

To: Thomas Donohue, P.G. TD 1/4/24
Subsurface Permits Environmental Program Manager
Northwest District Oil and Gas Operations

From: Susan Price, P.G. SAP 1/4/24
Professional Geologist Manager
Northwest District Oil and Gas Operations

Date: December 26, 2023

Re: Record of Decision
UIC Class II Disposal Well Application
Catalyst Energy, Inc.
Lot 580-1
McKean County, Keating Township

I. **Background**

On May 10, 2023, Catalyst Energy Inc. (Catalyst, or Applicant), submitted an application to the Pennsylvania Department of Environmental Protection (DEP, or Department) to change the use of the Lot 580-1 well, API Permit Number 37-083-46237, from a conventional gas production well to a Class II-D commercial brine disposal injection well (Injection Well). In accordance with 25 Pa. Code §78.18, the Injection Well application consists of a well permit application to drill and operate a conventional well (CDOW); an Erosion and Sedimentation Control (E&S) Plan; a Control and Disposal (C&D) Plan, other named Preparedness, Prevention, and Contingency (PPC Plan; a Seismic Monitoring and Mitigation (SMM) Plan; the application submitted to the U.S. Environmental Protection Agency (EPA) for a Class II-D Underground Injection Control (UIC) Permit; and the issued EPA UIC Permit Number PAS2D015BMCK.

The location of the existing well is in Keating Township, McKean County. Location coordinates for the Injection Well are: Latitude 41° 49' 50.14" and Longitude -78° 34' 53.97", with a 911 address of 4505 Route 646, Cyclone, PA 16726. Catalyst Energy Inc. is surface landowner and the well operator. The Application proposes to alter the use of the well from the production of gas, originating in the Onondaga Formation, to disposal of fluid by oil and gas operations into the same

formation, at a subsurface interval between approximately 5169 to 5266 feet below surface elevation.

In accordance with 25 Pa. Code § 78.18, the application consists of a Drill or Operate Well permit application (DOW), Erosion and Sedimentation Control (E&S) Plan, Control and Disposal (C&D) Plan, the Class II Injection Disposal well application submitted to the U.S. Environmental Protection Agency's (EPA) Underground Injection Control (UIC) Program, and the issued EPA UIC permit.

On September 26, 2023, in accordance with Section 3251 of 58 Pa.C.S. Sections 3201-3274 (relating to Development)(2012 Oil and Gas Act), a conference was held in Cyclone, PA with representatives from the DEP, Catalyst, two objectors and other members of the public present. The purpose of the conference was for attendees to have their questions concerning the injection well answered by the DEP and Catalyst.

II. Application Review

The application for Catalyst's Lot 580-1 well was reviewed with consideration of applicable sections of the 2012 Pennsylvania Oil & Gas Act; the Oil & Gas Conservation Law; 25 Pa. Code Chapters 78, 91, 102 and 105; "Guidelines for the Development and Implementation of Environmental Emergency Response Plans" program manual; and other relevant sources.

This document summarizes the primary portions of the Department's review, including a CDOW review, E&S Plan review, C&D Plan review, geologic review (including the SMM Plan) and a mechanical integrity review.

- CDOW Review:
 - The CDOW application consists of operator-answered questions, notifications to interested parties, a Well Location Plat, a Pennsylvania Natural Diversity Index (PNDI) search receipt, and a non-coal justification. Also included with the CDOW application is the Well Record.
 - The application was reviewed by a DEP Licensed Professional Geologist who reviewed and analyzed answers to the operator-answered questions; reviewed the notifications to interested parties, the Well Location Plat, the PNDI, and the non-coal justification; and confirmed all information with Department records.
 - The CDOW application is complete and is in accordance with all applicable statutes and regulations in the 2012 Pennsylvania Oil & Gas Act, the Oil & Gas Conservation Law, and 25 Pa. Code Chapter 78.
- Erosion and Sedimentation (E&S) Plan Review:
 - The E&S Plan conforms with applicable regulations in the 25 Pa. Code §§ 102 and 78.53; Chapter 105 is unrelated to activities at this site. The plan was reviewed by a DEP Water Quality Specialist (WQS), who determined the plan, when implemented, will be

adequate to minimize accelerated erosion and potential sediment impacts to surface waters of the Commonwealth.

- Based on the WQS review, the permit will be special conditioned with the following:
 - The clear and distinct boundaries of all wetlands must be clearly marked with high visibility fencing or equivalent during all phases of the activity, including construction.
 - The owner operator may not cause or allow a discharge from this well pad under 25 Pa. Code Ch. 78.60.
 - The owner or operator shall implement antidegradation best available combination of technologies (ABACT) best management practices (BMPs) throughout the well site to maintain and protect the existing water quality of surface water resources.
- See attached “Review of E&S and C&D Plans for Catalyst Energy, Inc.” memorandum for additional detail.
- Control and Disposal (C&D) Plan Review:
 - The C&D Plan, otherwise named Preparedness, Prevention, and Contingency (PPC) Plan, conforms with the Department’s “Guidelines for the Development and Implementation of Environmental Emergency Response Plans” manual, and applicable regulations in 25 Pa. Code, Chapter 78. The plan was reviewed by a DEP Water Quality Specialist.
 - See attached “Review of E&S and C&D Plans for Catalyst Energy, Inc.” memorandum for additional detail.
- Geologic Review and Seismic Monitoring and Mitigation Plan Review:
 - The Department conducted a geologic review in accordance with 25 Pa. Code, Chapter 91.51, which considered stratigraphy and geologic structures to investigate potential pathways for injected fluids to reach water supplies or basement rock. The Department’s geologic review revealed no evidence of potential pathways for injected fluid to reach water supplies or basement rock, and it is improbable injection of fluids would be prejudicial to the public interest. Additionally, no underground coal mines or gas storage areas exist within the area of review. For reasons set forth in the Department’s geologic review memorandum, the Department concludes the location of the proposed disposal well makes it a suitable candidate to handle injection fluids. Well permit conditions will address seismic monitoring and mitigation.
- Mechanical Integrity Review:
 - A DEP Oil and Gas Inspector Supervisor performed a physical inspection and a mechanical integrity assessment of the existing well and found no mechanical

deficiencies. The current well requires reworking prior to the EPA injectivity test. Review of the proposed Injection Well considered proposed operating data, proposed construction procedures and details, proposed injection procedures, proposed monitoring, and plans for well failures. The mechanical integrity of the Lot 580 #1 well will be adequate to meet the Department's regulations for an underground disposal well. Mechanical integrity special permit conditions (Appendix A) are recommended to monitor mechanical integrity of the well. . See the attached email concerning mechanical integrity.

- USEPA Class II-D UIC Permit Application and Issued Permit Review:
 - The EPA application and issued permit were reviewed for completeness and consistency with applicable Pennsylvania laws and regulations. The issued EPA Class II-D UIC Permit Number PAS2D015BMCK was effective as of August 22, 2022 and expires August 22, 2032.

III. Summary

The Department has determined the application and project meets all applicable statutes, regulations, and guidance manuals relating to permitting of a disposal well in Pennsylvania. The Department concludes that underground disposal into the Catalyst Energy Inc., Lot 580-1 well would be for an abatement of pollution by providing a lawful alternative to other disposal options that have greater risk to the public. Catalyst's proposed operation is sufficient to protect surface water and water supplies, and it is improbable that disposal into the Lot 580-1 well would be prejudicial to the public interest.

I recommend issuance of API# 083-46237, located in Keating Township, McKean County with special conditions attached to the permit. All documents related to this application and review will be kept in the well permit file #083-46237.

IV. Appendix A

Mechanical Integrity Special Permit Conditions

- (1) Permittee shall submit/provide a stimulation & treatment plan to the Department for review thirty (30) days prior to implementation of stimulation or treatment.
- (2) The permittee shall provide to the Department, on a monthly basis, an electronic and graphical record of injection pressures, annular pressures, injection rates, injection volumes and cumulative volumes in a format acceptable to the Department. All pressures and rates shall be monitored continuously with digital devices. The permittee shall maintain records of this information for review at the request of the Department on a 12-month rolling basis.
- (3) The permittee shall provide notice to the Department prior to the initial injection of fluids into the disposal well, so the Department can conduct an inspection of the well site, seismometer and recorder.

- (4) Documentation shall be provided to the Department demonstrating compliance with Part II, D.2.b. of the EPA UIC Permit, prior to commencing injection when the documentation is submitted to the EPA.
- (5) Permittee shall notify the Department's Oil & Gas Inspector verbally within twenty-four (24) hours and the Department's Program Manager in writing within seven (7) days when conditions indicate mechanical integrity problems that call for injection to cease under Part II.C of the EPA UIC Permit.

Attached: 3251 Conference memorandum
 Erosion and Sedimentation and Control and Disposal memorandum
 Geologic Review of Proposed Disposal Well memorandum
 Mechanical Integrity and Casing and Cementing email

cc. File (#083-46237)

MEMO

TO Thomas Donohue, P.G. TD 12/13/23
Subsurface Permits Environmental Program Manager
District Oil & Gas Operations

FROM Susan Price, P.G. SP 12/13/23
Professional Geologist Manager
Northwest District Oil and Gas Operations

DATE December 4, 2023

RE 3251 Conference Agreement
UIC Class II Disposal Well Application
Catalyst Energy, Inc.
Lot 580-1, API No. 083-46237
McKean County, Keating Township

On July 3, 2023, an emailed letter of concern was received by the Department of Environmental Protection (DEP) from Kelly and Dennis Johnson concerning the proposed Catalyst Energy Inc. (Catalyst) Lot 580-1 UIC disposal well. Several members of the public also signed the Johnsons' letter. The Johnsons requested a conference to discuss their concerns with Catalyst Energy's proposed disposal well. Pursuant to Section 3251 of the Oil & Gas Act, a conference was held on September 26, 2023 at the Hilltop Volunteer Fire Dept. at 4351 Rt. 646 in Cyclone, PA. Kelly and Dennis Johnson and the members of the public who signed the Johnsons' letter were invited to the conference. In attendance were representatives from the DEP and Catalyst. Kelly and Dennis Johnson and approximately 60+ members of the public also attended the conference.

During the conference, a member of the public requested that Catalyst post a notice at the local U.S. Post Office when injection was about to begin. Catalyst has agreed to post a notice at the U.S. Post Office when they receive their permit to begin accepting fluids for injection. A special

condition will be added to the permit upon issuance stating that Catalyst will be required to post this notice at the local post office when they receive the permit.

Cc: Catalyst Energy, Inc.
File (#083-46237)