

September 4th, 2014

JR

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

API 47-097-03792WH6A County Upshur District Washington
Quad Alton 7.5' Pad Nam ALT8HS Field/Pool Name Alton
Farm Name WOODY, D.J., ET AL Well Number ALT8CHS Rework Drilling Deeper
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 4,293,305.95m Easting 571,910.35m
Landing Point of Curve Northing 4,293,109.14m Easting 571,698.99m
Bottom Hole Northing 4,290,806.20m Easting 572,516.70m

Elevation (ft) 2459.5' 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 07/24/2013 Date drilling commenced 12/18/2011 Date drilling ceased 11/26/2013
Date completion activities began 04/03/2014 Date completion activities ceased 05/17/2014
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 40', 130' Open mine(s) (Y/N) depths N
Salt water depth(s) ft None Reported Void(s) encountered (Y/N) depths Office of Oil and Gas
Coal depth(s) ft None Reported Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

RECEIVED
Office of Oil and Gas
SEP 05 2014
WV Department of
Environmental Protection

10/03/2014

API 47-097-03792WH6A Farm name WOODY, D.J., ET AL Well number ALT8CHS Rework Drilling Deeper

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"	40'	N	L.S. 84 / 40'	N/A	Y
Surface	17 1/2"	13 3/8"	670'	N	J-55 54.5 / 670'	83'/140'	Y
Coal	-	-	-	-	-	-	-
Intermediate 1	12 1/4"	9 5/8"	5445'	N	J-55 36 / 5445'	80'/142'	Y
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	8 3/4" & 8 1/2"	5 1/2"	16182'	N	P-110 20 / 16182'	N/A	Y
Tubing	8 3/4"	2 3/8"	7776'	N	N-80 4.7 / 7776'	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	250	15.6	1.18	295	Surface	10
Surface	Class A	440	14.6	1.39	612	Surface	151
Coal	-	-	-	-	-	-	-
Intermediate 1	Class A (Lead) / Class A (Tail)	330 bbls / 33 bbls	13.8 / 15	1.18	1558 / 156	Surface	8
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	Class A (Lead) / Class A (Tail)	162 bbls / 498 bbls	13.3 / 14.8	1.45 / 1.25	906 / 2794	4245'	12
Tubing	-	-	-	-	-	-	-

Drillers TD (ft) 7197' Loggers TD (ft) 7405'
 Deepest formation penetrated: Marcellus Plug back to (ft) N/A
 Plug back procedure: N/A

Kick Off Depth (ft) 5548'

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 _____

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

API 47-097-03792WH6A Farm name WOODY, D.J., ET AL Well number ALT8CHS Rework Drilling Deeper

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

Please insert additional pages as applicable.

API 47-097-03792WH6A Farm name WOODY, D.J., ET AL Well number ALT8CHS Rework Drilling Deeper

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number Of Perforations	Formation(s)
1	4/3/2014	16142	16021	4	Marcellus
2	4/4/2014	15988	15866	5	Marcellus
3	4/5/2014	15838	15716	5	Marcellus
4	4/9/2014	15688	15566	5	Marcellus
5	4/9/2014	15538	15416	5	Marcellus
6	4/10/2014	15388	15266	5	Marcellus
7	4/11/2014	15238	15116	5	Marcellus
8	4/12/2014	15088	14966	5	Marcellus
9	4/13/2014	14938	14816	5	Marcellus
10	4/14/2014	14788	14666	5	Marcellus
11	4/15/2014	14638	14516	5	Marcellus
12	4/17/2014	14488	14366	5	Marcellus
13	4/23/2014	14338	14216	5	Marcellus
14	4/23/2014	14188	14066	5	Marcellus
15	4/24/2014	14038	13916	5	Marcellus
16	4/24/2014	13888	13766	5	Marcellus
17	4/25/2014	13738	13616	5	Marcellus
18	4/26/2014	13588	13466	5	Marcellus
19	4/27/2014	13438	13316	5	Marcellus
20	4/27/2014	13288	13166	5	Marcellus
21	4/28/2014	13138	13016	5	Marcellus
22	4/28/2014	12988	12866	5	Marcellus
23	4/29/2014	12838	12716	5	Marcellus
24	4/30/2014	12688	12566	5	Marcellus
25	5/1/2014	12538	12416	5	Marcellus
26	5/2/2014	12388	12266	5	Marcellus
27	5/2/2014	12238	12116	5	Marcellus
28	5/3/2014	12088	11966	5	Marcellus
29	5/3/2014	11938	11816	5	Marcellus
30	5/5/2014	11788	11666	5	Marcellus
31	5/5/2014	11638	11516	5	Marcellus
32	5/6/2014	11488	11366	5	Marcellus
33	5/6/2014	11338	11216	5	Marcellus
34	5/7/2014	11188	11066	5	Marcellus
35	5/8/2014	11038	10916	5	Marcellus
36	5/8/2014	10888	10766	5	Marcellus
37	5/9/2014	10738	10616	5	Marcellus
38	5/10/2014	10588	10466	5	Marcellus
39	5/10/2014	10438	10316	5	Marcellus

10/03/2014

API 47-097-03792WH6A Farm name WOODY, D.J., ET AL Well number ALT8CHS Rework Drilling Deeper

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number Of Perforations	Formation(s)
40	5/11/2014	10288	10166	5	Marcellus
41	5/12/2014	10138	10016	5	Marcellus
42	5/12/2014	9988	9866	5	Marcellus
43	5/13/2014	9836	9694	5	Marcellus
44	5/14/2014	9031	8909	5	Marcellus
45	5/14/2014	8881	8759	5	Marcellus
46	5/14/2014	8731	8609	5	Marcellus
47	5/15/2014	8581	8459	5	Marcellus
48	5/16/2014	8431	8309	5	Marcellus
49	5/16/2014	8281	8159	5	Marcellus
50	5/16/2014	8131	8009	5	Marcellus
51	5/17/2014	7981	7859	5	Marcellus

API 47-097-03792WH6A Farm name WOODY, D.J., ET AL Well number ALT8CHS Rework Drilling Deeper

STIMULATION INFORMATION PER STAGE

Stage No.	Stimulations Date	Avg Pump Rate (BPM)	Avg Treatment Pressure (PSI)	Max Breakdown Perforations	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen / other (gals)
1	4/3/2014	77	8715	6803	5343	241200	8893	6675
2	4/4/2014	74	8877	6222	5323	250800	6673	6481
3	4/5/2014	63.2	8623	6891	5236	250300	8032	4943
4	4/9/2014	72	8796	6614	5870	260750	11763	7446
5	4/9/2014	70	8605	8180	6100	251100	5634	6738
6	4/10/2014	67.6	8621	7852	6676	221300	5395	3636
7	4/11/2014	68.8	8564	8005	5931	249700	5866	6734
8	4/12/2014	65	8182	7607	5868	245400	8887	7093
9	4/13/2014	79.6	8666	6649	5310	250850	5945	3177
10	4/14/2014	68.3	8487	6716	5358	248700	6575	6576
11	4/15/2014	85.2	8706	5706	4935	249750	6775	6437
12	4/17/2014	71	8200	6900	4073	236300	9383	7588
13	4/23/2014	78	8536	5096	4814	250800	6804	6642
14	4/23/2014	76	8572	6469	4741	250250	7190	4765
15	4/24/2014	71	8497	7490	4534	250200	6933	6644
16	4/24/2014	69	8516	7084	4538	250050	7936	6612
17	4/25/2014	77	8527	6470	4482	250210	7132	6407
18	4/26/2014	83.2	8612	6007	4487	240200	5480	6335
19	4/27/2014	83	8474	6557	4923	251500	6452	6321
20	4/27/2014	89	8480	7358	4705	227450	5538	6313
21	4/28/2014	93	8425	6488	5007	251350	6801	6384
22	4/28/2014	95	8333	5722	4442	250900	6314	6409
23	4/29/2014	96.5	8613	6166	4724	252300	5704	6382
24	4/30/2014	97.2	8530	6675	4575	245350	6511	6489
25	5/1/2014	91.6	8543	6575	4582	249650	5640	6376
26	5/2/2014	89	8520	6986	4147	218150	7286	3526
27	5/2/2014	89.5	8486	6875	4068	249750	8050	6815
28	5/3/2014	72.2	8639	8520	5153	250150	9956	7382
29	5/3/2014	80	8527	6350	4885	249850	9673	4084
30	5/5/2014	77.3	8609	7384	4986	249450	11022	3979
31	5/5/2014	90.5	8404	5968	5148	251700	7489	6607
32	5/6/2014	89.3	8399	6031	5207	250350	7051	3427
33	5/6/2014	95.7	8268	5222	4494	249950	6090	6432
34	5/7/2014	91.8	7993	5427	5010	250450	6499	6362
35	5/8/2014	93.9	7867	5745	4534	250150	7190	6562
36	5/8/2014	94	8259	5993	4521	250350	7025	6486
37	5/9/2014	95	8155	5880	5115	250950	7483	6486
38	5/10/2014	89.6	8083	5888	5163	204100	10234	7229
39	5/10/2014	96	7981	5952	5188	250550	7028	6418

10/03/2014

API 47-097-03792WH6A Farm name WOODY, D.J., ET AL

Well number ALT8CHS Rework Drilling Deeper

STIMULATION INFORMATION PER STAGE

Stage No.	Stimulations Date	Avg Pump Rate (BPM)	Avg Treatment Pressure (PSI)	Max Breakdown Perforations	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen / other (gals)
40	5/11/2014	98	8335	5599	5227	250350	6688	6330
41	5/12/2014	95	8213	6111	5060	250750	5563	6312
42	5/12/2014	90	8330	6180	5431	250600	7074	6524
43	5/13/2014	92	8093	6200	5515	251500	7789	6391
44	5/14/2014	98	7778	5351	3979	249900	6450	6342
45	5/14/2014	97	7782	5675	4225	249900	6119	6346
46	5/14/2014	95	7558	6015	4652	250520	5831	6419
47	5/15/2014	96	7828	6162	4504	250250	5988	6316
48	5/16/2014	97	8057	6327	4424	250800	6050	6402
49	5/16/2014	92.3	7968	6493	4506	251850	5647	6359
50	5/16/2014	94.4	8041	6190	4918	250000	5487	6355
51	5/17/2014	98	8016	6053	4567	250050	5822	6353

API 47-097-03792WH6A Farm name WOODY, D.J., ET AL

Well number ALT8CHS Rework Drilling Deeper

PRODUCING FORMATION(S)	DEPTHS	TVD	MD
UPPER MARCELLUS	7110'- 7405'		

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 760 psi Bottom Hole 3742 psi DURATION OF TEST 509 hrs
 OPEN FLOW Gas 6245 mcfpd Oil 0 bpd NGL 0 bpd Water 1110 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 450 Gears Road Suite 500 City Houston State TX Zip 77067
 Logging Company Diversified Mud Logging
 Address 440 Route 519 City Eighty Four State PA Zip 15330
 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 8/29/14

Submittal of Hydraulic Fracturing Chemical Disclosure Information

Attach copy of FRACFOCUS Registry
10/03/2014

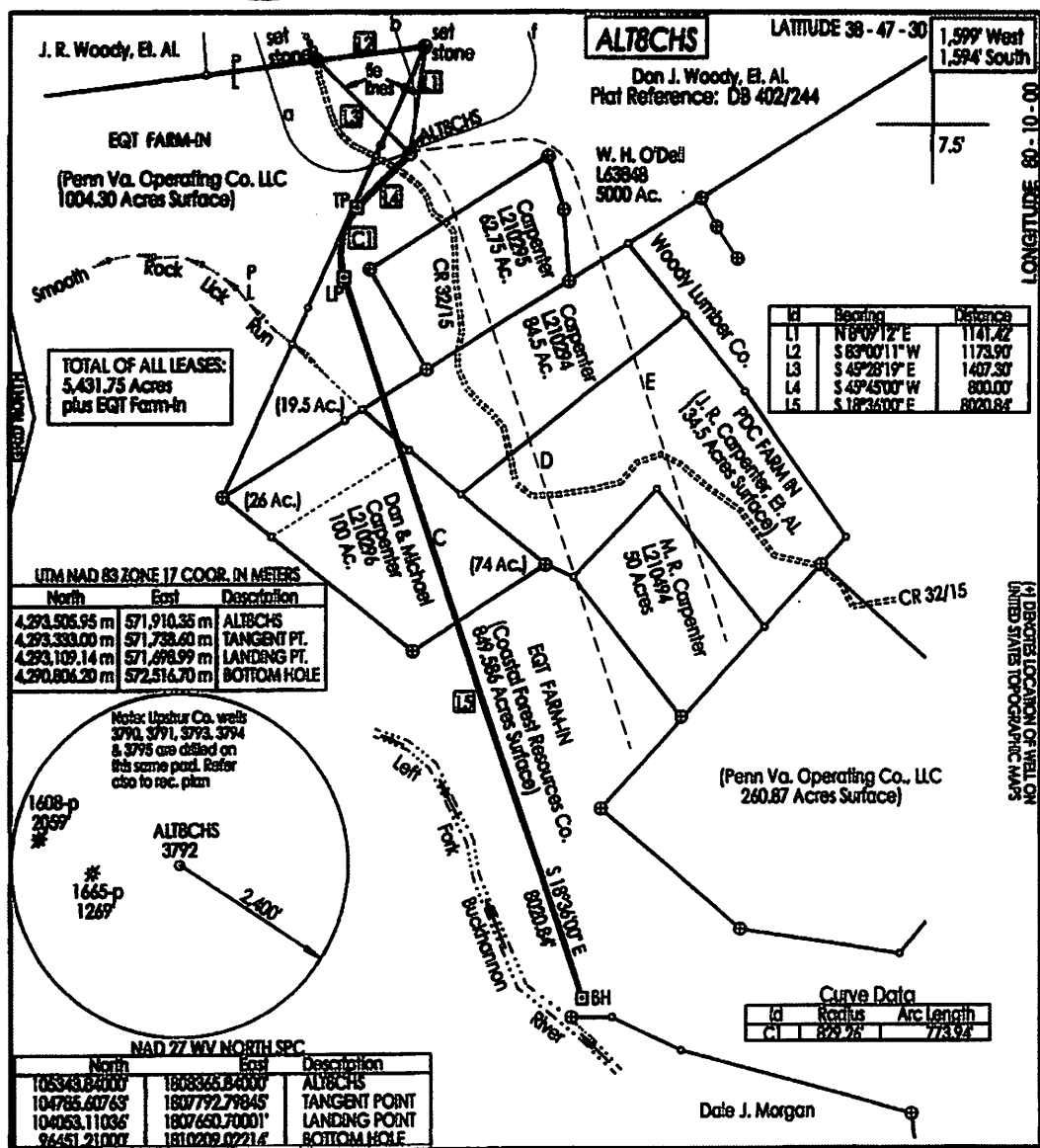
API 47-097-03792WH6A Farm name WOODY, D.J., ET AL Well number ALT8CHS Rework Drilling Deeper

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	40			
SURFACE ROCK	40	110			
SAND&SHALE	110	155			
SAND	155	368			
SHALE	368	405			
SAND/SHALE	405	521			
SAND/SHALE	521	546			
SAND/SHALE	546	740			
SHALE	740	810			
SAND&SHALE	810	1000			
REDROCK SHALE	1000	1055			
SAND/SHALE	1055	1160			
REDROCK/SHALE	1160	1180			
REDROCK/SHALE/SAND	1180	1350			
SAND	1350	1500			
REDROCK	1500	1570			
SAND&SHALE	1570	1680			
SAND	1680	1810			
SAND&SHALE	1810	2580			
SHALE	2580	2740			
SAND&SHALE	2740	2860			
SAND	2860	2920			
SHALE	2920	3410			
SHALE&SAND	3410	3625			
SHALE	3625	3790			
SAND&SHALE	3790	3908			
SAND/SHALE	3908	4130			
SAND/SHALE	4130	4352			
SAND/SHALE	4352	4670			
SHALE	4670	4920			
SHALE	4920	5500			
SHALE	5500	6300			
SYCAMORE	6300	6320			
HAMILTON SHALE	6320	7070			
BURKETT	7070	7110			
UPPER MARCELLUS	7110	7405			

47-097-03792WH6A

AS-DRILLED PLAT

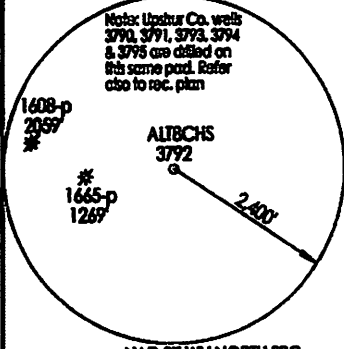
ALTBCHS REWORK
DRILLING DEEPER



ID	Bearing	Distance
L1	N 8°07'12" E	1141.42
L2	S 83°00'11" W	1173.90
L3	S 45°28'19" E	1407.30
L4	S 45°45'00" W	800.00
L5	S 18°34'00" E	8020.84

UTM NAD 83 ZONE 17 COOR. IN METERS

North	East	Description
4,293,505.95 m	571,910.35 m	ALTBCHS
4,293,333.00 m	571,738.60 m	TANGENT PT.
4,293,109.14 m	571,698.99 m	LANDING PT.
4,290,806.20 m	572,516.70 m	BOTTOM HOLE



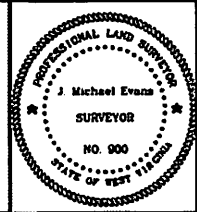
NAD 77 WV NORTH SPC

North	East	Description
105849.84100	1808365.84100	ALTBCHS
104785.60763	1807792.79845	TANGENT POINT
104053.11036	1807650.70001	LANDING POINT
96451.21000	1810209.02216	BOTTOM HOLE

FILE NUMBER: **M-6-Q-P-10**
 DRAWING NUMBER: **crossaltbch3**
 SCALE: **1" = 1,500'**
 MEASUREMENT DEGREE OF ACCURACY: **Centimeter**
 PROVEN SOURCE OF ELEVATION: **DGPS Survey**
RTK Centimeter System

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 ENERGY.

(SIGNED) *J. Michael Evans*
J. Michael Evans, P. S. #900



STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS
 910 McJANNON ROAD
 NITRO, WV 25143-2508
 FORM WVG-6

LAND SURVEYING SERVICES
 21 CEDAR LANE, BRIDGEPORT, WV 25330
 PHONE: 304-942-2918 OR 942-6762

DATE: **January 17, 2013**
 OPERATOR'S WELL NO.: **ALTBCHS**
 API WELL NO.: **47-097-3792**
Rework H6A
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION **2,459.5 (749.66 m)** WATERSHED **Panther Creek**
 DISTRICT **Washington** COUNTY **Upshur**

QUADRANGLE **Alton 7.5** LEASE NUMBER **63848 (refer above)**

SURFACE OWNER **Don J. Woody, Et. Al.** ACREAGE **2,534.80**
 OIL & GAS ROYALTY OWNER **W. H. O'Dell 5000. Ac., Et. Al. (refer above)** LEASE ACREAGE **5,431.75**

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 7,490' / TMD 17,085'**

WELL OPERATOR **CNK 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° - 10' - 00" (1) DEGREE LOCATION OF TIE IN ON UNITED STATES TOPOGRAPHIC MAPS

47-097-03792WH6A

DEVIATION SURVEY

ATTECHS REWORK DRILLING DEEPER

11/14/2013 9:35	13,445.00	88.9	166.94	7,223.06	-6,172.89	-6,172.89	969.31	1.08 MWD	Anadrill Schlumberger
11/14/2013 9:35	13,539.00	88.32	169.22	7,225.34	-6,264.83	-6,264.83	988.72	2.5 MWD	Anadrill Schlumberger
11/14/2013 9:35	13,634.00	88.66	166.28	7,227.85	-6,357.63	-6,357.63	1,008.87	3.11 MWD	Anadrill Schlumberger
11/14/2013 9:35	13,729.00	89	165.87	7,229.79	-6,449.82	-6,449.82	1,031.73	0.56 MWD	Anadrill Schlumberger
11/14/2013 9:35	13,824.00	88.69	163.98	7,231.70	-6,541.52	-6,541.52	1,056.43	2.02 MWD	Anadrill Schlumberger
11/14/2013 9:35	13,920.00	90.89	163.38	7,232.05	-6,633.65	-6,633.65	1,083.40	2.38 MWD	Anadrill Schlumberger
11/14/2013 9:35	14,013.00	91.89	160.63	7,229.80	-6,722.06	-6,722.06	1,112.12	3.15 MWD	Anadrill Schlumberger
11/14/2013 9:35	14,106.00	92.06	160.62	7,226.59	-6,809.74	-6,809.74	1,142.96	0.18 MWD	Anadrill Schlumberger
11/14/2013 9:35	14,202.00	91.86	159.66	7,223.31	-6,899.98	-6,899.98	1,175.55	1.02 MWD	Anadrill Schlumberger
11/14/2013 9:35	14,295.00	92.3	159.12	7,219.93	-6,986.97	-6,986.97	1,208.27	0.75 MWD	Anadrill Schlumberger
11/14/2013 9:35	14,391.00	91.65	158.46	7,216.63	-7,076.41	-7,076.41	1,242.98	0.96 MWD	Anadrill Schlumberger
11/14/2013 9:35	14,486.00	87.7	158.12	7,217.16	-7,164.66	-7,164.66	1,278.11	4.17 MWD	Anadrill Schlumberger
11/14/2013 9:35	14,580.00	86.94	157.74	7,221.56	-7,251.67	-7,251.67	1,313.39	0.9 MWD	Anadrill Schlumberger
11/14/2013 9:35	14,672.00	89.76	158.35	7,224.21	-7,336.96	-7,336.96	1,347.77	3.14 MWD	Anadrill Schlumberger
11/14/2013 9:35	14,769.00	90.41	158.12	7,224.06	-7,427.04	-7,427.04	1,383.74	0.71 MWD	Anadrill Schlumberger
11/14/2013 9:35	14,863.00	90.69	157.64	7,223.16	-7,514.12	-7,514.12	1,419.13	0.59 MWD	Anadrill Schlumberger
11/14/2013 9:35	14,957.00	90.52	157.03	7,222.17	-7,600.85	-7,600.85	1,455.35	0.67 MWD	Anadrill Schlumberger
11/14/2013 9:35	15,051.00	90.14	156.81	7,221.63	-7,687.33	-7,687.33	1,492.20	0.47 MWD	Anadrill Schlumberger
11/14/2013 9:35	15,146.00	90.82	157.65	7,220.83	-7,774.92	-7,774.92	1,528.97	1.14 MWD	Anadrill Schlumberger
11/14/2013 9:35	15,240.00	90.21	156.5	7,219.99	-7,861.49	-7,861.49	1,565.58	1.38 MWD	Anadrill Schlumberger
11/14/2013 9:35	15,335.00	90.72	157.1	7,219.22	-7,948.80	-7,948.80	1,603.00	0.83 MWD	Anadrill Schlumberger
11/14/2013 9:35	15,429.00	90.82	155.91	7,217.95	-8,035.00	-8,035.00	1,640.47	1.27 MWD	Anadrill Schlumberger
11/14/2013 9:35	15,524.00	90.34	156.14	7,216.99	-8,121.80	-8,121.80	1,679.07	0.56 MWD	Anadrill Schlumberger
11/14/2013 9:35	15,618.00	90.27	156.54	7,216.49	-8,207.90	-8,207.90	1,716.79	0.43 MWD	Anadrill Schlumberger
11/14/2013 9:35	15,712.00	91.27	157.43	7,215.23	-8,294.41	-8,294.41	1,753.54	1.42 MWD	Anadrill Schlumberger
11/14/2013 9:35	15,807.00	91.82	158.14	7,212.67	-8,382.32	-8,382.32	1,789.45	0.95 MWD	Anadrill Schlumberger
11/14/2013 9:35	15,902.00	91.48	157.7	7,209.93	-8,470.32	-8,470.32	1,825.14	0.59 MWD	Anadrill Schlumberger
11/14/2013 9:35	15,997.00	91.75	158.52	7,207.25	-8,558.43	-8,558.43	1,860.55	0.91 MWD	Anadrill Schlumberger
11/14/2013 9:35	16,091.00	91.89	158.29	7,204.27	-8,645.79	-8,645.79	1,895.12	0.29 MWD	Anadrill Schlumberger
11/14/2013 9:35	16,185.00	92.65	159.64	7,200.55	-8,733.45	-8,733.45	1,928.84	1.65 MWD	Anadrill Schlumberger
11/14/2013 9:35	16,222.00	92.44	159.66	7,198.90	-8,768.11	-8,768.11	1,941.69	0.57 MWD	Anadrill Schlumberger

10/03/2014

page 2

47-097-03792 WH6A

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/3/2014
Job End Date:	5/17/2014
State:	West Virginia
County:	Upshur
API Number:	47-097-03792-00-00
Operator Name:	CONSOL Energy Inc.
Well Name and Number:	ALT8CHS
Longitude:	-80.17223000
Latitude:	38.78725000
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,376
Total Base Water Volume (gal):	14,867,202
Total Base Non Water Volume:	0



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	Customer & CWS	Base Fluid & Mix Water	Water	7732-18-5	100.00000	90.04932	
Sand (Proppant), DAP-903, DWP-111, DWP-614, DWP-901, BioClear 2000, DWP-NE1	CWS	Propping Agent, Scale Inhibitor, Gel Slurry, Viscosifier, Breaker, Biocide, Non-Emulsifier	Crystalline silica (Quartz)	14808-60-7	100.00000	9.11089	
			Hydrochloric acid	7647-01-0	35.00000	0.61161	
			Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.05546	
			Guar gum	9000-30-0	60.00000	0.03180	
			2-Propenoic acid, polymer with 2-propenamide, sodium salt	25987-30-8	40.00000	0.03155	
			Calcite	471-34-1	1.00000	0.01458	
			Polyethylene glycol mixture	25322-68-3	70.00000	0.01307	
			2,2-Dibromo-3-Nitrilopropionamide	10222-01-2	20.00000	0.01307	
			Methanol	67-56-1	15.00000	0.00739	
			2-Propenoic acid, polymer with sodium phosphonate	71050-62-9	60.00000	0.00683	
			Illite	12173-60-3	1.00000	0.00595	

AT&CS REWORK
DEVLIN'S REPER

47-097-03792 WJH6A

		Dimethylcocoamine, bis (chloroethyl) ether, diquateryary ammonium salt	68607-28-3	40.00000	0.00573
		Isopropanol	67-63-0	40.00000	0.00573
		Goethite	1310-14-1	0.10000	0.00429
		Sorbitan monooleate	1338-43-8	5.00000	0.00394
		Poly(oxyethylene)nonylphenol ether	9016-45-9	5.00000	0.00394
		Apatite	64476-38-6	0.10000	0.00290
		Biotite	1302-27-8	0.10000	0.00290
		Quateryary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00265
		Fatty acids, tall-oil	61790-12-3	0.10000	0.00262
		Alkenes, C>10 a-	64743-02-8	0.10000	0.00262
		Alcohols, C14-15, ethoxylated	68951-67-7	0.10000	0.00262
		Modified thiourea polymer	68527-49-1	0.10000	0.00262
		Ilmenite	98072-94-7	0.10000	0.00221
		Ammonium Persulfate	7727-54-0	100.00000	0.00105
		Propargyl Alcohol	107-19-7	0.10000	0.00087
		Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50000	0.00079
		Diallyldimethylammonium chloride	7398-69-8	5.00000	0.00072
		Formaldehyde	50-00-0	0.10000	0.00017
		Sodium chloride	7647-14-5	0.10000	0.00009

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)

Page 2

ALBERTS REMERK
DEWIING DEER