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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Jim Justice , Governor  
Austin Caperton , Cabinet Secretary  
www.dep.wv.gov

Tuesday, January 09, 2018  
WELL WORK PERMIT  
Vertical / New Drill

KEYROCK ENERGY LLC  
106 FERRELL AVENUE, SUITE 5

KINGSPORT, TN 37663

Re: Permit approval for MOHR NO. 1  
47-011-00998-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin  
Chief

Operator's Well Number: MOHR NO. 1  
Farm Name: BETTY J. MOHR TRUST  
U.S. WELL NUMBER: 47-011-00998-00-00  
Vertical / New Drill  
Date Issued: 1/9/2018

Promoting a healthy environment.

01/12/2018

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## PERMIT CONDITIONS

West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

### CONDITIONS

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1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code §22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
2. Pursuant to 35 CSR 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
3. Pursuant to 35 CSR 4-19.1.c, if the operator is unable to sample and analyze any water well or spring with one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
5. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours.
7. Well work activities shall not constitute a hazard to the safety of persons.
8. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced, drilling ceased, completion of any other permitted well work and completion of the well. Such notice shall be provided by sending an email to [DEPOOGNotify@wv.gov](mailto:DEPOOGNotify@wv.gov) within 30 days of commencement of drilling.

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

*Chk #13693  
\$650<sup>00</sup>*

1) Well Operator: Keyrock Energy LLC      494507629      Cabell      Grant      Milton 7.5'  
Operator ID      County      District      Quadrangle

2) Operator's Well Number: Mohr No. 1      3) Elevation: 640'

4) Well Type: (a) Oil \_\_\_\_\_ or Gas X \_\_\_\_\_  
(b) If Gas: Production X / Underground Storage \_\_\_\_\_  
Deep \_\_\_\_\_ / Shallow X \_\_\_\_\_

5) Proposed Target Formation(s): Lower Huron      Proposed Target Depth: 3400'

6) Proposed Total Depth: 3450'      Feet      Formation at Proposed Total Depth: Lower Huron

7) Approximate fresh water strata depths: 165'

8) Approximate salt water depths: 680'

9) Approximate coal seam depths: None      RECEIVED Office of Oil and Gas

10) Approximate void depths,(coal, Karst, other): None      NOV 30 2017

11) Does land contain coal seams tributary to active mine? No      WV Department of Environmental Protection

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)  
Drill and stimulate using a foam frac for a new well (estimated using 40k lbs. foam frac). Will not produce from the Marcellus formation.

13) **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	
Conductor	13 3/8"			30'	30'	13 Cu. Ft., CTS
Fresh Water	9 5/8"			300'	300'	110 Cu. Ft., CTS
Coal						
Intermediate	7"			2125'	2125'	213 Cu. Ft., Cement to 820'
Production	4 1/2"			3300'	3300'	145 Cu. Ft., Cement to 2000'
Tubing	2 3/8"			3250'	3250'	Per WV DEP Rule
Liners						

Packers: Kind: \_\_\_\_\_  
Sizes: \_\_\_\_\_  
Depths Set \_\_\_\_\_

*AF 11-21-17*      01/12/2018



WW-2A  
(Rev. 6-14)

1.) Date: 10/3/17  
2.) Operator's Well Number Mohr No. 1  
State County Permit  
3.) API Well No.: 47- Cabell

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE AND APPLICATION FOR A WELL WORK PERMIT**

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WV Department of  
Environmental Protection

4) Surface Owner(s) to be served:  
(a) Name Betty J. Mohr Trust, C/O Fred B  
Address 3855 River Park Dr.  
Ona, WV 25545  
(b) Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_  
6) Inspector Allen Flowers  
Address 165 Grassy Lick Ln.  
Liberty, WV 25124  
Telephone 304-552-8308

5) (a) Coal Operator  
Name N/A  
Address \_\_\_\_\_  
(b) Coal Owner(s) with Declaration  
Name None  
Address \_\_\_\_\_  
(c) Coal Lessee with Declaration  
Name None  
Address \_\_\_\_\_

**TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:**

Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas

**OR**

Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

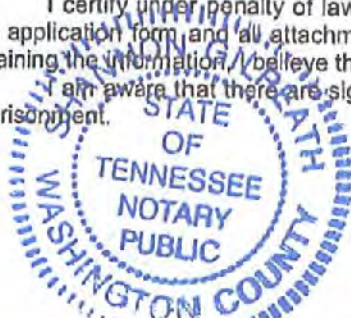
I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through \_\_\_ on the above named parties by:

- Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Well Operator: Keyrock Energy LLC  
By: Christopher Shea  
Its: Operations Manager  
Address: P.O. Box 2223, 207 E. Main St., Suite 2-D  
Johnson City, TN, 37605  
Telephone: 423-726-2070  
Email: cshea@keyrockenergy.com

Subscribed and sworn before me this 26<sup>th</sup> day of OCTOBER, 2017  
[Signature] Notary Public

My Commission Expires MARCH 30, 2019

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov)



WW-2A1  
(Rev. 1/11)

Operator's Well Number Mohr No. 1

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6, Section 8(d)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Betty J. Mohr Trust, C/O Fred D. Mohr	Keyrock Energy LLC	1/8	391/256

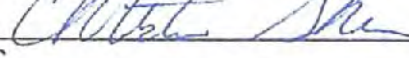
**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator:  
By: Its:

Christopher Shea   
Keyrock Energy LLC  
Operations Manager

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01/12/2018  
WV Department of  
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Phyllis Smith  
CABELL County 02:08:24 PM  
Instrument No 5948826  
Date Recorded 09/29/2017  
Document Type BOG  
Pages Recorded 11  
Book-Page 391-256  
Recording Fee \$11.00  
Additional \$7.00

OIL AND GAS LEASE  
(PAID UP)

This Agreement is made as of the 19th day of July, 2017, by and between Fred Douglas Mohr, of 3855 River Park Dr., Ona, West Virginia 25545; Teresa Elaine Mohr Delaney, formerly known as Teresa Elaine Mohr McDonie, of 7206 Bronington Dr SW, Olympia, Washington, 98512; and Tammy Sue Mohr Neal, of PO Box 352, Ona, West Virginia, 25545, as Trustees of the Betty J. Mohr Trust recorded November 12, 2008, hereinafter called Lessors, and Keyrock Energy LLC whose address is P. O. Box 2223, Johnson City, TN 37605, hereinafter called Lessee.

1. Lessor, for and in consideration of \$10.00 and other good and valuable considerations, the receipt of which is hereby acknowledged, and the covenants and agreements of the Lessee hereinafter contained, does hereby grant, lease and let unto Lessee the land described below, including all interests therein Lessor may acquire by operation of law, reversion or otherwise, (herein called "said land"), exclusively, for the purposes of exploring by geophysical and other methods, drilling and producing oil and/or gas, together with all rights, privileges and easements useful or convenient in connection with the foregoing and in connection with treating, storing, caring for, transporting and removing oil and/or gas produced from said land or any other land including without limitation lands pooled or unitized under the terms of this lease, including but not limited to rights to lay pipelines for the transport of oil, gas and water from the subject lands and others, regardless of the sources of such production or location of the wells, which right to transport of oil, gas and water from other lands across the subject lands shall survive the term of this Lease for so long as the transportation of such oil, gas and water may be desired by the Lessee, to build roads, and construct tanks, power and communication lines, pump and power stations, and other structures and facilities. Said land is in the County of Cabell, State of West Virginia and bounded substantially by the lands now and/or formerly owned as follows:

Tract 1: 03-24-17- 82.25 acres;  
North by lands of: Ronald Lewis; Alberta Peyton; Doloris Frye  
East by lands of: Landy Chapman; Winston Chapman  
South by lands of: Bernard Mitchell; Brent Manchester; Left Fork Fudges Creek Rd.  
West by lands of: Doloris Frye; Christine Vasquez; Roger Noe; Bernard Mitchell

being all that certain tract of land situated in the Township, Borough or District of Grant and further identified as Tax Parcel 03-24-17 being all the property owned by Lessor or to which the Lessor may have any rights in said Grant Township, Borough or District or adjoining Township, Borough or District containing Eighty Two & 25/100 (82.25) acres, more or less, and being the property described in Official Will Book 188 Page 529 in the office of the County Recorder of the aforesaid county. It is intended hereby to include herein all the lands and interests therein contiguous to or appurtenant to the above described land now owned or claimed or hereafter acquired by Lessor up to the boundaries of any abutting landowners (including any vacancies), together with any and all of Lessor's interest in any lands underlying lakes, streams, roads, easements and rights-of-way which cross or adjoin the Land, including all land added thereto by accretion.

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2. This lease shall be for a term of three (3) years (hereinafter called the "primary term"), from the date first written above, and for as long thereafter as oil or gas is produced or is capable of being produced from the Land or lands with which the Land is pooled, consolidated, or unitized hereunder, or for so long as Lessor is engaged in drilling operations or reworking operations on the Land or on lands pooled, consolidated or unitized therewith, or for so long as this

LAURIE SCHRITNER WILL PICK UP 607-425-6946



WW-2B1  
(5-12)

Well No.          Mohr No. 1

West Virginia Department of Environmental Protection  
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing. The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore, if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

Be advised, you have the right to sample and analyze any water supply at your own expense.

Listed below is the laboratory chosen by operator to perform analysis, and contactor chosen to collect sample.

Certified Laboratory Name Reliance Labs  
Sampling Contractor SLS Land & Energy Development

Well Operator Keyrock Energy LLC  
Address P.O. Box 2223, 207 E. Main St., Suite 2-D  
Johnson City, TN 37605  
Telephone 423-726-2070

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

There appears to be zero (0) potable water sources within 2000' of the proposed well. Samples were offered to anyone within this radius.

SEE ATTACHED LIST OF CONTACTED  
SURFACE OWNERS OR OCCUPANTS WITHIN  
2000' RADIUS

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**Water Purveyor Information Sheet**

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Paula Bledsoe

Address: 830 Fudges Creek Rd., Barboursville, WV 25504 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees – NAD 83)

Comments: No response to certified letter or site visits as of 12/4/17. TM 24 Par. 22

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Rhonda Adkins

Address: 820 Fudges Creek Rd., Barboursville, WV 25504 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees – NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 23.5

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Alfredo & Christine A Vazquez

Address: 824 Fudges Creek Rd., Barboursville, WV 25504 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees – NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 23 & 23.3

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Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Deborah G. Miller

Address: 855 Fudges Creek Rd., Barboursville, WV 25504 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees - NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 47

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Lee D. & Audra J Hale

Address: 864 Fudges Creek Rd., Barboursville, WV 25504 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees - NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 58.18 & 58.19

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: James A. & Jilda Holton

Address: 874 Fudges Creek Rd., Barboursville, WV 25504 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees - NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 58.16

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Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Timothy B & Angela McCallister

Address: 871 Fudges Creek Rd., Barboursville, WV 25504 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees - NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 48.2

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Brent A. Manchester

Address: RR 2 Box 565 Milton, WV 25541 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees - NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 18

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Bernard W. Mitchell

Address: 839 Fudges Creek Rd., Barboursville, WV 25504 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees - NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 48

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Environmental Protection





Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Steve D. & Sharon L. Ray

Address: 824 Fudges Creek Rd., Barboursville, WV 26351 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees – NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 23.4

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Susan E. Belcher

Address: 270 Park Ave FL 8 New York, NY 10017 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees – NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 43.1

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Roger L. & Judy G. Noe

Address: 830 Fudges Creek Rd., Barboursville, WV 25504 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees – NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 21

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Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Betty J Mohr Trust

Address: 3855 River Park Dr. ONA, WV 25545 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees - NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par.17

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: John Giompalo

Address: 6203 Brenda CT Huntington, WV 25705 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees - NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 47.1 & 48.1

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Sharon Wallace

Address: 872 Fudges Creek Rd., Barboursville, WV 25504 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees - NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 58.17

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Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Wayne & Teresa Thacker

Address: RR 2 Box 557 Milton, WV 25541 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees – NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 58

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: Sean M. & Angela K. Stuntz

Address: 854 Fudge Creek Rd., Barboursville, WV 25504 Phone #: Unknown

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees – NAD 83)

Comments: No response to certified letter or site visit as of 12/4/17. TM 24 Par. 19

Site Number: \_\_\_\_\_ Distance from Gas Well (feet): \_\_\_\_\_

Surface Owner / Occupant: \_\_\_\_\_

Address: \_\_\_\_\_ Phone #: \_\_\_\_\_

Field Located Date: \_\_\_\_\_ Owner home during survey (yes/no): \_\_\_\_\_

Coordinates: \_\_\_\_\_ (decimal degrees – NAD 83)

Comments: \_\_\_\_\_

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Environmental Protection

WW-9  
(5/16)

API Number 47 - \_\_\_\_\_ - \_\_\_\_\_  
Operator's Well No. Mohr No 1 \_\_\_\_\_

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Keyrock Energy LLC OP Code 494507629

Watershed (HUC 10) Fudges Creek Quadrangle Milton 7.5"

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No  form

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: Drill water and cement cuttings

Will a synthetic liner be used in the pit? Yes  No  If so, what ml.? 20 mil

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection ( UIC Permit Number \_\_\_\_\_ )
- Reuse (at API Number \_\_\_\_\_ )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain \_\_\_\_\_)

Will closed loop system be used? If so, describe: No

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Vertical, Air

-If oil based, what type? Synthetic, petroleum, etc. N/A

Additives to be used in drilling medium? N/A

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Leave in Pit

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) Lime and sawdust

-Landfill or offsite name/permit number? \_\_\_\_\_

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature Christopher Shea

Company Official (Typed Name) Christopher Shea

Company Official Title Operations Manager



Subscribed and sworn before me this 26<sup>th</sup> day of OCTOBER, 2017

Shannon Gilreath Notary Public

My commission expires Monday 3.2.2019

AP 11-29-17

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Operator's Well No. MOHR NO. 1

Proposed Revegetation Treatment: Acres Disturbed \_\_\_\_\_ Prevegetation pH 6.2

Line 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20 or equivalent

Fertilizer amount 1/3 Ton lbs/acre

Mulch Hay 2 Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type	lbs/acre
KY-31	40
Alsike Clover	5
Annual Rye	15

Seed Type	lbs/acre
Orchard Grass	15
Alsike Clover	5

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Allen Flowers

Comments:

A 24H. Notice to the state inspector is required before site construction begins. Safety fence must be constructed around open pit.

Please inform inspector of the date for proposed safety meeting.

Title: 006 State Inspector Date: 11-29-2017

Field Reviewed?  Yes  No

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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
GROUNDWATER PROTECTION PLAN

Operator Name: Keyrock Energy LLC

Watershed (HUC 10): Fudges Creek

Quad: Milton 7.5"

Farm Name: Mohr Trust

1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

Pit water will be tested, then aerated with lime being added to bring the ph to 7.0 plus. In the event of excessive chlorides, the pit fluids will be evaluated to either dilute with fresh water or hauled to an approved disposal facility. Pit water will sit a minimum of ten days to let the solids drop out.

2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

Once the drilling pit fluids are at acceptable levels for discharge then the pumps intake line will be floated approximately 12" below the water level and the discharge line will be set up to disperse the water over the designated discharge area. The water will be sprayed in a back and forth pattern so as not to oversaturate any given area.

3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

Fudges Creek - 224'  
No known Well Head Protection Area's in the vicinity.

4. Summarize all activities at your facility that are already regulated for groundwater protection.

N/A

5. Discuss any existing groundwater quality data for your facility or an adjacent property.

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No known groundwater quality data. Samples have been offered for non-public water sources within 1000' of the proposed well.

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

No waste material will be used for deicing or fill material on the property.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

All employees will be familiar with the contents of the groundwater protection plan and how to implement it. Work practices will support the protection of groundwater from contamination per company HSE Policy.

8. Provide provisions and frequency for inspections of all GPP elements and equipment.

All GPP elements and equipment present will be inspected daily prior to use and in the event of a problem. Work will not commence until any problems are remediated and documented.

Signature: \_\_\_\_\_ *A.P. 11-29-17*

Date: \_\_\_\_\_

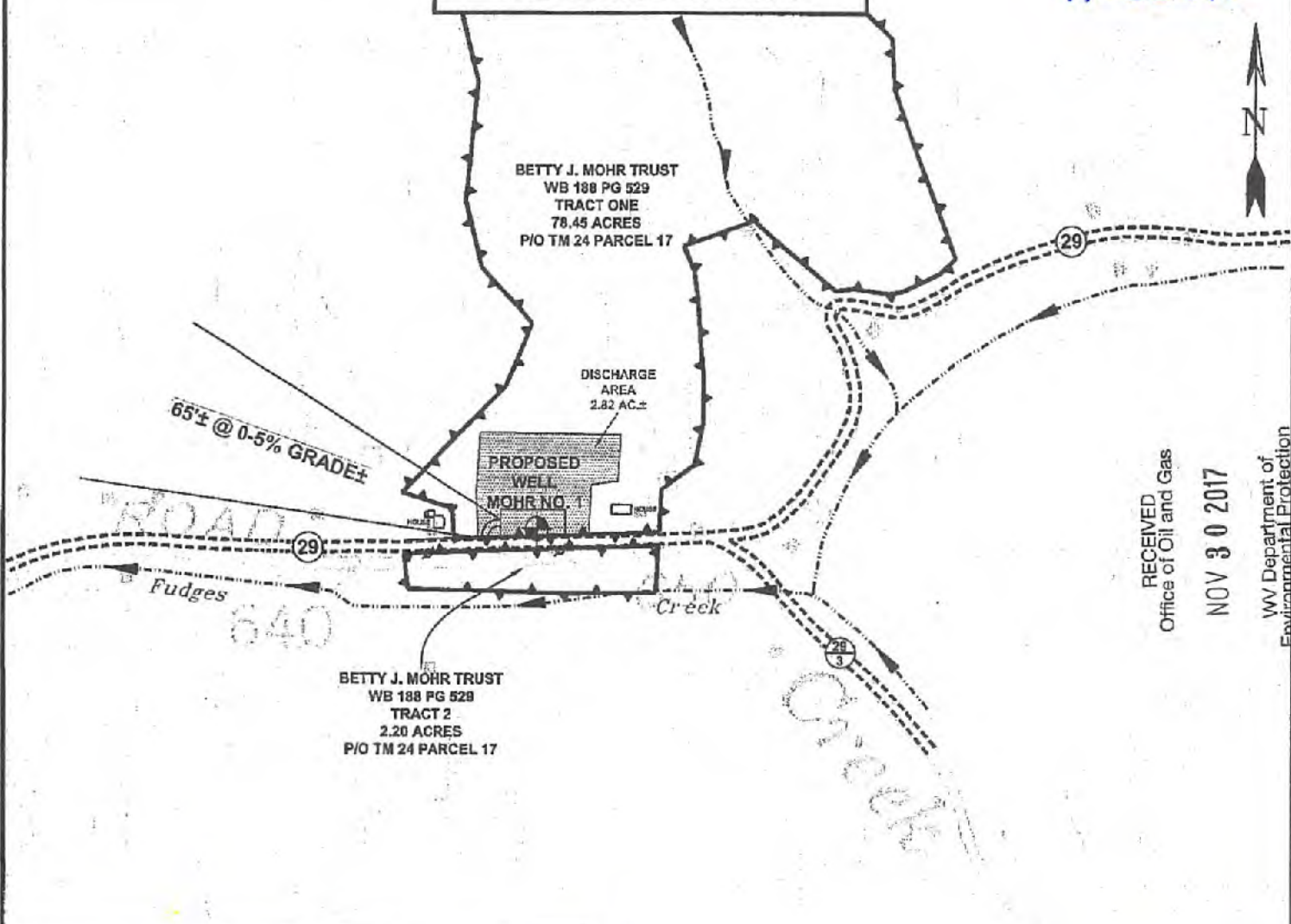
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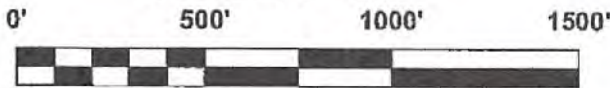
# KEYROCK ENERGY, LLC WELL MOHR NO. 1

11-00998

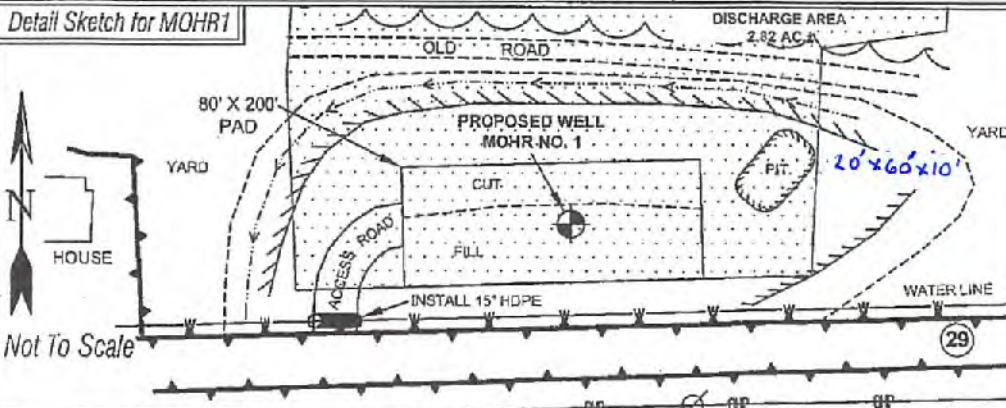


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SCALE: 1"=500'



Detail Sketch for MOHR1



ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.E.P. OIL AND GAS BMP MANUAL ENTRANCES AT COUNTY/STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATION. SEPARATE PERMITS MAY BE REQUIRED BY THE D.O.T.

SEDIMENT BASINS (TRAPS) AND APPROPRIATE EROSION CONTROL BARRIERS ARE TO BE CONSTRUCTED AT ALL CULVERT AND CROSS DRAIN INLETS AND OUTLETS AS REQUIRED IN THE WV D.E.P. OIL AND GAS BMP MANUAL. FIELD CONDITIONS (ROCK OUTCROPS AND BEDROCK) MAY PROHIBIT INLET TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFICATION TO THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION FROM THIS PLAN.

TEMPORARY SEED & MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION.

- EXISTING CULVERT
- PROPOSED CULVERT 15" MIN. UNLESS OTHERWISE NOTED
- PROPOSED STREAM CROSSING
- APPROXIMATE LIMITS OF DISTURBANCE

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www.slsenergy.com

TOPO SECTION OF MILTON  
7.5' TOPO QUADRANGLE

DRAWN BY	FILE NO.	DATE	CADD FILE:
MGF	8722	10-06-17	8722MOHR1REC.dwg

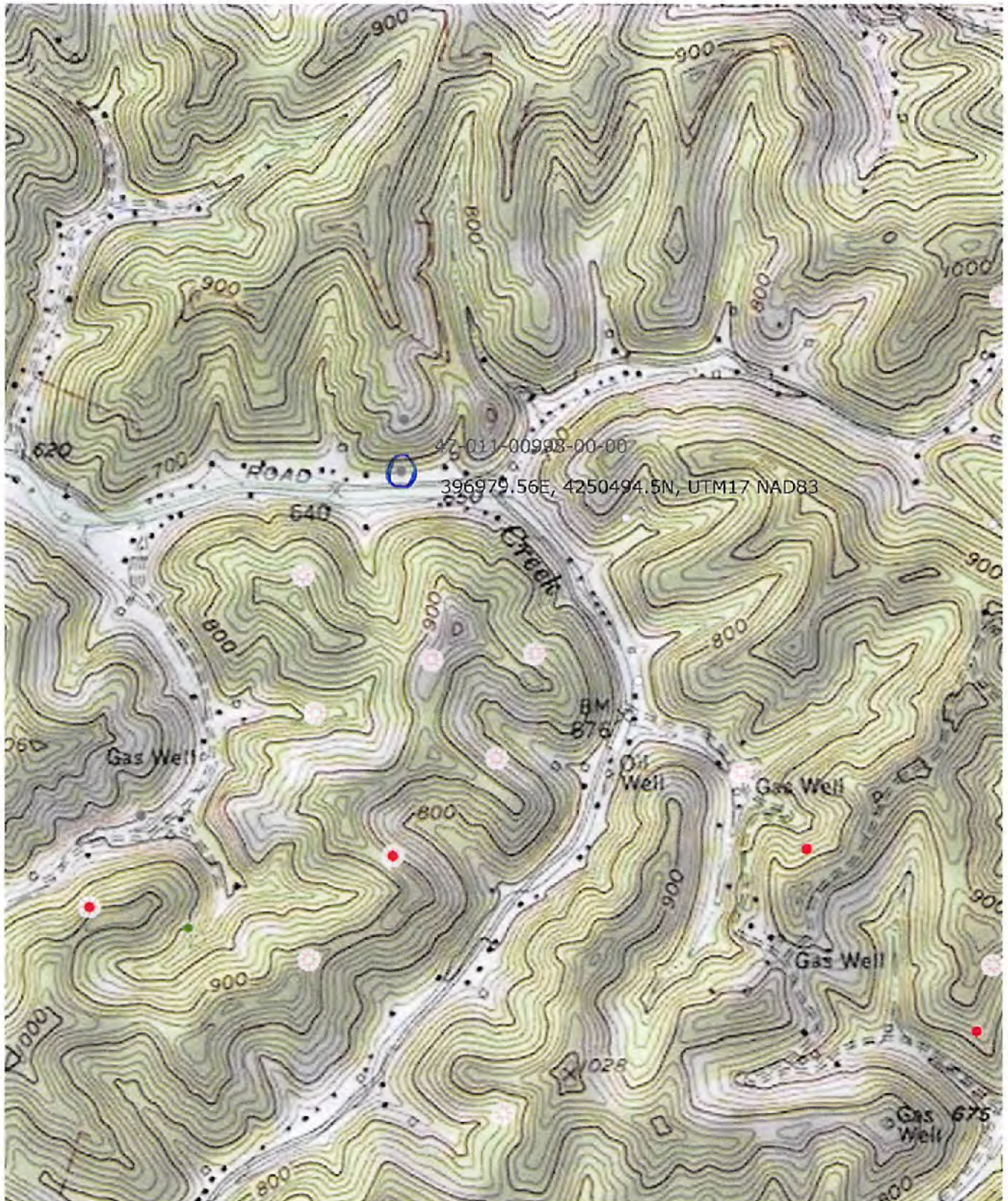
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11-00998







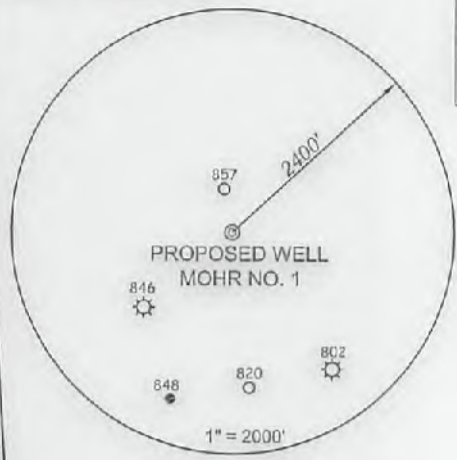
01/12/2018



**MOHR LEASE**  
**82.25 ACRES±**

**KEYROCK ENERGY, LLC**  
**MOHR NO. 1**  
(S.P.C. SOUTH ZONE) (UTM(M) ZONE 17 NORTH)  
NAD'83 S.P.C.(FT) N. 510,766.91 E. 1,630,409.31  
NAD'83 GEO. LAT-(N) 39.396740 LONG-(W) 82.179754  
NAD'83 UTM (M) N. 4,250,494.50 E. 396,979.56

3751'  
LATITUDE 38° 25' 00"  
LONGITUDE 82° 10' 00"  
7257'



CHRISTINE A. & ALFREDO VAZQUEZ  
38.83 ACRES  
TM 24 PAR 23

BRENT A. MANCHESTER  
6.73 ACRES  
TM 24 PARCEL 18

BETTY J. MOHR TRUST  
78.45 ACRES  
P/O TM 24 PARCEL 17

ROGER L. & JUDY G. NOE  
LOT  
TM 24 PAR 21

SEAN M. & ANGELA STUNTZ  
.73 ACRES  
TM 24 PARCEL 19

DEBORAH G. MILLER  
.81 ACRES  
TM 24 PARCEL 47

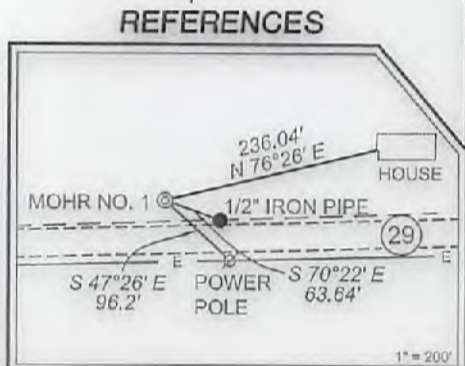
TIMOTHY B. & ANGELA McALLISTER  
3.06 ACRES  
TM 24 PARCEL 48.2

BERNARD W. MITCHELL  
34.18 ACRES  
TM 24 PARCEL 48

**LEGEND**

COUNTY ROUTE	⊖
PROPOSED WELL	⊙
EXISTING WELL	⊛
PERMITTED WELL	⊚
CONCRETE MONUMENT FOUND	⊠
FOUND MONUMENT, AS NOTED	⊡
POWER POLE	⊕
LEASE LINE	---
SURFACE LINE	---
TIE LINE	---
CREEK	---
ROAD	---
FENCE LINE	---
OVERHEAD POWER LINE	OP

- NOTES ON SURVEY**
- TIES TO WELLS AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '83.
  - SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF CABELL COUNTY IN SEPTEMBER, 2017.
  - WELL LAT/LONG (NAD'83) ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).



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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.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
DATE OCTOBER 6, 20 17  
REVISED 10/13/17 & 10/23/17  
OPERATORS WELL NO. MOHR NO. 1  
API WELL NO. 47 011 00998  
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 8722MOHR1-R2.dwg (576-36)  
HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SUBMETER MAPPING GRADE TIE TO CORS NETWORK) SCALE 1" = 200'

STATE OF WEST VIRGINIA  
DIVISION OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  IF "GAS" PRODUCTION  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION 640' WATERSHED FUDGES CREEK  
DISTRICT GRANT COUNTY CABELL QUADRANGLE MILTON 7.5'  
SURFACE OWNER BETTY J. MOHR TRUST ACREAGE 82.25±  
ROYALTY OWNER BETTY J. MOHR TRUST ACREAGE 82.25±

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG AND ABANDON  CLEAN OUT AND REPLUG  OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ TARGET FORMATION LOWER HURON  
ESTIMATED DEPTH 3400'

WELL OPERATOR KEYROCK ENERGY, LLC DESIGNATED AGENT LINDA SADLER  
ADDRESS P.O. BOX 2223 207 E. MAIN ST., SUITE 2-D ADDRESS 209 CAPITOL ST.  
JOHNSON CITY, TN 37605 CHARLESTON, WV 25301

01/12/2018

COUNTY NAME PERMIT