

PM

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

API 47-017-06409H6A County Doddridge District Southwest
Quad Oxford 7.5' Pad Name OXFD11HS Field/Pool Name Oxford
Farm Name MORRIS, I. L. Well Number OXFD11AHS
Operator (as registered with the OOG) CNX Gas Company LLC
Address P.O. Box 1248 City Jane Lew State WV Zip 26378

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top Hole Northing 4,335,742.00 m Easting 520,416.00 m
Landing Point of Curve Northing 4,335,893.39 m Easting 519,919.26 m
Bottom Hole Northing 4,337,159.60 m Easting 519,437.13 m

Elevation (ft) 1340' 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

Drilled 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)
Mineral Oil Based Mud, Bactericide, Polymers and Weighting Agents.

Date Permit Issued 02/12/2014 Date drilling commenced 07/27/2014 Date drilling ceased 09/18/2014
Date completion activities began 04/20/2015 Date completion activities ceased 05/05/2015
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 50', 620' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1,648' Void(s) encountered (Y/N) depths N
Coal depth(s) ft None Reported Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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APPROVED
NAME: Jacquelin Shortt
DATE: 2/11/2016

Reviewed by: Kevin Gore
WV Department of Environmental Protection
02/12/2016

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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 to the right *
Conductor	24"	20"	100'	N	J-55 94# / 100'	N/A	Y
Surface	17 1/2"	13 3/8"	1221'	N	J-55 54.5# / 1221'	N/A	Y
Coal	-	-	-	-	-	-	-
Intermediate 1	12 1/4"	9 5/8"	2832'	N	J-55 36# / 2832'	N/A	Y
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	8 3/4"	5 1/2"	12694'	N	P-110 20# / 12694'	N/A	N
Tubing	5 1/2"	2 3/8"	7341.6'	N	P-110 4.7# / 7341.6'	N/A	N

Packer Type and Depth Set None

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	Class A	127	15.2	1.18	150	Surface	24
Surface	Class A	960	15.6	1.20	1151	Surface	8
Coal	-	-	-	-	-	-	-
Intermediate 1	Class A	936	15.6	1.20	1123	Surface	8
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	Class A (Lead) / Class A (Tail)	535 / 1750	14.2 / 14.8	1.24 / 1.25	663 / 2190	522'	8
Tubing	-	-	-	-	-	-	-

Drillers TD (ft) 6883'

Loggers TD (ft) 6863'

Deepest formation penetrated: Marcellus

Plug back to (ft) N/A

Plug back procedure: N/A

Kick Off Depth (ft) 3000'

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 _____

Conductor - No centralizers used. Fresh Water - Bow spring centralizers on first joint then every fourth joint to 100 feet from surface. Coal - Bow spring centralizers on first joint then every fourth joint to 100 feet from surface. Intermediate - Bow spring centralizers one on the first two joints and every fourth joint until inside surface casing. Production - Rigid bow spring centralizer on first joint then every 2 casing joints (free floating) through the lateral and the curve. (Note: cementing the 5 1/2" casing completely in open hole lateral and curve.)

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS Plug and Perforation Shot Hole

WAS WELL COMPLETED OPEN HOLE Yes No DETAILS _____

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WERE TRACERS USE Yes No TYPES 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	4/20/2015	12635	12633	12	Marcellus
2	4/20/2015	12562	12315	48	Marcellus
3	4/20/2015	12274	12014	64	Marcellus
4	4/21/2015	11974	11727	48	Marcellus
5	4/21/2015	11680	11433	48	Marcellus
6	4/23/2015	11388	11132	64	Marcellus
7	4/23/2015	11092	10845	48	Marcellus
8	4/23/2015	10798	10551	48	Marcellus
9	4/24/2015	10504	10257	48	Marcellus
10	4/26/2015	10210	9963	48	Marcellus
11	4/26/2015	9917	9662	64	Marcellus
12	4/27/2015	9622	9365	64	Marcellus
13	4/27/2015	9328	9081	48	Marcellus
14	4/28/2015	9034	8787	48	Marcellus
15	4/28/2015	8740	8493	48	Marcellus
16	4/29/2015	8452	8193	64	Marcellus
17	4/30/2015	8159	7900	64	Marcellus
18	4/30/2015	7860	7613	48	Marcellus

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STIMULATION INFORMATION PER STAGE

Stage No.	Stimulations Date	Avg Pump Rate (BPM)	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen / other (gals)
1	4/20/2015	61.7	8553	7677	4923	100400	4440	3525
2	4/20/2015	74.9	7516	6474	5414	401200	10607	6920
3	4/20/2015	76.1	7702	6678	5555	401300	9716	2154
4	4/21/2015	94.5	8203	6866	5438	401650	10550	7099
5	4/21/2015	78.1	7700	6163	5747	400500	9083	6657
6	4/23/2015	82.6	7729	6351	5804	402300	10525	2481
7	4/23/2015	87.9	7623	6382	5628	401800	10568	3996
8	4/23/2015	79.4	7514	6220	5214	401950	10025	3722
9	4/24/2015	88.8	7773	6319	5541	402000	10618	4031
10	4/26/2015	83.2	7607	5712	5126	401400	10868	3828
11	4/26/2015	94	7990	7184	5423	400600	9829	3694
12	4/27/2015	80.7	7310	6405	5780	401900	10552	3976
13	4/27/2015	91.9	8231	6576	5822	401800	10315	3931
14	4/28/2015	80.9	7770	6804	5527	400300	10515	3781
15	4/28/2015	99.5	7676	6498	6621	401400	9602	3795
16	4/29/2015	72.3	7143	6724	4701	401350	8692	3545
17	4/30/2015	83.8	7278	6795	6203	400800	8347	3544
18	4/30/2015	93.5	7539	6561	6498	401800	8822	6595

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PRODUCING FORMATION(S) MARCELLUS DEPTHS 6858'- 6863' TVD 7582'- 7632' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 2196 psi Bottom Hole 2200 psi DURATION OF TEST 73.5 hrs
 OPEN FLOW Gas 2803.20 mcfpd Oil 0 bpd NGL 0 bpd Water 240 bpd GAS MEASURED BY
 Estimated Orifice Pilot

LITHOLOGY / FORMATION	TOP DEPTH IN FT TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY TYPE OF FLUID (FRESHWATER, BRINE, GAS, H2S, ETC)
					SEE ATTACHED

Please insert additional pages as applicable.

Drilling Contractor Patterson UTI
 Address 207 Carlton Drive City Eighty Four State PA Zip 15330
 Logging Company Horizon
 Address 7136 South Yale, Suite 414 City Tulsa State OK Zip 74136-6378
 Cementing Company CalFrac
 Address 2001 Summit View Rd City Smithfield State PA Zip 15478
 Stimulating Company CalFrac
 Address 2001 Summit View Rd City Smithfield State PA Zip 15478

Please insert additional pages as applicable.

Completed by CNX Gas WV Operations Company, LLC - Drilling and Completions
 Signature Steve Spittler Title Steve Spittler - Completions Manager-Gas WV

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 Telephone 204-688-2000
 Date 11/11/2015
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Submittal of Hydraulic Fracturing Chemical Disclosure Information

Attach copy of FRACFOCUS Registry
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LITHOLOGY / FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY TYPE OF FLUID (FRESHWATER,BRINE,GAS,H2S, ETC)
	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	
	TVD	TVD	MD	MD	
FILL	0	111	0	111	
SS/ SHALE	111	163	111	163	
SHALE/ REDROCK	163	193	163	193	
GREY SHALE	193	289	193	289	
REDROCK/ SHALE	289	416	289	416	
REDROCK/ SS	416	480	416	480	
REDROCK	480	511	480	511	
REDROCK/ SS/ SHALE	511	725	511	725	
SHALE/ SS	725	850	725	850	
SHALE	850	1018	850	1018	
SHALE/ SS	1018	1077	1018	1077	
SHALE/ REDROCK	1077	1266	1077	1266	
SHALE/ SS	1266	1410	1266	1410	
SHALE	1410	1615	1410	1615	
SS/ SHALE	1615	1648	1615	1648	
WHITE SS	1648	1932	1648	1932	
SS/ SHALE	1932	2280	1932	2280	
GREY SHALE	2280	2501	2280	2501	
GREY SHALE/ SS	2501	2565	2501	2565	
SS/ SHALE	2565	2620	2565	2620	
SS	2620	2645	2620	2645	
SS/ SHALE	2645	2700	2645	2700	
SHALE	2700	2725	2700	2725	
SS/ SHALE	2725	2770	2725	2770	
SS	2770	2800	2770	2800	
SS/ SHALE	2800	3171	2800	3181	
SHALE	3171	3360	3181	3371	
SHALE/ SS	3360	3424	3371	3434	
SHALE	3424	3738	3434	3750	
SS/ SHALE	3738	3927	3750	3961	
SHALE	3927	3990	3961	4001	
SS/ SHALE	3990	4070	4001	4031	
SHALE	4070	6020	4031	6025	
SS/ SHALE	6020	6140	6025	6150	
SHALE/ SS	6140	6170	6150	6185	
SS/ SHALE	6170	6201	6185	6216	
BURKETT	6773	6815	7128	7244	
TULLY	6815	6834	7244	7320	

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	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	
	TVD	TVD	MD	MD	
HAMILTON	6834	6858	7320	7582	
UPPER MARCELLUS	6858	6863	7582	7632	
MIDDLE MARCELLUS	6863		7632		
TD	6883				

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