrough soil series is classified as very shallow to shallow, well drained, calcareous, gravelly soils formed in moderately fine textured eolian (wind deposited) sediments (National Cooperative Soil Survey, 2016). Appendix 7A summarizes the percentage of each soil map unit potentially affected by the Project construction workspaces. Appendix 7B provides the soil map units crossed by milepost.

7.2 EXISTING SOIL LIMITATIONS

The following subsections discuss the existing soil classifications, which include prime farmland, farmland of statewide importance, and hydric soils, as well as potential construction-related limitations including compaction and rutting, corrosion, and revegetation concerns. Soils within the Project construction footprint may have more than one limitation associated with each map unit. Soil limitations and their acreage within the Project area are listed in Table 7.2-1 below.

Table 7.2-1 Soil Limitations Within the Project Area																			
Project Components	Total Acres	Prime Farmland ¹		Farmland of Statewide Importance		Water Erodible ²		Wind Erodible ³		Hydric ⁴		Highly Compaction Prone ⁵		Highly Corrosive to Steel ⁶		Shallow to Bedrock ⁷		Revegetation Concerns ⁸	
		Cons	Oper	Cons	Oper	Cons	Oper	Cons	Oper	Cons	Oper	Cons	Oper	Cons	Oper	Cons	Oper	Cons	Oper
Pipeline Facilities (Segments 1 and 2)																			
Temporary Workspace (Pipeline ROW)	194.2	1.7	0.8	73.9	37.1	-	-	42.4	21.2	3.3	1.6	0.2	0.1	3.1	1.5	-	-	187.9	93.9
Extra Temporary Workspace	35.5	0.7	-	11.0	-	-	-	6.3	-	2.5	-	0.2	-	2.4	-	-	-	34.3	-
Access Roads	38.3	0.6	-	5.4	-	-	-	4.3	-	1.2	-	-	-	1.2	-	-	-	38.3	-
Staging Areas	52.0	-	-	8.2	-	-	-	5.8	-	-	-	-	-	-	-	-	-	52.0	-
Subtotal⁹	320.0	3.0	0.8	98.5	37.1	-	-	58.8	21.2	7.1	1.6	0.3	0.1	6.7	1.5	-	-	312.5	93.9
Aboveground Facilities																			
Hobbs Compressor Station	11.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.8	5.2
Transwestern – Lea County Interconnect	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	0.4
Hobbs-Plains Bi-directional Receiver ¹⁰	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2
Plains Recycle Valve	8.3	-	-	<0.1	-	-	-	8.2	0.6	-	-	-	-	-	-	-	-	8.2	0.6
Gaines County Generating Station	6.9	-	-	-	-	-	-	6.9	0.9	-	-	-	-	-	-	-	-	6.9	0.9
Access Roads	6.8	-	-	0.9	0.9	-	-	-	-	-	-	-	-	-	-	-	-	6.8	4.9
Subtotal⁹	35.7	-	-	0.9	0.9	-	-	15.2	1.4	-	-	-	-	-	-	-	-	35.6	13.0
PROJECT TOTAL⁹	355.7	3.0	0.8	99.4	38.0	-	-	74.0	22.6	7.1	1.6	0.3	0.1	6.7	1.5	-	-	348.1	106.9
¹	Includes all areas rated as “Prime Farmland,” “Prime Farmland if drained,” and “Prime Farmland if protected from flooding.” Prime farmland is based on NRCS soil classifications and may not match actual agricultural land use.																		
²	Includes soils with slopes greater than 15 percent or soils with slopes greater than 5 percent and K factors of greater than 0.35.																		
³	Includes soils that have Wind Erodible Group rating of 1 or 2.																		
⁴	Includes soils that have a hydric rating of hydric by SSURGO.																		
⁵	Includes soils with a surface texture of sandy clay loam or finer and a somewhat poorly, poorly, or very poorly drainage class.																		
⁶	Includes soils with a high risk of corrosion for uncoated steel classification rating.																		
⁷	Includes soils with a restrictive layer of densic material or lithic bedrock within 60 inches of the soil surface.																		
⁸	Includes soils with slopes greater than 8 percent or a non-irrigated land capability class of 4 or greater.																		
⁹	Addends may not sum due to rounding.																		
¹⁰	Construction workspace associated with the Hobbs - Plains bi-directional receiver is accounted for in the pipeline facility construction acreage.																		

7.2.1 Prime Farmland

Prime farmland is a special classification of highly productive cropland that is recognized and described by the Natural Resource Conservation Service (NRCS) and receives special protection under the federal Surface Mining Control and Reclamation Act of 1977. Prime farmland soils are defined by the U.S. Department of Agriculture (USDA) as those best suited for growing food, feed, forage, fiber, and oilseed crops (USDA NRCS, 2024). Farmland of statewide importance generally include areas where soils nearly meet the requirements for prime farmland and economically produce high yields of crops when treated and managed according to acceptable farming methods.

Construction of the Project will impact 3.0 acres (less than 1 percent of the Project area) of prime farmland. The Project area also contains approximately 99.4 acres (28 percent of the Project area) of farmland of statewide importance. Approximately 0.8 acre of prime farmland will be retained for operation of the Project, all of which will be associated with operation of the pipeline right of way (ROW). Approximately 38.0 acres of farmland of statewide importance will be retained for operation of the Project, 37.1 acres of which will be associated with operation of the Pipeline ROWs. The prime farmland and farmland of statewide importance retained for operation of the Pipeline ROW will be allowed to revegetate and will not be removed from future production.

7.2.2 Water and Wind Erosion Hazard

Water and wind erodible soils were identified by analyzing the SSURGO database. Soils that have slopes greater than 15 percent or soils with slopes greater than 5 percent and K factor greater than 0.35 are classified as highly water erodible. Soils with a Wind Erodibility Group rating of 1 or 2 are classified as highly wind erodible. Based on the analysis, none of the Project area was identified as highly water erodible and 74.0 acres (21 percent) of the Project area were identified as highly wind erodible.

7.2.3 Drainage Classifications and Hydric Soils

Drainage class refers to the rate at which water percolates through the soil. Soils classified as somewhat excessively drained and excessively drained may be difficult to revegetate due to low organic content and low moisture retention. Soils classified as moderately well-drained and well-drained remove water readily but not rapidly. Very poorly, poorly, and somewhat poorly drained soils remain saturated for a portion of the growing season. These drainage classes are considered hydric, predominately hydric, or partially hydric soils and often support wetlands requiring special consideration, such as construction mitigation. Hydric soils are defined as soils that are saturated, flooded or ponded long enough during the growing seasons to develop anaerobic conditions in the upper part of the soil column. Based on the analysis, 7.1 acres (2 percent) of the Project area is classified as containing mapped hydric soils.

7.2.4 Compaction and Rutting Potential

Soil compaction modifies the structure and reduces the porosity and moisture-holding capacity of soils. Construction equipment traveling over wet soils could disrupt the soil structure, reduce pore space, increase runoff potential, and cause rutting. The degree of compaction depends on moisture

content and soil texture. Fine-textured soils with poor internal drainage that are moist or saturated during construction are the most susceptible to compaction and rutting.

Soils classified as having somewhat poorly drained, poorly drained, or very poorly drained classes and surface textures of clay loam and finer are considered to have a high potential for compaction. Based on the analysis, approximately 0.3 acre (less than 1 percent) of the Project area have soils that are highly compaction prone.

7.2.5 Corrosion Potential

Corrosion potential is based on the corrosion of steel rating class. The risk of corrosion for uncoated steel is expressed as low, moderate, or high and is based on soil drainage class, total acidity, electrical resistivity, near field capacity, and electrical conductivity of the saturation extract. Based on the analysis, approximately 6.7 acres (2 percent) of the Project area have soils that are highly corrosive to steel.

7.2.6 Shallow Bedrock

Shallow soils are determined where lithic contact occurs within 78 inches or less of the soil surface. Based on the analysis, none of the Project components have soils that are shallow to bedrock.

7.2.7 Revegetation Concerns

The revegetation potential of soils is based on several characteristics, including topsoil thickness, soil texture, available water capacity, susceptibility to flooding, and slope. Other considerations include whether or not the soils are natural, human transported, or disturbed. Some soils have characteristics that cause a high seed mortality. These areas may need additional management and may be difficult to revegetate. Soils with a non-irrigated land capability classification of 3 or greater are characterized as having poor revegetation potential. Based on the analysis, approximately 348.1 acres (98 percent) of the Project area have soil that may be difficult to revegetate due to moderate or high seedling mortality.

7.3 GENERAL CONSTRUCTION/OPERATION IMPACT MITIGATION

Mitigation measures to protect soil resources will be implemented during and after construction. In general, Northern will implement the measures in the FERC Upland Erosion Control and Revegetation Plan (Plan) to avoid, minimize, or mitigate potential effects of Project construction and operation on soils. The Plan identifies and specifies best management practices (BMP) that will be used to protect soil productivity and water quality by controlling soil erosion and the loss of topsoil and surface organic matter.

To conserve topsoil, Northern will conduct full ROW and/or disturbance area topsoil removal in all actively cultivated and rotated cropland and improved pasture. A maximum of 12 inches or the actual depth of the existing topsoil horizon, whichever is less, will be segregated. The topsoil and subsoil will be stored in separate windrows on the construction ROW and will not be allowed to mix. Where the existing topsoil is less than 12 inches, the actual depth of the topsoil will be removed and segregated. Implementation of proper topsoil segregation will facilitate post-

construction revegetation success, thereby minimizing the potential for long-term erosion due to lack of vegetation.

Topsoil and subsoil will be tested for compaction following construction in all agricultural areas. Northern will decompact subsoil in accordance with the soil compaction mitigation procedures described in the Plan. These include using appropriate deep-tillage equipment such as a paraplow or chisel plow. Compaction testing will be conducted on the subsoil to verify compaction is relieved to a level equal to or better than adjacent undisturbed areas. Once decompaction of the subsoil is complete, the segregated topsoil will be returned to the ROW. Decompaction will be completed on the restored topsoil using shallow-ripping tools. Per the Plan, Northern will remove excess rock from the top 12 inches of soil in all cultivated cropland, pastures, and hayfields. The final surface will be examined to verify that native rock visible on the surface is similar in size, density, and distribution to that in undisturbed areas adjacent to the ROW.

To minimize potential for soil erosion from water and wind, Northern will install temporary erosion control devices in accordance with the Plan and applicable state and local permitting. Northern will implement the following BMPs to minimize the potential for soil erosion from wind and water:

- minimizing the quantity and duration of soil exposure;
- minimizing the amount of open trench at any one time;
- installing mulch, temporary seeding, or other protection measures on topsoil and subsoil piles to prevent water erosion;
- installing silt fence around topsoil and subsoil stockpiles pursuant to applicable permit requirements;
- implementing dust mitigation practices;
- reducing the velocity of runoff water and redirecting runoff, as appropriate;
- installing and maintaining erosion and sediment control measures during construction;
- establishing vegetation following final grading; and
- inspecting the row and maintaining erosion and sediment control as needed until successful revegetation has been achieved.

Temporary erosion control measures, including interceptor diversions (e.g., slope breakers) and sediment filter devices (e.g., straw bales, silt fence, sediment basins), will be installed immediately following initial ground disturbance. As required, temporary trench breakers will be installed immediately following ditch excavation to reduce runoff velocities in the trench during construction. Mulch or other wildlife-suitable erosion control matting may be used on steep slopes to prevent erosion during construction. The temporary erosion control devices will be inspected

every 7 days and after each rainfall event of a 0.5-inch or greater, to monitor that controls are functioning properly.

The effectiveness of temporary erosion control devices will be inspected and monitored daily by Northern's environmental inspectors. Any deficiencies will be noted in the inspector's daily reports to Northern. As described in Northern's stormwater permit, the construction contractor is required to make repairs within 24 hours to maintain effective controls.

Northern will stabilize access roads using gravel or equipment mats to minimize rutting. If topsoil rutting to a depth of greater than half the depth of topsoil or 6 inches, whichever is less, occurs during construction, Northern will immediately limit construction activities in that area or implement protective measures (e.g., install equipment mats) to prevent additional rutting. If rutting occurs along access roads, Northern will require its construction contractor(s) to provide maintenance equipment to repair the ruts to preconstruction conditions or better as soon as ground conditions permit. With implementation of these mitigation measures, the Project will not have an impact on soils due to construction activities under wet conditions. Northern will decompact soils within the Project workspaces, as necessary, upon conclusion of construction so that vegetation can be re-established.

Northern will use a fusion-bond epoxy coating on its pipeline to mitigate corrosion potential and corrosion will be further controlled through the use of a pipeline cathodic protection (CP) impressed current system. The CP system will be maintained through bimonthly rectifier inspection readings and annual cathodic potential readings to determine if proper CP levels are maintained. Northern will complete modifications or additions, as needed, to the current CP system to include the pipeline and aboveground facilities.

Agricultural areas will be restored to agricultural production (where not permanently impacted) after construction is complete. The Plan includes restoration and revegetation measures that include seedbed preparation, fertilization, and seeding to actively promote revegetation in non-agricultural areas. Northern will monitor revegetation after the first and second growing seasons. In agricultural areas, revegetation will be considered successful if crop yields are similar to adjacent undisturbed portions of the same field.

Following construction, the construction workspace that is not permanently developed or returned to agricultural production will be seeded, mulched, and permanent erosion controls will be installed as needed. Non-cultivated land will be reseeded in accordance with individual landowner requirements, land management agency requirements, or NRCS recommendations. Additionally, Northern will require agronomic nutrient soil testing of all areas to be seeded and require the contractor to follow the nutrient application rates. Erosion control devices will be maintained until the construction area is successfully revegetated or stabilized. Following successful revegetation or stabilization of construction areas, erosion control devices will be removed.

7.4 REFERENCES

- Soil Survey Staff. 2025. NRCS-USDA. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed January 2026.
- National Cooperative Soil Survey. 2016. Kimbrough Series. Available online at https://soilseries.sc.egov.usda.gov/OSD_Docs/K/KIMBROUGH.html. Accessed March 2026.
- USDA NRCS. 2024. National Soil Survey Handbook. Available online at <https://www.nrcs.usda.gov/resources/guides-and-instructions/national-soil-survey-handbook>. Accessed January 2026.

APPENDIX 7A

Soil Map Units Within the Project Area

Appendix 7A Soil Maps Units Within the Project Area

Map Unit Symbol	Map Unit Name	Total Acres	Percent of Project Area	Prime Farmland ¹	Farmland of Statewide Importance	Water Erodible ²	Wind Erodible ³	Hydric ⁴	Highly Compaction Prone ⁵	Highly Corrosive ⁶	Shallow Bedrock ⁷	Revegetation Concerns ⁸
Ad	Amarillo loamy fine sand, 0 to 3 percent slopes	5.4	1.5	No	Yes	No	Yes	No	No	No	No	Yes
Af	Amarillo fine sandy loam, 0 to 1 percent slopes	1.4	0.4	No	Yes	No	No	No	No	No	No	No
Ag	Amarillo fine sandy loam, 1 to 3 percent slopes	9.4	2.6	No	Yes	No	No	No	No	No	No	No
Ah	Acuff loam, 0 to 1 percent slopes	0.4	0.1	Yes	No	No	No	No	No	No	No	No
AvA	Arvana fine sandy loam, 0 to 1 percent slopes	0.0	0	No	Yes	No	No	No	No	No	No	No
AW	Arvana-Lea association	1.6	0.4	No	Yes	No	No	No	No	No	No	Yes
Bp	Brownfield and Patricia fine sands, 0 to 3 percent slopes	35.4	9.8	No	Yes	No	Yes	No	No	No	No	Yes
Bs	Patricia fine sand, 0 to 3 percent slopes	24.9	6.9	No	No	No	Yes	No	No	No	No	Yes
Kb	Kimbrough loam, 0 to 1 percent slopes	1.6	0.5	No	No	No	No	No	No	No	No	Yes
Kc	Kimbrough loam, 1 to 3 percent slopes	2.7	0.8	No	No	No	No	No	No	No	No	Yes
KN	Kimbrough loam, 0 to 3 percent slopes	6.1	1.7	No	No	No	No	No	No	No	No	Yes
KO	Kimbrough gravelly loam, dry, 0 to 3 percent slopes	51.3	14	No	No	No	No	No	No	No	No	Yes
KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	133.7	37	No	No	No	No	No	No	No	No	Yes
Le	Lea loam	2.6	0.7	Yes	No	No	No	No	No	No	No	Yes
MU	Mixed alluvial land, frequently flooded	6.7	1.9	No	No	No	No	Yes	No	Yes	No	Yes
PAB	Patricia and Amarillo loamy fine sands, 0 to 3 percent slopes	8.2	2.3	No	No	No	Yes	No	No	No	No	Yes
Pb	Playas, saline, 0 to 1 percent slopes, frequently ponded	0.3	0.1	No	No	No	No	Yes	Yes	No	No	Yes
PC	Portales loam, 0 to 3 percent slopes	31.9	8.9	No	Yes	No	No	No	No	No	No	Yes

Appendix 7A Soil Maps Units Within the Project Area

Map Unit Symbol	Map Unit Name	Total Acres	Percent of Project Area	Prime Farmland ¹	Farmland of Statewide Importance	Water Erodeable ²	Wind Erodeable ³	Hydric ⁴	Highly Compaction Prone ⁵	Highly Corrosive ⁶	Shallow Bedrock ⁷	Revegetation Concerns ⁸
PG	Lovington-Delphos fine sandy loams, 0 to 3 percent slopes	1.4	0.4	No	Yes	No	No	No	No	No	No	No
PS	Portales-Stegall loams	12.9	3.6	No	Yes	No	No	No	No	No	No	Yes
SE	Simona fine sandy loam, 0 to 3 percent slopes	0.0	0	No	No	No	No	No	No	No	No	Yes
Sh	Sharvana fine sandy loam, 0 to 3 percent slopes	0.3	0.1	No	No	No	No	No	No	No	No	Yes
Sn	Simona fine sandy loam, moist, 1 to 3 percent slopes	20.2	5.6	No	No	No	No	No	No	No	No	Yes
SR	Simona-Upton association	2.8	0.8	No	No	No	No	No	No	No	No	Yes

¹ Includes all areas rated as “Prime Farmland,” “Prime Farmland if drained,” and “Prime Farmland if protected from flooding.”

² Includes soils with slopes greater than 15 percent or soils with slopes greater than 5 percent and K factors of greater than 0.35.

³ Includes soils that have Wind Erodeable Group rating of 1 or 2.

⁴ Includes soils that have a hydric rating of hydric by SSURGO.

⁵ Includes soils with a surface texture of sandy clay loam or finer and a somewhat poorly, poorly, or very poorly drainage class.

⁶ Includes soils with a high risk of corrosion for uncoated steel classification rating.

⁷ Includes soils with a restrictive layer of densic material or lithic bedrock within 60 inches of the soil surface.

⁸ Includes soils with slopes greater than 8 percent or a non-irrigated land capability class of 4 or greater.

APPENDIX 7B

Soil Map Units Crossed by the Pipeline Routes

Appendix 7B Soil Map Units Crossed by the Pipeline Routes

Milepost In	Milepost Out	Map Unit Symbol	Map Unit Name	Prime Farmland ¹	Farmland of Statewide Importance	Water Erodible ²	Wind Erodible ³	Hydric ⁴	Highly Compaction Prone ⁵	Highly Corrosive ⁶	Shallow Bedrock ⁷	Revegetation Concerns ⁸
Segment 1												
0.00	0.46	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
0.46	0.77	PS	Portales-Stegall loams	No	Yes	No	No	No	No	No	No	Yes
0.77	0.82	MU	Mixed alluvial land, frequently flooded	No	No	No	No	Yes	No	Yes	No	Yes
0.82	0.92	PG	Lovington-Delphos fine sandy loams, 0 to 3 percent slopes	No	Yes	No	No	No	No	No	No	No
0.92	1.36	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
1.36	2.05	KO	Kimbrough gravelly loam, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
2.05	2.13	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
2.13	2.28	KO	Kimbrough gravelly loam, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
2.28	2.53	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
2.53	2.87	KO	Kimbrough gravelly loam, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
2.87	3.08	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
3.08	3.23	KO	Kimbrough gravelly loam, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
3.23	3.86	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
3.86	4.10	KO	Kimbrough gravelly loam, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
4.10	4.85	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
4.85	5.24	KO	Kimbrough gravelly loam, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
5.24	5.85	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
5.85	5.97	AW	Arvana-Lea association	No	Yes	No	No	No	No	No	No	Yes
5.97	6.43	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
6.43	7.25	PC	Portales loam, 0 to 3 percent slopes	No	Yes	No	No	No	No	No	No	Yes

Appendix 7B Soil Map Units Crossed by the Pipeline Routes

Milepost In	Milepost Out	Map Unit Symbol	Map Unit Name	Prime Farmland ¹	Farmland of Statewide Importance	Water Erodible ²	Wind Erodible ³	Hydric ⁴	Highly Compaction Prone ⁵	Highly Corrosive ⁶	Shallow Bedrock ⁷	Revegetation Concerns ⁸
7.25	8.11	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
8.11	8.40	KN	Kimbrough loam, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
8.40	8.78	PC	Portales loam, 0 to 3 percent slopes	No	Yes	No	No	No	No	No	No	Yes
8.78	8.86	KN	Kimbrough loam, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
8.86	9.05	SR	Simona-Upton association	No	No	No	No	No	No	No	No	Yes
9.05	9.55	PS	Portales-Stegall loams	No	Yes	No	No	No	No	No	No	Yes
9.55	9.62	KN	Kimbrough loam, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
9.62	9.66	Kb	Kimbrough loam, 0 to 1 percent slopes	No	No	No	No	No	No	No	No	Yes
9.66	9.86	Sn	Simona fine sandy loam, moist, 1 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
9.86	10.06	Kc	Kimbrough loam, 1 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
10.06	10.12	Sn	Simona fine sandy loam, moist, 1 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
10.12	10.15	Le	Lea loam	Yes	No	No	No	No	No	No	No	Yes
10.15	10.17	Pb	Playas, saline, 0 to 1 percent slopes, frequently ponded	No	No	No	No	Yes	Yes	No	No	Yes
10.17	10.76	Sn	Simona fine sandy loam, moist, 1 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
10.76	10.86	Le	Lea loam	Yes	No	No	No	No	No	No	No	Yes
10.86	10.96	Sn	Simona fine sandy loam, moist, 1 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
10.96	11.51	Ag	Amarillo fine sandy loam, 1 to 3 percent slopes	No	Yes	No	No	No	No	No	No	No
11.51	11.53	Af	Amarillo fine sandy loam, 0 to 1 percent slopes	No	Yes	No	No	No	No	No	No	No
11.53	11.60	Ag	Amarillo fine sandy loam, 1 to 3 percent slopes	No	Yes	No	No	No	No	No	No	No
11.60	11.87	Ad	Amarillo loamy fine sand, 0 to 3 percent slopes	No	Yes	No	Yes	No	No	No	No	Yes
11.87	14.46	Bp	Brownfield and Patricia fine sands, 0 to 3 percent slopes	No	Yes	No	Yes	No	No	No	No	Yes

Appendix 7B Soil Map Units Crossed by the Pipeline Routes

Milepost In	Milepost Out	Map Unit Symbol	Map Unit Name	Prime Farmland ¹	Farmland of Statewide Importance	Water Erodible ²	Wind Erodible ³	Hydric ⁴	Highly Compaction Prone ⁵	Highly Corrosive ⁶	Shallow Bedrock ⁷	Revegetation Concerns ⁸
14.46	14.46	Bp	Brownfield and Patricia fine sands, 0 to 3 percent slopes	No	Yes	No	Yes	No	No	No	No	Yes
14.46	15.09	Bs	Patricia fine sand, 0 to 3 percent slopes	No	No	No	Yes	No	No	No	No	Yes
Segment 2												
0.00	0.18	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
0.18	0.35	PS	Portales-Stegall loams	No	Yes	No	No	No	No	No	No	Yes
0.35	0.46	PC	Portales loam, 0 to 3 percent slopes	No	Yes	No	No	No	No	No	No	Yes
0.46	0.49	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
0.49	0.64	PC	Portales loam, 0 to 3 percent slopes	No	Yes	No	No	No	No	No	No	Yes
0.64	1.07	KU	Kimbrough-Lea complex, dry, 0 to 3 percent slopes	No	No	No	No	No	No	No	No	Yes
¹	Includes all areas rated as “Prime Farmland,” “Prime Farmland if drained,” and “Prime Farmland if protected from flooding.”											
²	Includes soils with slopes greater than 15 percent or soils with slopes greater than 5 percent and K factors of greater than 0.35.											
³	Includes soils that have Wind Erodible Group rating of 1 or 2.											
⁴	Includes soils that have a hydric rating of hydric by SSURGO.											
⁵	Includes soils with a surface texture of sandy clay loam or finer and a somewhat poorly, poorly, or very poorly drainage class.											
⁶	Includes soils with a high risk of corrosion for uncoated steel classification rating.											
⁷	Includes soils with a restrictive layer of densic material or lithic bedrock within 60 inches of the soil surface.											
⁸	Includes soils with slopes greater than 8 percent or a non-irrigated land capability class of 4 or greater.											