

### 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 28, 2015

### WELL WORK PERMIT Secondary Recovery Well

This permit, API Well Number: 47-4303554, 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: HAGER HEIRS 177

Farm Name: RANDY & KELLY ROBERTS, STE

API Well Number: 47-4303554

Permit Type: Secondary Recovery Well

Date Issued: 12/28/2015

### 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, drilling ceased, completion of any other permitted well work and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

FORM WW-3 (B) 1/12



1) Date: 11/05/20	)15					
2) Operator's Well	No.	Hag	ger Heirs 177	7		
3) API Well No.:	47	-	Lincoln	4	S	
	State	-	County			Permit

4) UIC Permit No. UIC2R040301AP

#### 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

13) Estimated Depth of Completed Well, (or actual depth of existing well):   3274'   Feet   14) Approximate water strata depths:   Fresh   447   Feet   Salt   1297'   Feet   15) Approximate coal seam depths:   497     49	5) WELL T		id Injection	-	]_/		ction (not storag		]_ / w	aste Disposal
Nell OPERATOR:   HG Energy, LLC   S260 Dupont Road   Parkersburg, WV 26101	6) LOCATI						-	raight Fork		
Address   S260 Dupont Road   Parkersburg, WV 26101   Parkorsburg, WV 26101						Co				
Parkersburg, WV 26101	7) WELL O	_					8) DESIGNA			
9) OIL & GAS INSPECTOR TO BE NOTIFIED Name Jeremy James Address P. O. Box 36 Clendenin, WV 25045  11) PROPOSED WELL WORK Plug off old formation Other physical change in well (specify) Other physical change in well (specify) 12) GEOLOGIC TARGET FORMATION Berea Depth 3037 Feet (top) to 3054 Feet (17) Approximate water strata depths: Fresh 447 Feet Salt 1297 Feet 13) Estimated Depth of Completed Well, (or actual depth of existing well): 3274' Feet 14) Approximate water strata depths: Fresh 447 Feet Salt 1297 Feet 15) Approximate coal seam depths: Fresh 447 Feet Salt 1297 Feet 16) Is coal being mined in the area? Yes No 17) Virgin reservoir pressure in target formation 1250 Psig Source Salt 1297 Feet 18) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour water, bactericides and other chemicals as needed to maintain water quality and improve oil recovery. 21) FILERS (IF ANY) Cardridge filters and/or coal bed filters 22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL 23) CASING AND TUBING PROGRAM CASING OR TUBING TYPE Size Grade Weight New Used Production PACKERS Fresh Water TUBING TYPE Size Grade Weight New Used For Drilling Left In OR. SACKS (CU. FT.) Kinds Fresh Water To Both Fresh Water Fresh		_						Addres	-	
Name Address P. O. Box 36 Clendenin, WV 25045  11) PROPOSED WELL WORK Plug off old formation Other physical change in well (specify)  12) GEOLOGIC TARGET FORMATION Berea Depth 3037 Feet (top) to 3054 Feet (13) Estimated Depth of Completed Well, (or actual depth of existing well): 3274' Feet Salt 1297' Feet Feet Feet Salt 1297' Feet Feet Salt 1297' Feet Feet Feet Salt 1297' Feet Feet Salt 1297' Feet Feet Salt 1297' Feet Feet Salt 1297' Feet Sa										burg, WV 26101
Address   P. O. Box 36			OR TO BI	ENOTIFI	ED					soval of Dormit
Clendenin, WV 25045  11) PROPOSED WELL WORK   Drill       Drill deeper     Redrill     Stimulate   Plug off old formation   Perforate new formation   Convert   Other physical change in well (specify)  12) GEOLOGIC TARGET FORMATION   Berea   Depth   3037   Feet (top) to   3054   Feet (I stimulate)   Feet   Stimulate							The Assessment of the Assessme	be Determin	ied Upon App	roval of Permit
11) PROPOSED WELL WORK   Drill			ma. r m			_	Address			_
Plug off old formation Other physical change in well (specify)  12) GEOLOGIC TARGET FORMATION Berea Depth 3037 Feet (top) to 3054 Feet (13) Estimated Depth of Completed Well, (or actual depth of existing well): 3274 Feet  13) Estimated Depth of Completed Well, (or actual depth of existing well): 3274 Feet  14) Approximate water strata depths: Fresh 447 Feet Salt 1297 Feet  15) Approximate coal seam depths: 497  16) Is coal being mined in the area? Yes No Serial Section of the area? Yes No Section of t		Clendenin, WV 2	5045				_			
14) Approximate water strata depths:				Plug off Other p	old form	nation	/ Perfo well (specify)	rate new fo	ormation	Convert
15) Approximate coal seam depths: 497  16) Is coal being mined in the area? Yes No psig Source Estimated  17) Virgin reservoir pressure in target formation 1250 psig Source Estimated  18) Estimated reservoir fracture pressure 2650 psig Source Estimated  18) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 25 BBL Bottom hole pressure 2400  20) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES Fresh water, producter, bactericides and other chemicals as needed to maintain water quality and improve oil recovery.  21) FILTERS (IF ANY) Cartridge filters and/or coal bed filters  22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL  23) CASING AND TUBING PROGRAM  CASING OR TUBING TYPE Size Grade Weight New Used For Drilling Left In per ft. Well OR SACKS (CU. FT.)  Conductor Fresh Water 7" LS 17# X 597' 597' CTS  Coal Sizes Intermediate 2.375" x 4.5"  Production 4 1/2" J-55 10.5# X 3224' 3224' 150 sks Depths set  Tubing 2 3/8" J-55 4.6# X 2837' 2837' 2700'  Liners Tubing 2 3/8" J-55 4.6# X 2837' 2837' Top Bot	13) Estimate	ed Depth of Co	mpleted V	Well, (or a	actual de	epth of exis	ting well): 327	74'	Feet	
15) Approximate coal seam depths:  16) Is coal being mined in the area?  Yes  No  psig  Source  Estimated  18) Estimated reservoir pressure in target formation 1250  Psig  Source  Source  Estimated  Psig (BH  South hole pressure 2400  2400  DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES  Fresh water, production sand other chemicals as needed to maintain water quality and improve oil recovery.  21) FILTERS (IF ANY)  Cartridge filters and/or coal bed filters  22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL  23) CASING AND TUBING PROGRAM  CASING AND TUBING PROGRAM  CASING OR  TUBING TYPE  Size  Grade  Weight New  Used  For Drilling  Left In  Well  OR SACKS  (CU. FT.)  Kinds  Fresh Water  7"  LS  17#  X  597'  597'  CTS  Coal  Intermediate  Production  4 1/2"  J-55  10.5#  X  3224'  3224'  150 sks  Depths set  Tubing  2 3/8"  J-55  4.6#  X  2837'  2700'  Liners  Top  Bot									1297'	Feet
10) Is coal being mined in the area? Yes No Poil Prign reservoir pressure in target formation 1250 psig Source Estimated  18) Estimated reservoir fracture pressure 2650 psig Source Provided Pr							-			
17) Virgin reservoir pressure in target formation   1250   psig   Source   Estimated   Estimated   18) Estimated reservoir fracture pressure   2650   psig (BH   19) MAXIMUM PROPOSED INJECTION OPERATIONS:   Volume per hour   25 BBL   Bottom hole pressure   2400   20) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES   Fresh water, production   Fresh water   Fres				Yes		No				
18) Estimated reservoir fracture pressure 2650 psig (BH 19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 25 BBL Bottom hole pressure 2400 20) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES water, bactericides and other chemicals as needed to maintain water quality and improve oil recovery.  21) FILTERS (IF ANY) Cartridge filters and/or coal bed filters 22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL  23) CASING AND TUBING PROGRAM  CASING OR TUBING TYPE Size Grade Weight New Used For Drilling Left In per ft. Well OR SACKS (CU. FT.)  Conductor Fresh Water 7" LS 17# X 597' 597' CTS  Coal Sizes Intermediate 2.375" x 4.5"  Production 4 1/2" J-55 10.5# X 3224' 3224' 150 sks Depths set  Tubing 2 3/8" J-55 4.6# X 2837' 2837' 2700'  Top Bot					on 1250		g Source	- Estimated		
19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 25 BBL Bottom hole pressure 2400 DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES water, production part of the pressure water, production and other chemicals as needed to maintain water quality and improve oil recovery.  21) FILTERS (IF ANY) Cartridge filters and/or coal bed filters  22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL  23) CASING AND TUBING PROGRAM  CASING OR TUBING TYPE Size Grade Weight New Used per ft. Well OR SACKS (CU. FT.)  Conductor  Fresh Water 7" LS 17# X 597' 597' CTS  Coal Sizes  Intermediate 2 3/8" J-55 10.5# X 3224' 3224' 150 sks Depths set  Tubing 2 3/8" J-55 4.6# X 2837' 2837' 2700'  Liners Top Bot							5			psig (BHFP)
20) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES water, bactericides and other chemicals as needed to maintain water quality and improve oil recovery.  21) FILTERS (IF ANY) Cartridge filters and/or coal bed filters  22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL  23) CASING AND TUBING PROGRAM  CASING OR TUBING TYPE Size Grade Weight New Used For Drilling Left In Packers per ft. Well OR SACKS (CU. FT.)  Conductor  Fresh Water 7" LS 17# X 597' 597' CTS  Coal Sizes  Intermediate Production 4 1/2" J-55 10.5# X 3224' 3224' 150 sks  Tubing 2 3/8" J-55 4.6# X 2837' 2837'  Liners Top Bot						ZONG:	Jolume per hou	r 25 BBI	Bottom I	
water, bactericides and other chemicals as needed to maintain water quality and improve oil recovery.  21) FILTERS (IF ANY) Cartridge filters and/or coal bed filters  22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL  23) CASING AND TUBING PROGRAM  CASING OR TUBING TYPE Size Grade Weight New Used For Drilling Left In per ft.  Conductor  Fresh Water 7" LS 17# X 597' 597' CTS  Coal Sizes Intermediate  Production 4 1/2" J-55 10.5# X 3224' 3224' 150 sks Depths set  Tubing 2 3/8" J-55 4.6# X 2837' 2837'  Liners Top Bot										
21) FILTERS (IF ANY)   Cartridge filters and/or coal bed filters										Tresir water, produced
22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL           23) CASING AND TUBING PROGRAM           CASING OR TUBING TYPE         Size         Grade         Weight per ft.         New per ft.         Used         For Drilling For Dril							daily and implov	re on recove	ıy.	
CASING AND TUBING PROGRAM   CASING OR TUBING TYPE   Size   Grade   Weight per ft.   Well   Well   Footage intervals   Cement Fill UP   OR SACKS (CU. FT.)		* ****					OTTED CODE	D COTON C	ONTEROL	
CASING OR TUBING TYPE   Size   Grade   Weight per ft.   Weight per ft.   Well   Size   Grade   Weight per ft.   Well   For Drilling   Left In Well   OR SACKS (CU. FT.)	22) SPECIF	ICATIONS FO	JR CATE	ODIC PR	COTECT	ION AND	OTHER COR	KOSION C	CONTROL	<del></del>
CASING OR TUBING TYPE   Size   Grade   Weight per ft.   Weight per ft.   Weight per ft.   Weight per ft.   Size   Grade   Weight per ft.   Weight per ft.   Size   Grade   Weight per ft.   Weight per ft.   Size   Grade   Weight per ft.   Weight per ft.   Weight will be supported by the conductor   Conductor   Sizes   Sizes	23) CASING	AND TUBING	PROGRA	M						
TUBING TYPE Size Grade Weight per ft.				DAVE VALUE	ONS		EOOTA GE IN	TEDVALS	CEMENT	DACKEDS
Def ft.   Well   OR SACKS (CU. FT.)		(2.5). ( )		1	1	Used				FACKERS
Fresh Water 7" LS 17# X 597' 597' CTS  Coal Sizes  Intermediate  Production 4 1/2" J-55 10.5# X 3224' 3224' 150 sks Depths set  Tubing 2 3/8" J-55 4.6# X 2837' 2837' 2700'  Liners  Top Bot				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7.00	0.500	101211111111111111111111111111111111111		OR SACKS	
Fresh Water 7" LS 17# X 597' 597' CTS  Coal Sizes  Intermediate  Production 4 1/2" J-55 10.5# X 3224' 3224' 150 sks Depths set  Tubing 2 3/8" J-55 4.6# X 2837' 2837'  Liners  Top Bot	Conductor									Kinds
Sizes   Sizes   Sizes   Coal   Sizes	1-421-432-64-6	7"	LS	17#	X		597'	597'	CTS	
Description				1						Sizes
Production         4 1/2"         J-55         10.5#         X         3224'         3224'         150 sks         Depths set           Tubing         2 3/8"         J-55         4.6#         X         2837'         2837'         2700'           Liners         Top         Bot										
Tubing 2 3/8" J-55 4.6# X 2837' 2837' 2700' Liners Top Bot	AL TO BUILD AND THE STATE OF TH	4 1/2"	J-55	10.5#	X		3224'	3224'	150 sks	
Office of the second	-10-010				1	-		~		
Office of the second		2 3/0	0-00	7.0#	^		2001	2007	REIVED	2700
Office of the second	Lillers							同馬	CIL METE	Top
24) APPLICANT'S OPERATING RIGHTS were acquired from Hager Heirs et al by deed / lease x / other contract / dated 01/04/1908 https://doi.org/10.000/10.0000/10.00000000000000000000				-					The same of the sa	Top Bottom
24) APPLICANT'S OPERATING RIGHTS were acquired from by deed / lease x / other contract / dated 01/04/1908 / Page 7:								Ourse	A 25	15
by deed / lease _x / other contract / dated _01/04/1908		TINE OPEN	L CONTRACTOR	TOTTO					EC. 0 4 "	110
by deed / lease x / other contract / dated 01/04/1908 / Page 7	A CONTRACTOR OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAM							t al	OF O	70 100
Lincoln County Clerk's office in Lease AN BOX 42 Protect Page 7		1						01/04/190	8 STATE	ne record in the
	Lincoln			County Cl	erk's off	ice in L	ease	IM	BON 43	Prote Page 77
annonia.					/	hills	~	14	onmenia	
Environ					4	741		EUAII		

FORM WW-3 (A) 1/12



1) Date:	Novembe	r 5, 201	5			
2) Operat	or's Well	No.	Hager	Heirs 178		
3) API W	ell No.:	47	-		-	
		State		County		Permit
4) IIIC Pe	rmit No	LIICO	D04201	ΛD		

4) UIC Permit No. UIC2F

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

		(a) Coal O		
(a) Name	Randy & Relly Roberts	Name	N/A	
Address		Address	-	
	Yawkey, WV 25573		70. 1111	2 1 1 000
(b) Name				Declaration Of Record
Address		Name	N/A	
	Yawkey, WV 25573	Address		
(c) Name		Name	-	
Address		Address		
6) Inspector	Jeremy James 7)	(c) Coal Le	essee with Dec	laration Of Record
Address		Name	N/A	
114411055		Address	1200.1	
Telephone	304-951-2596	ricaross	-	
TO THE I	PERSONS NAMED ABOVE: You shoul	d have re	ceived this fo	orm and the following documents
	lication For A Liquid Injection or Waste Disp			
	evolved in the drilling or other work;	Cour Well	ork I orint (	ii ii 2(D), which sets out the
	(surveyor's map) showing the well location on I	Form WW-	5: and	
	struction and Reclamation Plan on Form WW-9			only to plug a well), which sets out the
	erosion and sediment control and for reclamation			
The date	10 1 7 1 1			
	e proposed for the first injection or waste dis	sposal is _		20 15 .
		-	THAT VOL	
THE REASO	N YOU HAVE RECEIVED THESE DOCU	MENTS IS		HAVE RIGHTS REGARDING THE
THE REASO	N YOU HAVE RECEIVED THESE DOCU N WHICH ARE SUMMARIZED IN THE "IN	MENTS IS	ONS" ON TH	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF
THE REASON APPLICATION THE APPLICATION	N YOU HAVE RECEIVED THESE DOCU N WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED T	MENTS IS	ONS" ON TH	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF
THE REASON APPLICATION THE APPLICACTION AT A	N YOU HAVE RECEIVED THESE DOCU N WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED T ALL.	MENTS IS ISTRUCTI O YOU.	ONS" ON TH HOWEVER Y	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE
THE REASON APPLICATION AT A Take notice the	N YOU HAVE RECEIVED THESE DOCU. N WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL. at under Chapter 22-6 of the West Virginia Coc	MENTS IS ISTRUCTI O YOU.	ONS" ON TH	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this
THE REASON APPLICATION THE APPLICATION AT A Take notice the Notice and Application and Applica	N YOU HAVE RECEIVED THESE DOCU. N WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL. at under Chapter 22-6 of the West Virginia Composition and accompanying documents for a	MENTS IS STRUCTI TO YOU.  de, the under Well Work	ONS" ON TH HOWEVER Y ersigned well o Permit with t	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas,
THE REASON APPLICATION THE APPLICA ACTION AT A Take notice the Notice and Ap West Virginia	N YOU HAVE RECEIVED THESE DOCUMEN WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL.  at under Chapter 22-6 of the West Virginia Composition and accompanying documents for a Department of Environmental Protection, with	MENTS IS STRUCTI TO YOU.  de, the unde Well Work th respect	ONS" ON TH HOWEVER Y rsigned well o Permit with t to a well at t	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas, he location described on the attached
THE REASON APPLICATION THE APPLICA ACTION AT A Take notice the Notice and Ap West Virginia Application and	N YOU HAVE RECEIVED THESE DOCUMEN WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL.  at under Chapter 22-6 of the West Virginia Coopplication and accompanying documents for a Department of Environmental Protection, wind denicted on the attached Form WW-6. Consider the Consider C	MENTS IS ISTRUCTI O YOU.  de, the unde Well Work th respect	ONS" ON TH HOWEVER Y ersigned well of Permit with to a well at the Application of the App	PHAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas, he location described on the attached plication, the place word the Construction
THE REASON APPLICATION THE APPLICA ACTION AT A Take notice the Notice and Ap West Virginia Application and	N YOU HAVE RECEIVED THESE DOCUMEN WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL.  at under Chapter 22-6 of the West Virginia Coopplication and accompanying documents for a Department of Environmental Protection, wind denicted on the attached Form WW-6. Consider the Consider C	MENTS IS ISTRUCTI O YOU.  de, the unde Well Work th respect	ONS" ON TH HOWEVER Y ersigned well of Permit with to a well at the Application of the App	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas, he location described on the attached plication, the plant would be Construction.
THE REASON APPLICATIO THE APPLICA ACTION AT A Take notice the Notice and Ap West Virginia Application an	N YOU HAVE RECEIVED THESE DOCUMEN WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL.  at under Chapter 22-6 of the West Virginia Coopplication and accompanying documents for a Department of Environmental Protection, wind denicted on the attached Form WW-6. Consider the Consider C	MENTS IS ISTRUCTI O YOU.  de, the unde Well Work th respect	ONS" ON TH HOWEVER Y ersigned well of Permit with to a well at the Application of the App	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas, he location described on the attached plication, the plant would be Construction.
THE REASON APPLICATION THE APPLICA ACTION AT A Take notice the Notice and Ap West Virginia Application and	N YOU HAVE RECEIVED THESE DOCUMEN WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B))] DESIGNATED TALL.  at under Chapter 22-6 of the West Virginia Composition and accompanying documents for a Department of Environmental Protection, wind depicted on the attached Form WW-6. Copin on Plan have been mailed by registered or certain circumstances) on or before the day of	MENTS IS ISTRUCTI O YOU.  de, the unde Well Work th respect tes of this in ified mail of the mailin	ons" On TH HOWEVER Y rrsigned well of Permit with to to a well at the lotice, the App r delivered by ag or delivery	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas, he location described on the attached plication, the person of the Construction han Record person of the Construction of the Chief of the
THE REASONAPPLICATION THE APPLICACTION AT A Take notice the Notice and Ap West Virginia Application an and Reclamati by publication	N YOU HAVE RECEIVED THESE DOCUMN WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL.  at under Chapter 22-6 of the West Virginia Composition and accompanying documents for a Department of Environmental Protection, wind depicted on the attached Form WW-6. Copin on Plan have been mailed by registered or certain certain circumstances) on or before the day of the person signing this document	MENTS IS ISTRUCTI TO YOU.  Le, the under Well Work th respect tes of this N ified mail of the mailin shall make	ons" On TH HOWEVER Y ersigned well of Permit with the to a well at the Notice, the Appart delivered by any or delivery	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas, he location described on the attached plication, the persons agreed above (or hange the Oil and Gas, agreed above).
THE REASONAPPLICATION THE APPLICATION AT A Take notice the Notice and Ap West Virginia Application an and Reclamati by publication "I certify unde	N YOU HAVE RECEIVED THESE DOCUMN WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL.  at under Chapter 22-6 of the West Virginia Composition and accompanying documents for a Department of Environmental Protection, wind depicted on the attached Form WW-6. Copin on Plan have been mailed by registered or certain certain circumstances) on or before the day of the person signing this document or penalty of law that I have personally examined.	MENTS IS ISTRUCTI TO YOU.  Le, the under Well Work th respect tes of this N ified mail to of the mailin shall make	ons" On TH HOWEVER Y ersigned well of Permit with the to a well at the Notice, the Appart delivered by any or delivery	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas, he location described on the attached plication, the person's gased above (or hange the Oil and Gas, he completely a person's gased above (or hange the Oil and Gas, he completely a person's gased above (or hange certification).
THE REASONAPPLICATION THE APPLICATION AT A Take notice the Notice and Ap West Virginia Application and Reclamati by publication  "I certify unde am familiar wi	N YOU HAVE RECEIVED THESE DOCUMN WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL.  at under Chapter 22-6 of the West Virginia Coordination and accompanying documents for a Department of Environmental Protection, wind depicted on the attached Form WW-6. Copin on Plan have been mailed by registered or certain certain circumstances) on or before the day of the person signing this document are penalty of law that I have personally examined the information submitted in this document at	MENTS IS ISTRUCTI O YOU.  de, the under Well Work th respect tes of this in ified mail to of the mailin shall make I and I and I and I A	ons" On TH HOWEVER Y ersigned well of Permit with the to a well at the Notice, the Appart delivered by any or delivery	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas, he location described on the attached plication, the persons agreed above (or hange the Oil and Gas, agreed above).
THE REASONAPPLICATION THE APPLICATION AT A Take notice the Notice and Ap West Virginia Application and Reclamati by publication  "I certify unde am familiar wi attachments and application with the state of the sta	N YOU HAVE RECEIVED THESE DOCUMN WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL.  at under Chapter 22-6 of the West Virginia Coordination and accompanying documents for a period depicted on the attached Form WW-6. Copin on Plan have been mailed by registered or certain certain circumstances) on or before the day of the person signing this document of the information submitted in this document and that, based on my inquiry of those individuals.	MENTS IS ISTRUCTI O YOU.  de, the unde Well Work th respect tes of this N ified mail of the mailin shall make d and W nd all	ons" On TH HOWEVER Y ersigned well of Permit with the to a well at the Notice, the Appart delivered by any or delivery	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas, he location described on the attached plication, the persons agreed above (or hange the Oil and Gas, agreed above).
THE REASONAPPLICATION THE APPLICATION THE APPLICATION AT A Take notice the Notice and Application and Application and Reclamatic by publication "I certify under am familiar wire attachments and immediately results."	N YOU HAVE RECEIVED THESE DOCUMN WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL.  at under Chapter 22-6 of the West Virginia Coordination and accompanying documents for a populication and accompanying documents for a population of Environmental Protection, wind depicted on the attached Form WW-6. Coping on Plan have been mailed by registered or certain certain circumstances) on or before the day of the person signing this document of the person submitted in this document and that, based on my inquiry of those individuals esponsible for obtaining the information, I believer.	MENTS IS ISTRUCTION YOU.  Le, the underwell Work the respect tes of this Market mail in the mailing shall maked and all and all are we that B	ons" On THHOWEVER Y	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas, he location described on the attached plication, the persons gassed above (or the Chief of Chief and Cassed above (or general Cassed Control of Cassed
THE REASONAPPLICATION THE APPLICATION THE APPLICATION AT A Take notice the Notice and Application and Application and Reclamatic by publication "I certify under am familiar wire attachments and immediately rethe information."	N YOU HAVE RECEIVED THESE DOCUMN WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL.  at under Chapter 22-6 of the West Virginia Coordination and accompanying documents for a Department of Environmental Protection, wind depicted on the attached Form WW-6. Copin on Plan have been mailed by registered or certain certain circumstances) on or before the day of the person signing this document of the information submitted in this document and that, based on my inquiry of those individuals esponsible for obtaining the information, I believed in its true, accurate and complete. I am aware that	MENTS IS ISTRUCTION YOU.  Ide, the underwell Work the respectives of this Market mail in the mailing shall make the mail of the mail in th	ons" On THHOWEVER Y	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas, he location described on the attached plication, the person's gased above (or hange the Oil and Gas, he completely a person's gased above (or hange the Oil and Gas, he completely a person's gased above (or hange certification).
THE REASONAPPLICATION THE APPLICATION AT A Take notice the Notice and Application and Reclamation by publication "I certify unde am familiar win attachments and immediately rethe information are significant."	N YOU HAVE RECEIVED THESE DOCUMN WHICH ARE SUMMARIZED IN THE "IN ATION [(FORM WW-3(B)] DESIGNATED TALL.  at under Chapter 22-6 of the West Virginia Coordination and accompanying documents for a populication and accompanying documents for a population of Environmental Protection, wind depicted on the attached Form WW-6. Coping on Plan have been mailed by registered or certain certain circumstances) on or before the day of the person signing this document of the person submitted in this document and that, based on my inquiry of those individuals esponsible for obtaining the information, I believer.	MENTS IS ISTRUCTI O YOU.  Le, the under Well Work the respect tes of this N ified mail of the mailin shall make and and A of the	ons" On THHOWEVER Y	HAVE RIGHTS REGARDING THE E REVERSE SIDE OF THE COPY OF OU ARE NOT REQUIRED TO TAKE perator proposes to file or has filed this he Chief of the Office of Oil and Gas, he location described on the attached plication, the persons gased above (or the Chief of Chief and Gased above (or general Calonic Care of Chief Chief and Calonic Calo

WW-2B	1
(5-12)	

Well No. Hager Heirs 177
--------------------------

#### 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 helow.

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 Sturm Environmental

Sampling Contractor

Sturm Environmental

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 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 of the proposed

- See Attached Form -

Office of Oil and Gas DEC 0 4 2015

WV Department of Environmental Protection WW-2B1
Page 2 - Continued

Well No.

Hager Heirs 177

## 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.

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.

#### Surface Owners Identified With Water Sources to be Sampled and Tested:

- Christopher & Bethany Dotson
   4701 Midway Road
   Yawkey, WV 25573
- \* Jerry Stephens et al 1215 Lyndale Drive Charleston, WV 25314

RECEIVED
Office of Oll and Gas

DEC 0 4 2015

WV Department of
Environmental Protection

P	age	77	of	
API Number 47 -		-		
Operator's Well No.	Hage	r Heirs 17	7	

# 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

atershed Straight Fork	Quad	rangle Griffithsville 7.5'	
evation _ 1067'	County_Lincoln	District_Duval	
escription of anticipated Pit Waste	Fluids accumulated while drilling the	ne subject well	
o you anticipate using more than 5	,000 bbls of water to complete the p	roposed well work? Yes	No _X
ill a synthetic liner be used in the	pit? Yes	at mil.? 30 mil	
	olication und Injection (UIC Permit Number		
Off Site I	t API Number Disposal (Supply form WW-9 for di xplain	sposal location)	)
	KCI		
/ill closed loop system be used?			
	ve in pit, landfill, removed offsite, e		
	lidify what medium will be used? Cermit number?	ement, lime, sawdust Native soil	
-Landfill or offsite name/pe  I certify that I understand a August 1, 2005, by the Office of rovisions of the permit are enforce w or regulation can lead to enforce I certify under penalty of oplication form and all attachmen ottaining the information, I believe enalties for submitting false inform	and agree to the terms and conditions. Oil and Gas of the West Virginia Department action. Iaw that I have personally examined at the information is true, accuration, including the possibility of fire	s of the GENERAL WATER PO epartment of Environmental Prot n or condition of the general pe ed and am familiar with the int inquiry of those individuals i rate, and complete. I am awa	DLLUTION PERMIT issuection. I understand that rmit and/or other applica formation submitted on the mmediately responsible
-Landfill or offsite name/pe  I certify that I understand an August 1, 2005, by the Office of rovisions of the permit are enforce were regulation can lead to enforce I certify under penalty of oplication form and all attachmentationing the information, I believe enalties for submitting false information.	and agree to the terms and conditions Oil and Gas of the West Virginia Decable by law. Violations of any terment action.  law that I have personally examine the thereto and that, based on my e that the information is true, accurate the state of the condition of the conditions of the conditions of the conditions of the condition	s of the GENERAL WATER PC partment of Environmental Prot on or condition of the general period and am familiar with the intinquiry of those individuals is rate, and complete. I am awas the or imprisonment.	OLLUTION PERMIT issuection. I understand that rmit and/or other applica formation submitted on temmediately responsible re that there are signific
-Landfill or offsite name/pe  I certify that I understand an August 1, 2005, by the Office of rovisions of the permit are enforce were regulation can lead to enforce I certify under penalty of oplication form and all attachmentationing the information, I believe enalties for submitting false information ompany Official Signature	and agree to the terms and conditions Oil and Gas of the West Virginia Decable by law. Violations of any terrement action. law that I have personally examine the their information is true, accumulation, including the possibility of fir Drane White	s of the GENERAL WATER POpartment of Environmental Protes or condition of the general peed and am familiar with the intinquiry of those individuals i rate, and complete. I am awase or imprisonment.	DLLUTION PERMIT issuection. I understand that rmit and/or other applica formation submitted on the mmediately responsible re that there are significated that there are significated to the content of th
I certify that I understand a August 1, 2005, by the Office of rovisions of the permit are enforce w or regulation can lead to enforce I certify under penalty of oplication form and all attachmentationing the information, I believe enalties for submitting false information Official Signature ompany Official (Typed Name)	and agree to the terms and conditions Oil and Gas of the West Virginia Decable by law. Violations of any terrement action. law that I have personally examine the their information is true, accumulation, including the possibility of fir Drane White	s of the GENERAL WATER POpartment of Environmental Protein or condition of the general period and am familiar with the intinquiry of those individuals in the condition of the general period and complete. I am aware or imprisonment.	DLLUTION PERMIT issuection. I understand that rmit and/or other applica formation submitted on the mmediately responsible re that there are significated to the context of
I certify that I understand an August 1, 2005, by the Office of rovisions of the permit are enforced wor regulation can lead to enforce I certify under penalty of application form and all attachmentaining the information, I believe enalties for submitting false information ompany Official Signature  ompany Official (Typed Name)  ompany Official Title Agent	and agree to the terms and conditions Oil and Gas of the West Virginia Decable by law. Violations of any terrement action.  law that I have personally examine the thereto and that, based on my e that the information is true, accuration, including the possibility of fire the possibility of the possibility of the possibility. Diane White	s of the GENERAL WATER PC partment of Environmental Protein or condition of the general period and am familiar with the intinquiry of those individuals is rate, and complete. I am awas the or imprisonment.	OLLUTION PERMIT issuection. I understand that rmit and/or other applications of the commediately responsible re that there are significated on the commediately responsible re that there are significated on the commediately responsible re that there are significated on the commendation of the commendation
I certify that I understand an August 1, 2005, by the Office of rovisions of the permit are enforced was regulation can lead to enforce I certify under penalty of opplication form and all attachments braining the information, I believe enalties for submitting false information ompany Official Signature	and agree to the terms and conditions Oil and Gas of the West Virginia Decade by law. Violations of any terment action.  law that I have personally examine the thereto and that, based on my e that the information is true, accumulation, including the possibility of fire process.  Diane White	s of the GENERAL WATER POrpartment of Environmental Proton or condition of the general pereduction and am familiar with the interpretate, and complete. I am aware or imprisonment.  STATTIM  Vienn My Confidence  20 15	OLLUTION PERMIT issuection. I understand that rmit and/or other applical formation submitted on the mmediately responsible re that there are significated that there are significated to the control of t

Li	EGEND
Property Boundary	Diversion Control of the Control of
Road = = = = = = = = = = = = = = = = = = =	Spring -
Existing Fence — X — X — X —	Wet Spot
Planned Fence / / /	Drain Pipe with size in inches (3)
Stream Stream	Waterway $\longleftrightarrow$
Open Ditch	Cross Drain
Rock 655	Artificial Filter Strip
North N	Pit: cut walls
Buildings En	Pit: compacted fill walls
Water wells	Area for Land Application of Pit Waste
Drill site	
Lime Tous/acte of to correct to pri _	Prevegetation pH
Fertilizer (10-20-20 or equivalent) 500 lbs/a	cre (500 lbs minimum)
Mulch Straw 2 Tons/acr	·a
<del></del>	
Seed I	Mixtures
Area I	Area II
Seed Type lbs/acre	Seed Type lbs/acre
Tall Fescue 40	Tall Fescue 40
Ladino Clover 5	Ladino Clover 5
**Sediment Control Should Be In Place At	All Times**
Attach: Drawing(s) of road, location,pit and proposed area for land applie	eation.
Photocopied section of involved 7.5' topographic sheet.	
Plan Approved by:	
49	• •
Comments: Seed + Mulch Prior Todi:11	RECEIVED
	Office of Oil and Gas
Title: in spector OOG	Date: 11-20-15DEC 0 4 2015
Title: In Spector OOB  Eield Reviewed? Lincoln Ves	
Field Reviewed? () Yes (	No WV Department of
	Frivironmental Protection 01/01/2016

## 43035545 **Reclamation Plan For:** Hager Heirs No. 177 Hager Heirs No. 178 Hager Heirs No. 254 Location Size ~80'x175' (0.3 Ac.) 1.3 Mi. to WV SR 3. See Page 2 for Waterflood Road Detail ACCESS **Hager Heirs** Lease ROAD Randy & Kelly Roberts 178 ⊕ - Surface 177 ⊕ Acquire Surface Lease 254 ⊕ for Shaded Area Pit Size ~100'x15'x15' Alternate Pit Joseph W. Stephens Lease Stephen & Shirley Egnor - Surface

#### Notes:

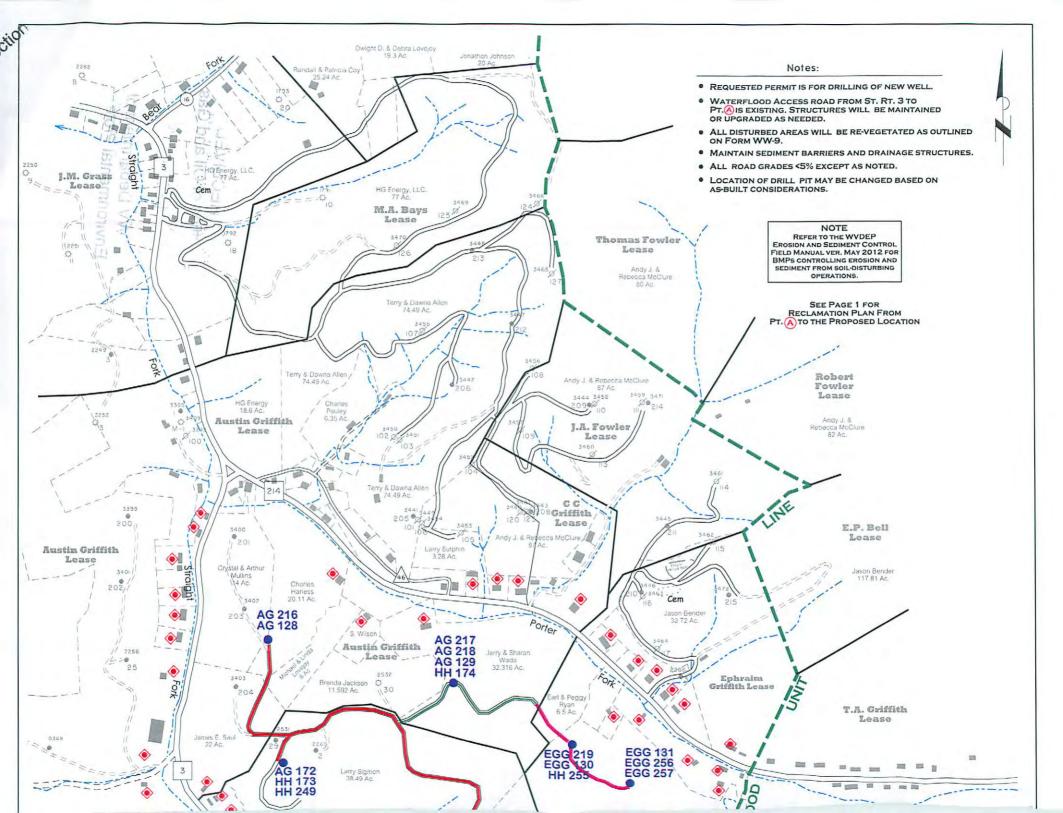
- REQUESTED PERMIT IS FOR DRILLING OF NEW WELL.
- ACCESS ROADS ARE EXISTING AND WILL BE MAINTAINED TO WVDEP STANDARDS.
- STOCKPILE TOPSOIL FOR RE-DRESSING LOCATION DURING RECLAMATION
- ALL DISTURBED AREAS WILL BE RE-VEGETATED AS OUTLINED ON FORM WW-9.
- Maintain sediment barriers and drainage structures.
- ALL ROAD GRADES <5% EXCEPT AS NOTED.</li>
- LOCATION OF DRILL PIT MAY BE CHANGED BASED ON AS-BUILT CONSIDERATIONS.
- DRAWING NOT TO SCALE.

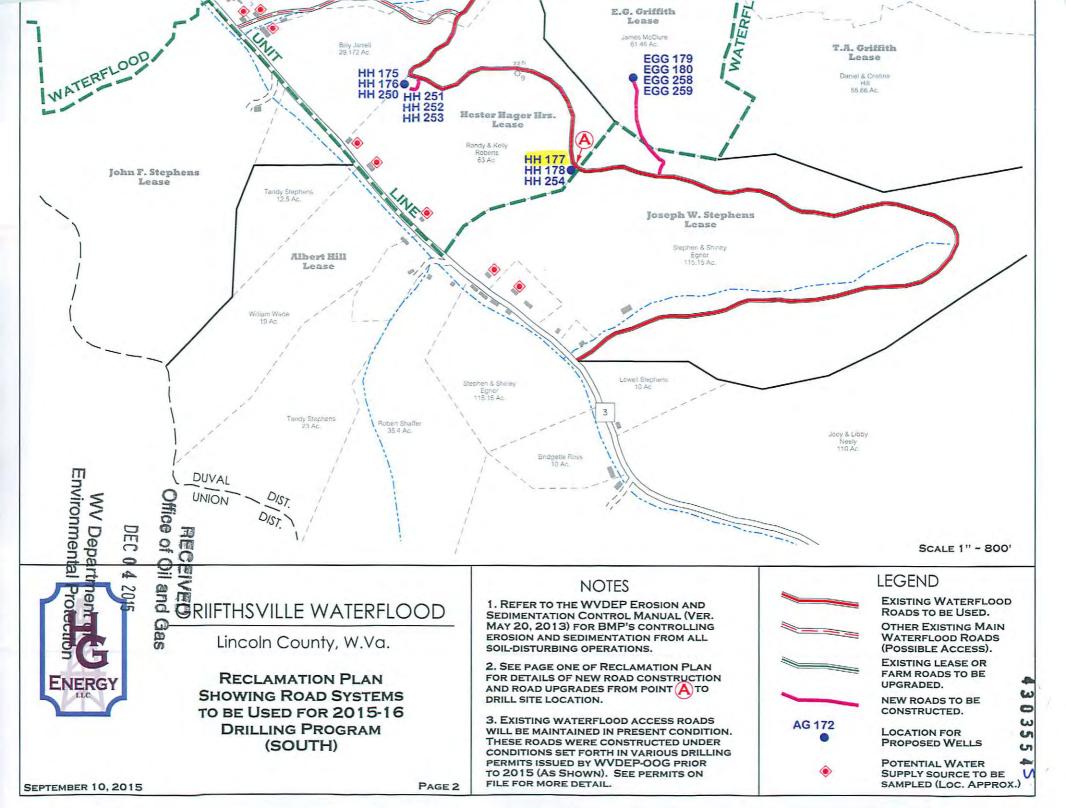
Office of Oil STATE GASTE WYDEP EROSION AND SEDIMENT CONTROL FIELD MANUAL VER. MAY 2012 FOR CAMPS OPERATIONS.

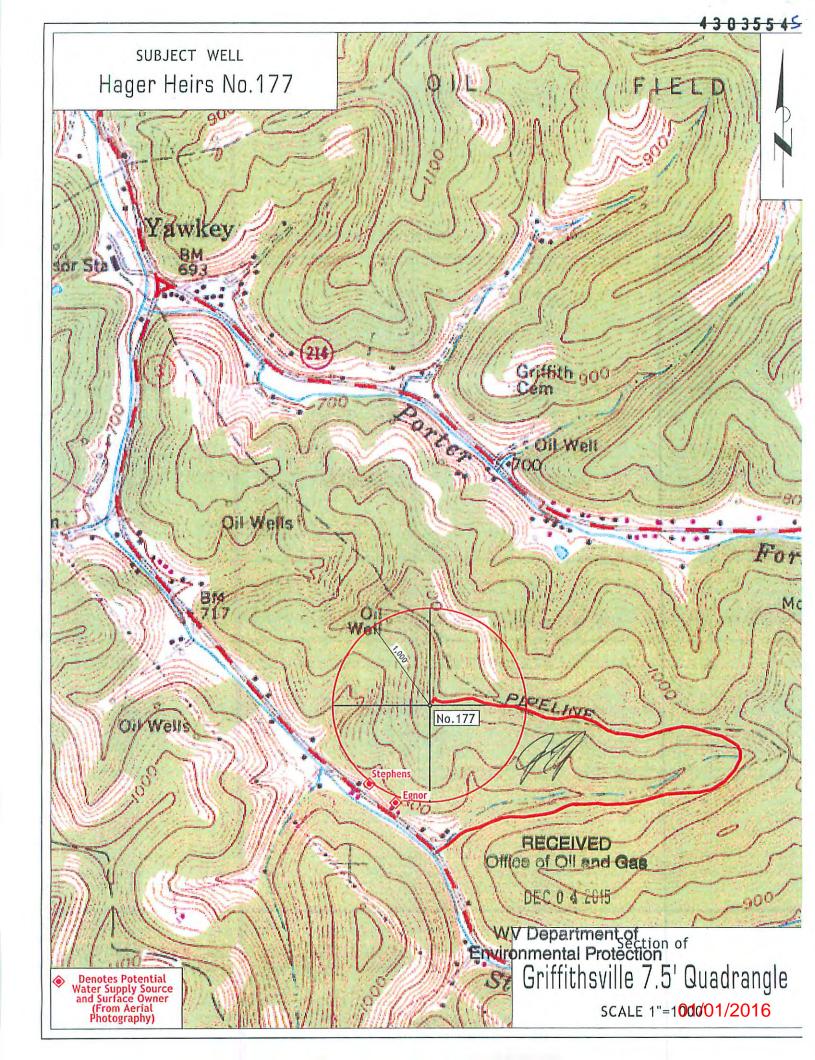
WV Department of Environmental Protection

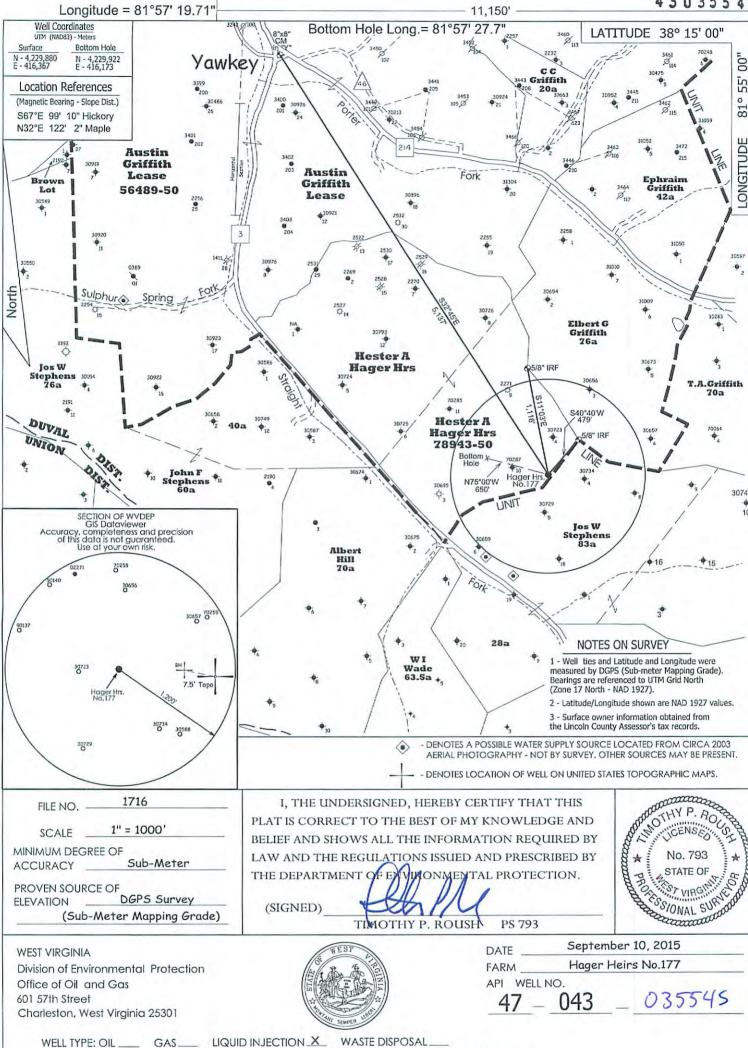
01/01/2016

Page 1









SHALLOW

Lincoln

LEASE ACREAGE

FRACTURE OR

Diane White

5260 DuPont Road

Parkersburg, WV 26101

PERFORATE NEW

**ADDRESS** 

DEEP. Straight Fork

REDRILL \_

ESTIMATED DEPTH 3,274' MD

DESIGNATED AGENT

COUNTY

78943-50

OTHER PHYSICAL CHANGE IN WELL (SPECIFY)

(IF "GAS") PRODUCTION\_\_\_\_ STORAGE\_

Griffithsville 7.5'

LEASE NO.

STIMULATE X PLUG OFF OLD FORMATION \_

CLEAN OUT AND REPLUG

Duval

WATERSHED\_

DRILL DEEPER.

1,067

SURFACE OWNER Randy & Kelly Roberts and Stephen Egnor

CONVERT\_

Berea

5260 DuPont Road

Parkersburg, WV 26101

HG Energy LLC.

OIL & GAS ROYALTY OWNER HG Energy, LLC., et al

LOCATION: ELEVATION

PROPOSED WORK: DRILL X

PLUG AND ABANDON \_

WELL OPERATOR

**ADDRESS** 

TARGET FORMATION

QUADRANGLE

