

west virginia department of environmental protection

Office of Oil and Gas 601 57th Street SE Charleston, WV 25304 (304) 926-0450 (304) 926-0452 fax Earl Ray Tomblin, Governor Randy C. Huffman, Cabinet Secretary www.dep.wv.gov

July 30, 2014

WELL WORK PERMIT Re-Work

This permit, API Well Number: 47-3304102, issued to HG ENERGY, LLC, 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 all 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 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.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-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) 926-0499 ext. 1654.

James Martin

Chief

Operator's Well No: B, T. STROTHER 5

Farm Name: SMITH, HARLEY GLENN

API Well Number: 47-3304102 Permit Type: Re-Work

Date Issued: 07/30/2014

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. <u>Failure to adhere to the specified permit conditions may result in enforcement action.</u>

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.

Page	3	of	4

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

2) Operator's W	ell Number:	B. T. Stre	other No. 5		3) Eleva	tion 1350'	
Well Type:	(a) Oil (b) If Gas:	X or Prod	Gas	X Undergre	ound Storage	_	
Proposed Tar	get Formati	on(s):	4th Sand				-
) Proposed Tot	tal Depth:	2,90	51ft.				
) Approximate	fresh water	strata depths:	_	445*			_
) Approximate	salt water d	lepths:		NA			2/1
) Approximate	coal seam o	lepths:		470'			_,
0) Does land co	ntain coal se	eams tributary to	o active mine	? Yes	N	lo X	
1) Proposed We	ell Work:	Plug well b	ack to 2,750' an	d stimulate30 Foot (2	2472-2486), Gordo	on (2594' to 2652') & 4th San	ds (2738' to 274
2) YPE	SP	<u>CAS</u> ECIFICATION		JBING PROGRA	AM NTERVALS	CEMENT	
		Grade	Weight Per Ft.	For Drilling	Left in Well	Fill-up (Cu. Ft.)	SDU
	Size	1			711011	(0.1.1.1)	7.1
onductor	Size					(Carr tr)	- 6/18/2
	8 5/8"	R-3 ST & C	20#	486'	486'	Use existing casing	- 611812 -
resh Water	-			486'		Use existing casing	- 611812 -
resh Water oal	-			486'		Use existing casing	- 6/18/2 - -
Conductor resh Water Coal ntermediate roduction	-			486' 2913'		Use existing casing 250 sks	- 6/18/2
resh Water Coal ntermediate	8 5/8"	R-3 ST & C	20#		486'	Use existing casing	- 611812 - - -
resh Water oal stermediate roduction ubing	8 5/8"	R-3 ST & C	20#		486'	Use existing casing	- 611812 - - - -
resh Water Coal Intermediate roduction	8 5/8" 4 1/2"	R-3 ST & C	20#		486'	Use existing casing	- 611812

PLUG BACK PROCEDURE FOR

RE-WORK OF B. T. Strother 5

API: 47-033-04102

Addendum to line 11 of the Form WW-2B describing proposed Well Work:

In order to stimulate and produce the Gordon, Thirty Foot Sand and Fourth Sand, the Fifth Sand injection perforations must be plugged off. Therefore a cast iron bridge plug or similar retrievable plug must be set above the existing perforations from 2810' - 2836'.

Please make sure that the completion report that you are required to submit includes the (as built) well detail.

WR-35

08-Sep-94 API# 47-33-04102 S

State of West Virginia Division of Environmental Protection Section of Oil and Gas

Well Operator's Report of Well Work

	·		_	_				
Farm name:	SMITH, HAR	LEY GLENN		Ope	rator Well	No.: B.T.	STROTHER	C#5
LOCATION:	Elevation:	1,350.00		Qua	drangle:	WOLF SU	MMIT	
	District:	TENMILE			nty: HAI			
	Latitude:		et south of		Deg 20		Sec.	
	Longitude:	10,000 Fee	et west of	80	Deg. 25	Min 0	Sec.	
Company:	PENNZOIL P	RODUCTS CO	MPANY		Casing	Used in	Left	Cement
	P.O. BOX 551				&			Fill Up
	VIENNA, WY	7 26105-5519			Tubing	Drilling	in Well	Cu. Ft.
Agent:	PHILIP S. ON	DRUSEK			Size	397'-447'	397'-447'	
Inspector:	Tim Bennett				11 3/4"	50'	50¹	15 SKS
Permit Issued:		8/16/95			jacket liner			
Well work Com	•	10/12/95					-	
Well work Com		1/22/96	<u> </u>		8-5/8	486'	486'	505 SKS
Verbal plugging								
permission gran Rotary X		Dia			4 1/8	0.010	0.0101	050 9779
Total Depth (fe		Rig ,961			4 1/2"	2,913'	2,913'	250 SKS
Fresh water der		,901 NA						
	(10)							
Salt water deptl	ns (ft)	NA						
Is coal being mi								
Coal Depths (ft)):	471 - 480						
OPEN FLOW I	DATA	* Water Inject	ion Well					
Produc	ing formation		Fifth Sand	d		Pay zone d	enth (ft)	2810-2836
Gas:	Initial open flo	w			Oil: Initia	al open flow	,	* Rhl/d
	Final open flow			ICF/d	Fina	l open flow	RECEIVE	# Hour
		flow between					ce of Hour	\$100
Static 1	ock pressure			sig (sı	urface pres	ssure)		<u> </u>
Canoni	l neadwaina fa	antian				Dan 4	JUN 2 5	[01,
Gas:	producing forn Initial open flo		- \	ICF/d	Oil: Initia	Pay zone d		ला टा दिही ।
.	Final open flor			ICF/d	Fina	n open flow	NV Denar	T PIOTE TIME
	Time of open				l tests	En'	viron in Hour	S OS/O HAN
Static r	ock pressure				urface pres	ssure)	after	08/01/2014

NOTE: ON BACK OF THIS FORM, PUT THE FOLLOWING: 1) DETAILS OF PERFORATED

Treatment: Perforated Fifth Sand from 2818' to 2821' w/ 12 holes. Treated w/ 300 gals 15% HCl, 200 bbl gelled water, and 5000 lbs 20/40 sand.

Well Log: All depths are measured relative to KB.

T.D. -Driller

Shale w/ sand streaks	0	-	145'
Sand	145'	_	310'
Shale	310'	-	400'
Sand	400'	-	471'
Pittsburgh Coal	471'		480'
Shale w/ sand streaks	480'	-	608'
Sand	608'	-	628'
Shale w/ sand streaks	628'	-	943'
Sand	943'	-	997'
Shale w/ sand streaks	997'	_	1156
Sand	1156'	-	1230'
Shale w/ sand streaks	1230'	_	1445'
Sand	1445'	-	1480'
Shale w/ sand streaks	1480'	_	1728'
Little Lime	1728'	-	1757'
Sand and shale	1 757 '	-	1805'
Big Lime	. 1805'	-	1877'
Big Injun	1877'	-	1955'
Shale	1955'	-	2393'
Fifty Foot	2393'	-	2472'
Thirty Foot	2472'	-	2485'
Shale and sand	2485'	-	2593'
Gordon	2593'	-	2624'
Shale	2624'	-	2633'
Fourth	2633'	-	2654'
Shale w/ sand streaks	2654'	-	2810'
Fifth sand	2810'	-	2836
Shale	283 <i>6</i> '	-	-2985'
•			:
T.DLogger	2985'	KB	

2961'

KB ·

08/01/2014

ру

1)		June 13, 20			
2)	Operator's We				
3)	B. T. Strot API Well No:	47	033	- 14	4102
2)	311.2 (1.21)	State	County		Permit

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT DIVISION OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

7	Surface Owner(s) to be served:		Coal Operator: Patriot Coal Corporation					
	(a) Name Allen Cochran	Name Addres						
	Address RR 5, Box 1020	Addres	St. Louis, Missouri 63141					
	Salem, WV 26426		oal Owner(s) with Declaration					
	(b) Name		NTA.					
	Address	Addre						
	3 to 2 to 1 to 2							
	(c) Name							
	Address	Addre	SS					
		=						
	Inspector Sam Ward	(c) C	oal Lessee with Declaration					
١	Address P. O. Box 2327	Name	NA					
	Buckhannon, WV 26201	Addre						
	Telephone (304) - 389-7583							
	TO THE PERSON(S) NAME	ED ABOVE TAKE	E NOTICE THAT:					
			ntract or contracts by which I hold					
	the right to extract oil and gas	OR						
	X Included is the information requir	ed by Chapter 22,	Article 6, Section 8(d) of the Code					
	of West Virginia (see page 2)	200-500-00500-000						
	I certify that as required under Chapter 22 of the West Virginia Code I have served copies							
	of this notice and application, a location	plat and accompa	nying documents pages 1 through 4					
	on the above-named parties, by:	plat, and accompa	.,					
		6						
	Personal Service (Affidavit attache	ed)						
	Personal Service (Affidavit attache	receipt attached)						
	Personal Service (Affidavit attache X Certified Mail (Postmarked postal Publication (Notice of Publication	receipt attached) attached)						
	Personal Service (Affidavit attache X Certified Mail (Postmarked postal Publication (Notice of Publication	receipt attached) attached)	8, and I agree to the terms and conditions					
f	Personal Service (Affidavit attache X Certified Mail (Postmarked postal Publication (Notice of Publication I have read and understand Chapter 22-	receipt attached) attached) 6 and 38 CSR 11-1	8, and I agree to the terms and conditions					
	Personal Service (Affidavit attache X Certified Mail (Postmarked postal Publication (Notice of Publication I have read and understand Chapter 22- any permit issued under this application.	receipt attached) attached) 6 and 38 CSR 11-1	ned and am familiar with the information submitted					
	Personal Service (Affidavit attache X Certified Mail (Postmarked postal Publication (Notice of Publication I have read and understand Chapter 22- any permit issued under this application. I certify under penalty of law that I have	receipt attached) attached) 6 and 38 CSR 11-1 e personally examinate that based on my	ned and am familiar with the information submitted inquiry of those individuals immediately responsible					
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U.S. Postal Service™ CERTIFIED MAIL, RECEIPT 9520 (Domestic Mail Only; No Insurance Coverage Provided) SALEM WV 26426 3227 0330 \$1.40 ERSBURG Postage \$3.30 17 Certified Fee 0007 Postmark Return Receipt Fee (Endorsement Required) \$2.70 Here Restricted Delivery Fee (Endorsement Required) \$0.00 2920 \$7.40 06/16/2014 Total Postage & Fees \$ BT5 Sent To 7012 Cochran Street, Apt. No.: or PO Box No. Box 1020 City, State, ZIP+4 Salem WV 26426 PS Form 3800, August 2006

U.S. Postal Service TM CERTIFIED MAIL, RECEIPT (Domestic Mail Only; No Insurance Coverage Provided) 537 For delivery information visit our website at www.usps.coma SAINT LOUIS NO 63141 0 27 \$1.40 0330 RKERSE 5 Postage 32 \$3.30 Certified Fee Postmark 1000 JU/ Hero Return Receipt Fee (Endorsement Required) \$2.70 Restricted Delivery Fee (Endorsement Required) \$0.00 2920 06/16/2014 \$7.40 Total Postage & Fees \$ BTS 5 Sent To Patriot Coal Company 7012 Street, Apt. No.; 12312 Olive Boulevara or PO Box No. St. Louis Missouri 63141 City, State, ZIP+4 See Reverse for Instructions PS Form 3800, August 2006

Office of Oil and Gas

JUN 257011

Will Department of Protection

08/01/2014

Form \	VW-2A(1)
(6/94)	

Operator's Well No.	B. T. Strother No. 5
Operator a month of	

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
B. T. Strother, et al	South Penn Oil Company	1/8	102/567

Deed, Assignment and Bill of Sale dated July 3, 1963, from South Penn Oil Company to Pennzoil Company, Wetzel County, Book 5, Page

Assignment, Conveyance and Bill of Sale dated December 28, 1998, from Pennzoil Company to Pennz Energy Exploration and Production, Wetzel County, Book 12, Page 177.

Certificate of Merger filed with the WV Secretary of State, December 31, 1999, whereby Pennz Energy Exploration and Production, successor in interest to; to Penzoil Company, merged with Devon Energy Production Company, LP, Wetzel County, Book 12, Page 278.

Deed, Assignment and Bill of Sale dated June 1, 2000, from Devon Energy Production Company, LP to East Resources, Inc., recorded in Wetzel County, Book 370, Page 580.

Assignment, Conveyance and Bill of Sale, dated January 1, 2011, from East Resources, Inc., to HG Energy, LLC, Wetzel County, Book 118A, Page 253.

Upon information and belief, Operator's lease and/or other real property rights permit it to conduct drillingerations for the subject well in the location shown on the plat, including the use of access roads, pipelines and utilities.

Upon information and belief, Operator's lease and/or other real property rights permit it to conduct drilling operations for the subject well in the location shown on the plat, including the use of access roads, pipelines and utilities.

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 ackowledges 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 US Fish and Wildlife Service County Floodplain Coordinator RECEIVED
Office of Oil and Gas

JUN 2 5 2014

WW Department of Environmental Protection

Well Operator:	HG Energy, LLC	LITOITO	
By:	Diane C. White	Diane	white
lts:	Accountant		

Form WW-9 Rev. 10/94

	Page	3	of	3
API N	umber 47-	033		4102
Operator's Well No.	B. T. St	rother	No. 5	

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

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator	HG Energy,						
Watershed	Left Prong of New Creek			Quadrangle	Wolf Summit 7.5'		
Elevation	1350'	County	Harrison	District	Т	en Mile	
Description of	anticipated Pit Waste:	Fluids encounter	red while plugging back a	nd stimulating shallo	w well		
Do you anticip	ate more than 5,000 bbls of			Yes	No	X.	
Will a syntheti	ic liner be used in pit?	Yes	If so, what mil.?	20 Mil.			CNID
Proposed Dispe	osal Method For Treated P	it Wastes:					5 DW 6/18/20
_	X Land Applicati	on					6/18/2
7	Underground I	njection (UIC Permit 1	Number)
	Reuse (at API	Number)
_	Off Site Dispos	al (Supply Form WW-	9 for disposal location)	-1			
_	Other (1	Explain					5
Drilling mediu	m anticipated for this well	? Air, fresh water, oil l	based, etc.	NA			
- 1	If oilbased, what type? Syr	nthetic, petroleum, etc.					
Additives to be	used? W	ater, soap, KCl					
Drill cuttings d	disposal method? Leave in	pit, landfill, removed o	offsite, etc.	Leave in Pit			
-1	If left in pit and plan to sol	idify, what medium wi	ll be used? Cement, lime	sawdust 1	Native soil	cement, l	ime
(£)	Landfill or offsite name/per	mit number?					
issued on Au	certify that I understar gust 1, 2005, by the Off	ice of Oil and Gas o	f the West Virginia De	partment of Enviro	onmental	Protecti	on. I unders
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	•	Legend	
Property Boundary Road Existing Fence Planned Fence Stream Open Ditch Rock North		Diversion Spring Wet Spot Drain Pipe Waterway Cross Drain Filter Strip Pit: Cut Walls	
Buildings		Fill Walls	more
Water Wells Drill Site		Area of Land Application of Pit Waste	المسترة بريات المستران
Liohozea vove8emmer	Lime 2 Tons/. Fertilizer (10-20-20 or Equivalent) Mulch Straw 2	Area II Approx. 0.2 Ac. Acre or Correct to pH 500 Lbs./A Tons/Acre EEED MIXTURES	6.5 Acre (500 lbs. Minimum)
	Area I (Location)		Area II (Road) Lbs/Ac.
Seed Type	Lbs/Ac.		Type Los/Ac. Fescue 40
Tall Fescue	405		no Clover 5
Ladino Clove	er J		
Photocopied section	location, pit and proposed area for land of involved 7.5' topographic sheet. by: O'lt Gas Inspector		Date: <u>6/18/2014</u>
Field Review	A STATE OF THE STA		No

Reclamation Plan For: B.T. Strother No. 5

47-033-4102

Frac Permit 6/12/2014

To R.Q. Flowers No.3 100' of 15% Grade NOTE REFER TO THE WVDEP **EROSION AND SEDIMENT CONTROL** FIELD MANUAL VER. MAY 2012 FOR BMPs CONTROLLING EROSION AND SEDIMENT FROM SOIL-DISTURBING OPERATIONS. 350' of 15% Grade 450' of <5% Grade Use Existing Access Road 250' of 18% Grade Existing Well Location 4102 300' of 10% Grade Allen W. Cochran - Surface Owner 5DW 6/18/2014 200' of 15% Grade **Existing Road Approach** Office of Oil and Gas NOTE: WELL LOCATION WAS BUILT AND RECLAIMED UNDER DRILLING PERMIT NO.47-033-4102. ONLY MINIMAL Notes: UN 2 5 2014

(E) - Existing Culvert

Note: Drawing not to Scale

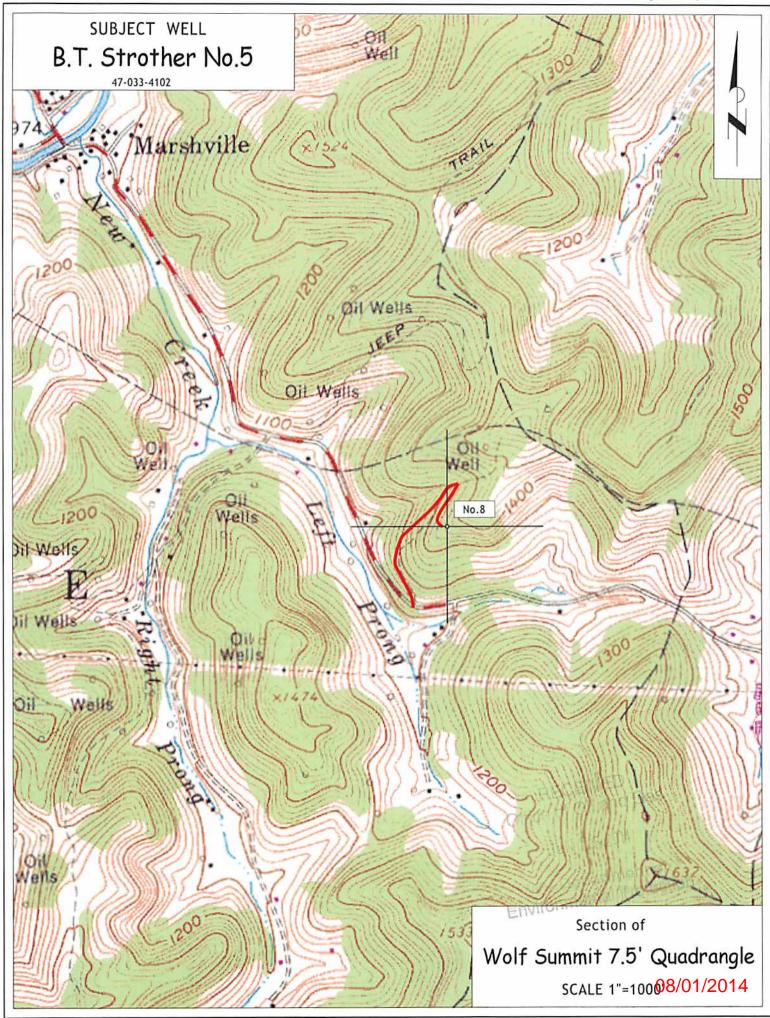
EARTHWORK WILL BE REQUIRED FOR PROPOSED WELL WORK. ALL DISTURBED AREAS WILL BE RE-VEGETATED

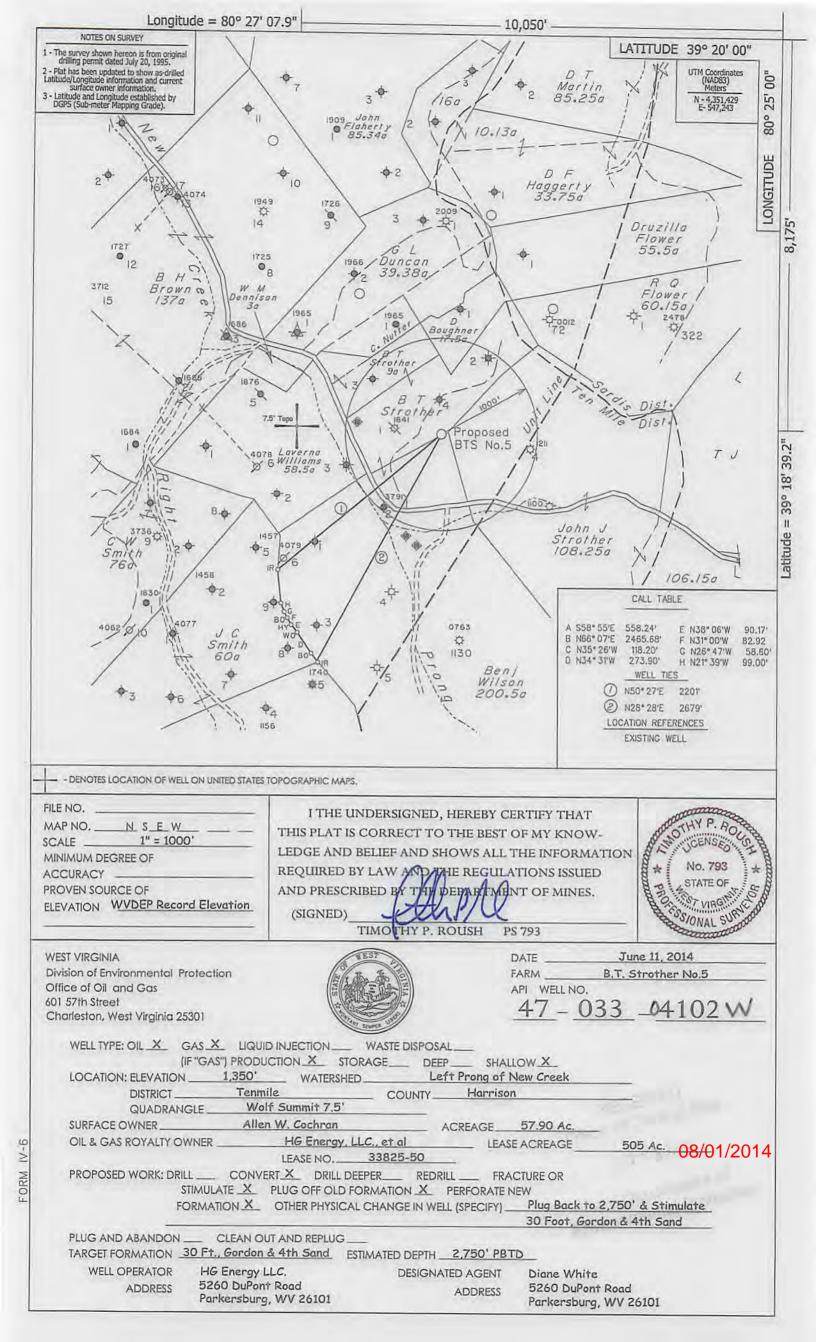
AS PER THE SEEDING PLAN ON FORM WW-9. A SMALL WORKOVER PIT WILL BE CONSTRUCTED TO CONTAIN

ANY FLUIDS RECOVERED DURING PROPOSED WELL WORK.

PAGE 1

- Requested permit is for re-frac of existing well.
- Location and access roads from Co. Rd. 7/2 to the well are existing. Structures shown will be maintained.
- All disturbed areas will be re-vegetated as outlined on Form WW-9.
- Sediment barriers and drainage structures will be manufalled.
- All road grades <5% except as noted.







HG Energy, LLC 5260 Dupont Road Parkersburg, WV 26101 (304) 420-1100 - Office (304) 863-3172 - Fax

June 13, 2014

Mr. Jeff McLaughlin WVDEP Division of Oil & Gas 601 57th Street Charleston, West Virginia 25304

RE:

B. T. Strother No. 5 (47-033-4102) Ten Mile District, Harrison County West Virginia

Dear Mr. McLaughlin:

Enclosed are Forms WW-2A, WW-2A(1), WW-2B, WW-9, mylar of plat, reclamation plan, topo map and copies of the certified mailing receipts for a permit to stimulate the above-captioned producing well. Also enclosed is our check in the amount of \$650.00 to cover the associated permit fees.

Should you have any questions please call me at 304-420-1119 or email me at dwhite@hgenergyllc.com.

Very truly yours,

Diane Culhite

Diane C. White

Enclosures

PECEIVED Office of Off and Gas

Wy Dup Ements. Environmental Protection

cc: Allen Cochran - Certified

Patriot Coal Corporation - Certified

Sam Ward - Inspector



HG Energy, LLC 5260 Dupont Road Parkersburg, WV 26101 (304) 420-1100 - Office (304) 863-3172 - Fax

3304102W Ck # 2702 \$650 Received

JUN 3 0 2014

June 13, 2014

Office of Oil and Gas WV Dept. of Environmental Protection

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