



Harambe 2920

304.c.(14): Topsoil Protection Plan

A topsoil protection plan consistent with the requirements of Rule 1002.c.

1002c. Protection of soils. All stockpiled soils shall be protected from degradation due to contamination, compaction and, to the extent practicable, from wind and water erosion during drilling and production operations. Best management practices to prevent weed establishment and to maintain soil microbial activity shall be implemented.

Prior to construction a soil probes will be used to determine the depth of topsoil horizons, which is estimated to be approximately 6 inches. This will inform the plan for topsoil removal and segregation. Topsoil horizons will be identified and separated and stored separately from one another with locations documented on site stormwater and reclamation maps to facilitate subsequent reclamation.

The pad will have suitable erosion controls in place prior to construction and a diversion ditch may be placed along the perimeter to prevent runoff and run on.

Approximately 6565 cubic yards of topsoil will be stored on the north side of the location, no higher than 10 feet, with slopes no greater than 3:1. Below is a scaled diagram that depicts the location of the topsoil pile. There will be no test pits on this location. Also shown below is an aerial photograph depicting the extent of the disturbed area, the access road is already constructed and in use for surrounding operations.

The topsoil pile will be seeded. Temporary controls may be used in conjunction with permanent controls around topsoil piles where erosion hazards are high. Control measures will be used as designed for the specific areas to prevent any migration of soils off site.

Before road construction begins, the topsoil will be stripped from the access road corridor to either side of the road and wind-rowed temporarily. The topsoil will then be evenly distributed on the "out slope" areas of the borrow ditches and reseeded.

Soil stabilization and erosion control issues will be addressed immediately upon surface disturbance and will continue throughout the life of the well.

At the time of interim reclamation, the portions of the pad not needed for production equipment, topsoil will be redistributed on to the location will be re-contoured and reclaimed.

Annual or noxious weeds shall be controlled on all disturbed areas. A weed monitoring and control program will be implemented beginning the first growing season after the location is built and interim and final reclamation. All reclamation equipment will be cleaned prior to use to



reduce the potential for introduction of noxious weeds or other undesirable non-native species. The operator will coordinate all weed control measures with the surface owner.

BMPs for Topsoil Protection:

- During initial pad construction, the topsoil will be stripped from the disturbance area and stored onsite for future use during pad pull-back and interim reclamation. All stockpiled topsoil will be protected from degradation due to contamination, compaction, and, to the extent practicable, from wind and water erosion. This will be achieved initially by applying cat-tracking/soil roughening to the topsoil pile and employing additional BMPs if and when needed (e.g., the addition of organic matter).
- Verdad maintains a weed mitigation maintenance program to prevent the establishment of weeds on the topsoil pile and location.
- The site will be inspected bi-weekly for BMP integrity and current installation. Any deficiencies noted will be addressed in a timely manner.
- Verdad will grade the topsoil stockpile no steeper than 3:1 to ensure that all surfaces can be stabilized safely and effectively.
- Verdad will stabilize and maintain areas needed for production operations or for subsequent drilling operations to minimize dust and erosion to the extent possible.
- Verdad will implement a Spill Prevention, Control, and Countermeasure plan to protect soil from potential spills.



TOPSOIL PROBE LOCATIONS	LAT	LONG
TOPSOIL PROBE #1	40.009694	-104.574665
TOPSOIL PROBE #2	40.009759	-104.573448

TOTAL GRADING AREA:	8.14 ACRES
TOPSOIL SALVAGED (6"):	6,565 CY
TOTAL DISTURBANCE AREA:	10.00 ACRES

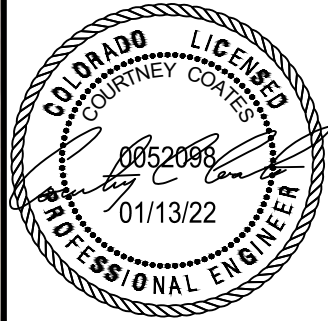


TOPOGRAPHIC

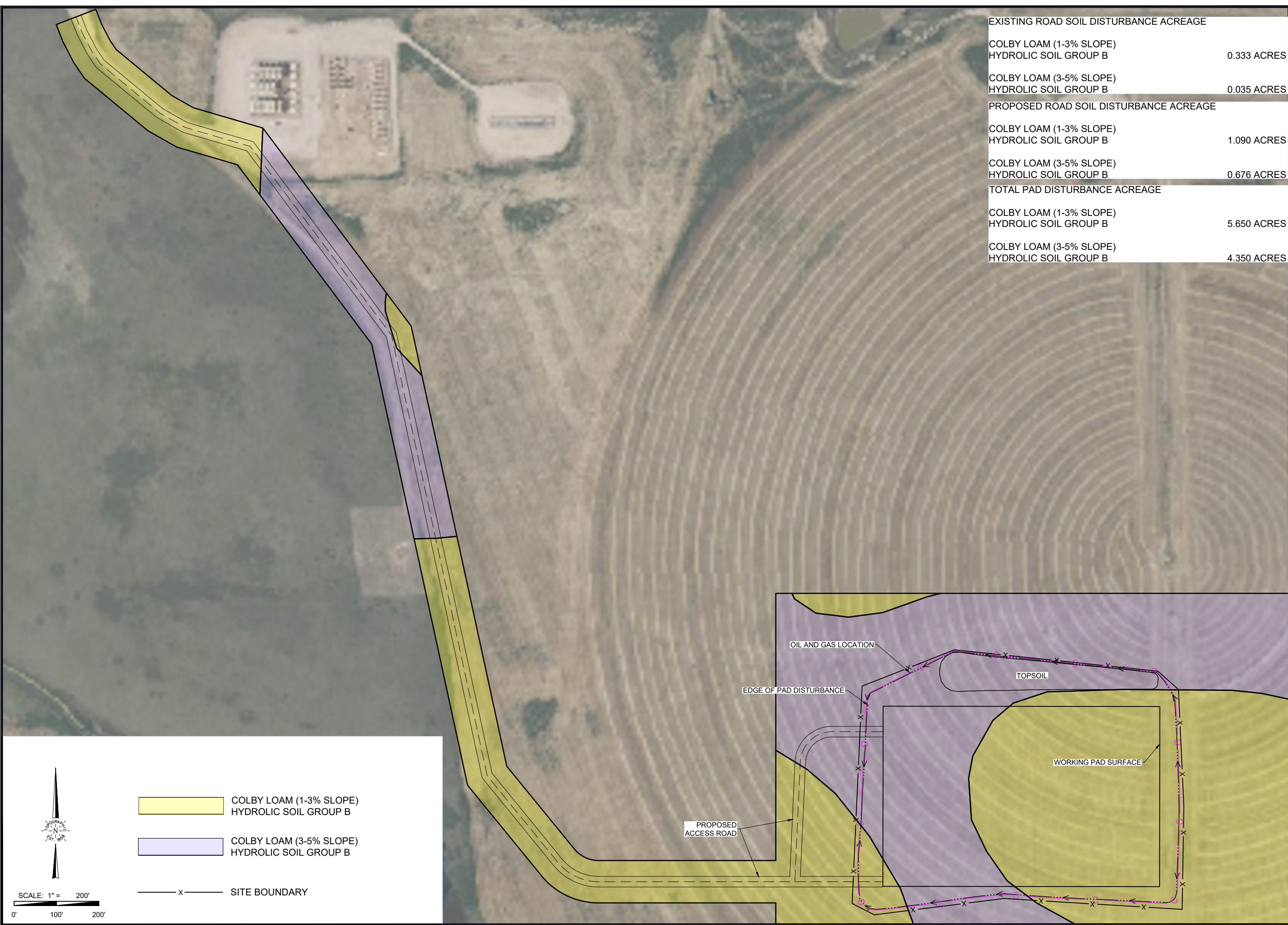
LOYALTY INNOVATION LEGACY

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TOPSOIL PLAN
HARAMBE 2920
VERDAD



DATE:	01/13/22
DRAWN BY:	TJM
REVIEWED BY:	CCC
SCALE:	1" = 500'
SHEET:	1 OF 1
REVISION:	
XXX	XXXXXX
XXX	XXXXXX
XXX	XXXXXX



EXISTING ROAD SOIL DISTURBANCE ACREAGE		
COLBY LOAM (1-3% SLOPE)		
HYDROLIC SOIL GROUP B		0.333 ACRES
COLBY LOAM (3-5% SLOPE)		
HYDROLIC SOIL GROUP B		0.035 ACRES
PROPOSED ROAD SOIL DISTURBANCE ACREAGE		
COLBY LOAM (1-3% SLOPE)		
HYDROLIC SOIL GROUP B		1.090 ACRES
COLBY LOAM (3-5% SLOPE)		
HYDROLIC SOIL GROUP B		0.676 ACRES
TOTAL PAD DISTURBANCE ACREAGE		
COLBY LOAM (1-3% SLOPE)		
HYDROLIC SOIL GROUP B		5.650 ACRES
COLBY LOAM (3-5% SLOPE)		
HYDROLIC SOIL GROUP B		4.350 ACRES



LOYALTY

INNOVATION

LEGACY

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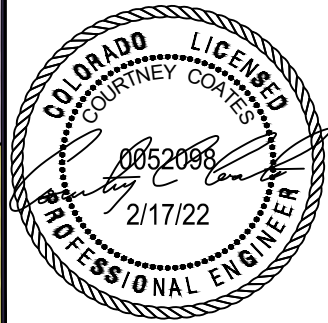
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NCRS MAP UNIT DESCRIPTION		
HARAMBE 2920		
VERDAD		



DATE:	02/17/22
DRAWN BY:	TJM
REVIEWED BY:	CCC
SCALE:	1" = 200'
SHEET:	19 OF 23
REVISION:	
XXX	XXXXXX
XXX	XXXXXX
XXX	XXXXXX