

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 515274

API: 47 - 103 - 02981

Submission: Initial Amended

Notes: -Revised Plat
-Revised "As Drilled" Coordinates
-with Flowback

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WV Department of
Environmental Protection

10/28/2016

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

API 47-103-02981 County WETZEL District GRANT
Quad BIG RUN Pad Name BIG367 Field/Pool Name _____
Farm name DENCIL HENTHORN ET AL Well Number 515274
Operator (as registered with the OOG) EQT Production Company
Address 625 Liberty Ave. EQT Plaza, Suite 1700 City Pittsburgh State PA Zip 15222

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,378,816.809 Easting 536,107.490
Landing Point of Curve Northing 4,378,369.194 Easting 535,698.036
Bottom Hole Northing 4,375,680.951 Easting 536,619.347

Elevation (ft) 1443 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

Drilling 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)
SBM 12.6 ppg – powdered hydrocarbon resin, calcium carbonate, ground almond hulls, barium sulfate, calcium chloride, lecithin liquid, organophilic clay,
partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrochrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 5/14/2014 Date drilling commenced 5/19/2014 Date drilling ceased 8/16/2014
Date completion activities began 1/11/2016 Date completion activities ceased 2/1/2016
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 708' Open mine(s) (Y/N) depths _____
Salt water depth(s) ft 2171' Void(s) encountered (Y/N) depths _____
Coal depth(s) ft 516', 730', 834', 885', 1022', 1193', 1683' Cavern(s) encountered (Y/N) depths _____

Is coal being mined in this well (Y/N) N

APPROVED

NAME: Dencil M. Hught
DATE: 9-23-16

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Reviewed by:
DAIT
10/28/2016

API 47-103 - 02981

Farm name DENCIL HENTHORN ET AL

Well number 515274

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	28"	26"	40'	NEW	A-500	NONE	Y
Surface	17-1/2"	13-3/8"	954'	NEW	J-55	NONE	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	2,897'	NEW	A-500	NONE	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	17,655'	NEW	P-110	NONE	N
Tubing							
Packer type and depth set							

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	98	15.6	1.18	116	0	8
Surface	Class A	820	15.6	1.19	976	0	8
Coal							
Intermediate 1	Class A	1075	15.6	1.19	1279	0	8
Intermediate 2							
Intermediate 3	Class A/Class H	830/1255	14.2/15.2	1.26/1.97	3518	1023	
Production							
Tubing							

Drillers TD (ft) 17,660'

Loggers TD (ft) N/A

Deepest formation penetrated Genesee

Plug back to (ft) N/A

Plug back procedure _____

Kick off depth (ft) 5,376'

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- N/A

Surface-Bowspring centralizer on shoe track and every 150' to surface

Intermediate-Bowspring centralizer on shoe track and every 150' to surface

Production- Composite bodied centralizers on every joint from TD up to 3,885'

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

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10/28/2016

API 47- 103 - 02981 Farm name DENCIL HENTHORN ET AL Well number 515274

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
					Please See Attached

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen (cu ft)	Amount of Other (units)
						Please See Attached	See Attached		

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Please insert additional pages as applicable.

API 47- 103 - 02981 Farm name DENCIL HENTHORN ET AL Well number 515274

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>GENESEO</u>	<u>7,422.80</u>	<u>TVD</u>	<u>8,185.00</u> <u>MD</u>

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 1,015 psi Bottom Hole N/A psi DURATION OF TEST 211.00 hrs
 OPEN FLOW Gas 11,580 mcfpd Oil N/A bpd NGL 0.0 bpd Water 1,244 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	<u>0</u>		<u>0</u>		

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Please insert additional pages as applicable.

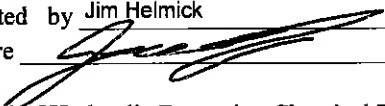
Drilling Contractor Savanna Drilling
 Address 2204 Timberloch Place Suite 230 City Woodlands State TX Zip 77380

Logging Company Hoss Co. Services LLC
 Address 614 Trotters Lane City Charleston State WV Zip 25312

Cementing Company Nabors Completion & Production Services Co.
 Address PO BOX 975682 City Dallas State TX Zip 75397-5682

Stimulating Company C&J Energy Services
 Address 3990 Rogerdale Road City Houston State TX Zip 77042

Please insert additional pages as applicable.

Completed by Jim Helmick Telephone (412) 395-5518
 Signature  Title VP Completions Date 7/27/2016

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

10/28/2016

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
FRESH WATER ZONE	1	1	708	708
SAND/SHALE	1	1	516	516
COAL	516	516	528	528
SAND/SHALE	528	528	730	730
FAIRVIEW COAL	730	730	734	734
SAND/SHALE	734	734	834	834
WAYNESBURG COAL	834	834	836	836
SAND/SHALE	836	836	885	885
COAL	885	885	896	896
SAND/SHALE	896	896	1,022.00	1,022.00
MAPLETOWN COAL	1,022.00	1,022.00	1,025.00	1,025.00
SAND/SHALE	1,025.00	1,025.00	1,193.00	1,193.00
PITTSBURGH COAL	1,193.00	1,193.00	1,199.00	1,199.00
SAND/SHALE	1,199.00	1,199.00	1,683.00	1,683.00
COAL	1,683.00	1,683.00	1,687.00	1,687.00
SAND/SHALE	1,687.00	1,687.00	2,255.00	2,254.90
MAXTON	2,255.00	2,254.90	2,410.00	2,409.90
BIG LIME	2,410.00	2,409.90	2,512.00	2,511.80
BIG INJUN	2,512.00	2,511.80	2,806.00	2,805.70
WEIR	2,806.00	2,805.70	2,956.00	2,955.60
GANTZ	2,956.00	2,955.60	3,006.00	3,005.60
50F	3,006.00	3,005.60	3,100.00	3,099.60
30F	3,100.00	3,099.60	3,224.00	3,223.60
GORDON	3,224.00	3,223.60	3,317.00	3,316.60
4TH	3,317.00	3,316.60	3,472.00	3,471.60
BAYARD	3,472.00	3,471.60	3,838.00	3,837.50
WARREN	3,838.00	3,837.50	4,052.00	4,051.50
SPEECHLEY	4,052.00	4,051.50	4,402.00	4,401.50
BALLTOWN A	4,402.00	4,401.50	4,837.00	4,836.40
RILEY	4,837.00	4,836.40	5,521.00	5,519.20
BENSON	5,521.00	5,519.20	5,984.00	5,910.80
ALEXANDER	5,984.00	5,910.80	6,020.00	5,938.70
ELKS	6,020.00	5,938.70	7,611.00	7,138.80
SONYEA	7,611.00	7,138.80	7,833.00	7,288.90
MIDDLESEX	7,833.00	7,288.90	7,916.00	7,332.80
GENESEE	7,916.00	7,332.80	8,185.00	7,422.80
GENESEO	8,185.00	7,422.80	17,660.00	7,518.10

10/28/2016

515274 - 47-103-02981-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	12/24/2015	17,653.00	17,655.00	10	GENESEO
1	1/11/2016	17,509.00	17,637.00	40	GENESEO
2	1/11/2016	17,365.00	17,487.00	40	GENESEO
3	1/12/2016	17,215.00	17,337.00	40	GENESEO
4	1/12/2016	17,065.00	17,187.00	40	GENESEO
5	1/12/2016	16,915.00	17,037.00	40	GENESEO
6	1/14/2016	16,765.00	16,885.00	40	GENESEO
7	1/14/2016	16,615.00	16,737.00	40	GENESEO
8	1/15/2016	16,465.00	16,587.00	40	GENESEO
9	1/15/2016	16,315.00	16,437.00	40	GENESEO
10	1/15/2016	16,166.00	16,287.00	40	GENESEO
11	1/15/2016	16,015.00	16,137.00	40	GENESEO
12	1/16/2016	15,863.00	15,987.00	40	GENESEO
13	1/16/2016	15,715.00	15,837.00	40	GENESEO
14	1/16/2016	15,565.00	15,687.00	40	GENESEO
15	1/16/2016	15,415.00	15,537.00	40	GENESEO
16	1/16/2016	15,265.00	15,385.00	40	GENESEO
16.01	1/16/2016	15,265.00	15,385.00	40	GENESEO
17	1/17/2016	15,115.00	15,237.00	40	GENESEO
18	1/19/2016	14,965.00	15,087.00	40	GENESEO
19	1/19/2016	14,815.00	14,937.00	40	GENESEO
20	1/20/2016	14,665.00	14,787.00	40	GENESEO
21	1/22/2016	14,515.00	14,637.00	40	GENESEO
22	1/22/2016	14,365.00	14,487.00	40	GENESEO
23	1/24/2016	14,215.00	14,337.00	40	GENESEO
24	1/25/2016	14,065.00	14,187.00	40	GENESEO
25	1/25/2016	13,915.00	14,037.00	40	GENESEO
26	1/25/2016	13,765.00	13,887.00	40	GENESEO
27	1/25/2016	13,615.00	13,737.00	40	GENESEO
28	1/26/2016	13,465.00	13,587.00	40	GENESEO
29	1/26/2016	13,315.00	13,437.00	40	GENESEO
29.01	1/26/2016	13,315.00	13,437.00	40	GENESEO
30	1/26/2016	13,165.00	13,283.00	40	GENESEO
31	1/27/2016	13,015.00	13,136.00	40	GENESEO
32	1/27/2016	12,865.00	12,987.00	40	GENESEO
33	1/27/2016	12,712.00	12,837.00	40	GENESEO
34	1/27/2016	12,565.00	12,687.00	40	GENESEO
35	1/27/2016	12,415.00	12,537.00	40	GENESEO
36	1/28/2016	12,265.00	12,387.00	40	GENESEO
37	1/28/2016	12,115.00	12,237.00	40	GENESEO
38	1/28/2016	11,965.00	12,087.00	40	GENESEO
39	1/28/2016	11,815.00	11,937.00	40	GENESEO
40	1/28/2016	11,665.00	11,787.00	40	GENESEO
41	1/29/2016	11,515.00	11,637.00	40	GENESEO
42	1/29/2016	11,365.00	11,487.00	40	GENESEO
43	1/29/2016	11,215.00	11,337.00	40	GENESEO
44	1/29/2016	11,065.00	11,187.00	40	GENESEO
45	1/29/2016	10,915.00	11,037.00	40	GENESEO
46	1/30/2016	10,765.00	10,887.00	40	GENESEO
47	1/30/2016	10,615.00	10,737.00	40	GENESEO
48	1/30/2016	10,465.00	10,587.00	40	GENESEO
49	1/30/2016	10,315.00	10,433.00	40	GENESEO
50	1/30/2016	10,165.00	10,287.00	40	GENESEO
51	1/30/2016	10,015.00	10,137.00	40	GENESEO
52	1/31/2016	9,866.00	9,987.00	40	GENESEO
53	1/31/2016	9,715.00	9,837.00	40	GENESEO
54	1/31/2016	9,565.00	9,687.00	40	GENESEO
55	1/31/2016	9,415.00	9,537.00	40	GENESEO
56	1/31/2016	9,265.00	9,387.00	40	GENESEO
57	1/31/2016	9,115.00	9,237.00	40	GENESEO
58	1/31/2016	8,965.00	9,087.00	40	GENESEO
59	1/31/2016	8,815.00	8,937.00	40	GENESEO
60	2/1/2016	8,665.00	8,787.00	40	GENESEO
61	2/1/2016	8,515.00	8,635.00	40	GENESEO
62	2/1/2016	8,365.00	8,487.00	40	GENESEO
63	2/1/2016	8,215.00	8,336.00	40	GENESEO

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515274- 47-103-02981-0000 - Stimulated Stages

Stage Number	Stimulation Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
Initiation Sleeve	1/11/2016	0.00	0.00	0.00	0.00	0	0	0
1	1/11/2016	74.50	8,684.00	8,948.00	3,931.00	203,700	6668	0
2	1/11/2016	81.50	8,667.00	8,954.00	4,131.00	198,800	6133	0
3	1/12/2016	80.90	8,735.00	8,941.00	4,281.00	202,500	5875	0
4	1/12/2016	80.80	8,754.00	9,000.00	4,170.00	201,700	5888	0
5	1/12/2016	83.80	8,759.00	8,936.00	4,394.00	202,000	5827	0
6	1/14/2016	82.00	8,709.00	8,919.00	4,579.00	203,300	7769	0
7	1/14/2016	84.00	8,812.00	9,051.00	4,486.00	199,400	6027	0
8	1/15/2016	86.70	8,760.00	9,084.00	4,711.00	202,300	6203	0
9	1/15/2016	84.90	8,688.00	8,931.00	4,647.00	200,600	5674	0
10	1/15/2016	85.00	8,705.00	8,957.00	4,628.00	199,400	5610	0
11	1/16/2016	80.30	8,709.00	8,904.00	4,724.00	199,500	5585	0
12	1/16/2016	85.70	8,747.00	8,921.00	4,693.00	200,400	5468	0
13	1/16/2016	86.80	8,637.00	8,930.00	4,572.00	200,300	6063	0
14	1/16/2016	84.10	8,701.00	8,878.00	4,506.00	198,200	5453	0
15	1/16/2016	88.10	8,707.00	8,910.00	4,521.00	200,600	5310	0
16	1/17/2016	88.80	8,735.00	9,074.00	4,396.00	199,300	5167	0
16 01	1/17/2016	7.80	4,542.00	6,137.00	4,392.00	0	4585	0
17	1/19/2016	86.20	8,665.00	8,907.00	4,712.00	200,000	5,797	0
18	1/19/2016	82.20	8,690.00	8,919.00	4,805.00	203,200	5,824	0
19	1/20/2016	87.10	8,723.00	8,936.00	4,752.00	201,200	5,580	0
20	1/22/2016	86.80	8,680.00	9,005.00	4,766.00	202,500	6,883	0
21	1/22/2016	80.90	8,605.00	9,033.00	4,747.00	199,300	6,921	0
22	1/24/2016	82.10	8,591.00	8,976.00	4,753.00	200,900	5,846	0
23	1/25/2016	83.40	8,656.00	8,901.00	4,721.00	200,500	5662	0
24	1/25/2016	82.20	8,744.00	8,991.00	5,027.00	202,000	5909	0
25	1/25/2016	85.10	8,733.00	8,999.00	4,911.00	199,700	5658	0
26	1/25/2016	85.10	8,626.00	8,905.00	4,835.00	201,300	5514	0
27	1/25/2016	87.10	8,597.00	8,794.00	4,859.00	199,400	5259	0
28	1/26/2016	90.60	8,585.00	8,853.00	4,804.00	199,200	5630	0
29	1/26/2016	93.80	8,638.00	9,042.00	5,063.00	202,300	5275	0
29 01	1/26/2016	9.90	4,610.00	6,074.00	5,036.00	0	3711	0
30	1/26/2016	89.20	8,597.00	8,790.00	4,821.00	203,500	5281	0
31	1/27/2016	91.00	8,536.00	8,775.00	4,868.00	203,100	5242	0
32	1/27/2016	90.20	8,670.00	8,883.00	4,903.00	200,600	5148	0
33	1/27/2016	89.80	8,611.00	8,894.00	4,817.00	199,300	5288	0
34	1/27/2016	87.60	8,531.00	8,932.00	4,751.00	202,100	6147	0
35	1/28/2016	88.40	8,572.00	8,971.00	4,880.00	204,000	5284	0
36	1/28/2016	91.30	8,637.00	8,932.00	4,861.00	205,200	4958	0
37	1/28/2016	87.70	8,626.00	8,927.00	4,957.00	197,800	5915	0
38	1/28/2016	87.60	8,620.00	8,833.00	4,868.00	202,900	4894	0
39	1/28/2016	91.00	8,595.00	8,818.00	4,904.00	202,800	5112	0
40	1/29/2016	93.20	8,599.00	8,807.00	4,977.00	199,200	5131	0
41	1/29/2016	93.90	8,612.00	8,806.00	4,817.00	204,800	4999	0
42	1/29/2016	97.50	8,665.00	8,912.00	4,925.00	200,700	5114	0
43	1/29/2016	98.80	8,615.00	8,903.00	4,957.00	199,700	4979	0
44	1/29/2016	86.60	8,720.00	8,903.00	4,935.00	206,100	4997	0
45	1/29/2016	95.50	8,566.00	8,809.00	5,131.00	200,800	5279	0
46	1/30/2016	97.80	8,628.00	8,845.00	4,953.00	200,000	5222	0
47	1/30/2016	98.50	8,658.00	8,967.00	5,023.00	202,200	5077	0
48	1/30/2016	98.90	8,656.00	8,903.00	4,874.00	197,400	4803	0
49	1/30/2016	95.70	8,662.00	8,857.00	4,937.00	200,900	4822	0
50	1/30/2016	98.20	8,464.00	8,757.00	4,893.00	198,800	4826	0
51	1/30/2016	98.70	8,497.00	8,948.00	4,964.00	200,200	4633	0
52	1/31/2016	98.80	8,485.00	8,876.00	4,837.00	200,200	4696	0
53	1/31/2016	100.10	8,376.00	8,958.00	4,895.00	198,800	4792	0
54	1/31/2016	100.20	8,354.00	8,673.00	4,803.00	196,900	4,750	0
55	1/31/2016	100.30	8,447.00	8,725.00	4,957.00	197,400	4,805	0
56	1/31/2016	98.00	8,675.00	8,886.00	5,139.00	198,200	4,804	0
57	1/31/2016	99.00	8,381.00	8,762.00	4,866.00	206,400	4,694	0
58	1/31/2016	96.70	8,308.00	8,791.00	4,886.00	201,900	4814	0
59	1/31/2016	100.70	8,302.00	8,601.00	4,833.00	202,000	4714	0
60	2/1/2016	100.30	8,161.00	8,755.00	4,825.00	203,800	4787	0
61	2/1/2016	100.30	8,038.00	9,264.00	4,961.00	202,000	5561	0
62	2/1/2016	100.00	7,941.00	8,632.00	4,756.00	199,400	4703	0
63	2/1/2016	99.60	8,447.00	8,854.00	4,928.00	199,200	4889	0

10/28/2016

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date	1/11/2016
Job End Date	2/1/2016
State	West Virginia
County	Wetzel
API Number	47-103-02981-00-00
Operator Name	EQT Production
Well Name and Number	515274
Longitude	-80.57988900
Latitude	39.55639500
Datum	NAD83
Federal/Tribal Well	NO
True Vertical Depth	7,423
Total Base Water Volume (gal)	14,697,228
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	C and J Energy Services	Carrier/Base Fluid	Water	7732-18-5	100.00000	90.24244	None
Sand (Proppant)	C and J Energy Services	Proppant	Silica Substrate	14808-60-7	100.00000	9.31632	None
MC MX 437-5	Multi-Chem Group	Calcium Nitrate Solution	Calcium Nitrate	10124-37-5	60.00000	0.06522	None
FR-18	C and J Energy Services	Antonic Friction Reducer	Distillates (petroleum), Hydrotreated Light	84742-47-8	45.00000	0.03861	None
Hydrochloric Acid (15%)	C and J Energy Services	Acidizing	Ethylene Glycol	107-21-1	10.00000	0.00858	None
MC MX 8-2544	Multi-Chem Group	Blend	Hydrochloric Acid	7647-01-0	15.00000	0.03154	None
SI-6	C and J Energy Services	Scale Inhibitor	Sodium chloride	7647-14-5	100.00000	0.00971	None
			Sodium nitrate	7631-99-4	5.00000	0.00049	None
			Trade Secret	Proprietary	7.00000	0.00173	None

				Ammonium Chloride	12125-02-9	2.00000	0.00049	None
				Monoethanolamine hydrochloride	2002-24-6	2.00000	0.00049	None
				Methanol	67-56-1	1.00000	0.00025	None
Calcium Chloride (CaCl2)	C and J Energy Services	Cement Accelerators						
				Calcium Chloride	10043-52-4	100.00000	0.00099	None
				Potassium Chloride	7447-40-7	3.00000	0.00003	None
				Sodium Chloride	7647-14-5	2.00000	0.00002	None
GA-7A	C and J Energy Services	Gelling Agent						
				Guar Gum	9000-30-0	60.00000	0.00037	None
				Distillates (petroleum), Hydrotreated Light	84742-47-8	60.00000	0.00037	None
				Surfactants	Proprietary	10.00000	0.00006	None
CI-3	C and J Energy Services	Corrosion Inhibitor						
				Ethylene Glycol	107-21-1	40.00000	0.00017	None
				Dimethylformamide	68-12-2	20.00000	0.00008	None
				2-butoxyethane	111-76-2	15.00000	0.00006	None
				Cinnamaldehyde	104-55-2	15.00000	0.00006	None
				Tar Bases, Quinoline Derivs., Benzyl Chloride-quaternized	72480-70-7	15.00000	0.00006	None
				1-decanol	112-30-1	5.00000	0.00002	None
				4-nonyphenol, Branched, Ethoxylated	127087-87-0	5.00000	0.00002	None
				Isopropanol	67-63-0	2.50000	0.00001	None
				1-octanol	111-87-5	2.50000	0.00001	None
				Triethyl Phosphate	78-40-0	2.50000	0.00001	None
BR-11	C and J Energy Services	Gel Breaker						
				Ammonium Persulfate	7727-54-0	85.00000	0.00001	None
				Cured Resin	Proprietary	13.00000	0.00000	None
				Silica - Crystalline, Quartz	14808-60-7	1.00000	0.00000	None

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)

EQT WELL NO. 515274

LATITUDE 39°35'00"

NOTES:

- PLAT ORIENTATION, CORNERS, AND WELL REFERENCES ARE BASED UPON THE GRID NORTH MERIDIAN FOR THE WV STATE PLANE COORDINATE SYSTEM, NORTH ZONE NAD 27. WELL LOCATION REFERENCE TIES ARE BASED UPON THE MAGNETIC MERIDIAN.
- THERE ARE NO (0) WATER WELL(S) LOCATED WITHIN 250' OF WELL H1.
- THERE ARE NO (0) STRUCTURE(S) LOCATED WITHIN 625' OF WELL H1.
- ⊙ = MONUMENT FOUND IRON REBAR UNLESS NOTED OTHERWISE.

AS DRILLED COORDINATES FOR WELL NO. WV 515274 (BIG367 H9)

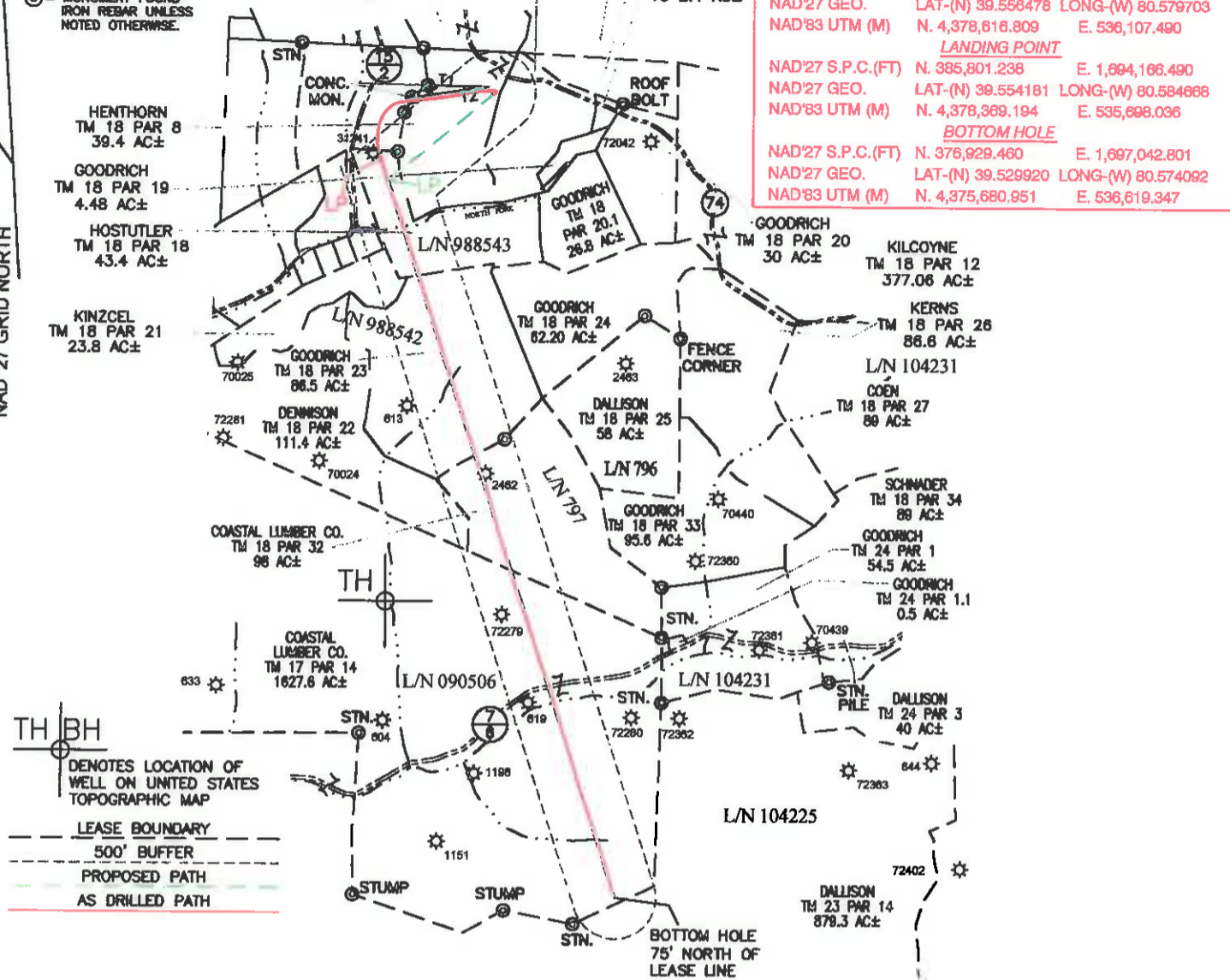
(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 386,591.307	E. 1,695,523.589
NAD'27 GEO.	LAT-(N) 39.556478	LONG-(W) 80.579703
NAD'83 UTM (M)	N. 4,378,616.809	E. 536,107.490
LANDING POINT		
NAD'27 S.P.C.(FT)	N. 385,801.238	E. 1,694,166.490
NAD'27 GEO.	LAT-(N) 39.554181	LONG-(W) 80.584668
NAD'83 UTM (M)	N. 4,378,369.194	E. 535,698.036
BOTTOM HOLE		
NAD'27 S.P.C.(FT)	N. 376,929.460	E. 1,697,042.801
NAD'27 GEO.	LAT-(N) 39.529920	LONG-(W) 80.574092
NAD'83 UTM (M)	N. 4,375,680.951	E. 536,619.347

LONGITUDE 80°32'30"

9,780' TOP HOLE

NAD'27 GRID NORTH



TH BH DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAP

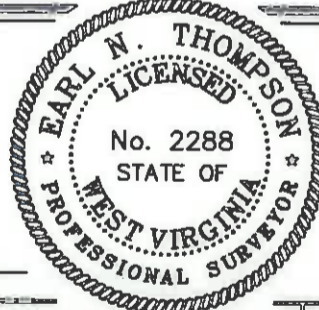
--- LEASE BOUNDARY
 - - - 500' BUFFER
 - - - PROPOSED PATH
 - - - AS DRILLED PATH

SPECIAL NOTES
 -LEASE AND SURFACE INFO SHOWN HEREON WAS TAKEN FROM PERMIT PLAT FOR AP# 47-103-02981H.
 -AS DRILLED INFORMATION PROVIDED BY EQT.

LINE	BEARING	DIST.
T1	S83°43'29"E	805.78'
T2	N86°44'12"E	993.17'



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 DIVISION OF ENVIRONMENTAL PROTECTION.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE JANUARY 3, 20 14
 REVISED 06/16/16
 OPERATORS WELL NO. WV 515274
 API WELL NO. **47 - 103 - 02981H**
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. 8471BIG367WELLS-RH1R
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY OPUS (SURVEY GRADE GPS) SCALE 1" = 2000'

STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS

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

LOCATION: ELEVATION PROPOSED 1,442.9' WATERSHED NORTH FORK OF FISHING CREEK
 DISTRICT GRANT COUNTY WETZEL QUADRANGLE BIG RUN 7.5'
 SURFACE OWNER DENCIL HENTHORN ET AL ACREAGE 39.4±
 ROYALTY OWNER SHIBEN ESTATE, INC. CNX GAS CO., LLC ACREAGE 297.5/280±
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION GENESEO
 ESTIMATED DEPTH TVD/MD

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

COUNTY NAME PERMIT