

MEMO

TO Brian Babb, PG BB 4/14/2020
Subsurface Permits Environmental Program Manager
Department of Environmental Protection
Northwest Regional Office
District Oil and Gas Operations

FROM Thomas Donohue, PG TD 4/14/20
Professional Geologist Manager
Department of Environmental Protection
Southwest District Oil and Gas Office
District Oil and Gas Operations

DATE April 14, 2020

RE Penneco Environmental Solutions – Sedat #3A (API #003-21223)
Disposal Well application to inject waste into an underground formation
Plum Borough, Allegheny County

I. Background

On March 13, 2018, Penneco Environmental Solutions (Penneco) submitted an application to change the use of the Sedat #3A well from a production well to a disposal well. 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 October 1, 2018, the Department held a public hearing in Plum Borough to solicit comments related to Penneco’s application, and received comments from 42 commentors that were considered in the application review and incorporated into a comment-response document.

II. Application Review

Penneco’s Sedat #3A application was reviewed with consideration of, among other things, applicable sections in the 2012 Pennsylvania Oil & Gas Act 58 P.S. §§ 2301-3504, 25 Pa. Code §§ 78.91, and 102, and the “Guidelines for the Development and Implementation of Environmental Emergency Response Plans” program manual.

This document summarizes the primary portions of the Departments's review, specifically, a DOW review, E&S review, C&D review, geologic review, and mechanical integrity review.

- DOW Review:
 - The DOW application consists of operator-answered questions, a Well Location Plat, notifications to interested parties and a Pennsylvania Natural Diversity Inventory (PNDI) search receipt. The application was reviewed by a DEP Licensed Professional Geologist who reviewed and analyzed answers to the operator-answered questions, reviewed the Well Location Plat, reviewed the PNDI, and confirmed information in the application against DEP's records. The application is complete and is in accordance with all applicable statutes and regulations in the 2012 Pennsylvania Oil & Gas Act and 25 Pa. Code § 78.

- E&S Review:
 - The E&S Plan conforms with applicable regulations in 25 Pa. Code §§ 102 and 78.53. The plan demonstrates that when implemented, it will be adequate to minimize accelerated erosion and potential sediment impacts to surface waters. See attached "Sedat #3A Well: Conversion to a Waste Disposal Injection Well" memorandum for additional detail.

- C&D Review:
 - The C&D 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 § 78. The plan identifies the control and disposal practices used by the well operator. The application also identifies pressure barriers to be used during identified operations. A pressure barrier is a physical or operational element incorporated into the well design to provide integrity throughout the life of the well (see "Sedat #3A Mechanical Integrity Review" for pressure barrier details). See "Technical Review Control and Disposal Plan" memorandum for additional detail.

- Geologic Review:

The Department performed a geologic review in accordance with 25 Pa. Code § 91.51 that considered stratigraphy and geologic structures as barriers to potential pathways (coal mines, gas storage fields, other wells that penetrate the Oriskany and faults) for injected fluid to reach water supplies and the basement rock. Fluid injected into or proximate to basement rock is considered to be the mechanism that induced seismic events recently in Oklahoma and Ohio. The Department's geologic review in this case revealed no evidence that potential pathways exist for injected fluid to reach water supplies or basement rock, and improbable that the disposal would be prejudicial to the public interest.. For the reasons set forth in the Department's geologic review memorandum, the Department concludes that the location of

the proposed well makes it a suitable candidate to handle injection of fluids and recommends well permit conditions to address monitoring of seismicity in an abundance of caution. See attached “Geologic Review of Proposed Disposal Well” memorandum for additional detail.

- Mechanical Integrity Review:
 - The Department performed a mechanical integrity review of the Sedat #3A well which considered how the well was cased and cemented and historic Mechanical Integrity Assessments. The mechanical integrity of the Sedat #3A well will be adequate to meet the Department’s regulations for an underground injection well. With the implementation of the Department’s conditions (attached to the permit), the mechanical integrity will be monitored and subject to notification requirements. See attached “Sedat #3A Mechanical Integrity Review” memorandum for additional detail.

III. Summary

The Department has determined that the application/project meets all applicable statutes, regulations and guidance manuals related to the permitting of a disposal well in Pennsylvania. The Department concludes that underground disposal into the proposed Sedat #3A well would be for an abatement of pollution by providing a lawful alternative to other disposal options that have greater risk to the public. Penneco’s proposed operation is sufficient to protect surface water and water supplies, and it is improbable that disposal into the proposed Sedat #3A well would be prejudicial to the public interest. In consideration of the proposed well’s mechanical protections and the injection zone’s distance and geologic separation from public natural resources, the Department believes public natural resources will be conserved and maintained.

I recommend issuance of API #003-21223, located in Plum Borough, Allegheny County with special conditions attached to the permit. All documents related to this application and review will be kept in the well permit file #003-21223.

Attached: Sedat #3A Comment-Response
Sedat #3A Well: Conversion to a Waste Disposal Injection Well memorandum
Technical Review Control and Disposal Plan memorandum
Geologic Review of Proposed Disposal Well memorandum
Sedat #3A Mechanical Integrity Review memorandum