



OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MANAGEMENT
2045 Morse Road, F-2 • Columbus, OH 43229
(614) 265-6922 • Fax (614) 265-6910

RECEIVED
Application for ORC 1509.06
Underground Injection
DEC 8 - 2021
Control Permit (UIC 1)

See Instructions on page 4.

Division of Oil and Gas
Resources Management

Applicant: DeepRock Disposal Solutions LLC.	Owner #: 9896
Address: 637 State Route 821 Marietta OH 45750	Phone: 740-371-5078
	Email: wesm@deeprockds.com

Applicant hereby applies on **11/01/2021** for a permit to

1. Type of Permit:

<input type="checkbox"/> Drill a New Well	<input checked="" type="checkbox"/> Reissue	<input type="checkbox"/> Plug Back
<input type="checkbox"/> Revise Location	<input type="checkbox"/> Convert	<input type="checkbox"/> Reopen
<input type="checkbox"/> Deepen		

Previously Issued API #: **34-167-2-9770**

2. Mail Permit to:

DeepRock Disposal Solutions LLC.
637 State Route 821
Marietta OH 45750

3. Orientation of Well:

Vertical Directional Other

4. Well Type:

<input checked="" type="checkbox"/> Saltwater Injection	<i>Choose all that apply:</i>
<input type="checkbox"/> Solution Mining	<input checked="" type="checkbox"/> Input/Injection
<input type="checkbox"/> Enhanced Recovery	<input type="checkbox"/> Water Supply
	<input type="checkbox"/> Observation
	<input type="checkbox"/> Production/Extraction

5. Is the well or surface facility located within an urbanized area as defined by ORC 1509.01(Y)?

Yes No If Yes, Name of Urbanized Area: _____

6. Well Information:

Well Name: Stephan	Well Number: 1	
Section/Lot #: 4	City/Village/Township: Warren	County: Washington

7. Proposed Depth and Geological Formation:

Proposed Total Depth: 6,450	Proposed geological formation(s) to be used as the injection zone:
Subject Tract Acres: 20.582	Clinton - Medina sandstone
Depth of Base of Target Formation: 6,325	

8. Royalty Interest Owner Information *Attach Royalty Interest Owner Information List.*

Does the State hold any royalty interest within the proposed subject tract?

Yes No If Yes, Name of Agency: _____

Are there any surface rights owned by the State of Ohio in this subject tract?

Yes No If Yes, Name of Agency: _____

9. Water Source for Production Operations: ORC 1509.01 (AA)

OPTIONAL Latitude: _____ Longitude: _____

Water Source:	Municipal- City of Marietta - (Source) -Seven production water wells from sand & gravel aquifer		
Watershed:	<input type="checkbox"/> Lake Erie	<input checked="" type="checkbox"/> Ohio River	<input type="checkbox"/> Other: _____
Estimated Withdrawal Rate:	10,000	GAL/DAY	e.g. Recycled water or water from a non-Ohio watershed
Estimated Total Volume:	100,000	GAL	
If Recycled Water, Estimated Total Volume:	_____		GAL

10. Jurisdictional Emergency Contacts for the Well Site:

	NAME	PHONE NUMBER (NOT 911)
Fire Department:	Reno - VFD	740-373-9800
Sheriff's Office or Police Department:	Washington County Sheriff	740-373-7070
Closest Medical Facility:	Marietta Memorial Hospital	740-374-1400
County EMA Director: OPTIONAL	Rich Hays	740-373-5613
Local Emergency Planning Committee: OPTIONAL		740-373-5613

11. 24 Hour Emergency Contact:

Company Name:	DeepRock Disposal Solutions		
Contact Name:	Dave Casto	Title:	Operations Manager
24-Hour Phone Number:	740-371-5078	Email Address:	davec@deeprockds.com

Please attach name and contact information for any additional emergency contacts.

12. Well Site Access:

Describe ingress/egress route: Take OH Rt. 550 from OH Rt.7 for 4/10ths. mile, leave road on left

Location (NAD83) of well site entrance from a public road:

Latitude: 39-24-16.61 Longitude: 81-28-40.25

13. Other Attachments

Choose the appropriate supplemental form:

- Form 210 (SWIW) and required attachments
- Form 203 (ERP) and required attachments
- Form 206 (SMP) and required attachments

- Plat Map
- Restoration Plan (Form 4)
- Completion Report (Form 8) if conversion
If in an Urbanized Area:
- Required Maps
- Required Notification and List

14. Well Construction:

TYPE CASING	BOREHOLE		CASING		CEMENT		FORMATION
	DIAMETER IN	DEPTH FT	DIAMETER IN	DEPTH FT	TOP FT	VOLUME SACKS	
Drive Pipe							
Conductor	24"	100'	20"	100'	surface	106	
Mine String							
Surface	17 1/2"	400'	13 3/8"	400'	surface	306	
Intermediate 1	9 5/8"	2,400'	9 5/8"	2,400'	surface	706	through Gordon
Intermediate 2							
Production 1	8 3/4"	6,400"	7"	6,400'	2,100'	556	
Production 2							
Open Holes							
Liner							
Tubing	4 1/2"			6,135'			set on packer
Packer							

TYPE CASING	DRILLING EQUIPMENT	NUMBER OF CENTRALIZERS	TESTED?	PRODUCED?	HYDRAULIC FRACTURING?
			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Drive Pipe			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Conductor			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Mine String			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Surface	Air & Fuild Rotary Rig	1	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Intermediate 1	Air & Fuild Rotary Rig - 9 5/8" - 2,400'	2	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Intermediate 2			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Production 1	Air & Fuild Rotary Rig - 7" - 6,400'	4	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Production 2			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Open Hole			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Liner			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Tubing	Rotary or Service Rig - 4 1/2" - 6,135'	6	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Packer	Service Rig - Packer Set 6,135'		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes

15. Signatures

I, the undersigned, being first duly sworn, depose and state under penalties of law, that I am authorized to make this application, that this application was prepared by me or under my supervision and direction, and that the facts stated herein are true, correct, and complete, to the best of my knowledge.

I, the undersigned, further depose and state that I am the person who has the right to submit an application in accordance with Section 1509.06 of the Revised Code.

And furthermore, I the undersigned, being duly sworn, depose and state at this time that I am not liable for any final nonappealable order of a court for damage to streets, roads, highways, bridges, culverts, or drainage ways pursuant to Section 5577.12 of the Ohio Revised Code (ORC). I, the undersigned, further depose and state that all notices required by 1509.06 (A)(9) ORC for this application have been duly provided by me.

By signing below I hereby agree to conform with all provisions of Chapter 1509 of the Ohio Revised Code and Chapter 1501:9 of the Ohio Administrative Code, and all orders and conditions issued by the Chief of the Division of Oil and Gas Resources Management.



SIGNATURE OF OWNER/AUTHORIZED AGENT

John W. Mossor Jr.

General Manager

NAME Type or Print

TITLE

If signed by Authorized Agent, a certificate of appointment of agent must be on file.



ANN E KERENYI
(NOTARY PUBLIC) State of Ohio
My Commission Expires
February 13, 2023

Sworn to before me and subscribed in my presence on this

30th day of November, 2021

MONTH YEAR

NOTARY PUBLIC

My commission expires 2-13-23

Instructions

1. **Drill, Reopen, Deepen, Plug Back, and Convert** an Oil and Gas Well (non-urban valid for 24 months; urban valid for 12 months)
 - a. Original Application for a Permit (Form 1)
 - b. Original of an Ohio registered surveyor's plat
 - c. Original of the Restoration Plan (Form 4)
 - d. **Reopen, Deepen, Plug Back and Convert** require a copy of the Well Completion Record (Form 8)
 - e. Fees: Check or money order payable to the Division of Oil and Gas Resources Management

SEND ALL ATTACHMENTS AND FEES TO:
OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MANAGEMENT
2045 MORSE ROAD BUILDING F
COLUMBUS OH 43229

Class II Disposal Well: \$1,000

Class II Enhanced Recovery Well and Class III Solution Mining Well:

- \$500 for a township with a population up to 9,999
- \$750 for a township with a population of 10,000 to 14,999
- \$1,000 for a township with a population exceeding 15,000

2. **Reissue or Revised Location**

- a. Same as above: 1 (a), (b), (c), (d), (f)
- b. Fee: \$250 check or money order payable to the Division of Oil and Gas Resources Management

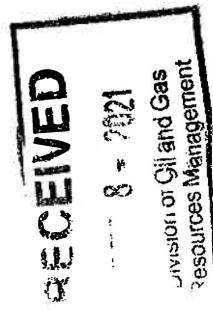
3. **Definitions:**

- "Urbanized area" means an area where a well or production facilities of a well are located within a municipal corporation or within a township that has an unincorporated population of more than five thousand in the most recent federal decennial census prior to the issuance of the permit for the well or surface facility.
- "Subject tract" means a tract(s) upon which a person proposes to and has the legal right to drill, reopen, deepen, plug back, or convert a well for the injection of brine for the class II disposal well.

LIST OF LANDOWNER ROYALTY OWNERS

STEPHAN #1

- Valley Hospitality Inc.
301 Popular Avenue
Williamstown, Ohio 26187





**SUPPLEMENT TO APPLICATION
PERMIT FOR A SALTWATER INJECTION WELL (Form 210)**
(REVISED 0515)

AREA OF REVIEW: An application for a saltwater injection well (SWIW) will be evaluated on the basis of an "area of review" surrounding the proposed well. The area of review for wells, in which injection of greater than two hundred (200) barrels per day is proposed, shall be the area circumscribed by a circle with the center point at the location of the injection well and a radius of one-half mile. The area of review for wells, in which a maximum injection of two hundred (200) barrels per day or less is proposed, shall be the area circumscribed by a circle with the center point at the location of the injection well and a radius of one-quarter mile.

31. PROPOSED INJECTION ZONE:

Geological Formation: Clinton - Medina

Injection Well Interval: FROM 6,165.00 FEET TO 6,325.00 FEET

Geologic description of injection zone: Sand Stone

Composition of Proposed Fluids to be Injected: (CHECK ALL THAT APPLY)

Brine

Flow-Back Drilling

Fluids

Other Approved Fluids

32. WELL CONSTRUCTION AND OPERATION:

A. Description of the proposed casing and cement program for new wells, or of the casing, cementing or sealing with prepared clay for existing wells to be converted:

See attached

B. Proposed method for testing the casing:

Load casing w/fresh water and inhibitor, pressure up (ODNR approved/directed maximum pressure)

using a pump truck equiped w/recorder, monitor pressure for (ODNR provided) time to confirm no pressure loss.

C. Description of the proposed method for completion and operation of the injection well:

Well will be operated as part of our ODNR/UIC approved Rt. 7 facility,

connected via pipeline, pipe will be 3" welded steel, incased inside 6" HDPE "poly-pipe" conduit

D. Description of the proposed unloading, surface storage, and spill containment facilities:

Well will be operated as part of our ODNR/UIC approved Rt. 7 facility

33. PROPOSED INJECTION VOLUMES

A. Indicate the estimated amount of saltwater to be injected into the proposed injection well per day:

AVERAGE: 3,000 MAXIMUM: 5,500

B. Indicate the method to be used to measure the actual daily injection pressure:

Will be connected to our Silver Smith/Meter Central scada system, pressures will be transmitted via inline transducers, backed up with a Barton meter,

along with volume meters at the wellhead

34. PROPOSED INJECTION PRESSURES

A. Indicate the estimated pressure to be used for injection of saltwater into the proposed injection well:

AVERAGE: 1,400 MAXIMUM: 1,420

35. PROPOSED CORRECTIVE ACTION

Explain any corrective action proposed for wells penetrating the proposed injection formation or zone within the area of review:

Based on area of review, we do not believe there are any corrective actions required.

**SUPPLEMENT TO APPLICATION
PERMIT FOR A SALTWATER INJECTION WELL (Form 210)**
(REVISED 0515)

36. MAP

Each application for a permit shall be accompanied by a map or maps showing and containing the following information:

- A. The subject tract of land on which the proposed injection well is to be located.
- B. The location of the proposed injection well on the subject tract established by an Ohio registered surveyor showing the distances in feet from the proposed well site to the boundary lines on the subject tract;
- C. The geographic location of all wells, penetrating the formation proposed for injection regardless of status, within the area of review;
- D. All holders of the land owner's royalty interest of record, or holders of the severed oil and gas mineral estates of record in the subject tract;
- E. All owners or operators of wells producing from or injecting into the same formation proposed as the injection formation.

37. SCHEMATIC DRAWING OF SUBSURFACE CONSTRUCTION

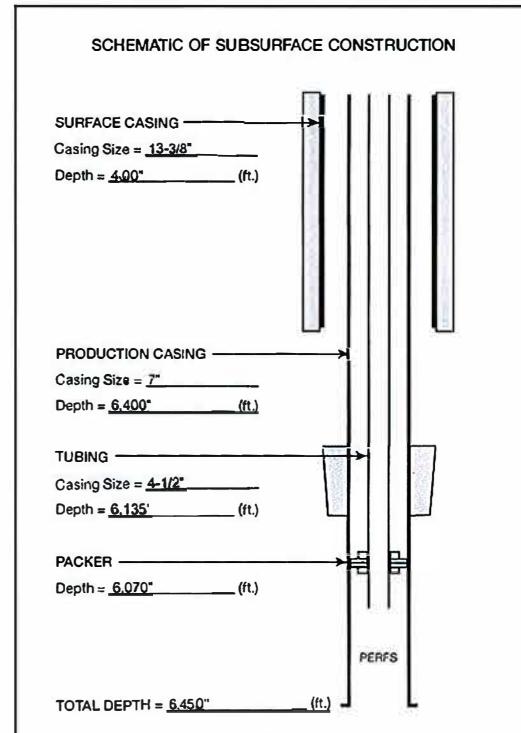
Label the schematic drawing below indicating size and setting depth of surface casing, intermediate (if any) and production casings; amount of cement used, measured or calculated tops of cement; size and setting depth of tubing; type and setting depth of packer; geologic name of injection zone showing top and bottom of injection interval. If the proposed input well design is substantially different from the schematic below, attach on a separate sheet a schematic of your proposal labeled with the above information.

38. PUBLIC NOTICE OF A SALTWATER INJECTION WELL

Public notice of an application for a saltwater injection well is required by law. In addition, the applicant must submit, on an attached sheet, a list of the names and address(es) of those persons required to receive personal notice in accordance with Rule 1501:9-3-06(H), of the Ohio Administrative Code.

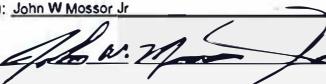
After submitting the application, and after a determination by the Division that it is complete as required by the rules of the Division, a legal notice must be published by the applicant in a newspaper of general circulation in the area of review. The legal notice must contain the information described in Rule 1501:9-3-06(H) of the Ohio Administrative Code. A copy of the notice must be delivered to all owners or operators of wells within the area of review producing from or injecting into the same formation proposed as the injection formation. Proof of publication, publication date, and an oath as to the delivery to those entitled to receive personal notice under this method must be filed with the Division within thirty (30) days after the Division determines that the application is complete.

In addition, notice of all applications for saltwater injection wells will be published in the Division's weekly circular.



The undersigned hereby agrees to comply with all provisions for a saltwater injection well as required by Chapter 1501:9-3 of the Ohio Administrative Code. In addition, the undersigned deposes and says that s/he shall 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.

Owner/Authorized Agent (Type or Print): John W Moss Jr

Signature of Owner/Authorized Agent:  Title: General Manager

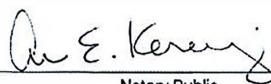
Permanent Address of Home Office: 637 State Rt. 821 Marietta, OH 45750

If signed by Authorized Agent, a certified copy of appointment of agent must be on file with the Division.

SWORN to and subscribed to me this 22nd day of October, 2021



ANN E KERENYI
Notary Public - State of Ohio
My Commission Expires
February 13, 2023


Notary Public

2-13-23

Date Commission Expires

DeepRock Disposal

Stephan # 1

Washington County - Warren Township - Section 4

<u>STRUCTURAL</u>	<u>DEPTHs</u>	<u>FORMATION TOPS</u>
Berea Sandstone	1,175'	2,017'
Onondaga Limestone	3,675'	4,517'
Packer Shell	5,275'	6,117'
Top of Clinton Sandstone	6,165'	
Top of Medina Sandstone	6,309'	
Base of Medina Sandstone	6,325'	
Proposed Total Depth	6,450'	

<u>CASING PROGRAM</u>			
<u>Type</u>	<u>Hole Size</u>	<u>Pipe Size</u>	<u>Casing Depth</u>
Conductor	24"	20"	100'
Surface	17 1/2"	13 3/8"	400'
Intermediate	12 1/4	9 5/8"	2,400" (Through Gordon)
Longstring	8 3/4"	7"	6,400"
Tubing	4 1/2"		6,135' Set on packer

<u>Cementing Program</u>	
Conductor	20" - 94lb - J55 inside 24" hole - cemented to surface Class A (15.6lb/gal) - 106 Sk's
Surface	13 3/8" - 48lb - H40 inside 17 1/2" hole - cemented to surface Class A (15.6lb/gal) - 306 Sk's
Intermediate	9 5/8" - 36lb - J55 inside 12 1/4" hole - cemented to surface total Cement - 706 Sk's Lead cement - 28gel - 14.7lb/per gal - 387.5 Sk's Tail cement - Class A (15.6lb/per gal) - 318.5 Sk's
Longstring	7" - 23lb - P110 inside 8 3/4" hole - cemented back to 2,100' - 556 Sk's Lead cement - Unifill - 13.6lb/per gal - 269.5 Sk's Tail cement - 50/50 POZ (28lb/per gal) - 286.5 Sk's

**DeepRock Disposal
Stephan # 1
Permit Appalachian**

**Privileged and Confidential Information work Product Not Intended for
Publication for Use by ODNR for SWIW/UIC Permit Evaluation ONLY**

32(C). WELL, CONSTRUCTION AND OPERATIONS

1. Well will be perforated casing and acidized along with limited injection testing.
2. Brine will be offloaded and stored at our Rt.7 – UIC permitted facility, brine will then transfer via pipeline.
 - i. We have in-line turbine meters at Rt. 7 discharge pumps, in addition we will install new in-line flow/volume meter at the Stephan # 1 well

- a. New pipeline will be constructed of 3" steel – welded, Class A – 2,200 PSI, enclosed in 6" – DR 17 polypipe.
- b. We have high- and low-level storage tank automatic shut-downs on our Rt.7 AST/Storge tank.
- c. We have pressure sensors, with automatic high, and low shutdowns on all discharge pumps.
- d. Our Silver Smith – Meter Central monitoring system in addition sends automated text messages for all preset levels alarms to all DeepRock managers.

DeepRock Disposal - Stephan # 1

ODNR - SWIW - Maximum Surface Injection Pressure (MAIP) Calculation	
For:	
Equations:	
$P_G = 0.433 \times SG$	
$P_m = 0.75D - P_G D$	
Values	
	0.433 = Pressure gradient for fresh water (psi/ft)
SG = 1.2	= specific gravity of injected fluid
D = 6165	= Depth to highest perforation or top of open hole interval (ft)
0.75	= Maximum allowable pressure gradient (psi/ft)
$P_G = 0.5196$	= Pressure gradient of injected fluid (psi/ft)
$P_m = 1420$	= Maximum surface injection pressure (psi)
Calculation:	
$P_G = 0.433 \times 1.2 = 0.5196$	
$P_m = 0.75 \times (6165) - (0.5196) \times (6165) = 1420.416 \text{ psi}$	
Round to the nearest multiple of five = 1420 psi	
Just type in the depth of the highest perforation.	



½ MILE AREA OF REVIEW WORKSHEET**Proposed New SWIW – STEPHAN #1**County: WashingtonTownship: Warren**Permit No. Geologic Formation Well construction and cementing**

<u>64086</u>	Macksburg ss	TD = 1,490 feet. Plugged and Abandoned.
<u>24560</u>	Berea Ss	TD = 2,301 feet. 8-5/8" – 203' 4-1/2" – 2,301'
<u>27694</u>	Gordon ss	TD = 2,375 feet. 8-5/8" – 267' 4-1/2" – 2,375'
<u>27552</u>	Ohio Shale	TD = 2,217 feet. 8-5/8" – 245' 4-1/2" – 2,220'
<u>27695</u>	Ohio Shale	TD = 2,396 feet. 8-5/8" – 261' 4-1/2" – 2,400'
<u>24848</u>	Berea Ss	TD = 2,482 feet. 8-5/8" – 200' 4-1/2" – 2,482'
<u>29766</u>	OH-CL/Med	Existing SWIW – 13-3/8" – 399' Cement to Surface 9-5/8" – 2,019' Cement to Surface 7" – 6,187' cemented w/654 sacks. Cement into 9-5/8"
<u>65450</u>	Berea Ss	TD = Unknown – I&O Program to be plugged.

½ MILE AREA OF REVIEW WORKSHEET**Proposed New SWIW – STEPHAN #1**County: WashingtonTownship: Warren**Permit No. Geologic Formation Well construction and cementing**28025 Gordon ss Not Drilled – Permit Expired

29705 Macksburg ss TD = 1,200 feet. 9-5/8" – 144' 4-1/2" – 1,171'

29765 Berea- CL/MED Well permitted – 09/15/2017 – **Deep Rock now owns**
Lease – Well will not be drilled.

28045 Berea – Gordon Not Drilled – Permit Expired.

24062 Berea - Gordon TD = 2,445 feet. 8-5/8" – 250' 4-1/2" – 2,512'

25084 Berea - Gordon TD = 2,345 feet. 8-5/8" – 205' 4-1/2" – 2,350'

24321 Berea - Gordon TD = 2,320 feet. 8-5/8" – 209' 4-1/2" – 2,320'

½ MILE AREA OF REVIEW WORKSHEET

Proposed New SWIW – STEPHAN #1

County: Washington

Township: Warren

Permit No. **Geologic Formation**

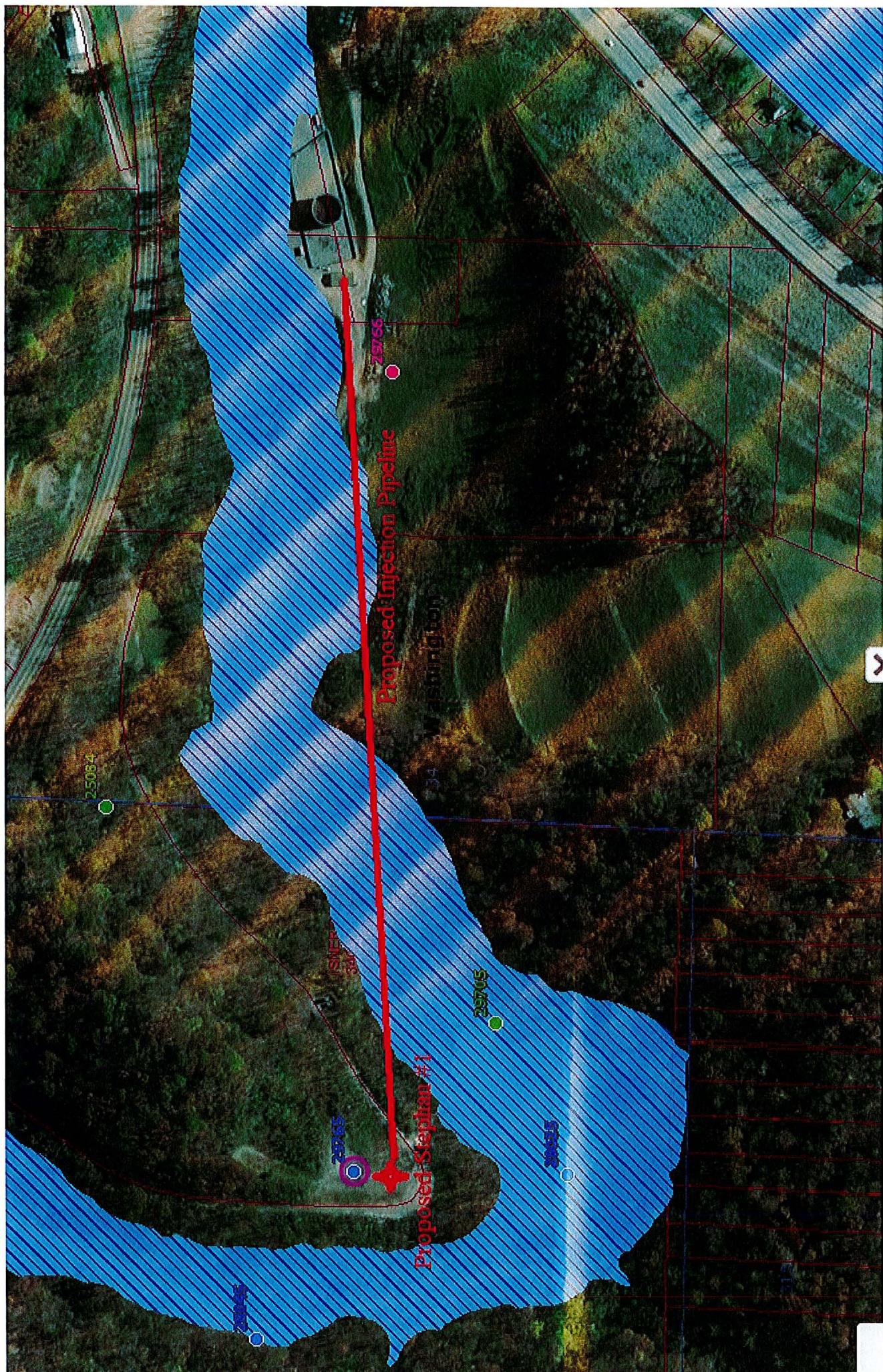
Well construction and cementing

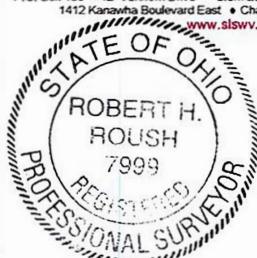
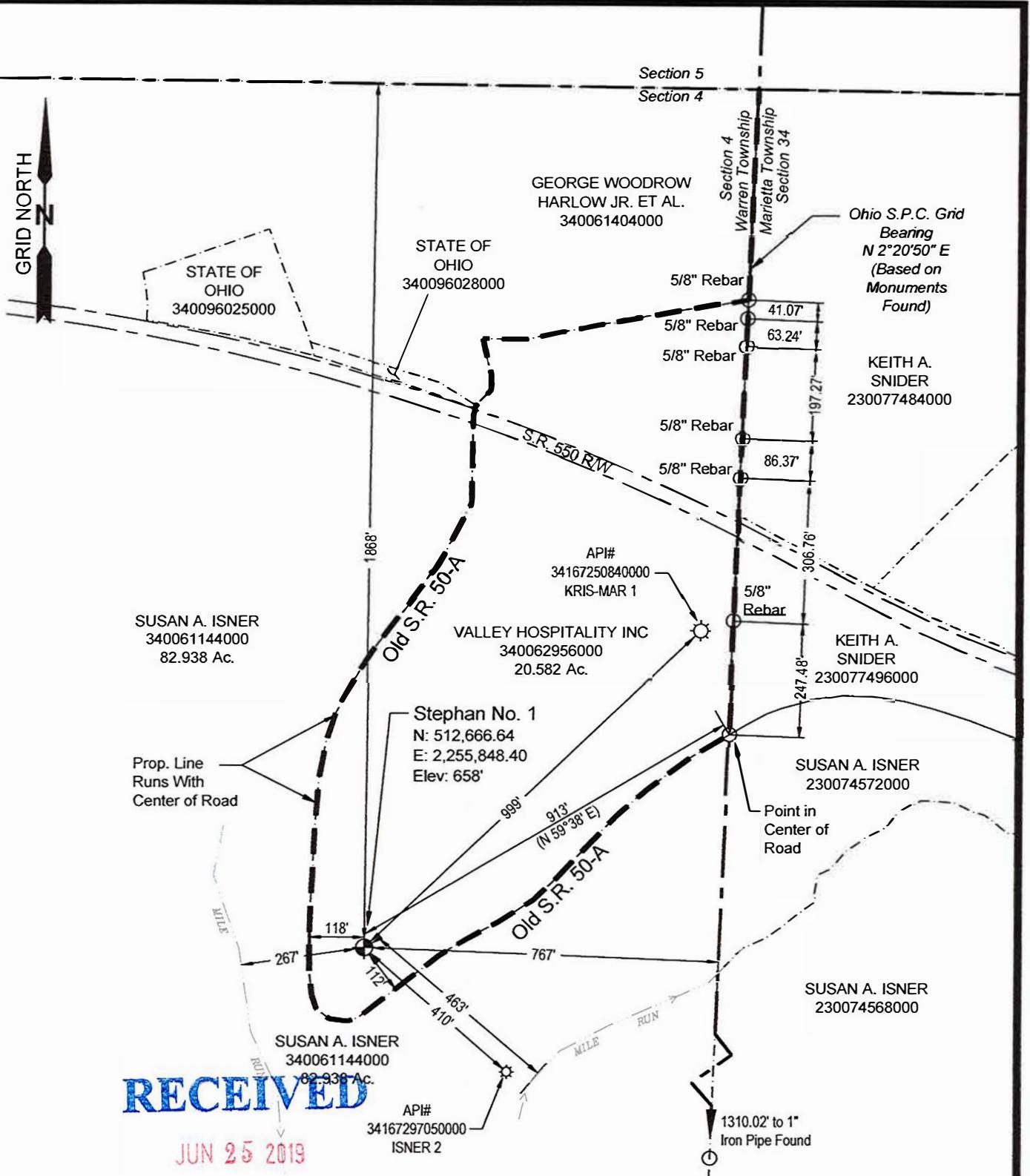
34-167-2-9766 Oriskany and Newburg

DeepRock Disposal – UIC-Class II injection well

DeepRock Disposal, drilled, owns and operates the American Growers # 1

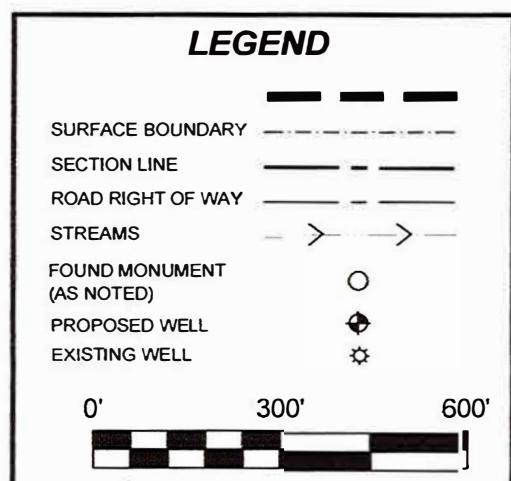
*John Moran - General Manager
12/12/21*





I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS
CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND
SHOWS ALL THE INFORMATION REQUIRED BY LAW AND
THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION
OF ENVIRONMENTAL PROTECTION, STATE OF OHIO,
DEPARTMENT OF NATURAL RESOURCES, DIVISION OF OIL AND
GAS REGULATIONS.

P.S. 7999 Robert H. Roush
DATE 5-8-2019



PIONEER ENGINEERING
& SURVEYING LLC

740-350-4003
ROBERT ROUSH

P.O. BOX 172, Beverly, OH 45715

DEEP ROCK DISPOSAL SOLUTIONS LLC
SECTION 4, TOWNSHIP 2 NORTH, RANGE 9 WEST
WARREN TOWNSHIP
WASHINGTON COUNTY, OHIO

VALLEY HOSPITALITY, INC

Drawn By: A. Boston

Date: May 7, 2019

Scale: 1" = 300'

Checked By: C.V. Moyers

Job Number: 8812

Sheet No. 1 of 2

NOTES:

1. THIS SURVEY WAS PERFORMED FOR THE PURPOSE OF OBTAINING A PERMIT TO DRILL A PROPOSED WELL AND TO SHOW THE PROPOSED WELL RELATIVE TO EXISTING BOUNDARIES. ALSO THE SURVEY IS TO PROVIDE STATE PLANE AND GEOGRAPHIC COORDINATES OF THE PROPOSED WELL.
2. PARCEL DIMENSIONS AND OWNERSHIP DATA WERE OBTAINED FROM THE COUNTY AUDITOR, TAX MAPS AND GIS DATA.
3. PARCEL ACREAGES SHOWN ARE FROM DEED RECORDS AND NOT VERIFIED BY SURVEY.
4. STREAMS SHOWN ARE BASED ON FIELD SURVEY.
5. TIES TO SECTION LINES ARE BASED ON MONUMENTS FOUND DURING THE FIELD SURVEY.
6. THE PROPOSED WELL SHOWN HEREON IS TO BE AN INJECTION WELL.

REFERENCES:

1. WASHINGTON COUNTY AUDITOR'S TAX MAP
2. DEEDS OF RECORD FROM THE COUNTY RECORDER'S OFFICE.
3. AERIAL MAPPING FROM THE WASHINGTON COUNTY, OH GIS WEBSITE AT <http://www.washingtoncountyauditor.us/Map.aspx>
4. USGS QUADRANGLE: MARIETTA 7.5'
5. TITLE INFORMATION SUPPLIED BY THE CLIENT.

OPERATOR: DEEP ROCK DISPOSAL SOLUTIONS LLC

LAND OWNER(S):

SURFACE: VALLEY HOSPITALITY, INC
MINERAL: LOUIS G. STEPHAN, III AND RITA STEPHAN, H/W

WELL NAME: STEPHAN

WELL NUMBER: 1

COUNTY: WASHINGTON

MUNICIPALITY: MARIETTA TOWNSHIP

U.S.G.S. QUAD: MARIETTA 7.5'

OHIO STATE PLANE GRID:

COORDINATES OH-S NAD 83

N: 512,666.64

E: 2,255,848.40

LAT: 39-24-11.33

LONG: 81-28-59.03

COORDINATES OH-S NAD 27

N: 512,628.80

E: 2,287,312.24

LAT: 39-24-11.06

LONG: 81-28-59.59

RECEIVED

JUN 25 2019

ELEVATION:

658' NAVD 88

WELL TYPE

OIL OR GAS: NEW LOCATION: OTHER:

SURVEY CERTIFICATION:

THIS WELL LOCATION PLAT MEETS THE SPECIFICATIONS SET FORTH IN OHIO ADMINISTRATIVE CODE 1501:9-1. THIS PLAT IS NOT A BOUNDARY SURVEY AS SPECIFIED IN OHIO ADMINISTRATIVE CODE 4733 AND IS SUBJECT TO ALL FACTS REVEALED BY TITLE EXAMINATION.

DeepRock
DISPOSAL SOLUTIONS, LLC



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION, STATE OF OHIO, DEPARTMENT OF NATURAL RESOURCES, DIVISION OF OIL AND GAS REGULATIONS.

P.S.
7999

Robert H. Roush
5-8-2019

DATE

SLS
Land & Energy Development
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PIONEER ENGINEERING
& SURVEYING LLC

740-350-4003
ROBERT ROUSH

P.O. BOX 172, Beverly, OH 45715

DEEP ROCK DISPOSAL SOLUTIONS LLC
SECTION 4, TOWNSHIP 2 NORTH, RANGE 9 WEST
WARREN TOWNSHIP
WASHINGTON COUNTY, OHIO

VALLEY HOSPITALITY, INC

Drawn By: A. Boston

Date: May 7, 2019

Scale: 1" = N.T.S.

Checked By: C.V. Moyers

Job Number: 8812

Sheet No. 2 of 2

RESTORATION PLAN (Form 4)

Ohio Department of Natural Resources

Division of Oil and Gas Resources Management, 2045 Morse Road, Bldg. F-2, Columbus OH 43229-6693

1. DATE OF APPLICATION: June 25, 2019	3. API #:
2. OWNER NAME, ADDRESS, & TELEPHONE NO.:	4. WELL #: 1
Deep Rock Disposal Solutions, LLC 637 State Route 821, Complex 1, Building 1 Marietta, Ohio 45750 (740) 371-5078	5. LEASE NAME: Stephan
	6. PROPERTY OWNER: Valley Hospitality, Inc.
	7. COUNTY: Washington
	8. CIVIL TOWNSHIP: Warren
	9. SECTION: 4
	10. LOT:
11. CURRENT LAND USE: <input checked="" type="checkbox"/> Cropland <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Pasture <input checked="" type="checkbox"/> Idle Land <input type="checkbox"/> Wetlands <input 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
12. SLOPE GRADIENT & LENGTH DETERMINED FROM: <input type="checkbox"/> Ground Measurement <input checked="" type="checkbox"/> U.S. Geological Survey Topographical Maps <input type="checkbox"/> Other: (explain) _____	18. STEEPEST SLOPE GRADIENT CROSSING SITE: <input checked="" 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%
13. TYPE OF FALL VEGETAL COVER: <input checked="" type="checkbox"/> Little or no vegetal cover <input checked="" type="checkbox"/> Short grasses <input checked="" type="checkbox"/> Tall weeds or short brush (1 to 2 ft.) <input checked="" 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	19. LENGTH OF STEEPEST SLOPE CROSSING SITE: <input checked="" 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.
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	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 _____
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	21. BACKFILLING AND GRADING AT SITE: <input type="checkbox"/> Construct diversions channeled to naturally established drainage systems <input checked="" type="checkbox"/> Construct terraces across slopes <input checked="" type="checkbox"/> Grade to approximate original contour <input checked="" type="checkbox"/> Grade to minimize erosion & control offsite runoff <input type="checkbox"/> Proposed alternative _____
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	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 _____
17. ADDITIONAL HOLES: <input type="checkbox"/> Rat/Mouse, if used, will be plugged	23. ADDITIONAL HOLES: <input type="checkbox"/> Rat/Mouse, if used, will be plugged
18. PROPOSED OR CURRENT LENGTH OF ACCESS ROAD: <input type="checkbox"/> 100 ft. or less <input type="checkbox"/> 101 to 500 ft. <input checked="" type="checkbox"/> 501 to 1500 ft. <input type="checkbox"/> greater than 1500 ft.	24. PROPOSED OR CURRENT LENGTH OF ACCESS ROAD: <input type="checkbox"/> 100 ft. or less <input type="checkbox"/> 101 to 500 ft. <input checked="" type="checkbox"/> 501 to 1500 ft. <input type="checkbox"/> greater than 1500 ft.
19. CURRENT LAND USE OF PATH OF ACCESS ROAD: <input type="checkbox"/> Cropland <input type="checkbox"/> Pasture <input checked="" type="checkbox"/> Idle land <input type="checkbox"/> Wetlands <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	20. CURRENT LAND USE OF PATH OF ACCESS ROAD: <input type="checkbox"/> Cropland <input type="checkbox"/> Pasture <input checked="" type="checkbox"/> Idle land <input type="checkbox"/> Wetlands <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.

REQUIRED BY SECTION 1509.06 (A)(10), OHIO REVISED CODE – FAILURE 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.

RECEIVED

<p>26. SURFACING MATERIAL FOR ACCESS ROAD:</p> <p><input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Brick and/or tile waste <input type="checkbox"/> Slag <input type="checkbox"/> Crushed stone <input type="checkbox"/> No surfacing material to be used <input type="checkbox"/> Proposed alternative</p>	<p>29. STEEPEST SLOPE GRADIENT ON ACCESS ROAD:</p> <p><input checked="" type="checkbox"/> 0 to 5% <input type="checkbox"/> 6 to 10% <input type="checkbox"/> greater than 10%</p>
<p>27. PATH OF ACCESS ROAD TO BE DETERMINED BY:</p> <p><input type="checkbox"/> Landowner <input type="checkbox"/> Contractor <input checked="" type="checkbox"/> Existing access road <input type="checkbox"/> Operator</p>	<p>30. APPROXIMATE LENGTH OF STEEPEST SLOPE ON ROAD:</p> <p><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.</p>
<p>28. GRADING AND EROSION CONTROL PRACTICE ON ROAD:</p> <p><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</p>	<p>31. HAS LANDOWNER RECEIVED A COPY OF THIS RESTORATION PLAN?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>

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



Name (Typed or Printed)

John W. Mosser

Date 06/25/2019

RESTORATION PLAN MUST BE SUBMITTED TO THE DIVISION IN DUPLICATE.



OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MANAGEMENT
2045 MORSE RD., F-2, COLUMBUS, OH 43229-6693 • (614) 265-6922



RECEIVED

DEC 8 - 2021

Division of Oil and Gas
Resources Management

SALTWATER INJECTION WELL AFFIDAVIT

(REVISED 0415)

State of Ohio, Washington County,

John W. Mosser being

first duly sworn says that as principal, or authorized agent, for Deep Rock Disposal Solutions, LLC, he or she has made application for a saltwater injection well in the State of Ohio Washington,

Warren County, Township, section/lot number Section 4 ; and

further certifies that notice of application has been delivered to each individual entitled to personal notification in accordance with paragraph (H) 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 30th day of November, 2021.



ANN E KERENYI
Notary Public - State of Ohio
My Commission Expires
February 13, 2023

NOTARY PUBLIC



OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MANAGEMENT
2045 Morse Road, F-2 • Columbus, OH 43229
(614) 265-6922 • Fax (614) 265-6910

See Instructions on page 4.

Application for ORC 1509.06 Underground Injection Control Permit (UIC 1)

Applicant:	DeepRock Disposal Solutions LLC.
Address:	637 State Route 821 Marietta OH 45750

Owner #:	9896
Phone:	740-371-5078
Email:	wesm@deeprockds.com

Applicant hereby applies on **11/30/2021** for a permit to

1. Type of Permit:

<input checked="" type="checkbox"/> Drill a New Well	<input type="checkbox"/> Reissue	<input type="checkbox"/> Plug Back
<input type="checkbox"/> Revise Location	<input type="checkbox"/> Convert	<input type="checkbox"/> Reopen
<input type="checkbox"/> Deepen		

Previously Issued API #:

2. Mail Permit to:

DeepRock Disposal Solutions LLC.
637 State Route 821
Marietta OH 45750

3. Orientation of Well:

<input checked="" type="checkbox"/> Vertical	<input type="checkbox"/> Directional	<input type="checkbox"/> Other
--	--------------------------------------	--------------------------------

4. Well Type:

<input checked="" type="checkbox"/> Saltwater Injection	<i>Choose all that apply:</i>
<input type="checkbox"/> Solution Mining	<input checked="" type="checkbox"/> Input/Injection
<input type="checkbox"/> Enhanced Recovery	<input type="checkbox"/> Observation
	<input type="checkbox"/> Water Supply
	<input type="checkbox"/> Production/Extraction

5. Is the well or surface facility located within an urbanized area as defined by ORC 1509.01(Y)?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If Yes, Name of Urbanized Area:
------------------------------	--	---------------------------------

6. Well Information:

Well Name:	American Growers	Well Number:	3
Section/Lot #:	4	City/Village/Township:	Warren
		County:	Washington

7. Proposed Depth and Geological Formation:

Proposed Total Depth:	6,500'	Proposed geological formation(s) to be used as the injection
Subject Tract Acres:		zone: Oriskany through Medina
Depth of Base of Target Formation:	6,325'	

8. Royalty Interest Owner Information *Attach Royalty Interest Owner Information List.*

Does the State hold any royalty interest within the proposed subject tract?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If Yes, Name of Agency:
------------------------------	--	-------------------------

Are there any surface rights owned by the State of Ohio in this subject tract?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If Yes, Name of Agency:
------------------------------	--	-------------------------

9. Water Source for Production Operations: ORC 1509.01 (AA)

OPTIONAL Latitude:		Longitude:	
Water Source:	Municipal - City of Marietta-(Source) Seven production water wells from sand & gravel aquifer		
Watershed:	<input type="checkbox"/> Lake Erie	<input checked="" type="checkbox"/> Ohio River	<input type="checkbox"/> Other: e.g. Recycled water or water from a non-Ohio watershed
Estimated Withdrawal Rate:	10,000	GAL/DAY	
Estimated Total Volume:	100,000	GAL	
If Recycled Water, Estimated Total Volume:			GAL

10. Jurisdictional Emergency Contacts for the Well Site:

	NAME	PHONE NUMBER (NOT 911)
Fire Department:	Reno - VFD	740-373-9800
Sheriff's Office or Police Department:	Washington County Sheriff	740-373-7070
Closest Medical Facility:	Marietta Memorial Hospital	740-374-1400
County EMA Director: OPTIONAL	Rich Hays	740-373-5613
Local Emergency Planning Committee: OPTIONAL		740-373-5613

11. 24 Hour Emergency Contact:

Company Name:	DeepRock Disposal Solutions	
Contact Name:	Dave Casto	Title: Operations Manager
24-Hour Phone Number:	740-371-5078	Email Address: davec@deeprockds.com

Please attach name and contact information for any additional emergency contacts.

12. Well Site Access:

Describe ingress/egress route: enter property/lease road off on OH St.Rt7

Location (NAD83) of well site entrance from a public road:

Latitude: 39-23-20.76 Longitude: 81-29-11.55

13. Other Attachments

Choose the appropriate supplemental form:

Form 210 (SWIW) and required attachments
 Form 203 (ERP) and required attachments
 Form 206 (SMP) and required attachments

Plat Map

Restoration Plan (Form 4)

Completion Report (Form 8) *if conversion*

If in an Urbanized Area:

Required Maps

Required Notification and List

14. Well Construction:

TYPE CASING	BOREHOLE		CASING		CEMENT		FORMATION
	DIAMETER IN	DEPTH FT	DIAMETER IN	DEPTH FT	TOP FT	VOLUME SACKS	
Drive Pipe							
Conductor	24"	100'	20"	100'	SURFACE	106	
Mine String							
Surface	17 1/2"	400'	13 3/8"	400'	SURFACE	306	
Intermediate 1	9 5/8"	2,400'	9 5/8"	2,400'	SURFACE	706	THROUGH THE GORDON
Intermediate 2							
Production 1	8 3/4"	6,400'	7"	6,400'	2,100'	556	
Production 2							
Open Holes							
Liner							
Tubing	4 1/2"			6,135'			SET ON PACKER
Packer				6,135'			

TYPE CASING	DRILLING EQUIPMENT	NUMBER OF CENTRALIZERS	TESTED?	PRODUCED?	HYDRAULIC FRACTURING?
Drive Pipe			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Conductor			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Mine String			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Surface	Air & Fuild Rotary Rig	1	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Intermediate 1	Air & Fuild Rotary Rig	2	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Intermediate 2			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Production 1	Air & Fuild Rotary Rig	4	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Production 2			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Open Hole			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Liner			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Tubing	Service Rig	6	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Packer	Service Rig set packer		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes

15. Signatures

I, the undersigned, being first duly sworn, depose and state under penalties of law, that I am authorized to make this application, that this application was prepared by me or under my supervision and direction, and that the facts stated herein are true, correct, and complete, to the best of my knowledge.

I, the undersigned, further depose and state that I am the person who has the right to submit an application in accordance with Section 1509.06 of the Revised Code.

And furthermore, I the undersigned, being duly sworn, depose and state at this time that I am not liable for any final nonappealable order of a court for damage to streets, roads, highways, bridges, culverts, or drainage ways pursuant to Section 5577.12 of the Ohio Revised Code (ORC). I, the undersigned, further depose and state that all notices required by 1509.06 (A)(9) ORC for this application have been duly provided by me.

By signing below I hereby agree to conform with all provisions of Chapter 1509 of the Ohio Revised Code and Chapter 1501:9 of the Ohio Administrative Code, and all orders and conditions issued by the Chief of the Division of Oil and Gas Resources Management.



SIGNATURE OF OWNER/AUTHORIZED AGENT

John W. Mossor Jr.

General Manager

NAME Type or Print

TITLE

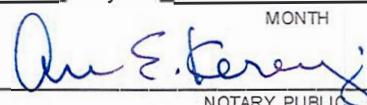
If signed by Authorized Agent, a Certificate of appointment of agent must be on file.



NOTARY SEAL
ANNE KERENYI
Notary Public - State of Ohio
My Commission Expires
February 13, 2023

Sworn to before me and subscribed in my presence on this

30th day of November 2021
MONTH YEAR



NOTARY PUBLIC

My commission expires 2-13-23

Instructions

1. **Drill, Reopen, Deepen, Plug Back, and Convert** an Oil and Gas Well (non-urban valid for 24 months; urban valid for 12 months)
 - a. Original Application for a Permit (Form 1)
 - b. Original of an Ohio registered surveyor's plat
 - c. Original of the Restoration Plan (Form 4)
 - d. **Reopen, Deepen, Plug Back and Convert** require a copy of the Well Completion Record (Form 8)
 - e. Fees: Check or money order payable to the Division of Oil and Gas Resources Management

SEND ALL ATTACHMENTS AND FEES TO:
OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MANAGEMENT
2045 MORSE ROAD BUILDING F
COLUMBUS OH 43229

Class II Disposal Well: \$1,000

Class II Enhanced Recovery Well and Class III Solution Mining Well:

- \$500 for a township with a population up to 9,999
- \$750 for a township with a population of 10,000 to 14,999
- \$1,000 for a township with a population exceeding 15,000

2. **Reissue or Revised Location**

- a. Same as above: 1 (a), (b), (c), (d), (f)
- b. Fee: \$250 check or money order payable to the Division of Oil and Gas Resources Management

3. **Definitions:**

- "Urbanized area" means an area where a well or production facilities of a well are located within a municipal corporation or within a township that has an unincorporated population of more than five thousand in the most recent federal decennial census prior to the issuance of the permit for the well or surface facility.
- "Subject tract" means a tract(s) upon which a person proposes to and has the legal right to drill, reopen, deepen, plug back, or convert a well for the injection of brine for the class II disposal well.



**SUPPLEMENT TO APPLICATION
PERMIT FOR A SALTWATER INJECTION WELL (Form 210)**

(REVISED 0515)

AREA OF REVIEW: An application for a saltwater injection well (SWIW) will be evaluated on the basis of an "area of review" surrounding the proposed well. The area of review for wells, in which injection of greater than two hundred (200) barrels per day is proposed, shall be the area circumscribed by a circle with the center point at the location of the injection well and a radius of one-half mile. The area of review for wells, in which a maximum injection of two hundred (200) barrels per day or less is proposed, shall be the area circumscribed by a circle with the center point at the location of the injection well and a radius of one-quarter mile.

31. PROPOSED INJECTION ZONE:

Geological Formation: Oriskany through Medina

32. Injection Well Interval: FROM 4,549.00

FEET TO 6,325.00

FEET

Geologic description of injection zone:

Limestone, Dolomite and Sandstone

Composition of Proposed Fluids

to be Injected: (CHECK ALL THAT APPLY)

Brine Flow-Back Drilling Fluids Other Approved Fluids

33. WELL CONSTRUCTION AND OPERATION:

A. Description of the proposed casing and cement program for new wells, or of the casing, cementing or sealing with prepared clay for existing wells to be converted.

SEE ATTACHED and subsurface construction (page 2 of form 210)

B. Proposed method for testing the casing:

Load the 7" casing w/fresh water & inhibitor, pressure up (ODNR provided maximum pressure)

using a pump truck w/recorder and chart, monitor pressure to and for (ODNR provided) time to confirm no pressure loss.

C. Description of the proposed method for completion and operation of the injection well:

Well will be perforated and acid frac-ed

SEE ATTACHED

D. Description of the proposed unloading, surface storage, and spill containment facilities:

Brine will be offload and stored at our UIC approved facility (Rt.7)

Well will be operated as part of our ODNR - UIC approved facility (Rt.7 - offloading and storage) and connected via new constructed pipeline

SEE ATTACHED

33. PROPOSED INJECTION VOLUMES

A. Indicate the estimated amount of saltwater to be injected into the proposed injection well per day:

AVERAGE: 3,000 MAXIMUM: 5,000

B. Indicate the method to be used to measure the actual daily injection pressure:

Well will be connected/added to our Silver Smith - Meter Central scada/monitoring system. We will use both transducers and a "baron" meter and in-line flow meter

34. PROPOSED INJECTION PRESSURES

A. Indicate the estimated pressure to be used for injection of saltwater into the proposed injection well:

AVERAGE: MAXIMUM:

SEE ATTACHED.

SEE ATTACHED

35. PROPOSED CORRECTIVE ACTION

Explain any corrective action proposed for wells penetrating the proposed injection formation or zone within the area of review:

According to our area of review study, there are no wells in question

**SUPPLEMENT TO APPLICATION
PERMIT FOR A SALTWATER INJECTION WELL (Form 210)**

(REVISED 0515)

36. MAP

Each application for a permit shall be accompanied by a map or maps showing and containing the following information:

- A. The subject tract of land on which the proposed injection well is to be located.
- B. The location of the proposed injection well on the subject tract established by an Ohio registered surveyor showing the distances in feet from the proposed well site to the boundary lines on the subject tract;
- C. The geographic location of all wells, penetrating the formation proposed for injection regardless of status, within the area of review;
- D. All holders of the land owner's royalty interest of record, or holders of the severed oil and gas mineral estates of record in the subject tract;
- E. All owners or operators of wells producing from or injecting into the same formation proposed as the injection formation.

37. SCHEMATIC DRAWING OF SUBSURFACE CONSTRUCTION

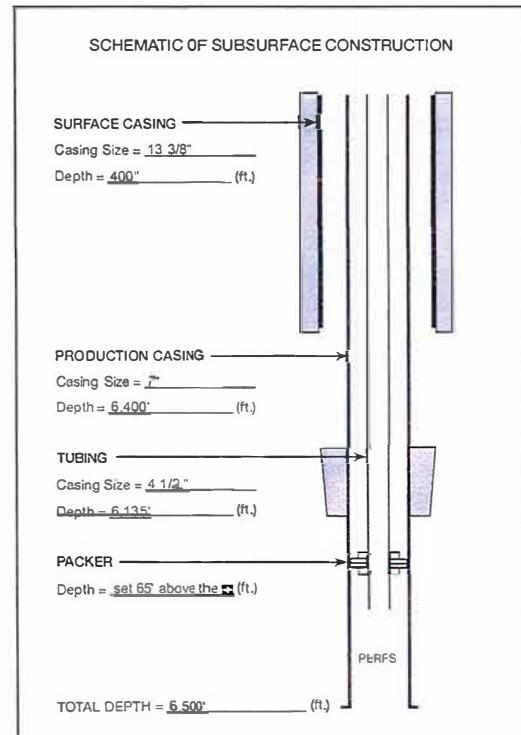
Label the schematic drawing below indicating size and setting depth of surface casing, intermediate (if any) and production casings; amount of cement used, measured or calculated tops of cement; size and setting depth of tubing; type and setting depth of packer; geologic name of injection zone showing top and bottom of injection interval. If the proposed input well design is substantially different from the schematic below, attach on a separate sheet a schematic of your proposal labeled with the above information.

38. PUBLIC NOTICE OF A SALTWATER INJECTION WELL

Public notice of an application for a saltwater injection well is required by law. In addition, the applicant must submit, on an attached sheet, a list of the names and address(es) of those persons required to receive personal notice in accordance with Rule 1501:9-3-06(H) of the Ohio Administrative Code.

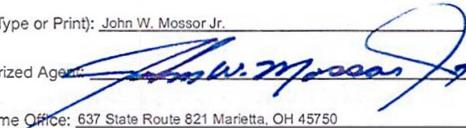
After submitting the application, and after a determination by the Division that it is complete as required by the rules of the Division, a legal notice must be published by the applicant in a newspaper of general circulation in the area of review. The legal notice must contain the information described in Rule 1501:9-3-06(H) of the Ohio Administrative Code. A copy of the notice must be delivered to all owners or operators of wells within the area of review producing from or injecting into the same formation proposed as the injection formation. Proof of publication, publication date, and an oath as to the delivery to those entitled to receive personal notice under this method must be filed with the Division within thirty (30) days after the Division determines that the application is complete.

In addition, notice of all applications for saltwater injection wells will be published in the Division's weekly circular.



The undersigned hereby agrees to comply with all provisions for a saltwater injection well as required by Chapter 1501:9-3 of the Ohio Administrative Code. In addition, the undersigned deposes and says that s/he shall 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.

Owner/Authorized Agent (Type or Print): John W. Mossor Jr.

Signature of Owner/Authorized Agent:  Title: General Manager

Permanent Address of Home Office: 637 State Route 821 Marietta, OH 45750

If signed by Authorized Agent, a certified copy of appointment of agent must be on file with the Division.

SWORN to and subscribed to me this 30th day of November, 2021



ANN E KERENYI
Notary Public - State of Ohio
My Commission Expires
February 13, 2023


Notary Public

2-13-23

Date Commission Expires

**DeepRock Disposal
American Growers # 3
Permit Appalachian**

32. (D). Description of proposed unloading, surface, and spill containment.

- A. Brine will be offloaded and stored at our Rt.7 – UIC permitted facility, brine will then transfer via pipeline.
 - We have in-line turbine meters at Rt. 7 discharge pumps, in addition we will install new in-line flow/volume meter at the American Growers # 3 well
- a. New pipeline will be constructed of 3" steel – welded, Class A – 2,200 PSI, enclosed in 6" – DR 17 polypipe.
- b. We have high- and low-level storage tank automatic shut-downs on our Rt.7 AST/Storge tank.
- c. We have pressure sensors, with automatic high, and low shutdowns on all discharge pumps.
- d. Our Silver Smith – Meter Central monitoring system in addition sends automated text messages for all preset levels alarms to all DeepRock managers.

**DeepRock Disposal
American Growers # 3
Permit Appalachian**

34. PROPOSED INJECTION PRESSURES

- A. Indicate the estimated pressure to be used for injection of saltwater into the proposed injection well:
 1. If completed in Oriskany, top perf @ 4,549
 - a. Average: 1,020 – Maximum: 1,050
 2. If completed only in the Clinton-Medina, top perf @ 6,200
 - a. Average: 1,400 – Maximum: 1,430

<u>STRUCTURAL</u>	<u>DEPTHs</u>	<u>FORMATION TOPS</u>
Berea Sandstone	1,175'	2,017'
Onondaga Limestone	3,675'	4,517'
Packer Shell	5,275'	6,117'
Top of Clinton Sandstone	6,165'	
Top of Medina Sandstone	6,309'	
Base of Medina Sandstone	6,325'	
Proposed Total Depth	6,500'	

<u>CASING PROGRAM</u>			
<u>Type</u>	<u>Hole Size</u>	<u>Pipe Size</u>	<u>Casing Depth</u>
Conductor	24"	20"	100'
Surface	17 1/2"	13 3/8"	400'
Intermediate	12 1/4	9 5/8"	2,400" (Through Gordon)
Longstring	8 3/4"	7"	6,450"
Tubing	4 1/2"		Set on packer "65'" above highest perforation

<u>Cementing Program</u>	
Conductor	20" - 94lb - J55 inside 24" hole - cemented to surface Class A (15.6lb/gal) - 106 Sks
Surface	13 3/8" - 48lb - H40 inside 17 1/2" hole - cemented to surface Class A (15.6lb/gal) - 306 Sks
Intermediate	9 5/8" - 36lb - J55 inside 12 1/4" hole - cemented to surface total Cement - 706 Sks Lead cement - 28gal - 14.7lb/per gal - 387.5 Sks Tail cement - Class A (15.6lb/per gal) - 318.5 Sks
Longstring	7" - 23lb - P110 inside 8 3/4" hole - cemented back to 2,100' - 556 Sks Lead cement -Unifill - 13.6lb/per gal - 269.5 Sks Tail cement - 50/50 POZ (28lb/per gal) - 286.5 Sks

DeepRock Disposal - American Growers # 3 - SWIW

IF COMPLETED AS CLINTON MEDINA

ODNR - SWIW - Maximum Surface Injection Pressure (MAIP) Calculation

For:

Equations:

$$P_G = 0.433 \times SG$$

$$P_m = 0.75D - P_G D$$

Values

0.433 = Pressure gradient for fresh water (psi/ft)

SG= 1.2 = specific gravity of injected fluid

D= 6200 = Depth to highest perforation or top of open hole interval (ft)

0.75 = Maximum allowable pressure gradient (psi/ft)

$P_G = 0.5196$ = Pressure gradient of injected fluid (psi/ft)

P_m = 1430 = Maximum surface injection pressure (psi)

$P_m = 1430$ = Maximum surface injection pressure (psi)

Calculation:

$$P_G = 0.433 \times 1.2 = 0.5196$$

$$P_m = 0.75 \times (6200) - (0.5196) \times (6200) = 1428.48 \text{ psi}$$

Round to the nearest multiple of five = 1430 psi

Just type in the depth of the highest perforation.

DeepRock Diposal - American Growers # 3 - SWIW

<i>IF COMPLETED AS Oriskany</i>					
ODNR - SWIW - Maximum Surface Injection Pressure (MAIP) Calculation					
For:					
<u>Equations:</u>					
	$P_G = 0.433 \times SG$				
	$P_m = 0.75D - P_G D$				
<u>Values</u>					
	0.433 = Pressure gradient for fresh water (psi/ft)				
	SG= 1.2 = specific gravity of injected fluid				
	D= 4549 = Depth to highest perforation or top of open hole interval (ft)				
	0.75 = Maximum allowable pressure gradient (psi/ft)				
	P _G = 0.5196 = Pressure gradient of injected fluid (psi/ft)				
	P _m = 1050 = Maximum surface injection pressure (psi)				
<u>Calculation:</u>					
	$P_G = 0.433 \times 1.2 = 0.5196$				
	$P_m = 0.75 \times (4549) - (0.5196) \times (4549) = 1048.09 \text{ psi}$				
	Round to the nearest multiple of five = 1050 psi				
Just type in the depth of the highest perforation.					



OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MANAGEMENT
2045 MORSE RD., F-2, COLUMBUS, OH 43229-6693 • (614) 265-6922



SALTWATER INJECTION WELL AFFIDAVIT

(REVISED 0415)

State of Ohio, Washington, County,

John W. Mossor Jr. _____ being

first duly sworn says that as principal, or authorized agent, for DeepRock Disposal Solutions LLC, he or she has made application for a saltwater injection well in the State of Ohio Washington,
County, Warren Township, section/lot number Section 4 ; and
further certifies that notice of application has been delivered to each individual entitled to personal notification
in accordance with paragraph (H) of Rule 1501:9-3-06 of the Ohio Administrative Code.

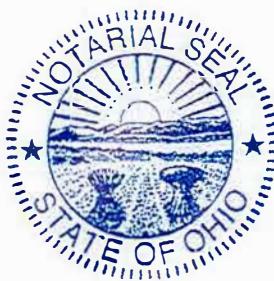
And further affiant saith not.



John W. Mossor Jr.

AFFIANT SIGNATURE

Sworn to before me and subscribed in my presence this 30th day of November, 2021.



ANN E KERENYI
Notary Public - State of Ohio
My Commission Expires
February 13, 2023



Ann E. Kerenyi

NOTARY PUBLIC



OHIO DEPARTMENT OF NATURAL RESOURCES
DI VISION OF OIL & GAS RESOURCES MANAGEMENT
2045 MORSE RD., F-2, COLUMBUS, OH 43229-6693
Phone: (614) 265-6922 • Fax: (614) 265-6910



LANDOWNER FEE SIMPLE OWNERSHIP AFFIDAVIT

(REV0412)

Application No.

(To be filled in by the Division)

STATE OF Ohio ss:

COUNTY OF Washington

NAME OF LANDOWNER: V-M Mil eRun LLC - V-M Management Solutions LLC

ADDRESS OF LANDOWNER: P.O. Box 37 Marietta, OH 45750

Being first duly sworn according to law, depose and say that they are the owners of the following described real estate:

The undersigned certify that they are the owners of the property in fee simple, including the coal rights, and have no objections to the drilling of the American Growers #3 - SWIW, by the (Well Name & No.), on said premises.

Further affiant saveth naught.

Signatures:

Signatures:

Signatures:

Signatures:

SWORN TO BY

Notary Public:

DNR-744-7001 (REV0412)



ANN E KERENYI
Notary Public - State of Ohio
My Commission Expires
February 13, 2023

RESTORATION PLAN (Form 4)

Ohio Department of Natural Resources

Division of Oil and Gas Resources Management, 2045 Morse Road, Bldg. F-2, Columbus OH 43229-6693

1. DATE OF APPLICATION: November 30, 2021	2. OWNER NAME, ADDRESS, & TELEPHONE NO.: Deep Rock Disposal Solutions, LLC 637 State Route 821, Complex 1, Building 1 Marietta, Ohio 45750 (740) 371-5078																
3. API #:	4. WELL #: 3																
5. LEASE NAME: American Growers	6. PROPERTY OWNER: V-M Mile Run LLC. - V-M Management Solutions																
7. COUNTY: Washington	8. CIVIL TOWNSHIP: Warren																
9. SECTION: 4	10. LOT:																
11. CURRENT LAND USE: <table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20%;"><input type="checkbox"/> Cropland</td><td style="width: 20%;"><input type="checkbox"/> Commercial</td></tr><tr><td><input type="checkbox"/> Pasture</td><td><input checked="" type="checkbox"/> Idle Land</td></tr><tr><td><input type="checkbox"/> Wetlands</td><td><input type="checkbox"/> Recreational</td></tr><tr><td><input type="checkbox"/> Residential</td><td><input type="checkbox"/> Industrial</td></tr><tr><td><input type="checkbox"/> Unreclaimed strip mine</td><td></td></tr><tr><td>Woodland: <input type="checkbox"/> Broadleaf</td><td><input type="checkbox"/> Needlelike</td></tr></table>	<input type="checkbox"/> Cropland	<input type="checkbox"/> Commercial	<input type="checkbox"/> Pasture	<input checked="" type="checkbox"/> Idle Land	<input type="checkbox"/> Wetlands	<input type="checkbox"/> Recreational	<input type="checkbox"/> Residential	<input type="checkbox"/> Industrial	<input type="checkbox"/> Unreclaimed strip mine		Woodland: <input type="checkbox"/> Broadleaf	<input type="checkbox"/> Needlelike	17. TYPE OF WELL: <table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 33%;"><input type="checkbox"/> Oil</td><td style="width: 33%;"><input type="checkbox"/> Gas</td><td style="width: 33%;"><input checked="" type="checkbox"/> Other</td></tr></table>	<input type="checkbox"/> Oil	<input type="checkbox"/> Gas	<input checked="" type="checkbox"/> Other	
<input type="checkbox"/> Cropland	<input type="checkbox"/> Commercial																
<input type="checkbox"/> Pasture	<input checked="" type="checkbox"/> Idle Land																
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Woodland: <input type="checkbox"/> Broadleaf	<input type="checkbox"/> Needlelike																
<input type="checkbox"/> Oil	<input type="checkbox"/> Gas	<input checked="" type="checkbox"/> Other															
12. SLOPE GRADIENT & LENGTH DETERMINED FROM: <table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20%;"><input type="checkbox"/> Ground Measurement</td><td style="width: 80%;"></td></tr><tr><td><input checked="" type="checkbox"/> U.S. Geological Survey Topographical Maps</td><td></td></tr><tr><td>Other: (explain)</td><td></td></tr></table>	<input type="checkbox"/> Ground Measurement		<input checked="" type="checkbox"/> U.S. Geological Survey Topographical Maps		Other: (explain)		18. STEEPEST SLOPE GRADIENT CROSSING SITE: <table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%; text-align: center;"><input checked="" type="checkbox"/> 0 to 2%</td><td style="width: 50%; text-align: center;"><input checked="" type="checkbox"/> 2.1 to 8%</td></tr><tr><td><input type="checkbox"/> 8.1 to 10%</td><td></td></tr><tr><td><input type="checkbox"/> 10.1 to 24%</td><td><input type="checkbox"/> greater than 24%</td></tr></table>	<input checked="" 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%				
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<input checked="" type="checkbox"/> U.S. Geological Survey Topographical Maps																	
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<input type="checkbox"/> 8.1 to 10%																	
<input type="checkbox"/> 10.1 to 24%	<input type="checkbox"/> greater than 24%																
19. LENGTH OF STEEPEST SLOPE CROSSING SITE: <table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%; text-align: center;"><input checked="" type="checkbox"/> 1 to 100 ft.</td><td style="width: 50%; text-align: center;"><input type="checkbox"/> 101 to 200 ft.</td></tr><tr><td><input checked="" type="checkbox"/> 201 to 400 ft.</td><td><input type="checkbox"/> greater than 400 ft.</td></tr></table>	<input checked="" 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.	20. RESTORATION OF DRILLING PITS: ** <table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%;"><input checked="" type="checkbox"/> Haul drilling fluids and fill pits</td><td style="width: 50%;"></td></tr><tr><td><input type="checkbox"/> Use steel circulating tanks</td><td></td></tr><tr><td><input type="checkbox"/> Proposed alternative</td><td></td></tr></table>	<input checked="" type="checkbox"/> Haul drilling fluids and fill pits		<input type="checkbox"/> Use steel circulating tanks		<input type="checkbox"/> Proposed alternative							
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<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: <table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20%;"><input type="checkbox"/> Construct diversions channeled to naturally established drainage systems</td><td style="width: 80%;"></td></tr><tr><td><input type="checkbox"/> Construct terraces across slopes</td><td></td></tr><tr><td><input checked="" type="checkbox"/> Grade to approximate original contour</td><td></td></tr><tr><td><input type="checkbox"/> Grade to minimize erosion & control offsite runoff</td><td></td></tr><tr><td><input type="checkbox"/> Proposed alternative</td><td></td></tr></table>	<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		22. VEGETATIVE COVER TO BE ESTABLISHED AT SITE: <table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%; text-align: center;"><input checked="" type="checkbox"/> Seeding plan</td><td style="width: 50%; text-align: center;"><input type="checkbox"/> Sod</td></tr><tr><td><input type="checkbox"/> Agricultural crops</td><td><input type="checkbox"/> Trees and/or Bushes</td></tr><tr><td><input type="checkbox"/> Proposed alternative</td><td></td></tr></table>	<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	
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<input type="checkbox"/> Agricultural crops	<input type="checkbox"/> Trees and/or Bushes																
<input type="checkbox"/> Proposed alternative																	
23. ADDITIONAL HOLES: <table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20%;"><input type="checkbox"/> Rat/Mouse, if used, will be plugged</td><td style="width: 80%;"></td></tr></table>	<input type="checkbox"/> Rat/Mouse, if used, will be plugged		24. PROPOSED OR CURRENT LENGTH OF ACCESS ROAD: <table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%; text-align: center;"><input type="checkbox"/> 100 ft. or less</td><td style="width: 50%; text-align: center;"><input type="checkbox"/> 101 to 500 ft.</td></tr><tr><td><input checked="" type="checkbox"/> 501 to 1500 ft.</td><td><input type="checkbox"/> greater than 1500 ft.</td></tr></table>	<input type="checkbox"/> 100 ft. or less	<input type="checkbox"/> 101 to 500 ft.	<input checked="" type="checkbox"/> 501 to 1500 ft.	<input type="checkbox"/> greater than 1500 ft.										
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<input type="checkbox"/> 100 ft. or less	<input type="checkbox"/> 101 to 500 ft.																
<input checked="" type="checkbox"/> 501 to 1500 ft.	<input type="checkbox"/> greater than 1500 ft.																
25. CURRENT LAND USE OF PATH OF ACCESS ROAD: <table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20%;"><input type="checkbox"/> Cropland</td><td style="width: 20%;"><input type="checkbox"/> Pasture</td></tr><tr><td><input checked="" type="checkbox"/> Idle land</td><td><input type="checkbox"/> Wetlands</td></tr><tr><td><input type="checkbox"/> Industrial</td><td><input type="checkbox"/> Residential</td></tr><tr><td><input type="checkbox"/> Unreclaimed strip mine</td><td></td></tr><tr><td>Woodland: <input type="checkbox"/> Broadleaf</td><td><input type="checkbox"/> Needlelike</td></tr></table>	<input type="checkbox"/> Cropland	<input type="checkbox"/> Pasture	<input checked="" type="checkbox"/> Idle land	<input type="checkbox"/> Wetlands	<input type="checkbox"/> Industrial	<input type="checkbox"/> Residential	<input type="checkbox"/> Unreclaimed strip mine		Woodland: <input type="checkbox"/> Broadleaf	<input type="checkbox"/> Needlelike							
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<input type="checkbox"/> Unreclaimed strip mine																	
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**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.

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.

<p>26. SURFACING MATERIAL FOR ACCESS ROAD:</p> <p><input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Brick and/or tile waste <input type="checkbox"/> Slag <input type="checkbox"/> Crushed stone <input type="checkbox"/> No surfacing material to be used <input type="checkbox"/> Proposed alternative</p>	<p>29. STEEPEST SLOPE GRADIENT ON ACCESS ROAD:</p> <p><input checked="" type="checkbox"/> 0 to 5% <input type="checkbox"/> 6 to 10% <input type="checkbox"/> greater than 10%</p>
<p>27. PATH OF ACCESS ROAD TO BE DETERMINED BY:</p> <p><input type="checkbox"/> Landowner <input type="checkbox"/> Contractor <input checked="" type="checkbox"/> Existing access road <input type="checkbox"/> Operator</p>	<p>30. APPROXIMATE LENGTH OF STEEPEST SLOPE ON ROAD:</p> <p><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.</p>
<p>28. GRADING AND EROSION CONTROL PRACTICE ON ROAD:</p> <p><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</p>	<p>31. HAS LANDOWNER RECEIVED A COPY OF THIS RESTORATION PLAN?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>

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



Name (Typed or Printed)

John W. Mossor, Jr.

Date 11-30-2021

RESTORATION PLAN MUST BE SUBMITTED TO THE DIVISION IN DUPLICATE.

AG #3 - Proposed Pipeline

SHIDER KEITH A & NANCY KAY ANN
340062140001
461460 Ac.

2021

315

2016
Washington

3409

825.11
ERNEST O & DEE ANN TRUSTEES
G44000
AC

23652

SOLUTIONS LLC

V-M MANAGE
34006721700
794590 AG

115

STATE R5

الكتاب



Ohio Oil & Gas Wells

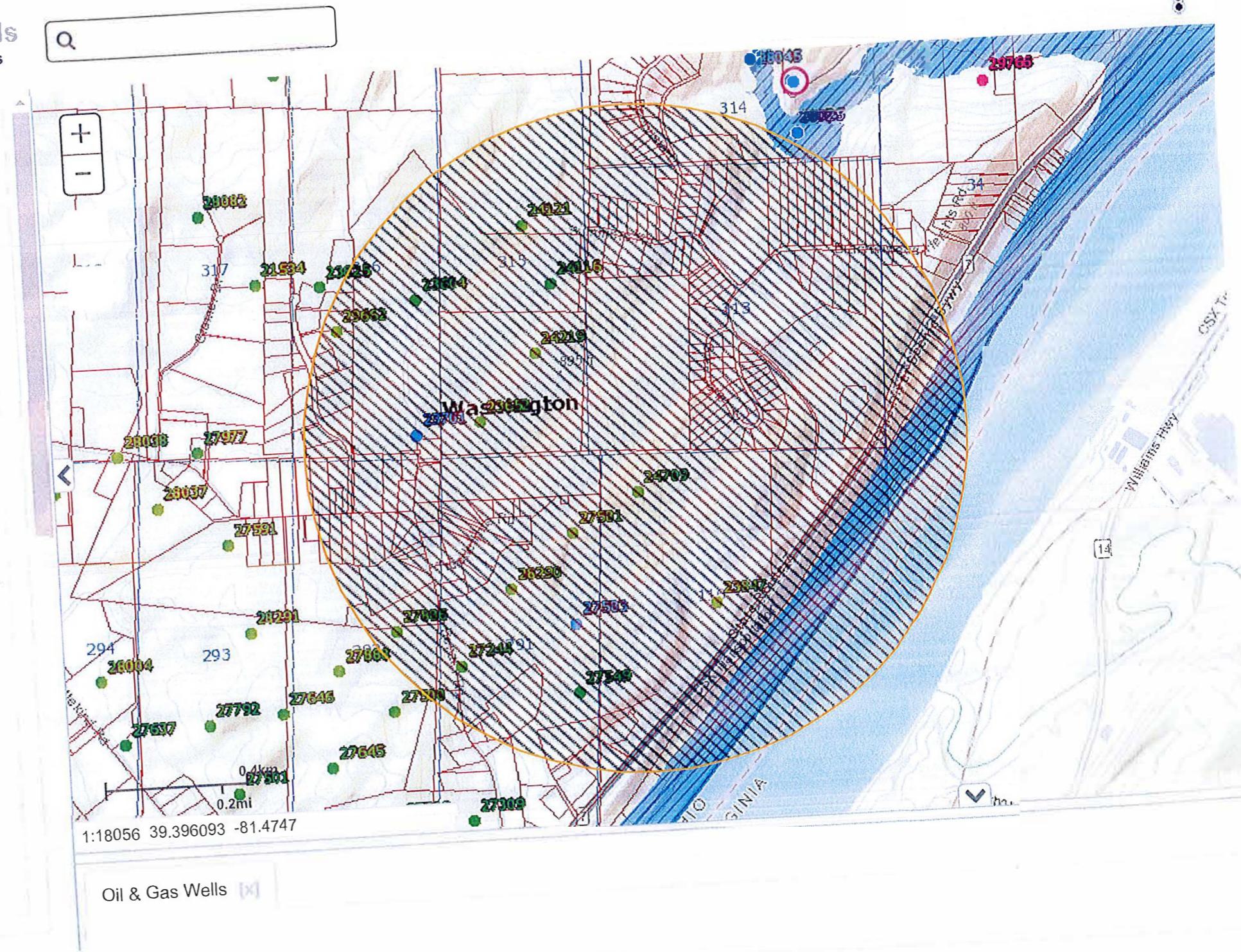
- ▶ Legend & Layers
- ▶ County Bookmarks
- ▼ Other Tools
 - ▼ Address/Coordinate Search
- Example: -83.000, 40.000
- ▼ Measurement

Example: -83.000, 40.000

Measurement Result

Draw

Current draw mode: None

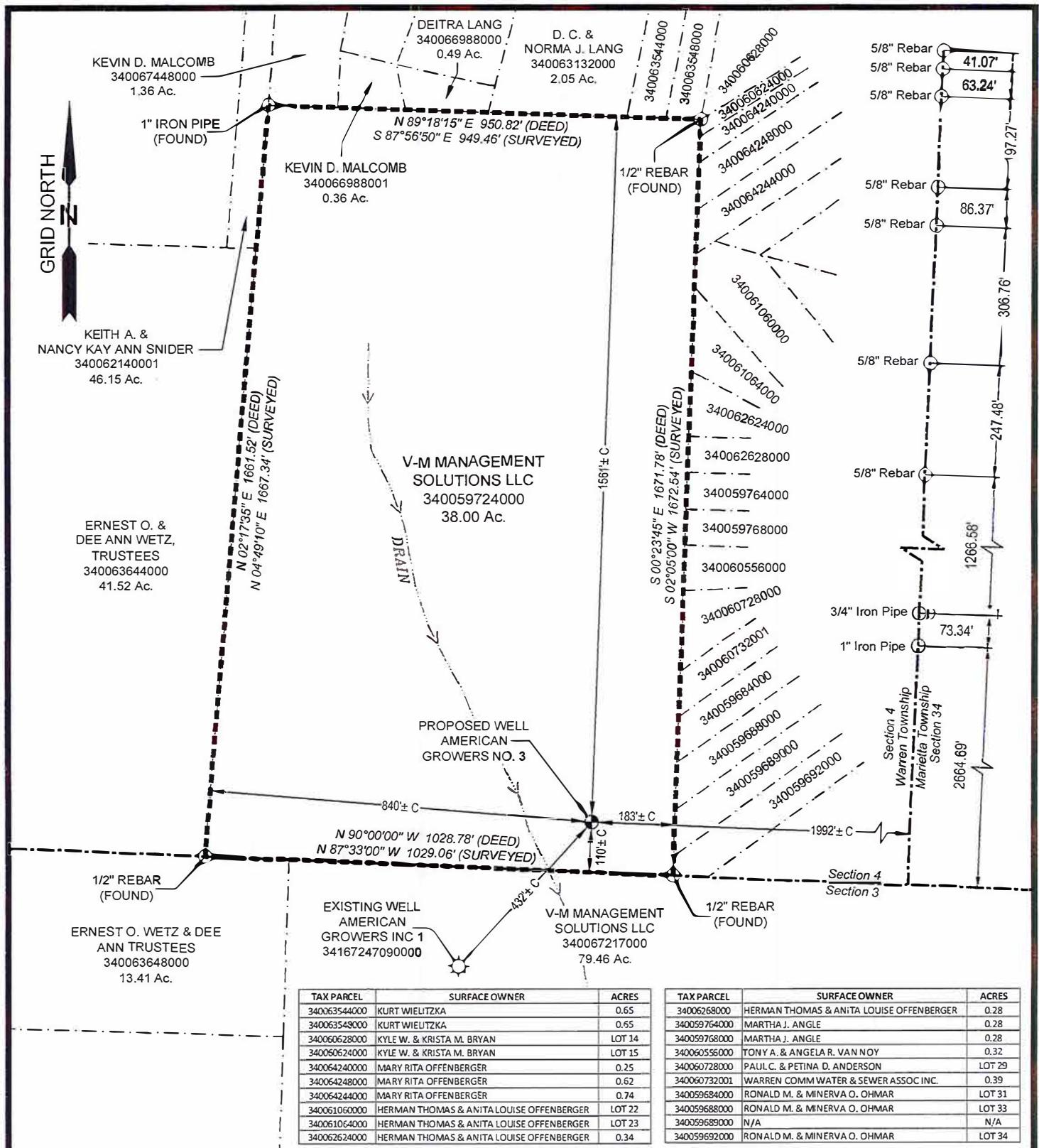


DeepRock Disposal

American Growers # 3

Area of Review

<u>PERMIT #</u>	<u>WELL NAME</u>	<u>WELL NUMBER</u>	<u>PRODUCING FORMATION</u>	<u>OPERATOR - COMPANY</u>
34-167-2-4121	C. Harris	4	Berea	Stonebridge Operating Co
34-167-2-4116	C. Harris	3	Berea	Stonebridge Operating Co
34-167-2-3604	C. Harris	1	Berea	Stonebridge Operating Co
34-167-2-9662	Wilfong Unit	3	Medina	Heinrich Enterprises
34-167-2-3652	McGraw	1	Berea	Stonebridge Operating Co
34-167-2-2370	NOT DRILLED			
34-167-2-4709	American Growers	1	Berea	Kroll Energy
34-167-2-3847	American Growers	2	Berea	Kroll Energy
34-167-2-7549	Kris-Mar	3	Berea	Beardmore Oil & Gas
34-167-2-7581	Kris-Mar	7	Berea	Beardmore Oil & Gas
34-167-2-7282	Kris-Mar	19	Berea	VIRCO Inc.
34-167-2-7886	Kris-Mar	15	Maxton	VIRCO Inc.
34-167-2-7244	Kris-Mar	1	Berea	VIRCO Inc.
34-167-2-7583	NOT DRILLED			



GREEN AND ASSOCIATES

156 Woodrow Ave. Suite 2A
St. Clairsville, OH 43950
(740) 695-9977 OH
(304) 595-3290 WV
green@greenandassoc.net

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS
CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND
SHOWS ALL THE INFORMATION REQUIRED BY LAW AND
THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION
OF ENVIRONMENTAL PROTECTION, STATE OF OHIO,
DEPARTMENT OF NATURAL RESOURCES, DIVISION OF OIL AND
GAS REGULATIONS.

P.S.
6608
DATE

The logo for DeepRock Disposal Solutions, LLC. It features the word "DeepRock" in a large, bold, blue serif font. A thick red arrow points downwards from the letter "p" in "DeepRock" to a smaller, red, stylized "V" shape. Below "DeepRock", the words "DISPOSAL" and "SOLUTIONS, LLC" are written in a smaller, red, sans-serif font.

LEGEND

SCALE:

0' 300' 600'



SLS

FROM THE GROUND UP

12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.546.3952
254 East Beckley Sypass | Beckley, WV 25801 | 304.255.5295
s1swv.com

DEEPROCK DISPOSAL SOLUTIONS LLC
SECTION 4, TOWNSHIP 2 NORTH, RANGE 9 WEST
WARREN TOWNSHIP
WASHINGTON COUNTY, OHIO

V-M MANAGEMENT SOLUTIONS LLC

Drawn By: K. G. Moyers	Date: 11-19-2021	Scale: 1" = 300'
Checked By: J. M. Green	Job Number: 9149	Sheet No. 1 of 2

NOTES:

1. THIS SURVEY WAS PERFORMED FOR THE PURPOSE OF OBTAINING A PERMIT TO DRILL A PROPOSED WELL AND TO SHOW THE PROPOSED WELL RELATIVE TO EXISTING BOUNDARIES. ALSO THE SURVEY IS TO PROVIDE STATE PLANE AND GEOGRAPHIC COORDINATES OF THE PROPOSED WELL.
2. PARCEL DIMENSIONS AND OWNERSHIP DATA WERE OBTAINED FROM THE COUNTY AUDITOR, TAX MAPS AND GIS DATA.
3. PARCEL ACREAGES SHOWN ARE FROM WASHINGTON COUNTY AUDITOR'S GIS DATA AND NOT VERIFIED BY SURVEY.
4. TIES TO SECTION LINES ARE BASED ON MONUMENTS FOUND DURING THE FIELD SURVEY. TIE DISTANCE TO SECTION LINE BETWEEN SECTIONS 4 AND 34, ALSO DESIGNATED AS THE BOUNDARY LINE BETWEEN WARREN AND MARIETTA TOWNSHIPS, WAS ESTABLISHED BY NINE (9) FOUND MONUMENTS LOCATED ALONG SAID SECTION LINE DURING A PREVIOUS SURVEY TO THE NORTHEAST OF THE SUBJECT PROPERTY.
5. THE PROPOSED WELL SHOWN HEREON IS TO BE AN INJECTION WELL.

REFERENCES:

1. WASHINGTON COUNTY AUDITOR'S TAX MAP
2. DEED BOOK 593 PAGE 717 OF RECORD FROM THE WASHINGTON COUNTY RECORDER'S OFFICE.
3. AERIAL MAPPING FROM THE WASHINGTON COUNTY, OH GIS WEBSITE
AT <http://www.washingtoncountyauditor.us/Map.aspx>
4. USGS QUADRANGLE: MARIETTA 7.5'
5. TITLE INFORMATION SUPPLIED BY THE CLIENT.

OPERATOR: DEEPROCK DISPOSAL SOLUTIONS LLC, 637 STATE RT. 821, MARIETTA, OH 45750

LAND OWNER(S):

SURFACE: V-M MANAGEMENT SOLUTIONS LLC
MINERAL: V-M MANAGEMENT SOLUTIONS LLC

WELL NAME: AMERICAN GROWERS

WELL NUMBER: 3

COUNTY: WASHINGTON

MUNICIPALITY: WARREN TOWNSHIP

U.S.G.S. QUAD: MARIETTA 7.5'

OHIO STATE PLANE GRID:

COORDINATES OH-S NAD 83

N: 509,354.18

E: 2,254,482.81

LAT(N): 39.394095

LONG(W): 81.488028

COORDINATES OH-S NAD 27

N: 509,316.39

E: 2,285,946.64

LAT(N): 39.394021

LONG(W): 81.488183

ELEVATION:

753.2' NAVD 88

WELL TYPE

OIL OR GAS: NEW LOCATION: OTHER:

SURVEY CERTIFICATION:

THIS WELL LOCATION PLAT MEETS THE SPECIFICATIONS SET FORTH IN OHIO ADMINISTRATIVE CODE 1501:9-1. THIS PLAT IS NOT A BOUNDARY SURVEY AS SPECIFIED IN OHIO ADMINISTRATIVE CODE 4733 AND IS SUBJECT TO ALL FACTS REVEALED BY TITLE EXAMINATION.



GREEN AND ASSOCIATES

156 Woodrow Ave. Suite 2A

St. Clairsille, OH 43950

(740) 695-9977 OH

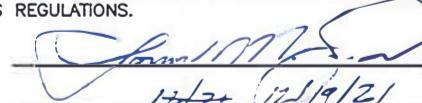
(304) 595-3290 WV

green@greenandassoc.net

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS
CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND
SHOWS ALL THE INFORMATION REQUIRED BY LAW AND
THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION
OF ENVIRONMENTAL PROTECTION, STATE OF OHIO,
DEPARTMENT OF NATURAL RESOURCES, DIVISION OF LAND
GAS REGULATIONS.

P.S.
6608

DATE


11/21 11/19/21

Deep Rock
DISPOSAL SOLUTIONS, LLC



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.452.5534
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.368.3952
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5295
sliwv.com

DEEPROCK DISPOSAL SOLUTIONS LLC
SECTION 4, TOWNSHIP 2 NORTH, RANGE 9 WEST
WARREN TOWNSHIP
WASHINGTON COUNTY, OHIO

V-M MANAGEMENT SOLUTIONS LLC

Drawn By: K. G. Moyers	Date: 11-19-2021	Scale: N.T.S.
Checked By: J. M. Green	Job Number: 9149	Sheet No. 2 of 2



OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MANAGEMENT
2045 Morse Road, F-2 • Columbus, OH 43229
(614) 265-6922 • Fax (614) 265-6910

See Instructions on page 4.

Applicant:	DeepRock Disposal Solutions LLC.
Address:	637 State Route 821 Marietta OH 45750

Owner #:	9896
Phone:	740-371-5078
Email:	wesm@deeprockds.com

Applicant hereby applies on 12/07/2021 for a permit to

1. Type of Permit:

<input checked="" type="checkbox"/> Drill a New Well	<input type="checkbox"/> Reissue	<input type="checkbox"/> Plug Back
<input type="checkbox"/> Revise Location	<input type="checkbox"/> Convert	<input type="checkbox"/> Reopen
<input type="checkbox"/> Deepen		

Previously Issued API #:

2. Mail Permit to:

DeepRock Disposal Solutions LLC.
637 State Route 821
Marietta OH 45750

4. Well Type:

<input checked="" type="checkbox"/> Saltwater Injection	<i>Choose all that apply:</i>
<input type="checkbox"/> Solution Mining	<input checked="" type="checkbox"/> Input/Injection
<input type="checkbox"/> Enhanced Recovery	<input type="checkbox"/> Water Supply
	<input type="checkbox"/> Observation
	<input type="checkbox"/> Production/Extraction

5. Is the well or surface facility located within an urbanized area as defined by ORC 1509.01(Y)?

Yes No If Yes, Name of Urbanized Area:

6. Well Information:

Well Name:	American Growers	Well Number:	4
Section/Lot #:	4	City/Village/Township:	Warren
		County:	Washington

7. Proposed Depth and Geological Formation:

Proposed Total Depth:	6,500'	Proposed geological formation(s) to be used as the injection zone:
Subject Tract Acres:		Oriskany-through-Medina
Depth of Base of Target Formation:	6,325'	

8. Royalty Interest Owner Information *Attach Royalty Interest Owner Information List.*

Does the State hold any royalty interest within the proposed subject tract?
 Yes No If Yes, Name of Agency:

Are there any surface rights owned by the State of Ohio in this subject tract?
 Yes No If Yes, Name of Agency:

9. Water Source for Production Operations: ORC 1509.01(AA)

OPTIONAL Latitude:

Longitude:

Water Source: Municipal - City of Marietta-(Source) Seven production water wells from sand & gravel aquifer

Watershed:

Lake Erie

Ohio River

Other:

e.g. Recycled water or water from a non-Ohio watershed

Estimated Withdrawal Rate: 10,000

GAL/DAY

Estimated Total Volume: 100,000

GAL

If Recycled Water, Estimated Total Volume:

GAL

10. Jurisdictional Emergency Contacts for the Well Site:

Fire Department:

	NAME	PHONE NUMBER (NOT 911)
Fire Department:	Reno - VFD	740-373-9800
Sheriff's Office or Police Department:	Washington County Sheriff	740-373-7070
Closest Medical Facility:	Marietta Memorial Hospital	740-374-1400
County EMA Director: OPTIONAL	Rich Hays	740-373-5613
Local Emergency Planning Committee: OPTIONAL		740-373-5613

11. 24 Hour Emergency Contact:

Company Name:

DeepRock Disposal Solutions

Contact Name:

Dave Casto

Title: Operations Manager

24-Hour Phone Number: 740-371-5078

Email Address: davec@deeprockds.com

Please attach name and contact information for any additional emergency contacts.

12. Well Site Access:

Describe ingress/egress route:

enter property/lease road off on OH St.Rt7

Location (NAD83) of well site entrance from a public road:

Latitude: 39-23-20.76

Longitude: 81-29-11.55

13. Other Attachments

Choose the appropriate supplemental form:

Form 210 (SWIW) and required attachments
 Form 203 (ERP) and required attachments
 Form 206 (SMP) and required attachments

Plat Map

Restoration Plan (Form 4)

Completion Report (Form 8) *if conversion*

If in an Urbanized Area:

Required Maps

Required Notification and List

14. Well Construction:

TYPE CASING	BOREHOLE		CASING		CEMENT		FORMATION
	DIAMETER IN	DEPTH FT	DIAMETER IN	DEPTH FT	TOP FT	VOLUME SACKS	
Drive Pipe							
Conductor	24"	100'	20"	100'	SURFACE	106	
Mine String							
Surface	17 1/2"	400'	13 3/8"	400'	SURFACE	306	
Intermediate 1	9 5/8"	2,400'	9 5/8"	2,400'	SURFACE	706	THROUGH THE GORDON
Intermediate 2							
Production 1	8 3/4"	6,400'	7"	6,400'	2,100'	556	
Production 2							
Open Holes							
Liner							
Tubing	4 1/2"			6,135'			SET ON PACKER
Packer				6,135'			

TYPE CASING	DRILLING EQUIPMENT	NUMBER OF CENTRALIZERS	TESTED?	PRODUCED?	HYDRAULIC FRACTURING?
			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Drive Pipe			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Conductor			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Mine String			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Surface	Air & Fluid Rotary Rig	1	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Intermediate 1	Air & Fluid Rotary Rig	2	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Intermediate 2			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Production 1	Air & Fluid Rotary Rig	4	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Production 2			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Open Hole			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Liner			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Tubing	Service Rig	6	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Packer	Service Rig set packer		<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes

15. Signatures

I, the undersigned, being first duly sworn, depose and state under penalties of law, that I am authorized to make this application, that this application was prepared by me or under my supervision and direction, and that the facts stated herein are true, correct, and complete, to the best of my knowledge.

I, the undersigned, further depose and state that I am the person who has the right to submit an application in accordance with Section 1509.06 of the Revised Code.

And furthermore, I the undersigned, being duly sworn, depose and state at this time that I am not liable for any final nonappealable order of a court for damage to streets, roads, highways, bridges, culverts, or drainage ways pursuant to Section 5577.12 of the Ohio Revised Code (ORC). I, the undersigned, further depose and state that all notices required by 1509.06 (A)(9) ORC for this application have been duly provided by me.

By signing below I hereby agree to conform with all provisions of Chapter 1509 of the Ohio Revised Code and Chapter 1501:9 of the Ohio Administrative Code, and all orders and conditions issued by the Chief of the Division of Oil and Gas Resources Management.



SIGNATURE OF OWNER/AUTHORIZED AGENT

John W. Mossor Jr.

General Manager

NAME Type or Print

TITLE

If signed by Authorized Agent, a certificate of appointment of agent must be on file.



ANN E KERENYI
NOTARY PUBLIC - State of Ohio
NOTARY SEAL
My Commission Expires
February 13, 2023

Sworn to before me and subscribed in my presence on this

7th day of December, 2021.

MONTH YEAR

NOTARY PUBLIC

My commission expires 2-13-23.

Instructions

1. **Drill, Reopen, Deepen, Plug Back, and Convert** an Oil and Gas Well (non-urban valid for 24 months; urban valid for 12 months)
 - a. Original Application for a Permit (Form 1)
 - b. Original of an Ohio registered surveyor's plat
 - c. Original of the Restoration Plan (Form 4)
 - d. **Reopen, Deepen, Plug Back and Convert** require a copy of the Well Completion Record (Form 8)
 - e. Fees: Check or money order payable to the Division of Oil and Gas Resources Management

SEND ALL ATTACHMENTS AND FEES TO:
OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MANAGEMENT
2045 MORSE ROAD BUILDING F
COLUMBUS OH 43229

Class II Disposal Well: \$1,000

Class II Enhanced Recovery Well and Class III Solution Mining Well:

- \$500 for a township with a population up to 9,999
- \$750 for a township with a population of 10,000 to 14,999
- \$1,000 for a township with a population exceeding 15,000

2. **Reissue or Revised Location**

- a. Same as above: 1 (a), (b), (c), (d), (f)
- b. Fee: \$250 check or money order payable to the Division of Oil and Gas Resources Management

3. **Definitions:**

- "Urbanized area" means an area where a well or production facilities of a well are located within a municipal corporation or within a township that has an unincorporated population of more than five thousand in the most recent federal decennial census prior to the issuance of the permit for the well or surface facility.
- "Subject tract" means a tract(s) upon which a person proposes to and has the legal right to drill, reopen, deepen, plug back, or convert a well for the injection of brine for the class II disposal well.



**SUPPLEMENT TO APPLICATION
PERMIT FOR A SALTWATER INJECTION WELL (Form 210)**

(REVISED 0515)

AREA OF REVIEW: An application for a saltwater injection well (SWIW) will be evaluated on the basis of an "area of review" surrounding the proposed well. The area of review for wells, in which injection of greater than two hundred (200) barrels per day is proposed, shall be the area circumscribed by a circle with the center point at the location of the injection well and a radius of one-half mile. The area of review for wells, in which a maximum injection of two hundred (200) barrels per day or less is proposed, shall be the area circumscribed by a circle with the center point at the location of the injection well and a radius of one-quarter mile.

31. PROPOSED INJECTION ZONE:

Geological Formation: Oriskany, through Medina

Injection Well Interval: FROM 4,549.00 FEET TO 6,325.00 FEET

Geologic description of injection zone: Limestone, Dolomite and Sandstone

Composition of Proposed Fluids to be Injected: (CHECK ALL THAT APPLY)

Brine Flow-Back Drilling Fluids Other Approved Fluids

32. WELL CONSTRUCTION AND OPERATION:

A. Description of the proposed casing and cement program for new wells, or of the casing, cementing or sealing with prepared clay for existing wells to be converted:

SEE ATTACHED and subsurface construction (page 2 of form 210)

B. Proposed method for testing the casing:

Load the 7" casing w/fresh water & inhibitor, pressure up (ODNR provided maximum pressure)
using a pump truck w/recorder and chart, monitor pressure to and for (ODNR provided) time to confirm no pressure loss.

C. Description of the proposed method for completion and operation of the injection well:
Well will be perforated and acid frac-ed

D. Description of the proposed unloading, surface storage, and spill containment facilities:
Brine will be offload and stored at our UIC approved facility (Rt.7)
Well will be operated as part of our ODNR - UIC approved facility (Rt.7 - offloading and storage) and connected via. new constructed pipeline

33. PROPOSED INJECTION VOLUMES

A. Indicate the estimated amount of saltwater to be injected into the proposed injection well per day:

AVERAGE: 3,000 MAXIMUM: 5,000

B. Indicate the method to be used to measure the actual daily injection pressure:

Well will be connected/added to our Silver Smith - Meter Central scada/monitoring system. We will use both transducers and a "baron" meter and inline flow meter

34. PROPOSED INJECTION PRESSURES

A. Indicate the estimated pressure to be used for injection of saltwater into the proposed injection well:

AVERAGE: _____ MAXIMUM: _____

SEE ATTACHED.

35. PROPOSED CORRECTIVE ACTION

Explain any corrective action proposed for wells penetrating the proposed injection formation or zone within the area of review:

According to our area of review study, there are no wells in question

**SUPPLEMENT TO APPLICATION
PERMIT FOR A SALTWATER INJECTION WELL (Form 210)**
(REVISED 0515)

36. MAP

Each application for a permit shall be accompanied by a map or maps showing and containing the following information:

- A. The subject tract of land on which the proposed injection well is to be located.
- B. The location of the proposed injection well on the subject tract established by an Ohio registered surveyor showing the distances in feet from the proposed well site to the boundary lines on the subject tract;
- C. The geographic location of all wells, penetrating the formation proposed for injection regardless of status, within the area of review;
- D. All holders of the land owner's royalty interest of record, or holders of the severed oil and gas mineral estates of record in the subject tract;
- E. All owners or operators of wells producing from or injecting into the same formation proposed as the injection formation.

37. SCHEMATIC DRAWING OF SUBSURFACE CONSTRUCTION

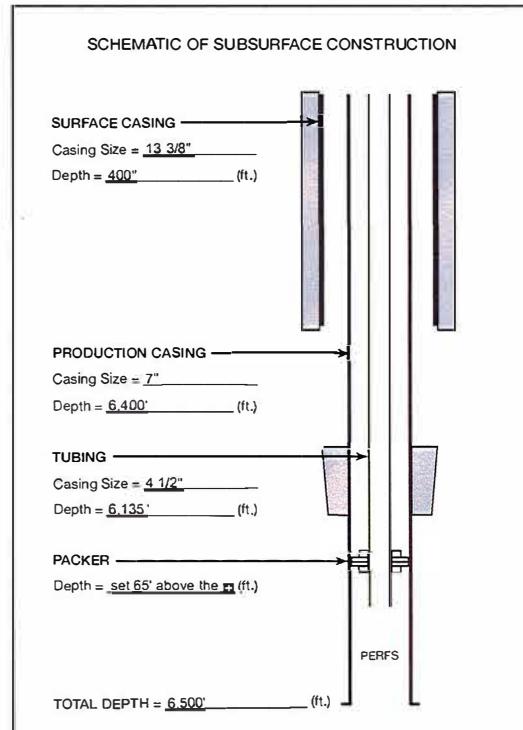
Label the schematic drawing below indicating size and setting depth of surface casing, intermediate (if any) and production casings; amount of cement used, measured or calculated tops of cement; size and setting depth of tubing; type and setting depth of packer; geologic name of injection zone showing top and bottom of injection interval. If the proposed input well design is substantially different from the schematic below, attach on a separate sheet a schematic of your proposal labeled with the above information.

38. PUBLIC NOTICE OF A SALTWATER INJECTION WELL

Public notice of an application for a saltwater injection well is required by law. In addition, the applicant must submit, on an attached sheet, a list of the names and address(es) of those persons required to receive personal notice in accordance with Rule 1501:9-3-06(H), of the Ohio Administrative Code.

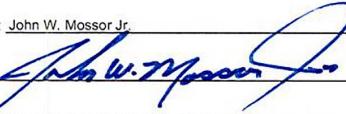
After submitting the application, and after a determination by the Division that it is complete as required by the rules of the Division, a legal notice must be published by the applicant in a newspaper of general circulation in the area of review. The legal notice must contain the information described in Rule 1501:9-3-06(H) of the Ohio Administrative Code. A copy of the notice must be delivered to all owners or operators of wells within the area of review producing from or injecting into the same formation proposed as the injection formation. Proof of publication, publication date, and an oath as to the delivery to those entitled to receive personal notice under this method must be filed with the Division within thirty (30) days after the Division determines that the application is complete.

In addition, notice of all applications for saltwater injection wells will be published in the Division's weekly circular.



The undersigned hereby agrees to comply with all provisions for a saltwater injection well as required by Chapter 1501:9-3 of the Ohio Administrative Code. In addition, the undersigned deposes and says that s/he shall 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.

Owner/Authorized Agent (Type or Print): John W. Mossor Jr.

Signature of Owner/Authorized Agent:  Title: General Manager

Permanent Address of Home Office: 637 State Route 821 Marietta, OH 45750

If signed by Authorized Agent, a certified copy of appointment of agent must be on file with the Division.

SWORN to and subscribed to me this 15 day of December, 20 21



ANN E KERENYI
Notary Public - State of Ohio
My Commission Expires
February 13, 2023


Notary Public

2-13-23

Date Commission Expires

**DeepRock Disposal
American Growers # 4
Permit Appalachian**

34. PROPOSED INJECTION PRESSURES

- A. Indicate the estimated pressure to be used for injection of saltwater into the proposed injection well:
 - 1. If completed in Oriskany, top perf @ 4,549
 - a. Average: 1,020 – Maximum: 1,050
 - 2. If completed only in the Clinton-Medina, top perf @ 6,200
 - a. Average: 1,400 – Maximum: 1,430

**DeepRock Disposal
American Growers # 4
Permit Appalachian**

32.(D). Description of proposed unloading, surface, and spill containment.

- A. Brine will be offloaded and stored at our Rt.7 – UIC permitted facility, brine will then transfer via pipeline.
 - We have in-line turbine meters at Rt. 7 discharge pumps, in addition we will install new in-line flow/volume meter at the American Growers # 3 well
- a. New pipeline will be constructed of 3" steel – welded, Class A – 2,200 PSI, enclosed in 6" – DR 17 polypipe.
- b. We have high- and low-level storage tank automatic shut-downs on our Rt.7 AST/Storge tank.
- c. We have pressure sensors, with automatic high, and low shutdowns on all discharge pumps.
- d. Our Silver Smith – Meter Central monitoring system in addition sends automated text messages for all preset levels alarms to all DeepRock managers.

RESTORATION PLAN (Form 4)

Ohio Department of Natural Resources

Division of Oil and Gas Resources Management, 2045 Morse Road, Bldg. F-2, Columbus OH 43229-6693

1. DATE OF APPLICATION: December 7, 2021		3. API #: _____	
2. OWNER NAME, ADDRESS, & TELEPHONE NO.:		4. WELL #: 4	
Deep Rock Disposal Solutions, LLC 637 State Route 821, Complex 1, Building 1 Marietta, Ohio 45750 (740) 371-5078		5. LEASE NAME: American Growers	
		6. PROPERTY OWNER: V-M Mile Run LLC. - V-M Management Solutions <input checked="" type="checkbox"/>	
		7. COUNTY: Washington	
		8. CIVIL TOWNSHIP: Warren	
		9. SECTION: 4	
		10. LOT: _____	
11. CURRENT LAND USE:		17. TYPE OF WELL:	
<input type="checkbox"/> Cropland <input type="checkbox"/> Commercial <input type="checkbox"/> Pasture <input checked="" type="checkbox"/> Idle Land <input type="checkbox"/> Wetlands <input 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		<input type="checkbox"/> Oil <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Other	
12. SLOPE GRADIENT & LENGTH DETERMINED FROM:		18. STEEPEST SLOPE GRADIENT CROSSING SITE:	
<input type="checkbox"/> Ground Measurement <input checked="" type="checkbox"/> U.S. Geological Survey Topographical Maps <input type="checkbox"/> Other: (explain) _____		<input checked="" 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%	
13. TYPE OF FALL VEGETAL COVER:		19. LENGTH OF STEEPEST SLOPE CROSSING SITE:	
<input type="checkbox"/> Little or no vegetal cover <input checked="" type="checkbox"/> Short grasses <input type="checkbox"/> Tall weeds or short brush (1 to 2 ft.) <input checked="" 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		<input checked="" 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.	
14. SOIL & RESOILING MATERIAL AT WELLSITE:		20. RESTORATION OF DRILLING PITS: **	
<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		<input checked="" type="checkbox"/> Haul drilling fluids and fill pits <input type="checkbox"/> Use steel circulating tanks <input type="checkbox"/> Proposed alternative	
15. DISPOSAL PLAN FOR TREES AND TREE STUMPS:		21. BACKFILLING AND GRADING AT SITE:	
<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		<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	
16. SURFACE AND SUBSURFACE DRAINAGE FACILITIES:		22. VEGETATIVE COVER TO BE ESTABLISHED AT SITE:	
<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		<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	
23. ADDITIONAL HOLES:		24. PROPOSED OR CURRENT LENGTH OF ACCESS ROAD:	
		<input type="checkbox"/> Rat/Mouse, if used, will be plugged <input type="checkbox"/> 100 ft. or less <input type="checkbox"/> 101 to 500 ft. <input checked="" type="checkbox"/> 501 to 1500 ft. <input type="checkbox"/> greater than 1500 ft.	
25. CURRENT LAND USE OF PATH OF ACCESS ROAD:			
		<input type="checkbox"/> Cropland <input type="checkbox"/> Pasture <input checked="" type="checkbox"/> Idle land <input type="checkbox"/> Wetlands <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.

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.

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

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



Name (Typed or Printed)

John W. Mossor, Jr.

Date 12-7-21

RESTORATION PLAN MUST BE SUBMITTED TO THE DIVISION IN DUPLICATE.



OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MANAGEMENT
2045 MORSE RD., F-2, COLUMBUS, OH 43229-6693
Phone: (614) 265-6922 • Fax: (614) 265-6910



LANDOWNER FEE SIMPLE OWNERSHIP AFFIDAVIT

(REV0412)

Application No.

(To be filled in by the Division)

STATE OF Ohio ss:

COUNTY OF Washington

NAME OF LANDOWNER: V-M Mile Run LLC - V-M Management Solutions LLC

ADDRESS OF LANDOWNER: P.O. Box 37 Marietta, OH 45750

Being first duly sworn according to law, depose and say that they are the owners of the following described real estate:

The undersigned certify that they are the owners of the property in fee simple, including the coal rights, and have no objections to the drilling of the American Growers #4 - SWIW, by the (Well Name & No.), on said premises.

Further affiant sayeth naught.

Signatures:

Signatures: J. Douglas Maxwell

Signatures: _____

Signatures: _____

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Notary Public: Am E. Kereay 



ANN E KERENYI
Notary Public - State of Ohio
My Commission Expires
February 13, 2023



OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS RESOURCES MANAGEMENT
2045 MORSE RD., F-2, COLUMBUS, OH 43229-6693 • (614) 265-6922



SALTWATER INJECTION WELL AFFIDAVIT

(REVISED 0415)

State of Ohio Washington County,

John W. Mossor Jr. being

first duly sworn says that as principal, or authorized agent, for DeepRock Disposal Solutions LLC., he or

she has made application for a saltwater injection well in the State of Ohio Washington,

County, Warren Township, section/lot number Section 4; and

further certifies that notice of application has been delivered to each individual entitled to personal notification

in accordance with paragraph (H) 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 7th day of December, 2021.



ANN E KERENYI
Notary Public - State of Ohio
My Commission Expires
February 13, 2023


NOTARY PUBLIC

DeepRock Disposal

American Growers # 4

Washington County - Warren Township - Section 4

<u>STRUCTURAL</u>	<u>DEPTHs</u>	<u>FORMATION TOPS</u>
Berea Sandstone	1,175'	2,017'
Onondaga Limestone	3,675'	4,517'
Packer Shell	5,275'	6,117'
Top of Clinton Sandstone	6,165'	
Top of Medina Sandstone	6,309'	
Base of Medina Sandstone	6,325'	
Proposed Total Depth	6,500'	

<u>CASING PROGRAM</u>			
<u>Type</u>	<u>Hole Size</u>	<u>Pipe Size</u>	<u>Casing Depth</u>
Conductor	24"	20"	100'
Surface	17 1/2"	13 3/8"	400'
Intermediate	12 1/4	9 5/8"	2,400" (Through Gordon)
Longstring	8 3/4"	7"	6,450"
Tubing	4 1/2"		Set on packer "65" above highest perforation

<u>Cementing Program</u>	
Conductor	20" - 94lb - J55 inside 24" hole - cemented to surface Class A (15.6lb/gal) - 106 Sks
Surface	13 3/8" - 48lb - H40 inside 17 1/2" hole - cemented to surface Class A (15.6lb/gal) - 306 Sks
Intermediate	9 5/8" - 36lb - J55 inside 12 1/4" hole - cemented to surface total Cement - 706 Sks Lead cement - 28gel - 14.7lb/per gal - 387.5 Sks Tail cement - Class A (15.6lb/per gal) - 318.5 Sks
Longstring	7" - 23lb - P110 inside 8 3/4" hole - cemented back to 2,100' - 556 Sks Lead cement -Unifill - 13.6lb/per gal - 269.5 Sks Tail cement - 50/50 POZ (28lb/per gal) - 286.5 Sks

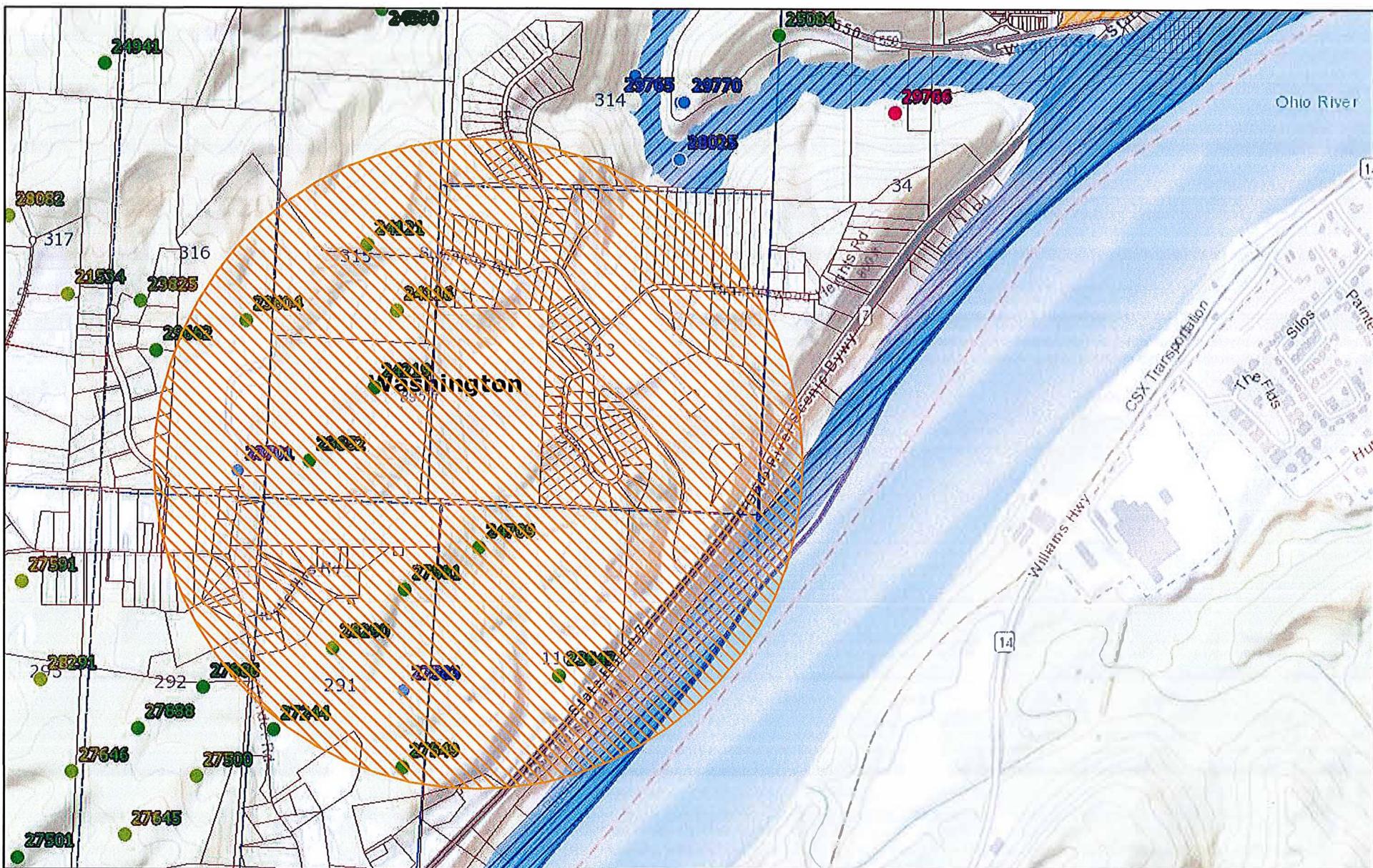
DeepRock Disposal - American Growers # 3 - SWIW

		<i>IF COMPLETED AS CLINTON_MEDINA</i>					
ODNR - SWIW - Maximum Surface Injection Pressure (MAIP) Calculation							
For:							
Equations:							
		$P_G = 0.433 \times SG$					
		$P_m = 0.75D - P_G D$					
Values							
	0.433	= Pressure gradient for fresh water (psi/ft)					
	SG= 1.2	= specific gravity of injected fluid					
	D= 6200	= Depth to highest perforation or top of open hole interval (ft)					
	0.75	= Maximum allowable pressure gradient (psi/ft)					
	P _G = 0.5196	= Pressure gradient of injected fluid (psi/ft)					
	P _m = 1430	= Maximum surface injection pressure (psi)					
Calculation:							
	P _G = 0.433	x 1.2 = 0.5196					
	P _m = 0.75	x (6200) - (0.5196) x (6200) = 1428.48 psi					
	Round to the nearest multiple of five = 1430 psi						
Just type in the depth of the highest perforation.							

DeepRock Diposal - American Growers # 3 - SWIW

<i>IF COMPLETED AS Oriskany</i>	
ODNR - SWIW - Maximum Surface Injection Pressure (MAIP) Calculation	
For:	
Equations:	
$P_G = 0.433 \times SG$	
$P_m = 0.75D - P_G D$	
Values	
0.433 = Pressure gradient for fresh water (psi/ft)	
SG = 1.2 = specific gravity of injected fluid	
D = 4549 = Depth to highest perforation or top of open hole interval (ft)	
0.75 = Maximum allowable pressure gradient (psi/ft)	
P _G = 0.5196 = Pressure gradient of injected fluid (psi/ft)	
P _m = 1050 = Maximum surface injection pressure (psi)	
Calculation:	
$P_G = 0.433 \times 1.2 = 0.5196$	
$P_m = 0.75 \times (4549) - (0.5196) \times (4549) = 1048.09 \text{ psi}$	
Round to the nearest multiple of five = 1050 psi	
Just type in the depth of the highest perforation.	

Ohio Oil & Gas Wells



December 7, 2021

- Counties
- Statewide Parcels
- Current Township
- Land Subdivision

1:18,056

Division of Drinking and Ground Waters, Ohio EPA

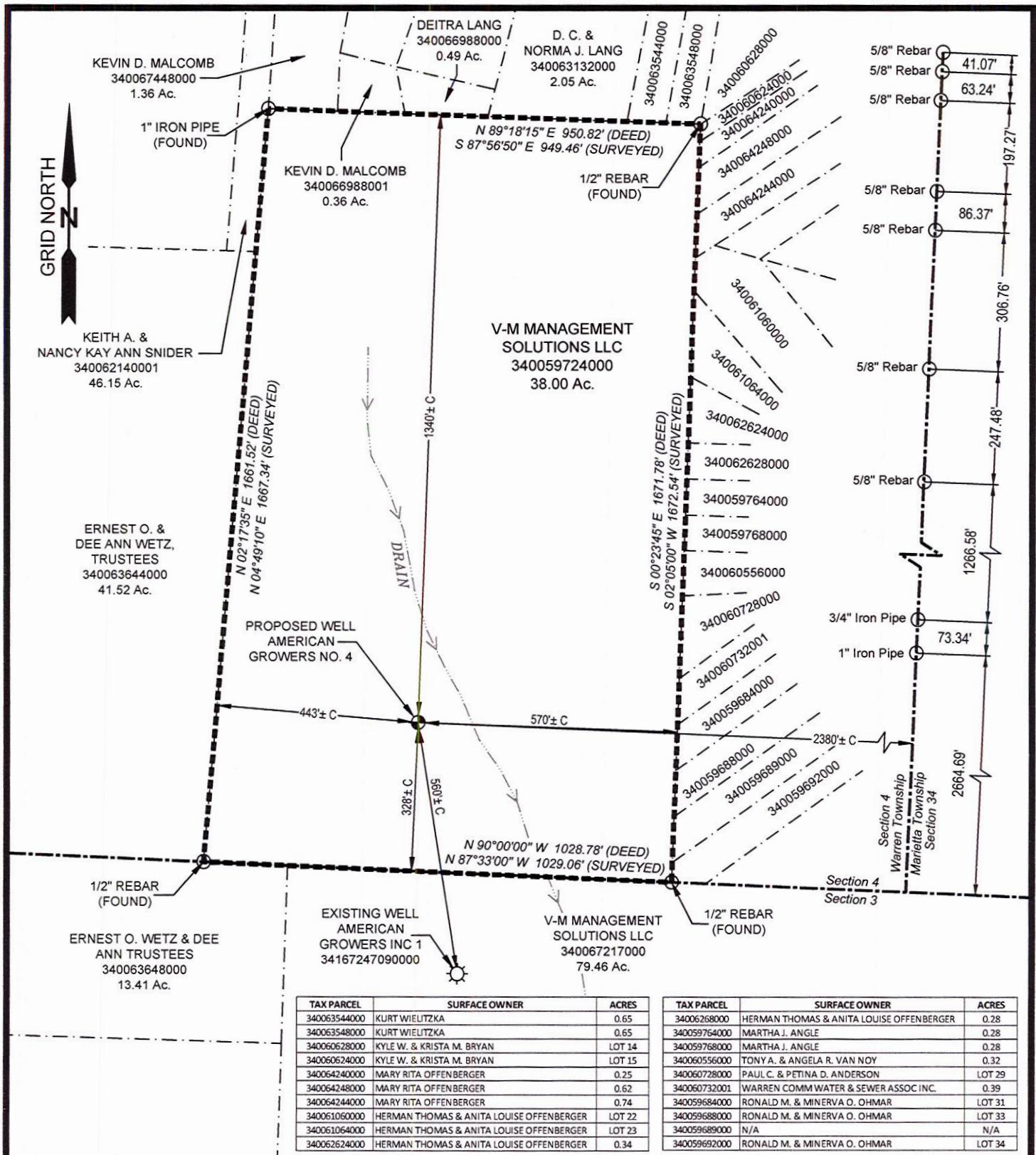
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

DeepRock Disposal

American Growers # 4

Area of Review

<u>PERMIT #</u>	<u>WELL NAME</u>	<u>WELL NUMBER</u>	<u>PRODUCING FORMATION</u>	<u>OPERATOR - COMPANY</u>
34-167-2-7549	Kris-Mar	3	Berea	Beardmore Oil & Gas
34-167-2-7581	Kris-Mar	7	Berea	Beardmore Oil & Gas
34-167-2-9662	Wilfong Unit	3	Medina	Heinrich Enterprises
34-167-2-4219	Micheal McGraw	2	Berea	Heinrich Enterprises
34-167-2-4709	American Growers	1	Berea	Kroll Energy
34-167-2-3847	American Growers	2	Berea	Kroll Energy
34-167-2-4121	C. Harris	4	Berea	Stonebridge Operating Co
34-167-2-4116	C. Harris	3	Berea	Stonebridge Operating Co
34-167-2-3604	C. Harris	1	Berea	Stonebridge Operating Co
34-167-2-3652	McGraw	1	Berea	Stonebridge Operating Co
34-167-2-7282	Kris-Mar	19	Berea	VIRCO Inc.
34-167-2-7886	Kris-Mar	15	Maxton	VIRCO Inc.
34-167-2-7244	Kris-Mar	1	Berea	VIRCO Inc.
34-167-2-8290	Kris-Mar	19	Berea	VIRCO Inc.
34-167-2-7583	NOT DRILLED			



GREEN AND ASSOCIATES

156 Woodrow Ave. Suite 2A
St. Clairsville, OH 43950
(740) 695-9977 OH
(304) 595-3290 WV
green@greenandassoc.net



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS
CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND
SHOWS ALL THE INFORMATION REQUIRED BY LAW AND
THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION
OF ENVIRONMENTAL PROTECTION, STATE OF OHIO,
DEPARTMENT OF NATURAL RESOURCES, DIVISION OF OIL AND
GAS REGULATIONS.

P.S.
6608

DATE

LEGEND

SUBJECT 82.04 ACRES ■

SURFACE BOUNDARY

SECTION I

STREAMS

FOUND MC

(AS NOTED)

EXISTING WELL

SCALE:

0' 300' 600'



DEEPROCK DISPOSAL SOLUTIONS LLC
SECTION 4, TOWNSHIP 2 NORTH, RANGE 9 WEST
WARREN TOWNSHIP
WASHINGTON COUNTY, OHIO

V-M MANAGEMENT SOLUTIONS LLC

Drawn By: K. G. Moyers	Date: 11-19-2021	Scale: 1" = 300'
Checked By: J. M. Green	Job Number: 9149	Sheet No. 1 of 2

NOTES:

1. THIS SURVEY WAS PERFORMED FOR THE PURPOSE OF OBTAINING A PERMIT TO DRILL A PROPOSED WELL AND TO SHOW THE PROPOSED WELL RELATIVE TO EXISTING BOUNDARIES. ALSO THE SURVEY IS TO PROVIDE STATE PLANE AND GEOGRAPHIC COORDINATES OF THE PROPOSED WELL.
2. PARCEL DIMENSIONS AND OWNERSHIP DATA WERE OBTAINED FROM THE COUNTY AUDITOR, TAX MAPS AND GIS DATA.
3. PARCEL ACREAGES SHOWN ARE FROM WASHINGTON COUNTY AUDITOR'S GIS DATA AND NOT VERIFIED BY SURVEY.
4. TIES TO SECTION LINES ARE BASED ON MONUMENTS FOUND DURING THE FIELD SURVEY. TIE DISTANCE TO SECTION LINE BETWEEN SECTIONS 4 AND 34, ALSO DESIGNATED AS THE BOUNDARY LINE BETWEEN WARREN AND MARIETTA TOWNSHIPS, WAS ESTABLISHED BY NINE (9) FOUND MONUMENTS LOCATED ALONG SAID SECTION LINE DURING A PREVIOUS SURVEY TO THE NORTHEAST OF THE SUBJECT PROPERTY.
5. THE PROPOSED WELL SHOWN HEREON IS TO BE AN INJECTION WELL.

REFERENCES:

1. WASHINGTON COUNTY AUDITOR'S TAX MAP
2. DEED BOOK 593 PAGE 717 OF RECORD FROM THE WASHINGTON COUNTY RECORDER'S OFFICE.
3. AERIAL MAPPING FROM THE WASHINGTON COUNTY, OH GIS WEBSITE
AT <http://www.washingtoncountyauditor.us/Map.aspx>
4. USGS QUADRANGLE: MARIETTA 7.5'
5. TITLE INFORMATION SUPPLIED BY THE CLIENT.

OPERATOR: DEEPROCK DISPOSAL SOLUTIONS LLC, 637 STATE RT. 821, MARIETTA, OH 45750

LAND OWNER(S):

SURFACE: V-M MANAGEMENT SOLUTIONS LLC
MINERAL: V-M MANAGEMENT SOLUTIONS LLC

WELL NAME: AMERICAN GROWERS

WELL NUMBER: 4

COUNTY: WASHINGTON

MUNICIPALITY: WARREN TOWNSHIP

U.S.G.S. QUAD: MARIETTA 7.5'

OHIO STATE PLANE GRID:

COORDINATES OH-S NAD 83

N: 509,588.24

E: 2,254,104.47

LAT(N): 39.394749

LONG(W): 81.489357

COORDINATES OH-S NAD 27

N: 509,550.45

E: 2,285,568.30

LAT(N): 39.394675

LONG(W): 81.489512

ELEVATION:

793.6' NAVD 88

WELL TYPE

OIL OR GAS: NEW LOCATION: OTHER:

SURVEY CERTIFICATION:

THIS WELL LOCATION PLAT MEETS THE SPECIFICATIONS SET FORTH IN OHIO ADMINISTRATIVE CODE 1501:9-1. THIS PLAT IS NOT A BOUNDARY SURVEY AS SPECIFIED IN OHIO ADMINISTRATIVE CODE 4733 AND IS SUBJECT TO ALL FACTS REVEALED BY TITLE EXAMINATION.



GREEN AND ASSOCIATES

156 Woodrow Ave. Suite 2A
St. Clairsille, OH 43950
(740) 695-9977 OH
(304) 595-3290 WV
green@greenandassoc.net

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION, STATE OF OHIO, DEPARTMENT OF NATURAL RESOURCES, DIVISION OF OIL AND GAS REGULATIONS.

P.S.
6608

DATE

John M. Green
11/19/21

DeepRock
DISPOSAL SOLUTIONS, LLC



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296
s1swv.com

DEEPROCK DISPOSAL SOLUTIONS LLC
SECTION 4, TOWNSHIP 2 NORTH, RANGE 9 WEST
WARREN TOWNSHIP
WASHINGTON COUNTY, OHIO

V-M MANAGEMENT SOLUTIONS LLC

Drawn By: K. G. Moyers	Date: 11-19-2021	Scale: N.T.S.
Checked By: J. M. Green	Job Number: 9149	Sheet No. 2 of 2

12/8/21



OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS RESOURCES MANAGEMENT
2045 MORSE RD, BLDG. F-2, COLUMBUS, OH 43229-6693
Phone: (614) 265-6922 · Fax: (614) 265-6910



APPLICATION FOR A PERMIT (Form 1)

(REVISED 6/2020)

SEE INSTRUCTIONS ON BACK

1. We (applicant) <u>DeepRock Disposal Solutions LLC.</u>		2. OWNER NUMBER: <u>9896</u>																																																																																		
Address: <u>637 State Route 821, Complex 1, Building 1, Marietta, OH 45750</u>		Phone: <u>740-371-5078</u>																																																																																		
hereby apply this date <u>November 25</u> <u>2020</u> for a permit to:																																																																																				
<input checked="" type="checkbox"/> Drill Vertical Well <input type="checkbox"/> Revised Location <input type="checkbox"/> Drill Horizontally <input type="checkbox"/> Plug Back <input type="checkbox"/> Drill Directionally <input type="checkbox"/> Plug and Abandon <input type="checkbox"/> Reopen <input type="checkbox"/> Reissue		<input type="checkbox"/> Convert <input type="checkbox"/> Deepen																																																																																		
3. TYPE OF WELL: <input type="checkbox"/> Oil & Gas <input type="checkbox"/> Annular Disposal <input type="checkbox"/> Saltwater Injection <input type="checkbox"/> Solution Mining* <input type="checkbox"/> Gas Storage <input type="checkbox"/> Other (explain): <input checked="" type="radio"/> Input/Injection <input type="checkbox"/> Enhanced Recovery* (*if checked, select appropriate box below) <input type="checkbox"/> Water Supply <input type="checkbox"/> Observation <input type="checkbox"/> Production/Extraction																																																																																				
4. Is the well location or production facility(s) within an urbanized area as defined by ORC 1509.01 (Y)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		20. TYPE OF TOOLS: <input type="checkbox"/> Cable <input checked="" type="checkbox"/> Rotary (<input type="radio"/> Air <input checked="" type="radio"/> Fluid) <input type="checkbox"/> Cable/Rotary <input type="checkbox"/> Service Rig																																																																																		
5. MAIL PERMIT TO: DeepRock Disposal Solutions LLC. 637 SR 821 Marietta, OH 45750		21. SOURCE(S) OF GROUND AND/OR SURFACE WATER USED IN PRODUCTION OPERATION: Ohio River Watershed: <input type="checkbox"/> Lake Erie <input checked="" type="checkbox"/> Ohio River Estimated Withdrawal Rate (gal/day): 10,000 Estimated Total Volume (gal): 100,000 If Recycled Water – Estimated Total Volume (gal):																																																																																		
6. COUNTY: Washington		22. EMERGENCY TELEPHONE NUMBERS (closest to well site): Fire: 740-373-2424 Med cal: 740-374-3200																																																																																		
7. CML TOWNSHIP: Warren		23. MEANS OF INGRESS AND EGRESS: Road: State Route 550																																																																																		
8. SECTION: 11		24. ROAD USE FOR HORIZONTAL WELL: <input type="checkbox"/> Maintenance Agreement Attached <input type="checkbox"/> Non-agreement Affidavit Attached <input checked="" type="checkbox"/> State Route (Not Required)																																																																																		
10. FRACTION: 11. QTRTWP:		25. ARE THE SURFACE RIGHTS OWNED BY THE STATE OF OHIO? Agency Name:																																																																																		
12. TRACT/ALLOT:		26. FOR PLUGGING APPLICATIONS: Date of Last Production: Amount of Oil: _____ (bbl) Gas: _____ (mcf)																																																																																		
13. WELL NUMBER: <u>1</u>		27. PROPOSED CASING AND CEMENTING PROGRAM																																																																																		
14. LEASE NAME: <u>Pioneer</u>		<table border="1"> <thead> <tr> <th>Type Casing</th> <th>Borehole Diameter (in)</th> <th>Borehole Depth (ft)</th> <th>Casing Diameter (in)</th> <th>Casing Depth (ft)</th> <th>Cement Volume (sacks)</th> <th>Formation</th> <th>Zone Tested or Produced (✓ if Yes)</th> <th>Hydraulic Fracturing (✓ if Yes)</th> </tr> </thead> <tbody> <tr> <td>Drive Pipe</td> <td>24"</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Conductor</td> <td>24"</td> <td>100'</td> <td>20"</td> <td>100'</td> <td>106</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mine String</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Surface</td> <td>17-1/2"</td> <td>400'</td> <td>13-3/8"</td> <td>400'</td> <td>306</td> <td>Thur Fresh Water Zones</td> <td></td> <td></td> </tr> <tr> <td>1st Intermediate</td> <td>12-1/4"</td> <td>2,400'</td> <td>9-5/8"</td> <td>2,400'</td> <td>706</td> <td>Thur Gordon</td> <td></td> <td></td> </tr> <tr> <td>2nd Intermediate</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Production</td> <td>8-3/4"</td> <td>6,450'</td> <td>7"</td> <td>6,400'</td> <td>556</td> <td>Thur Clinton-Medina</td> <td></td> <td></td> </tr> <tr> <td>Liner</td> <td>TUBING</td> <td></td> <td>4-1/2"</td> <td>6,135'</td> <td>NA</td> <td>Set Packer 65' above top perf</td> <td></td> <td></td> </tr> </tbody> </table>		Type Casing	Borehole Diameter (in)	Borehole Depth (ft)	Casing Diameter (in)	Casing Depth (ft)	Cement Volume (sacks)	Formation	Zone Tested or Produced (✓ if Yes)	Hydraulic Fracturing (✓ if Yes)	Drive Pipe	24"								Conductor	24"	100'	20"	100'	106				Mine String									Surface	17-1/2"	400'	13-3/8"	400'	306	Thur Fresh Water Zones			1 st Intermediate	12-1/4"	2,400'	9-5/8"	2,400'	706	Thur Gordon			2 nd Intermediate									Production	8-3/4"	6,450'	7"	6,400'	556	Thur Clinton-Medina			Liner	TUBING		4-1/2"	6,135'	NA	Set Packer 65' above top perf		
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15. PROPOSED TOTAL DEPTH: 6,500'																																																																																				
16. PROPOSED GEOLOGICAL FORMATION(S): Clinton-Medina																																																																																				
17. DRILLING UNIT ACRES: 42.07																																																																																				
18. ATTACH LANDOWNER ROYALTY LISTING:																																																																																				
19. IF PERMITTED PREVIOUSLY: API Number:		26. FOR PLUGGING APPLICATIONS: Date of Last Production: Amount of Oil: _____ (bbl) Gas: _____ (mcf)																																																																																		

I, the undersigned, being first duly sworn, depose and state under penalties of law, that I am authorized to make this application, that this application was prepared by me or under my supervision and direction, and that the facts stated herein are true, correct, and complete, to the best of my knowledge.

I, the undersigned, further depose and state that I am the person who has the right to drill on the tract or drilling unit and to drill into and produce from a pool and to appropriate the oil or gas that I produce therefrom either for myself or others as described in this application. And furthermore, I, the undersigned, being duly sworn, depose and state at this time that I am not liable for any final nonappealable order of a court for damage to streets, roads, highways, bridges, culverts, or drainage ways pursuant to Section 557.12 of the Ohio Revised Code (ORC). I, the undersigned, further depose and state that all notices required by 1509.06 (A) (9) ORC for this application have been duly provided by me. If applying for a permit to plug and abandon a well, I hereby certify that the written notices, as required in Section 1509.13, ORC, have been given.

That I hereby agree to conform with all provisions of Chapter 1509., ORC, and Chapter 1501., OAC, and all orders and conditions issued by the Chief, Division of Oil and Gas Resources Management.

Signature of Owner/Authorized Agent: John W. Mossor Jr.Name (Type or Print): John W. Mossor Jr.Title: General Manager

If signed by Authorized Agent, a certificate of appointment of agent must be on file.

Sworn to and subscribed before me this the 8th day of December, 2021.



DeepRock Disposal Solutions, LLC
637 State Rt 821, Complex 1, Bldg 1
Marietta, OH 45750
Phone: (740) 371-5078

To: Division of Oil and Gas Resources Management
From: DeepRock Disposal Solutions, LLC – John W. (Wes) Mossor
SUBJECT: List of Landowners Royalty Owners – Pioneer # 1 permit application

- Landowner - Heinrich Property LLC, PO Box 280, Reno Ohio 45773
- Royalty interest- Heinrich Production LLC, PO Box 280, Reno Ohio 45773

**SUPPLEMENT TO APPLICATION
PERMIT FOR A SALTWATER INJECTION WELL (Form 210)**
(REVISED 0515)

36. MAP

Each application for a permit shall be accompanied by a map or maps showing and containing the following information:

- A. The subject tract of land on which the proposed injection well is to be located.
- B. The location of the proposed injection well on the subject tract established by an Ohio registered surveyor showing the distances in feet from the proposed well site to the boundary lines on the subject tract;
- C. The geographic location of all wells, penetrating the formation proposed for injection regardless of status, within the area of review;
- D. All holders of the land owner's royalty interest of record, or holders of the severed oil and gas mineral estates of record in the subject tract;
- E. All owners or operators of wells producing from or injecting into the same formation proposed as the injection formation.

37. SCHEMATIC DRAWING OF SUBSURFACE CONSTRUCTION

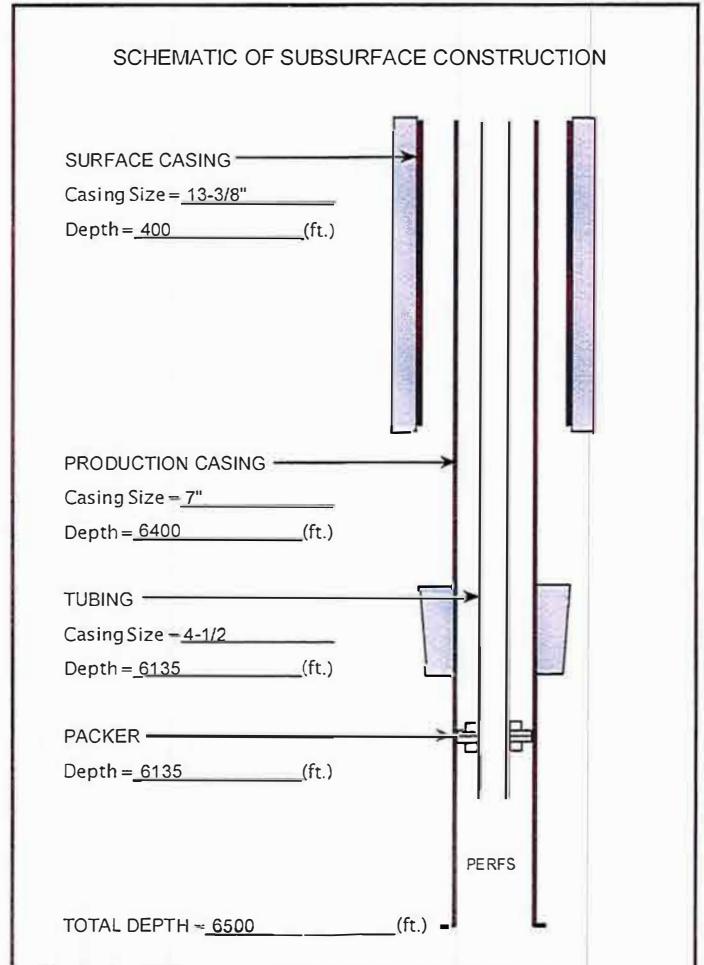
Label the schematic drawing below indicating size and setting depth of surface casing, intermediate (if any) and production casings; amount of cement used, measured or calculated tops of cement; size and setting depth of tubing; type and setting depth of packer; geologic name of injection zone showing top and bottom of injection interval. If the proposed input well design is substantially different from the schematic below, attach on a separate sheet a schematic of your proposal labeled with the above information.

38. PUBLIC NOTICE OF A SALTWATER INJECTION WELL

Public notice of an application for a saltwater injection well is required by law. In addition, the applicant must submit, on an attached sheet, a list of the names and address(es) of those persons required to receive personal notice in accordance with Rule 1501:9-3-06(H) of the Ohio Administrative Code.

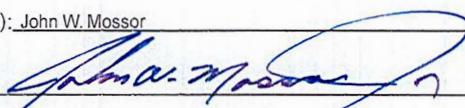
After submitting the application, and after a determination by the Division that it is complete as required by the rules of the Division, a legal notice must be published by the applicant in a newspaper of general circulation in the area of review. The legal notice must contain the information described in Rule 1501:9-3-06(H) of the Ohio Administrative Code. A copy of the notice must be delivered to all owners or operators of wells within the area of review producing from or injecting into the same formation proposed as the injection formation. Proof of publication, publication date, and an oath as to the delivery to those entitled to receive personal notice under this method must be filed with the Division within thirty (30) days after the Division determines that the application is complete.

In addition, notice of all applications for saltwater injection wells will be published in the Division's weekly circular.



The undersigned hereby agrees to comply with all provisions for a saltwater injection well as required by Chapter 1501:9-3 of the Ohio Administrative Code. In addition, the undersigned deposes and says that s/he shall 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.

Owner/Authorized Agent (Type or Print): John W. Mossor

Signature of Owner/Authorized Agent:  Title: General Manager

Permanent Address of Home Office: 637 State Route 821 Marietta, OH 45750

If signed by Authorized Agent, a certified copy of appointment of agent must be on file with the Division.

SWORN to and subscribed to me this 8th day of December, 20 21



ANN E KERENYI
Notary Public - State of Ohio
My Commission Expires
February 13, 2023


Notary Public

2-13-23

Date Commission Expires

DeepRock Disposal

Pioneer # 1

Washington County - Warren Township - Section 11

<u>STRUCTURAL</u>	<u>DEPTHs</u>	<u>FORMATION TOPS</u>
Berea Sandstone	1,175'	2,017'
Onondaga Limestone	3,675'	4,517'
Packer Shell	5,275'	6,117'
Top of Clinton Sandstone	6,165'	
Top of Medina Sandstone	6,309'	
Base of Medina Sandstone	6,325'	
Proposed Total Depth	6,450'	

CASING PROGRAM

<u>Type</u>	<u>Hole Size</u>	<u>Pipe Size</u>	<u>Casing Depth</u>
Conductor	24"	20"	100'
Surface	17 1/2"	13 3/8"	400'
Intermediate	12 1/4	9 5/8"	2,400"
Longstring	8 3/4"	7"	6,400"
Tubing	4 1/2"		Set on packer

Cementing Program

Conductor	20" - 94lb - J55 inside 24" hole - cemented to surface Class A (15.6lb/gal) - 106 Sks
Surface	13 3/8" - 48lb - H40 inside 17 1/2" hole - cemented to surface Class A (15.6lb/gal) - 306 Sks
Intermediate	9 5/8" - 36lb - J55 inside 12 1/4" hole - cemented to surface total Cement - 706 Sks Lead cement - 28gel - 14.7lb/per gal - 387.5 Sks Tail cement - Class A (15.6lb/per gal) - 318.5 Sks
Longstring	7" - 23lb - P110 inside 8 3/4" hole - cemented back to 2,100' - 556 Sks Lead cement - Unifill - 13.6lb/per gal - 269.5 Sks Tail cement - 50/50 POZ (28lb/per gal) - 286.5 Sks

Pioneer #1

Elevation 842' GL

Section 11

Warren Township

Structural Depths

Berea Sandstone - 1175

Formation Tops

2017'

Onondaga Limestone - 3675

4517'

Packer Shell - 5275

6117'

Top Clinton Sandstone = 6,165'

Top Medina Sandstone = 6,309'

Base Medina Sandstone = 6,325'

Proposed Total Depth = 6,450'

Casing Program

Type	Hole Size	casing Depth
Conductor	20"	24"
Surface	13 3/8"	17 1/2"
Intermediate	9 5/8	12 1/4"
Longstring	7"	8 3/4"
Tubing	4-1/2"	
		2,400' (Through Gordon)
		6,400'

Cementing Program - See Cementing Program

Pioneer #1

Cementing Program

Conductor

(20" 94lb-J55) in 24" hole

Cemented to Surface

$$100' \times .9599 \text{ ft}^3/\text{ft} = 96 \text{ ft}^3 + 30\% \text{ Excess} = 125 \text{ ft}^3$$

$$\text{CLASS A (15.6 lb/gal)} = 1.18 \text{ ft}^3/\text{sk} = \boxed{106 \text{ SKS}}$$

Surface

(13 3/8" 48lb-H40) in 17 1/2" hole

Cemented to Surface

$$400' \times .6946 \text{ ft}^3/\text{ft} = 278 \text{ ft}^3 + 30\% \text{ Excess} = 361 \text{ ft}^3$$

$$\text{CLASS A (15.6 lb/gal)} = 1.18 \text{ ft}^3/\text{sk} = \boxed{306 \text{ SKS}}$$

Intermediate

(9 5/8 36lb-J55) in 12 1/4" hole

Cemented to Surface

Lead Cement $\text{Clr50A 28 gel} = 1.36 \text{ ft}^3/\text{sk}$ (14.7lb/gal)

(1,400')

$$1400' \times .3132 \text{ ft}^3/\text{ft} = 439 \text{ ft}^3 + 20\% \text{ Excess} = 527 \text{ ft}^3 = 387.5 \text{ SKS}$$

Tail Cement

$\text{CLASS A} = 1.18 \text{ ft}^3/\text{sk}$ (15.6 lb/gal)

(1,000')

$$1000' \times .3132 \text{ ft}^3/\text{ft} = 313 \text{ ft}^3 + 20\% \text{ Excess} = 376 \text{ ft}^3 = 318.5 \text{ SKS}$$

$$* \text{ Total Cement} = \boxed{706 \text{ SKS}}$$

Longstring

(7" 23lb-P110) in 8 3/4" hole

Cemented back to 2100'

Lead Cement $\text{Unifill Light} = 1.54 \text{ ft}^3/\text{sk}$ (13.6 lb/gal)

(2,300')

$$2300' \times .1503 \text{ ft}^3/\text{ft} = 346 \text{ ft}^3 + 20\% \text{ Excess} = 415 \text{ ft}^3 = 269.5 \text{ SKS}$$

Tail Cement

$50/50 \text{ PbZ, 28 gel} = 1.26 \text{ ft}^3/\text{sk}$

(2,000')

$$2000' \times .1503 \text{ ft}^3/\text{ft} = 301 \text{ ft}^3 + 20\% \text{ Excess} = 361 \text{ ft}^3 = 286.5 \text{ SKS}$$

$$* \text{ Total Cement} = \boxed{556 \text{ SKS}}$$

**DeepRock Disposal
Pioneer # 1
Permit Appalachian**

32.(D). Description of proposed unloading, surface, and spill containment.

- A. Brine will be offloaded at our Rt.7 – UIC permitted facility, brine will then transfer via UIC permitted pipeline to our, UIC permitted 676 facility.
 - We have in-line turbine meters at Rt. discharge pumps, in addition we have discharge meters in-line at the 676 facilities pumps, and we will install new in-line flow/volume meter at the Pioneer well
- a. New pipeline will be constructed of 3" steel – welded, Class A ~ 2,200 PSI, enclosed in 6" – DR 17 polypipe.
- b. We have high- and low-level storage tank automatic shut-downs on both Rt.7 and 676 sites.
- c. We have pressure sensors, with automatic high, and low shutdowns on all discharge pumps.
- d. Our Silver Smith – Meter Central monitoring system in addition sends automated text messages for all preset levels alarms to all DeepRock managers.

PLAIN END LINE PIPE - Continued

Outside Diameter	Wall Thickness	Weight Per Foot	Test Pressure							
			Grade A	Grade B	Grade X-42	Grade X-46	Grade X-52	Grade X-56	Grade X-60	Grade X-
3 1/2	.083	3.03	850	1000	1200	1310	1480	1590	1710	18
3 1/2	.109	3.95	1120	1310	1570	1720	1940	2090	2240	24
3 1/2	.125	4.51	1290	1500	1800	1970	2230	2400	2570	27
3 1/2	.141	5.06	1450	1690	2030	2220	2510	2710	2900	30
3 1/2	.156	5.57	1600	1870	2250	2460	2780	3000	3000	30
3 1/2	.172	6.11	1770	2060	2480	2710	3000	3000	3000	30
3 1/2	.188	6.65	1930	2260	2710	2970	3000	3000	3000	30
3 1/2	.216 STD	7.58	2220	2500	3000	3000	3000	3000	3000	30



A DIVISION OF CHEVRON PHILLIPS CHEMICAL COMPANY LP

PE 4710 (PE3408) Energy - DriscoPlex® 6400 Series PE4710 IPS Pipe Data

Pipe weights are calculated in accordance with PPI TR-7. Average inside diameter calculated using nominal OD and minimum wall plus 6% for use in estimating fluid flows. Actual ID will vary. When designing components to fit the pipe ID, refer to pipe dimensions and tolerances in applicable pipe specifications. Pressure Ratings are for water at 73.4° F. For other fluid and service temperature, ratings may differ. Refer to Engineering Manual for Chemical and Environmental Considerations.

Rating	DR 6.0				DR 8.0				DR 11.0				DR 14.0				IPS Pipe Size	
	IPS Pipe Size	Nom OD (in)	Min Wall (in)	Avg ID (in)	Wgt (lb/ft)													
1"	1.315	0.219	0.851	10.33	0.180	0.933	0.29	0.182	0.151	1.340	0.31	0.123	1.369	0.26	0.140	1.387	0.34	1 1/4"
1 1/4"	1.860	0.277	1.073	10.62	0.227	1.179	0.46	0.184	1.270	0.37	0.151	1.340	0.31	0.123	1.369	0.26	0.140	1 1/2"
1 1/2"	1.900	0.317	1.226	10.60	0.266	1.349	0.61	0.211	1.453	0.49	0.173	1.535	0.41	0.141	1.601	0.34	0.176	2"
2"	2.375	0.395	1.505	11.07	0.325	1.684	0.95	0.264	1.815	0.77	0.216	1.917	0.54	0.176	2.002	0.53	0.140	2 1/2"
3"	3.500	0.683	2.284	12.33	0.478	2.485	2.06	0.389	2.675	1.68	0.318	2.826	1.39	0.258	2.951	1.18	0.205	3"
4"	4.900	0.750	2.910	13.60	0.516	3.194	3.40	0.500	3.440	2.75	0.409	3.633	2.31	0.330	3.794	1.92	0.265	3 1/2"
6"	6.425	1.104	4.225	15.55	0.908	4.700	7.37	0.738	5.665	5.29	0.602	5.349	5.00	0.49	5.584	4.15	0.390	5 7/8"

Rating	DR 6.0				DR 8.0				DR 11.0				DR 14.0				IPS Pipe Size
	IPS Pipe Size	Nom OD (in)	Min Wall (in)	Avg ID (in)	Wgt (lb/ft)	IPS Pipe Size	Nom OD (in)	Min Wall (in)	Avg ID (in)	Wgt (lb/ft)	IPS Pipe Size	Nom OD (in)	Min Wall (in)	Avg ID (in)	Wgt (lb/ft)	IPS Pipe Size	
20"	26.000	3.111	21.465	11.43	2.600	10.475	3.111	22.665	21.93	20.983	70.30	1.920	21.917	21.917	70.30	26"	
26"	28.000	3.333	22.634	12.24	3.111	21.465	3.333	22.665	22.02	22.665	89.26	2.074	23.603	23.603	89.26	26"	
30"	30.000	3.667	24.000	13.00	3.333	22.634	3.667	24.218	22.22	24.218	102.47	2.222	25.289	25.289	102.47	30"	
32"	32.000	3.917	25.367	13.75	3.667	24.000	3.917	25.633	23.58	25.633	115.58	2.370	26.976	26.976	115.58	32"	
34"	34.000	4.171	26.734	14.50	3.917	25.367	4.171	27.447	24.61	27.447	131.61	2.518	28.660	28.660	131.61	34"	
36"	36.000	4.429	28.094	15.25	4.171	26.734	4.429	29.061	25.55	29.061	147.55	2.667	30.348	30.348	147.55	36"	

Pressure ratings are calculated using 0.63 design factor for HDS at 73°F as listed in PPI TR-4 for PE4710 materials. Temperature and environmental use considerations may require use of additional design factors.

Other Sizes and Dimensions Available

Bullet: PP 155-4710 (PE 3408)

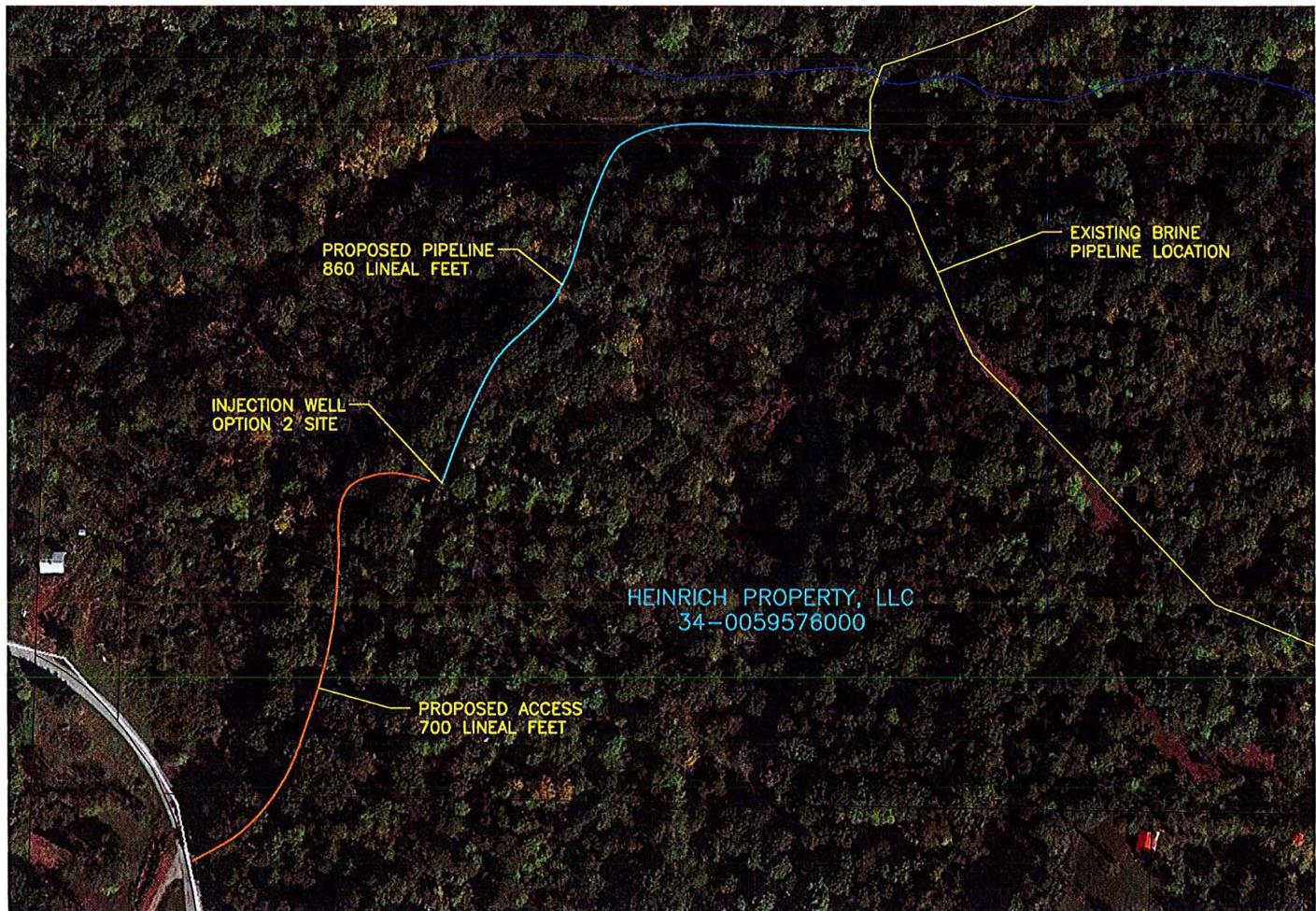
Page 1 of 1

Performance Pipe, a division of

www.performancepipe.com

March 2008 supersedes all previous publications

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DEEPROCK DISPOSAL - PIONEER # 1 - AREA OF REVIEW

<u>COUNT</u>	<u>WELL NAME</u>	<u>OPERATOR</u>	<u>FORMATION</u>	<u>PERMIT #</u>
1	J. Denton # 1	Stonebridge Operating	Berea	3937
2	Magers # 1	Stonebridge Operating	Berea	3986
3	Lavina Michaelis	Heinrich Enterprise	Berea	7744
4	Michaelis # 1	Heinrich Enterprise	Berea	1058
5	Harris Unit # 1	Energy Search	CANCELED	9496
6	Larry D. & Joyce Harris	Stonebridge Operating	Berea	3993
7	L. Michaelis # 2	Heinrich Enterprise	Berea	4113
8	Lavina Michaelis # 3	Heinrich Enterprise	Berea	7745
9	Vandale # 1	OWS Acquisition	Berea	5319
10	Vandale # 2	OWS Acquisition	Berea	5338
11	Albicht # 1	Heinrich Enterprise	Ohio Shale	9558
12	Richard Wilson # 1	Richard Wilson	Berea	3926
13	C. Sullivan # 1	OWS Acquisition	Berea	3359
14	Heinrich Unit # 2 (SWIW # 22)	DeepRock Disposal	Medina	9464
15	Vocational School # 2 (SWIW # 20)	DeepRock Disposal	Medina	9543
16	Horton # 1	Heinrich Enterprise	Ohio Shale	9557

Well Owners address

DeepRock Disposal 637 State Route 821 Marietta, OH 45750

DeepRock Disposal 637 State Route 821 Marietta, OH 45750



Ohio Oil & Gas Wells

ONNR, Division of Oil & Gas

County Bookmarks

Select A County:

Clear Result

► Other Tools

▶ Print

▼ Search

Select A Layer:

Buffer: 0.5 Miles

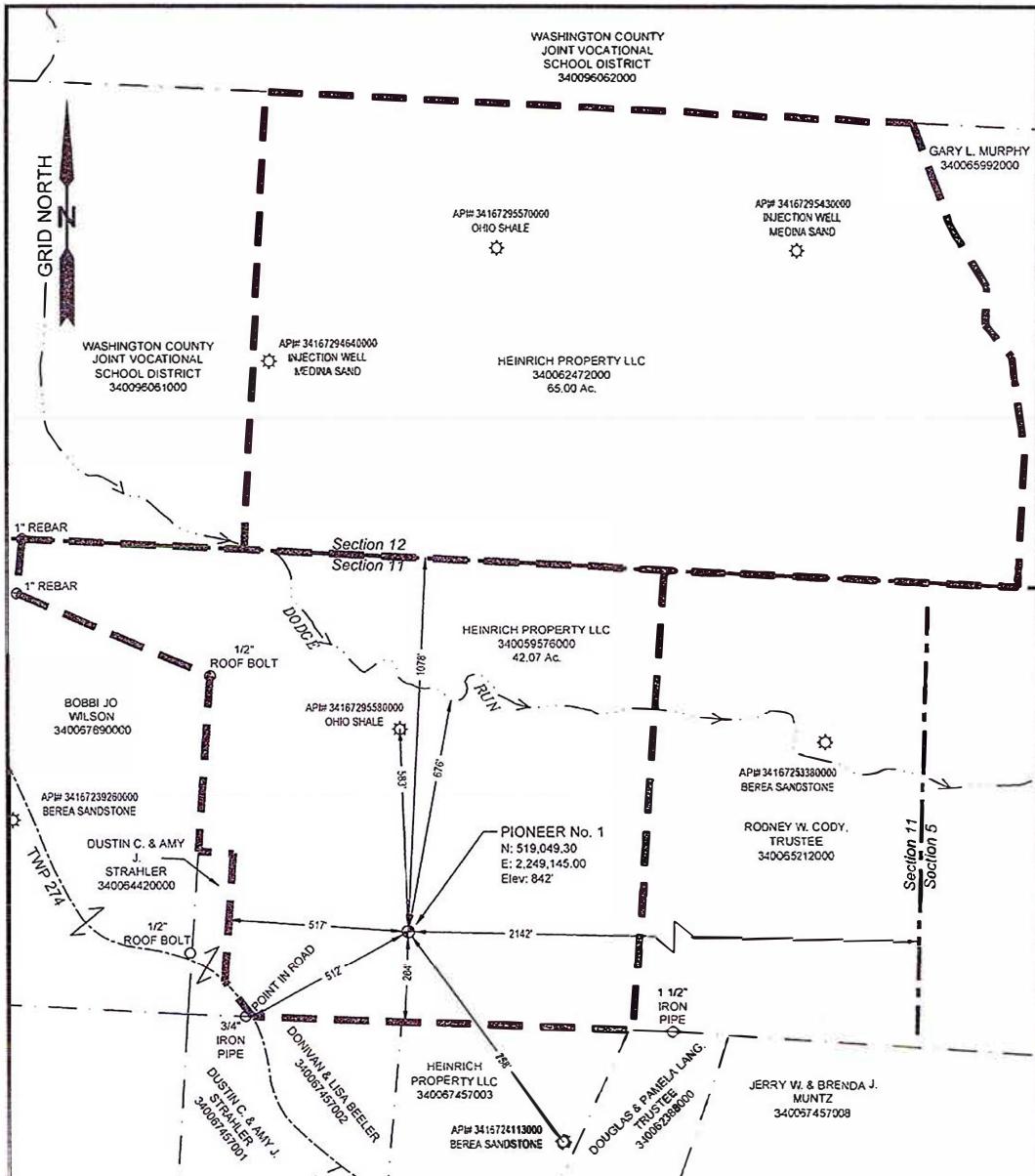
Display Buffer Only:

Select Features By:

A handheld GPS map showing a terrain with contour lines and numerous red circular markers indicating survey points. The map includes a scale bar (0.2m), a north arrow, and a coordinate header (1:18056 39.419687 -81.508231).

1/1

<https://gis.ohiodnr.gov/MapViewer/?config=oligas&well>



SLS
FROM THE GROUND UP

12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS
CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND
SHOWS ALL THE INFORMATION REQUIRED BY LAW AND
THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION
OF ENVIRONMENTAL PROTECTION, STATE OF OHIO,
DEPARTMENT OF NATURAL RESOURCES, DIVISION OF OIL AND
GAS REGULATIONS.

P.S. Robert H. Bond
7999
DATE 2-25-2020

LEGEND

Legend for map symbols:

- UNIT BOUNDARY: Solid line
- SURFACE BOUNDARY: Dashed line
- SECTION LINE: Line with short dashes
- ROAD RIGHT OF WAY: Dashed line
- STREAMS: Line with arrowheads
- FOUND MONUMENT (AS NOTED): Circle with a dot
- PROPOSED WELL: Circle with a cross
- EXISTING WELL: Circle with a gear

0' 400' 800'



PIONEER ENGINEERING
& SURVEYING LLC

740-350-4003
ROBERT ROUSH

P.O. BOX 172, Beverly, OH 45715

DEEP ROCK DISPOSAL SOLUTIONS LLC
SECTION 11, TOWNSHIP 2 NORTH, RANGE 9 WEST
WARREN TOWNSHIP
WASHINGTON COUNTY, OHIO

PIONEER 1

Drawn By: C. MOYERS Date: FEB. 24, 2020 Scale: 1" = 400'

Checked By: C.V. Moyers

Sheet No. 1 of 2

NOTES:

1. THIS SURVEY WAS PERFORMED FOR THE PURPOSE OF OBTAINING A PERMIT TO DRILL A PROPOSED WELL AND TO SHOW THE PROPOSED WELL RELATIVE TO EXISTING BOUNDARIES. ALSO THE SURVEY IS TO PROVIDE STATE PLANE AND GEOGRAPHIC COORDINATES OF THE PROPOSED WELL.
2. PARCEL DIMENSIONS AND OWNERSHIP DATA WERE OBTAINED FROM THE COUNTY AUDITOR, TAX MAPS AND GIS DATA.
3. PARCEL ACREAGES SHOWN ARE FROM DEED RECORDS AND NOT VERIFIED BY SURVEY.
4. STREAMS SHOWN ARE BASED ON AERIAL MAPPING.
5. TIES TO SECTION LINES ARE BASED ON MONUMENTS FOUND DURING THE FIELD SURVEY.
6. THE PROPOSED WELL SHOWN HEREON IS TO BE AN INJECTION WELL.

REFERENCES:

1. WASHINGTON COUNTY AUDITOR'S TAX MAP
2. DEEDS OF RECORD FROM THE COUNTY RECORDER'S OFFICE.
3. AERIAL MAPPING FROM THE WASHINGTON COUNTY, OH GIS WEBSITE AT <http://www.washingtoncountyauditor.us/Map.aspx>
4. USGS QUADRANGLE: FLEMING 7.5'
5. TITLE INFORMATION SUPPLIED BY THE CLIENT.

OPERATOR: DEEP ROCK DISPOSAL SOLUTIONS LLC

LAND OWNER(S):

SURFACE: HEINRICH PROPERTY LLC
MINERAL: HEINRICH PROPERTY LLC

WELL NAME: PIONEER

WELL NUMBER: 1

COUNTY: WASHINGTON

MUNICIPALITY: WARREN TOWNSHIP

U.S.G.S. QUAD: FLEMING 7.5'

OHIO STATE PLANE GRID:

COORDINATES OH-S NAD 83

N: 519,049.30

E: 2,249,145.00

LAT: 39-25-15.15 (N)

LONG: 81-30-23.53 (W)

COORDINATES OH-S NAD 27

N: 519,011.40

E: 2,280,608.90

LAT: 39-25-14.88 (N)

LONG: 81-30-24.09 (W)

ELEVATION:

842' NAVD 88

WELL TYPE

OIL OR GAS: NEW LOCATION: OTHER:

SURVEY CERTIFICATION:

THIS WELL LOCATION PLAT MEETS THE SPECIFICATIONS SET FORTH IN OHIO ADMINISTRATIVE CODE 1501:9-1. THIS PLAT IS NOT A BOUNDARY SURVEY AS SPECIFIED IN OHIO ADMINISTRATIVE CODE 4733 AND IS SUBJECT TO ALL FACTS REVEALED BY TITLE EXAMINATION.

DeepRock
DISPOSAL SOLUTIONS, LLC



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION, STATE OF OHIO, DEPARTMENT OF NATURAL RESOURCES, DIVISION OF OIL AND GAS REGULATIONS.

P.S.
7999

Robert H. Roush

DATE

2-25-2020



10 Vanhook Drive | PO. Box 110 | Gilmore, WV 20351 | 304.462.5134
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
154 East Gauley Street, #400-A, Beckley, WV 25801 | 304.255.5296
SLS.com



PIONEER ENGINEERING
& SURVEYING LLC

740-350-4003
ROBERT ROUSH

P.O. BOX 172, Beverly, OH 45715

DEEP ROCK DISPOSAL SOLUTIONS LLC
SECTION 11, TOWNSHIP 2 NORTH, RANGE 9 WEST
WARREN TOWNSHIP
WASHINGTON COUNTY, OHIO

PIONEER 1

Drawn By: C. MOYERS	Date: FEB. 24, 2020	Scale: N/A
Checked By: C.V. Moyers	Job Number: 8812	Sheet No. 2 of 2

RESTORATION PLAN (Form 4)
 Ohio Department of Natural Resources
 Division of Oil and Gas Resources Management, 2045 Morse Road, Bldg. F-2, Columbus OH 43229-6693

1. DATE OF APPLICATION: November 25, 2020		3. API #:	
2. OWNER NAME, ADDRESS, & TELEPHONE NO.:		4. WELL #: 1	
DeepRock Disposal Solutions, LLC 637 State Route 821 Marietta, OH 45750		5. LEASE NAME: Pioneer	
		6. PROPERTY OWNER: Heinrich Property, LLC	
		7. COUNTY: Washington	
		8. CIVIL TOWNSHIP: Warren	
		9. SECTION: # 11	
		10. LOT:	
11. CURRENT LAND USE:		17. TYPE OF WELL:	
<input type="checkbox"/> Cropland <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Pasture <input checked="" type="checkbox"/> Idle Land <input type="checkbox"/> Wetlands <input 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		<input type="checkbox"/> Oil <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Other	
12. SLOPE GRADIENT & LENGTH DETERMINED FROM:		18. STEEPEST SLOPE GRADIENT CROSSING SITE:	
<input type="checkbox"/> Ground Measurement <input checked="" type="checkbox"/> U.S. Geological Survey Topographical Maps Other: (explain)		<input checked="" type="checkbox"/> 0 to 2% <input type="checkbox"/> 2.1 to 8% <input checked="" type="checkbox"/> 8.1 to 10% <input type="checkbox"/> greater than 24%	
13. TYPE OF FALL VEGETAL COVER:		19. LENGTH OF STEEPEST SLOPE CROSSING SITE:	
<input type="checkbox"/> Little or no vegetal cover <input checked="" type="checkbox"/> Short grasses <input type="checkbox"/> Tall weeds or short brush (1 to 2 ft.) <input checked="" type="checkbox"/> Brush or bushes (2 to 6 ft.) <input type="checkbox"/> Agricultural crops <input checked="" type="checkbox"/> Trees with sparse low brush <input type="checkbox"/> Trees with dense low brush		<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.	
14. SOIL & RESOILING MATERIAL AT WELLSITE:		20. RESTORATION OF DRILLING PITS: **	
<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 resoilng planned <input type="checkbox"/> Proposed alternative		<input checked="" type="checkbox"/> Haul drilling fluids and fill pits <input type="checkbox"/> Use steel circulating tanks <input type="checkbox"/> Proposed alternative	
15. DISPOSAL PLAN FOR TREES AND TREE STUMPS:		21. BACKFILLING AND GRADING AT SITE:	
<input 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 checked="" type="checkbox"/> Use for wildlife habitat with landowner approval <input type="checkbox"/> Proposed alternative		<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	
16. SURFACE AND SUBSURFACE DRAINAGE FACILITIES:		22. VEGETATIVE COVER TO BE ESTABLISHED AT SITE:	
<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		<input checked="" type="checkbox"/> Seeding plan <input type="checkbox"/> Agricultural crops <input type="checkbox"/> Proposed alternative	
		<input type="checkbox"/> Sod <input type="checkbox"/> Trees and/or Bushes	
17. ADDITIONAL HOLES:		23. ADDITIONAL HOLES:	
		<input type="checkbox"/> Rat/Mouse, if used, will be plugged	
18. PROPOSED OR CURRENT LENGTH OF ACCESS ROAD:		24. PROPOSED OR CURRENT LENGTH OF ACCESS ROAD:	
		<input type="checkbox"/> 100 ft. or less <input type="checkbox"/> 101 to 500 ft. <input type="checkbox"/> 501 to 1500 ft. <input checked="" type="checkbox"/> greater than 1500 ft.	
19. CURRENT LAND USE OF PATH OF ACCESS ROAD:		25. CURRENT LAND USE OF PATH OF ACCESS ROAD:	
		<input type="checkbox"/> Cropland <input type="checkbox"/> Pasture <input checked="" type="checkbox"/> Idle land <input type="checkbox"/> Wetlands <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.

REQUIRED BY SECTION 1509.06 (A)(10), OHIO REVISED CODE – FAILURE 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.

26. SURFACING MATERIAL FOR ACCESS ROAD: <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Brick and/or tile waste <input checked="" type="checkbox"/> Slag <input 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 type="checkbox"/> 0 to 5% <input type="checkbox"/> 6 to 10% <input checked="" type="checkbox"/> greater than 10%
27. PATH OF ACCESS ROAD TO BE DETERMINED BY: <input type="checkbox"/> Landowner <input checked="" type="checkbox"/> Contractor <input type="checkbox"/> Existing access road <input type="checkbox"/> Operator	30. APPROXIMATE LENGTH OF STEEPEST SLOPE ON ROAD: <input type="checkbox"/> 0 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.
28. GRAZING AND EROSION CONTROL PRACTICE ON ROAD: <input checked="" type="checkbox"/> Diversions <input type="checkbox"/> Drains <input type="checkbox"/> Open top culverts <input checked="" type="checkbox"/> Outsloping of road <input type="checkbox"/> Pipe culverts <input type="checkbox"/> Proposed alternative _____	<input type="checkbox"/> Filter strips <input type="checkbox"/> Riprap <input type="checkbox"/> Water breaks
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



Name (Typed or Printed)

John W. Mosser Jr.

Date 11-25-2020

RESTORATION PLAN MUST BE SUBMITTED TO THE DIVISION IN DUPLICATE.

DeepRock Disposal - Pioneer # 1 - SWIW

ODNR - SWIW - Maximum Surface Injection Pressure (MAIP) Calculation

For:

Equations:

$$P_G = 0.433 \times SG$$

$$P_m = 0.75D - P_G D$$

Values

0.433 = Pressure gradient for fresh water (psi/ft)

SG= 1.2 = specific gravity of injected fluid

D= 6,156 = Depth to highest perforation or top of open hole interval (ft)

0.75 = Maximum allowable pressure gradient (psi/ft)

P_G= 0.5196 = Pressure gradient of injected fluid (psi/ft)

P_m= 1420 = Maximum surface injection pressure (psi)

Calculation:

$$P_G = 0.433 \times 1.2 = 0.5196$$

$$P_m = 0.75 \times (6156) - (0.5196) \times (6156) = 1418.342 \text{ psi}$$

Round to the nearest multiple of five = 1420 psi

Just type in the depth of the highest perforation.