

05/24/2019



west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Friday, May 24, 2019
WELL WORK PERMIT
Vertical / New Drill

KEYROCK ENERGY LLC
PO BOX 2223
JOHNSON CITY, TN 37605

Re: Permit approval for MOHR 2
47-011-01012-00-00

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

A blue ink signature of James A. Martin, written in a cursive style, is placed over the printed name and title.

Operator's Well Number: MOHR 2
Farm Name: BETTY J. MOHR TRUST
U.S. WELL NUMBER: 47-011-01012-00-00
Vertical New Drill
Date Issued: 5/24/2019

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

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 on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

WW - 2B
(Rev. 8/10)

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

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

2) Operator's Well Number: Mohr No. 2 3) Elevation: 870'

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

CK # 15157
AMT \$650
DATE 1/3/19
AMT \$650

5) Proposed Target Formation(s): Berea Proposed Target Depth: 2515'

6) Proposed Total Depth: 2,765 Feet Formation at Proposed Total Depth: Devonian Shale

7) Approximate fresh water strata depths: 432', from ref well 00846.

8) Approximate salt water depths: 1839' & 2269', from ref well 00846.

9) Approximate coal seam depths: None

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

11) Does land contain coal seams tributary to active mine? N/A

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)

Drill and stimulate using a foam frac or a slick water frac for a new well (estimated using 80K lbs. foam frac/slick water frac).

13) **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor	9 5/8"			30'	30'	Sand In
Fresh Water	7"			860'	860'	140 Cu. Ft. CTS
Coal						
Intermediate						
Production	4 1/2"			2,700'	2,700'	199 Cu. Ft., CT 760'
Tubing	2 3/8"			2,650'	2,650'	Per WV DEP Rule
Liners						

Packers: Kind: _____
Sizes: _____
Depths Set _____

AF. 4-9-2019

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas

Well Operator's Report of Well Work

Farm name: MITCHELL, LOVENA Z. Operator Well No.: P-94
LOCATION: Elevation: 946.93 Quadrangle: MILTON
District: GRANT County: CABELL
Latitude: 8200 Feet South of 38 Deg. 25Min. 0 Sec.
Longitude 4700 Feet West of 82 Deg. 10 Min. 0 Sec.

RECEIVED
Division of Energy
FEB 20 91
Permitting
Oil and Gas Section

Company: SOUTHEASTERN GAS CO.
P. O. BOX 2347
CHARLESTON, WV 25328-2347

Agent: FRED A. RADFORD

Inspector: JERRY HOLCOMB
Permit Issued: 08/30/90
Well work Commenced: 09/14/90
Well work Completed: 10/02/90
Verbal Plugging
Permission granted on:
Rotary X Cable Rig
Total Depth (feet) 2681'
Fresh water depths (ft) 238'

Salt water depths (ft) 1645' & 2075'

Is coal being mined in area (Y/N)? N
Coal Depths (ft): N/A

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
8 5/8"	846 ft.	846 ft.	225 sks.
4 1/2"		2677 ft.	150 sks.

OPEN FLOW DATA

Producing formation Berea Sand Pay zone depth (ft) 2571'-2584'
Gas: Initial open flow Show MCF/d Oil: Initial open flow Show Bbl/d
Final open flow 20 MCF/d Final open flow 18 Bbl/d
Time of open flow between initial and final tests 15 Hours
Static rock Pressure 490 psig (surface pressure) after 24 Hours

Second producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after _____ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: SOUTHEASTERN GAS CO. 
WV Department of Environmental Protection

By: Fred A. Radford Vice President-General Manager
Date: October 8, 1990

05/24/2019

Perforations: Berea Sand 14 holes (2573'-2582')
Breakdown Berea w/500 gallons 15% HCl @ 2273 psi.

75Q Foam Frac w/N₂40,000 lbs 20/40 sand, N₂ 403,000 sft.³

Total Sand Laden Fluid 258 bbls.

Avg. Pressure 2200#

Max. Pressure 2800#

Min. Sand Con. 2 lb/gal.

Max. Sand Con. 8 lb/gal

ISIP 1874 psi

5 min. SIP 1774 psi

10 min. SIP 1731 psi

DRILLER'S RECORD

<u>Formation</u>	<u>Top</u>	<u>Bottom</u>	<u>Remarks</u>
Sand & Shale	0	362	Fresh Water @238 ft.
Sand.	362	508	
Sand & Shale	508	906	
Sand.	906	980	
Sand & Shale	980	1466	
Salt Sand	1466	1655	Salt Water @1645 ft.
Shale	1655	1686	
Maxton Sand	1685	1709	
Shale	1709	1792	
Little Lime	1792	1808	
Pencil Cave Shale	1808	1835	
Big Lime	1835	1988	
Shaley Lime	1988	2054	
Injun Sand	2054	2139	Salt Water @2075 ft.
Weir Shale	2139	2530	
Sunbury (Coffee) Shale	2530	2571	
Berea Sandstone	2571	2584	Show of Oil @2575 ft.
Devonian Shale	2584	2681	
		2681'	Driller's Total Depth
		2682'	Logger's Total Depth

RECEIVED
Office of Oil and Gas

FEB 19 2019

WV Department of
Environmental Protection

11174

47-011-01012

011-0846 Issued 8/30/90
05/24/2019
Expires 8/30/92

FORM WW-2B

Page 3 of 3

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
WELL WORK PERMIT APPLICATION

- 1) Well Operator: SOUTHEASTERN GAS COMPANY 46400 (3) 476
- 2) Operator's Well Number: P-94 3) Elevation: 946.93
- 4) Well type: (a) Oil X/ or Gas /
(b) If Gas: Production / Underground Storage /
Deep / Shallow
- 5) Proposed Target Formation(s): Berea 300
- 6) Proposed Total Depth: 2730 feet
- 7) Approximate fresh water strata depths: 200' 270'
- 8) Approximate salt water depths: 1500' 1340'
- 9) Approximate coal seam depths:
- 10) Does land contain coal seams tributary to active mine? Yes / No X
- 11) Proposed Well Work: Drill and complete. New Well
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	8-5/8	K	24	720	720 <u>40</u>	180
Fresh Water						<u>380SP/181.3</u>
Coal						
Intermediate						
Production	4-1/2	K	10.5	2730	2730 <u> </u>	200
Tubing						<u>380SP/181.1</u>
Liners						

PACKERS : Kind
Sizes
Depths set

For Division of Oil and Gas Use Only

Fee(s) paid: Well Work Permit Reclamation Fund WPCP

1184
1184
1184

Page 1 of 3
Form WW2-A
(09/87)
File Copy

1) Date: August 27, 1990
2) Operator's well number P-94
3) API Well No: 47 - 011 - 0846
State - County - Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Owner(s) to be served:
(a) Name Lovena Z. Mitchell
Address Rt. 1, Box 159
Barboursville, WV 25504
(b) Name _____
Address _____
(c) Name _____
Address _____
6) Inspector Tim Bennett
Address Rt. 2, Box 61-B
Chapmansville, WV 25508
Telephone (304)- 855-7705

5) (a) Coal Operator:
Name N/A
Address _____
(b) Coal Owner(s) with Declaration
Name See Attachment "A"
Address _____
Name _____
Address _____
(c) Coal Lessee with Declaration
Name N/A
Address _____

TO THE PERSON(S) 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.
X Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B 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 22B and 38 CSR 11-18, 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 Southeastern Gas Company
By: [Signature]
Its: Vice President
Address P O Box 2347
Charleston, WV 25328-2347
Telephone 304-343-9566

RECEIVED
Office of Oil and Gas
FEB 19 2019
WV Department of Environmental Protection

Subscribed and sworn before me this 27th day of August, 1990

[Signature] Notary Public
My commission expires May 24, 1993

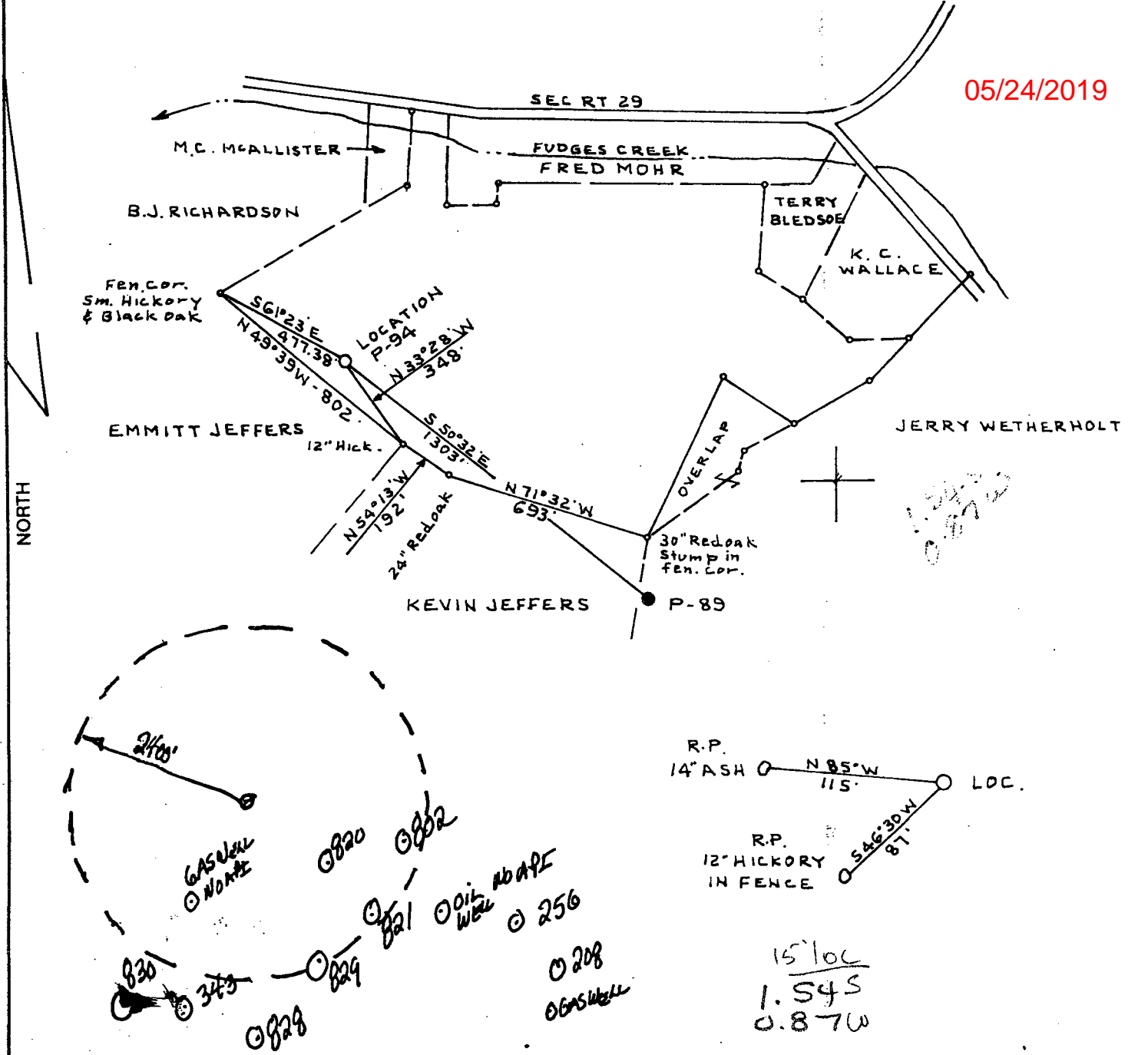
47-011-0102

4700'

LATITUDE 38°25'00"

Janie 8/30/90

05/24/2019



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. BK 120 PG 34
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1:2500'
 PROVEN SOURCE OF ELEVATION USGS BM 149JJS
EL 676'

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 DEPARTMENT OF ENERGY.
 (SIGNED) G. J. Valley Jr.
 R.P.E. _____ U.S. 92

PLACE SEAL HERE

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



DATE MAY 22, 19 90
 OPERATOR'S WELL NO. P-94
 API WELL NO. _____

WELL TYPE: OIL GAS _____ LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS,") PRODUCTION STORAGE _____ DEEP _____ SHALLOW
 LOCATION: ELEVATION 946.93 WATERSHED FUDGES CREEK OF MUD RIVER
 DISTRICT GRANT 3 COUNTY CABELL
 QUADRANGLE MILTON 8 15' WC
 SURFACE OWNER LOVENA Z. MITCHELL ACREAGE 35.81
 OIL & GAS ROYALTY OWNER RANDEL S. WETHERHOLT ET AL LEASE ACREAGE 46
 LEASE NO. 2645
 PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
 TARGET FORMATION BEREA ESTIMATED DEPTH 2700'
 WELL OPERATOR SOUTHEASTERN GAS CO DESIGNATED AGENT FRED RADFORD
 ADDRESS P.O. BOX 2347 CHARLESTON WY 25328 ADDRESS P.O. BOX 2347 CHARLESTON WY 25328

SEP 6 1990

FORM WW-6 H.T. HALL 48673

WW-2A
(Rev. 6-14)

1.) Date: 2/11/2019
 2.) Operator's Well Number Mohr No. 2
 State 47- County Cabell Permit -
 3.) API Well No.:

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

4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Betty J. Mohr Trust, C/O Fred</u>	Name _____
Address <u>3855 River Park Dr.</u>	Address _____
<u>Ona, WV 25545</u>	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name _____
_____	Address _____
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector <u>Allen Flowers</u>	(c) Coal Lessee with Declaration
Address <u>165 Grassy Lick Ln.</u>	Name _____
<u>Liberty, WV 25124</u>	Address _____
Telephone <u>(304)552-8308</u>	_____

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	<u>Keyrock Energy LLC</u>	RECEIVED
By:	<u>Morgan Pate</u>	Office of Oil and Gas
Its:	<u>Geologist</u>	
Address:	<u>P.O. Box 2223, 207 E. Main St. 2D</u>	FEB 19 2019
	<u>Johnson City, TN 37605</u>	
Telephone:	<u>(423)726-2070</u>	WV Department of Environmental Protection
Email:	<u>mpate@keyrockenergy.com</u>	

Subscribed and sworn before me this 11th day of January, 2019, Keyrock Energy LLC

Dina Y. Shirley Notary Public

My Commission Expires 7-9-2019

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



WW-2A1
(Rev. 1/11)

Operator's Well Number Mohr No. 2

**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:

Morgan Pate 
Keyrock Energy LLC
Geologist

47-011-01012
Phyllis Smith
CABELL County 07:08:24 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

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Office of Oil and Gas

FEB 19 2019

WV Department of
Environmental Protection

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.

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

✓ AUBIE SHANKLER WILL PICK UP 607-925-0746

WW-2B1
(5-12)

Well No. Mohr No. 2

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 Pace Analytical
Sampling Contractor Pace Analytical

Well Operator Keyrock Energy LLC
Address P.O. Box 2223, 207 E. Main St., 2D
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.

**WATER NOTICE
FOR
KEYROCK ENERGY, LLC
WELL MOHR 2**

WATER SOURCES IDENTIFIED WITHIN 2,000' OF PROPOSED WELL SITE:

Paula Bledsoe ✓
830 Fudges Creek Rd.
Barboursville, WV 25504

Rhonda Adkins ✓
820 Fudges Creek Rd.
Barboursville, WV 25504

Alfredo & Christine A. Vazquez ✓
824 Fudges Creek Rd.
Barboursville, WV 25504

Deborah G. Miller ✓
855 Fudges Creek Rd.
Barboursville, WV 25504

Lee D. & Audrey J. Hale ✓
864 Fudges Creek Rd.
Barboursville, WV 25504

James A. & Jilda Holton ✓
874 Fudges Creek Rd.
Barboursville, WV 25504

Timothy B. & Angela McCallister ✓
871 Fudges Creek Rd.
Barboursville, WV 25504

Brent A. Manchester ✓
RR2 Box 565
Milton, WV 25541

Benard W. Mitchell
839 Fudges Creek Rd. ✓
Barboursville, WV 25504

Steve D. & Sharon L. Ray
828 Fudges Creek Rd. ✓
Barboursville, WV 25504

Roger L. & Judy G. Noe
834 Fudges Creek Rd. ✓
Barboursville, WV 25504

Betty J. Mohr Trust
3855 River Park Dr. ✓
Ona, WV 25545

John Giompalo
6203 Brenda Court ✓
Huntington, WV 25705

Sharon Wallace
872 Fudges Creek Rd. ✓
Barboursville, WV 25504

Wayne & Teresa Thacker
RR 2 Box 557 ✓
Milton WV 25541

Sean M. & Angela K. Stuntz
854 Fudges Creek Rd. ✓
Barboursville, WV 25504

Charlie W. & Janit Bowen
784 Fudges Creek Rd. ✓
Barboursville, WV 25504

Ronnie D. & Carol M. Hoover ✓
867 Saunders Hollow Rd.
Barboursville, WV 25504

Doloris H. Frye ✓
878 Saunders Hollow Rd.
Barboursville, WV 25504

47-011-01012
05/24/2019

Winston D. & Angela R. Chapman
RR 2 Box 574
Milton, WV 25541 ✓

Landy D. & Michelle L. Chapman
579 Left Fork Fudges Creek Rd. ✓
Milton, WV 25541

WW-9
(5/16)

API Number 47 - _____ - _____
Operator's Well No. Mohr No. 2

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 of Mud River Quadrangle Milton, WV 7.5'

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

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

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 & Water

-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 & 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 *Morgan Pate*

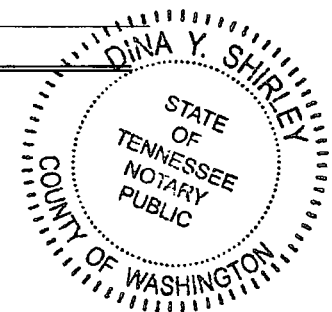
Company Official (Typed Name) Morgan Pate

Company Official Title Geologist

Subscribed and sworn before me this 11th day of January, 2019

Dina Y. Shirley Notary Public

My commission expires 7-9-2019



Proposed Revegetation Treatment: Acres Disturbed 1.5 +/- Prevegetation pH 6.2

Lime 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	Seed Type	lbs/acre
<u>KY-31</u>	<u>40</u>	<u>Orchard Grass</u>	<u>15</u>
<u>Alsike Clover</u>	<u>5</u>	<u>Alsike Clover</u>	<u>5</u>
<u>Annual Rye</u>	<u>15</u>		

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: present & mulch all disturbed areas before drilling commences.

Title: Inspector Date: 4-9-2019

Field Reviewed? Yes No

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

Operator Name: Keyrock Energy LLCWatershed (HUC 10): Fudges Creek of Mud RiverQuad: Milton, WV 7.5'Farm Name: Betty J. 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 the 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 precipitate 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 an acceptable level for discharge, 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, greater than 1,000' from site. No Well Head Protection Areas known. Keyrock will sample Fudges Creek immediately prior to well site construction.

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.

N/A

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.

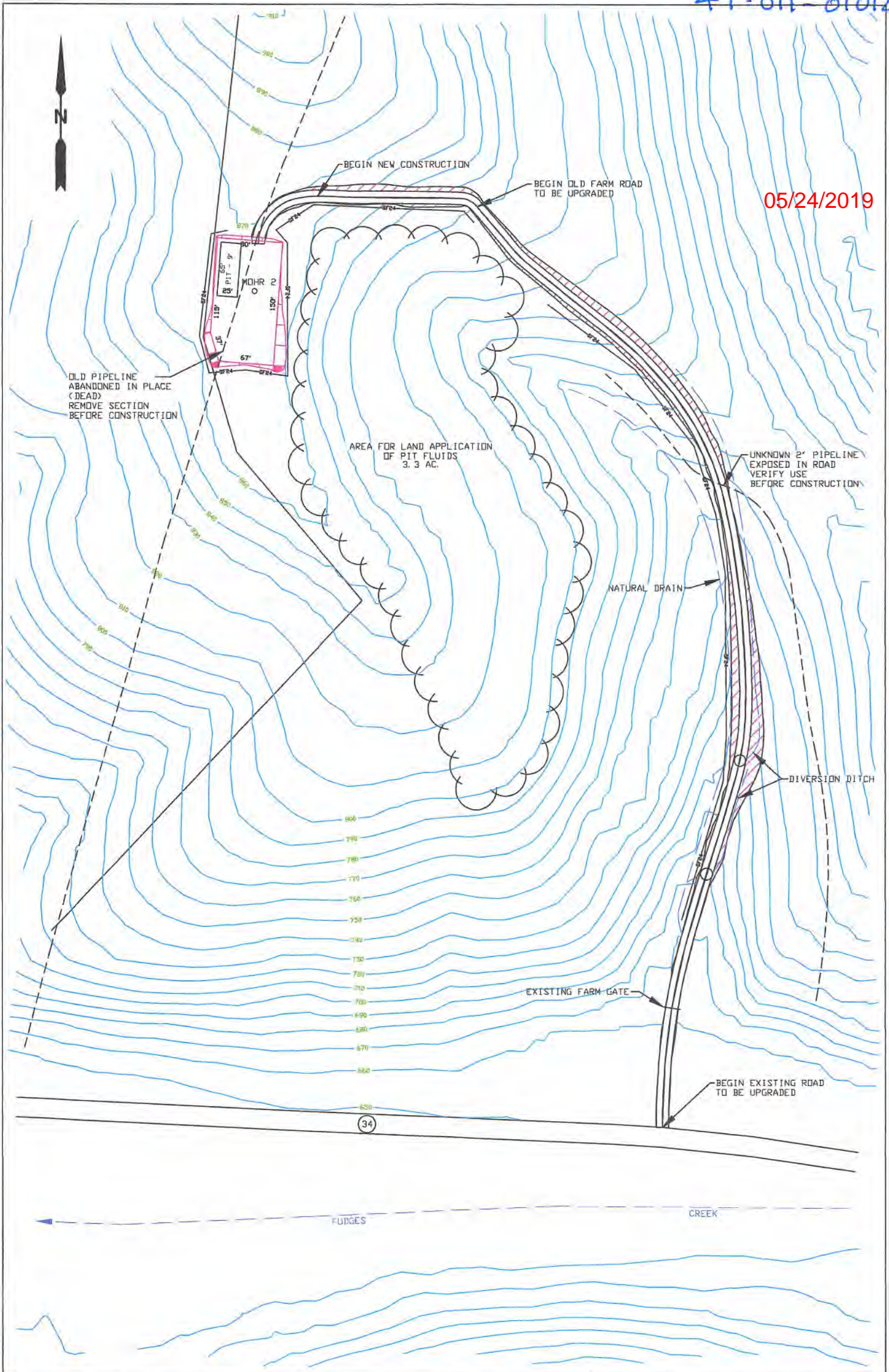
8. Provide provisions and frequency for inspections of all GPP elements and equipment.

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.

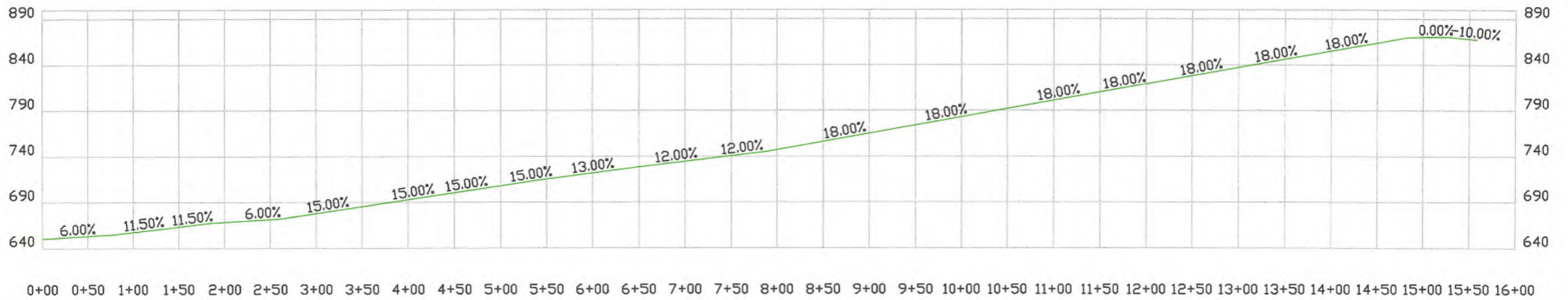
Signature: 


Date: 2/12/2019

05/24/2019



DISTURBED AREAS		LEGEND		SITE PLAN	
WELL PAD CONSTRUCTION	0.84 AC.		STREAM	KEYROCK ENERGY, LLC PROPOSED WELL # MOHR 2	
NEW ACCESS ROAD CONSTRUCTION	0.32 AC.		PROPERTY LINE	GRANT DISTRICT, CABELL COUNTY MILTON QUAD, WV 7.5'	
ADDITIONAL CLEARING			SLOPE AREA	DECEMBER 20, 2018	
			WETLAND	TRUE LINE SURVEYING 6211 FAIRVIEW DR. HUNTINGTON, WV 25705	
TOTAL DISTURBED AREA	1.16 AC.		BUFFER AREA		
				PAGE 1 OF 1	



ROAD PROFILE	
KEYROCK ENERGY, LLC PROPOSED WELL # MOHR 2	
GRANT DISTRICT, CABELL COUNTY, WV MILTON QUAD, WV 7.5'	
MONTH 20, 2018	
TRUE LINE SURVEYING 6211 FAIRVIEW DR. HUNTINGTON, WV 25705	
PAGE <u>1</u> OF <u>1</u>	

47-011-01012

| Feet

Measurement Result

2,026.0 Feet

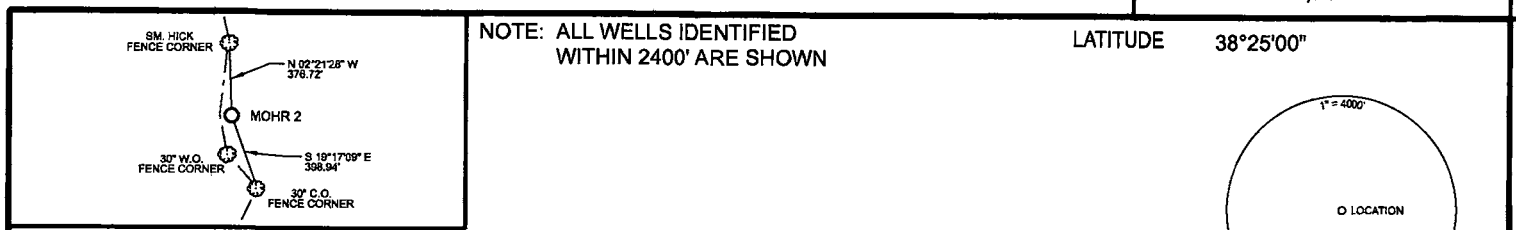




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Office of Oil and Gas

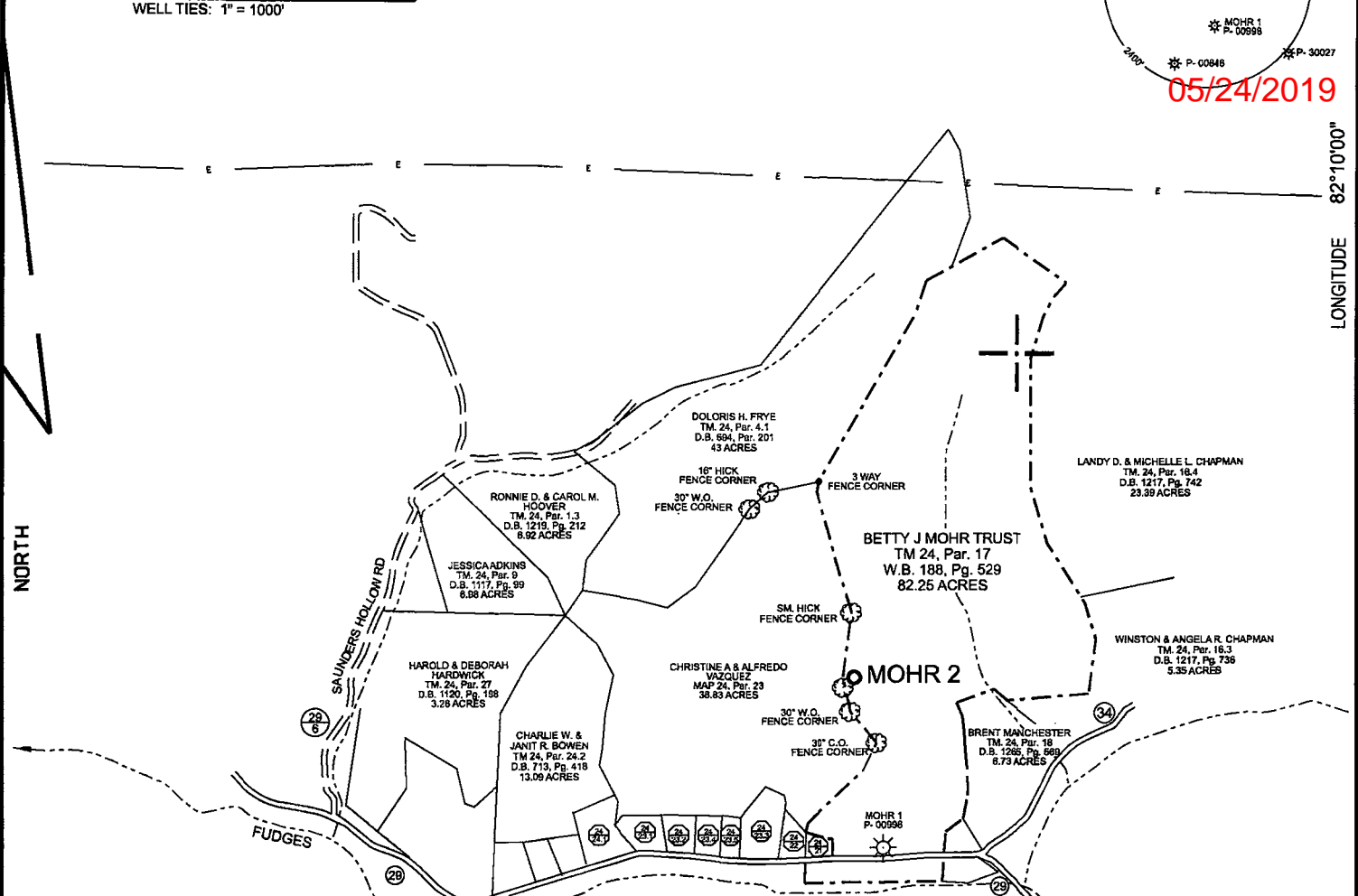
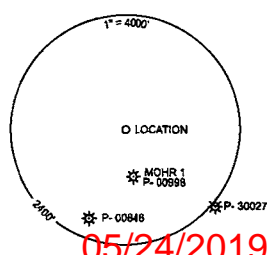
FEB 19 2019

WV Department of
Environmental Protection



NOTE: ALL WELLS IDENTIFIED WITHIN 2400' ARE SHOWN

LATITUDE 38°25'00"



NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

WELL SITE	
STATE PLANE WV SOUTH ZONE NAD 1927	
N - 511,715.271 : E - 1,661,712.974	
LATITUDE: (N) 38.3994836°	
LONGITUDE: (W) 82.1803179	
UTM NAD83	
17 - 84W TO 78W, METERS	
N - 4,250,799.525 : E - 396,934.236	

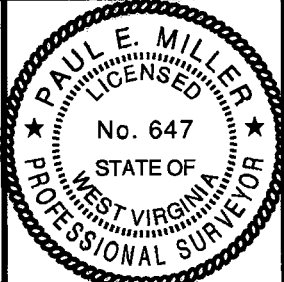
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO.	MOHR 2 . DGN
DRAWING NO.	MOHR 2
SCALE	1" = 1000'
MINIMUM DEGREE OF ACCURACY	1 : 200
PROVEN SOURCE OF ELEVATION	MAPPING GRADE GPS

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 DEPARTMENT OF ENVIRONMENTAL PROTECTION.

(SIGNED) *Paul E. Miller*

R.P.E. _____ L.L.S. 647



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

DATE DECEMBER 20, 20 18
OPERATOR'S WELL NO. MOHR 2
API WELL NO. _____

STATE 47 COUNTY 011 PERMIT D1012

WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____
(IF "GAS,") PRODUCTION STORAGE _____ DEEP _____ SHALLOW

LOCATION: ELEVATION 870' WATER SHED FUDGES CREEK OF MUD RIVER
DISTRICT _____ GRANT COUNTY _____ CABELL
QUADRANGLE MILTON, WV 7.5'

SURFACE OWNER BETTY J. MOHR TRUST ACREAGE 82.25
OIL & GAS ROYALTY OWNER BETTY J. MOHR TRUST LEASE ACREAGE 82.25
LEASE NO. _____

PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
TARGET FORMATION BEREA ESTIMATED DEPTH 2500'
WELL OPERATOR KEY ROCK ENERGY, LLC DESIGNATED AGENT LINDA SADLER
ADDRESS P.O. BOX 2223 207 E. MAIN ST. SUITE 2-D JOHNSON CITY, TN 37805 ADDRESS 209 CAPITOL STREET, CHARLESTON, WV 25301

FORM WW-6

COUNTY NAME

PERMIT