

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 514563

API: 47 - 103 - 02937

Submission:  Initial  Amended

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

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Office of Oil and Gas  
JUL 28 2016  
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 47-103-02937 County WETZEL District GRANT  
Quad BIG RUN Pad Name BIG367 Field/Pool Name \_\_\_\_\_  
Farm name DENCIL HENTHORN ET AL Well Number 514563  
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 4,378,639.320 Easting 536,084.755  
Landing Point of Curve Northing 4,378,485.218 Easting 535,995.125  
Bottom Hole Northing 4,376,283.660 Easting 536,740.348

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 13.2 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 11/4/2014  
Date completion activities began 12/8/2015 Date completion activities ceased 12/17/2015  
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 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 area (Y/N) \_\_\_\_\_

**APPROVED**

NAME: Derek A. Hught  
DATE: 9-23-16

Reviewed by: D.H.H.  
**10/28/2016**

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API 47-103-02937 Farm name DENCIL HENTHORN ET AL Well number 514563

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	30"	26"	40'	NEW	A-500 85.69lb/ft	NONE	Y
Surface	17-1/2"	13-3/8"	954'	NEW	J-55 54.5lb/ft	458' & 418'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	2,906'	NEW	A-500 40lb/ft	NONE	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	15,736'	NEW	P-110 20lb/ft	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	57.8	0	8
Surface	Class A	829	15.6	1.18	978.22	0	8
Coal							
Intermediate 1	Class A	1,010	15.6	1.19	1,201.9	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	735/1015	14.2/15.2	1.26/1.97	2925.65	3,282'	72
Tubing							

Drillers TD (ft) 15,752' Loggers TD (ft) 7,700'  
 Deepest formation penetrated Onondaga Plug back to (ft) 6,362'  
 Plug back procedure Pump 28 bbls of 14.2 ppg cement, TOOH to 6727' and pump 28 bbls of 14.2 ppg cement, TOOH to 6040' and pump 39 bbls of 16 ppg cement.

Kick off depth (ft) 6,350'

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 4,688'

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

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

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

API 47- 103 02937 Farm name DENCIL HENTHORN ET AL Well number 514563

PERFORATION RECORD

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

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/other (units)
						<b>Please</b>	<b>See</b>	<b>Attached</b>

Please insert additional pages as applicable.

API 47- 103 - 02937

Farm name DENCIL HENTHORN ET AL

Well number 514563

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
MARCELLUS	7,563	TVD	7,857 MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 1,935 psi Bottom Hole N/A psi DURATION OF TEST 129.00 hrs

OPEN FLOW Gas 14,223 mcfpd Oil N/A bpd NGL 0.0 bpd Water 1,263 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 <sub>2</sub> S, ETC)
	0		0		

Please insert additional pages as applicable.

Drilling Contractor Alpha Hunter 4  
Address 28407 State Route 7 City Marietta State OH Zip 45750

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 Keane  
Address 2121 Sage Road City Houston State TX Zip 77056

Please insert additional pages as applicable.

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Completed by Jim Helmick Telephone (412) 395-5518  
Signature [Signature] Title VP Completions Date 7/26/2016

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

API 47- 103 - 02937

Drilling Contractor: Savanna Drilling

Address: 2204 Timberloch Place Suite 230      City: Woodlands      State: TX      Zip: 77380

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	0	0	708	708
SAND/SHALE	0	0	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	1,022
MAPLETOWN COAL	1,022	1,022	1,025	1,025
SAND/SHALE	1,025	1,025	1,193	1,193
PITTSBURGH COAL	1,193	1,193	1,199	1,199
SAND/SHALE	1,199	1,199	1,683	1,683
COAL	1,683	1,683	1,687	1,687
SAND/SHALE	1,687	1,687	2,255	2,255
MAXTON	2,255	2,255	2,410	2,410
BIG LIME	2,410	2,410	2,512	2,512
BIG INJUN	2,512	2,512	2,806	2,806
WEIR	2,806	2,806	2,956	2,956
GANTZ	2,956	2,956	3,006	3,006
50F	3,006	3,006	3,100	3,100
30F	3,100	3,100	3,224	3,224
GORDON	3,224	3,224	3,317	3,317
4TH	3,317	3,317	3,472	3,472
BAYARD	3,472	3,472	3,838	3,838
WARREN	3,838	3,838	4,052	4,052
SPEECHLEY	4,052	4,052	4,402	4,402
BALLTOWN A	4,402	4,402	4,837	4,837
RILEY	4,837	4,837	5,514	5,514
BENSON	5,514	5,514	5,908	5,908
ALEXANDER	5,908	5,908	6,957	6,888
RHINESTREET UPPER	6,957	6,888	7,084	7,003
RHINESTREET	7,084	7,003	7,233	7,140
SONYEA	7,233	7,140	7,404	7,288
MIDDLESEX	7,404	7,288	7,460	7,333
GENESSEE	7,460	7,333	7,578	7,420
GENESEO	7,578	7,420	7,618	7,446
TULLY	7,618	7,446	7,654	7,468
HAMILTON	7,654	7,468	7,857	7,563
MARCELLUS	7,857	7,563	15,752	7,680

514563- 47-103-02937-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	8/19/2015	15,734	15,736	10	MARCELLUS
1	12/9/2015	15,589	15,681	32	MARCELLUS
2	12/9/2015	15,439	15,559	40	MARCELLUS
3	12/9/2015	15,289	15,411	40	MARCELLUS
4	12/9/2015	15,135	15,261	40	MARCELLUS
5	12/9/2015	14,989	15,109	40	MARCELLUS
6	12/9/2015	14,839	14,961	40	MARCELLUS
7	12/10/2015	14,689	14,811	40	MARCELLUS
8	12/10/2015	14,539	14,661	40	MARCELLUS
9	12/10/2015	14,389	14,511	40	MARCELLUS
10	12/10/2015	14,239	14,358	40	MARCELLUS
11	12/11/2015	14,089	14,211	40	MARCELLUS
12	12/11/2015	13,939	14,059	40	MARCELLUS
13	12/11/2015	13,789	13,911	40	MARCELLUS
14	12/11/2015	13,639	13,756	40	MARCELLUS
15	12/11/2015	13,489	13,611	40	MARCELLUS
16	12/11/2015	13,342	13,461	40	MARCELLUS
17	12/11/2015	13,189	13,311	40	MARCELLUS
18	12/12/2015	13,039	13,159	40	MARCELLUS
19	12/12/2015	12,889	13,011	40	MARCELLUS
20	12/12/2015	12,739	12,859	40	MARCELLUS
21	12/13/2015	12,589	12,709	40	MARCELLUS
22	12/13/2015	12,439	12,561	40	MARCELLUS
23	12/13/2015	12,289	12,411	40	MARCELLUS
24	12/13/2015	12,139	12,261	40	MARCELLUS
25	12/13/2015	11,989	12,106	40	MARCELLUS
26	12/14/2015	11,839	11,961	40	MARCELLUS
27	12/14/2015	11,689	11,811	40	MARCELLUS
28	12/14/2015	11,539	11,661	40	MARCELLUS
29	12/14/2015	11,389	11,511	40	MARCELLUS
30	12/14/2015	11,239	11,361	40	MARCELLUS
31	12/14/2015	11,089	11,211	40	MARCELLUS
32	12/14/2015	10,939	11,061	40	MARCELLUS
33	12/15/2015	10,789	10,911	40	MARCELLUS
34	12/15/2015	10,639	10,761	40	MARCELLUS
35	12/15/2015	10,489	10,611	40	MARCELLUS
36	12/15/2015	10,339	10,461	40	MARCELLUS
37	12/15/2015	10,189	10,311	40	MARCELLUS
38	12/15/2015	10,039	10,161	40	MARCELLUS
39	12/15/2015	9,889	10,011	40	MARCELLUS
40	12/16/2015	9,739	9,861	40	MARCELLUS
41	12/16/2015	9,589	9,711	40	MARCELLUS
42	12/16/2015	9,439	9,563	40	MARCELLUS
43	12/16/2015	9,289	9,411	40	MARCELLUS
44	12/16/2015	9,139	9,261	40	MARCELLUS
45	12/16/2015	8,992	9,109	40	MARCELLUS
46	12/16/2015	8,839	8,959	40	MARCELLUS
47	12/17/2015	8,689	8,809	40	MARCELLUS
48	12/17/2015	8,539	8,659	40	MARCELLUS
49	12/17/2015	8,389	8,511	40	MARCELLUS
50	12/17/2015	8,239	8,361	40	MARCELLUS
51	12/17/2015	8,089	8,208	40	MARCELLUS
52	12/17/2015	7,939	8,061	40	MARCELLUS



**514563-47-103-02937-0000 - 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	12/8/2015	18.6	7,330	8,111	4,618	0	800	0
1	12/9/2015	83	8,658	8,805	5,441	200,200.00	5,743	0
2	12/9/2015	89.6	8,718	8,930	5,533	198,500.00	5,576	0
3	12/9/2015	90.2	8,761	8,952	5,844	199,300.00	5,572	0
4	12/9/2015	83.7	8,775	8,935	5,456	200,000.00	5,674	0
5	12/9/2015	88.8	8,778	8,960	5,673	202,400.00	5,542	0
6	12/10/2015	94.5	8,768	8,966	5,570	199,200.00	5,486	0
7	12/10/2015	91.4	8,745	8,904	5,826	200,800.00	5,297	0
8	12/10/2015	90.4	8,739	8,914	6,046	200,600.00	5,240	0
9	12/10/2015	97.7	8,811	8,952	5,701	204,500.00	5,562	0
10	12/10/2015	94.7	8,781	8,981	5,543	203,600.00	5,203	0
11	12/11/2015	93.4	8,790	8,958	5,367	200,400.00	5,189	0
12	12/11/2015	90.6	8,801	8,919	5,871	204,300.00	5,324	0
13	12/11/2015	91.4	8,734	8,952	5,960	202,400.00	5,201	0
14	12/11/2015	93.8	8,754	8,944	5,867	199,900.00	5,244	0
15	12/11/2015	92.7	8,806	8,989	5,603	200,000.00	5,200	0
16	12/11/2015	98.2	8,735	8,918	5,666	201,600.00	5,071	0
17	12/12/2015	97.4	8,742	8,999	5,619	208,500.00	5,114	0
18	12/12/2015	95.4	8,720	8,905	5,657	202,900.00	5,152	0
19	12/12/2015	95.8	8,791	8,932	5,649	162,200.00	4,900	0
20	12/12/2015	96.7	8,767	8,925	5,579	204,600.00	5,184	0
21	12/13/2015	99.1	8,708	8,967	5,614	201,000.00	5,215	0
22	12/13/2015	99.6	8,584	8,848	5,722	202,400.00	5,178	0
23	12/13/2015	100	8,654	8,886	5,590	201,600.00	5,110	0
24	12/13/2015	99.2	8,584	8,972	5,685	204,400.00	4,987	0
25	12/14/2015	85.4	8,777	9,009	5,275	204,300.00	5,016	0
26	12/14/2015	101.2	8,670	8,905	5,384	200,600.00	4,807	0
27	12/14/2015	100.8	8,420	8,927	5,670	208,300.00	5,149	0
28	12/14/2015	99.8	8,624	8,875	5,543	203,500.00	4,939	0
29	12/14/2015	98.9	8,648	8,922	5,614	201,400.00	5,039	0
30	12/14/2015	99.3	8,687	8,918	5,648	206,800.00	5,016	0
31	12/14/2015	99.3	8,582	8,905	5,569	201,000.00	4,614	0
32	12/15/2015	97.8	8,689	8,944	5,593	204,900.00	4,715	0
33	12/15/2015	101.7	8,539	8,864	5,555	205,000.00	4,757	0
34	12/15/2015	100	8,451	8,747	5,610	204,200.00	5,033	0
35	12/15/2015	99.7	8,539	8,902	5,500	204,800.00	4,782	0
36	12/15/2015	100.6	8,575	8,869	5,426	204,900.00	4,782	0
37	12/15/2015	100.5	8,537	8,926	5,386	205,100.00	4,749	0
38	12/15/2015	101.9	8,570	8,857	5,503	206,400.00	4,564	0
39	12/16/2015	99.8	8,492	8,774	5,523	205,500.00	4,719	0
40	12/16/2015	101.5	8,409	8,611	5,515	206,800.00	4,678	0
41	12/16/2015	100.5	8,411	8,892	5,600	202,100.00	4,793	0
42	12/16/2015	100.9	8,474	8,963	5,625	206,700.00	4,803	0
43	12/16/2015	97.3	8,590	8,831	5,516	204,500.00	4,842	0
44	12/16/2015	98.9	8,147	8,857	5,442	204,800.00	4,707	0
45	12/16/2015	101.2	8,336	8,752	5,551	202,100.00	4,818	0
46	12/17/2015	102.3	8,354	8,758	5,705	203,700.00	4,825	0
47	12/17/2015	101.5	8,147	8,635	5,622	198,000.00	4,719	0
48	12/17/2015	85.4	8,473	9,018	5,778	199,300.00	5,240	0
49	12/17/2015	101.1	8,258	8,933	5,523	204,400.00	4,560	0
50	12/17/2015	100.4	8,354	8,965	5,831	199,700.00	4,713	0
51	12/17/2015	98.6	8,568	8,934	5,681	198,400.00	4,706	0
52	12/17/2015	100.5	8,349	8,776	5,512	200,500.00	4,943	0

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date	12/8/2015
Job End Date	12/17/2015
State	West Virginia
County	Wayne
API Number	47-103-02937-00-00
Operator Name	EQT Production
Well Name and Number	514563
Longitude	-80 58015300
Latitude	39 55659900
Datum	NAD83
Federal/Tribal Well	NO
True Vertical Depth	7,563
Total Base Water Volume (gal)	11,037,474
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	89.37798	None
Sand (Proppant)	C and J Energy Services	Proppant	Silica Substrate	14808-60-7	100.00000	10.19173	None
MC MX 437-5	Multi-Chem Group	Calcium Nitrate Solution	Calcium Nitrate	10124-37-5	60.00000	0.05706	None
FR-18	C and J Energy Services	Anionic Friction Reducer	Distillates (petroleum) Hydrotreated Light Ethylene Glycol	84742-47-8	45.00000	0.0324	None
Hydrochloric Acid (15%)	C and J Energy Services	Acidizing	Hydrochloric Acid	107-21-1	10.00000	0.00720	None
SI-6	C and J Energy Services	Scale Inhibitor	Trade Secret	7647-01-0	15.00000	0.03574	None
			Ammonium Chloride	Proprietary	7.00000	0.00171	None
			Monoethanolamine Hydrochloride	12125-02-9	2.00000	0.00049	None
			Methanol	2002-24-6	2.00000	0.00049	None
				67-56-1	1.00000	0.00024	None

10/28/2016

AI-2	C and J Energy Services	Acid corrosion inhibitor					
		Propargyl Alcohol	107-19-7	40.00000	0.00018	None	
		Glycol Ethers	111-76-2	40.00000	0.00018	None	
		Isopropyl Alcohol	67-63-0	40.00000	0.00018	None	
		Ethoxyylated Nonylphenol	68412-54-4	13.00000	0.00006	None	
		Tar bases, quinoline derivs, benzyl chloride-quatertized	72480-70-7	10.00000	0.00004	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. 514563

AS DRILLED COORDINATES FOR WELL NO. WV 514563 (BIG367 H2)

Table with 4 columns: System (NAD'27 S.P.C.(FT), NAD'27 GEO., NAD'83 UTM (M)), X (N), Y (E), and Z (E). Includes Landing Point and Bottom Hole coordinates.

NOTES:

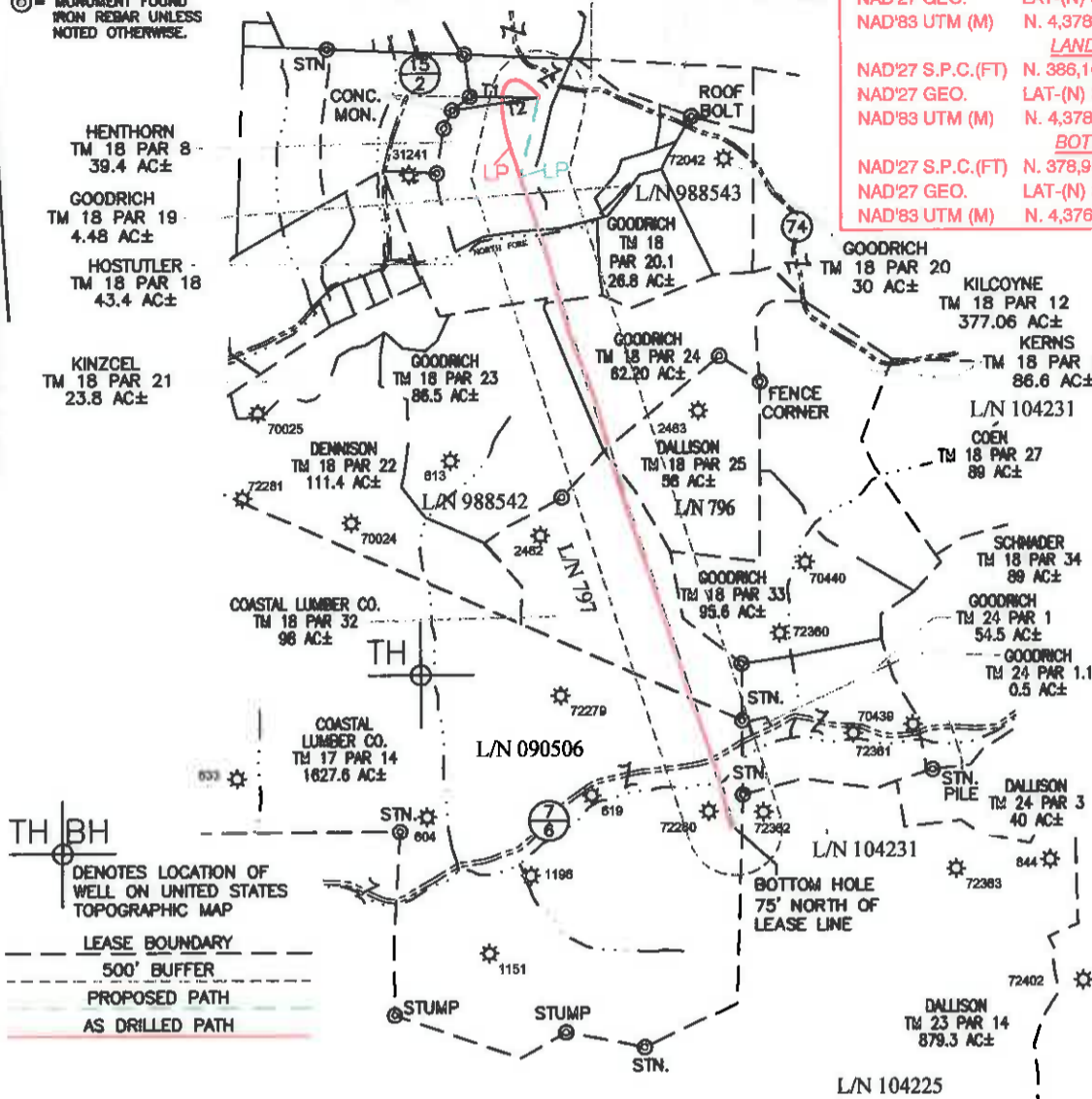
- PLAT ORIENTATION, CORNERS, AND WELL REFERENCES ARE BASED UPON THE GRID NORTH MERIDIAN FOR THE WV STATE PLANE COORDINATE SYSTEM, NORTH ZONE NAD 27. WELL LOCATION REFERENCE TIES ARE BASED UPON THE MAGNETIC MERIDIAN.
-THERE ARE NO (0) WATER WELL(S) LOCATED WITHIN 250' OF WELL H1.
-THERE ARE NO (0) STRUCTURE(S)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

MONUMENT FOUND IRON REBAR UNLESS NOTED OTHERWISE.

NAD' 27 GRID NORTH

LONGITUDE 80°32'30"

9,710' TOP HOLE



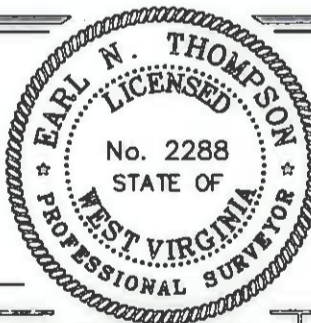
TH BH DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAP
LEASE BOUNDARY
500' BUFFER
PROPOSED PATH
AS DRILLED PATH

Table with 3 columns: LINE, BEARING, DIST. Contains data for lines T1 and T2.

SPECIAL NOTES
-LEASE AND SURFACE INFO SHOWN HEREON WAS TAKEN FROM PERMIT PLAT FOR AP# 47-103-02937H.
-AS DRILLED INFORMATION PROVIDED BY EQT.



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 514563
API WELL NO. 47 - 103 - 02937H
STATE COUNTY PERMIT

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

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

WELL TYPE: OIL \_\_\_ GAS X INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ IF "GAS" PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X

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 1928.60±

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

COUNTY NAME PERMIT