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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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Tuesday, January 15, 2019  
 WELL WORK PERMIT  
 Vertical / New Drill

KEYROCK ENERGY LLC  
 PO BOX 2223

JOHNSON CITY, TN 37605

Re: Permit approval for TASSEN 6  
 47-011-01010-00-00

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: TASSEN 6  
 Farm Name: JACQUELINE TASSEN  
 U.S. WELL NUMBER: 47-011-01010-00-00  
 Vertical New Drill  
 Date Issued: 1/15/2019

I

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

✓ # 14878  
650.00  
10-17-18

47-01-01010  
01/18/2019

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 7.5'  
Operator ID      County      District      Quadrangle

2) Operator's Well Number: Tassen No. 6      3) Elevation: 620'

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

5) Proposed Target Formation(s): Berea      Proposed Target Depth: 2,275'

6) Proposed Total Depth: 2,250 Feet      Formation at Proposed Total Depth: Devonian Shale

7) Approximate fresh water strata depths: 54', 114', 269', 459', 509', & 559', from well 01006.

8) Approximate salt water depths: 819', 135', 1749', from well 01006

9) Approximate coal seam depths: None

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 60k 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	Fill -up (Cu. Ft.)
Conductor	9 5/8"			30'	30'	20 Cu. Ft., CTS
Fresh Water	7"			610'	610'	99 Cu. Ft., CTS
Coal						
Intermediate						
Production	4 1/2"			2,275'	2,275'	233 Cu. Ft., CTS
Tubing	2 3/8"			2,225'	2,225'	Per WV DEP Rule
Liners						

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

*[Signature]* 11-8-2018



WW-2A  
(Rev. 6-14)

1). Date: \_\_\_\_\_  
2.) Operator's Well Number Tassen No. 6  
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**

4) Surface Owner(s) to be served: 5) (a) Coal Operator  
(a) Name Jacquiline R. Tassen Lunsford Name n/a  
Address 3153 Howells Mill Road Address \_\_\_\_\_  
Ona, WV 25545 ✓  
(b) Name \_\_\_\_\_ (b) Coal Owner(s) with Declaration  
Address \_\_\_\_\_ Name n/a  
Address \_\_\_\_\_  
(c) Name \_\_\_\_\_ Name \_\_\_\_\_  
Address \_\_\_\_\_ Address \_\_\_\_\_  
6) Inspector Allen Flowers (c) Coal Lessee with Declaration  
Address 165 Grassy Lick Ln. Name n/a  
Liberty, WV 25124 Address \_\_\_\_\_  
Telephone 304-552-8308

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

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

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: Morgan Pate \_\_\_\_\_  
Its: Geologist  
Address: P.O. Box 2223, 207 E. Main St., Suite 2-D  
Johnson City, TN 37605  
Telephone: 423-276-1116  
Email: mpate@keyrockenergy.com

Subscribed and sworn before me this 2 day of November 2018, Keyrock Energy LLC

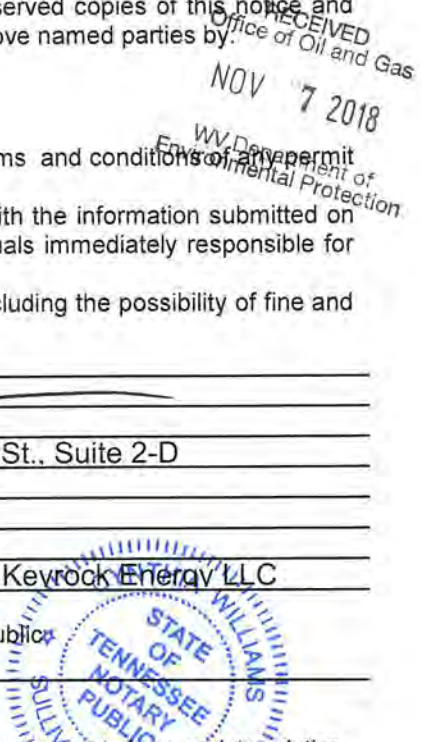
Cynthia Williams

Notary Public

My Commission Expires 3/24/21

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 Tassen No. 6

**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
Jacquiline R. Tassen Lunsford	Keyrock Energy LLC	1/8	394/234


**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

RECEIVED  
Office of Oil and Gas  
NOV 7 2018  
WV Department of  
Environmental Protection



WW-2B1  
(5-12)

Well No. Tassen No. 6

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 True Line Surveying

Well Operator Keyrock Energy LLC  
Address PO Box 2223  
Johnson City, TN 37605  
Telephone 423-726-2070

RECEIVED  
Office of Oil and Gas  
NOV 7 2018  
WV Department of  
Environmental Protection

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.

SEE ATTACHED LIST

**WATER NOTICE  
FOR  
KEYROCK ENERGY, LLC  
WELL TASSEN 6**

**WATER SOURCES IDENTIFIED WITHIN 1,250' OF THE PROPOSED WELL SITE:**

Tammy J. Pardue  
2761 Collis Ave.  
Huntington, WV 25702  
304 743-4266

Steven & Angela Kinder  
591 Little Fudges Creek  
Barboursville, WV 25504

The pumps for the above 2 water sources were inoperable.

Belinda S. Brumfield  
565 Little Fudges Creek Road  
Barboursville, WV 25504

Stephen F. & Melinda F Johnson  
587 Little Fudges Creek Road  
Barboursville, WV 25504

Tammy L. Spurlock  
597 Little Fudges Creek Road  
Barboursville, WV 25504

Doris Rider  
P. O. Box 51  
Ona, WV 25545

Nathan F. Adkins  
4010 Cow Creek Road  
Barboursville, WV 25504

47-01-01010  
01/18/2019

**Steven & Angela Kinder (Cow Creek house)**  
**591 Little Fudges Creek**  
**Barboursville, WV 25504**

**11/1/2018**  
**TRUE LINE SURVEYING, INC.**



WW-9  
(5/16)

API Number 47 - \_\_\_\_\_ - \_\_\_\_\_  
Operator's Well No. Tassen No. 6

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) Little 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

Will a pit be used? Yes  No

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

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

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 [Signature]

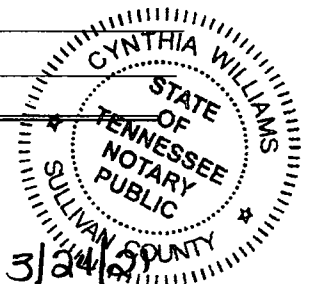
Company Official (Typed Name) Morgan Pate

Company Official Title Geologist

Subscribed and sworn before me this 2nd day of November, 2018

Notary Public

My commission expires Cynthia Williams, my Comm Expires 3/24/19



AF. 11-8-2018

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

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20 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: \_\_\_\_\_

Fiber fence with fiber strip needs to be installed below pit along side of creek. Melt & Reseal all other areas.

24 hr. notice to inspect before easement begins.

Title: State Inspector Date: 11-8-2018

Field Reviewed?  Yes  No

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

Operator Name: Keyrock Energy LLC  
Watershed (HUC 10): Little Fudges Creek Quad: Milton 7.5'  
Farm Name: Jacquiline R. Tassen Lunsford

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.

Little Fudges Creek Tributary: 69'  
No known well head protection areas 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.

No known groundwater quality data. Samples have been offered for non-public water sources within 2,000' of the proposed well site.

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: 

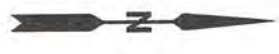
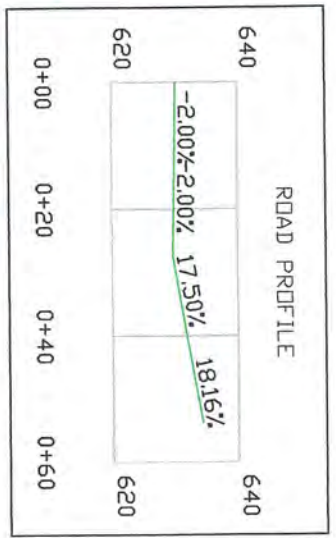
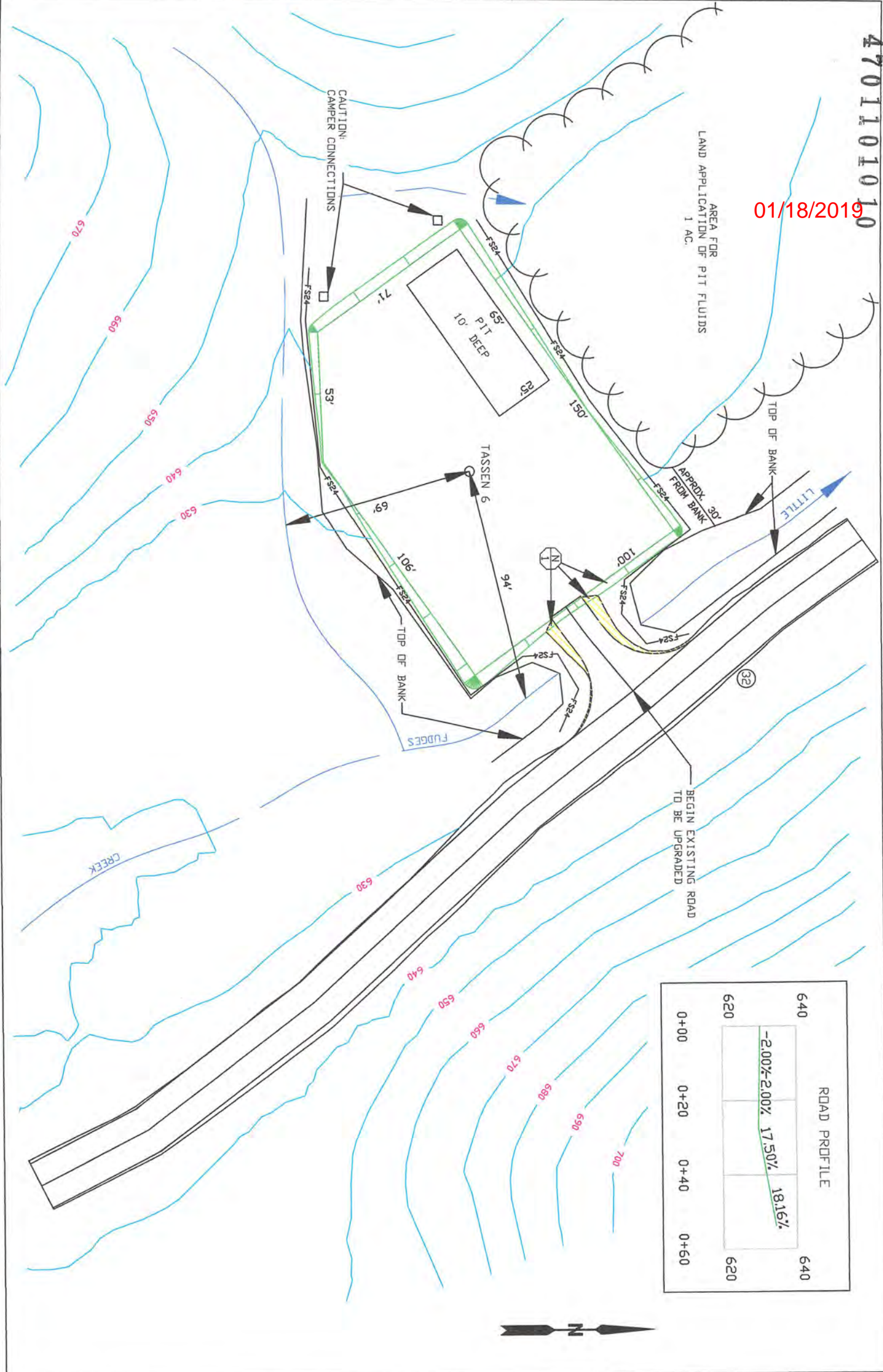
Date: 11/2/18







01/18/2019



LEGEND

- PROVIDE RESEEDING PER DEP REGULATIONS ON ALL CUT AND FILL SLOPES
- LEVEL SPREADER
- DIVERSION DITCH
- BERM OUTLET

- STREAM
- PROPERTY LINE
- SLOPE AREA
- WETLAND
- 24' SILT FENCE AS REQUIRED

EROSION AND SEDIMENT CONTROL PLAN

KEYROCK ENERGY, LLC  
 PROPOSED WELL # TASSEN 6  
 GRANT DISTRICT, CABELL COUNTY  
 MILTON QUAD, WV 7.5'

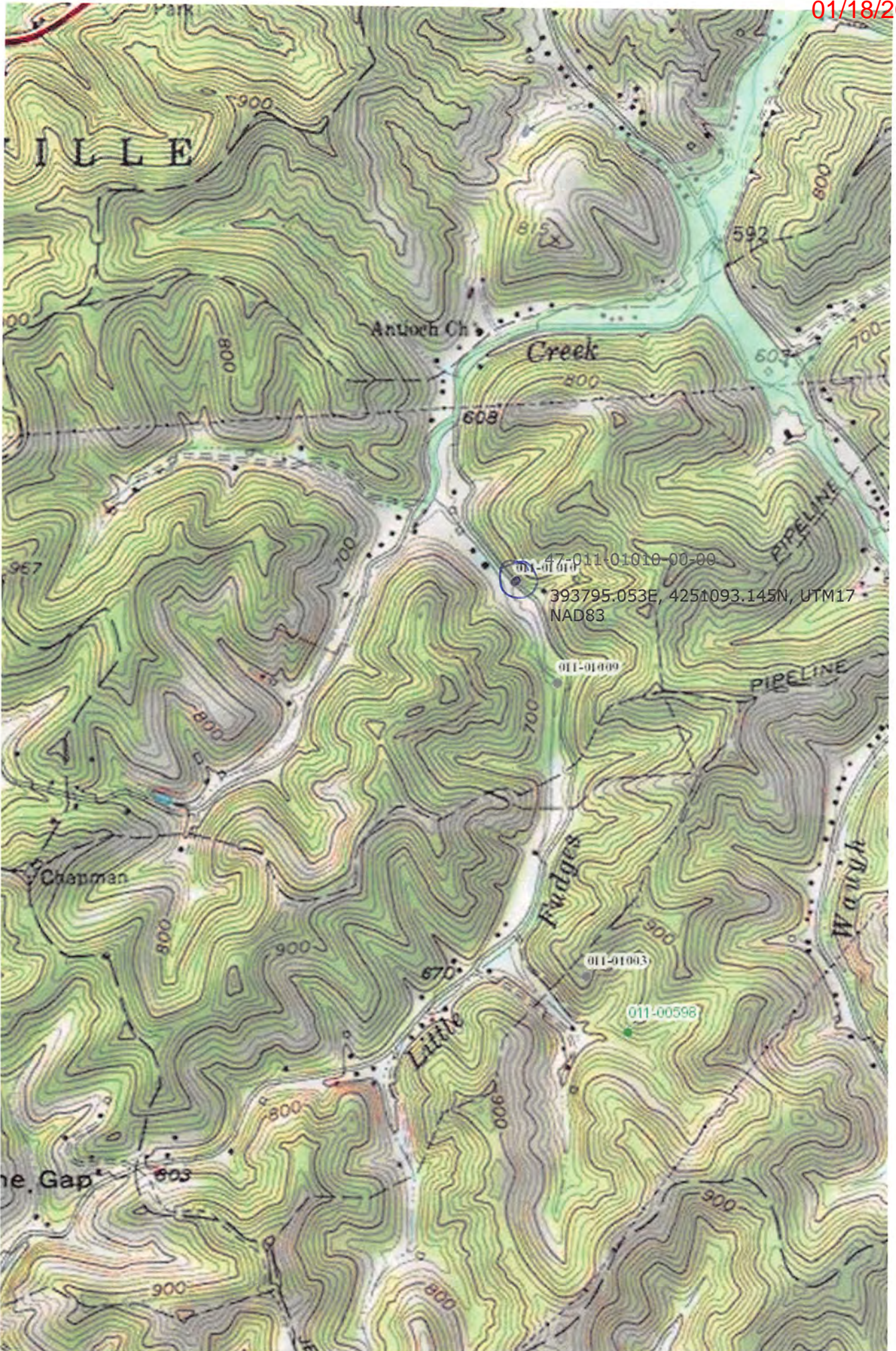
NOVEMBER 1, 2018

TRUE LINE SURVEYING  
 6211 FAIRVIEW DR.  
 HUNTINGTON, WV 25705

PAGE 1 OF 1



01/18/2019

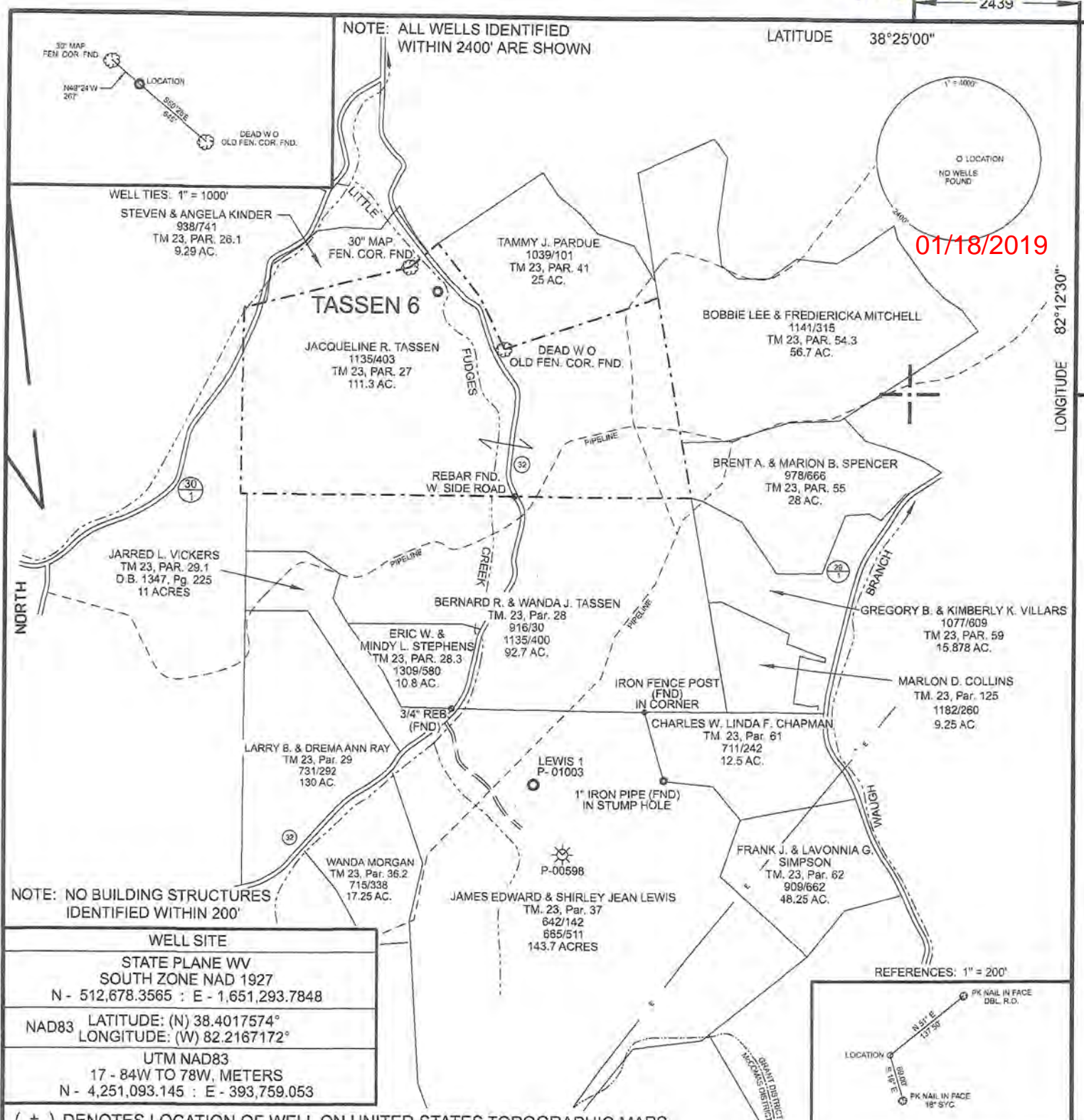




47-011-01010  
24.59

NOTE: ALL WELLS IDENTIFIED WITHIN 2400' ARE SHOWN

LATITUDE 38°25'00"



01/18/2019

WELL TIES: 1" = 1000'  
 STEVEN & ANGELA KINDER  
 938/741  
 TM 23, PAR. 26.1  
 9.29 AC.

JACQUELINE R. TASSEN  
 1135/403  
 TM 23, PAR. 27  
 111.3 AC.

TAMMY J. PARDUE  
 1039/101  
 TM 23, PAR. 41  
 25 AC.

BOBBIE LEE & FREDIERICKA MITCHELL  
 1141/315  
 TM 23, PAR. 54.3  
 56.7 AC.

BRENT A. & MARION B. SPENCER  
 978/666  
 TM 23, PAR. 55  
 28 AC.

JARRED L. VICKERS  
 TM 23, PAR. 29.1  
 D.B. 1347, Pg. 225  
 11 ACRES

BERNARD R. & WANDA J. TASSEN  
 TM. 23, Par. 28  
 916/30  
 1135/400  
 92.7 AC.

GREGORY B. & KIMBERLY K. VILLARS  
 1077/609  
 TM 23, PAR. 59  
 15.878 AC.

ERIC W. & MINDY L. STEPHENS  
 TM 23, PAR. 28.3  
 1309/580  
 10.8 AC.

CHARLES W. LINDA F. CHAPMAN  
 TM 23, Par. 61  
 711/242  
 12.5 AC.

MARLON D. COLLINS  
 TM. 23, Par. 125  
 1182/260  
 9.25 AC.

LARRY B. & DREMA ANN RAY  
 TM 23, Par. 29  
 731/292  
 130 AC.

LEWIS 1  
 P-01003

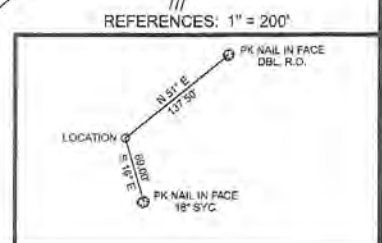
FRANK J. & LAVONNIA G. SIMPSON  
 TM. 23, Par. 62  
 909/662  
 48.25 AC.

WANDA MORGAN  
 TM 23, Par. 36.2  
 715/338  
 17.25 AC.

JAMES EDWARD & SHIRLEY JEAN LEWIS  
 TM. 23, Par. 37  
 842/142  
 885/511  
 143.7 ACRES

NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

WELL SITE	
STATE PLANE WV SOUTH ZONE NAD 1927 N - 512,678.3565 : E - 1,651,293.7848	
NAD83	LATITUDE: (N) 38.4017574° LONGITUDE: (W) 82.2167172°
UTM NAD83 17 - 84W TO 78W, METERS N - 4,251,093.145 : E - 393,759.053	



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

FILE NO.	TASSEN 6.DGN
DRAWING NO.	TASSEN 6
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 NOVEMBER 1, 20 18  
 OPERATOR'S WELL NO. TASSEN 6  
 API WELL NO. \_\_\_\_\_

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS,") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 620' WATER SHED LITTLE FUDGES CREEK  
 DISTRICT GRANT COUNTY CABELL  
 QUADRANGLE MILTON, WV 7.5'

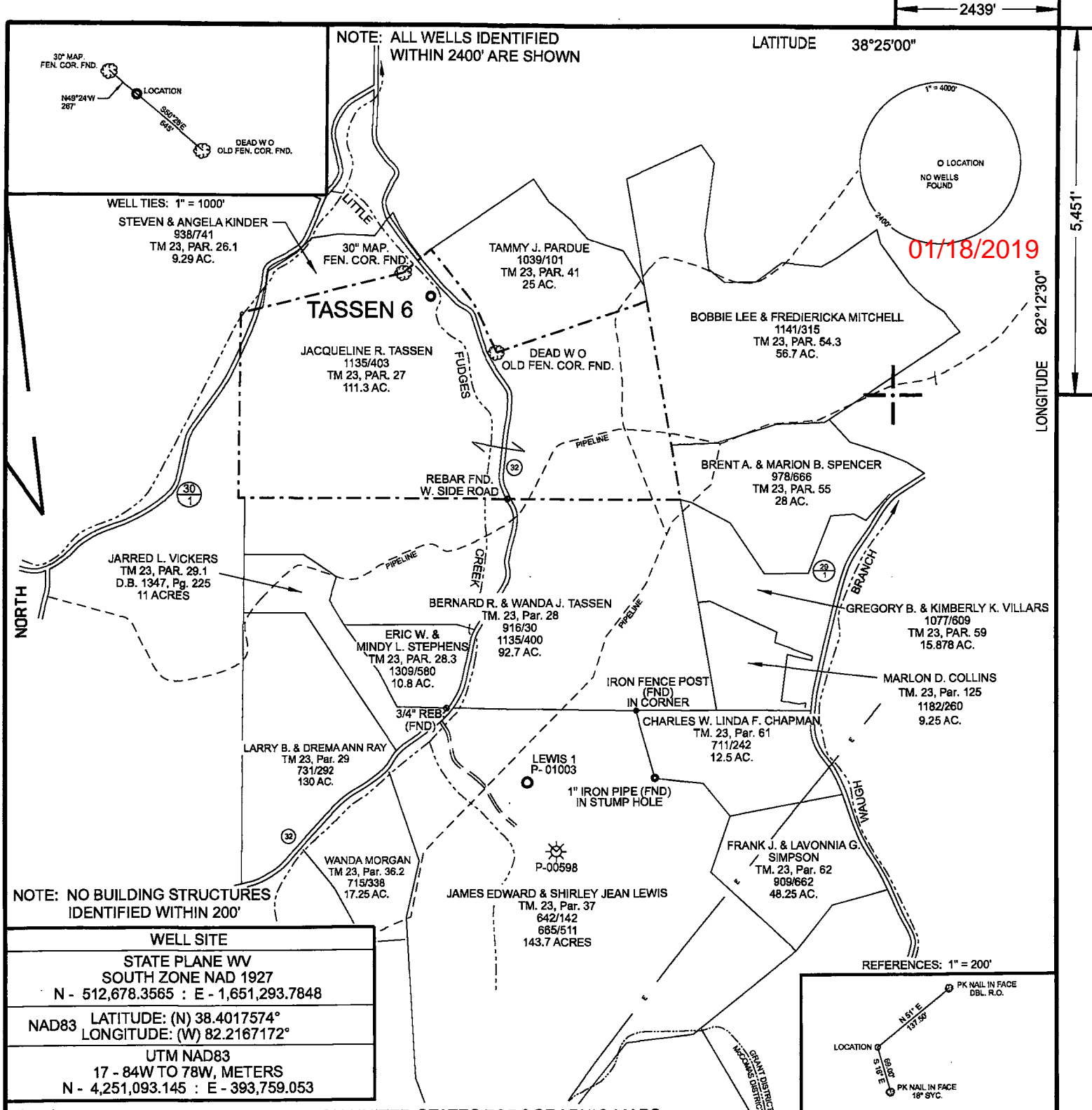
SURFACE OWNER JACQUELINE TASSEN ACREAGE 111.3  
 OIL & GAS ROYALTY OWNER JACQUELINE TASSEN LEASE ACREAGE 111.3  
 LEASE NO. \_\_\_\_\_

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

COUNTY NAME  
PERMIT





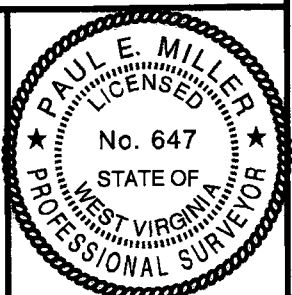
WELL SITE	
STATE PLANE WV SOUTH ZONE NAD 1927	
N - 512,678.3565 : E - 1,651,293.7848	
NAD83	LATITUDE: (N) 38.4017574°
	LONGITUDE: (W) 82.2167172°
UTM NAD83	
17 - 84W TO 78W, METERS	
N - 4,251,093.145 : E - 393,759.053	

FILE NO.	TASSEN 6.DGN
DRAWING NO.	TASSEN 6
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 NOVEMBER 1, 2018  
OPERATOR'S WELL NO. TASSEN 6  
API WELL NO. 47 011 01010  
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 620' WATER SHED LITTLE FUDGES CREEK  
DISTRICT GRANT COUNTY CABELL  
QUADRANGLE MILTON, WV 7.5'

SURFACE OWNER JACQUELINE TASSEN ACREAGE 111.3  
OIL & GAS ROYALTY OWNER JACQUELINE TASSEN LEASE ACREAGE 111.3  
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 KEYROCK 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