

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 514568

API: 47 - 103 - 02942

Submission:  Initial  Amended

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

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

API 47-103-02942 County WETZEL District GRANT  
Quad BIG RUN Pad Name BIG367 Field/Pool Name \_\_\_\_\_  
Farm name DENCIL HENTHORN ET AL Well Number 514568  
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 4,378,623.241 Easting 536,100.994  
Landing Point of Curve Northing 4,378,475.078 Easting 535,887.918  
Bottom Hole Northing 4,375,971.997 Easting 536,751.102

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 12.8 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 11/12/2013 Date drilling commenced 3/18/2014 Date drilling ceased 9/9/2014  
Date completion activities began 2/11/2016 Date completion activities ceased 2/23/2016  
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

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Freshwater depth(s) ft 708' Open mine(s) (Y/N) depths \_\_\_\_\_  
Salt water depth(s) ft 2171' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 516', 730', 834', 885', 1022', 1193', 1683' Cavern(s) encountered (Y/N) depths \_\_\_\_\_

Is completion in accordance with \_\_\_\_\_

**APPROVED**

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

Office of Oil and Gas  
Department of Environmental Protection

Reviewed by: DmH  
**10/28/2016**

API 47-103 - 02942 Farm name DENCIL HENTHORN ET AL Well number 514568

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"	962'	NEW	J-55	79'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	2906'	NEW	A-500	NONE	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	16,740'	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 <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	49	15.6	1.18	58	0	8
Surface	Class A	820	15.6	1.19	976	0	8
Coal							
Intermediate 1	Class A	1075	15.6	1.18	1269	0	8
Intermediate 2							
Intermediate 3	Class A/Class H	990/1100	14.2/15.2	1.26/1.97	3414	2118	
Production							
Tubing							

Drillers TD (ft) 16,760' Loggers TD (ft) N/A

Deepest formation penetrated Genesee Plug back to (ft) 4,848'

Plug back procedure Balance plug through 2-7/8" tubing from 5,970-4,848'

Kick off depth (ft) 4,848'

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 3,387'

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_

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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	2,255.00
MAXTON	2,255.00	2,255.00	2,410.00	2,409.90
BIG LIME	2,410.00	2,409.90	2,512.00	2,511.90
BIG INJUN	2,512.00	2,511.90	2,806.00	2,805.90
WEIR	2,806.00	2,805.90	2,956.00	2,955.90
GANTZ	2,956.00	2,955.90	3,006.00	3,005.90
50F	3,006.00	3,005.90	3,100.00	3,099.90
30F	3,100.00	3,099.90	3,224.00	3,223.90
GORDON	3,224.00	3,223.90	3,317.00	3,316.80
4TH	3,317.00	3,316.80	3,472.00	3,471.80
BAYARD	3,472.00	3,471.80	3,838.00	3,837.80
WARREN	3,838.00	3,837.80	4,052.00	4,051.80
SPEECHLEY	4,052.00	4,051.80	4,402.00	4,401.70
BALLTOWN A	4,402.00	4,401.70	4,837.00	4,836.70
RILEY	4,837.00	4,836.70	5,522.00	5,518.50
BENSON	5,522.00	5,518.50	5,915.00	5,911.00
ALEXANDER	5,915.00	5,911.00	5,943.00	5,939.00
ELKS	5,943.00	5,939.00	7,374.00	7,138.20
SONYEA	7,374.00	7,138.20	7,581.00	7,287.50
MIDDLESEX	7,581.00	7,287.50	7,657.00	7,332.10
GENESEE	7,657.00	7,332.10	7,918.00	7,423.00
GENESEO	7,918.00	7,423.00	16,760.00	7,525.30

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**514568-47-103-029420000 - Perforations**

<b>Stage Number</b>	<b>Perforation Date</b>	<b>Top Perf Depth (ftKB)</b>	<b>Bottom Perf Depth (ftKB)</b>	<b>Number of Shots</b>	<b>Formation</b>
<b>Initiation Sleeve</b>	2/11/2016	16,738.00	16,740.00	10	GENESEO
<b>1</b>	2/11/2016	16,596.00	16,722.00	40	GENESEO
<b>2</b>	2/11/2016	16,444.00	16,566.00	40	GENESEO
<b>3</b>	2/12/2016	16,444.00	16,566.00	40	GENESEO
<b>4</b>	2/12/2016	16,144.00	16,266.00	40	GENESEO
<b>5</b>	2/12/2016	15,994.00	16,116.00	40	GENESEO
<b>6</b>	2/12/2016	15,845.00	15,966.00	40	GENESEO
<b>7</b>	2/13/2016	15,694.00	15,816.00	40	GENESEO
<b>8</b>	2/13/2016	15,544.00	15,666.00	40	GENESEO
<b>9</b>	2/13/2016	15,394.00	15,516.00	40	GENESEO
<b>10</b>	2/13/2016	15,244.00	15,366.00	40	GENESEO
<b>11</b>	2/14/2016	15,094.00	15,216.00	40	GENESEO
<b>12</b>	2/14/2016	14,944.00	15,066.00	40	GENESEO
<b>13</b>	2/14/2016	14,794.00	14,916.00	40	GENESEO
<b>14</b>	2/14/2016	14,644.00	14,766.00	40	GENESEO
<b>15</b>	2/14/2016	14,494.00	14,616.00	40	GENESEO
<b>16</b>	2/15/2016	14,344.00	14,466.00	40	GENESEO
<b>17</b>	2/15/2016	14,196.00	14,316.00	40	GENESEO
<b>18</b>	2/15/2016	14,044.00	14,166.00	40	GENESEO
<b>19</b>	2/15/2016	13,894.00	14,014.00	40	GENESEO
<b>20</b>	2/15/2016	13,744.00	13,866.00	40	GENESEO
<b>21</b>	2/16/2016	13,594.00	13,712.00	40	GENESEO
<b>22</b>	2/16/2016	13,444.00	13,566.00	40	GENESEO
<b>23</b>	2/16/2016	13,294.00	13,414.00	40	GENESEO
<b>24</b>	2/17/2016	13,146.00	13,266.00	40	GENESEO
<b>25</b>	2/17/2016	12,994.00	13,116.00	40	GENESEO
<b>26</b>	2/17/2016	12,844.00	12,966.00	40	GENESEO
<b>27</b>	2/17/2016	12,694.00	12,816.00	40	GENESEO
<b>28</b>	2/17/2016	12,544.00	12,662.00	40	GENESEO
<b>29</b>	2/18/2016	12,394.00	12,516.00	40	GENESEO
<b>30</b>	2/18/2016	12,244.00	12,366.00	40	GENESEO
<b>31</b>	2/18/2016	12,094.00	12,216.00	40	GENESEO
<b>32</b>	2/18/2016	11,944.00	12,066.00	40	GENESEO
<b>33</b>	2/18/2016	11,794.00	11,916.00	40	GENESEO
<b>34</b>	2/19/2016	11,644.00	11,766.00	40	GENESEO
<b>35</b>	2/19/2016	11,494.00	11,616.00	40	GENESEO
<b>36</b>	2/19/2016	11,344.00	11,466.00	40	GENESEO
<b>37</b>	2/19/2016	11,194.00	11,316.00	40	GENESEO
<b>38</b>	2/19/2016	11,044.00	11,166.00	40	GENESEO
<b>39</b>	2/20/2016	10,894.00	11,016.00	40	GENESEO
<b>40</b>	2/20/2016	10,744.00	10,862.00	40	GENESEO
<b>41</b>	2/20/2016	10,594.00	10,716.00	40	GENESEO
<b>42</b>	2/20/2016	10,444.00	10,566.00	40	GENESEO
<b>43</b>	2/21/2016	10,294.00	10,416.00	40	GENESEO
<b>44</b>	2/21/2016	10,144.00	10,266.00	40	GENESEO
<b>45</b>	2/21/2016	9,994.00	10,116.00	40	GENESEO
<b>46</b>	2/21/2016	9,846.00	9,966.00	40	GENESEO
<b>47</b>	2/21/2016	9,696.00	9,814.00	40	GENESEO
<b>48</b>	2/22/2016	9,544.00	9,666.00	40	GENESEO
<b>49</b>	2/22/2016	9,394.00	9,516.00	40	GENESEO
<b>50</b>	2/22/2016	9,244.00	9,366.00	40	GENESEO
<b>51</b>	2/22/2016	9,094.00	9,216.00	40	GENESEO
<b>52</b>	2/22/2016	8,944.00	9,082.00	40	GENESEO
<b>53</b>	2/22/2016	8,794.00	8,916.00	40	GENESEO
<b>54</b>	2/22/2016	8,644.00	8,762.00	40	GENESEO
<b>55</b>	2/23/2016	8,494.00	8,616.00	40	GENESEO
<b>56</b>	2/23/2016	8,344.00	8,466.00	40	GENESEO
<b>57</b>	2/23/2016	8,192.00	8,316.00	40	GENESEO
<b>58</b>	2/23/2016	8,044.00	8,166.00	40	GENESEO

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**514568- 47-103-029420000 - 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	12/24/2015	0.00	0.00	0.00	0.00	0	0	0
1	2/11/2016	75.80	8,604.00	8,882.00	4,119.00	199,900	5618	0
2	2/12/2016	84.50	8,586.00	8,815.00	4,255.00	201,100	5885	0
3	2/12/2016	83.00	8,613.00	8,803.00	4,326.00	197,700	5742	0
4	2/12/2016	83.00	8,603.00	8,860.00	4,416.00	203,700	5507	0
5	2/12/2016	83.50	8,659.00	8,896.00	4,621.00	201,500	5953	0
6	2/12/2016	88.10	8,701.00	8,917.00	4,610.00	202,500	5680	0
7	2/13/2016	83.60	8,618.00	8,829.00	4,608.00	200,800	6296	0
8	2/13/2016	86.00	8,636.00	8,866.00	4,709.00	202,800	5833	0
9	2/13/2016	82.80	8,611.00	8,847.00	4,839.00	197,600	5315	0
10	2/14/2016	78.00	8,611.00	8,857.00	4,913.00	200,200	6142	0
11	2/14/2016	84.30	8,630.00	8,823.00	4,957.00	196,600	5682	0
12	2/14/2016	83.60	8,662.00	8,849.00	4,782.00	198,900	5630	0
13	2/14/2016	83.70	8,615.00	8,857.00	4,991.00	198,300	5222	0
14	2/14/2016	86.20	8,725.00	8,882.00	5,259.00	199,800	5414	0
15	2/15/2016	88.50	8,653.00	8,832.00	4,969.00	199,400	5619	0
16	2/15/2016	86.10	8,645.00	8,942.00	4,923.00	187,700	5667	0
17	2/15/2016	79.80	8,650.00	8,848.00	4,864.00	198,500	5674	0
18	2/15/2016	86.90	8,581.00	8,949.00	4,877.00	200,100	5,824	0
19	2/15/2016	88.10	8,717.00	8,880.00	5,017.00	201,100	5,337	0
20	2/16/2016	83.60	8,671.00	8,880.00	5,064.00	200,900	5,732	0
21	2/16/2016	87.50	8,614.00	8,875.00	4,952.00	194,500	5,902	0
22	2/16/2016	90.60	8,689.00	8,901.00	5,037.00	201,000	5,596	0
23	2/16/2016	90.60	8,701.00	8,918.00	4,923.00	204,600	5,763	0
24	2/17/2016	91.90	8,651.00	8,856.00	4,861.00	200,500	5976	0
25	2/17/2016	90.50	8,528.00	8,907.00	4,986.00	202,600	5347	0
26	2/17/2016	92.90	8,603.00	8,790.00	5,001.00	202,300	5547	0
27	2/17/2016	90.90	8,575.00	9,017.00	5,202.00	199,000	5206	0
28	2/18/2016	94.90	8,552.00	8,720.00	4,988.00	203,100	5167	0
29	2/18/2016	98.70	8,574.00	8,882.00	5,092.00	198,400	5488	0
30	2/18/2016	98.30	8,640.00	8,856.00	4,862.00	198,900	5297	0
31	2/18/2016	99.80	8,557.00	8,871.00	4,891.00	201,500	4998	0
32	2/18/2016	98.00	8,504.00	8,878.00	4,955.00	202,300	4913	0
33	2/18/2016	97.00	8,496.00	8,947.00	5,067.00	199,100	6633	0
34	2/19/2016	99.30	8,488.00	8,715.00	5,032.00	201,600	5499	0
35	2/19/2016	87.00	8,545.00	8,770.00	5,082.00	200,400	5121	0
36	2/19/2016	91.70	8,471.00	8,798.00	4,904.00	201,600	5208	0
37	2/19/2016	96.30	8,554.00	8,736.00	5,026.00	199,100	5538	0
38	2/20/2016	98.60	8,562.00	8,855.00	5,031.00	201,200	5315	0
39	2/20/2016	98.10	8,505.00	9,049.00	5,061.00	200,400	5103	0
40	2/20/2016	96.50	8,418.00	8,812.00	5,008.00	199,100	5127	0
41	2/20/2016	97.50	8,455.00	8,727.00	4,976.00	199,000	5252	0
42	2/21/2016	100.10	8,297.00	8,786.00	4,936.00	203,800	5129	0
43	2/21/2016	99.40	8,136.00	8,483.00	5,164.00	200,800	5177	0
44	2/21/2016	98.30	8,188.00	8,646.00	4,915.00	200,300	4916	0
45	2/21/2016	98.90	8,376.00	8,805.00	5,241.00	200,500	6308	0
46	2/21/2016	97.70	8,342.00	8,635.00	4,919.00	201,800	5052	0
47	2/22/2016	99.90	8,392.00	8,709.00	4,978.00	199,900	4970	0
48	2/22/2016	98.80	8,405.00	8,710.00	4,918.00	200,100	5021	0
49	2/22/2016	100.00	8,173.00	8,448.00	4,927.00	199,800	5068	0
50	2/22/2016	99.20	8,019.00	8,857.00	4,783.00	201,300	4860	0
51	2/22/2016	97.50	8,102.00	8,830.00	4,755.00	201,200	4776	0
52	2/22/2016	95.80	8,219.00	8,878.00	4,901.00	199,700	5060	0
53	2/22/2016	97.60	8,295.00	8,917.00	4,830.00	200,900	5027	0
54	2/23/2016	100.00	8,087.00	8,912.00	4,876.00	199,700	5221	0
55	2/23/2016	98.70	7,848.00	8,688.00	4,737.00	202,400	5249	0
56	2/23/2016	100.50	8,017.90	8,579.00	4,719.00	204,000	4,729	0
57	2/23/2016	100.80	8,100.00	8,678.00	4,680.00	204,800	4,851	0
58	2/23/2016	97.20	8,051.00	8,829.00	4,645.00	201,700	4,890	0

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date	2/11/2016
Job End Date	2/23/2016
State	West Virginia
County	Wayne
API Number	47-103-02942-00-00
Operator Name	EQT Production
Well Name and Number	514568
Longitude	-80.57996400
Latitude	39.55645300
Datum	NAD83
Federal/Tribal Well	NO
True Vertical Depth	7,423
Total Base Water Volume (gal)	13,191,024
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	90.03489	None
Sand (Proppant)	C and J Energy Services	Proppant	Silica Substrate	14808-60-7	100.00000	9.50576	None
MC MIX 5-3886	Multi-Chem Group	Specialty Brine	Calcium nitrate.4H2O	13477-34-4	100.00000	0.09658	None
FR-18	C and J Energy Services	Antonic Friction Reducer	Distillates (petroleum), Hydrotreated Light Ethylene Glycol	64742-47-8	45.00000	0.03868	None
Hydrochloric Acid (15%)	C and J Energy Services	Acidizing	Hydrochloric Acid	107-21-1	10.00000	0.00860	None
MC MIX 8-2544	Multi-Chem Group	Yeast Culture - Nitrate Reducing Bacteria	Sodium chloride	7647-01-0	15.00000	0.03396	None
MC MIX 437-5	Multi-Chem Group	Calcium Nitrate Solution	Sodium Nitrate	7631-99-4	100.00000	0.00983	None
			Calcium Nitrate	10124-37-5	5.00000	0.00049	None
			Calcium Nitrate		60.00000	0.00627	None

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Calcium Chloride (CaCl2)	C and J Energy Services	Cement Accelerators					
		Calcium Chloride	10043-52-4	100.00000	0.00450	None	
		Potassium Chloride	7447-40-7	3.00000	0.00013	None	
		Sodium Chloride	7647-14-5	2.00000	0.00009	None	
SI-6	C and J Energy Services	Scale Inhibitor					
		Trade Secret	Proprietary	7.00000	0.00174	None	
		Ammonium Chloride	12125-02-9	2.00000	0.00050	None	
		Monoethanolamine hydrochloride	2002-24-6	2.00000	0.00050	None	
		Methanol	67-56-1	1.00000	0.00025	None	
CI-3	C and J Energy Services	Corrosion Inhibitor					
		Ethylene Glycol	107-21-1	40.00000	0.00018	None	
		Dimethylformamide	68-12-2	20.00000	0.00009	None	
		2-butoxyethanol	111-76-2	15.00000	0.00007	None	
		Tar Bases, Quinoline Derivs., Benzyl Chloride-quaternized	72480-70-7	15.00000	0.00007	None	
		Cinnamaldehyde	104-55-2	15.00000	0.00007	None	
		1-decanol	112-30-1	5.00000	0.00002	None	
		4-nonylphenol Branched, Ethoxylated	127087-87-0	5.00000	0.00002	None	
		Triethyl Phosphate	78-40-0	2.50000	0.00001	None	
		1-octanol	111-87-5	2.50000	0.00001	None	
		Isopropanol	67-63-0	2.50000	0.00001	None	
GA-7A	C and J Energy Services	Gelling Agent					
		Guar Gum	9000-30-0	60.00000	0.00022	None	
		Distillates (petroleum), Hydrotreated Light	64742-47-8	60.00000	0.00022	None	
		Surfactants	Proprietary	10.00000	0.00004	None	
BR-11	C and J Energy Services	Gel Breaker					
		Ammonium Persulfate	7727-54-0	85.00000	0.00000	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. 514568

LATITUDE 39°35'00"

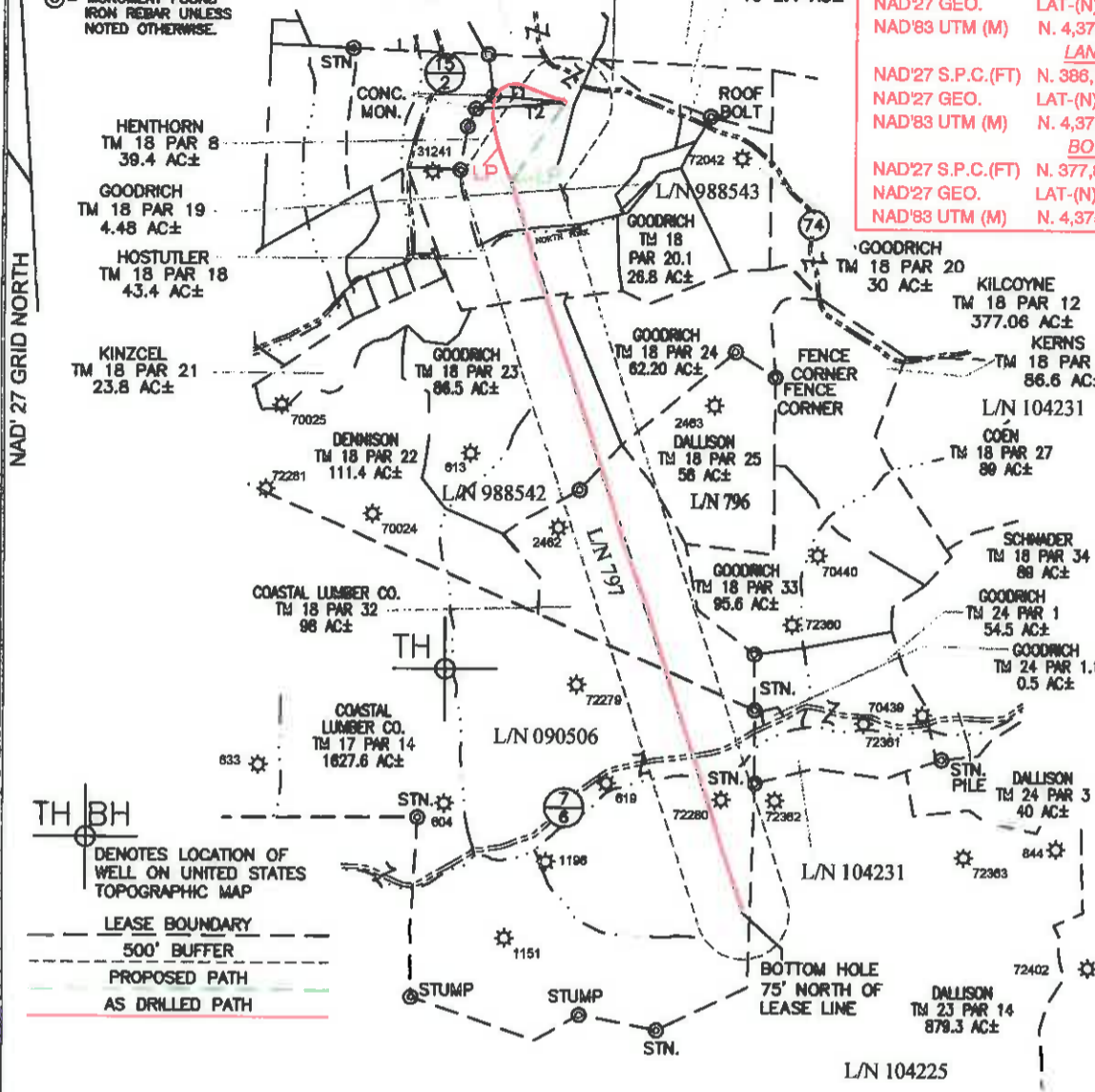
LONGITUDE 80°32'30"

**AS DRILLED COORDINATES FOR WELL NO. WV 514568 (BIG367 H7)**

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

NAD'27 S.P.C.(FT)	N. 386,612.767	E. 1,695,502.626
NAD'27 GEO.	LAT-(N) 39.556536	LONG-(W) 80.579779
NAD'83 UTM (M)	N. 4,378,623.241	E. 536,100.994
<b>LANDING POINT</b>		
NAD'27 S.P.C.(FT)	N. 386,138.272	E. 1,694,795.349
NAD'27 GEO.	LAT-(N) 39.555127	LONG-(W) 80.582452
NAD'83 UTM (M)	N. 4,378,475.078	E. 535,887.918
<b>BOTTOM HOLE</b>		
NAD'27 S.P.C.(FT)	N. 377,877.278	E. 1,697,491.037
NAD'27 GEO.	LAT-(N) 39.532537	LONG-(W) 80.572543
NAD'83 UTM (M)	N. 4,375,971.997	E. 536,751.102

**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.



TH BH  
 DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAP

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

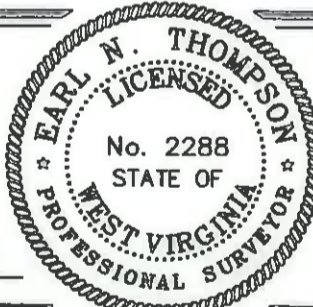
**SPECIAL NOTES**  
 -LEASE AND SURFACE INFO SHOWN HEREON WAS TAKEN FROM PERMIT PLAT FOR AP# 47-103-02942H.  
 -AS DRILLED INFORMATION PROVIDED BY EQT.

LINE	BEARING	DIST.
T1	S85°07'06"E	782.83'
T2	N85°24'20"E	983.38'



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.

P.S. 2288 *Earl N. Thompson*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
 DATE JANUARY 3, 20 14  
 REVISED 06/16/16  
 OPERATORS WELL NO. WV 514568  
 API WELL NO. 47 - 103 - 02942H  
 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 X LIQUID INJECTION    WASTE DISPOSAL    IF "GAS" PRODUCTION X STORAGE    DEEP    SHALLOW X  
 LOCATION: ELEVATION PROPSD 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 100.00±  
 PROPOSED WORK: DRILL X CONVERT    DRILL DEEPER    REDRILL    FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION    PERFORATE NEW FORMATION    PLUG AND ABANDON    CLEAN OUT AND REPLUG    OTHER     
 PHYSICAL CHANGE IN WELL (SPECIFY)    TARGET FORMATION MARCELLUS 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