

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

Well Operator's Report of Well Work

Farm name: HARKER, ARTHUR Operator Well No.: 3

LOCATION: Elevation: 1454' Quadrangle: THORNTON

District: COVE County: BARBOUR

Latitude: 6,320 Feet South of 39 Deg. 17 Min. 30 Sec.

Longitude: 5,690 Feet West of 79 Deg. 52 Min. 30 Sec.

Company: Texas Keystone, Inc.

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
560 Epsilon Drive Pittsburgh, PA 15238				
Agent: Jon Farmer	13 3/8"	42	42	Sanded In
Inspector: Bryan Harris				
Date Permit Issued: 02/03/11	9 5/8"	465	465	180
Date Well Work Commenced: 08/11/11				
Date Well Work Completed: 08/19/11	7"	1603	1603	220
Verbal Plugging:				
Date Permission granted on:	4 1/2"	0	5455	205
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft.): 5541				
Total Measured Depth(ft.):5541				
Fresh Water Depth (ft.): 117, 365, 590				
Salt Water Depth (ft.): none reported				
Is coal being mined in the area (N/Y)? N				
Coal Depths (ft.): 95, 290, 408				
Void(s) encountered (N/Y) Depth(s): N				

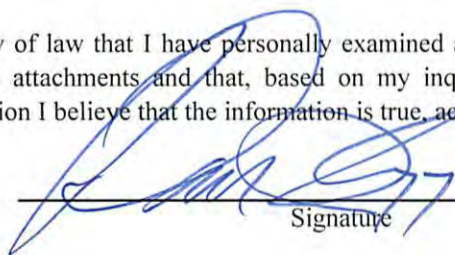
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Environmental Protection

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation: 5TH ELK Pay zone Depth (ft) 5321 - 5363  
 Gas: Initial open flow: G/S TSTM MCF/D Oil: Initial open flow: 0 Bbl/d  
 Final open flow 375 MCF/D Oil: Final open flow: 0 Bbl/d  
 Time of open flow between initial and final tests: N/A Hours  
 Static rock Pressure: 1230 psig(surface pressure) after 120 Hours

Second Producing formation: 3RD ELK Pay zone Depth (ft) 4993 - 5011  
 Gas: Initial open flow: Co-mingled MCF/D Oil: Initial open flow: 0 Bbl/d  
 Final open flow Co-mingled MCF/D Oil: Final open flow: 0 Bbl/d  
 Time of open flow between initial and final tests:      Hours  
 Static rock Pressure: Co-mingled psig(surface pressure) after - Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

  
\_\_\_\_\_  
Signature

9-30-11  
\_\_\_\_\_  
Date

Were core samples taken? Yes \_\_\_ No X Were cuttings caught during drilling? Yes \_\_\_ No X

Were N Electrical, N Mechanical, Y or Geophysical logs recorded on this well?  
 Y/N Y/N Y/N

**NOTE: IN THE AREA BELOW 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 THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL**

Perforated Intervals, Fracturing, or Stimulating:

Perfed 5th Elk 5321' - 5363' (26 shots). BD 3369 #. 250 sks 40/70 & 103 sks 20/40. 643 bbl. Gel Frac.  
 Perfed 3rd Elk 4993' - 5011' (22 shots). BD 4040 #. 200 sks 40/70 & 105 sks 20/40. 601 bbl. Gel Frac.  
 Perfed 2nd Elk 4764' - 4769' (15 shots). BD 3940 #. 75 sks 40/70 & 81 sks 20/40. 425 bbl. Gel Frac.  
 Perfed Alexander 4310' - 4329' (21 shots). BD 4019 #. 200 sks 40/70 & 106 sks 20/40. 591 bbl. Gel Frac.  
 Perfed Benson 4098' - 4103' (15 shots). BD 3818 #. 75 sks 40/70 & 81 sks 20/40. 413 bbl. Gel Frac.  
 Perfed Balltown B 3052' - 3058' (18 shots). BD 3500 #. 100 sks 40/70 & 109 sks 20/40. 424 bbl. Gel Frac.

Formations Encountered:	Top Depth	Bottom Depth	Notes:
FILL	0	15	
SHALE	15	25	
SANDY SHALE	25	95	
COAL	95	100	
SANDY SHALE	100	160	DAMP FW @ 117'
SANDSTONE	160	225	
SANDY SHALE	225	285	
SANDSTONE	285	290	
COAL	290	295	
SANDY SHALE	295	408	5" FW @ 365'
COAL	408	412	
SANDSTONE	412	465	
SANDY SHALE	465	470	
SANDSTONE	470	520	
SANDY SHALE	520	555	
SANDSTONE	555	680	DAMP FW @ 590'
SANDY SHALE	680	735	
SANDSTONE	735	800	
SANDY SHALE	800	980	
SANDSTONE	980	1060	
SANDY SHALE	1060	1125	
REDROCK SHALE	1125	1178	
LITTLE LIME	1178	1193	
PENCIL CAVE SHALE	1193	1218	
BIG LIME	1218	1441	
SQUAW SANDSTONE	1441	1491	
SHALE	1491	1500	
WEIR SANDSTONE	1500	1646	
BEREA SANDSTONE	1646	1654	
SHALE	1654	1689	
GANTZ SANDSTONE	1689	1728	
LOWER GANTZ SANDSTONE	1728	1758	GAS SHOW - 235 MCF
SANDY SHALE	1758	2372	
BAYARD SANDSTONE	2372	2381	
SANDY SHALE	2381	2422	
SPEECHLEY A SANDSTONE	2422	2465	
SANDY SHALE	2465	3052	
BALLTOWN B SANDSTONE	3052	3062	
SHALE	3062	4099	
BENSON SILTSTONE	4099	4105	
SANDY SHALE	4105	4290	
ALEXANDER	4290	4332	
SHALE	4332	4493	
1ST ELK SILTSTONE	4493	4550	
SANDY SHALE	4550	4765	
2ND ELK SILTSTONE	4765	4772	
SANDY SHALE	4772	4989	
3RD ELK SILTSTONE	4989	5040	
SANDY SHALE	5040	5321	
5TH ELK SILTSTONE	5321	5364	
SHALE	5364	5541	TD

10/14/2011

Third Producing formation:	<u>2ND ELK</u>	Pay zone Depth (ft)	<u>4764 - 4769</u>
Gas: Initial open flow:	<u>Co-mingled</u>	MCF/D	Oil: Initial open flow: <u>0</u> Bbl/d
Final open flow	<u>Co-mingled</u>	MCF/D	Oil: Final open flow: <u>0</u> Bbl/d
Time of open flow between initial and final tests:	<u>      </u>	Hours	
Static rock Pressure:	<u>Co-mingled</u>	psig(surface pressure) after	<u>  -  </u> Hours

Fourth Producing formation:	<u>ALEXANDER</u>	Pay zone Depth (ft)	<u>4310 - 4329</u>
Gas: Initial open flow:	<u>Co-mingled</u>	MCF/D	Oil: Initial open flow: <u>0</u> Bbl/d
Final open flow	<u>Co-mingled</u>	MCF/D	Oil: Final open flow: <u>0</u> Bbl/d
Time of open flow between initial and final tests:	<u>      </u>	Hours	
Static rock Pressure:	<u>Co-mingled</u>	psig(surface pressure) after	<u>  -  </u> Hours

Fifth Producing formation:	<u>BENSON</u>	Pay zone Depth (ft)	<u>4098 - 4103</u>
Gas: Initial open flow:	<u>Co-mingled</u>	MCF/D	Oil: Initial open flow: <u>0</u> Bbl/d
Final open flow	<u>Co-mingled</u>	MCF/D	Oil: Final open flow: <u>0</u> Bbl/d
Time of open flow between initial and final tests:	<u>      </u>	Hours	
Static rock Pressure:	<u>Co-mingled</u>	psig(surface pressure) after	<u>  -  </u> Hours

Sixth Producing formation:	<u>BALLTOWN B</u>	Pay zone Depth (ft)	<u>3052 - 3058</u>
Gas: Initial open flow:	<u>Co-mingled</u>	MCF/D	Oil: Initial open flow: <u>0</u> Bbl/d
Final open flow	<u>Co-mingled</u>	MCF/D	Oil: Final open flow: <u>0</u> Bbl/d
Time of open flow between initial and final tests:	<u>      </u>	Hours	
Static rock Pressure:	<u>Co-mingled</u>	psig(surface pressure) after	<u>  -  </u> Hours