

Public Comment on EPA Draft Permit PAS2D701BALL

On 06/22/2017, EPA published a Public Notice of intent¹ to issue Permit # PAS2D701BALL (“Permit”)² to Penneco, LLC, for conversion of the well Sedat 3A, API Number 003-21223, (“Well”) to an injection well for disposal of Oil & Gas wastewater, as supported by a Statement of Basis (“Basis”)³. I object to the issuance of this permit, and in response to EPA’s request for public comment, wish to make the following public comments.

1. Basis (p. 1) shows no evidence that the integrity of Well’s plug-back to 1,940 feet has been evaluated against injection pressure.

Basis makes the following statement regarding the history of Sedat 3A:

The well was hydraulically fractured at three depths and produced natural gas until 2015 when it was taken out of service due to low production. The well was plugged back to a depth of 1,940 feet, directly below the Murrysville Sandstone injection zone, *in accordance with Pennsylvania DEP regulations*. (p. 1, emphasis added).

Evidently EPA is accepting Penneco’s word concerning the plug-back to 1,940 feet, and has not sought to verify whether Penneco made any application to DEP for the plug-back. In fact, the Authorization Search facility of DEP⁴ for applications under API 003-21223 yields only the original application for a Drill & Operate Well Permit received by DEP on 09/19/1988 and issued on 9/19/1988⁵. DEP’s Oil & Gas Mapping web site shows the following status information for this well⁶:

WELL_STATUS: Active
WELL_STATUS_CODE: 7

So even the statement “it was taken out of service due to low production” ***DOES NOT AGREE WITH DEP RECORDS***.

Scrutiny of all DEP inspection reports for Sedat 3A⁷ yields only the following references to plugging or cement:

- 1 https://www.epa.gov/sites/production/files/2017-06/documents/finaloptimizedforweb.administrative_record_-_penneco_sedat_3a.pdf
- 2 <https://www.epa.gov/sites/production/files/2017-06/documents/finaloptimizedforweb.pennecodraftpermit06.22.17.pdf>
- 3 <https://www.epa.gov/sites/production/files/2017-06/documents/finaloptimizedforweb.pennecosobmasterpas2d701ball.pdf>
- 4 http://www.ahs.dep.pa.gov/eFACTSWeb/criteria_auth.aspx
- 5 http://www.ahs.dep.pa.gov/eFACTSWeb/searchResults_singleAuth.aspx?AuthID=52215
- 6 http://www.depgis.state.pa.us/arcgis/rest/services/OilGas/OilGasAllStrayGas/MapServer/3/query?where=PERMIT_NUMBER+%3D+%27003-21223%27&text=&objectIds=&time=&geometry=&geometryType=esriGeometryEnvelope&inSR=&spatialRel=esriSpatialRelIntersects&relationParam=&outFields=OBJECTID%2CPERMIT_NUMBER%2CWELL_NAME%2COPERATOR%2COPERATOR_NUMBER%2CWELL_TYPE%2CWELL_TYPE_CODE%2CWELL_STATUS%2CWELL_STATUS_CODE%2CPERMIT_DATE%2CPERMIT_DATE_EXPIRES%2CSPUD_DATE%2CCONSERVATION_IND%2CCOUNTY%2CCOUNTY_ID%2CMUNICIPALITY%2CMUNICIPALITY_TYPE%2CMUNICIPALITY_CODE%2CLATITUDE%2CLONGITUDE%2CPRMRY_FID%2CUNCONVENTIONAL_IND%2CSURFACE_ELEVATION%2CWELL_CONFIG_CODE%2CCOAL_IND%2CWELL_PAD_NAME%2CSHAPE%2CDATE_PLUGGED%2CWELL_PAD_ID%2CUIC_ID%2CUIC_TYPE_DESCRIPTION%2CSTORAGE_FIELD_NAME%2CSITE_ID%2CSITE_NAME&returnGeometry=true&returnTrueCurves=false&maxAllowableOffset=&geometryPrecision=&outSR=&returnIdsOnly=false&returnCountOnly=false&orderByFields=&groupByFieldsForStatistics=&outStatistics=&returnZ=false&returnM=false&gdbVersion=&returnDistinctValues=false&resultOffset=&resultRecordCount=&f=html
- 7 http://www.depgis.state.pa.us/arcgis/rest/services/OilGas/OilGasAllStrayGas/MapServer/38/query?where=PERMIT_NUMBER+%3D+%27003-21223%27&text=&objectIds=&time=&geometry=&geometryType=esriGeometryPoint&inSR=&spatialRel=esriSpatialRelIntersects&relationParam=&outFields=INSP_PRMRY_FAC_ID%2CSITE_ID%2COWNER_CLNT_ID%2CINSPECTION_COMMENT%2CINSPECTION_DATE%2CINSPECTION_ID%2CINSPECTION_RESULT_DESCRIPTION%2CINSPECTION_TYPE_DESCRIPTION%2CVIOLATION_COUNT%2COPERATOR_RESPONSE_COUNT%2CINSPECTION_REPORT_COUNT%2CWELL_NAME%2CPERMIT_NUMBER&returnGeometry=true&returnTrueCurves=false&maxAllowableOffset=&geometryPrecision=&outSR=epsg

INSP_PRMRY_FAC_ID: 7741
SITE_ID: 5993
OWNER_CLNT_ID: 7674
INSPECTION_COMMENT: A SERVICE RIG IS SET UP. PENNEECO IS PLUGGING BACK TO DO TESTING IN THE MURRYSVILLE FORMATION. THE WELL WAS PRODUCING FROM THE SPEECHLY.
INSPECTION_DATE: 2015-07-20
INSPECTION_ID: 2391244
INSPECTION_RESULT_DESCRIPTION: No Violations Noted
INSPECTION_TYPE_DESCRIPTION: Plugging(Includes Plugged/Mined Through)
VIOLATION_COUNT: null
OPERATOR_RESPONSE_COUNT: null
INSPECTION_REPORT_COUNT: null
WELL_NAME: SEDAT 3A
PERMIT_NUMBER: 003-21223

INSP_PRMRY_FAC_ID: 7741
SITE_ID: 5993
OWNER_CLNT_ID: 7674
INSPECTION_COMMENT: A SERVICE RIG IS UP AND OVER THIS WELL. THERE ARE NO PERSONEL AT THE SITE. PENNEECO IS PLANNING TESTING OF THE MURRYSVILLE FORMATION.
INSPECTION_DATE: 2015-07-29
INSPECTION_ID: 2396484
INSPECTION_RESULT_DESCRIPTION: No Violations Noted
INSPECTION_TYPE_DESCRIPTION: Routine/Complete Inspection
VIOLATION_COUNT: null
OPERATOR_RESPONSE_COUNT: null
INSPECTION_REPORT_COUNT: null
WELL_NAME: SEDAT 3A
PERMIT_NUMBER: 003-21223

The well clearly received a plugging inspection on 7/20/2015 but there is no indication of inspection against injection pressure. The inspection report includes the comment: "PENNEECO [sic] IS PLUGGING BACK TO DO TESTING IN THE MURRYSVILLE FORMATION" with no indication whatever of what kind of testing; one can infer that DEP must have assumed Penneco was testing for production from the Murrysville Formation. If Penneco is asserting that the 7/20/2015 inspection inspected the plug-back to 1,940 against injection pressure, the record does not support this.

2. There are 2 additional wells just outside the 0.25 mile buffer around Sedat 3A which were apparently not evaluated, and are close enough to the proposed Area of Review ("AOR") to make the definition of the AOR as published arbitrary and unreasonable.

Appendix 1 shows a section of the USGS New Kensington East 1:24000 Topographic Map overlaid with Oil & Gas wells (data from the DEP Oil & Gas mapping web site) and a buffer with radius 0.25 miles around the location of Sedat 3A⁸. The map demonstrates that there are two wells just outside the 0.25 mile buffer:

003-21438 CONSOLIDATION COAL CO 8

%3A4326&returnIdsOnly=false&returnCountOnly=false&orderByFields=&groupByFieldsForStatistics=&outStatistics=&returnZ=false&returnM=false&gdbVersion=&returnDistinctValues=false&resultOffset=&resultRecordCount=&f=html

8 Appendix 1 uses DEP's GIS locations for the wells, including Sedat 3A. EPA's published latitude and longitude for application PAS2D701BALL evidently use latitude and longitude rounded to one decimal point of seconds, resulting in a slight discrepancy from DEP records. This mismatch evinces a disregard for detail on EPA's part which is unfortunate.

The well CONSOLIDATION COAL CO 8 in particular is only 0.26 miles from Sedat 3A. A difference of 0.01 miles is geologically insignificant. Accordingly, to exclude these two wells from the AOR makes clear that the AOR has been drawn *arbitrarily and unreasonably*. On what basis has EPA concluded that an 0.01 mile distance outside the 0.25 mile buffer is enough to preclude belonging to the “zone of endangering influence”? EPA must deny this application as drafted and demand that Penneco reapply under an amended AOR whose definition is geologically reasonable and takes into account all nearby potential impacts.

3. Basis AOR evaluation (p. 2) does not list identification (e.g. API Number) for the 5 wells within the proposed AOR that penetrate the injection zone.

Basis (p. 2) states:

“After extensive research of company, local, county and state well records five wells were identified that penetrate the injection zone within the Area of Review. All such wells have been thoroughly evaluated to document proper well construction and/or plugging and abandonment.”

So why does not Basis list identifications for these 5 wells, so the public can verify whether this is correct? By not identifying the 5 wells, Basis has been offered for Public Comment prematurely.

Appendix 1 shows the following 5 wells (other than Sedat 3A) within the proposed AOR:

API	Well Name	SPUD Date
003-21287	HOWARD 1	1991-09-24
003-21210	SEDAT 1	1988-03-05
003-21644	SEDAT 4A	2004-06-18
003-22200	SEDAT 5H	2012-01-10
003-21222	SEDAT 2A	1989-01-12

Table 1: Wells within 0.25 miles of Sedat 3A

Are these the same 5 wells as referred to in Basis? If not, EPA must explain! In any event, Basis is deficient for not publishing identification of the 5 wells.

4. Evaluation of Endangerment within the proposed AOR as demonstrated by Basis is incomplete and inadequate.

There are several grounds on which Basis fails to demonstrate evaluation of Endangerment within the proposed AOR. Consider the list of 5 wells above. The most recent SPUD date is 2012, and all but Sedat 5H were SPUD in 2004 or earlier. What was the cementing standard in place at the time these wells were SPUD? Basis shows no evidence that any cement logs for these wells were evaluated. As cited above, Basis notes: “All such wells have been thoroughly evaluated to document *proper* well construction and/or plugging and abandonment.” [Emphasis added.] What does the word “proper” mean here? The obvious inference is that “proper” means deemed proper *at the time* construction and/or plugging and abandonment took place. Sedat 2A was SPUD in 1989. What kind of cementing construction was “proper” in 1989? What tests were made in 1989 to show resistance to injection pressure outside the casing? The truth of the matter is that reasonable cementing standards for Oil & Gas wells were not promulgated in Pennsylvania until 2010⁹. That means of the 5 wells shown above, only Sedat 5H would

9 See e.g. “PENNSYLVANIA Oil and Gas Casing and Cementing Standards, 25 Pa. Code Chapter 78 (relating to Oil and Gas Wells) See 40 Pa.B. 3845 (July 10, 2010) Environmental Quality Board Regulation #7-459 (Independent Regulatory Review Commission #2857) Comment/Response Document “ http://files.dep.state.pa.us/PublicParticipation/Public%20Participation%20Center/PubPartCenterPortalFiles/Environmental%20Quality%20Board/2010/October_12_2010/Casing%20and

have been constructed under cementing rules appropriate for protection against endangerment from an injection well. The 2010 cementing and casing rules — which applied to both conventional and unconventional wells — were adopted only after difficult experiences of methane migration (which was admitted by DEP as a genuine issue). By not clarifying whether “proper” means according to today’s understanding of proper cementing construction, Basis is in fact not a basis at all for determining protection against endangerment. EPA must require reevaluation of the construction of these wells for cementing issues, including actual documentation of pressure tests and cement bonding logs.

The case of Sedat 5H is particularly troubling. This well would have been subject to the 2010 cementing rules. There are no inspection reports for this well that show that the cementing was ever inspected. If DEP did not inspect cementing for Sedat 5H, how can EPA claim to have evaluated whether the cementing job for this well was “proper”?

Appendix 1 shows there are houses within the proposed AOR — a fact which is not mentioned in Basis. What is the water source for these houses? EPA is negligent in evaluating endangerment if it does not require pre-conversion water testing on all water wells to the same standard as required in Pennsylvania for drilling unconventional gas wells. Failing to evaluate the pre-conversion water quality for houses close to Sedat 3A is simply inexcusable.

Finally, evaluation of endangerment against earthquakes is such a large issue it will be dealt with below (point 8).

5. Basis AOR evaluation (p. 2) shows no evidence of logs or other data by means of which the wells within the proposed AOR have been evaluated for construction integrity (e.g. pressure testing or cementing).

An exhaustive search of DEP inspection reports¹⁰ for the wells listed in Table 1 above shows no instance in which DEP inspected even one of the wells for pressure testing. The case of Sedat 5H is particularly troubling. This is evidently a horizontal¹¹ Oil and Gas well. Inspection reports note in comments that the well has been fracked, but there is no notation of pressure testing. The only indication that Sedat 5H was inspected for cementing is a single comment in Inspection ID 2054235 stating “US ENERGY RIG DRILLED A PILOT HOLE TO 3450', AND THE CEMENTED BACK TO IT'S KOP.” Sedat 5H was subject to the 2010 cementing rules. But there appears to have been no surface inspection of the cementing job. The DEP Oil and Gas Electronic Notifications Report¹² shows no electronic notifications having been sent for this well.

6. Basis Confining Zones evaluation (p. 3) cites no permeability figures for putative confining zones and shows no evidence this was evaluated.

Although EPA evaluated permeability for the injection zone in some detail, Basis provides no detail whatever regarding permeability of the putative confining zones. Do they in fact function as confining zones? What evidence do we have for this? The only thing provided by Basis on this point is Penneco’s assertion that they are “confining”. And it is worth noting, the Administrative Record Index on this case¹³ (“Index”) cites no reference whatsoever regarding the Riddlesburg Shale.

7. Basis Confining Zones evaluation (p. 3) cites no methodology for analyzing whether there might be existing fractures in the putative confining zones that would allow transmitting contaminants, and shows no evidence this was evaluated.

Basis states:

%20Cementing/Comment_Response_for_Oil_and_Gas_comments_9_20_101.pdf.

10 Inexplicably, DEP’s Oil & Gas Mapping web site shows no inspections whatsoever for Sedat 4A, 003-21644.

11 DEP records are ambiguous as to the configuration of this well. It is referred to in the inspection reports as a horizontal well, but the DEP Oil & Gas Mapping web site metadata for this well lists well configuration as “Deviated”.

12 http://www.depreportingservices.state.pa.us/ReportServer?/Oil_Gas/OG_Notifications

13 https://www.epa.gov/sites/production/files/2017-06/documents/finaloptimizedforweb.administrative_record_-_penneco_sedat_3a.pdf

“According to the applicant, the driller’s log shows that the upper confining zone, located immediately above the injection zone, is comprised of the low permeability Riddlesburg Shale. The Riddlesburg Shale layer, a dark gray to greenish and grayish black laminated shale and siltstone layer with occasional sandstone and limestone beds, is approximately 80-90 feet thick in the Sedat #3A AOR.”

Basis simply infers that the Riddlesburg Shale will be effective as a confining layer, with no actual analysis cited except for “according to the applicant”. Natural existing fractures are pervasive in many shale layers, and play an important role in the effectiveness of hydraulic fracturing. Basis is simply silent on the subject of fractures within the Riddlesburg Shale. Without analysis on this point, evidence that the Riddlesburg Shale will be an effective confining layer is incomplete and inadequate. (And as noted above, Index is totally without reference on this point.)

8. Basis Geologic and Seismic Review (p. 4) is incomplete and inadequate and does not take account of recent history, including Marcellus and Utica Shales incidents of unanticipated faults and induced seismicity, and actual induced seismicity events in Ohio and Oklahoma.

It is likely that there is no greater concern to the public at large from injection wells than the risk of earthquakes, and it would not be surprising if the preponderance of public comments on this case mention this as a top concern. It is clear that Basis did pay some attention to this issue, but unfortunately EPA seems not to be aware of some of the seismicity issues that are part of the historical record here in Western Pennsylvania.

While there is ample scientific agreement that injection into an active fault zone brings the risk of earthquakes — and actual such earthquakes have in fact happened — it was still surprising to many people that earthquakes associated with “ordinary fracking” occurred recently in Northwest Pennsylvania. I call to EPA’s attention a document not listed in Index, “Review of Seismic Events in Lawrence County Pennsylvania”, January 2017, Pennsylvania Department of Environmental Protection¹⁴ (“Lawrence Review”). Please see also DEP’s web page on this event, “Lawrence County Earthquake”¹⁵. DEP states: “A series of low-magnitude earthquakes that began on April 25 [2016] at 4:17 am in North Beaver, Union, and Mahoning Townships *showed a marked temporal/spatial relationship to hydraulic fracturing activities* at Hilcorp’s North Beaver NC Development well pad.” [Emphasis added.] Although the magnitude of the earthquakes in this case was quite small, it was serious enough for the operator, Hilcorp Energy, to cease hydraulic fracturing temporarily and for DEP to promulgate a plan of corrective action. This is a cautionary tale that even decades of seismic inactivity and lack of identified surface faults can still be prologue to induced seismicity from underground fluid injection.

Figure 1 is a reproduction of Figure 4 from Lawrence Review, showing a feature known as the Blairsville-Broadtop Lineament (also known as the Mahoning River Lineament). This feature has been associated with both the Lawrence County event on April 25 2016 and earthquakes in Ohio (see e.g. Lawrence Review, “Preliminary Report on Earthquakes in Youngstown Caused by an Injection Well” Ohio Department of Natural Resources, March 12, 2012¹⁶). The location of Sedat 3A is disturbingly close to the Blairsville-Broadtop Lineament (though not as close as the wells associated with the Lawrence County event. Basis shows no analysis of this association, and its implications for the risk of earthquakes from an injection well constructed from the existing well Sedat 3A. This clearly shows EPA’s analysis of earthquake risk in Basis is incomplete and inadequate.

14 http://www.e-library.dep.state.pa.us/dsweb/Get/Document-116109/8100-RE-DEP4711_new.pdf

15 <http://www.dep.pa.gov/About/Regional/NorthwestRegion/Community-Information/Pages/Lawrence-County-Earthquake.aspx>

16 <https://www.slideshare.net/MarcellusDN/preliminary-report-on-earthquakes-in-youngstown-caused-by-an-injection-well>

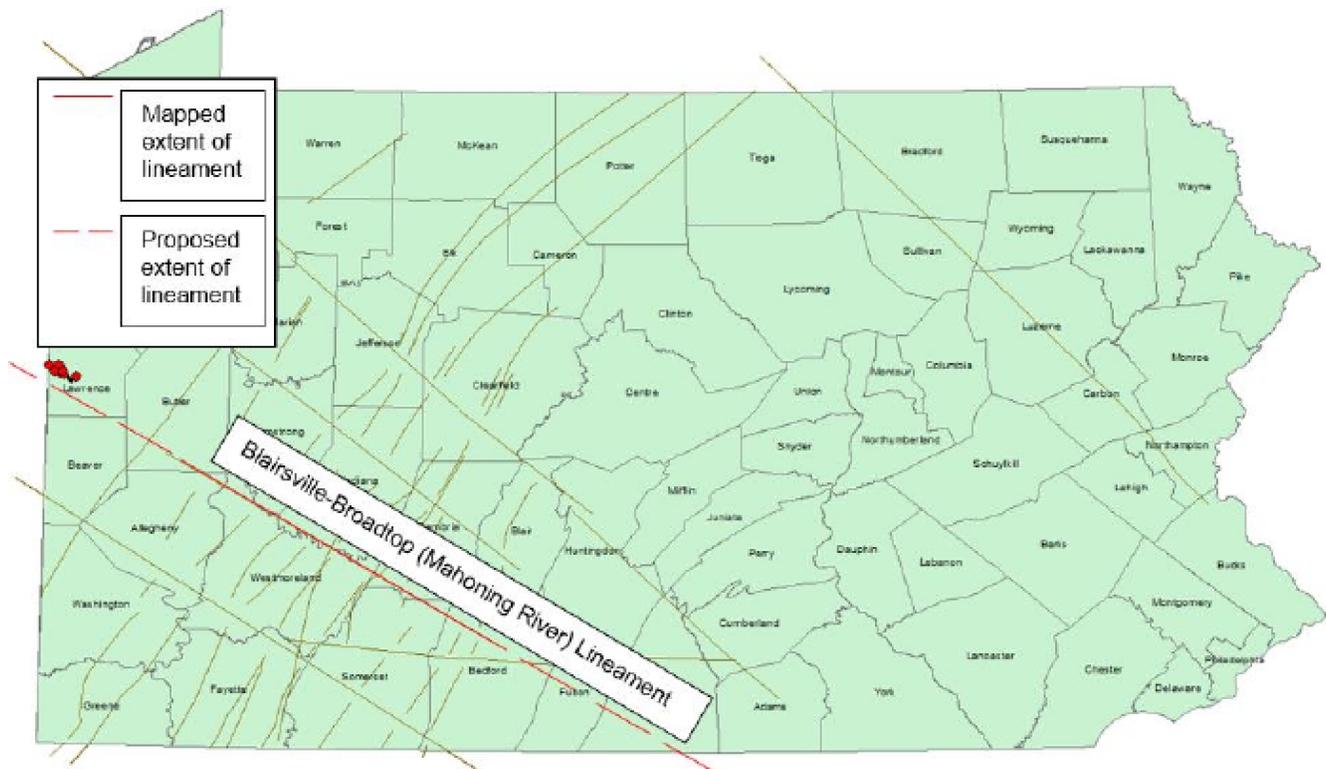


Figure 1: Bradford-Broadtop Lineament

Another example of “geological surprise” in Western Pennsylvania comes from Fayette County, where DEP records show that in the first attempt to drill the horizontal in the well Kikta 4H, API 051-24471, operator Chevron Appalachia, LLC, *failed* due to an unanticipated fault. The comment for DEP Inspection Report¹⁷ ID 2065722, 04/10/2012, states:

“HORIZONTAL MARCELLUS, PATTERSON 325 DRILLING ON FLUID ,CHEVRON DECIDED TO PLUG VERTICAL WELL BORE BACK TO 7100'.TWO ATTEMPTS TO DO HORIZONTAL PORTION HAS FAILED. **MAJOR FAULT ISSUES.**” [Emphasis added.]

Evidently, Chevron had no idea its horizontal was headed straight for a fault until they blundered into it. If a company with the size and Oil & Gas experience and resources of Chevron can be taken by surprise by an unanticipated fault in this manner, what chance does Penneco have of being reasonably certain an injection well at Sedat 3A won’t interact with an unknown, unanticipated fault? What chance does EPA have of correctly evaluating this?

9. Basis Geologic and Seismic Review (p. 4) shows no evidence of any evaluation of the presence in AOR of any intervening coal mines (including undocumented mines) that might interfere with the intended operation or integrity of Well or the effectiveness of AOR Confining Zones.

Appendix 2 shows a map of the Mine Subsidence Insurance risk for the area around Sedat 3A¹⁸. The location of Sedat 3A is clearly notated as “Underground Mining Area – Insurance is recommended”. However, Basis is completely silent on this subject. This is simply inexcusable! What would the implications be for an injection well if mine subsidence occurred? What are the implications for Confining Zones? It is nothing less than outrageous that this has not been analyzed. If there is any tangible risk whatever of mine subsidence, this should in and of itself *completely disqualify* this location from hosting an injection well. EPA should deny outright any application for a UIC disposal well in any Mine Subsidence Insurance risk area.

17 http://www.depreportingservices.state.pa.us/ReportServer/Pages/ReportViewer.aspx?/Oil_Gas/OG_Compliance

18 <http://www.depgis.state.pa.us/msiRisk/>

Moreover, DEP Oil & Gas Mapping metadata for Sedat 3A shows the indicator for coal association reading “Coal”. This is DEP’s own indicator that special measures need be taken in permitting this well due to proximity with a coal mine. A text search of Basis for the word “coal” shows no hits. For EPA to issue an injection well permit with no analysis whatever of coal issues is a very grave deficiency indeed. EPA must require an entire new submission considering all aspects of the risk coal mines, present and past and proposed, and must redraft Basis taking such risk into account. Suitability of this site due to the presence of coal issues is subject to grave doubt.

10. Permit Monitoring Requirements (Section II C, pp. 7-10) does not contain a requirement for monitoring of seismicity and contains no seismicity shutdown threshold.

In response to the Lawrence County earthquake associated with Hilcorp Energy’s North Beaver NC Development well pad cited above, DEP recommended Hilcorp adopt a seismic monitoring program as follows¹⁹:

“For seismic events of 1.0 or greater magnitude occurring within 6 miles of the wellbore path, the company should notify DEP within 10 minutes via email and within one hour by telephone.

For any succession of three seismic events of 1.5 to 1.9 magnitude that occurs within a three-consecutive-day period and within a 3-mile radius of the wellbore path, Hilcorp should notify the DEP within 10 minutes via email and within one hour by telephone. Actions taken for this magnitude range of seismic events include suspension of stimulation operations, submittal of seismic data to DEP for review and a plan detailing modifications to stimulation operations.

Finally, for any seismic event of 2.0 or greater magnitude that occurs within a 3-mile distance of a wellbore path, Hilcorp should notify the DEP within 10 minutes via email and within one hour by telephone. Actions taken include cessation of stimulation operations, flowing back of the well, submittal of seismic data to DEP for review and a plan detailing any potential modification to stimulation operations.”

In light of the extensive history of association between injection wells and earthquakes, EPA should *require* (not just “recommend”) seismic monitoring for any injection well used for disposal of Oil & Gas wastewater.

11. Permit Construction Requirements must require recementing to current standards of all wells with the expected area of migration of stored fluids, and pressure testing of these well casings to injection pressure.

This issue was discussed above. There is an obvious risk of contaminants being transmitted outside the casing for any well that penetrates the injection zone. At a minimum, this risk must be mitigated by new construction for the existing wells. All casings must be retested in any case of mine subsidence, and if there is no methodology for doing this, the permit must be rejected outright.

12. Permit Construction Requirements Logs and Tests (Section III A 3, p. 15) must require submission of surface casing cement logs in all cases, and not just when “cement returns are not achieved”.

Let’s be clear: Failure of cement to return to the surface is not just a “defect” in cementing; rather when cement fails to return to the surface this represents *a total failure* of cementing. In a case such as this, where did the cement go? It must have gone into a cavity somewhere. Presence of such an underground cavity represents a grave failure of determination of the site as suitable for an injection well, and must result in the immediate revocation of the permit.

Even in cases much less severe than total cement failure, conversion of any well to an injection well must have

¹⁹ DEP web page “Lawrence County Earthquake”, *op cit* (footnote15).

cementing carefully monitored for any and all defects. A CBL (“Cement Bonding Log”) can assist in determining if such defects exist. EPA must make submission of logs such as CBL *mandatory* in all cases, and must inspect such logs for any sign of defects.

13. Permit Construction Requirements Logs and Tests (Section III A 3, p. 15) must make clear that all logs and tests are public records and not subject to claims of confidentiality (Section I 11 b, p. 6).

There is simply no excuse for withholding from the public logs and tests that might reveal construction defects or other threats to the integrity of Well. Section I 11 b, p. 6, must be amended to include a section (3) stating that EPA will deny any and all claims of confidentiality for logs and tests submitted under Section III A 3, p. 15.

14. Permit Construction Requirements (Section III A, pp. 14-16) must include a requirement for some form of containment against the threat of surface spills when trucks delivering material to be injected are connected and disconnected.

This point is so obvious that it should be embarrassing to an organization with “Environmental Protection” in its name that is it left for us citizens to point out. The material intended for disposal in Well is classified by DEP as “Residual Waste”. It is worth noting that the use of the term “residual” rather than “hazardous” is not the result of any scientific finding concerning the lack of impact on health of exposure to such waste; rather, exemption from being classified as being hazardous is the result of specific statutory language in the Energy Policy Act of 2005²⁰ which has no scientific basis. Surface spills of such waste are a direct threat to the health and safety of any waters to which they may migrate. For EPA not to require maximum protection against such surface spills is outrageous and inexcusable. Containment of possible surface spills is a bare minimum of the level of protection that should be required. EPA must amend Permit Construction Requirements (Section III A, pp. 14-16) to include the strongest possible protections against the threat of surface spills.

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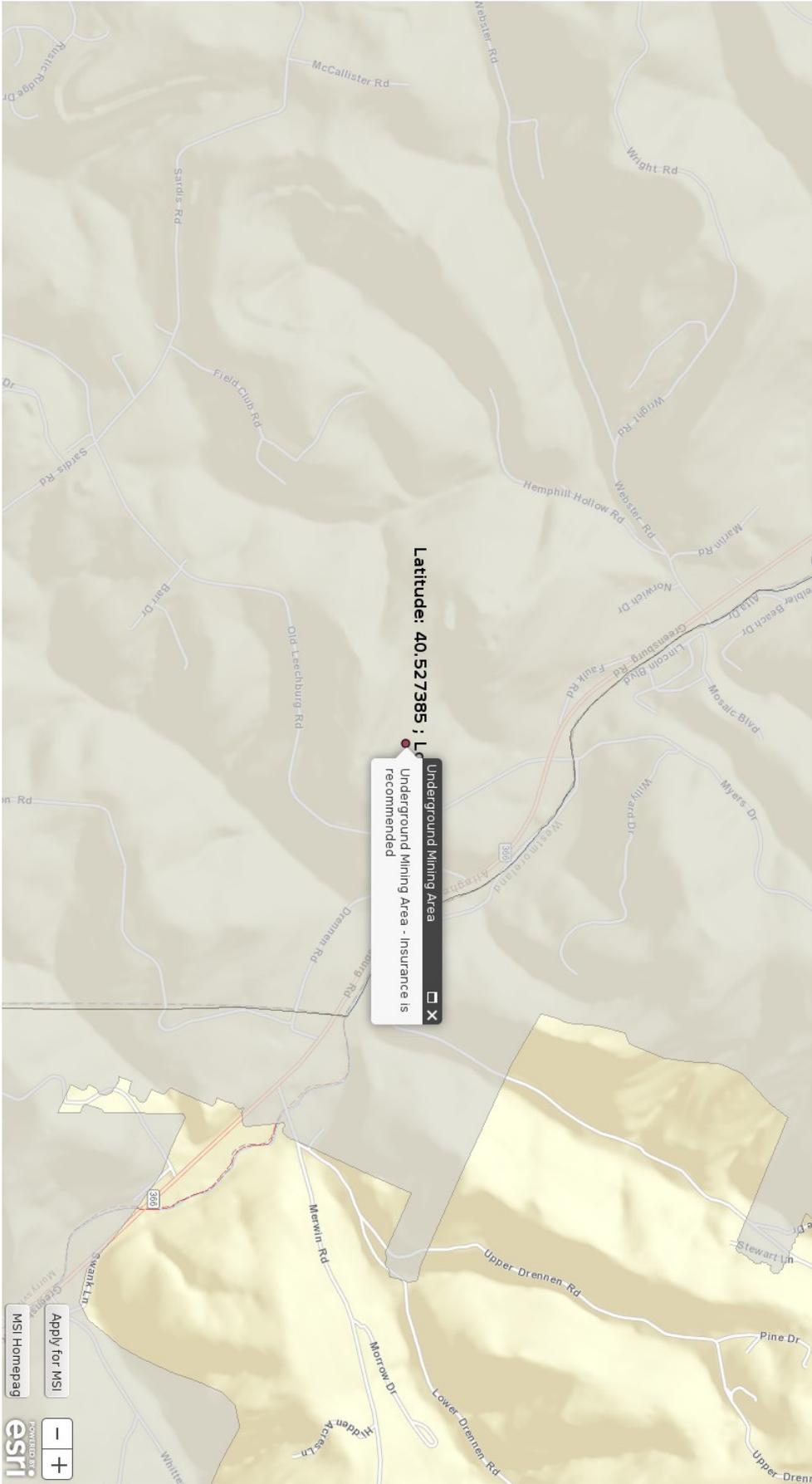
20 This is known colloquially (and infamously) as “The Halliburton Loophole”.

Appendix 1

USGS “geotiff” New Kensington East 1:24000 Topographic Map
Overlaid with the 0.25 Mile Proposed AOR
and Nearby Oil & Gas Wells

Appendix 2

DEP Mine Subsidence Insurance Risk Map for the Vicinity of Sedat 3A



Latitude: 40.527385 ; Longitude: -96.711111
Underground Mining Area - Insurance is recommended

Apply for MSI
MSI Homepad
POWERED BY
esri