

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

JA
CB

API 47-001-03284H6A County Barbour District Philippi
Quad Audra Pad Nam AUD7HS Field/Pool Name Audra
Farm Name MURPHY, BRIAN E. & LISA L. Well Number AUD7BHS
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 4,330,725.91 m Easting 579,210.42 m
Landing Point of Curve Northing 4,330,609.83 m Easting 579,425.81 m
Bottom Hole Northing 4,329,520.05 m Easting 580,634.08 m

Elevation (ft) 1568' 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)
Waterbased Mud, Bactericide, Polymers and Weighting Agents.

Date Permit Issued 05/17/2013 Date drilling commenced 03/27/2014 Date drilling ceased 07/07/2014
Date completion activities began 07/25/2014 Date completion activities ceased 08/09/2014
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 plu

Freshwater depth(s) ft None Reported Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1820' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 320' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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Reviewed by:

12/12/2014

API 47-001-03284H6A Farm name MURPHY, BRIAN E. & LISA L. Well number AUD7BHS

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	26"	20"	91'	N	L.S. 81.3 / 91'	N/A	Y
Surface	17 1/2"	13 3/8"	513.6'	N	J-55 54.5 / 513.6'	N/A	Y
Coal	-	-	-	-	-	-	-
Intermediate 1	12 1/4"	9 5/8"	2011.7'	N	J-55 36 / 2011.7'	N/A	Y
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	8 3/4"	5 1/2"	17422.6'	N	P-110 20 / 17422.6'	N/A	Y
Tubing	5 1/2"	2 3/8"	7591.3'	N	N-80 5.95 / 7591.3'	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	105 sks	15.6	1.18	124	Surface	8
Surface	Class A	437 sks	15.6	1.18	516	Surface	8
Coal	-	-	-	-	-	-	-
Intermediate 1	Class A	643 sks	15.2	1.26	810	Surface	8
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	Class A (Lead) / Class A (Tail)	905 sks / 2521 sks	14.2 / 14.8	1.26 / 1.25	1140 / 3151	1210' / 5558'	8
Tubing	-	-	-	-	-	-	-

Drillers TD (ft) 7592' Loggers TD (ft) 7648'
 Deepest formation penetrated: Huntersville Plug back to (ft) 6600'
 Plug back procedure: Solid Plug from 7592'-6600'

Kick Off Depth (ft) 6630'

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 Office of Oil and Gas

WERE TRACERS USE Yes No TYPES OF TRACER(S) USED _____

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API 47-001-03284H6A

Farm name MURPHY, BRIAN E. & LISA L.

Well number AUD7BHS

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)	Amount of ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen / other (gals)
								See Attached

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Please insert additional pages as applicable.

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PERFORATION RECORD

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Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number Of Perforations	Formation(s)
1	7/25/2014	17404	17410	40	Marcellus
2	7/25/2014	17250	17375	40	Marcellus
3	7/26/2014	17097	17222	40	Marcellus
4	7/26/2014	16944	17069	40	Marcellus
5	7/26/2014	16791	16916	40	Marcellus
6	7/27/2014	16638	16763	40	Marcellus
7	7/28/2014	16485	16610	40	Marcellus
8	7/28/2014	16332	16457	40	Marcellus
9	7/28/2014	16179	16304	40	Marcellus
10	7/29/2014	16026	16151	40	Marcellus
11	7/29/2014	15873	15998	40	Marcellus
12	7/29/2014	15720	15845	40	Marcellus
13	7/29/2014	15567	15692	40	Marcellus
14	7/29/2014	15414	15539	40	Marcellus
15	7/30/2014	15261	15386	40	Marcellus
16	7/30/2014	15108	15233	40	Marcellus
17	7/30/2014	14955	15080	40	Marcellus
18	7/30/2014	14802	14927	40	Marcellus
19	7/30/2014	14648	14774	40	Marcellus
20	7/31/2014	14494	14620	40	Marcellus
21	7/31/2014	14340	14466	40	Marcellus
22	7/31/2014	14186	14312	40	Marcellus
23	7/31/2014	14032	14158	40	Marcellus
24	7/31/2014	13878	14004	40	Marcellus
25	8/1/2014	13476	13598	40	Marcellus
26	8/1/2014	13328	13448	40	Marcellus
27	8/1/2014	13180	13300	40	Marcellus
28	8/1/2014	13032	13152	40	Marcellus
29	8/1/2014	12884	13004	40	Marcellus
30	8/1/2014	12736	12856	40	Marcellus
31	8/2/2014	12587	12708	40	Marcellus
32	8/2/2014	12438	12559	40	Marcellus
33	8/2/2014	12289	12410	40	Marcellus
34	8/3/2014	12140	12281	40	Marcellus
35	8/3/2014	11991	12112	40	Marcellus
36	8/3/2014	11842	11963	40	Marcellus
37	8/3/2014	11693	11814	40	Marcellus
38	8/3/2014	11544	11665	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)
39	8/4/2014	11395	11516	40	Marcellus
40	8/4/2014	11246	11367	40	Marcellus
41	8/4/2014	11097	11218	40	Marcellus
42	8/4/2014	10948	11069	40	Marcellus
43	8/4/2014	10799	10920	40	Marcellus
44	8/5/2014	10650	10771	40	Marcellus
45	8/5/2014	10501	10622	40	Marcellus
46	8/5/2014	10352	10473	40	Marcellus
47	8/5/2014	10203	10324	40	Marcellus
48	8/5/2014	10054	10175	40	Marcellus
49	8/6/2014	9905	10026	40	Marcellus
50	8/6/2014	9756	9877	40	Marcellus
51	8/6/2014	9607	9728	40	Marcellus
52	8/7/2014	9458	9579	40	Marcellus
53	8/7/2014	9309	9430	40	Marcellus
54	8/7/2014	9160	9281	40	Marcellus
55	8/7/2014	9011	9132	40	Marcellus
56	8/7/2014	8862	8983	40	Marcellus
57	8/7/2014	8713	8834	40	Marcellus
58	8/8/2014	8564	8685	40	Marcellus
59	8/8/2014	8415	8536	40	Marcellus
60	8/8/2014	8266	8387	40	Marcellus
61	8/8/2014	8123	8239	40	Marcellus
62	8/8/2014	7815	7931	40	Marcellus
63	8/9/2014	7673	7789	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)	Nitrogen / other (gals)
1	7/25/2014	92	9028	N/A	5283	96000	4885	3215
2	7/25/2014	75.4	8807	6845	4874	200250	7181	3560
3	7/26/2014	74	8932	6395	4767	201250	5967	2131
4	7/26/2014	78	9333	6158	5548	212000	6791	3473
5	7/26/2014	68.2	9955	6831	5574	109250	8525	6854
6	7/27/2014	82	9855	6108	7550	304500	8477	3509
7	7/28/2014	78.1	9011	5983	5103	201100	4915	3360
8	7/28/2014	80	9009	6212	4957	203020	5229	3369
9	7/28/2014	78	9199	6126	4989	199680	5703	3445
10	7/29/2014	77	9255	6323	N/A	176920	6753	3747
11	7/29/2014	77	9073	6105	4717	224680	5922	3433
12	7/29/2014	85	9767	6570	5436	193420	5129	3390
13	7/29/2014	83	9577	6462	4975	200290	5386	3426
14	7/29/2014	85.4	10074	6316	4545	203500	5038	3358
15	7/30/2014	89.2	10113	6487	5400	205850	4717	3373
16	7/30/2014	88	10033	6534	5858	199180	4920	3410
17	7/30/2014	86	9777	6419	5958	198380	5086	3390
18	7/30/2014	78	9841	6663	4656	197240	6821	3610
19	7/30/2014	57.7	9831	7203	5085	201000	8986	5037
20	7/31/2014	80	9718	7267	5271	201200	5156	4396
21	7/31/2014	83	9753	6938	5940	197400	5426	3868
22	7/31/2014	81	9889	6931	6040	198040	5091	3394
23	7/31/2014	83	9571	6577	6262	198200	5094	3385
24	7/31/2014	86.6	9782	6588	5318	202900	5142	3363
25	8/1/2014	88	9578	6491	5736	203350	4539	3336
26	8/1/2014	86	9725	6323	5808	189650	4483	3327
27	8/1/2014	85	9824	6362	6176	201360	5601	3526
28	8/1/2014	85	9647	6284	5361	206040	4685	3369
29	8/1/2014	88	9555	6391	5239	213760	4791	3414
30	8/1/2014	84.1	9792	6670	5089	191500	4753	3379
31	8/2/2014	74.4	9452	6977	4613	209050	5093	3470
32	8/2/2014	84.9	9704	7299	5769	202550	4755	3363
33	8/2/2014	80.9	9642	6984	5014	202050	5576	3413
34	8/3/2014	90.7	9664	6545	5554	202550	4971	3291
35	8/3/2014	85.9	9830	6824	4599	202300	4936	3526
36	8/3/2014	86	9807	7231	6133	116180	8298	3926
37	8/3/2014	86.9	9239	6448	6262	228800	6576	3568
38	8/3/2014	74.4	9616	6713	5057	200250	7451	3666

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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)
39	8/4/2014	86.5	9583	6255	5164	259350	6347	3352
40	8/4/2014	94	9742	6226	6047	181500	5901	3512
41	8/4/2014	95	9797	6412	6938	209600	5269	3406
42	8/4/2014	94	9849	6233	5915	217000	5858	3430
43	8/4/2014	87.1	9580	6580	4957	201500	6387	3563
44	8/5/2014	92.4	9306	5958	5776	199900	4892	3482
45	8/5/2014	92.7	9560	6123	6069	199060	5891	3503
46	8/5/2014	92	9868	6391	6691	206000	5241	3413
47	8/5/2014	71.3	9933	6341	7263	66250	3535	3387
48	8/5/2014	83	9395	N/A	5414	343500	10057	4171
49	8/6/2014	70.1	9797	8293	6045	207900	10923	5021
50	8/6/2014	73	9874	7553	6473	207600	6363	3715
51	8/6/2014	99	9386	6720	5969	207000	5437	3502
52	8/7/2014	91.2	8545	5944	5955	206000	4954	3417
53	8/7/2014	94	9415	6577	5847	209500	5685	3475
54	8/7/2014	93.8	9712	6810	5428	207000	5360	3497
55	8/7/2014	88	9555	6831	5904	206000	5767	3461
56	8/7/2014	97.7	9714	6984	5118	205900	5637	3617
57	8/7/2014	93.1	9589	6480	5958	205400	5130	3508
58	8/8/2014	85.2	9504	6698	5447	204360	5748	3793
59	8/8/2014	91	9111	6723	6655	207500	4922	3331
60	8/8/2014	92	8860	6427	7092	205000	4864	3314
61	8/8/2014	93.8	9064	7607	6008	210900	5073	3360
62	8/8/2014	91.3	7837	6047	4660	212800	4807	3377
63	8/9/2014	91.4	8172	6119	4778	205900	4818	3437

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PRODUCING FORMATION(S)	DEPTHS	TVD	MD
MARCELLUS	7547'- 7638'		

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 1100 psi Bottom Hole 4412 psi DURATION OF TEST 256 hrs
 OPEN FLOW Gas 6958 mcfpd Oil 0 bpd NGL 0 bpd Water 749 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
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					WV Department of Environmental Protection

Please insert additional pages as applicable.

Drilling Contractor Patterson UTI
 Address 207 Carlton Drive City Eighty Four State PA Zip 15330
 Logging Company Diversified Mud Logging
 Address 440 Route 519 City Eighty Four State PA Zip 15332
 Cementing Company CalFrac
 Address 2001 Summit View Rd City Smithfield State PA Zip 15478
 Stimulating Company U.S. Well Services
 Address 533 Industrial Park Drive City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by CNX Gas WV Operations Company, LLC - Drilling and Completions Telephone 304-884-2000
 Signature Steve Spitler Title Steve Spitler - Completions Manager-Gas WV Date 11/14/14

API 47-001-03284H6A Farm name MURPHY, BRIAN E. & LISA Well number AUD7BHS
L.

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	10			
SAND/SHALE	10	135			Gray
SAND/SHALE	140	320			White / Light Gray
COAL	320	440			White / Tan
SAND/SHALE	440	600			White / Medium Gray
SAND/SHALE	600	640			Gray
SHALE	640	713			Black
SAND/SHALE	713	1160			Gray
BIG LIME	1160	1400			Medium Green to Medium Red
BIG LIME	1400	1430			Medium Dark Gray
BIG INJUN	1430	1610			Medium Light Gray
GANTZ	1610	1730			White / Light Gray
SAND/SHALE/SILTSTONE	1730	1760			Red Gray
SAND/SHALE/SILTSTONE	1760	1820			Light Gray
SILTSTONE/REDROCK	1820	1890			Red Gray
REDROCK/SILT	1890	1985			Red
SANDSTONE	1985	2020			Gray
REDROCK/SAND/SHALE	2020	2210			
SAND/SHALE	2210	2390			Medium Light Gray
SILTSTONE	2390	2420			Medium Gray
SAND/SHALE/SILTSTONE	2420	2870			Gray
SAND/SHALE	2870	2900			Medium Gray
SAND/SHALE/SILTSTONE	2900	3170			Medium Gray
SILTSTONE	3170	3700			Medium Gray
SAND/SHALE	3700	4310			Medium Gray
SILTSTONE/SHALE	4310	6200			Medium Gray
SANDSTONE/SHALE	6200	6380			Light Gray
SILTSTONE/SHALE	6380	7040			Medium Dark Gray
SHALE	7040	7280			Medium Dark Gray
LIMESTONE	7280	7430			Medium Gray to Light Gray
SILTSTONE	7430	7460			Grayish Black
SHALE	7460				Grayish Black
MARCELLUS	7547	7638			
ONONDAGA	7638	7640			
HUNTERSVILLE	7648	7721			

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NOTE: AS DRILLED TOP HOLE COORDINATES SAME AS PERMITTED ONES.

BOTTOM HOLE AS DRILLED
 NAD 27 WV NORTH SPC
 220,260.01693' 1,841,949.72113 AUD7BHS
 NAD 83 UTM ZONE 17 IN METERS
 4,328,685.25 m 581,561.64 m AUD7BHS

LATITUDE 39-07-30

NAD 83 ZONE 17 UTM COORDINATES:
 AUD7BHS = 4,330,725.91 m 579,210.42 m
 LAND PT. = 4,330,609.83 m 579,425.81 m
 BOT. HOLE = 4,328,679.24 m 581,566.30 m

SCALED COOR.:
 150' WEST
 1095' SOUTH

NAD 27 WV NORTH SPC:

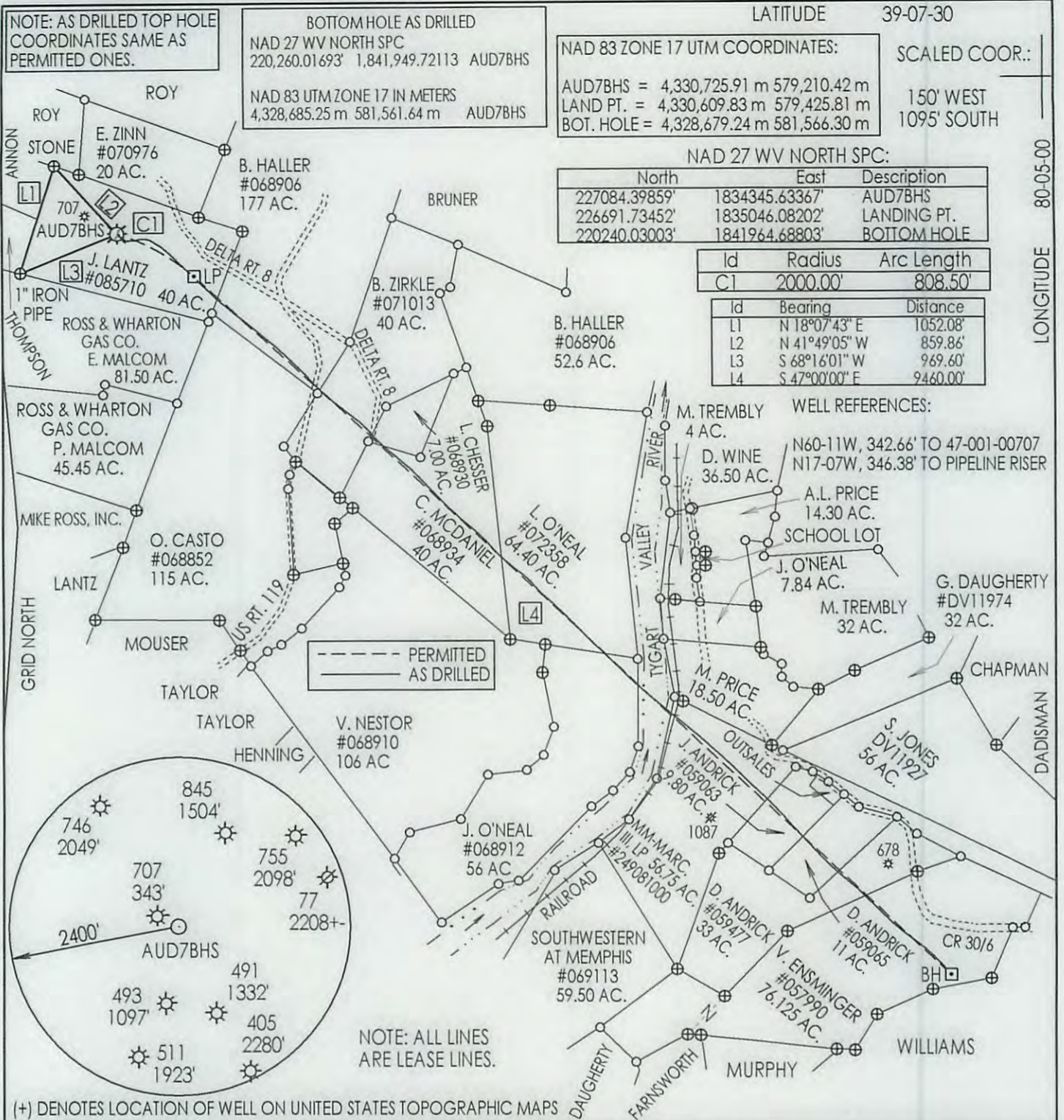
North	East	Description
227084.39859'	1834345.63367'	AUD7BHS
226691.73452'	1835046.08202'	LANDING PT.
220240.03003'	1841964.68803'	BOTTOM HOLE

Id	Radius	Arc Length
C1	2000.00'	808.50'

Id	Bearing	Distance
L1	N 18°07'43" E	1052.08'
L2	N 41°49'05" W	859.86'
L3	S 68°16'01" W	969.60'
L4	S 47°00'00" E	9460.00'

WELL REFERENCES:

N60-11W, 342.66' TO 47-001-00707
 N17-07W, 346.38' TO PIPELINE RISER



FILE NUMBER: _____
 DRAWING NUMBER: CNXAUD7BHSR1AD.PCS
 SCALE: 1" = 1300'
 MINIMUM DEGREE OF ACCURACY: SUBMETER
 PROVEN SOURCE OF ELEVATION: DGPS SURVEY
 RTK CENTIMETER SYSTEM

I THE UNDERSIGNED, HEREBY STATE 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 ENERGY.

(SIGNED) _____
 STEPHEN D. LOSH, P.S. #674



STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS
 #10 McJUNKIN ROAD
 NITRO, WV 25143-2506

LAND SURVEYING SERVICES
 21 CEDAR LANE, BRIDGEPORT, WV 26330
 PHONE: 304-842-2018 OR 842-5762

DATE: NOVEMBER 10, 2014
 OPERATORS WELL NO.: AUD7BHS
 API WELL NO. (AS DRILLED)

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL CBM
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1568' WATERSHED ELK CREEK
 DISTRICT PHILIPPI COUNTY BARBOUR
 QUADRANGLE AUDRA LEASE NUMBER SEE ABOVE

SURFACE OWNER BRIAN E. & LISA L. MURPHY ACREAGE 38.00 (13-10)
 OIL & GAS ROYALTY OWNER O. CASTO, ET. AL. UNIT LEASE ACREAGE 1048.65

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) HORIZONTAL

TARGET FORMATION MARCELLUS ESTIMATED DEPTH TVD = 7950' TMD = 18620'

WELL OPERATOR CNX GAS COMPANY LLC DESIGNATED AGENT JEREMY JONES
 ADDRESS P. O. BOX 1248 JANE LEW, WV 26378 ADDRESS P. O. BOX 1248 JANE LEW, WV 26378

LONGITUDE 80-05-00

COUNTY NAME PERMIT

12/12/2014

NOTE: AS DRILLED TOP HOLE COORDINATES SAME AS PERMITTED ONES.

BOTTOM HOLE AS DRILLED
 NAD 27 WV NORTH SPC
 220,260.01693' 1,841,949.72113 AUD7BHS
 NAD 83 UTM ZONE 17 IN METERS
 4,328,685.25 m 581,561.64 m AUD7BHS

LATITUDE 39-07-30

NAD 83 ZONE 17 UTM COORDINATES:
 AUD7BHS = 4,330,725.91 m 579,210.42 m
 LAND PT. = 4,330,609.83 m 579,425.81 m
 BOT. HOLE = 4,328,679.24 m 581,566.30 m

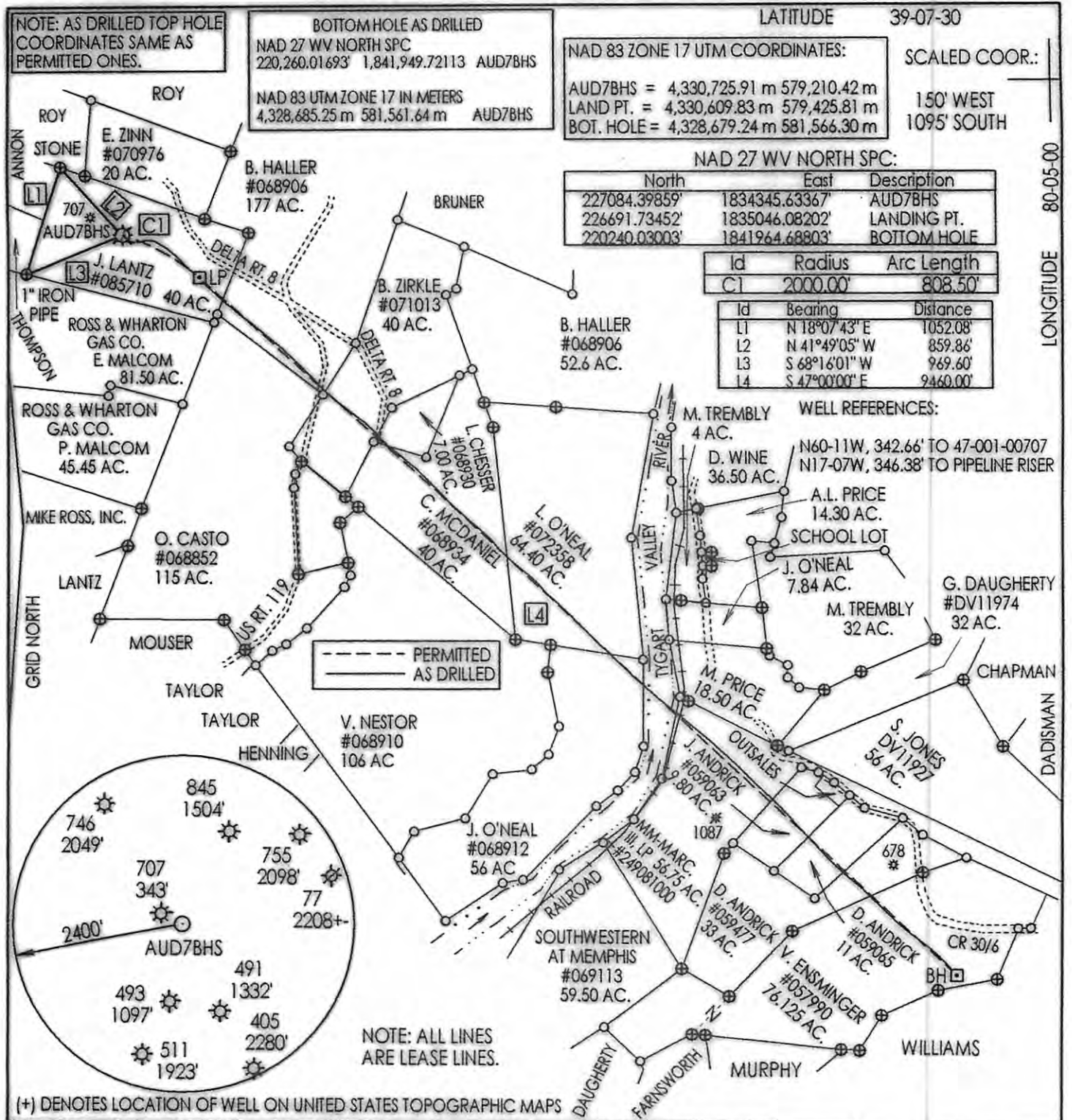
SCALED COOR.:
 150' WEST
 1095' SOUTH

NAD 27 WV NORTH SPC:

North	East	Description
227084.39859'	1834345.63367'	AUD7BHS
226691.73452'	1835046.08202'	LANDING PT.
220240.03003'	1841964.68803'	BOTTOM HOLE

Id	Radius	Arc Length
C1	2000.00'	808.50'

Id	Bearing	Distance
L1	N 18°07'43" E	1052.08'
L2	N 41°49'05" W	859.86'
L3	S 68°16'01" W	969.60'
L4	S 47°00'00" E	9460.00'



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER: _____
 DRAWING NUMBER: CNXAUD7BHRS1AD.PCS
 SCALE: 1" = 1300'
 MINIMUM DEGREE OF ACCURACY: SUBMETER
 PROVEN SOURCE OF ELEVATION: DGPS SURVEY
 RTK CENTIMETER SYSTEM

I THE UNDERSIGNED, HEREBY STATE 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 ENERGY.

(SIGNED) _____
 STEPHEN D. LOSH, P.S. #674



STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS
 #10 McJUNKIN ROAD
 NITRO, WV 25143-2506

LAND SURVEYING SERVICES
 21 CEDAR LANE, BRIDGEPORT, WV 26330
 PHONE: 304-842-2018 OR 842-5762

DATE: NOVEMBER 10, 2014
 OPERATORS WELL NO.: AUD7BHS
 API WELL NO. (AS DRILLED) 47-001-03284

WELL TYPE: OIL ___ GAS ___ LIQUID INJECTION WASTE DISPOSAL ___ CBM ___
 (IF "GAS") PRODUCTION ___ STORAGE DEEP ___ SHALLOW STATE COUNTY PERMIT

LOCATION: ELEVATION 1568' WATERSHED ELK CREEK
 DISTRICT PHILIPPI COUNTY BARBOUR
 QUADRANGLE AUDRA LEASE NUMBER SEE ABOVE

SURFACE OWNER BRIAN E. & LISA L. MURPHY ACREAGE 38.00 (13-10)
 OIL & GAS ROYALTY OWNER O. CASTO, ET. AL. UNIT LEASE ACREAGE 1048.63

PROPOSED WORK: DRILL CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE PLUG OFF OLD FORMATION ___
 PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE (SPECIFY) HORIZONTAL

TARGET FORMATION MARCELLUS PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
 ESTIMATED DEPTH TVD = 7950' TMD = 18620'

WELL OPERATOR CNX GAS COMPANY LLC DESIGNATED AGENT JEREMY JONES
 ADDRESS P. O. BOX 1248 JANE LEW, WV 26378 ADDRESS P. O. BOX 1248 JANE LEW, WV 26378

80-05-00 LONGITUDE

COUNT NAME PERMIT

12/12/2014

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/25/2014
Job End Date:	8/9/2014
State:	West Virginia
County:	Barbour
API Number:	47-001-03284-00-00
Operator Name:	CONSOL Energy Inc.
Well Name and Number:	AUD-7B
Longitude:	-80.08387100
Latitude:	39.12200300
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,592
Total Base Water Volume (gal):	15,122,864
Total Base Non Water Volume:	772,231

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PROTECTION COUNCIL



1-03284

Hydraulic Fracturing Fluid Composition:

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	Antero Resources	Base Fluid					
			Water	7732-18-5	100.00000	89.94329	
Sand, AI-300, K-BAC 1020,LGC-15, AP One, WFRA-405e,SW2-100,HCL Acid (3% to 7.5%),pH-15L,SI-1100	J.S. Well Services, LLC	Proppant, Acid Corrosion Inhibitors,Anti-Bacterial Agent, Gelling Agents, Gel Breakers, Friction Reducer, Surfactants & Foamers,Bulk Acid, Base Fluid, pH Buffer, Scale Inhibitor					
			Crystalline Silica, quartz	14808-60-7	100.00000	8.94977	
			Water	7732-18-5	97.00000	0.86182	
			Anionic Polyacrylamide	Proprietary	40.00000	0.05404	
			Water	7732-18-5	40.00000	0.05404	
			Sodium Chloride	7647-14-5	20.00000	0.02702	
			Petroleum Distillates	64742-47-8	20.00000	0.02175	
			Hydrogen Chloride	7647-01-0	7.50000	0.01547	
			Guar Gum	9000-30-0	50.00000	0.01259	
			Petroleum Distillates	64742-47-8	60.00000	0.01192	
			Di Water	7732-18-5	80.00000	0.01089	

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1-03284

		2,2-dibromo-3-nitripropionamide	10222-01-2	20.00000	0.00873
		Ethoxylated alcohol blend	Proprietary	5.00000	0.00675
		Ethylene Glycol	107-21-1	40.00000	0.00615
		Deionized Water	7732-18-5	28.00000	0.00499
		Suspending agent (solid)	14808-60-7	3.00000	0.00192
		Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	10.00000	0.00184
		2-Phosphonobutane 1,2,4 tricarboxylic salt	37971-36-1	10.00000	0.00176
		hexamethylenediamine tetra (methylene phosphonic acid)	38820-59-6	10.00000	0.00170
		Copolymer of Maleic and Acrylic acid	26677-99-6	10.00000	0.00161
		bis (hexamethylene) tramine penta (methylene phosphonic acid) - phosphate acid	40623-75-4	10.00000	0.00157
		Surfactant	68439-51-0	3.00000	0.00076
		Acrylic polymer	52255-49-9	5.00000	0.00068
		Ethylene Glycol	107-21-1	31.00000	0.00041
		Ammonium Persulfate	7727-54-0	100.00000	0.00036
		N,N-Dimethylformamide	68-12-2	15.00000	0.00013
		Cinnamaldehyde	104-55-2	5.00000	0.00011
		Sodium Hydroxide	1310-73-2	25.00000	0.00011
		Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	13.00000	0.00011
		Methyl Alcohol	67-56-1	43.50000	0.00005
		Water	7732-18-5	35.00000	0.00004
		Water	7732-18-5	20.00000	0.00004
		Ethoxylated Nonylphenol	68412-54-4	5.00000	0.00003
		Triethyl Phosphate	78-40-0	3.00000	0.00002
		2-Butoxyethanol	111-76-2	7.00000	0.00001
		Isopropyl Alcohol	67-63-0	3.00000	0.00001
		N-dodecyl-2-pyrrolidone	2687-96-9	1.50000	0.00000

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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