

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

February 04, 2014

WELL WORK PERMIT

Horizontal Well

This permit, API Well Number: 47-8704737, issued to HARD ROCK EXPLORATION, INC., 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: HR-483A

Farm Name: DERRICK, JAMES E.

API Well Number: 47-8704737

Permit Type: Horizontal Well

Date Issued: 02/04/2014

WW - 2B (Rev. 8/10)

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

		WELL WORK PE	ERMIT APPLIC	AHON		-20
				87	4	538
1) Well Operator:	Hard Rock I	Exploration, Inc.	494464205	Roane	Reedy	Peniel, WV 7.5
			Operator ID	County	District	Quadrangle
2) Operator's Well	Number: H	R-483		3) Elevation:	834'	_
4) Well Type: (a) 0	Oil or	Gas X				
(b) I	f Gas: Pro	duction X / Un	derground Sto	rage		
		eep/ S				
5) Proposed Targe 6) Proposed Total 7) Approximate fre 8) Approximate sa 9) Approximate co	Depth: 7655'TI esh water stra alt water dept	MD Feet ata depths: Pittsburg ths: 1770', 1810'	Formation at F sand anticipated betw	Proposed Total		
10) Approximate v						
11) Does land con	itain coal sea	ams tributary to ac	tive mine? N	0		
12) Describe propos Drill 12 3/8" hole on ai		김씨는 그런 하는 것을 마루다면서 다.				
KOP-3875', Land cur	-			i loaili/Fiulu, Di	III BOLLOITI TIOLE	on An.
Run 4.5" casing with oper				ers, cement on to	n nacker. Fractu	re with Nitrogen gas
13)	1,2/14	CASING AND TU			paonor, radio	
TYPE SPE	CIFICATION	NS .	FOOTAGE	INTERVALS	S CEME	<u>ENT</u>
NO		TO LOCAL STREET	12.992	1 2 4 7 5 4 L		0207

TYPE S	SPECIFIC	ATIONS		FOOTAGE	INTERVALS	<u>CEMENT</u>
NA	Size	<u>Grade</u>	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor	13 3/8"	LS	37#	30'	30'	
Fresh Water	9 5/8"	LS	26#	800'	800'	395cuft cts
Coal						
Intermediate	7"	LS	19#	2500'	2500'	560cuftcts
Production	4 1/2"	N-80	11.6#	7655'	7655'	REGOCUTED
Tubing					. (office of Oil and Ga
Liners						JAN 1 6 2014

Packers: Kind:

ind: Mech

Mechanical Set open hole packer

Sizes: 4.5" X 6 5/8" 10k diff Seal

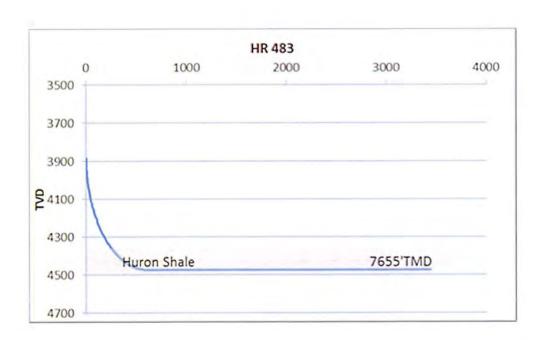
WV Department of Environmental Protection

Depths Set Place 14stg open hole packer system from 4315'MD- 7655' (238' spacing per stg) , 15th packer at 2700' Dump 192/107/2014

NOTICE

WELLBORE GRAPH HARD ROCK EXPLORATION WELL NO. HR-483





HARD ROCK EXPLORATION, INC. 1244 MARTINS BRANCH ROAD CHARLESTON, WV 25312

01-07-14

WW-2A (Rev. 6-07)

1). Date: January 3, 2014

2.) Operator's Well Number

HR-483 County

Permit

3.) API Well No.:

State 47-

7 -

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Ow	ner(s) to be serve		5) (a) Coal Ope	erator	
(a) Name	James E. Derrick N	1	Name	None	
Address	1553 Nobel Ridge		Address		
	Reedy, WV 25270				
(b) Name			(b) Coal O	wner(s) with Declaration	on
Address			Name	James E. Derrick	✓
			Address	1553 Nobel Ridge	
				Reedy, WV 25270	
(c) Name			Name		
Address			Address		
6) Inspector	Ed Gainer		(c) Coal Le	essee with Declaration	
Address	PO Box 821		Name	None	
	Spencer, WV 25276		Address		
Telephone	(304)389-7582				
10.00		PERSONS NA	MED ABOVE T	AKE NOTICE THAT:	
Included is t					right to extract oil and gas
	ic icase of icases of	other continuing	contract or contra	acts by willout thold the t	ight to extract on and gas
OR	ha information convince	ad by Chanter 20	Article C Contin	a O(d) of the Code of Ma	at Missinia (and page 2)
				n 8(d) of the Code of We	
					copies of this notice and
application, a loc				ugh on the above na	amed parties by:
	Personal Serv	rice (Affidavit attac	ched)		
X			tal receipt attache	d)	
		otice of Publication			
I have re				I agree to the terms ar	nd conditions of any permit
issued under this		onaptor LL o and	a co o circ i, una	r agree to the terms ar	ia containente et any permit
		that I have pers	onally examined	and am familiar with the	e information submitted on
					nmediately responsible for
	ormation, I believe th				1,10,10,10,10,10,10,10,10,10,10,10,10,10
					the possibility of fine and
imprisonment.		, , , , , , , , , , , , , , , , , , , ,			
		Well Operator	Hard Rock Explorati	on, Inc.	
-		∦ By:	man	with very	
NO NEST NO	TARY PUBLIC OFFICIAL SEAL	Its:	Executive Vice Presi		
ELA-A-T	JOAN L. BEANE State of West Virginia	Address	1244 Martins Branch	Road	
ENTENDED MY COL	nmission Expires Sept. 6, 2022		Charleston, WV 253	312	DECEIVED
1244 MARTIN	S BRANCH RD, CHARLESTON, WV 25312	Telephone	(304)984-9004	1 = 1	HEUEIVED
Subscribed and	sworn before me this		Janua	ru . 20	59 gi Oil and Gas
	^	100	June		
	Joan	L. Beans	-	Notary Public	JAN 1 6 2014
My Commission	Expires 15001	-6,2022			
Oil and Gas Privacy	Notice	,		W	V Department of
The Office of Oil on	d Can proceed to the to	araanal information	cuch as name add		conmental Protection

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov

O2/07/2014

SURFACE OWNER WAIVER

County	Roane	Operator	Hard Rock Exploration, Inc.
•		Operator well number	HR-483
	INSTRUCTIONS TO SURF	ACE OWNERS NAMED ON P	PAGE WW2-A
	· · · · · · · · · · · · · · · · · · ·		
If the surface trappeared on the be the only ow permits are valid	act is owned by more than three per e Sheriff's tax ticket on the land or be ner who will actually receive these n d for 24 months. If you do not own a ediately if you know who it is. Also, pl	sons, then these materials we cause you actually occupy the naterials.) See Chapter 22 ony interest in the surface tractile ase notify the well operator a REQUIRED TO FILE ANY CO	OMMENT.
Chief, Office of Department of E	Oil and Gas Environmental Protection		g al e, a see a see
601 57 th St. SE Charleston, WV (304) 926-0450	25304		
(304) 926-0450 Time Limits an operator files hi be filed in perso be sure of the handling. If you the planned work Common well operator's from the application The Ch 1) The 2) The 3) Dari 4) The 5) The more lf you request a copy List of	d methods for filing comments. The Application. You have FIFTEEN (1) on or received in the mail by the Chief date. Check with your postmaster have been contacted by the well open to described in these materials, then the man and well number and the appropriation. You may add other documents, it is fast the power to deny or condition a proposed well work will constitute a lessoil erosion and sediment control planage would occur to publicly owned to applicant has committed a substantial erof the rules promulgated under Chawant a copy of the permit as it is a from the Chief. Water Testing Laboratories. The Communication of the control planage would be committed as the permit as it is a from the Chief.	5) DAYS after the filing date to a soffice by the time stated ab to ensure a dequate delivery erator and you have signed a she permit may be issued at an ents must include your name ximate location of the propose such as sketches, maps or place a well work permit based on a hazard to the safety of personant is not adequate or effective; ands or resources; esh water sources or supplies tial violation of a previous per apter 22, and has failed to abaissued or a copy of the or office maintains a list of water	ne, address and telephone number, the ed well site including district and county notographs to support your comments. comments on the following grounds: s. Trait or a substantial violation of one or the or seek review of the violation". Trait der denying the permit, you should testing laboratories which you can hire
to test your water	er to establish water quality prior to ar <u>VOLUNTARY ST</u> y state that I have read the instruction	nd after drilling. Contact the C FATEMENT OF NO OBJECTI This to surface owners and that	hief to obtain a copy.
order on F orm described there	WW2-B, a s urvey plat, and a s oil a in.	nd erosion plan, all for propo	osed well work on my surface land as
	r state that I have no objection to the passued on those materials.	planned work described in the	se materials, and I have no objection to
FOR EXECUTI	ON-BY A NATURAL PERSON		CUTION BY A CORPORATION, ETC. RECEIVED
Cfinist (Date /-	Company - <i>13-14</i> Name By	Office of Oil and Gas
James	F. Derrick	lts	JAN 1 6 2014 Date
Pri	nt Name		WV Department of

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Roane	Our and all March an	HR-483
Operator Hard Rock Exploration, Inc.	Operator's Well Number	
INSTRUCTIONS TO C	OAL OPERATOR, OWNER	R, OR LESSEE
To the coal operator, owner, or le any objection you wish to make or are re with the Chief of the Office of Oil and Ga by the Office. Mail objections to:	quired to make by WV Code	e 22-6-15, 16 or 17, must be filed
Chief, Office of Oil and Gas Department of Environmental Protection 601 57 th St. SE Charleston, WV 25304 (304) 926-0499 extension 1654		
	WAIVER	
The undersigned coal operatorlocation has examined this proposed well location has been added work proposed to be done at this location requirements of the West Virginia Code at	I location. If a mine map exed to the mine map. The underly provided, the well operators	ists which covers the area of well dersigned has no objection to the r has complied with all applicable
FOR EXECUTION BY A NATURAL PERSON Janus H. Cerurill Date	Company Name	CUTION BY A CORPORATION, ETC.
Signature	By	Date
	Sign	ature Date

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Office of Oil and Gas

JAN 1 6 2014

WV Department of Environmental Protection

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
Jacqueline A. Moore	Hard Rock Exploration, Inc.	% of 1/8	249/384
Carville P. Holmes	Hard Rock Exploration, Inc.	% of 1/8	249/360
Gary P. and Shirley J. Jones	Carter Oil and Gas, Inc.	% of 1/8	225/288
E. Roy Lester	Carter Oil and Gas, Inc.	% of 1/8	221/572
Denver E. and Velma L. Conard	Carter Oil and Gas, Inc.	% of 1/8	221/576
Chrreles and Clarice Lester	Carter Oil and Gas, Inc.	% of 1/8	221/584
Bonnie Cottle	Carter Oil and Gas, Inc.	% of 1/8	221/580
James F. Derrick	Carter Oil and Gas, Inc.	% of 1/8	222/226
Lois A. Wallace	Carter Oil and Gas, Inc.	% of 1/8	222/583
Carter Oil and Gas, Inc.	Hard Rock Exploration, Inc.	Misc Assignment	483

Acknowledgement of Possible Permitting/Approval In Addition to the Office of Oil and Gas

The permit applicant for the proposed well work addressed in this application he reby a cknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be ac quired from the appropriate aut hority before the affected activity is initiated.

Well Operator: By:Its: Hard Rock Exploration, Inc.

Executive Vice President

WV Department of vironmental Protection

WW-2B	1
(5-12)	

Well No. HR-483	
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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.

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	Standard Labs or Sturm Lab
Sampling Contractor	Standard Labs or Sturm Lab

Well Operator Hard Rock Exploration, Inc.

Address

1244 Martins Branch Road

Charleston, WV 25312

Telephone

(304)984-9004

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

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> > JAN 1 6 2014

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NOTICE

WATER TESTING HARD ROCK EXPLORATION WELL NO. HR-483A

THE FOLLOWING WATER SOURCES WERE IDENTIFIED WITHIN 2000' OF THE ABOVE PROPOSED WELL SITE:

James Derrick 1553 Nobel Ridge Rd. Reedy WV 25270

Harry C. Davis 4794 Ripley Rd. Reedy WV 25270

Keith E. Davis 1558 Nobel Ridge Rd. Reedy WV 25270

Jacqueline Moore 1813 Seaman Fork Leroy WV 25252

TRUE LINE SURVEYING, INC. 6211 FAIRVIEW DRIVE HUNTINGTON, WV 25705

10-23-13

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Office of Oil and Gas

JAN 1 6 2014

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	Page of	
API Number 47 - 087		
Operator's Well No). HR-483	

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Watershed (HUC 10) Buffalo Creek Quadrang Elevation 834' County Roane Do you anticipate using more than 5,000 bbls of water to complete the propose Will a pit be used for drill cuttings? Yes X No If so, please describe anticipated pit waste: Drill Cuttings Will a synthetic liner be used in the pit? Yes X No Proposed Disposal Method For Treated Pit Wastes: Land Application	ed well work? Yes No _X
Do you anticipate using more than 5,000 bbls of water to complete the proposed Will a pit be used for drill cuttings? Yes X No If so, please describe anticipated pit waste: Drill Cuttings Will a synthetic liner be used in the pit? Yes X No Proposed Disposal Method For Treated Pit Wastes:	ed well work? Yes No _X
Will a pit be used for drill cuttings? Yes X No If so, please describe anticipated pit waste: Drill Cuttings Will a synthetic liner be used in the pit? Yes X No Proposed Disposal Method For Treated Pit Wastes:	
If so, please describe anticipated pit waste: Drill Cuttings Will a synthetic liner be used in the pit? Yes X No Proposed Disposal Method For Treated Pit Wastes:	If so, what ml.? 10 or greater
Will a synthetic liner be used in the pit? Yes X No Proposed Disposal Method For Treated Pit Wastes:	If so, what ml.? 10 or greater
Proposed Disposal Method For Treated Pit Wastes:	If so, what ml.? 10 or greater
	260
Land Application	
 Underground Injection (UIC Permit Number UIC2 Reuse (at API Number 8704669, 3502970, 3502987, 3502999, Off Site Disposal (Supply form WW-9 for disposal Other (Explain 	8704700, 8704698, 8704703, 8704713 - Well will be noted in DMR) I location)
Will closed loop system be used? No	
Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air	
-If oil based, what type? Synthetic, petroleum, etc	
Additives to be used in drilling medium? Soap, KCl, or Clay Stay	
Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Lea	ave in pit
-If left in pit and plan to solidify what medium will be used? (cement	t, lime, sawdust) Lime
-Landfill or offsite name/permit number?	
I certify that I understand and agree to the terms and conditions of the on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department provisions of the permit are enforceable by law. Violations of any term or claw or regulation can lead to enforcement action. I certify under penalty of law that I have personally examined and application form and all attachments thereto and that, based on my inqui obtaining the information, I believe that the information is true, accurate, appenalties for submitting false information, including the possibility of fine or in	nent of Environmental Protection. I understand that the condition of the general permit and/or other applicable d am familiar with the information submitted on the diry of those individuals immediately responsible for and complete. I am aware that there are significant
Company Official Signature Monitoria	2
Company Official (Typed Name) Monica Francisco	
Company Official Title Executive Vice President	
Subscribed and sworn before me this 7th day of Janua L. Blane.	Notary Public OFFICIAL JOAN L. BEANE State of West Virgini My Commission Expires Sec

Proposed Revegetation Treat	ment: Acres Disturbed 0.	70 Prevegetation	on pH 5.5
Lime 3	Tons/acre or to correct		
	or equivalent) 500	lbs/acre (500 lbs minimum)	
	ner (Paner at 1600 lhe/acre)	Tons/acre	
		Seed Mixtures	
Are			Area II
Seed Type	lbs/acre 15	Seed Type	lbs/acre
Red Top		Red Top	15
Orchard Grass	25	Orchard Grass	
Perennial Rye/Crimson			on Red Clover 25 Each
Annual Rye	40	Annual Rye	40
Orawing(s) of road, location, Photocopied section of involv		nd application.	
		nd application.	
Photocopied section of involve Plan Approved by:		protection to be	o place
Photocopied section of involve Plan Approved by:		protection to be	in place
Photocopied section of involve Plan Approved by:		protection to be also be mai	1 6 0 1
Photocopied section of involve Plan Approved by:		protection to be è also be mai	
Photocopied section of involve Plan Approved by:		protection to be also be mai	1 6 0 +
Photocopied section of involve Plan Approved by:		protection to be è also be mai	1 6 0 1
Photocopied section of involve Plan Approved by:		protection to be è also be mai	
Plan Approved by: Comments: Plan Lime	Sediment moves on	protection to be enaing & reclaimation	atand of
Photocopied section of involve Plan Approved by:	Sediment moves on	protection to be also be maing & reclaimation	1 6 0 +

