

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

PM

API 47-017-06520 County Doddridge District New Milton
Quad New Milton Pad Name Farr Field/Pool Name _____
Farm name Key Oil Company Well Number 5 (five)
Operator (as registered with the OOG) Key Oil Company
Address 22 Garton Plaza City Weston State WV Zip 26452

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 39.1753 Easting 80.7368
Landing Point of Curve Northing N/A Easting N/A
Bottom Hole Northing N/A Easting N/A

Elevation (ft) 1043 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s) _____

RECEIVED
Office of Oil and Gas

Date permit issued 06/26/2014 Date drilling commenced 07/30/2014 Date drilling ceased 08/07/2014
Date completion activities began 08/11/2014 Date completion activities ceased 08/11/2014
Verbal plugging (Y/N) N/A Date permission granted 07/03/2014 Granted by Douglas Newlon

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 90 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1500 Void(s) encountered (Y/N) depths N
Coal depth(s) ft N/A Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by: _____

10/31/2014

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CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	20"	13-3/8"	38	NEW	J-55	N/A	N
Surface							
Coal	N/A						
Intermediate 1	12-1/4"	9-5/8"	210	NEW	J-55		100 SKS. CTS (Y)
Intermediate 2	8-3/4"	7"	1817	NEW	J-55		270 SKS. CTS (Y)
Intermediate 3							
Production	6-1/4"	4-1/2"	5540	NEW	J-55		300 SKS. CBL POZ
Tubing							ETOC 1700'
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	N/A	N/A	N/A	N/A	N/A	N/A	
Surface	CLASS A	100	15.6	1.13		CTS	8 HRS.
Coal							
Intermediate 1							
Intermediate 2	CLASS A	270	15.6	1.23		CTS	8 HRS.
Intermediate 3							
Production	CBL POZ	300	13.5	1.53		ETOC 1700'	
Tubing							

Drillers TD (ft) 5535 Loggers TD (ft) 5519
 Deepest formation penetrated ALEXANDER (5335') Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) _____

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____
4-1/2" 9.5 LB. PIPE JTS.: 3, 4, 5, 6, 10, 11, 20, 21, 22, 35, AND 36

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	08/11/2014	5218	5426	30	ALEXANDER
2	08/11/2014	4956	4962	20	BENSON
3	08/11/2014	4514	4540	20	BRADFORD
4	08/11/2014	3346	3464	36	WARREN

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	08/11/14	22	2904	2622	2700	25,000	215	293,000
2	08/11/14	22	2755	3370	2760	20,000	189	262,000
3	08/11/14	20	2890	3450	4070	10,000	156	205,000
4	08/11/14	22	2804	3068	2360	17,500	170	206,000

Please insert additional pages as applicable.

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PRODUCING FORMATION(S)	DEPTHS	TVD	MD
ALEXANDER	5218		
BENSON	4960		
BRADORD	4540		
WARREN	3360		

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2360 psi Bottom Hole 4610 psi DURATION OF TEST 48 hrs

OPEN FLOW Gas 1237 mcfpd Oil 5 bpd NGL 0 bpd Water 0 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	0		0		
SAND & SHALE	0	1450	0	1450	BROWN
SHALE	1450	1970	1450	1970	BROWN
LITTLE LIME	1970	1990	1970	1990	GRAY
BLUE MONDAY	1990	2010	1990	2010	GRAY
BIG LIME	2010	2090	2010	2090	GRAY
INJUN	2090	2150	2090	2150	GRAY
SHALE	2150	2330	2150	2330	BROWN
WEIR	2330	2370	2330	2370	GRAY
SAND & SHALE	2370	2690	2370	2690	BROWN
GORDON	2690	2700	2690	2700	BROWN
SHALE	2700	3350	2700	3350	GRAY
BALLTOWN	3350	3470	3350	3470	BROWN
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Please insert additional pages as applicable.

Drilling Contractor NEXUS DRILLING
Address INDUSTRIAL PARK City JANE LEW State WV Zip 26378

Logging Company WEATHERFORD INTERNATIONAL
Address 608 US HIGHWAY 19 N City WESTON State WV Zip 26452

Cementing Company UNIVERSAL WELL SERVICE
Address 5 HALL RUN ROAD City BUCKHANNON State WV Zip 26201

Stimulating Company UNIVERSAL WELL SERVICE
Address 5 HALL RUN ROAD City BUCKHANNON State WV Zip 26201

Please insert additional pages as applicable.

Completed by JAN CHAPMAN Telephone (304) 269-7102
Signature *Jan Chapman* Title PRESIDENT Date 09/29/14

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

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LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	0		0		
SAND & SHALE	3470	4080	3470	4080	GREY/BROWN
ELIZABETH	4080	4090	4080	4090	BROWN
SAND & SHALE	4090	4500	4090	4500	GRAY
BRADFORD	4500	4550	4500	4550	BROWN
SHALE	4550	4950	4550	4950	GRAY
BENSON	4950	4970	4950	4970	BROWN
SHALE	4970	5200	4970	5200	GRAY
ALEXANDER	5200	5300	5200	5300	BROWN
SHALE	5300	5440	5300	5440	GRAY
TD	5440				

Please insert additional pages as applicable.