

### 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

December 04, 2013

#### WELL WORK PERMIT

### Secondary Recovery Well

This permit, API Well Number: 47-10302724, 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: S. L. CRANE 306

Farm Name: BRIGGS, DIANA & DANNY

API Well Number: 47-10302724

Permit Type: Secondary Recovery Well

Date Issued: 12/04/2013

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 within 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. If well work related activities require the use of water obtained by withdrawals from waters of this state in amounts that exceed two hundred ten thousand gallons during any thirty day period, the operator is required to consult, and adhere to, the guidance provided by DEP's Water Withdrawal Guidance Tool prior to any water withdrawals.

WW-3B 10/07



1) Date		October 21, 2013						
2) Operator's Well	s. L. Crane No. 306							
3) API Well No.	47	-	103	- 2	2724			
	State		County		Permit			
4) UIC Permit No		I	JIC2R1030	4AP				

# STATE OF WEST VIRGINIA NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

	WELL TYPE	):	Liqui	d Injection	n X		Gas Injection	n (not stora	ige)	Waste Dispos	al
6)	LOCATION:		Elevation	939	,			ershed		Fishing Creek	
		Distric		Center	01	Coun			шие		Big Run 7.5' 154
7)	WELL OPER	RATOR:	HG Ene	rgy, LLC		49449794	8 8) DE	SIGNATE	D AGEN		F. 1
				pont Road						5260 Dup	
			Parkersl	ourg, WV	26101	10					urg, WV 26101
9)	OIL & GAS I	NSPECT	OR TO BE	NOTIFII	ED:		10) D	RILLING	CONTRA	CTOR:	
		Name	Derek H	aught						e To Be Determined Upon	Permit Approval
		Address	PO Box						Addres		- PPS (G
			Smithvil	le, WV 26	178						
11)	PROPOSED	WELL W	ORK:	Drill			Drill Deeper		Redri	ll Stimulat	0
						ld Formatio	on	Perforate			Convert X
				Other	Physic	al Change i	n Well (specify)				A
12)	Geological tar	rget forma	ation		Gordo	n	Deptl	n	3,154	Ft. (Top) to	3,162 Ft. (Bottom)
13)	Estimated de	pth of con	npleted we	ell (or actu	al dep	h of existin	g well)		3312'	Ft.	
14)	Approximate	water str	ata depth	s:	Fresh		50	Ft.		Salt 1,3	325 Ft.
15)	Approximate	coal seam	depths:			82	25	Ft.			Dat
16)	Is coal being	mined in	the area?			Yes		X	No		10-28-1
17)	Virgin reserve	oir pressu	re in targ	et formati	on:		60		psig.	Source	Estimated
18)	Estimated res	servoir fra	acture pre	ssure:			1200		psig.		Dominated
19)	MAXIMUM P	ROPOSE	D INJEC	TION OPE	ERATIO	ONS. V	olume per hour	95 bb1/b	_	Datta II.I. D	0.000
										Bottom Hole Pressur	e2400 psi
20)	and other che	micals as	needed to	or MATE maintain	Water	TO BE INJ quality and	ECTED, INCL improve oil rec	UDING AL overv	DITIVES	Fresh water, prod	uced water, bactericides
21)	FILTERS (IF	0.000				and/or coal					
22)	SPECIFICAT	ION FOR	CATHOL				HER CORROSI	ON CONT	ROL	-	
			01111101	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	DOILC	TVIND OI.	ment connoci	ON CONT	NOL		
23)	CASING ANI	TUBING	G PROGR	AM							
CAS	ING OR		SPECI	FICATION	ic		FOOTAGE IN	IMBDYIAT C		ODM DATE THE	and advanced in
	ING TYPE	Size	Grade	Weight	New	Used	For Drilling	Left ir		OR SACKS (CU. FT.	PACKERS
	luctor	Dido	Grade	Height	11011	Oseu .	ror Drining	Lett II	rwen	OR SACAS (CU. FT.	
	h Water	7"	LS	17#	X		930'	930	)'	Has Enisting Caring	Kinds
Coal							000	330		Use Existing Casing	Tension Sizes
	mediate										2.375" X 4.5"
_		4 1/2"	J-55	10.5#	X		3150'	315	50'	Use Existing Casing	Depths Set
Inter	uction	4 1/2		1.011	X		3050'	305		Occ Estacting Ottoling	2950'
Inter Prod		2 3/8"	J-55	4.6#	Δ						
Inter Produ Tubir	ng		J-55	4.6#	Λ		0000				
Inter Produ Tubir	ng		J-55	4.6#	Λ		0000			20	Perforations Top Bottom
Inter Produ Tubir	ng		J-55	4.6#	Α		0000			20	Perforations
Inter Produ Tubir	ng		J-55	4.6#	Δ.		0000			30	Perforations
Inter Produ Tubir Liner	ng	2 3/8"				red from	James E. As	shcraft, et a	al		Perforations
Inter Produ Tubir Liner	ng rs	2 3/8"			acquir	red from	James E. As	hcraft, et a		ry 1, 2011	Perforations

12/09/2011 47-103-02724

103 027245

### State of West Virginia Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

Farm name:

BRIGGS, DIANA & DANNY

Operator Well No.: S.L. CRANE 306

LOCATION:

Elevation:

939'

Ouadrangle:

**BIG RUN 7.5'** 

District:

**CENTER** 

County: WETZEL

Latitude: Longitude:

Be Welch

1,315 Feet south of 9,115 Feet west of

39 Deg 37 Min

30 Sec. 0 Sec. 80 Deg 35 Min

Company Address:	HG Energy PO Box 5519 Vienna, WV		Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Inspector:	Derek Ha	ught				
Date Permit Is	sued: 12/	09/2011				
Date Well Wo	rk Commenced:	12/27/2011				
Date Well Wo	rk Completed:	02/10/2012				
Verbal Pluggi	ng:					
Date Permissi	on Granted On:		_			
Rotary X	Cable Ri	g	7"	933'	933'	190 sks
Total vertical	Depth (ft):	3150'				
Total Measure	ed Depth (ft):	3312'	1	i		
Fresh Water D	epth (ft):	none	4 1/2"	3218.9'	3218.9'	200 sks
Salt Water De	pth (ft):	none	<u> </u>			
Is Coal being	mined in ares (Y/N)?	No	]			
Coal Depths (1		4'-931'				
Void(s) encou	ntered (Y/N) depth(s): NONE					

OPEN FLOW DATA	This well drilled direct	ctionally 6.8 de	grees NE a dista	nce of 606.37'	•
Of Bivileo W Billion				3024'-3	030'
Producing formation	Gord	lon	Pay zone (f	ft) 3155 <u>.5'</u>	-3160.5'
Gas: Initial open fl	ow 23	MCF/d Oil:	Initial open flow	v <u>4</u>	_Bbl/d
Final open flo	w *	MCF/d	Final open flow		Bbl/d
Time of ope	n flow between initia	Tand final tes	sts	* Hours	4
Static rock pressure	*	psig (surface	pressure)	after *	Hears
<b></b>			_	440	160
Second producing for	mation	•	Pay zone d		7
Gas: Initial open fl		MCF/d Oil:	Initial open flov		Bbl/d
Final open flo	ow	MCF/d	Final open flow		Bbl/d'
<sup>-</sup> ^	C 1	Tand final tes	ts	Hours	1 2 2 3
Static rock pressure I certify under penalty of law that I the attachments and that, based on		psig (surface	pressure)	after NOV	Hours de Pro
I certify under penalty of law that I	have personally examined	and am familiar wi	ith the information s	submitted on this	document all
the attachments and that, based on	my inquiry of those individ	uals immediately r	responsible for obtai	ning the informa	is it is that
	the information is t	rue, accurate, and	complete.	26	pt. C.

1					77	7		ught during	drilling?	No	10302	7245
Were	core samp		No	Machania		vere cu N	ungs cau	physical lo	g urming: ogs recorde	ed on thi		
Were	Υ	Electrical,	N	Mechanica	<sup>dl</sup> ,	Y/N	_0.000	pnysiour io	,60 10001			
	Y/N	HE AREA BELO	Y/N	11 (1) A/INIG: 1	DETA	UI C OE	PERFORA	ATED INTER'	VALS, FRAC	CTURING	OR	
STIM												
THE	TOPS AND E	HYŞICAL CHAN BOTTOMS OF AL	L FORMATION	45, INCLUDIN	G COA	IL EINOC	UNTERE	D BY THE WI	ELLBOREF	KOM SU	RPACE TO	
		Treated perfa		101	AL DEF	- 111.						
Treat	tment :	Treated perfs	2024: 2020 2020: 14202	00.5° W/ 200	1 50/5 1 %05 1	7 III	OShhis C	rosslink ge	el. & 20.00	00# 20/4	10 sand.	
		Treated perfs	3024*-3030	olotico to K	וא) פב זייירד	AGT )	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,1000xxxxx 8-	,			
Well	Log:	All depths are		A or symmetry	ъ (о .	924	•					
		Shale w/ sand	1 streaks	924	_	931						
		Coal		924	_	934						
		Shale		931 934	_	1012						
		Sand		1012	_	1132						
		shale		1132	_	1150						
<i>e</i> :		sand		1152	_	1266						
\$ 16°		shale		1266	_	1280						
		sand		1280	_	1304						
		shale		1304	_	1324						
SAL The		sand		1324	_	1443						
1,		shale		1443	_	1494			•			
		sand		1494	_	1536						
		shale		1536	_	1594						
$N^{ij}$		sand		1594		1660						•
		shale		1660	_	1698						
		sand		1698	_	1712						
		shale		1712	_	1712						
		sand		1712	_	1768						
		shale		1768	_	1782						
		sand		1782	_	1800						
		shale		1800	_	1860						
		sand		1860	_	1950						
	•	shale		1950	_	1963						
7		sand		1963	_	1978						
:: .		shale		1978	_	1985						
		sand		1985		1988						
.43	• •	shale		1988	_	2080						
٠,		Big Lime		2080	-	2313						
1. 1.		Big Linjun		2313	-	2984					Ved	
		shale	.T1	2984	_	3008				001	ARC.	
		Gordon Stra	ı,y	3008	_	3114			K-J.C			
		shale Gordon		3114	_	3038			ħ.		J - 17/3	
		shale		3038	-	3044				1904 -J	3	
		snate		3044		3056					<sub>f</sub> Oil and Gas <sub>Wironmental</sub> P	rotection
		sand shale		3056	-	3155				Office o	i Oii a Pental P	,-
		sand		3155	-	3161			.anl	nepl. of Er	14.	
		sand shale		3161	-	3312			, in the			
		TD		3312								
		T.DLogg	rer	3311	KB							
*:		T.DDrill		3312	KB							

WW-3A 10/07

5) Surface Owner(s) To Be Served



1) Date:		October 2	October 21, 2013							
2) Operator's We	s. L. Cran	06								
3) API Well No.	47	103		2724						
-	State	County		Permit						
4) UIC Permit N	0.	UIC2R103	304AP							

# STATE OF WEST VIRGINIA NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

7 (a) Coal Operator

	(a) Name	Diana & Danny Briggs	Name	NA
	Address	HC 61, Box 28	Address	
	*30.50.500.	Wileyville, WV 26186		
	(b) Name	, , , , , , , , , , , , , , , , , , ,	7 (b) Coal Owner(s	) With Declaration Of Record
	Address		Name	NA
	Address _		Address	- 1111
	/ N N		Address	
	(c) Name		N	NA
	Address		Name	NA
			Address	
6)	Inspector	Derek Haught	7(c) Coal Lessee W	7ith Declaration Of Record
()	Address	PO Box 85	T(c) Coursect T	CONSOL Energy Attn: Eric Shered
	Address _	Smithville, WV 26178	_	1000 Consol Energy Drive
			_	Cannonburg, PA 15317
	Telephone _	206-7613		Cannonburg, FA 13517
TOT	THE PERS	ON(S) NAMED ABOVE: You should have	received this fo	orm and the following documents:
(1)	The Applies	ation for a Liquid Injection or Waste Disposal W	all Work Permit	on Form WW-3(B) which
		그 마음이 있는 그를 하는 것이 아니라 아름이 있다. 이 아니라는 아이를 하지 않는데, 이번 사람들이 아니라 하는데 아니라 아름이 살아 있다. 그 아니라	en work i ermit	on Porm ww-5(b), which
		parties involved in the drilling or other work;		
		rveyor's map) showing the well location on For		
(3)	The Constr	uction and Reclamation Plan on Form WW-9 (ur	nless the well wo	rk is only to plug a well),
1	which sets	out the plan for erosion and sediment control an	nd for reclamation	for the site and access road.
		ed for the first injection or waste disposal is	NA	
		OU RECEIVED THESE DOCUMENTS IS THAT YOU		
WHIC	CH ARE SUN	MMARIZED IN THE "INSTRUCTIONS" ON FORM V	WW-3(A) DESIGNA	TED TO YOU. HOWEVER YOU
ARE :	NOT REQUI	RED TO TAKE ANY ACTION AT ALL.		
Take r	notice that und	ler Chapter 22-6 of the West Virginia Code, the undersigned	well operator propos	es to file or has filed this Notice and
		ompanying documents for a Well Work Permit with the Chie		
		ection, with respect to a well at the location described on the		
		Notice, the Application, the plat, and the Construction and		
		vered by hand to the person(s) named above (or by publication		
			on in certain circums	ances) on or before the day of the
шащи	g or delivery t	o the Onier.		
		The person signing this document shall make the	following certificati	on:
		The person eighing time document enter mane one	and the partition of th	
"I cert	ify under pena	ilty of law that I have personally examined and am	Well Operator	HG Energy, LLC
familia	ar with the inf	ormation submitted in this document and all attachments	Address	5260 Dupont Road
and th	at, based on n	ny inquiry of those individuals immediately responsible		Parkersburg, WV 26101
		ormation, I believe that the information is true, accurate		
		ware that there are significant penalties for submitting	By:	Diane C. White
		cluding the possibility of fine and imprisonment."	Its:	Accountant
				ALL SECTION
				10.
			Signature	Diane Clubite
Oil an	d Gas Privacy	Notice		
The O	ttice of Oil and	Gas processes your personal information, such as name, ad	dress and phone num	ber, as a part of our regulatory duties.

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 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:

deprivacyofficer@wv.gov

WW-2B1

Well No. s. L. Crane No. 306	Crane No. 306
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## 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.

If no water well or spring is located within 1000 feet, the Chief may require the operator to sample and analyze water from a water well or spring within 2000 feet of the proposed well site.

Be advised, you have the right to sample and analyze any water supply at your own expense.

The laboratory used by the operator to analyze the samples will be approved by the Chief. The operator named below has decided to use the following laboratory to analyze the water samples:

X Contractor Na	me Sturm Environmental Services
Well operator	's private laboratory
Well Operator _	HG Energy, LLC
Address	5260 Dupont Road
_	Parkersburg, WV 26101
Telephone	304-420-1119

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 underlining which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site please indicate such.

No known Water Supply Sources are located within 2000' of proposed well.



Form WW-9 Rev. 10/94	•	•.		. •	 •			•			Page	3	. "of .	3
nev. 10/94						_					ır 47		_	2724
						Opera	tor's	Well 1	No.	S	s. L. C.	rane l	No. 306	

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

Operator	HG Energy,	LLC		0	l Code	4044000+0	
Watershed	Little Fishin			Quadrangle	_	494497948 Run 7.5'	_
Elevation	939'	County	Wetzel	District		Center	<del></del>
Description of a	nticipated Pit Waste:	A pit will r				·	<del></del> .
Do you anticipa	te more than 5,000 bbls of			rl Yes	No	Х	•
	liner be used in pit?	NA	If so, what mil.?	•			
Proposed Dispos	sal Method For Treated Pi	t Wastes:	•		<del></del>		
	Land Applicat						
-	- <del></del>	Injection (UIC P	ermit Number				)
	Reuse (at API		******				<u>)</u>
		sai (Supply Form Explain	WW-9 for disposal loca	tion)			
Drilling medium	anticipated for this well?	· · · · · · · · · · · · · · · · · · ·					<u>)</u>
- If	canticipated for this well? Coilbased, what type? Syn	thetic petroleur	r, oil based, etc.	NA			
Additives to be u						<del></del>	- Din H
	sposal method? Leave in p						- 10-28-17
- 1f	left in pit and plan to soli	dify, what medic	ım will be used? Cemen	t, lime, sawdust N	A		
- L:	andfill or offsite name/per	mit number? _					<del></del>
issued on August that the provision applicable law or	t 1, 2005, by the Office of C ns of the permit are enforc regulation can lead to en	Dil and Gas of th ceable by law. Vi forcement action	olations of any term or c	nent of Environment condition of the gener	al Protect al permit	ion. I understand and/or other	
issued on August that the provision applicable law or I ce this application for obtaining the	t 1, 2005, by the Office of C ns of the permit are enforc	Oil and Gas of the cable by law. Viforcement action that I have personant that, the information the information	e West Virginia Departr olations of any term or c conally examined and an based on my inquiry of n is true, accurate and co	ment of Environment condition of the gener in familiar with the in those individuals im- complete. I am aware	al Protect al permit formation mediately	ion. I understand and/or other a submitted on responsible	
issued on August that the provision applicable law or I ce this application for obtaining the	the 1, 2005, by the Office of Common the permit are enforced regulation can lead to entertify under penalty of lawform and all attachments the information, I believe that mitting false information,	Dil and Gas of the cable by law. Viforcement action that I have pershereto and that, the information including the po	e West Virginia Departr olations of any term or c conally examined and an based on my inquiry of n is true, accurate and co	ment of Environment condition of the gener in familiar with the in those individuals im- complete. I am aware conment.	al Protect al permit formation mediately	ion. I understand and/or other a submitted on responsible	
issued on August that the provision applicable law or I ce this application of for obtaining the penalties for subi Company Offici	the 1, 2005, by the Office of Common the permit are enforced regulation can lead to entertify under penalty of lawform and all attachments the information, I believe that mitting false information,	Dil and Gas of the cable by law. Viforcement action that I have persidence and that, the information including the po	e West Virginia Departr olations of any term or c . sonally examined and an based on my inquiry of n is true, accurate and co ssibility of fine or impris	ment of Environment condition of the gener in familiar with the in those individuals im- complete. I am aware conment.	al Protect al permit formation mediately	ion. I understand and/or other a submitted on responsible	_
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Legend	

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Property Bou	ındary	AVAVA	`	Diversion		///	
	Road		==	Spring	<u> </u>	>	
Existing I	Existing Fence — X —— X —— X		Wet Spot	8			
Planned 1	Fence	//	/	Drain Pipe		<del>-&gt;</del>	
Stream Stream		Waterway	$\leftrightarrow$	<b>├</b>			
Open	Ditch	·>	>	Cross Drain	7///////		•
	Rock	<i>3</i>		Filter Strip	XXXXXXXX	XXX	
,		\1		Pit: Cut Walls	Cirring		
	North	N		Pit: Compacted	- Julian	_	
Build Water V	ŀ			Fill Walls	y July		•
		(w) (T)		Area of Land Application			
Drii	l Site	<u> </u>		of Pit Waste	(		
Proposed Revegetation	Treatme	nt: Acres Disturbed	Area Approx.		evegetation pH		
<b>,</b>			Area ]		regention pir		
			Approx.	0.1 Ac.			
Lime 2 Tons/Acre or Correct to pH 6.5							
Fertilizer (10-20-20 or Equivalent) 500 Lbs./Acre (500 lbs. Minimum)  Mulch Straw 2 Tons/Acre							
,			_				
		<u>S</u>	EED MIX	TURES			
	Area ]	(Location)		_	Area II (Road)		
Seed Type Tall Fescue		Lbs/Ac. 40		Seed Type Tall Fescue	Lbs/2 40	Ac.	
Ladino Clover		5	<del>-</del> -	Ladino Clover	5		
•			<del>-</del>			<del></del>	
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Photocopied section of i	ation, pii involved	and proposed area for land a 7.5' topographic sheet.	pplication				
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Plan approved by: _	A						<del></del>
Comments:							<b>- 1</b>
Title:	Dil	+ be Too			Date: 10-25-17	**	Ned
	011	+6s, Inspec	<i>5.</i>		Date: 10-28-17	<del></del>	
Field Reviewed?		Yes		( ) ]	40	400	J 1983
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### Reclamation Plan For: S.L. Crane No.306

47-103-2724

#### NOTE:

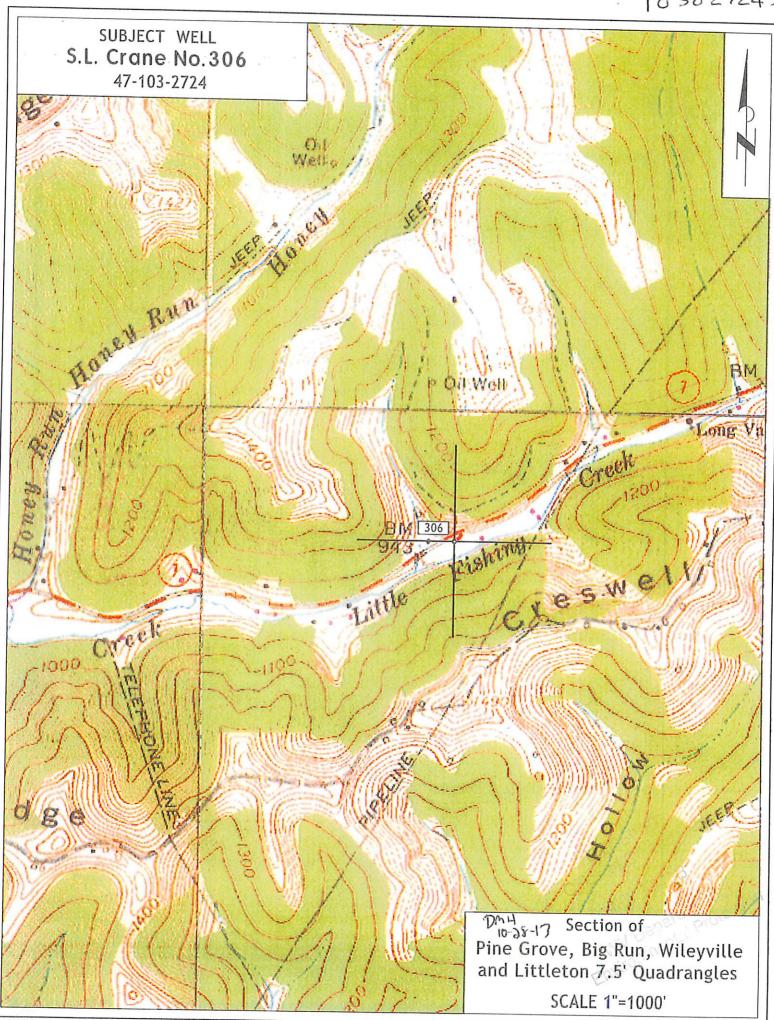
WELL LOCATION WAS BUILT AND RECLAIMED UNDER DRILLING PERMIT NO.47-103-2724. ONLY MINIMAL EARTHWORK WILL BE REQUIRED FOR PROPOSED WELL WORK. ALL DISTURBED AREAS WILL BE RE-VEGETATED AS PER THE SEEDING PLAN ON FORM WW-9. NO WORK-OVER PIT WILL BE REQUIRED FOR PROPOSED WELL WORK.

## Dwelling Existing Access Road 2724 Existing Location 306 Danny & Diana Briggs - Surface Owners Billy R. Dent - Surface Owner NOTE REFER TO THE WVDEP **EROSION AND SEDIMENT CONTROL** FIELD MANUAL VER. MAY 2012 FOR BMPs CONTROLLING EROSION AND SEDIMENT FROM SOIL-DISTURBING

### Notes:

- Requested permit is for conversion of existing well.
- Access from State Route 7 to well location is existing. Structures will be maintained.
- All disturbed areas will be re-vegetated as outlined on Form WW-9.
- Maintain sediment barriers and drainage structures.
- All road grades <5% except as noted.

OPERATIONS.



φ<sub>3</sub>

0

Dulaney Clark 17a

2343

125

Great house

Greathouse 25.37a

2509

FILE NO.\_

MAP NO.\_

SCALE \_

ELEVATION

JA Dulaney

88a

UTM COORDINATES (NAD 1983) SURFACE N - 4,385,815 m. E - 533,000 m.

**BOTTOM HOLE** 

N - 4,385,996 m. E - 533,022 m.

Eliz. Dulaney

Dulaney

Hugh C. Dulaney 57 7/8a//

124

2335

Little

SW & FM Jackson 65.13a

305

Barbara Moore 20 a

Bottom Hole Longitude - 80° 36' 55.6"

7.51

, N. Postdiffue 14 (NO) 14 (NO) 14 (NO) 14 (NO)

Topo

1466

Isaac Lancaaster 12a

Creek

Dean

9.13a

 DENOTES A POSSIBLE WATER SUPPLY SOURCE LOCATED FROM CIRCA 2003 AERIAL PHOTOGRAPHY - NOT BY SURVEY. OTHER SOURCES MAY BE PRESENT.

FM White

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Rebecca 8

8.5a

-1,315'

16.98"

371

39°

\_atitude

800

ONGITUDE

00

22

37

390

Latitude

Hole

Selby Postlethwaite 56 7/8a

LATITUDE

S.L.Crane Lease

88.5 Ac.

50a

S23° 15'E 3,338'

1 136 P. N88° W

S88° E

Bottom Hole Location Wm A Matthews 71.13a

\$12° V

2,009

Catharine

31a

Jno

Carroll 20.25a

Surface Location No.306

Danny & Diana Briggs -Surface

-4.3 CALL TABLE \$24° E \$40.5° E N80° E N63° E N45° E \$550° E Thos Newell 105.75a

LOCATION REFERENCES Existing Well

- DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

Higginbotham 54.25a

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 REGU-NIM PRESCRIBED BY THE DEPART

LATIONS ISSUED MENT OF MINES

(SIGNED)

TIMO P. ROUSH PS 793

OTHY P. ROLL TOSIONAL SUR

WEST VIRGINIA

MINIMUM DEGREE OF ACCURACY \_\_\_Sub-Meter

PROVEN SOURCE OF

Division of Environmental Protection Office of Oil and Gas 601 57th Street Charleston, West Virginia 25304

1046-25

DGPS Survey

(Sub-Meter Mapping Grade)

N\_ 1" - 1,000"



October 21, 2013 DATE\_ S.L. Crane No.306 FARM\_ API WELL NO.

142.5

\_ GAS \_\_\_ LIQUID INJECTION\_X\_ WASTE DISPOSAL \_ \_ HORIZONTAL (IF "GAS") PRODUCTION \_\_\_\_ STORAGE \_\_\_ DEEP \_\_\_ SHALLOW \_X CBM .

ELEVATION \_\_\_ 939' WATERSHED \_\_\_ Little Fishing Creek LOCATION: ELEVATION \_\_\_\_939' DISTRICT\_\_\_\_Center Wetzel \_ COUNTY\_\_

QUADRANGLE Big Run 7.5'

SURFACE OWNER\_\_\_\_ Danny & Diana Briggs

ACREAGE \_ 1.23 Ac. OIL & GAS ROYALTY OWNER James E. Ashcroft et al. \_ LEASE ACREAGE\_

LEASE NO. \_\_ 107764-00

CONVERT\_X DRILL DEEPER \_\_\_ REDRILL. PROPOSED WORK: DRILL \_ STIMULATE \_\_\_ PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) CONVERT TO LIQUID INJECTION

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG TARGET FORMATION \_ Gordon

WELL OPERATOR HG Energy, LLC **ADDRESS** 

5260 Dupont Road Parkersburg, WV 26101

\_\_ ESTIMATED DEPTH\_\_

DESIGNATED AGENT Mike Kirsch 5260 Dupont Road ADDRESS Parkersburg, WV 26101