

PM

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

API 47-017-06410H6A County Doddridge District Southwest
Quad Oxford 7.5' Pad Name OXFD11HS Field/Pool Name Oxford
Farm Name MORRIS, I. L. Well Number OXFD11BHS
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 4,335,746.00 m Easting 520,420.00 m
Landing Point of Curve Northing 4,335,844.36 m Easting 520,181.86 m
Bottom Hole Northing 4,337,601.79 m Easting 519,507.92 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 07/14/2014 Date drilling ceased 09/21/2014
Date completion activities began 04/01/2015 Date completion activities ceased 04/18/2015
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 1,620' 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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Reviewed by:
Gorr, Kevin

APPROVED
NAME: Jacquelin Shonster
DATE: 01/11/2016

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"	1204'	N	J-55 54.5# / 1204'	N/A	Y
Coal	-	-	-	-	-	-	-
Intermediate 1	12 1/4"	9 5/8"	2804'	N	J-55 36# / 2804'	N/A	Y
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	8 3/4"	5 1/2"	13794'	N	P-110 20# / 13794'	N/A	N
Tubing	5 1/2"	2 3/8"	7214'	N	P-110 4.7# / 7214'	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	955	15.6	1.20	1151	Surface	8
Coal	-	-	-	-	-	-	-
Intermediate 1	Class A	870	15.2	1.28	1112	Surface	8
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	Class A (Lead) / Class A (Tail)	541 / 1992	14.2 / 14.8	1.23 / 1.24	668 / 2465	1356'	8
Tubing	-	-	-	-	-	-	-

Drillers TD (ft) 6920'

Loggers TD (ft) 6910'

Deepest formation penetrated: Marcellus

Plug back to (ft) N/A

Plug back procedure: N/A

Kick Off Depth (ft) 4750'

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. 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	4/1/2015	13735	13733	12	Marcellus
2	4/2/2015	13669	13527	40	Marcellus
3	4/3/2015	13450	13352	40	Marcellus
4	4/3/2015	13319	13177	40	Marcellus
5	4/3/2015	13144	13002	40	Marcellus
6	4/4/2015	12969	12827	40	Marcellus
7	4/7/2015	12794	12652	40	Marcellus
8	4/8/2015	12619	12477	40	Marcellus
9	4/8/2015	12444	12302	40	Marcellus
10	4/9/2015	12269	12127	40	Marcellus
11	4/10/2015	12094	11952	40	Marcellus
12	4/10/2015	11919	11777	40	Marcellus
13	4/11/2015	11744	11602	40	Marcellus
14	4/11/2015	11569	11427	40	Marcellus
15	4/11/2015	11394	11252	40	Marcellus
16	4/12/2015	11219	11077	40	Marcellus
17	4/12/2015	11044	10902	40	Marcellus
18	4/12/2015	10869	10727	40	Marcellus
19	4/13/2015	10694	10552	40	Marcellus
20	4/13/2015	10519	10377	40	Marcellus
21	4/13/2015	10343	10200	40	Marcellus
22	4/13/2015	10169	10027	40	Marcellus
23	4/14/2015	9994	9852	40	Marcellus
24	4/14/2015	9819	9677	40	Marcellus
25	4/14/2015	9644	9502	40	Marcellus
26	4/15/2015	9469	9327	40	Marcellus
27	4/15/2015	9294	9152	40	Marcellus
28	4/16/2015	9119	8977	40	Marcellus
29	4/16/2015	8944	8802	40	Marcellus
30	4/16/2015	8769	8627	40	Marcellus
31	4/17/2015	8594	8452	40	Marcellus
32	4/17/2015	8419	8277	40	Marcellus
33	4/17/2015	8244	8102	40	Marcellus
34	4/17/2015	8070	7928	40	Marcellus
35	4/18/2015	7896	7754	40	Marcellus
36	4/18/2015	7722	7580	40	Marcellus
37	4/18/2015	7548	7406	40	Marcellus
38	4/18/2015	7374	7232	40	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	4/1/2015	20.4	8791	8353	5524	1900	3013	3209
2	4/2/2015	74.9	8331	7811	5366	234200	11437	9756
3	4/3/2015	70.4	8185	5773	4918	233900	7172	3394
4	4/3/2015	78.1	8182	6084	5087	234350	6594	3280
5	4/3/2015	79.6	7916	6081	5255	234700	8605	9402
6	4/4/2015	72.1	7956	6223	4833	178150	11833	6585
7	4/7/2015	60.5	7932	6550	4661	233500	14152	3110
8	4/8/2015	79.7	7786	6167	5076	234050	6945	3526
9	4/8/2015	67.9	8219	6206	4987	234200	8093	3726
10	4/9/2015	96	8636	6464	5265	233850	7083	3557
11	4/10/2015	87	8310	6464	5255	234800	6723	3536
12	4/10/2015	76	8137	6607	5221	234600	7792	3689
13	4/11/2015	84	8054	6187	5183	233850	7287	3598
14	4/11/2015	86.5	8122	6371	5243	230950	6543	3499
15	4/11/2015	85	8171	6492	5346	233800	7933	3647
16	4/12/2015	84.4	8246	6150	5327	234200	6800	3551
17	4/12/2015	80	8132	7049	5064	234050	6245	3475
18	4/12/2015	80	8081	6830	6152	234750	6670	3538
19	4/13/2015	86	8016	6675	5381	234200	6333	3525
20	4/13/2015	90.4	8167	6556	5388	234100	6537	3468
21	4/13/2015	89.1	8023	5989	5265	234450	5660	3440
22	4/13/2015	88.7	8097	7009	5215	235100	6307	3489
23	4/14/2015	90.2	8224	6768	5496	234200	6300	3525
24	4/14/2015	92	8200	7414	5078	234050	6199	3505
25	4/14/2015	93	8292	6814	5491	234650	5511	3434
26	4/15/2015	76.7	8394	6567	5592	233900	12730	8842
27	4/15/2015	74.4	7340	7083	5619	233450	5926	3456
28	4/16/2015	85.2	8236	7212	5612	234050	6353	3472
29	4/16/2015	76.1	7863	7630	5454	233850	5772	3446
30	4/16/2015	83.3	7979	7140	5542	234300	5632	3434
31	4/17/2015	91.5	8217	6327	5809	234250	6160	3516
32	4/17/2015	94.5	8158	6401	5818	234050	6057	3515
33	4/17/2015	85.6	7943	0	5580	234200	5376	3385
34	4/17/2015	90	7948	7329	5642	235750	5265	3370
35	4/18/2015	91.1	7832	6853	5482	233750	5055	3324
36	4/18/2015	97.7	8102	7168	5309	234200	5995	3448
37	4/18/2015	76.1	8243	6966	5540	234100	7440	3826
38	4/18/2015	91	8034	7277	4581	233600	6626	3456

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PRODUCING FORMATION(S)	DEPTHS	TVD	MD
MARCELLUS	6874'- 6910'	7212'- 7394'	

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 3022 psi Bottom Hole 2500 psi DURATION OF TEST 56.5 hrs
 OPEN FLOW Gas 2519.99 mcfpd Oil 0 bpd NGL 0 bpd Water 96 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 Telephone 304-884-2000
 Signature Steve Spittler Title Steve Spittler - Completions Manager-Gas WV Date 11/6/15

Submission of Hydraulic Fracturing Chemical Disclosure Information

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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	107	0	107	
REDROCK/ SHALE	107	176	107	176	
SHALE	176	258	176	258	
SHALE/ REDROCK	258	322	258	322	
REDROCK/ SHALE	322	353	322	353	
SHALE/ REDROCK	353	385	353	385	
GREY SHALE	385	417	385	417	
SHALE/ REDROCK	417	448	417	448	
GREY SHALE	448	480	448	480	
REDROCK	480	543	480	543	
REDROCK/ SHALE	543	606	543	606	
GREY SHALE	606	637	606	637	
GREY SHALE/ REDROCK	637	731	637	731	
GREY SHALE	731	795	731	795	
SS/ SHALE	795	910	795	910	
DARK SHALE	910	1180	910	1180	
SANDY SHALE	1180	1590	1180	1590	
SS	1590	1860	1590	1860	
SS/ SHALE	1860	2055	1860	2055	
BIG LIME	2055	2127	2055	2127	
BIG INJUN	2127	2200	2127	2200	
SS/ SHALE	2200	2867	2200	2867	
SS/ REDROCK	2867	3000	2867	3000	
SS/ LS	3000	3607	3000	3607	
SHALE	3607	4695	3607	4695	
SS/ SHALE	4695	4708	4695	4722	
LIGHT GREY SHALE	4708	4771	4722	4785	
SS/ SHALE	4771	4867	4785	4887	
LIGHT GREY SHALE	4867	4960	4887	4981	
GREY SHALE	4960	5050	4981	5076	
SHALE	5050	5120	5076	5139	
SHALE/ SS	5120	5213	5139	5235	
SS	5213	5358	5235	5389	
SHALE/ SS	5358	5395	5389	5400	
SHALE	5395	5444	5400	5450	
SHALE/ SS	5444	5485	5450	5491	
SS/ SHALE	5485	5497	5491	5511	
SHALE/ SS	5497	5537	5511	5550	

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	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	
	TVD	TVD	MD	MD	
GREY SHALE	5537	5975	5550	5992	
SHALE	5975	6110	5992	6123	
BURKETT	6786	6828	6992	7086	
TULLY	6828	6847	7086	7137	
HAMILTON	6847	6874	7137	7212	
UPPER MARCELLUS	6874	6880	7212	7231	
MIDDLE MARCELLUS	6880	6904	7231	7342	
CHERRY VALLEY	6904	6910	7342	7394	
LOWER MARCELLUS	6910		7394		
TD	6920				