

PM

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

API 47-017-06414H6A County Doddridge District Southwest
Quad Oxford 7.5' Pad Name OXFD11HS Field/Pool Name Oxford
Farm Name MORRIS, I. L. Well Number OXFD11KHS
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 4,335,765.00 m Easting 520,436.00 m
Landing Point of Curve Northing 4,336,067.48 m Easting 520,725.85 m
Bottom Hole Northing 4,338,111.06 m Easting 519,947.56 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 06/29/2014 Date drilling ceased 10/25/2014
Date completion activities began 02/25/2015 Date completion activities ceased 03/28/2015
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 1,809' 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
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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"	702'	N	J-55 54.5# / 702'	N/A	Y
Coal	-	-	-	-	-	-	-
Intermediate 1	12 1/4"	9 5/8"	2828'	N	J-55 36# / 2828'	N/A	Y
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	8 3/4"	5 1/2"	14994'	N	P-110 20# / 14994'	N/A	N
Tubing	5 1/2"	2 3/8"	7315.3'	N	P-110 4.7# / 7315.3'	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	547	15.6	1.00	646	Surface	8
Coal	-	-	-	-	-	-	-
Intermediate 1	Class A	1003	15.6	1.2	1207	Surface	8
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	Class A (Lead) / Class A (Tail)	761 / 2037	14.2 / 14.8	1.24 / 1.25	944 / 2546	719'	8
Tubing	-	-	-	-	-	-	-

Drillers TD (ft) 6837' Loggers TD (ft) 6911'
 Deepest formation penetrated: Marcellus Plug back to (ft) N/A
 Plug back procedure: N/A

Kick Off Depth (ft) 3900'

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 _____

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)
					See Attached

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation 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)
								See Attached

Please insert additional pages as applicable.

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number Of Perforations	Formation(s)
1	2/25/2015	14924	14923	6	Marcellus
2	2/26/2015	14857	14714	40	Marcellus
3	2/26/2015	14680	14537	40	Marcellus
4	2/27/2015	14503	14360	40	Marcellus
5	2/27/2015	14326	14183	40	Marcellus
6	2/28/2015	14149	14006	40	Marcellus
7	2/28/2015	13972	13829	40	Marcellus
8	3/1/2015	13790	13652	40	Marcellus
9	3/1/2015	13618	13475	40	Marcellus
10	3/1/2015	13441	13298	40	Marcellus
11	3/2/2015	13264	13121	40	Marcellus
12	3/2/2015	13087	12944	40	Marcellus
13	3/3/2015	12910	12767	40	Marcellus
14	3/3/2015	12733	12590	40	Marcellus
15	3/3/2015	12556	12413	40	Marcellus
16	3/3/2015	12379	12236	40	Marcellus
17	3/4/2015	12202	12059	40	Marcellus
18	3/6/2015	12025	11882	40	Marcellus
19	3/7/2015	11848	11705	40	Marcellus
20	3/8/2015	11671	11528	40	Marcellus
21	3/8/2015	11494	11351	40	Marcellus
22	3/9/2015	11317	11174	40	Marcellus
23	3/9/2015	11140	10997	40	Marcellus
24	3/11/2015	10963	10820	40	Marcellus
25	3/21/2015	10786	10643	40	Marcellus
26	3/21/2015	10609	10466	40	Marcellus
27	3/22/2015	10432	10289	40	Marcellus
28	3/22/2015	10255	10112	40	Marcellus
29	3/23/2015	10078	9940	40	Marcellus
30	3/23/2015	9901	9758	40	Marcellus
31	3/24/2015	9724	9581	40	Marcellus
32	3/24/2015	9547	9404	40	Marcellus
33	3/25/2015	9370	9227	40	Marcellus
34	3/25/2015	9192	9050	40	Marcellus
35	3/25/2015	9016	8873	40	Marcellus
36	3/26/2015	8839	8696	40	Marcellus
37	3/26/2015	8661	8519	40	Marcellus
38	3/26/2015	8485	8342	40	Marcellus
39	3/27/2015	8308	8166	40	Marcellus

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number Of Perforations	Formation(s)
40	3/27/2015	8022	7983	40	Marcellus
41	3/28/2015	7956	7814	40	Marcellus
42	3/28/2015	7780	7642	40	Marcellus
43	3/28/2015	7604	7462	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	2/25/2015	62.4	8421	7127	3295	100500	4494	3240
2	2/26/2015	92.3	8000	7764	3778	234500	6881	3262
3	2/26/2015	83.1	8469	7777	4000	236350	6866	3253
4	2/27/2015	75.8	8197	7044	4137	233400	7400	3215
5	2/27/2015	81.4	8323	8399	4237	234300	7099	3216
6	2/28/2015	81.2	8212	7679	4036	233700	7076	3255
7	2/28/2015	79.6	8266	7455	4486	235800	6586	3189
8	3/1/2015	83.3	8351	7418	4096	233900	6640	3195
9	3/1/2015	76.5	8193	7730	3922	233700	6530	3265
10	3/1/2015	78.4	8433	7651	3823	236000	6349	3187
11	3/2/2015	79.4	8336	7877	3706	234900	6273	3239
12	3/2/2015	78	8023	7081	3817	234700	6481	3211
13	3/3/2015	63.8	8264	7746	4160	235300	7689	3295
14	3/3/2015	72.1	7917	7076	3680	234050	7014	3218
15	3/3/2015	73.2	8059	6649	3928	234750	6940	3238
16	3/3/2015	80.2	8187	6877	4660	233700	5918	3176
17	3/4/2015	82	8067	7707	4298	236750	8234	3316
18	3/6/2015	73.5	8314	7857	4274	232400	6457	3200
19	3/7/2015	80.4	8373	6677	4546	231200	6260	3257
20	3/8/2015	71.7	8184	7958	3782	233800	6448	3223
21	3/8/2015	70	8196	8311	3789	233650	6556	3262
22	3/9/2015	77	8081	8097	4519	233550	7442	3286
23	3/9/2015	73.3	8066	7870	3922	228950	6212	3219
24	3/11/2015	75.9	7914	7733	4154	235100	6453	3219
25	3/21/2015	86.7	8159	8350	4317	233850	6500	3251
26	3/21/2015	70.2	8015	8187	3572	237450	6485	3228
27	3/22/2015	89	7757	8518	3902	234550	6334	3304
28	3/22/2015	85.7	7833	7923	3933	236100	6534	3315
29	3/23/2015	90	8329	7245	4075	233750	6205	3237
30	3/23/2015	94.5	7565	7641	3874	235750	6585	3271
31	3/24/2015	98.5	7948	7646	3842	237300	6272	3238
32	3/24/2015	97.4	7870	7812	3701	235200	6271	3216
33	3/25/2015	97.1	8085	7799	3840	237850	6197	3207
34	3/25/2015	97.5	8060	7190	3737	234500	6666	3273
35	3/25/2015	90.9	8246	7780	3755	234650	7619	3487
36	3/26/2015	97.4	7870	7852	3707	234900	6518	3251
37	3/26/2015	100	8029	7186	3433	235000	6343	3185
38	3/26/2015	93.7	7863	7123	3626	234400	6942	3280
39	3/27/2015	96.8	8188	7510	3668	235000	6353	3280

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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)
40	3/27/2015	64.2	8240	7612	3833	233350	13759	8952
41	3/28/2015	95.4	8058	7271	3698	234800	6332	3191
42	3/28/2015	97.4	8095	7842	3737	234000	6236	3178
43	3/28/2015	97.9	8084	7696	3759	234300	6182	3180

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PRODUCING FORMATION(S) DEPTHS
MARCELLUS 6906'-6911' TVD 7523'- 7528' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
SHUT-IN PRESSURE Surface N/A psi Bottom Hole N/A psi DURATION OF TEST N/A hrs
OPEN FLOW Gas N/A mcfpd Oil N/A bpd NGL N/A bpd Water N/A 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 Spittle Title Steve Spittle - Completions Manager-Gas WV Date 8/10/2015
Telephone 304-884-2000

Submittal 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	100	0	100	
SS/ SHALE	100	135	100	135	
REDROCK	135	150	135	150	
SS/ SHALE	150	560	150	560	
REDROCK	560	570	560	570	
SS/ SHALE	570	595	570	595	
GREY SHALE	595	630	595	630	
REDROCK	630	640	630	640	
SS/ SHALE	640	675	640	675	
SHALE	675	690	675	690	
SS/ SHALE	690	820	690	820	
SHALE	820	1090	820	1090	
SS/ SHALE	1090	1150	1090	1150	
SHALE	1150	1220	1150	1220	
SS	1220	1390	1220	1390	
SHALE	1390	1450	1390	1450	
SS/ SILTSTONE	1450	1960	1450	1960	
SHALE	1960	3161	1960	3161	
SS/ SILTSTONE	3161	3220	3161	3220	
SHALE/ SILT	3220	3500	3220	3500	
REDROCK/ SILTSTONE/ GREY SH	3500	3815	3500	3815	
SS/ SHALE	3815	4232	3815	4236	
SS	4232	4293	4236	4300	
SHALE/ SILT	4293	4480	4300	4500	
SS/ SHALE/ SILT	4480	4570	4500	4600	
SHALE/ SILT	4570	4650	4600	4700	
SHALE	4650	5090	4700	5200	
SS/SHALE	5090	5177	5200	5297	
SHALE	5177	5580	5297	5782	
SS/ SHALE	5580	5837	5782	6075	
CASHAQUA	6555	6693	6886	7090	
MIDDLESEX	6693	6752	7090	7196	
WEST RIVER	6752	6829	7196	7446	
BURKETT	6829	6854	7446	7471	
TULLY	6854	6879	7471	7496	
HAMILTON	6879	6906	7496	7523	
UPPER MARCELLUS	6906	6911	7523	7528	
MIDDLE MARCELLUS	6911		7528		

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/25/2015
Job End Date:	3/28/2015
State:	West Virginia
County:	Doddridge
API Number:	47-017-06414-00-00
Operator Name:	CONSOL Energy Inc.
Well Name and Number:	OXF 11 KHS
Longitude:	-80.76361110
Latitude:	39.17077780
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,837
Total Base Water Volume (gal):	12,072,955
Total Base Non Water Volume:	0



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Hydraulic Fracturing Fluid Composition:

17-06414

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Customer & CWS	Base Fluid & Mix Water					
			Water	7732-18-5	100.00000	90.61404	
Sand (Proppant), DWP-111, DWP-614, DWP-901, DWP-NE1	CWS	Propping Agent, Gel Slurry, Viscosifier, Breaker, Non-Emulsifier					
			Crystalline silica (Quartz)	14808-60-7	100.00000	8.90632	
			Hydrochloric acid	7647-01-0	35.00000	0.35595	
			2-Propenoic acid, polymer with 2-propenamido, sodium salt	25987-30-8	40.00000	0.03035	
			Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.02791	
			Calcite	471-34-1	1.00000	0.01182	
			Illite	12173-60-3	1.00000	0.00897	
			Guar gum	9000-30-0	60.00000	0.00515	
			Goethite	1310-14-1	0.10000	0.00501	
			Apatite	64476-38-6	0.10000	0.00389	
			Biotite	1302-27-8	0.10000	0.00389	
			Methanol	67-56-1	15.00000	0.00386	
			Sorbitan monooleate	1338-43-8	5.00000	0.00379	

		Poly(oxyethylene)nonylphenol ether	9016-45-9	5.00000	0.00379
		Illmenite	98072-94-7	0.10000	0.00332
		Isopropanol	67-63-0	40.00000	0.00215
		Dimethylcocoamine, bis (chloroethyl) ether, diquatary ammonium salt	68607-28-3	40.00000	0.00215
		Alkenes, C>10 a-	64743-02-8	0.10000	0.00153
		Fatty acids, tall-oil	61790-12-3	0.10000	0.00153
		Alcohols, C14-15, ethoxylated	68951-67-7	0.10000	0.00153
		Modified thiourea polymer	68527-49-1	0.10000	0.00153
		Propargyl Alcohol	107-19-7	0.10000	0.00051
		Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00043
		Diallyldimethylammonium chloride	7398-69-8	5.00000	0.00027
		Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50000	0.00013
		Formaldehyde	50-00-0	0.10000	0.00010
		Ammonium Persulfate	7727-54-0	100.00000	0.00006
		Sodium chloride	7647-14-5	0.10000	0.00005

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

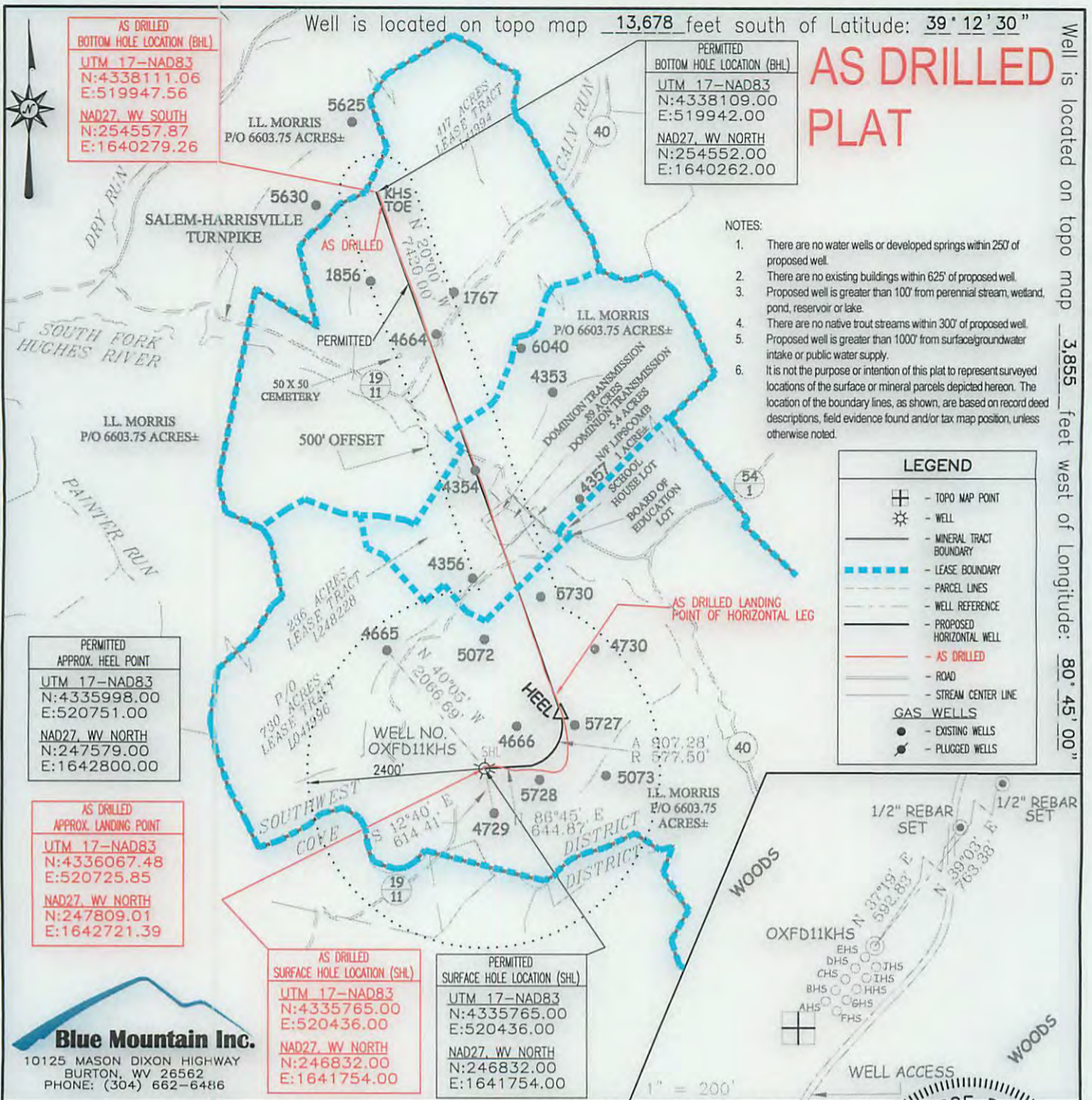
* Total Water Volume sources may include fresh water, produced water, and/or recycled water
 ** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.
 Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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FILE #: OXFD11KHS-AS DRILLED
 DRAWING #: OXFD11KHS-AS DRILLED
 SCALE: 1" = 200'
 MINIMUM DEGREE OF ACCURACY: 1/2500
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: [Signature]
 R.P.E.: _____ L.L.S.: P.S. No. 2000

GEORGE D. SIX
 LICENSED
 No. 2000
 STATE OF
 WEST VIRGINIA
 PROFESSIONAL SURVEYOR

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304

DATE: MAY 27, 2015
 OPERATOR'S WELL #: OXFD11KHS-AS DRILLED
 API WELL #: 47 17 06414
 STATE COUNTY PERMIT

Well Type: Oil Waste Disposal Production Deep
 Gas Liquid Injection Storage Shallow

WATERSHED: SOUTH FORK HUGHES RIVER ELEVATION: 1,340'
 COUNTY/DISTRICT: DODDRIDGE/ SOUTHWEST QUADRANGLE: OXFORD 7.5'
 SURFACE OWNER: I.L. MORRIS ACREAGE: 6603.75±
 OIL & GAS ROYALTY OWNER: LINDSAY A EDMONDSON, ETAL & STATE OF WEST VIRGINIA (SALEM HARRISVILLE TURNPIKE) ACREAGE: 730, 236, & 417±

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
 CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): _____

TARGET FORMATION: BURKETT ESTIMATED DEPTH: TVD: 6,837'± TMD: 14,999'±
 WELL OPERATOR CNX GAS COMPANY LLC DESIGNATED AGENT JOE BERRY, JR.
 Address P.O. BOX 1248 Address P.O. BOX 1248
 City JANE LEW State WV Zip Code 26378 City JANE LEW State WV Zip Code 26378

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