

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 <u>www.dep.wv.gov</u>

Thursday, August 1, 2019 WELL WORK PERMIT Vertical / New Drill

KEYROCK ENERGY LLC PO BOX 2223

JOHNSON CITY, TN 37605

Re:

Permit approval for VAZQUEZ 1

47-011-01013-00-00

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: VAZQUEZ 1

Farm Name: ALFREDO & CHRISTINE A.

U.S. WELL NUMBER: 47-011-01013-00-00

Vertical New Drill

Date Issued: 8/1/2019

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)

Depths Set

STATE OF WEST VIRGINIA DATE 1/31/19 DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS WELL WORK PERMIT APPLICATION

1) Well Operato	or: Kevro	ck Energ	av. LLC	494507629	Cabell	Grant	Milton, WV 7.5'
				Operator ID	County	District	Quadrangle
2) Operator's V	Vell Numb	er: <u>1426</u>	- Vazquez 1		3) Elevation:	807'	-
4) Well Type: (a	a) Oil <u>X</u>	or Ga	as				
(1	o) If Gas:	Produ	iction X / Und	derground Sto	rage		
			o/ S				
Approximate	fresh wa	ter strata	Berea Feet a depths: 99', from 1,506' & 1,936', from	ref well 00846	Proposed Tai Proposed Tota	get Depth: 2 al Depth: Dev	2500' onian Shale
9) Approximate	coal sea	m depths	s: none				
10) Approximat	te void de	pths,(coa	al, Karst, other):	None			<u></u>
11) Does land	contain co	oal seam	s tributary to act	tive mine? N	0		
			nd fracturing meth a slick water frac for	1			raran é
13) TYPE S	SPECIFIC	-	ASING AND TUI	BING PROGR FOOTAGE	AM INTERVALS	S CEME	WED and Gas
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu	
Conductor	9 5/8"			30'	30'	Sand	In life of
Fresh Water	7"			800'	800'	135 Cu. F	t. CTS
Coal					_		
Intermediate							
Production	4 1/2"			2,700'	2,700'	210 Cu. Ft.,	CT 700
Tubing	2 3/8"			2,650'	2,650'	Per WV DE	P Rule
Liners	C. C. Day						
Packers: Kind							

WV Department of Environmental Protection

1-16-19

Keyrock Energy LLC

Notary Public

WW-2A		1). Date:
(Rev. 6-14)		
		2.) Operator's Well Number 1426 - Vazquez 1
		State County Permit
		3.) API Well No.: 47- <u>Cabell</u> -
	OTATE OF	MECT VIDOINIA
DED		WEST VIRGINIA
DEP		L PROTECTION, OFFICE OF OIL AND GAS
	NOTICE AND APPLICATION	ON FOR A WELL WORK PERMIT
4) 0) (a) Caal On anatan
) (a) Coal Operator Name
(a) Name Address	Alfredo & Christine A. Vazque	Address
Address	824 Fudges Creek Rd.	Address
(h) Namo	Barboursville, WV 25504	(b) Coal Owner(s) with Declaration
(b) Name Address		Name
Address		Address
		Address
(c) Name		Name
Address		Address
Addiess		
6) Inspector	Allen Flowers	(c) Coal Lessee with Declaration RECEIVED
Address	165 Grassy Lick Ln.	(c) Coal Lessee with Declaration Office of Oil and Gas Name
71441000	Liberty, WV 25124	Address
Telephone	(304)552-8308	<u> </u>
· ciopilolio		ED ABOVE TAKE NOTICE THAT: WV Department of
x Included is the		ED ABOVE TAKE NOTICE THAT: Intract or contracts by which I hold the right to extract oil and gas
OR		
		article 6, Section 8(d) of the Code of West Virginia (see page 2)
		the West Virginia Code I have served copies of this notice and
application, a loc	ation plat, and accompanying documents Personal Service (Affidavit attache	s pages 1 through on the above named parties by:
<u> </u>	Certified Mail (Postmarked postal r	
'	Publication (Notice of Publication a	
I have re		5 CSR 4, and I agree to the terms and conditions of any permit
issued under this	s application.	
		ally examined and am familiar with the information submitted on
		d on my inquiry of those individuals immediately responsible for
I am awa	ormation, I believe that the information is	r submitting false information, including the possibility of fine and
imprisonment.	G Significant perfaites for	additional residence in the second residence of the se
13	STATE Well Operator K	Kevrock Energy LLC
14	OF 1 Dy. 10	Morgan Pate Murr Le
8	TENNESSEF Its: G	Geologist
121		P.O. Box 2223, 207 E. Main St, 2D
13		ohnson City, TN 37605
	l elepnone: (2	423)726-2070

My Commission Expires
Oil and Gas Privacy Notice

Subscribed and sworn before me this

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

day of

Email: mpate@keyrockenergy.com

WW-2A1 (Rev. 1/11)

Operator's	Well	Number	1426 - Vazquez
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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
Alfredo & Christine A. Vazquez	Keyrock Energy LLC	1/8	391/272

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 he reby a cknowledges 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

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Office of Oil and Gas

JUL - 1 2019

WV Department of Environmental Protection

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 ac quired from the appropriate aut hority before the affected activity is initiated.

Well Operator:

Keyrock Energy LLC

Morgan Pate Man

By:Its:

Geologist

WW.	-2B1
(5-1	2)

Well	No

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 Sampling Contractor		Pace Analytics	
		True Line Surveying	
			RECEIVED Office of Oil and Gas
Well Operator Keyrock Energy		LLC	JUL - 1 2019
Address P.O. Box 2223, 207 E. Main St., 2D Johnson City, TN 37605		207 E. Main St., 2D	
		N 37605	WV Department of Environmental Protection
Telephone (423)726-2070			<u> </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.

WATER NOTICE FOR KEYROCK ENERGY, LLC WELL (VAZQUEZ 1)

WATER SOURCES IDENTIFIED WITHIN 1,000' OF PROPOSED WELL SITE:

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

Paula Bledsoe 830 Fudges Creek Rd. Barboursville, WV 25504

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

Rhonda Adkins 520 Fudges Creek Rd Barboursville, WV 25504

Steve and Sharon Ray 828 Fudges Creek Rd. Barboursville, WV 25504

Beatrice Burgess 826 Fudges Creek Rd. Barboursville, WV 25504

Charles Ray
822 Fudges Creek Rd.
Barboursville, WV 25504

Charley & Janit Bowen 784 Fudges Creek Rd. Barboursville, WV 25504 RECEIVED
Office of Oil and Gas

JUL - 1 2019

WV Department of Environmental Protection ⊀ Lisa Skaggs780 Fudges Creek Rd.Barboursville WV 25504

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Office of Oil and Gas

JUL - 1 2019

WV Department of Environmental Protection

1/16/2019 TRUE LINE SURVEYING, INC.

WW-9 (5/16)

API Number	47	-
Operator's W	ell No.	1426 - Vazquez 1

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

TEODO, COTTINOS DISTOS	The Recognition of the second
Operator Name_Keyrock Energy LLC	OP Code 494507629
Watershed (HUC 10) Fudges Creek of Mud River	
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 a	nd cement cuttings.
Will a synthetic liner be used in the pit? Yes 🚺 N	o If so, what ml.? 20
Proposed Disposal Method For Treated Pit Wastes:	
Land Application (if selected provide a	
Underground Injection (UIC Permit No	ımber)
Off Site Disposal (Supply form WW-9	for disposal location)
	tor disposariocation;
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	RECEIVED Office of Oil and Gas
Drill cuttings disposal method? Leave in pit, landfill, removed offer	site, etc. Leave in pit.
-If left in pit and plan to solidify what medium will be use	
-Landfill or offsite name/permit number?	WV Department of Environmental Protection
Permittee shall provide written notice to the Office of Oil and Gas West Virginia solid waste facility. The notice shall be provided with	of any load of drill cuttings or associated waste rejected at any
I certify that I understand and agree to the terms and con on April 1, 2016, by the Office of Oil and Gas of the West Virgini provisions of the permit are enforceable by law. Violations of any or regulation can lead to enforcement action. I certify under penalty of law that I have personally expressions.	term or condition of the general permit and/or other applicable law
application form and all attachments thereto and that, based on my the information, I believe that the information is true, accurate, a submitting false information, including the possibility of fine or im	inquiry of those individuals immediately responsible for obtaining and complete. I am aware that there are significant penalties for
application form and all attachments thereto and that, based on my the information, I believe that the information is true, accurate, a submitting false information, including the possibility of fine or im	inquiry of those individuals immediately responsible for obtaining and complete. I am aware that there are significant penalties for
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application form and all attachments thereto and that, based on my the information, I believe that the information is true, accurate, a submitting false information, including the possibility of fine or im Company Official Signature Morgan Pate Company Official (Typed Name) Morgan Pate Company Official Title Geologist	inquiry of those individuals immediately responsible for obtaining and complete. I am aware that there are significant penalties for prisonment.

	ment: Acres Disturbed _	1.5 +/- Preveg etation pH	I
Lime 3	Tons/acre or to corr	rect to pH 6.5	
Fertilizer type 10-2	0-20 or equivalent		
Fertilizer amount 1/2	3 ton	lbs/acre	
Mulch_ Hay		2_Tons/acre	
		Seed Mixtures	
Ter	mporary	Perman	ient
Seed Type	lbs/acre	Seed Type	lbs/acre
KY-31	40	Orchard Grass	15
Alsike Clover	5	Alsike Clover	5
Annual Rye	15		
riotocopied section of involv	ved 7.5' topographic shee	et.	
Plan Approved by: Comments:	Mas /	Tolsers. e will be esting objet 2 pol.	
Plan Approved by: Comments:	Mas /	Tolvers.	Som
Plan Approved by: Comments:	Mas /	Tolsers. e will be esting objet 2 pol.	Som
Plan Approved by: Comments:	e sperson	Tolsers. e will be esting objet 2 pol.	Som

WW-9- GPP Rev. 5/16

Pag	geof
API Number 47 -	 Keyrock Energy
Operator's Well No. 1	426 - Vazquez 1

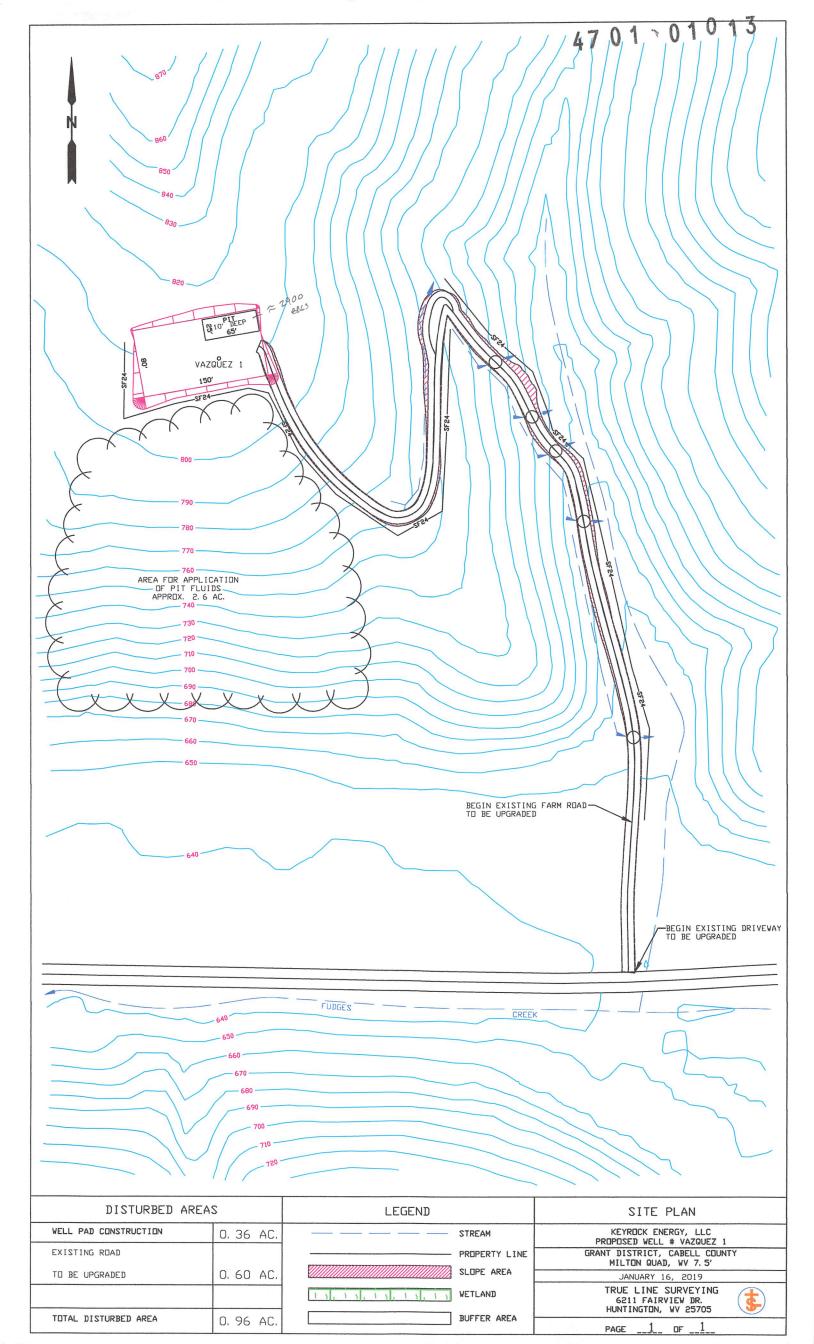
STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS GROUNDWATER PROTECTION PLAN

Operator Name: Keyrock Energy LLC	
Watershed (HUC 10): Fudges Creek of Mud River	Quad: Milton, WV 7.5'
Farm Name: Vazquez Farm	
List the procedures used for the treatment and discharge of flui groundwater.	ds. Include a list of all operations that could contaminate the
Pit water will be tested, then aerated with the lime the event of excessive chlorides, the pit fluids will or hauled to an approved disposal facility. Pit wate solids precipitate out.	be evaluated to either dilute with fresh water
2. Describe procedures and equipment used to protect groundwate	er quality from the list of potential contaminant sources above.
Once the drilling pit fluids are at an acceptable lever floated approximately 12" below the water level are the water over the designated discharge area. The pattern, so as not to oversaturate any given area.	nd the discharge line will be set up to disperse
3. List the closest water body, distance to closest water body, a discharge area.	and distance from closest Well Head Protection Area to the
Fudges Creek, greater than 1,000' south from well Keyrock will sample Fudges Creek immediately p	•
	RECEIVED Office of Oil and Gas
	JUL - 1 2019
Summarize all activities at your facility that are already regulat	WV Department of Environmental Protection.
N/A	
L	

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

WW	-9-	GPF
Rev.	5/1	6

WW-9- GPP Rev. 5/16		Page	of
Rev. 5/10		Operator's Well No. 1426 - Vazquez	2 1
N/A			
6. Provide a statement that no waste material will be u	used for deicing or fill ma	terial on the property.	
No waste material will be used for deicing	g or fill material on	the property.	
7. Describe the groundwater protection instruction as provide direction on how to prevent groundwater co		ed to the employees. Job procedu	ires shall
All employees will be familiar with the cor implement it. Work practices will support company HSE Policy.			
			RECEIVED Office of Oil and Gas
		<u> </u>	
8. Provide provisions and frequency for inspections o	of all GPP elements and ed	quipment.	WV Department of Environmental Protection
All GPP elements and equipment presen a problem. Work will not commence until			
Signature:			
Signature: <i>More</i> Date: 6-38-19			



ACCESS ROAD PROFILE



0+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00 4+50 5+00 5+50 6+00 6+50 7+00 7+50 8+00 8+50 9+00 9+50 10+00 10+50 11+00 11+50 12+00 12+50 13+00 13+50 14+00 14+50

ROAD PROFILE

KEYROCK ENERGY, LLC PROPOSED WELL # VAZQUEZ 1

GRANT DISTRICT, CABELL COUNTY MILTON QUAD, WV 7.5'

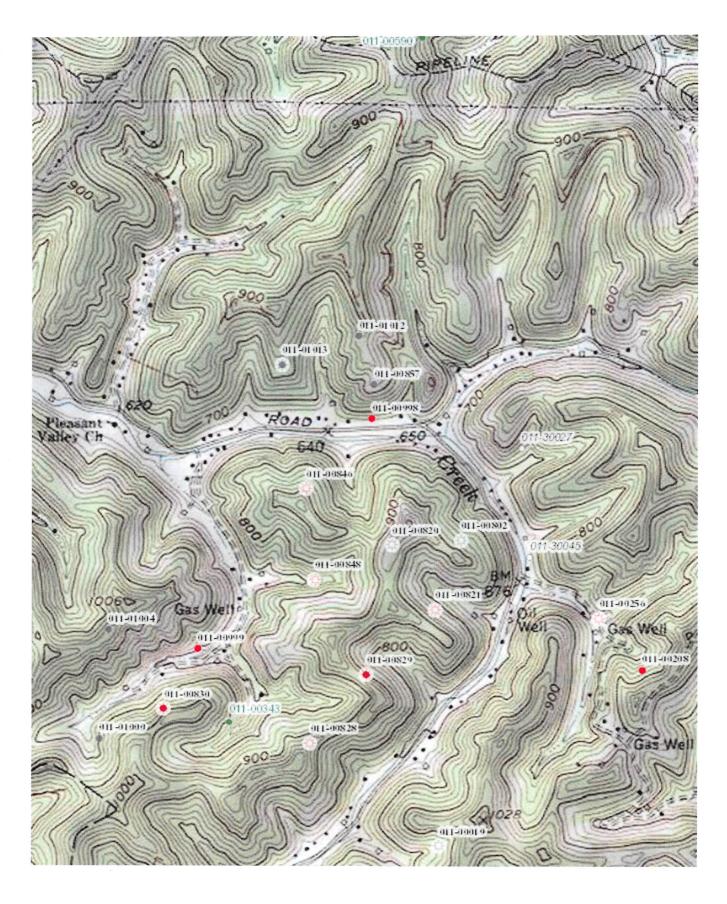
JANUARY 16, 2019

TRUE LINE SURVEYING 6211 FAIRVIEW DR, HUNTINGTON, WV 25705

PAGE

1 of 1





 $http://deparcgis1/ooggis/index.html?x = 396645 \& y = 4250699 \& datum = NAD83 \& pntlabel = 4... \end{7/3} \label{eq:proposition} % \end{8.4} % \label{eq:proposition} % \label{eq:pr$

