

BEFORE THE INDUSTRIAL COMMISSION  
OF THE STATE OF NORTH DAKOTA

CASE NO. 28849  
ORDER NO. 31454

IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF RED TRAIL ENERGY, LLC TO CONSIDER THE AMALGAMATION OF THE STORAGE RESERVOIR PORE SPACE, IN WHICH THE COMMISSION MAY REQUIRE THAT THE PORE SPACE OWNED BY NONCONSENTING OWNERS BE INCLUDED IN THE GEOLOGIC STORAGE FACILITY AND SUBJECT TO GEOLOGIC STORAGE, AS REQUIRED TO OPERATE THE RED TRAIL ENERGY, LLC ETHANOL STORAGE FACILITY LOCATED IN SECTIONS 9, 10, 11, 12, 13, 14, 15, 22 AND 23, TOWNSHIP 139 NORTH, RANGE 92 WEST, STARK COUNTY, NORTH DAKOTA PURSUANT TO NORTH DAKOTA CENTURY CODE SECTION 38-22-10.

ORDER OF THE COMMISSION

THE COMMISSION FINDS:

- (1) This cause came on for hearing at 9:00 a.m. on the 12th day of August, 2021.
- (2) Case No. 28849 is an application by Red Trail Energy, LLC (Red Trail) for an order of the Commission determining the amalgamation of storage reservoir pore space, pursuant to a Geologic Storage Agreement for use of pore space falling within portions of Sections 9, 10, 11, 12, 13, 14, 15, 22, and 23, Township 139 North, Range 92 West, Stark County, North Dakota, has been signed, ratified, or approved by owners of interest owning at least sixty percent of the pore space interest within said lands, pursuant to North Dakota Century Code (NDCC) 38-22-10.
- (3) Case Nos. 28849, 28848, and 28850 were combined for purposes of hearing.
- (4) Case No. 28848, also on today's docket, is an application by Red Trail for an order authorizing geologic storage of carbon dioxide from the Red Trail ethanol facility in the amalgamated pore space of the Broom Creek Formation in portions of Sections 9, 10, 11, 12, 13, 14, 15, 22, and 23, Township 139 North, Range 92 West, Stark County, North Dakota, pursuant to North Dakota Administrative Code (NDAC) Chapter 43-05-01.
- (5) Case No. 28850, also on today's docket, is a motion of the Commission to determine the amount of financial responsibility for the geologic storage of carbon dioxide from the Red Trail ethanol facility located in portions of Sections 9, 10, 11, 12, 13, 14, 15, 22, and 23,

Township 139 North, Range 92 West, Stark County, North Dakota in the Broom Creek Formation, pursuant to NDAC Section 43-05-01-09.1.

(6) The record in these matters was left open to receive additional information from Red Trail. Such information was received on September 23 and October 18, 2021, and the record was closed.

(7) Pursuant to NDCC Section 38-22-06 and NDAC Section 43-05-01-08: The notice of filing of the application and petition and the time and place of hearing thereof was given, and that at least 45 days prior to the hearing, Red Trail, as the applicant, did give notice of the time and place of said hearing and the Commission has accepted the notice as adequate, and that the applicant did, at least 45 days prior to the hearing, file with the Commission engineering, geological and other technical exhibits to be used and which were used at said hearing, and that the notice so given did specify that such material was filed with the Commission; that due public notice having been given, as required by law, the Commission has jurisdiction of this cause and the subject matter.

(8) The Commission gave at least a thirty-day public notice and comment period for the draft storage facility permit and issued all notices using methods required to all entities under NDCC Section 38-22-06 and NDAC Section 43-05-01-08. Publication was made July 7, 2021, and the comment period for written comments ended at 5:00 PM CDT August 11, 2021. The hearing was open to the public to appear and provide comments.

(9) Order No. 31453 entered in Case No. 28848 created the Red Trail Richardton Ethanol Broom Creek Storage Facility #1.

(10) The plan for amalgamation proposed by Red Trail includes a Geologic Storage Agreement for the Broom Creek Formation for certain lands in Stark County, North Dakota.

(11) The area proposed to be included within the amalgamation area of the storage facility is as follows:

TOWNSHIP 139 NORTH, RANGE 92 WEST, 5TH PM  
ALL OF SECTIONS 10, 11, 14 AND 15, THE E/2 SE/4 AND SE/4 NE/4 OF SECTION 9,  
THE W/2 SW/4 OF SECTION 12, THE W/2 W/2 OF SECTION 13, THE NE/4 AND N/2  
NW/4 OF SECTION 22, AND THE N/2 OF SECTION 23.

(12) Red Trail is proposing a one-phase formula for the calculation of tract participation, allocating 100% to surface acres.

“Surface acres” means the number of acres within each respective tract.

(13) Pursuant to NDCC Section 47-31-03, title to pore space in all strata underlying surface lands and waters is vested in the owner of the overlying surface estate.

No pore space has been leased out by pore space owners prior to this agreement. Red Trail did not find instances of pore space being severed from the surface estate that was allowed prior to April 9, 2009.

(14) The main purpose of the one-phase formula based on surface acres is to fairly compensate owners farther away from the injection well that will eventually have pore space occupied by carbon dioxide. Red Trail testified pore space owners near the boundary of the area to be amalgamated are equally important to where the injection well is located, since they could be necessary to achieve the sixty percent pore space ownership threshold required for the Commission to amalgamate pore space. Red Trail owns the pore space where the injection well is to be located. Red Trail indicates that the majority of carbon dioxide stored will remain in close proximity to the well bore, making Red Trail the primary beneficiary of a pore volume formula. Computational modeling performed by Red Trail and the Commission supports Red Trail's assessment.

The Commission believes capillary trapping, relative permeability hysteresis, and a lack of local area history matching data from injection of carbon dioxide into the saline Broom Creek Formation reservoir provides reasonable doubt for the utility of a pore volume formula. The Commission believes the 100% weighting on surface acreage is acceptable and that the one-phase formula is protective of correlative rights and should not be modified.

(15) Red Trail delineated the tracts to be utilized through computational modeling based on site characterization as required by NDAC Section 43-05-01-05.1. The data acquired during site characterization as well as the reservoir model and all inputs were provided to the Commission. The Commission evaluated the storage reservoir utilizing data acquired during site characterization and other publicly available data before performing computational simulation. The Commission concludes that Red Trail's inclusion of pore space which will be affected by the project has been adequately delineated.

(16) The Geologic Storage Agreement contains fair, reasonable, and equitable provisions for:

- (a) The amalgamation of pore space interests for the storage of carbon dioxide within said pore spaces of the storage reservoir.
- (b) The division of interest or formula for the apportionment and allocation of carbon dioxide to be stored.
- (c) The measurement of quantity of carbon dioxide injected into the pore spaces underlying the delineated storage facility.
- (d) The enlargement or reduction of the delineation of pore space utilized for geologic storage of carbon dioxide which may be warranted by review pursuant to NDAC Section 43-05-01-05.1(4).
- (e) The time when the Geologic Storage Agreement shall become effective.
- (f) The time when, conditions under, and the method by which the Geologic Storage Agreement shall be or may be terminated and its affairs wound up.

(17) Such amalgamation of the storage reservoir's pore space and the Geologic Storage Agreement are in the public interest, and require procedures that promote, in a manner fair to all interested, cooperative management, thereby ensuring the maximum use of natural resources,

and that said Geologic Storage Agreement, as contained therein, appears to conform and comply with the provisions and requirements of NDCC Section 38-22-08.

(18) NDCC Section 38-22-10 provides that the Commission may require that the pore space owned by nonconsenting owners be included in a storage facility and subject to geological storage, if a storage operator does not obtain the consent of all persons who own the storage reservoir's pore space.

(19) Pursuant to NDAC Section 43-05-01-08(2)(e), the required notice given by Red Trail included a statement that amalgamation of the storage reservoir's pore space is required to operate the storage facility, that the Commission may require that the pore space owned by nonconsenting owners be included in the storage facility and subject to geologic storage, and that the amalgamation of pore space will be considered at the hearing.

(20) The approval of this application is in the public interest by promoting the policy stated in NDCC Section 38-22-01.

IT IS THEREFORE ORDERED:

(1) The amalgamation of pore space in the Red Trail Richardton Ethanol Broom Creek Storage Facility #1 in Stark County, North Dakota, is hereby approved.

(2) The Geologic Storage Agreement for the Broom Creek Formation is hereby incorporated in this order by reference, and shall apply to the same extent and with the same force and effect as if actually set forth herein; that said Geologic Storage Agreement for the amalgamated pore space therein is approved, all to the same extent and with the same force and effect as if set forth herein in its entirety; that if said Geologic Storage Agreement does not in all respects conform to and comply with the provisions and requirements under NDCC Chapter 38-22, the statute shall prevail.

(3) The amalgamated pore space is hereby defined as the following described tracts of land in Stark County, North Dakota:

TOWNSHIP 139 NORTH, RANGE 92 WEST, 5TH PM  
ALL OF SECTIONS 10, 11, 14 AND 15, THE E/2 SE/4 AND SE/4 NE/4 OF SECTION 9,  
THE W/2 SW/4 OF SECTION 12, THE W/2 W/2 OF SECTION 13, THE NE/4 AND N/2  
NW/4 OF SECTION 22, AND THE N/2 OF SECTION 23.

(4) The storage reservoir containing the amalgamated pore space is hereby defined as the stratigraphic interval from below the top of the Opeche Formation, found at a depth of 6,315 feet below the Kelly Bushing, to above the base of the Amsden Formation, found at a depth of 7,060 feet below the Kelly Bushing, as identified by the Dual Laterolog run in the Rummel-State #1 well (File No. 6797), located in the SE/4 SW/4 of Section 16, Township 139 North, Range 92 West, Stark County, North Dakota.

(5) The injection of carbon dioxide into the amalgamated pore space by the operator for the purpose of storage of carbon dioxide is authorized through the RTE #10 well (File No. 37229), located 600 feet from the south line and 250 feet from the east line of Section 10, Township 139 North, Range 92 West, Stark County, North Dakota; provided, however, that prior to the

commencement of such injection the operator shall obtain such permits as are required under NDAC Chapter 43-05-01.

(6) The termination of the amalgamation of lands hereinbefore described in paragraph (3) above shall be as prescribed in the Geologic Storage Agreement or at project completion as provided by NDCC Section 38-22-17; and that notwithstanding any provisions to the contrary, in the event that the operator fails to commence or ceases storage operations, the Commission, upon its own motion, after notice and hearing, may consider rescinding this order, or any portion thereof, so that this order of amalgamation will terminate and cease to exist.

(7) The effective date of the amalgamation of pore space in the lands hereinbefore described in paragraph (3) above shall be at 7:00 a.m. on the first day of November, 2021.

(8) No well shall be hereafter drilled and completed in or injected into in the amalgamated pore space, as defined herein, without order of the Commission after due notice and hearing.

(9) This order shall be reviewed when a review of Order No. 31453 is conducted.

(10) This order shall cover all of the amalgamated pore space, as defined herein, and continues in full force and effect until further order of the Commission.

Dated this 19th day of October, 2021.

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA

/s/ Doug Burgum, Governor

/s/ Wayne Stenehjem, Attorney General

/s/ Doug Goehring, Agriculture Commissioner