

**APPLICATION CHECKLIST**

Portage County, Windham Township  
 Soinski Z I, Permit #  
 SWIW # 38

	Date	Initials
Enter on Agenda	4/2/12	AA
Completeness Review	7/3/12	AA
Date - Time Stamp	4-2-12	AA
Area of Review	6/13/12	AA
Site Evaluation	8-9-12	AA
Permitting Section		
Memo to Inspector	7-25-12	AA
Public Notice	08-01-12	DS
Letter	08-01-12	
Date Run		
15 Days		
Review Public Notice		
Affidavit of Notification		
Objections Received	Yes _____ No _____	
Public Hearing Date		
Chief's Order, if Required		
Schematic	6-19-12	AA
Plot on Map	6-28-12	AA
Review by Geologist		
Permit Conditions (Same date as permit)		
Enter on Computer (Same or later date than Chief's Order)		
Enter on Master List	6-7-12	AA
EPA Form	7-3-12	AA
Mail Permit		
Update Agenda		
File		

**RECORD OF CONVERSATION**

- Depth changes made to bench 1 & 203 to match description of cross program depicted on back of 203

- Needs surface facility sketch - Received 8-1-12

---



---



---

# DAILY ROUTE SLIP

Windham

APPLICATION NO. aAMY0000909 TYPE: Salt Water Injection Well

CONAME HARD ROCK DRILLING & PR API

WELL NAME /NO. SOINSKI 2I

COUNTY 133 PORTAGE INITIALS DATE

DATE APPLICATION REC'D Am 4/2/2012

PERMIT FEE AND CHECK NO. \$1,000.00 1158

RUSH AMOUNT RUSH CHECK NO. \$0.00 0

APPLICATION ENTERED Am 4/2/2012

APPLICATIONS AND PLATS SENT FOR MINE APPROVAL

COAL APPROVAL RECEIVED

OIL/GAS AFFIDAVIT REC'D

URBANIZED AREA NOTIFICATION SENT

URBANIZED AREA NOTIFICATION SENT TO INSPECTOR/REC'D BACK

URBAN MAP REVIEW

SAMPLES: YES \_\_\_/SPECIAL AREAS

GEOLOGIST APPROVAL

DATA ENTRY /ISSUED

PERMIT: TAKEN \_\_\_ MAILED \_\_\_

FAX TO: \_\_\_\_\_

FINAL MAP CHECK

COMMENTS:

# Proof Sheet

APPL NUMBER	<input type="text" value="aAMY0000909"/>
OWNER NUMBER	<input type="text" value="8837"/>
OWNER NAME	<input type="text" value="HARD ROCK DRILLING &amp; PROD LLC"/>
EXISTING WELL	<input type="text" value="0"/>
API PERMIT NO	<input type="text"/>
APPL TYPE	<input type="text" value="SWIW"/>
TYPE OF WELL	<input type="text" value="SWD"/>
VARIANCE REQUEST	<input type="text"/>
WELL NAME	<input type="text" value="SOINSKI # 2 I"/>
WELL NUMBER	<input type="text" value="2I"/>
PREV/PROPOSED TD	<input type="text" value="4200"/>
DRILL UNIT ACRES	<input type="text" value="484.73"/>
TYPE OF TOOL	<input type="text" value="RTAF"/>
WELL CLASS	<input type="text" value="S W I W"/>
FIRE PHONE	<input type="text" value="( ) - 911"/>
MEDICAL PHONE	<input type="text" value="( ) - 911"/>
COUNTY CODE	<input type="text" value="133"/>
COUNTY NAME	<input type="text" value="PORTAGE"/>
COAL (Y=-1/N=0)	<input type="text" value="0"/>
CIVIL TOWNSHIP	<input type="text" value="WINDHAM"/>
SURF QUAD	<input type="text" value="GARRETTSVILLE"/>
Nad 27 SURF ORIG X	<input type="text" value="2,407,865"/>
Nad 27 SURF ORIG Y	<input type="text" value="583,524"/>
GROUND ELEVATION	<input type="text" value="922"/>
SURF SEC	<input type="text"/>
SURF LOT	<input type="text" value="90"/>
SURF QTR TWP	<input type="text"/>
SURF ALLOT	<input type="text"/>
SURF TRACT	<input type="text"/>
SURF FRACTION	<input type="text"/>

URBANIZED AREA ?

NAME

DISPOSAL PLAN 1

DISPOSAL PLAN 2

DISPOSAL PLAN 3

DISPOSAL PLAN 4

DISPOSAL PLAN 5

MP Check #

**PROPOSED FORMATIONS**

NEWBURG

TARG CIVIL TWP

TARG QUAD

Nad 27 TARG ORIG X

Nad 27 TARG ORIG Y

TARG ELEV

TARG SECTION

TARG LOT

TARG QTR TWP

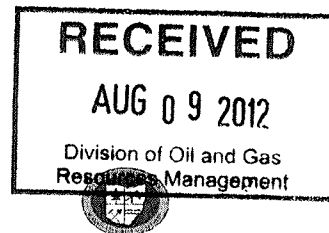
TARG ALLOT

TARG TRACT

TARG FRACTION



Ohio Department of Natural Resources  
Division of Mineral Resources Management  
2045 Morse Rd. Bldg. H-3 – Columbus OH 43229-6693



*SWIW Permit Conditions*

<b>Application Number</b>	SWIW #38	<b>Permit Number</b>		<b>Inspection Date</b>	08/02/12	<b>Modification Date (if applicable)</b>	
<b>Company</b>	Hard Rock Drilling and Producing, LLC		<b>Lease Name/Well #</b>	Soinski #2			
<b>County</b>	Portage		<b>Township</b>	Windham			
<b>Section/Lot</b>	Lot 90		<b>Urban Area</b>	N/A			
<b>Inspected By</b>							Stephen Ochs
<b>Accompanied By</b>	C.J. Cutter (Company) and Dale Soinski (Landowner)						
<b>Directions to Location</b>	US 422; 4.5 miles south on SR 534; 3 miles west on SR 82; access on the north side of road						

ITEM	LEASE ROAD, WELL SITE CONSTRUCTION	Comments:
1	Tree/Brush Removal/Disposition	N/A
2	Topsoil Removal/Stockpiles/Placement	N/A
3	Erosion/Sediment Control (Silt Fence, Berms)	Silt fence used where needed
4	Drainage Controls (Diversion Ditches, Culverts, Waterways, Crossings)	Existing drainage controls
5	Signage	As required by OAC 1501: 9-3-06
6	Apron/Culverts/Road Material	Existing access road
7	Pull Off Area	Well site
8	Parking	Well site
9	GPS – Access Road	41.25569 -81.02827
10	GPS – Well Stake	41.25893 -81.01630
11	GPS – Tank Battery	41.26170 -81.01926

ITEM	DRILLING CONSIDERATIONS	Comments:		
12	Noise Mitigation (Mufflers, Extra Frac Tanks, Tarps)	N/A		
13	Rig Type	Fluid and Air Rotary		
14	Is a Blow-out Preventor required?	<input checked="" type="checkbox"/>	Yes	No
	If No, explain:			
15	Equipment Placement/ Orientation (Rig/ Frac Tanks/ etc.)	N/A		
16	Drilling Pits (Placement/Orientation)	N/A		
17	Fencing (Pits/Entire Location)	N/A		
18	Flood Plain	Approx. 0.2 miles from Eagle Creek		
19	Mine Voids	None		
20	Verify Water Wells Within 300'	None		
21	Verify Structures Within 500'	None		
22	Verify Streams and Drainage	Drainage east toward Eagle Creek		

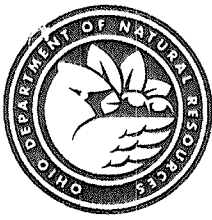
ITEM	RESTORATION	Comments:		
23	Pit Closure – (Standard/ Solidification/ Off-Site Disposal – state time frame)	Once total depth has been reached, the drilling equipment will be removed and pits will be closed within two months.		
24	Site Specific Time Frame For Restoration	All restoration will be completed within six months after drilling is commenced.		
25	Erosion/Sediment Control	Maintain until preliminary restoration is completed		
26	Drainage Control	Maintain until final restoration is completed		

ITEM	PRODUCTION	Comments:		
27	Is the Access Road Gate required?	<input checked="" type="checkbox"/>	Yes	No
	If No, explain:			
28	Landscaping/Screening (Wellhead, Tank Battery) (Waiver Attached if applicable)	N/A		
29	Fencing (Wellhead, Tank Battery) (Waiver Attached if applicable)	N/A		

WAIVERS	Comments:		
Is the Company required to submit a waiver?	Yes	<input checked="" type="checkbox"/>	No
If yes, submit the following waiver requests:			

Is the Company required to submit revised drawings?	Yes	<input checked="" type="checkbox"/>	No
---	-----	-------------------------------------	----

THE FOLLOWING ITEMS HAVE BEEN CHANGED FROM THE ORIGINAL APPLICATION:



# Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

## Division of Oil and Gas Resources Management

*Richard J. Simmers, Chief*

2045 Morse Road, Bldg. F-2

Columbus, OH 43229-6693

Phone: (614) 265-6633 Fax: (614) 265-7998

August 1, 2012

**Mr. Charles J. Cutter**

Hard Rock Drilling and Production, LLC

7646 Cedar Valley Road

West Salem, Ohio 44287

**RE: Public Notification for SWIW application for Portage County, Nelson Twp. and Windham Twp., seven new wells, Hard Rock Drilling and Production, LLC, Soinski #1, #21, #31, #41, #5, #6, and #7 injection wells.**

Dear **Mr. Cutter**:

As outlined in Rule 1501: 9-3-06 (H) (1) of the Ohio Administrative Code, please consider this letter as notification from the Division for you to proceed with the public notice. Enclosed, please find a copy of the notice you will need to have run in the newspaper of general circulation in the area of the proposed injection well. **The public notice must be run for no less than five consecutive days. After running this notice in the newspaper, please send me the original proof-of-publication from the newspaper as soon as possible.**

If you have any questions regarding this matter, please feel free to contact me at (614) 265-1032.

Sincerely,

  
**Tom Tomastik**, Geologist

UIC Section

Division of Oil and Gas Resources Management

2045 Morse Road, F-2

Columbus, Ohio 43229-6693

Cc: File

## PUBLIC NOTICE

Hardrock Drilling and Production, LLC, 7646 Cedar Valley Road, West Salem, Ohio (419) 846-3850 is applying to permit seven wells for the injection of brine water produced in association with oil and natural gas. The location of the proposed injection wells are: Soinski SWD #1 and #4I wells at Lot 89; Soinski SWD #2I and #3I wells at Lot 90 in Windham Township; Soinski SWD #5, #6 and #7 at Lot 45 in Nelson Township; Portage County, Ohio. The proposed wells will inject into Newburg dolomite at a depth of 4000 to 4200 feet. The average injection is estimated to be 800 barrels per day. The maximum injection pressure is estimated to be 920 psi. Further information can be obtained by contacting Hardrock Drilling and Production, LLC or the Division of Oil and Gas Resources Management. The address of the Division is: Ohio Department of Natural Resources, Division of Oil and Gas Resources Management, 2045 Morse Road, Building F-2, Columbus, Ohio 43229-6693, (614) 265-6633. For full consideration, all comments and objections must be received by the Division, in writing, within fifteen calendar days of the last date of this published legal notice.

**INTER-OFFICE MEMO**

**TO: Steve Ochs, Mineral Resources Inspector**  
**FROM: Andrew Adgate, Geologist AA**  
**SUBJECT: Application and Site Evaluation for a SWIW permit**  
**DATE: July 25, 2012**

The Division of Oil and Gas Resources Management has received an application for the proposed saltwater injection well as described below:

OPERATOR: Hard Rock Drilling and Producing, LLC.  
WELL NAME & NUMBER: Soinski #2  
PERMIT NUMBER: Drill new well, SWIW #38  
LOCATION: 538' SL & 1299' WL of Lot 90, Windham Twp., Portage County  
PROPOSED INJECTION ZONE: Newburg Dolomite  
DATE RECEIVED: April 2, 2012

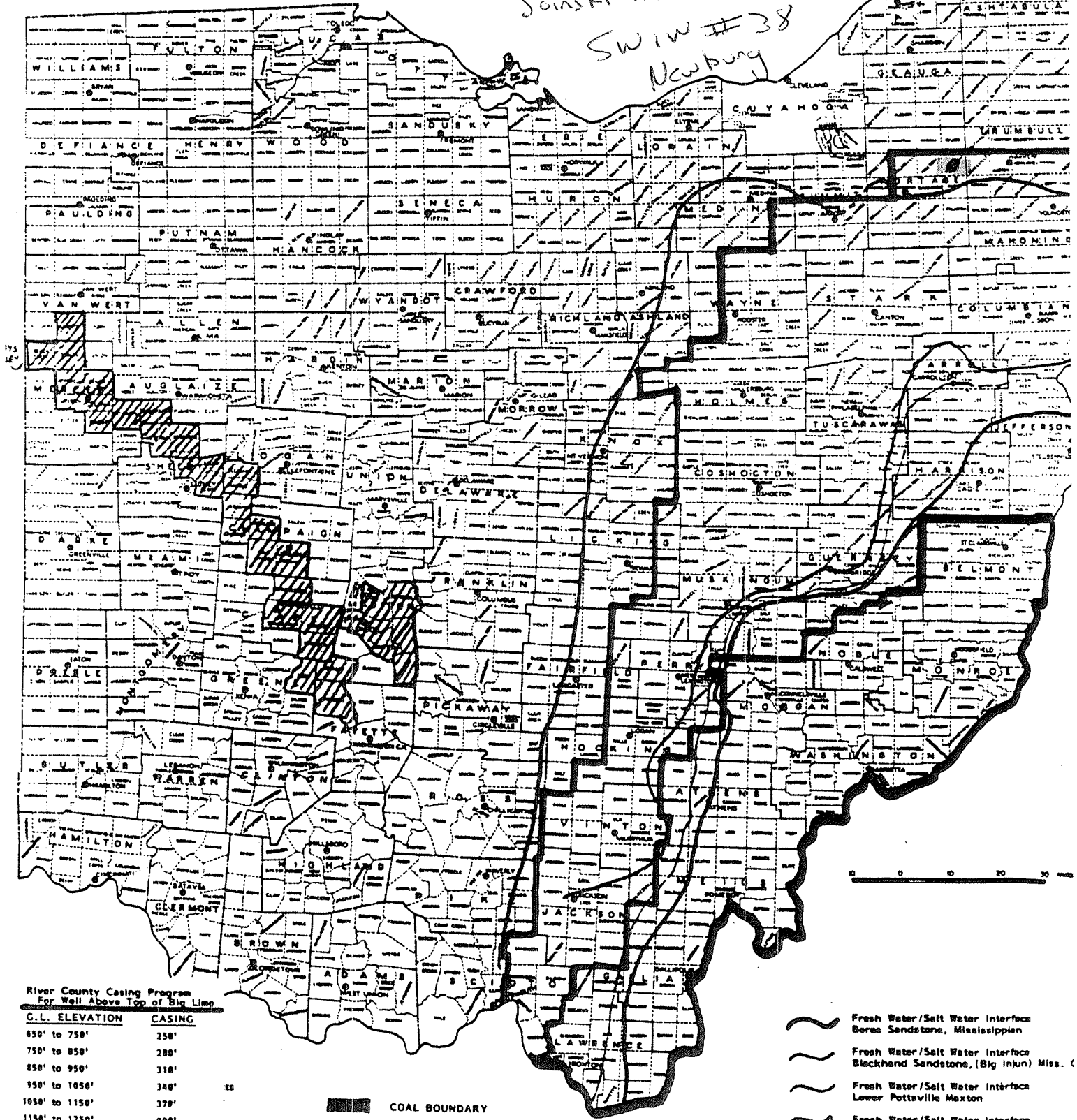
Please inspect proposed site and evaluate for any potential water wells or surface bodies of water within close proximity that would require any additional permit conditions for the construction of the SWIW surface facilities. Please e-mail me a copy of the site inspection report with any recommendations.



Portage County, Windham Twp

Sainski # 2 I, Permit #

SW 1/4 # 38  
Newburg



River County Casing Program  
For Well Above Top of Big Lime

G.L. ELEVATION	CASING
650' to 750'	258'
750' to 850'	280'
850' to 950'	318'
950' to 1050'	348'
1050' to 1150'	370'
1150' to 1250'	408'
1250' to 1350'	438'
OVER 1350'	500'

COAL BOUNDARY

- ~~~~~ Fresh Water/Salt Water Interface  
Berea Sandstone, Mississippi
- ~~~~~ Fresh Water/Salt Water Interface  
Blackhand Sandstone, (Big Injun) Miss. C
- ~~~~~ Fresh Water/Salt Water Interface  
Lower Pottsville Maxton
- ~~~~~ Fresh Water/Salt Water Interface  
Upper Allegheny 2nd Coe Run

OPERATOR Hard Rock Drilling

COUNTY Portage

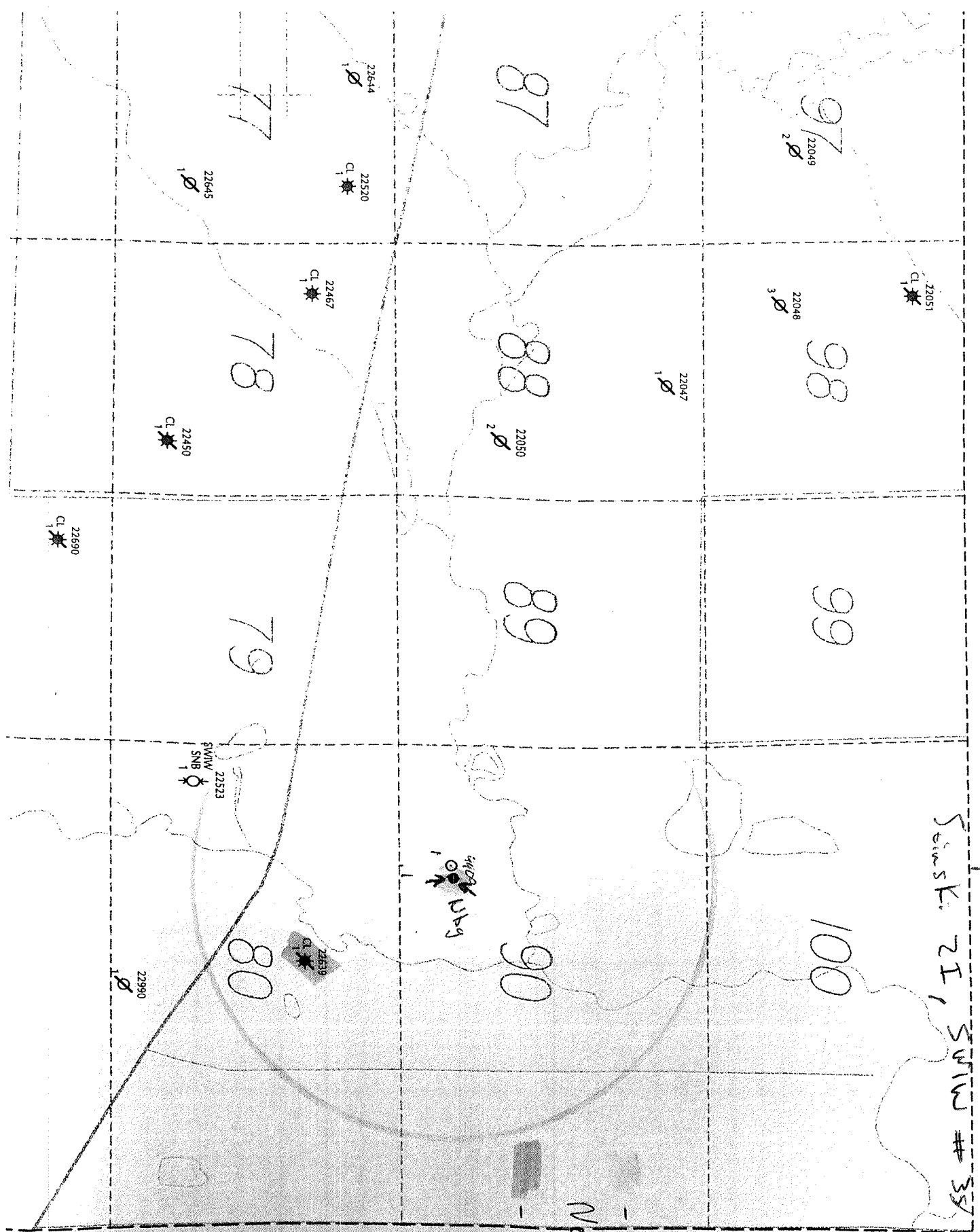
TOWNSHIP Windham

P & A	FM	Permit Number	Casing/Cement Program	Well Log and/or Method of Plug
<input checked="" type="checkbox"/>	CL	2639	9 5/8" - 378'	- Cemented to surface
<input type="checkbox"/>			4 1/2" - 4427'	- Cemented with 125 SKS <sup>calculated to</sup> up = 3779'
<input type="checkbox"/>			1 <sup>st</sup> Plug - 4226' to 4026'	with 25 SKS 2 <sup>nd</sup> plug - 3008' - 2856' with 45 SKS No 3 - 2212' - 2062' w/ 45 SKS
<input type="checkbox"/>			4 <sup>th</sup> Plug 453' - 303'	w/ 45 SKS 5 <sup>th</sup> Plug 100' - 0' w/ 30 SKS Ripped at 3048' - Plugs were class A cement
<input type="checkbox"/>	Nbg		Proposed Newburg Injection Well	
<input type="checkbox"/>			11 3/4" - 600'	cemented to surface 8 5/8" - 4000'
<input type="checkbox"/>			cemented back to 2500'	5 1/2" tubing int @ 3900'
<input type="checkbox"/>			50' above injection zone	
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				

NOTE: Proposed injection well should be circumscribed with appropriate radius and all wells clearly labeled and identified. A legend depicting color code is required.

Portage County, Windham Twp

Section 21, SW1/4 # 37



- Proposed Newburg SW1/4

- P&A Clinton well

## Tomastik, Tom

**From:** Eggert, Michael [michael.eggert@epa.state.oh.us]  
**Sent:** Tuesday, June 19, 2012 3:08 PM  
**To:** Tomastik, Tom  
**Cc:** Taliaferro, Lindsay; Lowe, Chuck; Smith, Craig  
**Subject:** Review of 5 Class II Injection Well Permit Applications  
**Attachments:** ODNR\_ClassII\_PermitReview\_Jun19\_2012.doc; Soinski\_Wells\_1-4 (2).pdf; Evrol-Kelly\_Disposal\_Well.pdf

Tom,

Please see attached documents with Ohio EPA's review of the proposed Class II Injection Well permit applications.

Contact Chuck Lowe or Craig Smith if you have any questions.

## Michael Eggert

Assistant Chief, DDAGW  
Ohio Environmental Protection Agency  
50 West Town Street, *Suite* 700  
Columbus, Ohio 43215

Phone: 614.644.2767

E-mail: [michael.eggert@epa.state.oh.us](mailto:michael.eggert@epa.state.oh.us)

Web: <http://www.epa.state.oh.us/home.aspx>

---

This message was secured by Zix (R).

6/21/2012

**To:** Tom Tomastik, ODNR-DOGRM  
**From:** Michael Eggert, Assistant Chief, Ohio EPA-DDAGW  
**Date:** June 19, 2012  
**Subject:** Class II Injection Well Permit Reviews

---

Ohio EPA Division of Drinking and Ground Waters has completed its review of five (5) Class II underground injection well permits.

Our review of the Class II permits focused on well construction relative to the protection of underground sources of drinking water (USDW) and the location of the surface facilities relative to public water system source water protection areas and other sensitive hydrogeologic settings.

Our review indicated no major problems that should cause a delay in approving the permits. However, the following technical issues should be addressed by the applicants prior to well construction.

The **Evrol #1 Evrol LLC** (Portage Co., Atwater Twp., Lot 98) has the following concerns:

- The surface casing and cement appear adequate. However, the type of cement (Class A is recommended) to be used and the placement of centralizers should be specified.
- The proposed injection zone is an open hole completion in the Newburg Dolomite. Atwater Twp. has been heavily drilled, with eight (8) Clinton Sandstone wells within the area of review (1/2 mile). Review of the cementing practices for the completion casing shows that the industry standard was to place cement over the producing (Clinton) interval with the cement top below the Newburg. Surface casing was set below the lowermost USDW and cemented to surface. However, the interval between the top of the Clinton cement and the base of the USDW is open. The potential for fluid movement out of the Newburg exists through these un-cemented well bores.
- The requested maximum injection pressure (1103 psi) exceeds the calculated value (958 psi) using a specific gravity of 1.2.

The **Hard Rock Drilling & Producing Soinski Wells 1-I, 2-I, 3-I and 4-I** (Portage Co., Windham Twp. Lots 89 & 90) have the following questions:

- The proposed depth of the surface casing listed for each well in the proposed casing program (No. 21) does not agree with the depths shown in the well construction and operation (No. 32) and the well schematic (No. 37). The latter are considered to be the correct depths. The type of cement to be used (Class A is recommended) and the placement of centralizers should be specified.
- A description of the surface facility for each well was given, but the locations were not shown. It is assumed that a single unloading facility was envisioned by Hard Rock Drilling, but not specified. If this is the case, then the locations of the flow lines and any stream crossings should be shown.
- The requested maximum injection pressure (1000 psi) exceeds the calculated value (968 psi).

Tomastik  
June 19, 2012  
Page 2 of 2

Attachment A is a summary of source water protection comments and two figures of the injection wells location in relation to public water systems. None of the proposed Class II injection wells are within one half mile of a public water system well or within a source water protection area. Note our review did not evaluate the location of private water system wells.

If you have any questions, please contact either Chuck Lowe or Craig Smith.

#### Attachments

cc: Chuck Lowe, DDAGW  
Craig Smith, DDAGW

## Attachment A

The Division of Drinking and Ground Waters has reviewed the UIC Class II injection well permits submitted for the Kelly Disposal Well (Evrol, LLC) and the Soinski #1I, #2I, #3I and #4I Wells (Hard Rock Drilling & Production, LLC) with regard to the following features within ½ mile:

Public water system wells and intakes;  
Drinking water source protection areas for surface and ground water sources;  
Federally-designated Sole Source Aquifers;  
Unconsolidated aquifers capable of producing 100 or more gallons per minute;  
Sand and gravel aquifers; and  
Other glaciated areas covered by less than 25 feet of glacial material.

The following provide the results of this review:

### **Evrol (Kelly Disposal Well) (Evrol, LLC)**

- No public water system wells or intakes are located within ½ mile of the proposed well location.
- No drinking water source protection area for a public water system using a ground water source extends to within ½ miles of the proposed well location.
- The proposed well location is within the corridor management zone determined for the City of Alliance's Dale Walborn Reservoir and Deer Creek Lake intakes. The corridor management zone for the intake extends 1,000 feet inland from the Mahoning River and 500 feet from each bank of tributary streams. The corridor management zone extends ten miles upstream of the intake. The project area is approximately 5.6 river miles upstream of the Dale Walborn Reservoir intake and 10 river miles upstream of the Deer Creek Lake intake. Based on the distance between the proposed well and the City of Alliance's intakes there is a very low probability that proper operation of a Class II injection well will impact Alliance's water quality.
- The proposed well location does not lie over a Federally-designated sole source aquifer.
- The well location is over the sand and gravel deposits of the Mahoning Buried Valley Aquifer.
- The well location does not lie over an unconsolidated aquifer capable of producing 100 or more gallons per minute or other glaciated areas covered by less than 25 feet of glacial material.

### **Soinski #1I, Soinski #2I, Soinski #3I & Soinski #4I (Hard Rock Drilling & Production, LLC):**

- No public water system wells or intakes are located within ½ mile of the proposed well locations.
- No drinking water source protection area extends to within ½ miles of the proposed well locations.

- The proposed well locations do not lie over a Federally-designated sole source aquifer.
- The proposed well locations are over the sand and gravel deposits of the Mahoning Buried Valley Aquifer.
- The proposed well locations do not lie over an unconsolidated aquifer capable of producing 100 or more gallons per minute.
- Glacial deposits less than 25 feet thick, Alliance Thin Upland, are located within ½ mile of the proposed well locations.

The attached maps show the spatial relationships of these features to the Kelly Disposal Well and the Soinski #11, #21, #31 and #41 Wells and are provided for your files.



**RESTORATION PLAN (Form 4)**

Ohio Department of Natural Resources

Division of Oil and Gas Resources Management, 2045 Morse Road, Bldg. H-3, Columbus OH 43229-6693

1. DATE OF APPLICATION: 21-Mar-12	
2. OWNER NAME, ADDRESS, & TELEPHONE NO.: Hard Rock Drilling & Producing LLC, 7646 Cedar Valley Road, West Salem, Ohio 44287 (419) 846-3850	3. API #: 4. WELL #: 21 5. LEASE NAME: Soinski 6. PROPERTY OWNER: Dale Soinski 7. COUNTY: Portage 8. CIVIL TOWNSHIP: Windham 9. SECTION: 10. LOT: 89
11. CURRENT LAND USE: <input type="checkbox"/> Cropland <input type="checkbox"/> Commercial <input type="checkbox"/> Pasture <input type="checkbox"/> Idle Land <input type="checkbox"/> Wetlands <input checked="" type="checkbox"/> Recreational <input type="checkbox"/> Residential <input type="checkbox"/> Industrial <input type="checkbox"/> Unreclaimed strip mine <input type="checkbox"/> Woodland: <input type="checkbox"/> Broadleaf <input type="checkbox"/> Needlelike	17. TYPE OF WELL: <input type="checkbox"/> Oil <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Other 18. STEEPEST SLOPE GRADIENT CROSSING SITE: <input type="checkbox"/> 0 to 2% <input checked="" type="checkbox"/> 2.1 to 8% <input type="checkbox"/> 8.1 to 10% <input type="checkbox"/> 10.1 to 24% <input type="checkbox"/> greater than 24%
12. SLOPE GRADIENT & LENGTH DETERMINED FROM: <input checked="" type="checkbox"/> Ground Measurement <input type="checkbox"/> U.S. Geological Survey Topographical Maps <input type="checkbox"/> Other: (explain) _____	19. LENGTH OF STEEPEST SLOPE CROSSING SITE: <input type="checkbox"/> 1 to 100 ft. <input type="checkbox"/> 101 to 200 ft. <input checked="" type="checkbox"/> 201 to 400 ft. <input type="checkbox"/> greater than 400 ft.
13. TYPE OF FALL VEGETAL COVER: <input checked="" type="checkbox"/> Little or no vegetal cover <input type="checkbox"/> Short grasses <input type="checkbox"/> Tall weeds or short brush (1 to 2 ft.) <input type="checkbox"/> Brush or bushes (2 to 6 ft.) <input type="checkbox"/> Agricultural crops <input type="checkbox"/> Trees with sparse low brush <input type="checkbox"/> Trees with dense low brush	20. RESTORATION OF DRILLING PITS: ** <input checked="" type="checkbox"/> Haul drilling fluids and fill pits <input type="checkbox"/> Use steel circulating tanks <input type="checkbox"/> Proposed alternative _____ 21. BACKFILLING AND GRADING AT SITE: <input type="checkbox"/> Construct diversions channeled to naturally established drainage systems <input type="checkbox"/> Construct terraces across slopes <input checked="" type="checkbox"/> Grade to approximate original contour <input type="checkbox"/> Grade to minimize erosion & control offsite runoff <input type="checkbox"/> Proposed alternative _____
14. SOIL & RESOILING MATERIAL AT WELLSITE: <input checked="" type="checkbox"/> Stockpile and protect topsoil to be used when preparing seedbed <input type="checkbox"/> Use of soil additives (e.g., lime, fertilizer) <input type="checkbox"/> No resoiling planned <input type="checkbox"/> Proposed alternative _____	22. VEGETATIVE COVER TO BE ESTABLISHED AT SITE: <input checked="" type="checkbox"/> Seeding plan <input type="checkbox"/> Sod <input type="checkbox"/> Agricultural crops <input type="checkbox"/> Trees and/or Bushes <input type="checkbox"/> Proposed alternative _____
15. DISPOSAL PLAN FOR TREES AND TREE STUMPS: <input checked="" type="checkbox"/> No trees disturbed <input type="checkbox"/> Haul to landfill <input type="checkbox"/> Cut into firewood <input type="checkbox"/> Sell to lumber company <input type="checkbox"/> Bury with landowner's approval <input type="checkbox"/> Mulch small trees and branches, erosion control <input type="checkbox"/> Use for wildlife habitat with landowner approval <input type="checkbox"/> Proposed alternative _____	23. ADDITIONAL HOLES: <input checked="" type="checkbox"/> Rat/Mouse, if used, will be plugged 24. PROPOSED OR CURRENT LENGTH OF ACCESS ROAD: <input type="checkbox"/> 100 ft. or less <input checked="" type="checkbox"/> 101 to 500 ft. <input type="checkbox"/> 501 to 1500 ft. <input type="checkbox"/> greater than 1500 ft.
16. SURFACE AND SUBSURFACE DRAINAGE FACILITIES: <input checked="" type="checkbox"/> No existing drainage facilities for removal of surface and/or subsurface water <input type="checkbox"/> Tile drainage system underlying land to be disturbed <input type="checkbox"/> Drain pipe(s) underlying land to be disturbed <input type="checkbox"/> Surface drainage facilities on land to be disturbed	25. CURRENT LAND USE OF PATH OF ACCESS ROAD: <input type="checkbox"/> Cropland <input type="checkbox"/> Pasture <input type="checkbox"/> Commercial <input type="checkbox"/> Idle land <input type="checkbox"/> Wetlands <input checked="" type="checkbox"/> Recreational <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> Unreclaimed strip mine <input type="checkbox"/> Woodland: <input type="checkbox"/> Broadleaf <input type="checkbox"/> Needlelike

**\*\*PITS MUST BE FILLED WITHIN TWO MONTHS AFTER COMMENCEMENT OF THE WELL AND WITHIN FOURTEEN DAYS AFTER COMMENCEMENT OF THE WELL IN AN URBANIZED AREA.**

**RECEIVED**

REQUIRED BY SECTION 1509.06 (A)(10), OHIO REVISED CODE -- FAILED TO SUBMIT MAY RESULT IN AN ASSESSMENT OF CRIMINAL FINES NOT LESS THAN \$100.00 NOR MORE THAN \$2,000.00 OR CIVIL PENALTIES NOT LESS THAN \$4,000.00.

APR 13 2012

26. SURFACING MATERIAL FOR ACCESS ROAD: <input type="checkbox"/> Gravel <input type="checkbox"/> Brick and/or tile waste <input type="checkbox"/> Slag <input checked="" type="checkbox"/> Crushed stone <input type="checkbox"/> No surfacing material to be used <input type="checkbox"/> Proposed alternative _____	29. STEEPEST SLOPE GRADIENT ON ACCESS ROAD: <input checked="" type="checkbox"/> 0 to 5% <input type="checkbox"/> 6 to 10% <input type="checkbox"/> greater than 10%
27. PATH OF ACCESS ROAD TO BE DETERMINED BY: <input type="checkbox"/> Landowner <input type="checkbox"/> Contractor <input type="checkbox"/> Existing access road <input checked="" type="checkbox"/> Operator	30. APPROXIMATE LENGTH OF STEEPEST SLOPE ON ROAD: <input checked="" type="checkbox"/> 0 to 100 ft. <input type="checkbox"/> 101 to 200 ft. <input type="checkbox"/> 201 to 400 ft. <input type="checkbox"/> greater than 400 ft.
28. GRADING AND EROSION CONTROL PRACTICE ON ROAD: <input type="checkbox"/> Diversions <input type="checkbox"/> Filter strips <input type="checkbox"/> Drains <input type="checkbox"/> Riprap <input type="checkbox"/> Open top culverts <input type="checkbox"/> Water breaks <input checked="" type="checkbox"/> Outsloping of road <input type="checkbox"/> Pipe culverts <input type="checkbox"/> Proposed alternative _____	31. HAS LANDOWNER RECEIVED A COPY OF THIS RESTORATION PLAN? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

The undersigned hereby agrees to implement all restoration operations identified on this form, and conform to all provisions of Section 1509.072 of the Ohio Revised Code, and to all Orders and rules issued by the Chief, Division of Oil and Gas Resources Management.

Signature of Owner/Authorized Agent *Charles J. Cutler*

Name (Typed or Printed) Charles J Cutler Date 3-28-12

RESTORATION PLAN MUST BE SUBMITTED TO THE DIVISION IN DUPLICATE.

RECEIVED

APR 02 2012

SALTWATER INJECTION WELL – AFFIDAVIT

Ohio Department of Natural Resources  
Division of Mineral Resources Management  
2045 Morse Road, Columbus, Ohio 43229-6693

State of Ohio, Ulysses County, ss  
Charles J. Cutter being first duly  
sworn says that as principal, or authorized agent, for Hard Rock Drilling & Prod. he or she has  
made application for a saltwater injection well in the State of Ohio Partridge, County, Wintham  
Township, section/lot number 90; and further certifies that notice of application has been  
delivered to each individual entitled to personal notification in accordance with paragraph (E) of Rule  
1501:9-3-.06 of the Ohio Administrative Code. And further affiant saith not.

[Signature]  
Affiant Signature

Sworn to before me and subscribed in my presence this 28 day of March,  
2012.

[Signature]  
Notary Public



KRISTIN L. CUTTER  
Notary Public, State of Ohio  
My Commission Expires  
April 1, 2012

RECEIVED

APR 02 2012

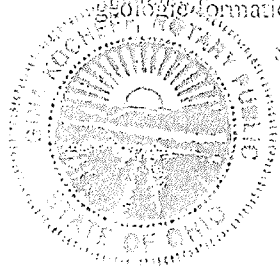
PARTIAL RELEASE OF OIL AND GAS LEASE RIGHTS

The undersigned, America's Energy Exploration, Inc. and Perry Petroleum, LLC, (collectively "Lessees") for valuable consideration the receipt of which is hereby acknowledged, do hereby release and relinquish the right to produce oil and gas from geologic formations located from the surface to the top of the Queenston Formation, in and to the following:

Oil and Gas Lease, recorded with the Recorder of Portage County, Ohio, in Official Record Instrument number 201011014.

This Partial Release shall not affect the rights of Lessees and their successors and assigns to drill through the above described geologic formations to explore for and produce oil and gas from deeper geologic formations.

Signed on September 15, 2011.



America's Energy Exploration, Inc.

By: [Signature]

Its: [Signature]

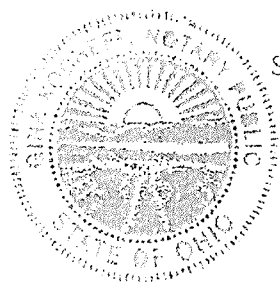
STATE OF OHIO, )  
COUNTY OF Portage, SS:

The foregoing instrument was acknowledged before me this 15th day of September 2011 by Cynthia L. Covert, President of America's Energy Exploration, Inc., an Ohio corporation, on behalf of the corporation.

Notary Public, State of Ohio  
My Commission Expires 2-26-2014

[Signature]  
Notary Public

Signed on September 15, 2011.



Perry Petroleum, LLC

By: [Signature]

Its: [Signature]

STATE OF OHIO, )  
COUNTY OF Portage, SS:

The foregoing instrument was acknowledged before me this 15th day of September 2011 by Perry Pipes, manager of Perry Petroleum, LLC, an Ohio limited liability company, on behalf of the company.

Notary Public, State of Ohio  
My Commission Expires 2-26-2014

[Signature]  
Notary Public

This Instrument Prepared By:

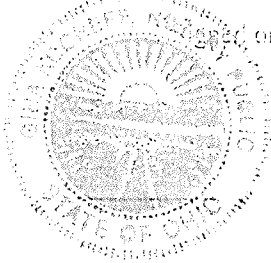
PARTIAL RELEASE OF OIL AND GAS LEASE RIGHTS

The undersigned, America's Energy Exploration, Inc. and Perry Petroleum, LLC, (collectively "Lessees") for valuable consideration (the receipt of which is hereby acknowledged), do hereby release and relinquish the right to produce oil and gas from geologic formations located from the surface to the top of the Queenston Formation, in and to the following:

Oil and Gas Lease, recorded with the Recorder of Trumbull County, Ohio, in Official Record Instrument Number 2011067160012822.

This Partial Release shall not affect the rights of Lessees and their successors and assigns to drill through the above described geologic formations to explore for and produce oil and gas from deeper geologic formations.

Signed, on September 9, 2011.



America's Energy Exploration, Inc.

By: [Signature]  
Its: [Signature]

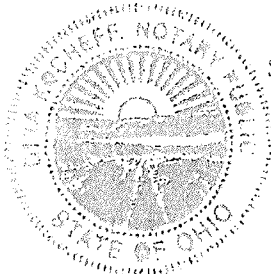
STATE OF OHIO,  
COUNTY OF [Signature], SS:

The foregoing instrument was acknowledged before me this \_\_\_th day of September 2011 by Cynthia L. Covert, President of America's Energy Exploration, Inc., an Ohio corporation, on behalf of the corporation.

[Signature]  
Notary Public, State of Ohio  
My Commission Expires 2-20-2014

[Signature]  
Notary Public

Signed on September 9, 2011.



Perry Petroleum, LLC

By: [Signature]  
Its: [Signature]

STATE OF OHIO,  
COUNTY OF [Signature], SS:

The foregoing instrument was acknowledged before me this \_\_\_th day of September 2011 by Perry Pipes, manager of Perry Petroleum, LLC, an Ohio limited liability company, on behalf of the company.

[Signature]  
Notary Public, State of Ohio  
My Commission Expires 2-20-2014

[Signature]  
Notary Public

This Instrument Prepared By:  
Christopher C. Wager  
Vorys, Sater, Seymour and Pease LLP  
52 East Gay Street  
P.O. Box 1008, Columbus, OH 43216-1008

Hard Rock Drilling & Producing

7646 Cedar Valley Road

West Salem, Ohio 44287

June 21, 2012

Division of Mineral Resources Management

2045 Morse Road, Bldg. H-3

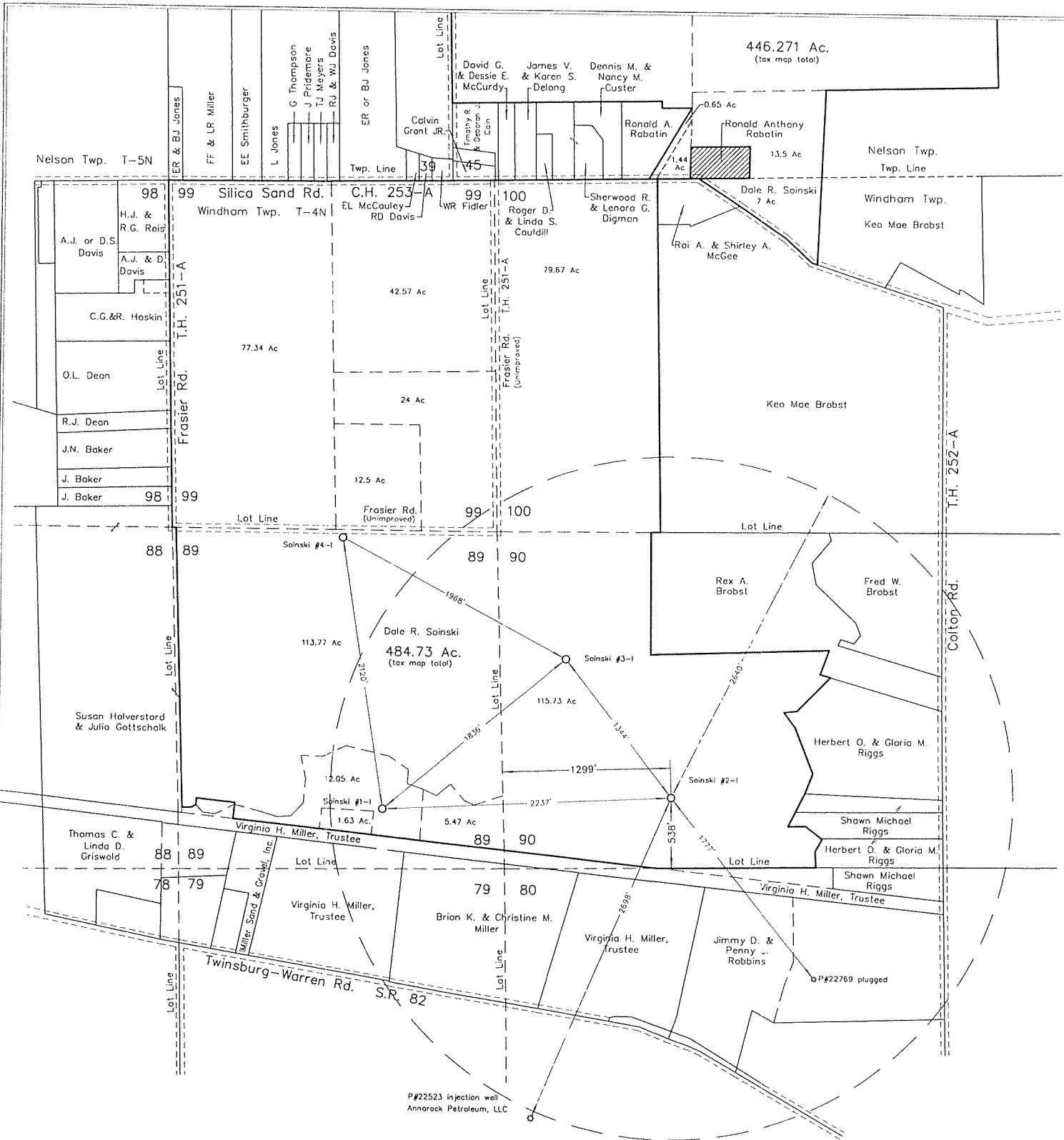
Columbus, Ohio 43229

Dear Tom,

As per your request on the mineral rights under the Solinski property I am sending you the partial release on the mineral rights under the Solinski property. The permit from Pep drilling was submitted before the release of the mineral rights back to Dale Solinski. As to our research on the property we have leased the minerals from the surface to the top of the Queenston. If you have any other questions please feel free to contact me.

Thanks,

CJ Cutter

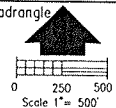


I certify that all known drilling or producing wells within 2640 feet and that all buildings and streams within 200 feet have been shown, that there are no drilling unit lines nearer than 100 feet and that this plat is true and correct and was prepared according to the current State of Ohio, Department of Natural Resources, Division of Oil and Gas Regulations.

Edward A. Gasbarre PS 7036

**Soinski Injection Well #2-1**  
 Windham Township  
 Lot 90, T-4N, R-6W (Connecticut Western Reserve)  
 Portage County, Ohio

Plane Coordinates: Ohio North Zone, Garrettville Quadrangle  
 NAD83 NAD27  
 (US Survey Feet) (US Survey Feet)  
 N 583,555 N 583,524  
 E 2,376,405 E 2,407,865  
 H 922 (NAVD88) (derived from GPS observations)



Prepared For: Hardrock Drilling and Producing  
 7646 Cedar Valley Road  
 West Salem, Ohio 44287  
 Date: February 10, 2012  
 Drawing: Master\_212002.dwg  
**R.W. GASBARRE**  
 & Associates, Inc.  
 Professional Land Surveyors  
 401 South Market St. - P.O. Box 44  
 Wooster, Ohio 44691  
 PH 330-264-9499

aAMY0000909

# Class II Injection Well Permit Review Package

- Disclaimer
- Contents
- Overview
- References
- Basic Permit Review
  - Bedrock Topography Layer
  - Water Well Layer
  - Underground Coal Mine Layer
  - Surface Water Layer
  - Surface Topography layer
  - Quaternary Geology Layer
  - Oil and gas Layer
  - Groundwater-Source Water Protection Layer
  - Groundwater-Pollution Potential Layer
  - Coal Layer
- Extended Class II Injection Permit Review
  - Gravity Bouguer Anomaly
  - Gravity Free Air
  - Magnetic First Derivative
  - Magnetic Second Derivative
  - Magnetic Reduce Dipole
  - Precambrian Structure from PG-23
  - Knox Structure
  - Trenton Structure
  - EGSP Onondaga Structure
  - MRCSP Onondaga Structure
  - EGSP Berea Structure
  - Mississippian/Pennsylvanian Unconformity Surface
  - Middle Kittanning Coal Structure
  - Upper Freeport Coal Structure
  - Pittsburgh Coal Structure
  - Bedrock Geology
  - Bedrock Topography
  - EGSP Aerial Photo Lineament
  - EGSP LANDSAT Lineament
  - Mason Lineament
  - Oil and gas fields



### **Disclaimer**

The products of the Ohio Department of Natural Resources, Division of Geological Survey, both digital maps and printed maps and any other associated documents are intended to provide general geologic information only and should not be used for any other purpose. It is not intended for resale or to replace site-specific investigations. These data were compiled by the Ohio Division of Geological Survey, which reserves the publication rights to this material. If these data are used in the compilation of other data sets or maps for distribution or publication, this source must be referenced.

Neither the Ohio Department of Natural Resources, nor any agency thereof, nor any of their employees, contractors, or subcontractors, make any warranty, express or implied, nor assume any legal liability or responsibility for the accuracy, completeness, or usefulness of this product. Any use thereof for a purpose other than for which said information or product was intended shall be solely at the risk of the user.

## Geologic Review for Class II Wells

Application No. aAmy0000909

Portage County, Windham Twp.

SWIW: (Salt Water Injection Well)

Proposed Well Depth: 4,200 feet

Proposed Injection Zone: "Newburg"

Study area investigated ~ 15 mile radius centered on the proposed well location for all maps except the gravity and magnetic maps, which used 30 mile radius.

### Gravity Bouguer Anomaly

- Nothing of note.

### Gravity Free Air

- Nothing of note.

### Magnetic First Derivative

- There is a northeast-southwest trend located about 24 miles to the northwest of the permit application.

### Magnetic Second Derivative

- There is a northeast-southwest trend located about 24 miles to the northwest of the permit application.

### Magnetic Reduce Dipole

- There is a northeast-southwest trend located about 24 miles to the northwest of the permit application.

### Precambrian Structure from PG-23

- There are no known structural features near the permit application.
- The northeast-southwest trending Akron Magnetic boundary is approximately 20 miles to the northwest of the permit application.

### Knox Structure

- There are no known structural features in the study area.

### Trenton Structure

- There are no known structural features in the study area.

### EGSP Onondaga Structure

- There are no known structural features in the study area.

### MRCSP Onondaga Structure

- There are no known structural features near the permit application.

### EGSP Berea Structure

- The permit application is located on the flank of a northeast-southwest trending high.

### Mississippian/Pennsylvanian Unconformity Surface

- Nothing of note.

### Middle Kittanning Coal Structure

- Unit not present.

### Upper Freeport Coal Structure

- Unit not present.

### Pittsburgh Coal Structure

- Unit not present.

### Bedrock Geology

- The top of bedrock for the permit application is near the boundary of the Upper Pennsylvanian Allegheny and Pottsville undivided and Mississippian Logan and Cuyahoga Formations undivided.

### Bedrock Topography

- The bedrock topography map indicates an east-west trending channel approximately 2 miles to the northwest.

#### EGSP Aerial Photo Lineament

- Numerous lineaments generally less than 1 mile in length have been interpreted from aerial photos by Gray and others (1982) over and in the immediate vicinity of the permit application with 2 dominant directions oriented northwest-southeast and northeast-southwest.

#### EGSP LANDSAT Lineament

- A northwest-southeast trending lineament less than 1 mile in length is present about ½ mile to the northwest of the permit application.

#### Mason Lineament

- An east west trending lineament is present approximately 1 1/2 miles to the north of the permit. Another northeast-southwest trending lineament is present approximately 4 miles to the south.

#### Oil and gas fields

- Production in the study area is in the "Clinton," Berea, and Knox. The permit application is located within the Aurora gas field that produces from the "Clinton."

#### Earthquakes

- There has been 1 earthquake in 1988 within the 30-mile study area. The epicenter is approximately 4 miles northwest of the salt water injection permit and had a magnitude of 2.8.

#### Injection Wells

- There are 17 active salt water disposal (SWD), 1 injection for enhanced oil recovery (EOR), 1 producing for enhanced oil recovery (IEOR), and 16 inactive salt water disposal (ISWD) wells within the 30-mile study area. They are injecting into the "Clinton/Medina" and Lockport ("Newburg"). The nearest injection well is less than 1 mile to the southwest.

To summarize, this proposed injection well in the "Newburg" is of no major concern. It is not located within close proximity to any known faults. There has been 1 documented earthquake with a magnitude of 2.8 within the 30-mile study area, which was 4 miles to the northwest of the permit application. Injection well records indicate there are currently 17 SWD wells, 1 EOR, 1 IEOR, and 16 ISWD wells in the 30-mile study area. The nearest oil and gas producing field is the Aurora field that produces from the "Clinton" sandstone.

## References

- Baranoski, M.T., 2002, Structure contour map on the Precambrian unconformity surface in Ohio and related basement features: Ohio Division of Geological Survey Map PG-23, scale 1:500,000, and 18-p. text.
- Gray, J.D., and others, 1982, An integrated study of the Devonian-age black shales in eastern Ohio: Ohio Division of Geological Survey, final report for U.S. Department of Energy Eastern Gas Shales Project: U.S. Department of Energy Report No. DOE/ET/12131-1399.
- Hansen, M.C., 2002, Earthquake epicenters in Ohio and adjacent areas: Ohio Division of Geological Survey Map EG-2, scale 1:500,000.
- Hildenbrand, T.G., Gravity anomaly maps of Ohio, U.S. Geological Survey Geophysical Investigations Map GP-963, scale 1:1,000,000.
- Hildenbrand, T.G. and Kucks, R.P., 1984a, Residual total intensity magnetic map of Ohio: U.S. Geological Survey Geophysical Investigations Map GP-961, scale 1:500,000.
- Hildenbrand, T.G. and Kucks, R.P., 1984b, Complete Bouguer gravity anomaly map of Ohio: U.S. Geological Survey Geophysical Investigations Map GP-962, scale 1:500,000.
- Mason, Greg, 1999, Structurally related migration of hydrocarbons in the central Appalachian basin of eastern Ohio: Ohio Geological Society, Proceedings of the sixth annual fall symposium, p. 20-33.
- Ohio Division of Geological Survey, 2003, Shaded bedrock-topography map of Ohio: Ohio Department of Natural Resources, Division of Geological Survey Map BG-3, available as 1:500,000-scale and digital (GIS) format.
- Ohio Division of Geological Survey, 2003, Structure map of the Lower Freeport coal, unpublished digital (GIS) map.
- Ohio Division of Geological Survey, 2003, Structure map of the Lower Kittanning coal, unpublished digital (GIS) map.
- Ohio Division of Geological Survey, 2003, Structure map of the Middle Kittanning coal, unpublished digital (GIS) map.
- Ohio Division of Geological Survey, 2003, Structure map of the Mississippian-Pennsylvanian unconformity, unpublished digital (GIS) map.
- Ohio Division of Geological Survey, 2003, Structure map of the Pittsburgh coal, unpublished digital (GIS) map.

Ohio Division of Geological Survey, 2003, Structure map of the Upper Freeport coal, unpublished digital (GIS) map.

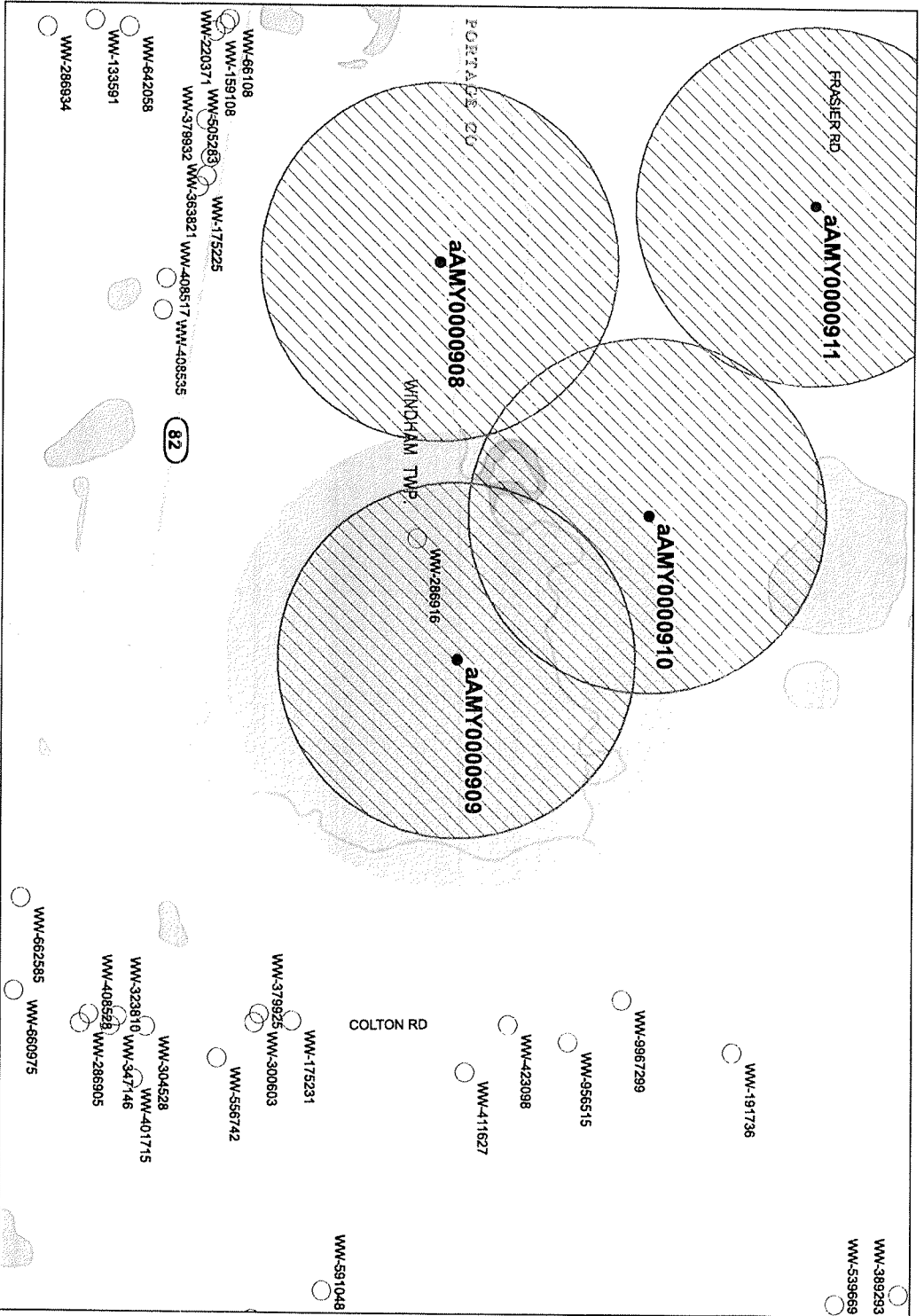
Patchen, D.G., Hickman, J.B., Harris, D.C., Drahovzal, J.A., Lake, P.D., Smith, L.B., Nyahay, Richard, Schulze, Rose, Riley, R.A., Baranoski, M.T., Wickstrom, L.H., Laughrey, C.D., Kostelnik, Jaime, Harper, J.A., Avary, K.L., Bocan, John, Hohn, M.E., and McDowell, Ronald, 2006, A Geologic Play Book for Trenton-Black River Appalachian Basin Exploration: Final report prepared for U.S. Department of Energy, contract no. DE-FC26-03NT41856, 601 p.

Slucher, E. R., compiler, Swinford, E. M., Larsen, G. E., Schumacher, G. A., Shrake, D. L., Rice, C. L., Caudill, M. R., and Rea, R. G., 2006, Bedrock geologic map of Ohio: Ohio Division of Geological Survey Map BG-1, scale 1:500,000.



# Water Well Layer

## Well APPNO - 2AMY0000909



**Basemaps**

- Railroad
- Local Road
- State Road
- U.S. Highway
- Interstate
- Hydrography Line
- Hydrography Polygon
- Hydrography Point
- City
- Township
- County

**Overview**

Data Source: Water Well Layer, Division of Soil and Water Resources (DSMR)

Date Created: 4/4/2012

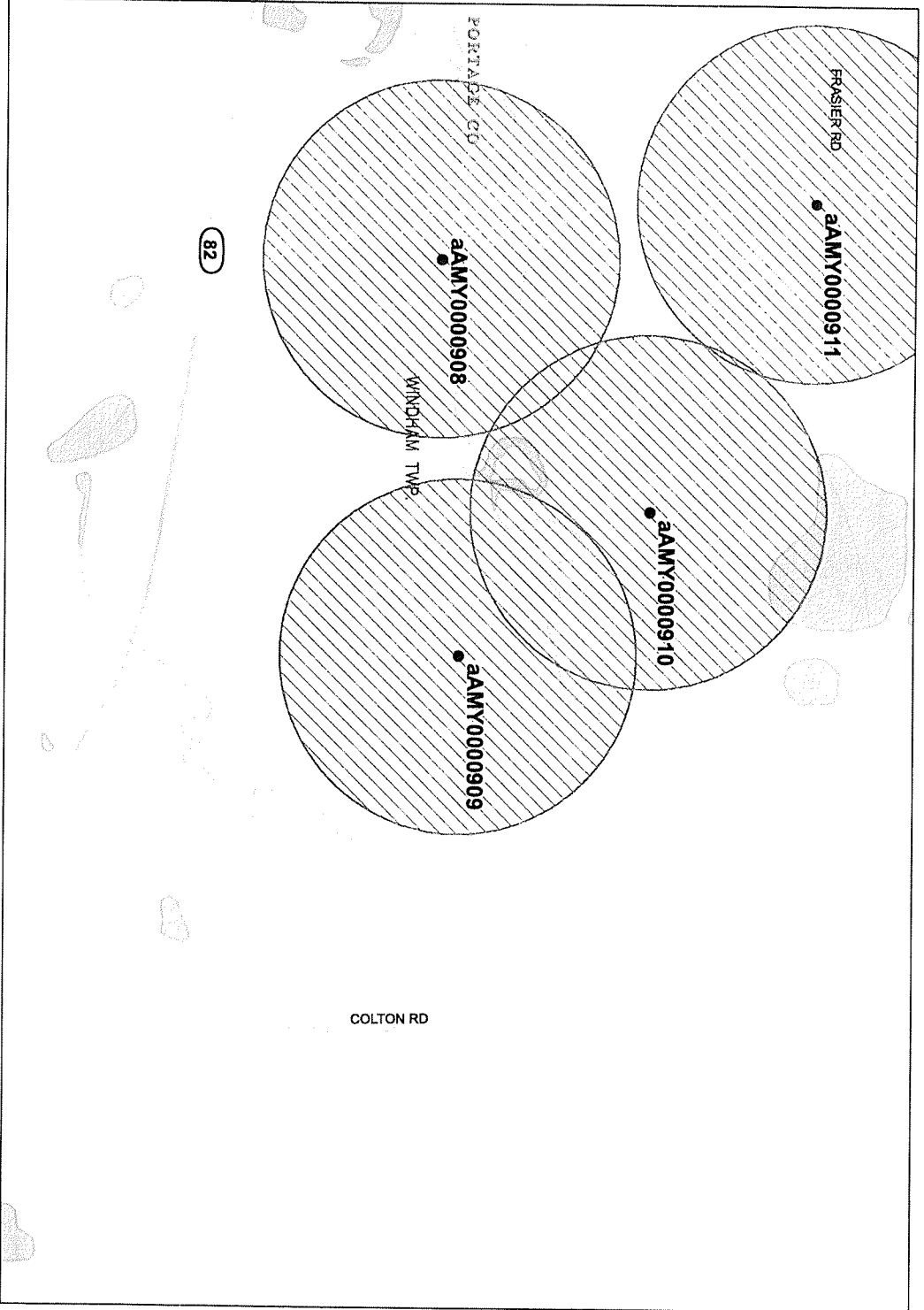
0 250 500 1,000 500  
Feet  
Meters

Legend

- Well from Data
- Checked Use
- Well Status Type
- DR
- Checklist Check
- Check Status Check
- Well Checklist Check
- Well from Data

# Underground Coal Mine Layers

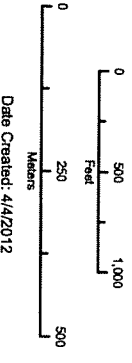
## Well APPNO - aAMY0000909



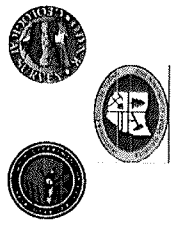
- Basemaps**
- Railroad
  - Local Road
  - State Route
  - U.S. Highway
  - Interstate
  - Hydrography Line
  - Hydrography Polygon
  - Hydrography Point
  - City
  - Township
  - County



Data Source: Underground Coal Mine Layers, Division of Geological Survey (DGS) and (DMRM)



Date Created: 4/4/2012

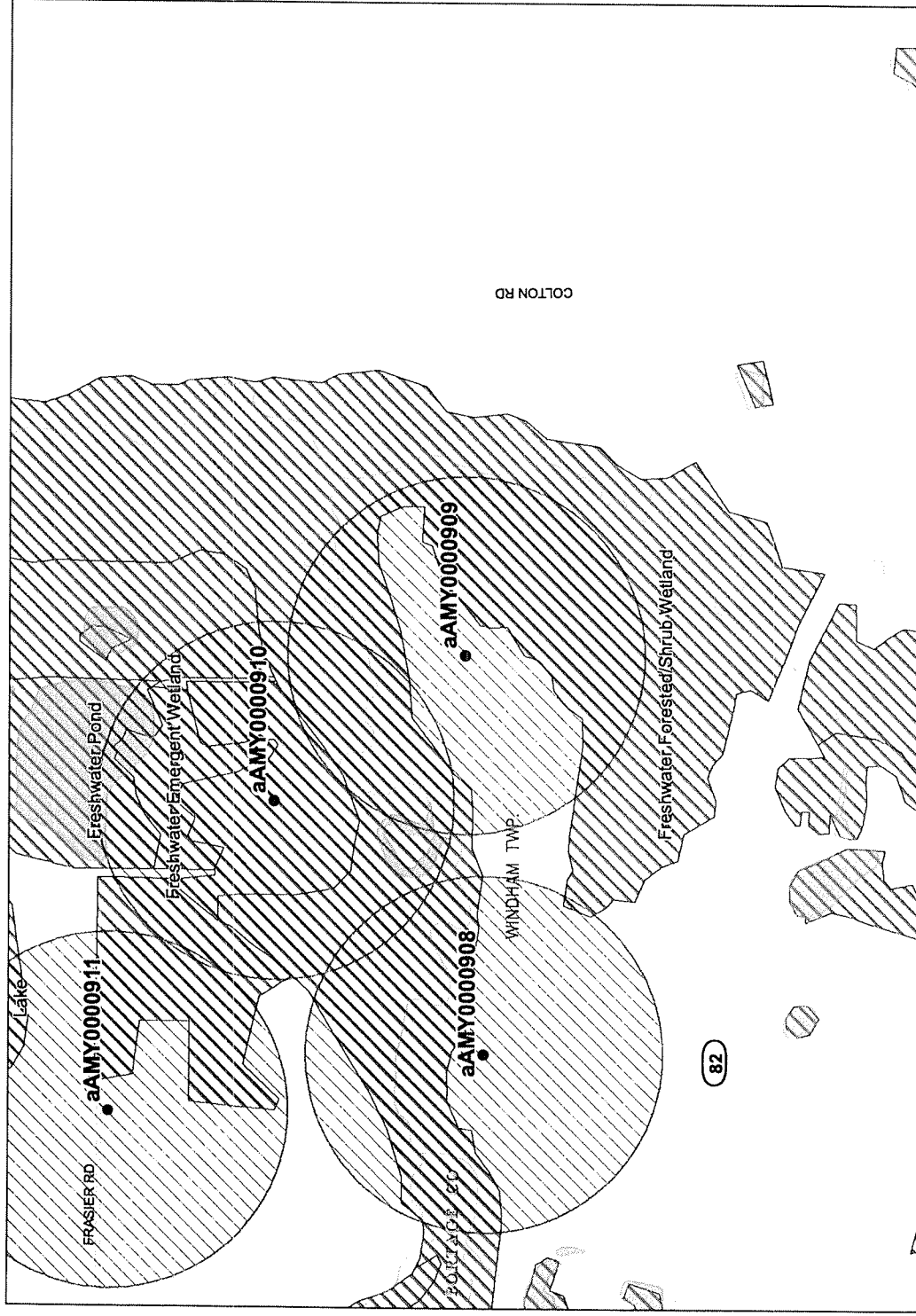


- Well
- Abandoned Well
- Active Well
- Well Type
- Well Status
- Well Depth
- Well Diameter
- Well Completion
- Well Production
- Well Construction
- Well Ownership
- Well Location
- Well Name
- Well ID
- Well Code
- Well Type Code
- Well Status Code
- Well Depth Code
- Well Diameter Code
- Well Completion Code
- Well Production Code
- Well Construction Code
- Well Ownership Code
- Well Location Code
- Well Name Code
- Well ID Code
- Well Type Code
- Well Status Code
- Well Depth Code
- Well Diameter Code
- Well Completion Code
- Well Production Code
- Well Construction Code
- Well Ownership Code
- Well Location Code
- Well Name Code
- Well ID Code



# Surface Water Layers

Well APPNO - aAMY0000909



**Basemaps**

- Railroad
- Local Road
- State Route
- U.S. Highway
- Interstate
- Hydrography Line
- Hydrography Polygon
- Hydrography Polygon Intersect
- City
- Township
- County

**Well Status**

- Well Status Type
- Dr
- Drilled Above Ground
- Drilled Below Ground
- Not Drilled Above Ground
- Not Drilled Below Ground
- Well Status
- National Wetland Inventory (NWI)
- Wetlands
- Point Source
- Point Source Zone (PSZ)

**Scale**

0 500 1,000  
Feet

0 250 500  
Meters

**Map Information**

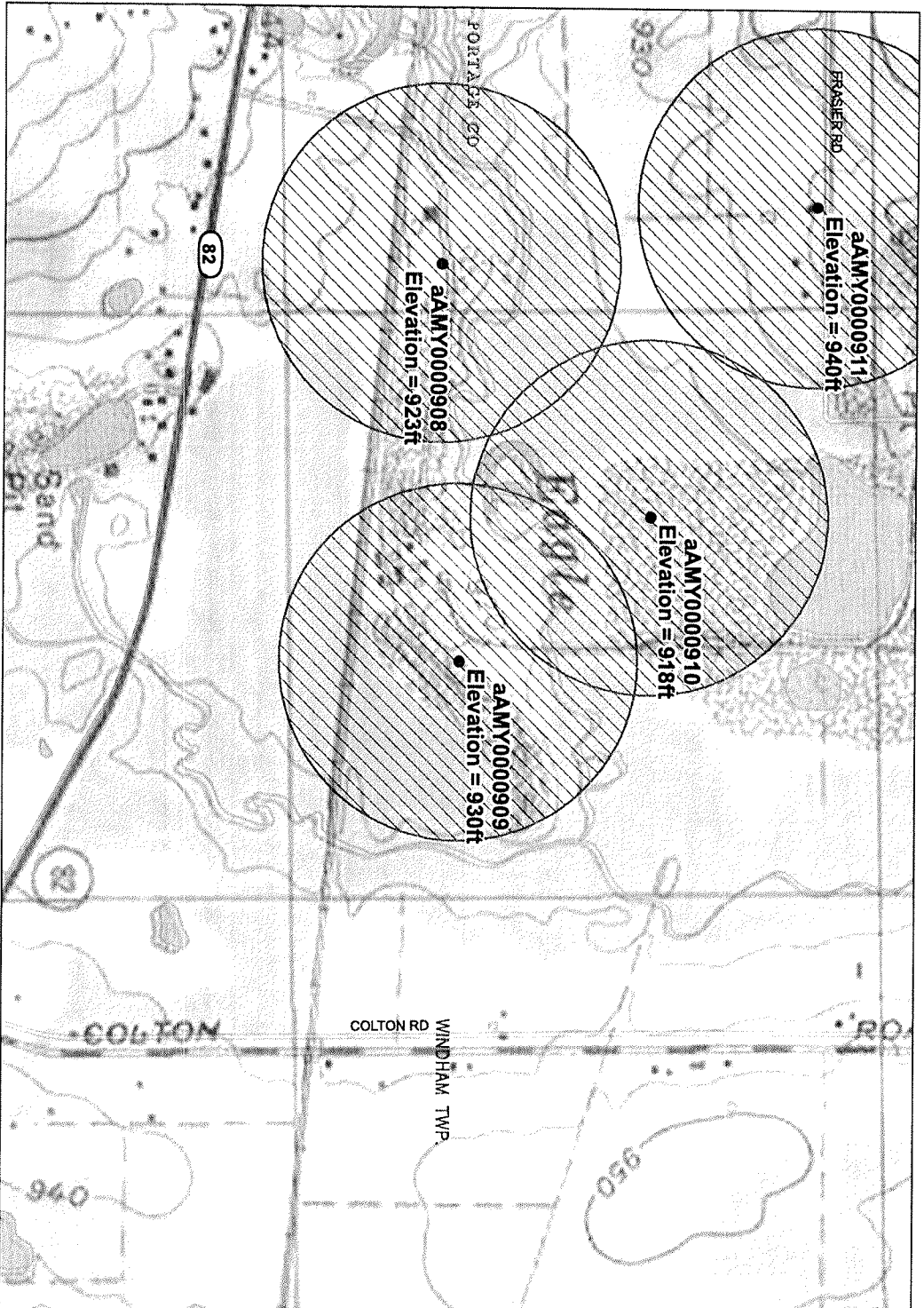
Date Created: 4/4/2012

Data Sources: Surface Water Layers, Federal Emergency Management Agency (FEMA), and Division of Watercraft (DWC)

**Logos**

# Surface Topography Layers

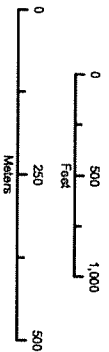
## Well APPNO - aAMY0000909



- Basemaps**
- Railroad
  - Local Road
  - State Route
  - U.S. Highway
  - Interstate
  - Hydrography Line
  - Hydrography Polygon
  - Hydrography Polygon
  - Hydrography Polygon
  - City
  - Township
  - County



Data Source: Surface Topography Layers, Division of Geological Survey (DGS) and Environmental Science Research Institute (ERSI)



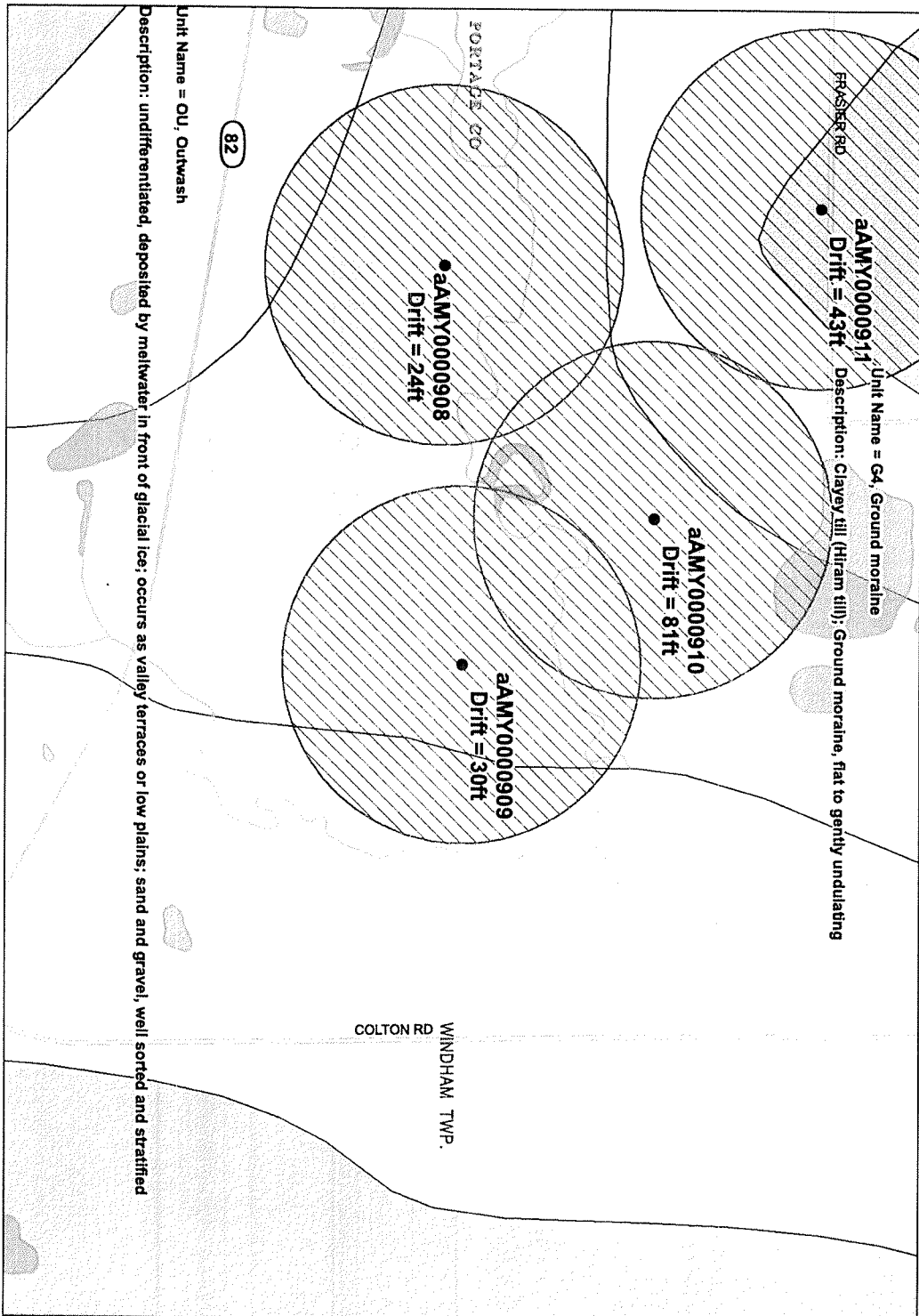
Data Created: 4/4/2012



- Data Point Mark
- Contour Line
- Road Name Type
- DR
- Road Name Grand
- Road Name Grand
- Road Name Grand

# Quaternary Geology Layers

## Well APPNO - aAMY0000909



**Unit Name = OU, Outwash**  
**Description: undifferentiated, deposited by meltwater in front of glacial ice; occurs as valley terraces or low plains; sand and gravel, well sorted and stratified**

**Basemaps**

- Railroad
- Local Road
- State Route
- U.S. Highway
- Interstate
- Hydrography Line
- Hydrography Polygon
- Interstream
- City
- Township
- County

**Overview**

**Date Created: 4/4/2012**  
**Data Source: Quaternary Geology Layers, Division of Geological Survey (DGS)**

0 500 1,000  
 Feet

0 250 500  
 Meters

**Ohio State Map**  
 - Contour Line  
 - Well Marker Type  
 - DR  
 - Division of Geological Survey  
 - State of Ohio  
 - Ohio State Map







