

**APPLICATION CHECKLIST**

*Muskingum Co. SWW # 27, Permit #  
Union Twp.*

	Date	Initials
Enter on Agenda	2/9/12	[Signature]
Completeness Review	2/9/12	[Signature]
Date - Time Stamp	2/9/12	[Signature]
Area of Review	2/9/12	[Signature]
Site Evaluation		[Signature]
Permitting Section	2/9/12	[Signature]
Memo to Inspector	7/25/12	[Signature]
Public Notice	8-1-12	[Signature]
Letter <u>      9-1-12      </u>		
Date Run <u>                    </u>		
15 Days <u>                    </u>		
Review Public Notice		[Signature]
Affidavit of Notification	2/15/12	[Signature]
Objections Received    Yes <u>      </u> No <u>      </u>		[Signature]
Public Hearing Date		[Signature]
Chief's Order, if Required		[Signature]
Schematic	7-30-12	[Signature]
Plot on Map	2/9/12	[Signature]
Review by Geologist		[Signature]
Permit Conditions (Same date as permit)		[Signature]
Enter on Computer (Same or later date than Chief's Order)		[Signature]
Enter on Master List	2/9/12	[Signature]
EPA Form	2/14/12	[Signature]
Mail Permit		[Signature]
Update Agenda		[Signature]
File		[Signature]

**RECORD OF CONVERSATION**

2/10/12 - E-mailed Brandon Walker - need SWW affidavit, dike dimensions and tanks.

2/15/12 - Received documents today [Signature]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Richard J. Simmers, Chief  
**Division of Oil and Gas Resources Management**  
2045 Morse Road, Bldg. F-2  
Columbus, OH 43229-6693  
Phone (614) 265-6922 Fax (614) 265-6910

August 1, 2012

Mr. Damian C. Georgino  
1960 Well Services, LLC.  
300 Cherrington Pkwy.  
Suite 200  
Coraopolis, PA 15108


**RE: Public Notification for SWIW application for Muskingum County, Union Twp.,  
new well, 1960 Well Services, LLC., Goff SWD #1, injection well**

Dear Mr. Georgino:

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) 265-6673.

Sincerely,

  
Andrew Adgate, Geologist  
UIC Section  
Division of Oil and Gas Resources Management  
2045 Morse Road, F-2  
Columbus, Ohio 43229-6693

Cc: File

## PUBLIC NOTICE

1960 Well Services, LLC., 300 Cherrington Parkway, Suite 200, Corapolis, Pennsylvania 15108, (412) 329-7275 x119 is applying to permit a well for the injection of brine water produced in association with oil and natural gas. The location of the proposed injection well is the Goff SWD #1, new well, Section 15, Union Township, Muskingum County, Ohio. The proposed well will inject into the Knox dolomite through Mt. Simon sandstone at a depth of 6550 to 8300 feet. The average injection is estimated to be 2500 barrels per day. The maximum injection pressure is estimated to be 1510 psi. Further information can be obtained by contacting 1960 Well Services 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.

# Proof Sheet

APPL NUMBER	aAMY0000725
OWNER NUMBER	8834
OWNER NAME	1960 WELL SERVICES LLC
EXISTING WELL	0
API PERMIT NO	
APPL TYPE	SWIW
TYPE OF WELL	SWD
VARIANCE REQUEST	
WELL NAME	GOFF SWD
WELL NUMBER	1
PREV/PROPOSED TD	8300
DRILL UNIT ACRES	50.84
TYPE OF TOOL	RTAF
WELL CLASS	SWIW
FIRE PHONE	(740) 826-4986
MEDICAL PHONE	(740) 454-4585
COUNTY CODE	119
COUNTY NAME	MUSKINGUM
COAL (Y=-1/N=0)	-1
CIVIL TOWNSHIP	UNION
SURF QUAD	NORWICH
Nad 27 SURF ORIG X	2,194,246
Nad 27 SURF ORIG Y	720,940
GROUND ELEVATION	894
SURF SEC	
SURF LOT	
SURF QTR TWP	
SURF ALLOT	
SURF TRACT	
SURF FRACTION	

URBANIZED AREA ?

NAME

DISPOSAL PLAN 1

DISPOSAL PLAN 2

DISPOSAL PLAN 3

DISPOSAL PLAN 4

DISPOSAL PLAN 5

MP Check #

**PROPOSED FORMATIONS**

MT SIMON

TARG CIVIL TWP	<input style="width: 100%;" type="text"/>
TARG QUAD	<input style="width: 100%;" type="text"/>
Nad 27 TARG ORIG X	<input style="width: 100%;" type="text"/>
Nad 27 TARG ORIG Y	<input style="width: 100%;" type="text"/>
TARG ELEV	<input style="width: 100%;" type="text" value="0"/>
TARG SECTION	<input style="width: 100%;" type="text"/>
TARG LOT	<input style="width: 100%;" type="text"/>
TARG QTR TWP	<input style="width: 100%;" type="text"/>
TARG ALLOT	<input style="width: 100%;" type="text"/>
TARG TRACT	<input style="width: 100%;" type="text"/>
TARG FRACTION	<input style="width: 100%;" type="text"/>

February 14, 2012

Project C111049.02, Task 035

Mr. Thomas Tomastik  
Ohio Department  
of Natural Resources  
Division of Oil and Gas  
Resources Management  
2045 Morse Road, H-3  
Columbus, Ohio 43229-6693



Response to Comments  
GOFF Saltwater Disposal (SWD)  
#1 Saltwater Injection Well  
1960 Well Services, LLC  
Muskingum County, Ohio

Dear Mr. Tomastik:

GAI Consultants, Inc., on behalf of 1960 Well Services, LLC, has prepared responses to the Ohio Department of Natural Resources, Division of Oil and Gas Resources Management, Permit Application comments provided by e-mail on February 10, 2012. For ease of review we have provided your comments in italics followed by GAI's responses, as well as included the original comments in Attachment A. One copy of all revised Project documents are provided in Attachment B.

*Comment 1: The Saltwater Injection Well Affidavit needs to be completed and notarized.*

Response 1: The original notarized Saltwater Injection Well Affidavit is provided in Attachment B.

*Comment 2: Please include a full size sketch showing the dimensions of the dike area and the size of the tanks.*

Response 2: A drawing showing the dimensions of the containment area and tank sizes is included in Attachment B.

*Comment 3: Any collection of rainwater off the concrete truck unloading pad must be injected. Show the dimensions of the concrete truck unloading pad and drain. The drain must be connected to an underground vault with a sump pump that pumps all fluids from the unloading pad back up into the injection tank.*

Response 3: The plan sheet provided in Attachment B also includes the dimensions of the concrete unloading pad and a vault with a capacity to hold the runoff from the 100-year, 24-hour storm event for the pad area. The 100-year storm event is the required design storm per Mid-Ohio Regional Planning Commission Storm Water Ordinances.

*Comment 4: The depths for the proposed injection zone in the Mt. Simon include everything from the Knox through Mt. Simon. Change the injection zones to Knox through Mt. Simon.*

Response 4: The application has been revised to include the Knox formation and is included in Attachment B.

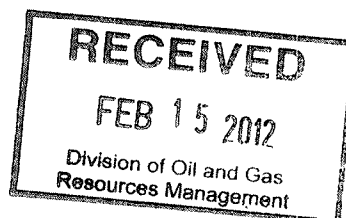
Thank you for your time and consideration with regard to this application. Please feel free to contact me at 412-476-2000, extension 1546, if you have any questions or require additional information.

Respectfully submitted,  
GAI Consultants, Inc.



Brandon M. Walker, P.E., CPSEC  
Assistant Engineering Manager

BMW:JE/gmg  
111049021035-rtc odnr-je/gmg d10



Attachments

cc: Mr. Russell Huffmyer, E.I.T., Heckmann Water Resources

Project C111049.02, Task 035

February 14, 2012



**ATTACHMENT A**

**OHIO DEPARTMENT OF NATURAL RESOURCES,  
DIVISION OF OIL AND GAS RESOURCES MANAGEMENT, PERMIT  
APPLICATION COMMENTS PROVIDED BY E-MAIL ON FEBRUARY 10, 2012**

CONFIDENTIALITY NOTICE: This communication contains confidential information belonging to the sender and may be legally privileged. This communication is solely for the use of its intended recipient. If you are not the intended recipient, inform the sender of the error and remove this email from your system. If this transmission includes any technical information, design data, and/or recommendations, they are provided only as a matter of convenience and may not be used for final design and/or construction.

---

**From:** Tomastik, Tom [<mailto:Tom.Tomastik@dnr.state.oh.us>]  
**Sent:** Friday, February 10, 2012 8:27 AM  
**To:** Brandon Walker  
**Cc:** [dkreager54@gmail.com](mailto:dkreager54@gmail.com)  
**Subject:** Injection well application

Brandon;

I have received your Class II saltwater injection well application. You need to complete the attached Saltwater injection well affidavit, notarize it and send the original by mail back to me. I also need to know the dimensions (length, width, and height of walls) of the dike area (and if it is of earthened material it needs to be underlain by a 30 mil plastic liner). I also need to know the number of tanks and the size (in barrels) of each tank. Please send a full size sketch showing all of these.

Additionally, you cannot haul storm water off this site for disposal. Any collection of rainwater off the concrete truck unloading pad must be injected. I need the dimensions of the concrete truck unloading pad (sloped to drain) and drain must be connected to an underground concrete vault (coated on the inside) with a sump pump that pumps all fluids from the unloading pad back up into the injection tanks.

Also, your depths for the proposed injection zone in the Mt. Simon looks like it includes everything from the Knox through Mt. Simon. If this is the case, you need to have me change the injection zones to Knox through Mt. Simon.

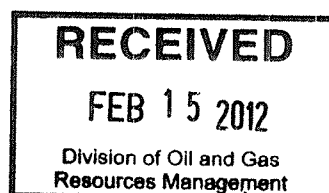
Tom Tomastik, Geologist 4

Division of Oil and Gas Resources Management

2045 Morse Road, H-3

Columbus, Ohio 43229-6693

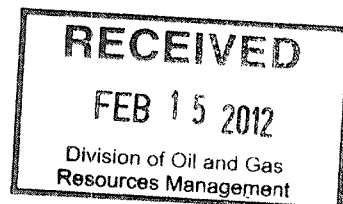
(614) 265-1032





Project C111049.02, Task 035

February 14, 2012

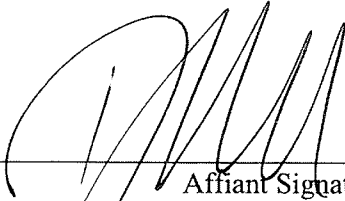


**ATTACHMENT B**  
**REVISED PROJECT DOCUMENTS**

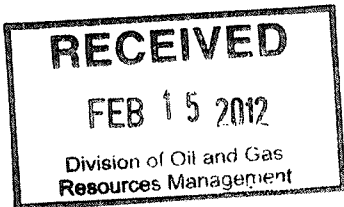
**SALTWATER INJECTION WELL – AFFIDAVIT**


Ohio Department of Natural Resources  
Division of Oil and Gas Resources Management  
2045 Morse Road, Columbus, Ohio 43229-6693

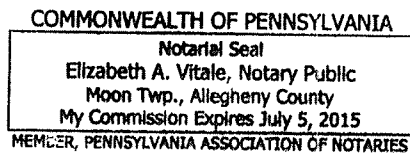
State of Ohio, Muskingum County, ss  
Damian Georgino being  
first duly sworn says that as principal, or authorized agent, for 1960 Well Services, LLC, he or  
she has made application for a saltwater injection well in the State of Ohio, Muskingum,  
County, Union Township, section/lot number Section 15; 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.

  
\_\_\_\_\_  
Affiant Signature

Sworn to before me and subscribed in my presence this 10<sup>th</sup> day of February,  
2012.



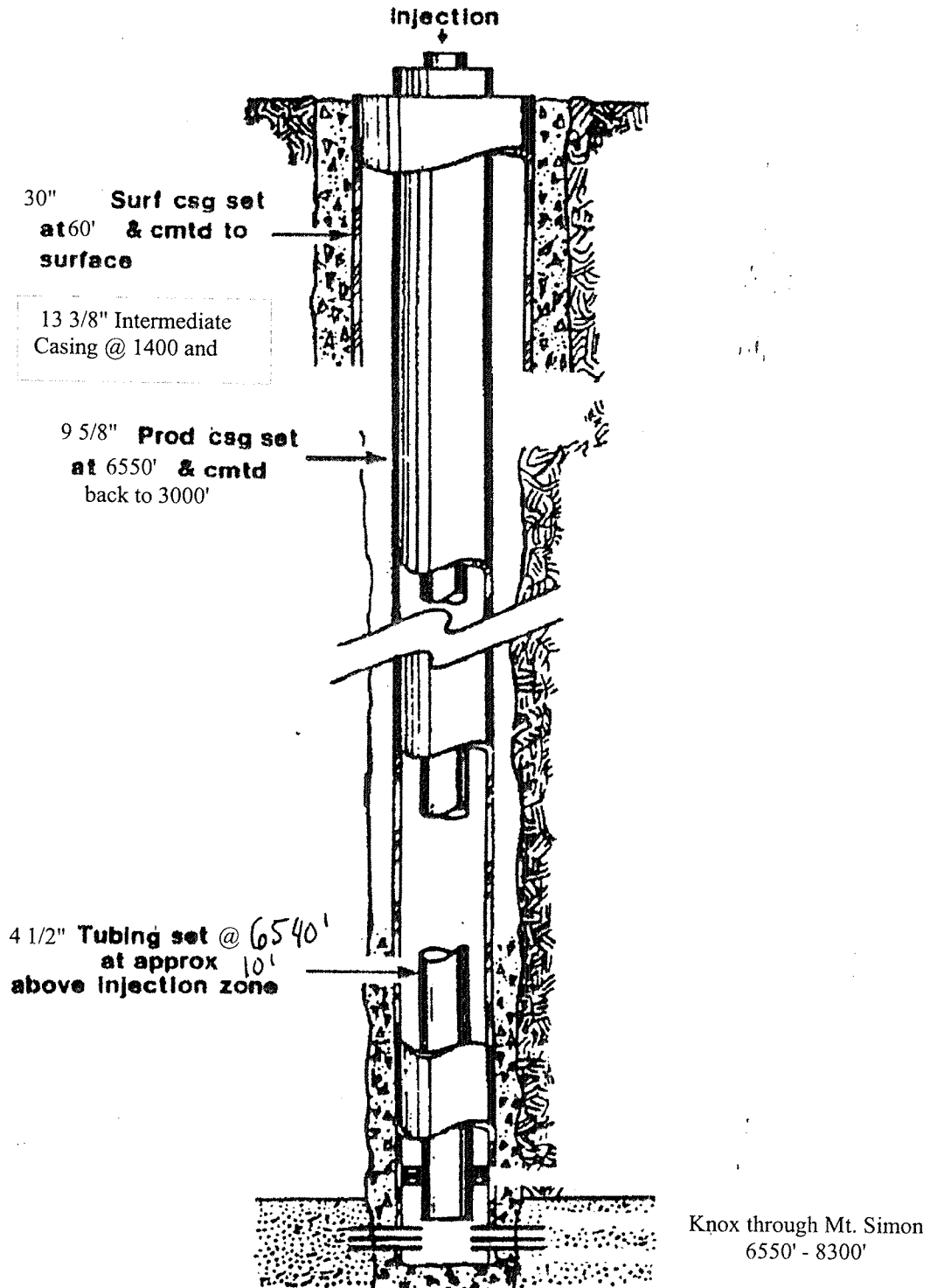
  
\_\_\_\_\_  
Notary Public



Muskingum County, Union Twp., SWIW #27  
Goff SWD #1

**Subsurface Construction  
For Injection Well**

**Maximum Injection Pressure: 1510 psi**



**Total Depth: 8300'**



**Tomastik, Tom**

**From:** Brandon Walker [b.walker@gaiconsultants.com]  
**Sent:** Monday, February 13, 2012 9:35 AM  
**To:** Tomastik, Tom  
**Cc:** Jaclyn Eatherton  
**Subject:** RE: Injection well application

Tom,

How is the horizon looking for the restarting of issuances of permits. To clarify your comment below, you need us to change the application to say Knox through Mt. Simon correct?

**From:** Tomastik, Tom [mailto:Tom.Tomastik@dnr.state.oh.us]  
**Sent:** Friday, February 10, 2012 8:27 AM  
**To:** Brandon Walker  
**Cc:** dkreager54@gmail.com  
**Subject:** Injection well application

Brandon;

I have received your Class II saltwater injection well application. You need to complete the attached Saltwater injection well affidavit, notarize it and send the original by mail back to me. I also need to know the dimensions (length, width, and height of walls) of the dike area (and if it is of earthened material it needs to be underlain by a 30 mil plastic liner). I also need to know the number of tanks and the size (in barrels) of each tank. Please send a full size sketch showing all of these.

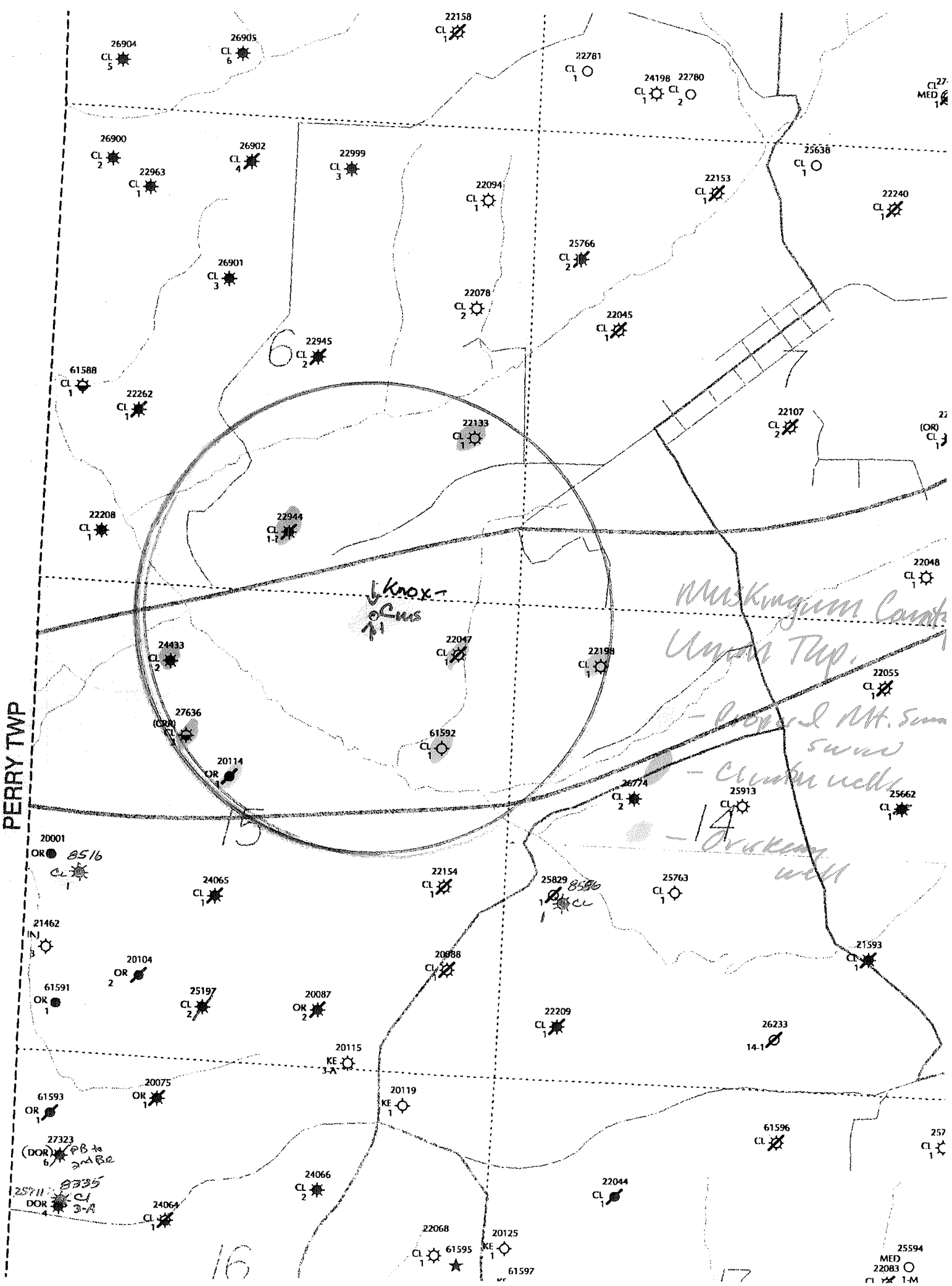
Additionally, you cannot haul storm water off this site for disposal. Any collection of rainwater off the concrete truck unloading pad must be injected. I need the dimensions of the concrete truck unloading pad (sloped to drain) and drain must be connected to an underground concrete vault (coated on the inside) with a sump pump that pumps all fluids from the unloading pad back up into the injection tanks.

Also, your depths for the proposed injection zone in the Mt. Simon looks like it includes everything from the Knox through Mt. Simon. If this is the case, you need to have me change the injection zones to Knox through Mt. Simon.

Tom Tomastik, Geologist 4  
Division of Oil and Gas Resources Management  
2045 Morse Road, H-3  
Columbus, Ohio 43229-6693  
(614) 265-1032

2/14/2012

PERRY TWP



Knox - Cms

Muskogean Corals Union Twp.

14 Drinking well

15

16

17

OPERATOR 1960 Well Services LLC COUNTY Mississippi  
 TOWNSHIP Union

P & A	FM	Permit Number	Casing/Cement Program	Well Log and/or Method of Plug
<input type="checkbox"/>	<u>Knop-Mt. Swan</u>	<u>New well</u>	<u>30"-100'- Cemented to surface</u>	
			<u>20"-400'- Cemented to surface</u>	
<input type="checkbox"/>			<u>13<sup>3</sup>/<sub>8</sub>"-1400'- cemented to surface</u>	
			<u>9<sup>5</sup>/<sub>8</sub>"- 6550' - Cemented back to 5200'</u>	
<input type="checkbox"/>	<u>CL</u>	<u>2133</u>	<u>Clinton well</u>	
<input checked="" type="checkbox"/>	<u>CL</u>	<u>2944</u>	<u>Clinton well</u>	
<input type="checkbox"/>	<u>CL</u>	<u>4433</u>	<u>Clinton well</u>	
<input checked="" type="checkbox"/>	<u>CL</u>	<u>2047</u>	<u>Clinton well</u>	
<input type="checkbox"/>	<u>CL</u>	<u>2198</u>	<u>Clinton well</u>	
<input checked="" type="checkbox"/>	<u>CL</u>	<u>61592</u>	<u>Clinton well</u>	
<input checked="" type="checkbox"/>	<u>OR</u>	<u>114</u>	<u>Ovishany well</u>	
<input type="checkbox"/>	<u>CL/RR</u>	<u>7636</u>	<u>Rose Run well - plugged back to Clinton</u>	
			<u>8<sup>5</sup>/<sub>8</sub>"-882'- cemented to surface</u>	
<input type="checkbox"/>			<u>Plugged back from 6015' to 4520' w/cement</u>	

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





February 7, 2012

Project C111049.02

Mr. Thomas Tomastik  
Ohio Department of Natural Resources  
Division of Oil and Gas Resources Management  
2045 Morse Road, H-3  
Columbus, Ohio 43229-6693



Permit Application  
GOFF Saltwater Disposal (SWD) #1 Saltwater Injection Well  
1960 Well Services, LLC  
Muskingum County, Ohio

Dear Mr. Tomastik:

GAI Consultants, Inc., on behalf of 1960 Well Services, LLC, is submitting an Application For A Permit for the proposed GOFF SWD #1 Saltwater Injection Well (Project). The Project proposes to advance a borehole to an approximate depth of 8,300 feet for the purpose of salt water disposal into the Mt. Simon Formation at an anticipated average pressure of 1,500 pounds per square inch. Please find, for your consideration, the following permit application documentation:

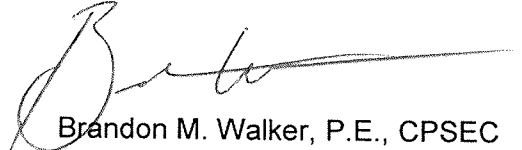
- Form 1 - Application for a Permit;
- Form 210 - Supplement to Application: Permit for Saltwater Injection Well;
- Form 4 - Restoration Plan;
- Project Vicinity Map;
- Well Plat (Application Item #36);
- Schematic Drawing of Subsurface Construction "Well Bore Design" (Application Item #37);
- Preliminary Site Layout Plan;
- Oil and Gas Affidavit; and
- \$1,000 Application Fee.

Please note the current population of Union Township is 1,804 per the 2010 Census obtained from the Ohio Department of Natural Resources Division of Oil and Gas Resource Management and is below the 5,000 person urban threshold per Ohio Administrative Code 1501:9-5-05(E)(1). Therefore, notification of adjacent landowners is only necessary through the public notification process. Once the public notification is completed, GAI will forward the Affidavit for the Saltwater Injection Well.

Mr. Thomas Tomastik  
Project C111049.02, Task 035  
February 7, 2012

Thank you for your time and consideration. Please feel free to contact me at 412-476-2000, extension 1546, if you have any questions or require additional information.

Respectfully submitted,  
GAI Consultants, Inc.



Brandon M. Walker, P.E., CPSEC  
Assistant Engineering Manager

BMW:JME/jab  
11104902-pa-ltr-jme/jab d-1

Attachment

cc: Mr. Russell Huffmyer, E.I.T, Project Manager, Heckmann Water Resources



## Geologic Review for Class II Wells

Application No: aAMY0000725

Well Type: SWD (water injection-disposal)

Proposed TD: 8,300 feet

Proposed Formation: Mt. Simon

Muskingum County, Union Township

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

- The gravity Bouguer Anomaly map shows an area of low gravity approximately 16 miles southeast of the proposed location of aAMY0000725. Another low is approximately 22 miles south west of the proposed location of aAMY0000725.

### Gravity Free Air

- The free air map shows map shows an area of low gravity approximately 16 miles southeast of the proposed location of aAMY0000725.

### Magnetic First Derivative

- The magnetic first derivative shows a number north-south and northeast-southwest trending magnetic highs. These trends range from approximately due north to N 50° E.
- Two trends of magnetic lows are in the area. These trends range from N 10° W to N 15° E.

### Magnetic Second Derivative

- The magnetic second derivative shows the same north-south and northeast-southwest trending magnetic highs. These trends range from approximately due north to N 50° E.
- Two trends of magnetic lows are in the area. These trends range from N 10° W to N 15° E.

### Magnetic Reduce Dipole

- The Magnetic Reduced Dipole Map shows the permit application located on a high.
- The trends of the lows are better identified.

### Precambrian Structure from PG-23

- The northwest-southeast trending Cambridge CSSD is present approximately 8 miles due east of the permit application.

### Knox Structure

- The northwest-southeast trending Cambridge CSSD is present approximately 8 miles due east of the permit application.

### Trenton Structure

- The northwest-southeast trending Cambridge CSSD is present approximately 8 miles due east of the permit application.

### EGSP Onondaga Structure

- A relatively consistent synclinal hinge is located approximately 2 miles northeast of the permit application. The hinge trends S 40° E.

#### MRCSP Onondaga Structure

- The northwest-southeast trending Cambridge CSSD is present approximately 8 miles due east of the permit application.

#### EGSP Berea Structure

- The permit application is 2 miles due west of the Parkersburg-Lorain syncline hinge. The Parkersburg-Lorain syncline trends S 70° E, and plunges to the south.
- The Cambridge arch is less than 12 miles due east of the permit application. The Cambridge arch is east of the Cambridge CSSD, but the arch closely parallels the Cambridge CSSD.

#### Mississippian/Pennsylvanian Unconformity Surface

- The Mississippian-Pennsylvanian unconformity surface indicates the permit application is located on the southwest limb of the Parkersburg-Lorain syncline.

#### Middle Kittanning Coal Structure

- The Middle Kittanning coal structure indicates the permit application is located on the southwest limb of the Parkersburg-Lorain syncline.

#### Pittsburgh Coal Structure

- The Pittsburgh coal structure indicates the permit application is located on the southwest limb of the Parkersburg-Lorain syncline.

#### Bedrock Geology

- The top of bedrock for the permit application is the Upper Pennsylvanian Conemaugh Group.

#### Bedrock Topography

- The bedrock topography map indicates a topographic low 2 miles west of the permit application, and a topographic low 6 miles east of the permit application.

#### EGSP Aerial Photo Lineament

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

#### EGSP LANDSAT Lineament

- A northeast-southwest trending lineament is present about 0.5 miles to the north of the permit application.
- This lineament map also shows smaller north-south trending lineaments approximately 2 miles due south of the permit application.

#### Mason Lineament

- A north-south trending lineament is located approximately 10 miles south west.
- A north-northeast trending lineament is located approximately 10 miles due west of the permit application.

- A north-northwest trending lineament is located approximately 8 miles due east of the permit application. This lineament coincides with the Cambridge CSSD.

#### Oil and gas fields

- Numerous gas and oil producing plays are within the area. These plays include the Knox, Clinton, Big Lime, Berea, and the Pennsylvanian.

#### Earthquakes

- There have been 2 earthquake epicenters that have occurred within the study area. These epicenters are both approximately 24 mile south-southwest of the permit application. The earthquake which occurred in 1952 had a magnitude of 3.9. The earthquake which occurred in 1953 had a magnitude of 2.7.

#### Injection Wells

- There are 5 SWD (active salt water disposal) wells within the 30 mile study area that are injecting in the Precambrian, “basal sand,” Roserun Sandstone, Queenston Shale, and the Medina. The nearest active injection well is a SWD well approximately 4 miles to the west northwest of the permit application. There are six inactive injection wells in the area. These wells injected in to both the Queenston Shale and the Clinton.

In summary, the nearest know fault is the Cambridge CSSD approximately 8 miles due east of the permit application. The Cambridge CSSD is evident on the Precambrian structure map and displays evidence of displacement in the Pennsylvanian section. The permit application is located on the southwest limb of the Parkersburg-Lorain syncline. Two earthquakes occurred approximately 24 miles south in 1952 and 1953. These earthquake epicenters flank a gravity low. There are 11 injection wells in the area, 5 are active. These active wells are currently injecting in to the Precambrian, “basal sand,” Roserun Sandstone, Queenston Shale, and the Medina.

**INTER-OFFICE MEMO**

**TO: Dave Ball, 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: 1960 Well Services, LLC.  
WELL NAME & NUMBER: Goff SWD #1  
PERMIT NUMBER: Drill new well, SWIW #27  
LOCATION: 211' NL & 1618' EL of SEC 15, Union Twp., Muskingum County  
PROPOSED INJECTION ZONE: Knox through Mt. Simon  
DATE RECEIVED: February 9, 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.

**Tomastik, Tom**

**From:** Baker, Mike [Mike.Baker@epa.state.oh.us]  
**Sent:** Friday, March 09, 2012 2:02 PM  
**To:** Tugend, Thomas  
**Cc:** Tomastik, Tom; Eggert, Michael; Lowe, Chuck  
**Subject:** Class II Permiot Reviews

**Attachments:** ODNR Permit Review Summary 2.docx

Ohio EPA Division of Drinking and Ground Waters has completed its review of nine (9) 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.

None of the reviewed Class II permits are within 2,000 feet of a public water system well or within a source water protection area. However, we do have a couple overarching comments concerning the surface casing of the well construction. More specifically, our review assessed the placement of surface casing and cement relative to the lowest most USDW. Ohio EPA would recommend that a class A cement with appropriate additives be specified as well as the use of centralizers to assure an adequate bond.

Attachment A is a summary of our comments concerning each permit application. Please contact Chuck Lowe of my staff at 614-644-2752 if you have questions on the specific comments.

---

This message was secured by [ZixCorp](#)<sup>(R)</sup>.

3/9/2012