



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

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 CHILDERS NO. 1
47-011-00999-00-00

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: CHILDERS NO. 1
Farm Name: BUDDY L. & ALEXANDER D. CHILDERS
U.S. WELL NUMBER: 47-011-00999-00-00
Vertical / New Drill
Date Issued: 1/9/2018

Promoting a healthy environment.

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, 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 within 30 days of commencement of drilling.

Ch#
13715
\$600.00
CREDIT

NOV 30 2017

WV Department of
Environmental Protection

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 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Childers No. 1 3) Elevation: 689'

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 400, 590

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

11) Does land contain coal seams tributary to active mine? No

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"			645'	645'	235 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 _____

R.F. 11-29-17

McLaughlin, Jeffrey W

From: Chris Shea <CShea@keyrockenergy.com>
Sent: Wednesday, January 03, 2018 12:27 PM
To: McLaughlin, Jeffrey W
Cc: Morgan Pate; Flowers, Allen D
Subject: RE: Pit Construction greater than 5000 bbls

Jeff,

I had intended to stay below the 5,000 bbl capacity limit and assumed that the 2' freeboard was a requirement, putting us at 4,800 bbl. Let's go with pit dimensions of 20'x60'x10', giving us a capacity of 2,100 bbl. I am concerned about the salt sand and if we can't keep up with the water long enough to get to the casing point then we will either need to mud up or haul to disposal. I assume a request for an emergency pit can be made?

Let me know if you need anything else. I appreciate all the good advice.

Thanks
Chris

From: McLaughlin, Jeffrey W [mailto:Jeffrey.W.McLaughlin@wv.gov]
Sent: Wednesday, January 3, 2018 11:02 AM
To: Chris Shea <CShea@keyrockenergy.com>
Cc: Morgan Pate <MPate@keyrockenergy.com>; Flowers, Allen D <Allen.D.Flowers@wv.gov>
Subject: Pit Construction greater than 5000 bbls

Chris,

I have attached the requirements for constructing a pit that is capable of holding more than 5000 bbls of fluid. The dimensions you have given me are capable of holding more than 5120 bbls of fluid. You would therefore need to abide by 35-4-21 (pit construction greater than 5000 bbls.) which I have attached to this email.

It appears that the area you will be drilling may produce salt water out of the salt sand. In the past most shallow wells have utilized a much smaller pit. From time to time they may have to haul some salt water from the pit and dispose of it properly to get to casing point. Some drillers choose to drill the bottom portion of the 7 inch section with a mud pump, if the pit gets too full and some drillers will aerate by using a combination of compressed air and pumped fluid. The typical pits were a dozer blade wide, 50 - 60 feet long and 10 feet deep.

It is your choice to make. Please keep in mind if you have 5000 bbls of brine to dispose of, it may be difficult to land apply. When you make a choice to land apply the rules must be strictly adhered to and the surface owner must get a chance to comment because it will impact his surface. His comment period is 15 days from the time he is noticed, so you can see when changes are made to the plan that had already been delivered to the surface owner to review, he will get more time to comment.

In the case of the Mohr #1, the surface owner is also the mineral owner, so this may be a good first well to fine tune your plan. If you choose to use a larger pit than what the surface owner would reasonably expect, you will need to notice him of the plan or get a waiver signed by the surface owner. Let me know for this particular application the pit size you are proposing.

Regards,

Jeff McLaughlin, B. S. Petroleum Eng.
Technical Analyst, Office of Oil & Gas
WV Dept. of Environmental Protection
Phone: 304-926-0499 ext. 1614

From: Copy_Center_2064@wv.gov [mailto:Copy_Center_2064@wv.gov]
Sent: Wednesday, January 03, 2018 10:56 AM
To: McLaughlin, Jeffrey W <Jeffrey.W.McLaughlin@wv.gov>
Subject: Message from KM_754e

WW-2A
(Rev. 6-14)

1.) Date: 11/21/17
2.) Operator's Well Number Childers 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

RECEIVED
Office of Oil and Gas

NOV 30 2017

WV Department of
Environmental Protection

4) Surface Owner(s) to be served: 5) (a) Coal Operator
(a) Name Buddy L & Alexander D Childers Name N/A
Address 824 Birch Hollow Rd. Address _____
Barboursville, WV 25504
(b) Name _____ (b) Coal Owner(s) with Declaration
Address _____ Name None
Address _____
(c) Name _____ Name _____
Address _____ Address _____
6) Inspector Allen Flowers (c) Coal Lessee with Declaration
Address 165 Grassv Lick Ln. Name None
Liberty, WV 25124 Address _____
Telephone 304-552-8308

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 21st day of November, 2017

Shannon Gilbreath 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



WW-2A1
(Rev. 1/11)

Operator's Well Number Childers 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
Buddy L. & Alexander D. Childers	Keyrock Energy LLC	1/8	391/324


**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

RECEIVED
Office of Oil and Gas

NOV 30 2017

WV Department of
Environmental Protection

OIL AND GAS LEASE

This Agreement is made as of the 25th day of January, 2017, by and between Buddy L. Childers, a single man, and Alexander Dayton Childers, a single man of 824 Birch Hollow Road, Barboursville, West Virginia 25504, hereinafter called Lessor, and Keyrock Energy LLC whose address is P.O. Box 2223, Johnson City, Tennessee 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 "the 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:

North by lands of: Robin Johnson; Peggy Hodge
 East by lands of: Peggy Hodge; Lana Hill
 South by lands of: Barbara Johnson; Eura Keenan
 West by lands of: Leonard Markins; Robert McCallister; Robin Johnson

RECEIVED
Office of Oil and Gas

DEC 7 2017

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 03-24-37, 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 Thirty-Eight & 90/100(38.90) acres, more or less, and being the property described in Official Record Book 1139, Page 427 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 five (5) 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 Lease is continued in force by any other provision hereof.
3. Lessee agrees to pay the following royalties: 1/8th on oil and/or gas produced, saved and sold. Lessor's royalty on gas shall be based on the sale price less deduction of the post-production costs including without limitation all costs related to gathering, transporting, dehydrating, compressing, processing, storing, marketing and treating the gas. Lessor's royalty shall also bear its proportional share of taxes levied by Federal, State, and local governments. Lessor's 1/8th royalty will be calculated for royalty payment purposes in proportion to Lessor's fractional interest in that part of said land included in the pooled unit as compared to the total acreage contained within the pooled unit so declared by Lessee. Lessee may use produced gas for operations.

If circumstances beyond Lessee's reasonable control interfere with Lessee's ability to produce oil or gas from a well drilled by Lessee, such well shall continue to be considered a producing well. If such nonproduction continues for a period of one (1) year, then within 60 days after the end of such one (1) year period, Lessee shall tender as royalty \$5.00 per acre of said land (or if pooled or unitized, the land within the pool or unit) with like payments annually thereafter. If any such payment or tender is made, this lease shall continue in force and it shall be considered that gas is being produced from the leased premises within the meaning of paragraph 2 hereof for one (1) year from the date such payment is made.

4. Lessee agrees to pay a rental at a rate of Five Dollars (\$5.00) per acre per annum, payable annually, beginning on or before one year from the term date, until a producing well yielding royalty or shut-in royalty to the Lessor is drilled on the Lands or lands pooled therewith, or until a surrender of this lease has been filed in the proper county by Lessee, whichever is the earlier event, provided that in no event shall such annual rental be due or payable at or after the expiration of the primary term hereof. If after production of oil and/or gas in paying quantities has commenced from a well or wells on the premises or on lands pooled therewith, such well(s) are abandoned and all production therefrom should cease more than one (1) year prior to the end of the primary term, Lessee shall resume the payment of annual rentals on the next ensuing rental anniversary date subject to the earlier provisions of this paragraph.
5. If this lease covers less than the entire undivided interest in the oil and gas in said land, then the royalties and payments due hereunder shall be proportionately reduced.
6. Lessee may at any time pool, unitize, or combine part or all of the Land, and any of its strata, with other lands, and any or all strata within such other lands to create one or more oil and/or gas development units up to the maximum size allowed by law. Lessee may create, enlarge or reform a unit at any time when in the Lessee's opinion it is advisable to do so, including the pooling of after acquired leases. Drilling operations and production on any part of the pooled acreage shall be treated as if such drilling operations were upon, or such production was from, the Land described in this lease, whether the well or wells be located on the Land covered by this lease or not. The entire acreage pooled into a unit shall be treated for all purposes, except the payment of royalties on production from the pooled unit, as if it were included in this lease. In lieu of the royalties herein provided, Lessor shall receive on production from the unit so pooled only such portion of the royalty stipulated herein as the amount of his acreage placed in the unit or his royalty interest therein on an acreage basis bears to the total acreage so pooled in the particular unit involved.
7. This lease and Lessee's operations shall be subject to the laws, rules, regulations and orders of all governmental agencies having jurisdiction.
8. If the estate of either party hereto is assigned, and the privilege of assigning in whole or part is expressly allowed, the covenants and provisions of this lease shall extend to and be binding upon such party's successors and assigns. If Lessee assigns all of its interest in all or part of the lease, the successor or assign shall be solely responsible for lease performance. No such change or division in the ownership of the Land or royalties shall be binding on the Lessee for any purpose until such person acquiring any interest has furnished Lessee with

RECEIVED
Office of Oil and Gas

DEC 7 2017


WV Department
Environmental Protection

the instrument or instruments, or certified copies thereof, constituting his chain of title from the original Lessor.

9. Lessee shall have the right to use, free of cost, gas, oil and water produced on said Land for Lessee's operations hereunder, except water from the wells of Lessor. When requested by Lessor, Lessee shall bury Lessee's pipelines below plow depth. No well shall be drilled nearer than 200 feet from the house or barn now on said Land without written consent of Lessor. Lessee shall pay for damages, not to exceed market value, caused by Lessee's operations to growing crops on said land. Lessee shall have the right at any time to remove all machinery and fixtures placed on said Land, including the right to draw and remove casing and any other downhole equipment and fixtures.
10. Lessee agrees to and hereby does defend, indemnify and hold harmless Lessor from and against any demands, claims and lawsuits made or filed against the Lessor, which arise from Lessee's operations on said land.
11. Lessor's and Lessee's performance under this Lease is excused if performance is hindered by circumstances or conditions beyond Lessor's or Lessee's control. Examples are equipment malfunction, weather and governmental regulation.
12. This Lease may, at Lessee's option, be extended as to all or part of the Land for an additional primary term of Five (5) years from the expiration of the original primary term by paying or tendering the sum of Ten Dollars (\$10.00) per acre to the Lessor for the Land then covered by this Lease, as extended. Said extension payment is to be paid or tendered to Lessor at the last known address of Lessor and all the provisions of this lease relating to the payment of delay rentals shall apply equally to this payment. Should this option be exercised as herein provided, it shall be considered for all purposes as though this lease originally provided for a primary term of Ten (10) years, except that no delay rental payment shall be required to maintain this lease for the first twelve (12) months of the extended term. Lessor hereby grants any extensions of this Lease without the necessity of executing an amendment to this Lease and without the necessity of further action by either party.
13. The undersigned lessors, for themselves and their heirs, successors, and assigns, hereby surrender, release and waive all right of homestead in the premises herein described, insofar as said right of homestead may in any way affect the purpose for which this lease is made as recited herein.

Executed as of the day and year first above written.

Lessor:


Buddy L. Childers


Alexander Dayton Childers

RECEIVED
Office of Oil and Gas

DEC 7 2017

WV Department of
Environmental Protection

WW-2B1

Well No. Childers No. 1

(5-12) RECEIVED

Office of Oil and Gas

West Virginia Department of Environmental Protection
Office of Oil and Gas

DEC 3 7 2017

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	<u>Reliance Labs</u>
Sampling Contractor	<u>SLS Land & Energy Development</u>

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

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 everyone inside the radius.

SEE ATTACHED



Water Purveyor Information Sheet

Site Number: _____ Distance from Gas Well (feet): _____

Surface Owner / Occupant: Shirley T & Anna J Childers

Address: 825 Fudges Creek Rd., Barboursville, WV 25504 Phone #: Unknown

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

Coordinates: _____ (decimal degrees – NAD 83)

Comments: Waiver Received 10/23/17, TM 24 Par. 35

Site Number: _____ Distance from Gas Well (feet): _____

Surface Owner / Occupant: Buddy L & Alexander D Childers

Address: 824 Birch Hollow 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. 37

RECEIVED
Office of Oil and Gas
DEC 7 2017

Site Number: _____ Distance from Gas Well (feet): _____

Surface Owner / Occupant: Peggy Hodge

Address: 733 Birch Hollow 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. 39

WV Department of
Environmental Protection



Site Number: _____ Distance from Gas Well (feet): _____

Surface Owner / Occupant: Lana J & Haskel J Hill

Address: 771 Birch Hollow 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. 39.1

Site Number: _____ Distance from Gas Well (feet): _____

Surface Owner / Occupant: Kenner Y Markins

Address: P.O. Box 13, 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 28 Par. 11

Site Number: _____ Distance from Gas Well (feet): _____

Surface Owner / Occupant: Eura D Keenan

Address: Rt. 2 Box 520, 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 29 Par. 29, Formerly TM 29 Par. 29.1

RECEIVED
Office of Oil and Gas

DEC 7 2017

WV Department of
Environmental Protection

RECEIVED OCT 23 2017

4701+00999



To Whom It May Concern:

SLS Land & Energy Development (SLS), has been contracted by Key Rock Energy LLC to do some preliminary work for a proposed oil and gas well permit application.

In accordance with West Virginia Code 35-8-15, the West Virginia Department of Environmental Protection (WVDEP), Office of Oil and Gas, requires gas well operators to offer pre-drill water testing for existing water wells or developed springs actually used by the surface owner or water purveyor for consumption by humans or domestic animals, which are located within 1,000 feet of the proposed gas well pad.

SLS hereby notifies you (the surface owner and/or water purveyor) of the following:

- Your right to request sampling and analysis;
- The rebuttable presumption for contamination or deprivation of a fresh water source or supply;
- That refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability;
- Your independent right to sample and analyze any water supply at your own expense;
- That SLS will utilize an independent laboratory to analyze any sample;
- That you can obtain from the WV DEP Chief, a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Therefore, SLS offers, at no charge to you, water testing of your water supply(s). Results of these tests will be sent to you upon our receipt from the independent testing laboratory.

Please contact SLS Land & Energy Development at your earliest convenience if you are interested in having your potable water tested. Please have this letter with you at the time of contact so that the well number may be referenced.

Thank you for your cooperation in this matter.

SLS Land & Energy Development
P.O. Box 150
Glenville, WV 26351
(304)-462-5634
awilson@slswv.com

Date: 9/26/17
Left/sent by: Adam Wilson
Well Number: Childers No. 1
County: Cabell
Tax Map / Parcel: 24/35

RECEIVED
Office of Oil and Gas
DEC 7 2017
WV Department of
Environmental Protection

*If you do not have a water well or other non-public water source, please make note of it and include your name and address when you return this sheet.

If you do not feel the need to have your water well, spring, or other non-public water source sampled, please sign on the line below and return to the above address. This will signify that a sample has been offered to the surface owner and has been declined.

Name (please print): Shirley T. & Anna Childers Address: 825 Fudge Ck Rd B-ville, WV 25504
Phone Number: N/A (N/A)

WW-9
(5/16)

API Number 47 - _____
Operator's Well No. Childers 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 944 m

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 21st day of November, 2017

Shannon Gilreath Notary Public

My commission expires March 30, 2019



RECEIVED
Office of Oil and Gas

NOV 30 2017

WV Department of
Environmental Protection

AF. 11.29.17

Proposed Revegetation Treatment: Acres Disturbed 1.5 +/- Prevegetation pH 6.6

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
KY-31	40	Orchard Grass	15
Alsike Clover	5	Alsike Clover	5
Annual Rye	15		

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 AF 11-29-17

Comments: _____

24 H. notice to state inspector is required before site construction begins.

A safety fence is to be constructed around pit before spreading begins.

Reseed & mulch affects areas per Wep, 006 Revegetation S.

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

Field Reviewed? Yes No

RECEIVED
Office of Oil and Gas

NOV 30 2017

WV Department of
Environmental Protection

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

Operator Name: Keyrock Energy LLCWatershed (HUC 10): Fudges CreekQuad: Milton 7.5"Farm Name: Childers

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 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 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 - 50'
No know Well Head Protection Area's in the vicinity.

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

N/A

RECEIVED
Office of Oil and Gas

NOV 30 2017

WV Department of
Environmental Protection

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

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: 

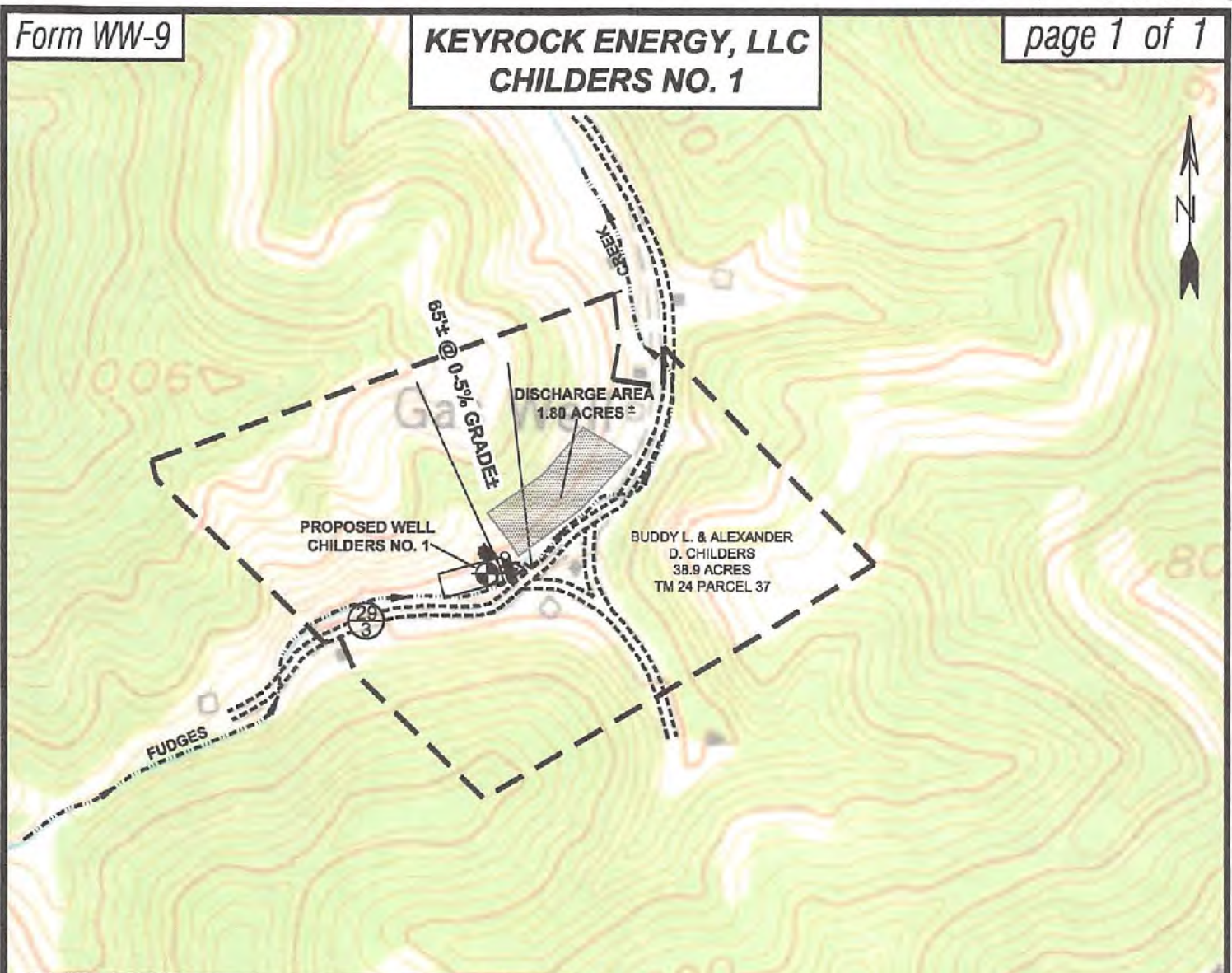
Date: 11-29-17

RECEIVED
Office of Oil and Gas

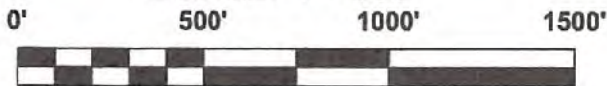
NOV 30 2017

WV Department of
Environmental Protection

KEYROCK ENERGY, LLC CHILDERS NO. 1

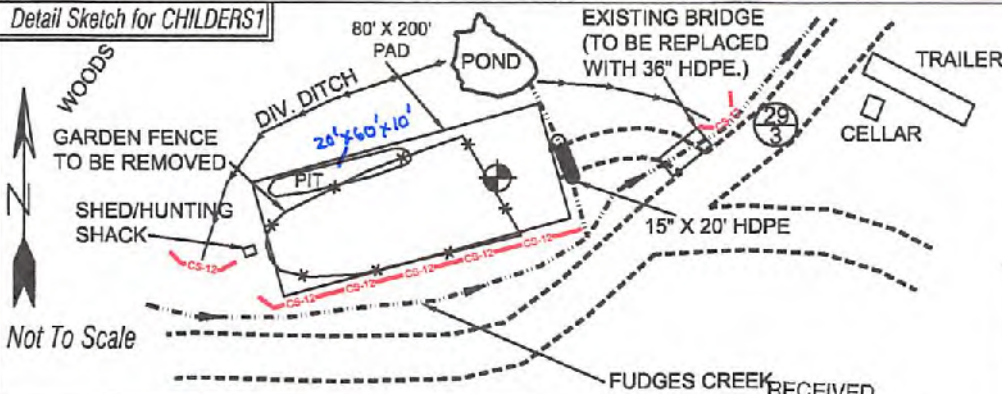


SCALE: 1"=500'



AP. 11-29-17

Detail Sketch for CHILDERS1



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

RECEIVED
Office of Oil and Gas

NOV 30 2017

WV Department of
Environmental Protection

TOPO SECTION OF MILTON
7.5' TOPO QUADRANGLE



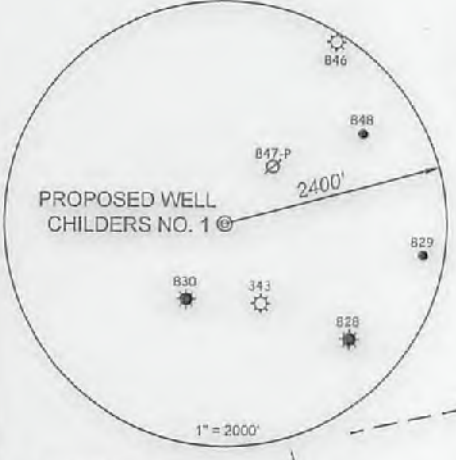
Land & Energy Development
Solutions from the ground up.

P.O. Box 150 Venom Drive Glenville, WV 26031 (304) 462-6034
www.slsenergy.com

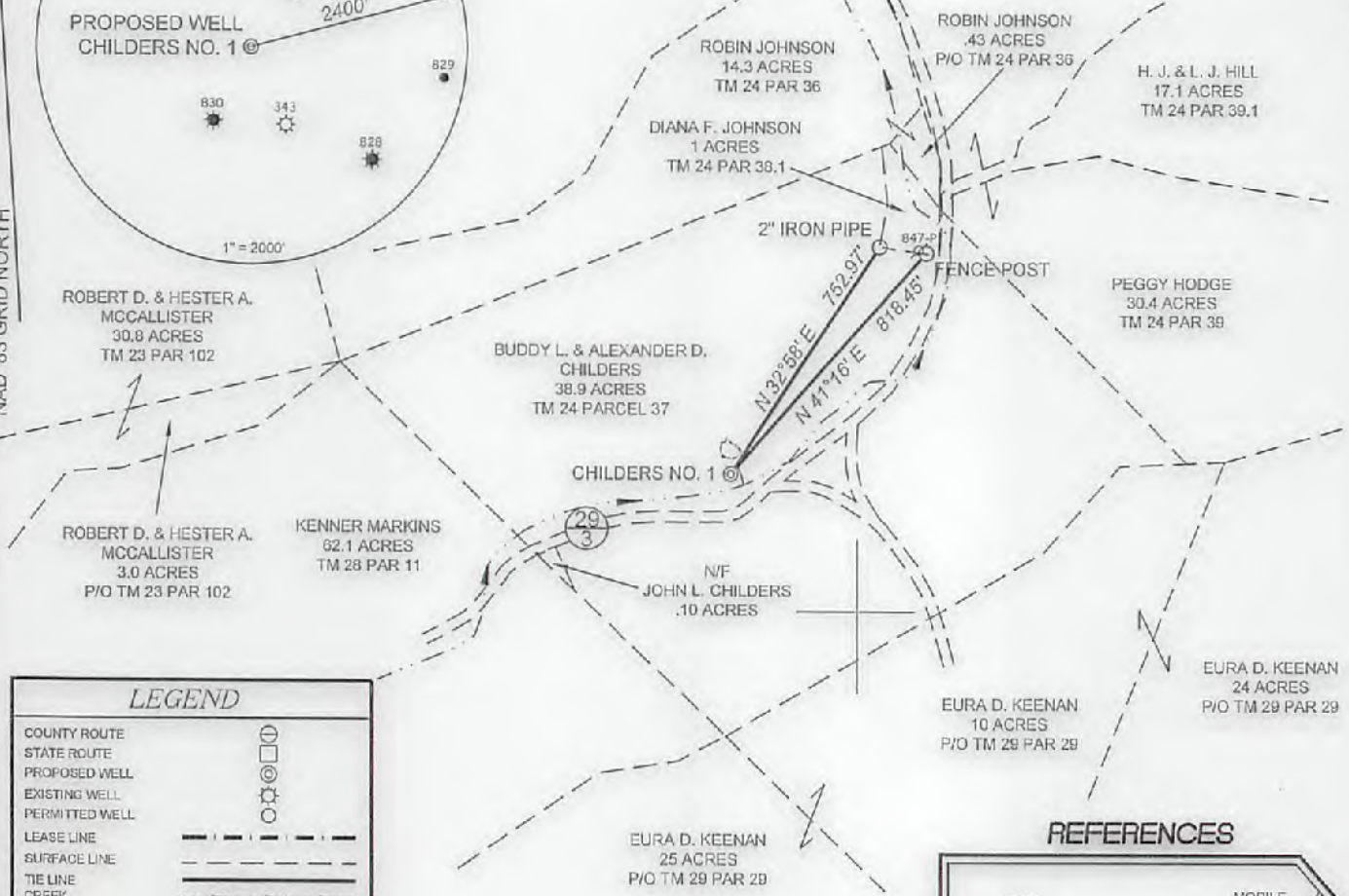
DRAWN BY:	FILE NO.:	DATE:	CADD FILE.:
MGF	8721	09-20-17	8721CHILDERS1REC.dwg

CHILDERS LEASE 38.9 ACRES±

**KEYROCK ENERGY, LLC
CHILDERS NO. 1**
(S.P.C. SOUTH ZONE) (UTM(M) ZONE 17 NORTH)
 NAD'83 S.P.C.(FT) N. 507,976.73 E. 1,628,238.36
 NAD'83 GEO. LAT-(N) 39.389030 LONG-(W) 82.187205
 NAD'83 UTM (M) N. 4,249,647.31 E. 396,317.93



NAD'83 GRID NORTH

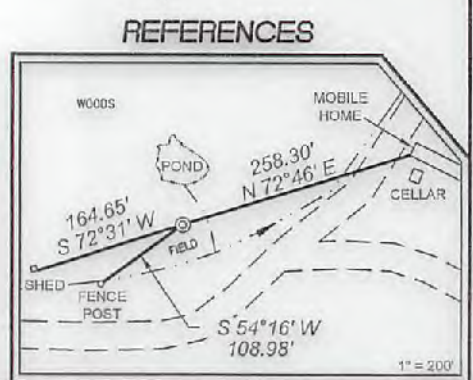


LEGEND

COUNTY ROUTE	
STATE ROUTE	
PROPOSED WELL	
EXISTING WELL	
PERMITTED WELL	
LEASE LINE	
SURFACE LINE	
TIE LINE	
CREEK	
ROAD	
FENCE LINE	

SLS
Land & Energy Development
Solutions from the ground up.
P.O. Box 150 • 12 Vannah Drive • Glenville, WV 26031 • (204) 462-9834
www.slsurveys.com

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



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.

P.S. 849 *C. Victor Moyers*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE NOVEMBER 13, 20 17
 REVISED _____, 20 _____
 OPERATORS WELL NO. CHILDERS NO. 1
 API WELL NO. 47 - 011 - 00999
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 8721CHILDERS1.dwg
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SUBMETER MAPPING GRADE TIE TO CORS NETWORK)
 SCALE 1" = 500'

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

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

LOCATION: ELEVATION 689' WATERSHED FUDGES CREEK
 DISTRICT GRANT COUNTY CABELL QUADRANGLE MILTON 7.5'

SURFACE OWNER BUDDY L. & ALEXANDER D. CHILDERS ACREAGE 38.9±
 ROYALTY OWNER BUDDY L. & ALEXANDER D. CHILDERS ACREAGE 38.9±

PROPOSED WORK: LEASE NO. _____
 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 BEREA
 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

COUNTY NAME

PERMIT