

From: S. Stephen Platt

To: Windfall Oil and Gas file

Subject: Documentation of UIC permits issued by EPA Region III which allow injection into the Huntersville Chert/Oriskany formation. Establishes that the region has knowledge and is familiar with injection into this formation.

Injection into Huntersville Chert/Oriskany Formations

The following permits have been issued by EPA Region III for injection into the Huntersville Chert/Oriskany formations.

PAS2D041BBEA - Columbia Gas - Beaver County - Huntersville Chert/Oriskany

PAS2D205BCLE - EXCO Resources - Clearfield County - Oriskany

PAS2D561BSOM - Cottonwood - Somerset County - Oriskany

PAS2D902BCLE - EXCO Resources - Clearfield County - Oriskany

PAS2D912BSOM - CNX Gas - Somerset County - Huntersville Chert/Oriskany

From: S. Stephen Platt
To: Windfall Oil and Gas File
Subject: Justification of Fracture Gradient

The Windfall application contained fracture gradient information from two disposal wells previously permitted by EPA Region III. The Region used this information to help justify the fracture gradient the Region used to develop the maximum injection pressure condition for the Windfall permit.

The Critchfield Well #1 in Jenner Township, Somerset County is an active permit with the following permit identification – PAS2D912BSOM. It is now operated by CNX Gas Company and the well injects into the Huntersville Chert/Oriskany formations. 0.90 psi/ft. was the gradient used to develop the maximum injection pressure condition. This well was first permitted in 1991.

The West Shanksville Well in Somerset County, was a well originally owned by, first, Amoco and then Damson. It is now presently operated by Cottonwood Operating Corporation and has a permit identification of PAS2D651BSOM. 0.90psi/ft. was the gradient used to develop the maximum injection pressure for this permit. This well was first permitted in 1985 at the outset of the program.

S. Stephen Platt
Ground Water & Enforcement Branch (3WP22)
Office of Drinking Water & Source Water Protection
U.S. EPA Region III
215-814-5464

Facility ID	Facility Name	County	Injection Formation	Surface Injection Pressure	Injection \ Vol. Blbls/M	API	Latitude	Longitude (-)	Plugging Estimate (\$)
PAS2D041BBEA	Columbia Gas	Beaver	Huntersville/Oriskany	1300	21,000	37-017-20027	40° 45' 22.20"	80° 26' 36.80"	75,000
PAS2D205BCLE	EXCO Resources PA	Clearfield	Oriskany	3240	27,000	37-033-00053	40° 58' 24.40"	78° 46' 18.30"	46,611
PAS2D010BYEN	Storehaven Energy	Venango	Speechley	1358	4,500	37-121-44484	41° 23' 16.4"	79° 37' 43.5"	10,000
PAS2D251BERI	Range Resources*	Erie	Gatesburg	1570	45,000	37-049-24388	41° 58' 54.40"	80° 00' 33.20"	
PAS2D322BIND	XTO Energy*	Indiana	Baltimore	1930	3600	37-063-20246			
PAS2D561BSOM	Cottonwood	Somerset	Oriskany	3250	27,000	37-111-20059	40° 02' 42.90"	78° 56' 9.20"	18,300
PAS2D602BCLE	EXCO Resources PA	Clearfield	Oriskany	1450	4200	37-033-22059	40° 54' 38.90"	78° 35' 54.70"	10,000
PAS2D812BSOM	CNX Gas Company	Somerset	Huntersville/Oriskany	3218	30,000	37-111-20008	40° 06' 33.80"	78° 03' 28.80"	25,000
PAS2D215BWAR	Bear Lake Properties	Warren	Medina	1726	30,000	37-123-38874	41° 59' 50.50"	79° 32' 27.50"	30,000
PAS2D216BWAR	Bear Lake Properties	Warren	Medina	1898	30,000	37-123-35914	41° 59' 37.50"	79° 32' 27.20"	30,000
PAS2D020BCLE	Windfall Oil & Gas	Clearfield	Huntersville/Oriskany	2443	30,000	To be drilled	41° 04' 55.0"	78° 44' 48.95"	30,000
PAS2D025BELK	Seneca Resources	Elk	Elk 3 Sand	1416	45,000	37-047-23835	41° 37' 08.1"	78° 48' 17.5"	24,850
PAS2D013BIND	PA General Energy	Indiana	Huntersville Chert	2833	30,000	37-063-31807	40° 44' 43.00"	78° 55' 34.00"	60,000

Note: Bear Lake and Windfall are commercial facilities

* Plugged and Abandoned

UIC - Annual Inventory Summary
 Inspection Date: 10/01/2000 - 10/01/2014

STAVE: PA	Facilities:	UC	AC	TA	PA	AN	Total # of Wells
2D	3	0	0	0	3	0	3
2R	19	0	0	0	109	0	109

22 0 0 0 0 112 0 112

Since FY 2001 a total of 112 wells required closure (i.e., plugging and abandonment) under UIC program requirements. The wells were plugged either because the operator determined they no longer wanted to operate the well or permits expired and the operator decided not to renew their permit. None of these wells have shown evidence of improper plugging or have resulted as conduits for fluid migration.

S. Stephen Platt
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 Hydrologist
 UIC National Expert

10/01/2013 - 09/30/2014

	Inspections:	Wells:
2D	27	8
2R	155	110
Totals For: PA	182	118

Grand Totals:	Inspections:	Wells:
	182	118

This data shows that during fiscal year 2014, 27 Class II-D inspections took place for the permitted 8 Class II-D wells in PA. Each well was inspected several times.

S. Stephen Platt
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Hydrologist
USC National Expert

10/01/2012 - 09/30/2013

	Inspections:	Wells:
2D	17	5
2R	292	237
Totals For: PA	309	242

Grand Totals:	Inspections:	Wells:
	309	242

This data shows that during fiscal year 2013, 17 Class II-0 inspections took place for the permitted 5 Class II-0 wells in PA. Each well was inspected several times.

S. Stephen Platt
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Hydrologist
VIC National Expert