DATE: 9/15/11

API#: 47-035-02982

State of West Virginia Department of Environmental Protection Office of Oil and Gas

Well Operator's Report of Well Work

Farm name:Lynn M. Shutts	Opera	ator Well No.:_	HR 423			
LOCATION: Elevation:608'	Quadrangle:Liverpool,			V 7.5'		
District: Ravenswood Latitude: 8047' Feet South of 38 Longitude 5611 Feet West of 81	Coun	ty:	Jackson			
Latitude: 8047' Feet South of 38	Deg. 55	Min. 00	Sec.			
Longitude_5611Feet West of 81	Deg35_	Min00	Sec.			
Company:Hard Rock Exploration						
	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.		
Address: 2034 Martins Branch Road						
Charleston WV, 25312	20"	40'	40'	N/A		
Agent: Marc Scholl	13 3/8"	84'	84'	N/A		
Inspector: Jamie Stevens	9 5/8"	548'	548'	280 CuFt		
Date Permit Issued: 7/20/10	7"	2080'	2080'	448 CuFt		
Date Well Work Commenced: 7/27/11	4.5"	6413'	6413'	120 CuFt		
Date Well Work Completed: 8/12/11						
Verbal Plugging:	Ran Gamma L	og from KOP(3	446' – 4335'MI	D)		
Date Permission granted on:		from 3000' to s				
Rotary x Cable Rig						
Total Depth (feet): 6467'TMD, 4072'TVD						
Fresh Water Depth (ft.): 50',450'						
Salt Water Depth (ft.): 1200', 1750'						
Is coal being mined in area (N/Y)? N						
Coal Depths (ft.): N/A						
OPEN FLOW DATA	'	,	ı			
Producing formationLower Huron_Sha	lePay zone					
Con Initial and flow 50 MODULO	11. Y 54 1	393	4'TVD - 407	2' TVD		
Gas: Initial open flow_50MCF/d O	ii: initial open	flow	_Bbl/d			
Final open flow 1400 MCF/d	Final open	flow	Bbl/d			
Time of open flow between initial and f	inal tests	/2Ho	urs Ri	ECEIVED		
Static rock Pressurepsig (surfac	e pressure) aft	erHou	***	of Oil & Gas		
Second producing formation	Pay zon	e denth (ft)				
	Initial open flo		bl/d SE	IP 1 5 2011		
	inal open flow					
Time of open flow between initial and f				anatment of		
Time of open flow between initial and final tests Hours WV Department of Static rock Pressure psig (surface pressure) after Hours Environmental Protection						
paig (surface	e pressure) aru		'Environm	iental Protection		
NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED						
INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL						
LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS,						
INCLUDING COAL ENCOUNTERED BY THE WELLBORE.						
Signed:						
By: President	/					
Date: 9/15/11/						
						

Formation:	Top:	Bottom:		
Soil/sand/shale		0	435	
Sand Fre	sh water 450'	435	495	
Sand/Shale		495	535	
Sand		535	580	
Sand/Shale		580	1585	
Sand Gas/water	1.5MM/d 1200'	1190	1290	
Salt Sand Sal	water 1750'	1585	1775	
Big Lime		1775	1845	
Injun Sand/Squaw		1845	2015	
Shale		2015	2255	
Coffee Shale		2255	2275	
Devonian Shale		2275	3855	
Lower Huron Section	Small Gas Show	<u>3945</u>	4072	

08/05/11 Run total of 151 jts of R-3 11.6ppf N-80casing to depth of 6413'. Run 11 Team downhole inflatable packers and 10 frac sleeves.

	Sleeves	Sleeve Size	Packers
Stage 1	6323.25	HP	6231.30
Stage 2	6104.35	1.906	6012.40
Stage 3	5885.45	2.063	5751.75
Stage 4	5624.80	2.219	5532.85
Stage 5	5405.90	2.375	5272.30
Stage 6	5145.45	2.531	5053.55
Stage 7	4926.70	2.688	4793.10
Stage 8	4666.35	2.844	4532.75
Stage 9	4405.90	3.036	4314.00
Stage 10	4187.15	3.286	4053.55
			2377.10

8/11/11 MIRU BJ Services. Drop 4 balls to activate circulating shoe. Pressure up on Casing to Set packers and open HP Sleeve at 3820psi. Use approx. 159kscf N2 for job. SWl. RU to 7" and dump squeeze with 100sx of type 1 3%CaCl followed with 4 bbl fresh water. SWI

08/12/11 Pressure test lines. Start pumping N2 on Stg 1 at half rate and step up to full design rate of 100kscf/min. Continue pumping for total of 1MMscf N2. Shut down and drop ball for Stg 2. Wait for ball to drop. Start pumping at 12kscf/min for total of 33k to land ball. Up rate and open sleeve at 4125psi. Continue to increase rate and pump total of approx 1MMscf N2 (estimated due to software miscalculations). SD and DB for Stg 3 and wait. Repair transducer and load balls. Pressure test and start pumping N2 at 12kscf/min and land ball. Up rate and open sleeve at 4033psi. Bring trucks to rate and pump total of 1MMscf N2. Shut down, and drop ball for Stg 4. Start pumping at 14kscf/min and land ball at 32kscf. Up rate and open sleeve at 4086psi. Continue to increase rate to 100kscf/min and pump total of 1MMscf. Repeat for Stgs 5-10.

	Stg 1	Stg 2	Stg 3	Stg 4	Stg 5	Stg 6	Stg 7	Stg 8	Stg 9	Stg 10
Max P	5404	5940	5463	5642	5317	5243	5360	5557	5102	4618
Avg P	5229	5719	5341	5491	5250	5182	5262	5429	4974	4544
Max R	103.4	104.6	104.9	108.4	105.9	104.6	100.5	100.1	98.0	101.9
Avg R	99.4	86.8	103.6	102.3	104.8	103.4	99.6	98.1	97.2	99.6