

EPA Region III

Penneco Environmental Solutions, LLC UIC Permit #PAS2D701BALL “Sedat #3A”
(Renton Gas Field, Plum Borough, Allegheny County, Pennsylvania)

Administrative Record Index

1. "Attachment 1" - EPA-Approved Plugging and Abandonment Plan (February 26, 2016)
2. Application (Mar. 9, 2016), including all attachments.
3. Notices of Deficiency (July 8, 2016) via email (March 16, 2017).
4. Supplemental Application/Notice of Deficiency Response, including all attachments (September 10, 2016) (March 22, 2017).
5. EPA Region III Zone of Endangering Influence Calculation (ZEI).
6. Draft Permit, Statement of Basis, and Public Notice for Injection Well Sedat #3A.
7. List of State Officials to Whom Draft Permit was Sent.
8. Region 3 Framework for Evaluating Seismic Potential Associated with UIC Class II Permit.
9. Seismic Maps of Pennsylvania (US Geological Survey)
<http://earthquake.usgs.gov/earthquakes/states/?region=Pennsylvania>
10. National Academy of Sciences, *Induced Seismicity Potential in Energy Technologies*, National Academy Press (final), 2014, in particular Chapters 2 and 3.
<http://www.nap.edu/read/13355/chapter/1>
11. *A White Paper Summarizing a Special Session on Induced Seismicity*, Ground Water Research & Education Foundation, February 2013.
http://www.gwpc.org/sites/default/files/events/white%20paper%20-%20final_0.pdf
12. *Preliminary Report on the Northstar1 Class II Injection Well and the Seismic Events in Youngstown, Ohio Area*, Ohio Department of Natural Resources, March 2012.
<https://oilandgas.ohiodnr.gov/portals/oilgas/pdf/UICReport.pdf>
13. U.S. EPA UIC Technical Workgroup, *Minimizing and Maximizing Potential Impacts of Induced-Seismicity from Class II Disposal Wells: A Practical Approach*, Feb. 5, 2015.
<http://www.epa.gov/sites/production/files/2015-08/documents/induced-seismicity-201502.pdf>

14. US EPA Office of Drinking Water, *Final Injection Well Construction Practices and Technology*, October 1982.
<http://www.deq.utah.gov/ProgramsServices/programs/water/uic/docs/2010/03Mar/Injecti onWellConstructionPracticesTechnology1982.pdf>
15. *New Case of Earthquakes Related to an Injection Well in WV?*, Marcellus Drilling News, August 2, 2013. <http://marcellusdrilling.com/2013/08/new-case-of-earthquakes-related-to-an-injection-well-in-wv/>
16. *Managing the seismic risk posed by wastewater disposal*, *Earth*, April 17, 2012.
<http://www.earthmagazine.org/article/managing-seismic-risk-posed-wastewater-disposal>
17. *Earthquakes in Pennsylvania*, website, Pennsylvania Department of Conservation and Natural Resources. <http://www.dcnr.state.pa.us/topogeo/hazards/earthquakes/index.htm>
18. *Where are the Fault Lines in the United States East of the Rockies*, website, United States Geological Survey, Earthquake Hazard Program.
<http://www.usgs.gov/faq/categories/9838/3399>
19. General Geology Open File Report 05-01.0: Basement Depth and Related Geospatial Data for Pennsylvania, Pennsylvania Geologic Survey,
<http://www.dcnr.state.pa.us/topogeo/publications/pgspub/openfile/basementmap/index.htm>
20. R. Kerr, *Learning How to NOT Make Your own Earthquake*, *Science*, Vol. 335, Mar. 23, 2012, pp. 1436-37. <http://science.sciencemag.org/content/335/6075/1436>
21. Melissa L. Sager, *Petrologic Study of the Murrysville sandstone in Southwestern Pennsylvania*, 2007.
22. USGS Earthquake Search Performed February 27, 2017 on well site area showing no history of earthquakes in area. <http://earthquake.usgs.gov/earthquakes/search/>
23. Endangered species determination.
24. Endangered Species Memo to File
25. Environmental Justice Screen determination
26. Standard Operating Procedure for Calculating ZEI