

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

API 47 - 083 - 01224 County RANDOLPH District MIDDLE FORK  
Quad PICKENS 7.5' Pad Name PKN99 Field/Pool Name N/A  
Farm name COASTAL FOREST RESOURCES Well Number PKN99H1 (513058)  
Operator (as registered with the OOG) EQT Production Company  
Address 625 LIBERTY AVENUE, 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 4,287,876.18 Easting 574,230.84  
Landing Point of Curve Northing N/A Easting N/A  
Bottom Hole Northing 4,287,837.37 Easting 574,233.82

Elevation (ft) 2967' 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)  
\_\_\_\_\_  
\_\_\_\_\_

Date permit issued 09/10/2010 Date drilling commenced 11/04/2010 Date drilling ceased 11/14/2010  
Date completion activities began N/A Date completion activities ceased N/A  
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 370,375,435,595,918 Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1878 Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 562,647,815,852 Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by:  
\_\_\_\_\_

API 47-083 - 01224 Farm name COASTAL FOREST RESOURCES Well number PKN99H1 (513058)

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	24"	20"	40'	NEW	L/S 65#	N/A	Y
Surface	17-1/2"	13-3/8"	1117'	NEW	MC-50 54.5#	304' & 850'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	2583'	NEW	MC-50 40#	347', 1233', 2287'	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5 1/2"	8065'	NEW	P-110 20#	N/A	N
Tubing							
Packer type and depth set							

Comment Details Production cement job has calculated TOC of 5123' MD, which is greater than 500' TVD above the deepest producing formation. No issues during cement job.

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	DRIVE PIPE	N/A	N/A	N/A	N/A	N/A	N/A
Surface	TYPE 1	750	14.5	1.40	1050	0	8
Coal							
Intermediate 1	TYPE 1	807	15.4	1.20	968	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS H	440	13.3	1.53	673	5123'	8+
Tubing							

Drillers TD (ft) 8100' MD Loggers TD (ft) 8072' MD  
 Deepest formation penetrated HUNTERSVILLE Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) N/A - VERTICAL WELL

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: NONE

SURFACE: ON JOINTS: 2, 14, 26

INTERMEDIATE: ON JOINTS: 2, 15, 30, 45, 60

PRODUCTION: ON JOINTS: 1, 2, 3, 4, 5, 6, 7, 12, 17, 22, 27, 32, 37, 42, 46

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WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS FEB 19 2019

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS WV Department of Environmental Protection

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





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Rev. 8/23/13

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API 47- 083 - 01224 Farm name COASTAL FOREST RESOURCES Well number PKN99H1 (513058)

Drilling Contractor N/A  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Logging Company HALLIBURTON  
Address 121 CHAMPION WAY 210 City CANONSBURG State PA Zip 15317

Logging Company N/A  
Address \_\_\_\_\_ City Charleroi State PA Zip 15022

Cementing Company N/A  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

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Well # 513058 FINAL FORMATIONS API# 47-083-01224-00-00				
FORMATION NAME	Drill Top MD (ftKB)	Drill Top TVD (ftKB)	Drill Btm MD (ftKB)	Drill Btm TVD (ftKB)
FRESH WATER ZONE	1	1	918	918
SAND/SHALE	1	1	562	562
COAL	562	562	566	566
SAND/SHALE	566	566	647	647
COAL	647	647	652	652
SAND/SHALE	652	652	815	815
COAL	815	815	819	819
SAND/SHALE	819	819	852	852
COAL	852	852	857	857
SAND/SHALE	857	857	1315	1315
MAXTON	1315	1315	1431	1431
SAND/SHALE	1431	1431	1431	1431
BIG LIME	1431	1431	1551	1551
BIG INJUN	1551	1551	1721	1721
GANTZ	1721	1721	1819	1819
SAND/SHALE	1819	1819	1827	1827
50F	1827	1827	1880	1880
30F	1880	1880	1934	1934
GORDON	1934	1934	1991	1991
FOURTH SAND	1991	1991	2032	2032
SAND/SHALE	2032	2032	2107	2107
FIFTH SAND	2107	2107	2172	2172
SAND/SHALE	2172	2172	2325	2325
BAYARD	2325	2325	2509	2509
SAND/SHALE	2509	2509	3100	3100
SPEECHLEY	3100	3100	3555	3555
SAND/SHALE	3555	3555	3868	3868
RILEY	3868	3868	3983	3983
SAND/SHALE	3983	3983	4222	4222
BENSON	4222	4222	4405	4405
SAND/SHALE	4405	4405	4627	4627
ALEXANDER	4627	4627	5177	5177
SAND/SHALE	5177	5177	6224	6224
SONYEA	6224	6224	6989	6989
MIDDLESEX	6989	6989	7026	7026
GENESEE	7026	7026	7064	7064
GENESEO	7064	7064	7109	7109
TULLY	7109	7109	7127	7127
HAMILTON	7127	7127	7204	7204
MARCELLUS BLK SHALE	7204	7204	7309	7309
ONONDAGA	7309	7309	7322	7322
HUNTERSVILLE	7322	7322	8100	8100

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## **EQT Production**

Randolph County, WV  
Randolph County 513058  
Well #513058

**Main Wellbore**

**Design: 513058 Surveys**

## **Standard Survey Report**

**31 January, 2019**

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# EQT Survey Report

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<b>Database:</b> EDM_Definitive	<b>Local Co-ordinate Reference:</b> Site Randolph County 513058
<b>Company:</b> EQT Production	<b>TVD Reference:</b> WELL @ 2976.994usft (Original Well Elev)
<b>Project:</b> Randolph County, WV	<b>MD Reference:</b> WELL @ 2976.994usft (Original Well Elev)
<b>Site:</b> Randolph County 513058	<b>North Reference:</b> Grid
<b>Well:</b> Well #513058	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> Main Wellbore	
<b>Design:</b> 513058 Surveys	

**Project** Randolph County, WV

<b>Map System:</b> US State Plane 1927 (Exact solution)	<b>System Datum:</b> Mean Sea Level
<b>Geo Datum:</b> NAD 1927 (NADCON CONUS)	
<b>Map Zone:</b> West Virginia South 4702	

**Site** Randolph County 513058

<b>Site Position:</b>	<b>Northing:</b> 633,391.000 usft	<b>Latitude:</b> 38.74
<b>From:</b> Map	<b>Easting:</b> 2,243,574.000 usft	<b>Longitude:</b> -80.15
<b>Position Uncertainty:</b> 0.000 usft	<b>Slot Radius:</b> 13-3/16 "	<b>Grid Convergence:</b> 0.5279 °

**Well** Well #513058

<b>Well Position</b>	<b>+N/-S</b> 0.000 usft	<b>Northing:</b> 633,391.000 usft	<b>Latitude:</b> 38.7363484
	<b>+E/-W</b> 0.000 usft	<b>Easting:</b> 2,243,574.000 usft	<b>Longitude:</b> 80.1461146°W
<b>Position Uncertainty</b>	0.000 usft	<b>Wellhead Elevation:</b> usft	<b>Ground Level:</b> 2,966.994 usft

**Wellbore** Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2000	9/24/2010	-8.6410	66.6526	52,375.76436053

**Design** 513058 Surveys

**Audit Notes:**

<b>Version:</b> 1.0	<b>Phase:</b> ACTUAL	<b>Tie On Depth:</b> 0.000
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Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.000	0.000	0.000	340.997

**Survey Program** Date 1/31/2019

From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	8,100.000	Gyro (Main Wellbore)	WLST	

**Survey**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.000	0.000	0.000	0.000	-2,976.994	0.000	0.000	0.000	0.00000	0.00000	0.00000
100.000	0.660	65.900	99.998	-2,876.996	0.235	0.526	0.051	0.66000	0.66000	0.00000
200.000	0.710	91.650	199.990	-2,777.003	0.453	1.671	-0.116	0.30913	0.05000	25.75005
299.999	0.680	118.080	299.983	-2,677.011	0.155	2.814	-0.769	0.31909	-0.03000	26.43005
399.999	0.670	135.240	399.976	-2,577.018	-0.539	3.749	-1.730	0.20165	-0.01000	17.16005
499.999	0.690	136.810	499.969	-2,477.025	-1.393	4.573	-2.806	0.02733	0.02000	1.57000
599.999	0.680	137.630	599.962	-2,377.032	-2.271	5.385	-3.900	0.01400	-0.01000	0.82000
699.999	0.560	132.950	699.955	-2,277.038	-3.042	6.142	-4.876	0.13015	-0.12000	-4.68000
799.998	0.420	127.840	799.952	-2,177.042	-3.600	6.789	-5.614	0.14653	-0.14000	-5.11000

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# EQT Survey Report

<b>Database:</b> EDM_Definitive <b>Company:</b> EQT Production <b>Project:</b> Randolph County, WV <b>Site:</b> Randolph County 513058 <b>Well:</b> Well #513058 <b>Wellbore:</b> Main Wellbore <b>Design:</b> 513058 Surveys	<b>Local Co-ordinate Reference:</b> <b>TVD Reference:</b> <b>MD Reference:</b> <b>North Reference:</b> <b>Survey Calculation Method:</b>	<b>Site Randolph County 513058</b> <b>WELL @ 2976.994usft (Original Well Elev)</b> <b>WELL @ 2976.994usft (Original Well Elev)</b> <b>Grid:</b> <b>Minimum Curvature</b>
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Survey											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
899.998	0.350	94.470	899.949	-2,077.045	-3.849	7.383	-6.043	0.23102	-0.07000	-33.37007	
999.998	0.380	65.040	999.947	-1,977.047	-3.732	7.989	-6.130	0.18768	0.03000	-29.43006	
1,099.998	0.390	64.690	1,099.945	-1,877.049	-3.447	8.597	-6.058	0.01027	0.01000	-0.35000	
1,199.998	0.400	72.100	1,199.942	-1,777.052	-3.194	9.237	-6.028	0.05202	0.01000	7.41002	
1,299.997	0.400	80.090	1,299.939	-1,677.055	-3.027	9.913	-6.090	0.05574	0.00000	7.99002	
1,399.997	0.450	91.190	1,399.936	-1,577.057	-2.975	10.649	-6.280	0.09610	0.05000	11.10002	
1,499.997	0.700	109.200	1,499.931	-1,477.063	-3.184	11.619	-6.794	0.30556	0.25000	18.01004	
1,599.997	0.930	114.040	1,599.921	-1,377.073	-3.715	12.937	-7.725	0.23988	0.23000	4.84001	
1,699.997	1.160	117.570	1,699.904	-1,277.090	-4.514	14.575	-9.014	0.23873	0.23000	3.53001	
1,799.996	1.200	119.650	1,799.883	-1,177.111	-5.501	16.382	-10.536	0.05860	0.04000	2.08000	
1,899.996	1.220	121.210	1,899.860	-1,077.134	-6.571	18.203	-12.140	0.03854	0.02000	1.56000	
1,999.996	1.070	125.610	1,999.840	-977.154	-7.666	19.872	-13.719	0.17376	-0.15000	4.40001	
2,099.996	1.010	125.730	2,099.823	-877.171	-8.724	21.347	-15.200	0.06004	-0.06000	0.12000	
2,199.995	0.900	135.090	2,199.809	-777.185	-9.795	22.617	-16.626	0.19053	-0.11000	9.36002	
2,299.995	0.710	153.420	2,299.799	-677.195	-10.905	23.449	-17.946	0.31771	-0.19000	18.33004	
2,399.995	0.760	164.080	2,399.791	-577.203	-12.097	23.908	-19.223	0.14534	0.05000	10.66002	
2,499.995	1.330	170.640	2,499.774	-477.220	-13.880	24.278	-21.029	0.58149	0.57000	6.56001	
2,599.995	1.340	169.390	2,599.746	-377.248	-16.175	24.682	-23.330	0.03079	0.01000	-1.25000	
2,699.994	1.260	165.730	2,699.720	-277.274	-18.389	25.169	-25.582	0.11527	-0.08000	-3.66001	
2,799.994	1.360	151.360	2,799.694	-177.300	-20.496	26.009	-27.848	0.34236	0.10000	-14.37003	
2,899.994	1.280	149.350	2,899.667	-77.326	-22.499	27.147	-30.112	0.09242	-0.08000	-2.01000	
2,999.994	1.100	157.660	2,999.646	22.652	-24.348	28.081	-32.164	0.24892	-0.18000	8.31002	
3,099.994	1.050	160.950	3,099.628	122.634	-26.101	28.745	-34.039	0.07942	-0.05000	3.29001	
3,199.993	0.890	164.240	3,199.613	222.619	-27.715	29.255	-35.730	0.16935	-0.16000	3.29001	
3,299.993	0.890	161.590	3,299.601	322.607	-29.199	29.711	-37.282	0.04116	0.00000	-2.65001	
3,399.993	0.890	158.700	3,399.589	422.595	-30.660	30.239	-38.835	0.04489	0.00000	-2.89001	
3,499.993	0.920	156.090	3,499.576	522.582	-32.117	30.846	-40.411	0.05098	0.03000	-2.61001	
3,599.993	0.980	158.190	3,599.562	622.568	-33.645	31.489	-42.065	0.06936	0.06000	2.10000	
3,699.992	0.810	174.530	3,699.550	722.556	-35.143	31.874	-43.606	0.30499	-0.17000	16.34003	
3,799.992	0.770	173.310	3,799.540	822.546	-36.514	32.020	-44.950	0.04339	-0.04000	-1.22000	
3,899.992	0.780	174.460	3,899.531	922.537	-37.858	32.164	-46.268	0.01849	0.01000	1.15000	
3,999.992	0.860	174.030	3,999.520	1,022.527	-39.282	32.308	-47.661	0.08024	0.08000	-0.43000	
4,099.992	0.900	174.280	4,099.508	1,122.515	-40.810	32.464	-49.157	0.04018	0.04000	0.25000	
4,199.991	0.910	172.530	4,199.496	1,222.502	-42.379	32.645	-50.699	0.02939	0.01000	-1.75000	
4,299.991	0.810	174.680	4,299.484	1,322.490	-43.870	32.814	-52.164	0.10506	-0.10000	2.15000	
4,399.991	0.700	185.080	4,399.475	1,422.481	-45.182	32.826	-53.409	0.17530	-0.11000	10.40002	
4,499.991	0.680	191.000	4,499.468	1,522.474	-46.373	32.658	-54.480	0.07401	-0.02000	5.92001	
4,599.991	0.660	201.270	4,599.461	1,622.467	-47.493	32.336	-55.433	0.12157	-0.02000	10.27002	
4,699.990	0.810	240.200	4,699.453	1,722.459	-48.381	31.514	-56.005	0.50985	0.15000	38.93008	
4,799.990	0.920	200.470	4,799.442	1,822.448	-49.484	30.620	-56.757	0.59688	0.11000	-39.73008	
4,899.990	1.370	182.320	4,899.422	1,922.428	-51.431	30.291	-58.491	0.57263	0.45000	18.50004	
4,999.990	2.110	189.920	4,999.375	2,022.381	-54.438	29.925	-61.216	0.77355	0.74000	7.60002	

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## Survey Report

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<b>Company:</b> EQT Production	<b>TVD Reference:</b>	WELL @ 2976.994usft (Original Well Elev)
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<b>Well:</b> Well #513058	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b> Main Wellbore		
<b>Design:</b> 513058 Surveys		

Survey											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,099.990	2.910	199.980	5,099.279	2,122.285	-58.637	28.741	-64.800	0.91032	0.80000	10.06002	
5,199.989	3.230	199.970	5,199.135	2,222.141	-63.671	26.911	-68.964	0.32000	0.32000	-0.01000	
5,299.989	3.460	200.000	5,298.964	2,321.970	-69.154	24.917	-73.499	0.23001	0.23000	0.03000	
5,399.989	3.540	199.620	5,398.778	2,421.784	-74.898	22.848	-78.256	0.08330	0.08000	-0.38000	
5,499.989	3.600	197.990	5,498.583	2,521.590	-80.792	20.842	-83.175	0.11790	0.06000	-1.63000	
5,599.989	3.440	196.050	5,598.395	2,621.401	-86.661	19.043	-88.139	0.19945	-0.16000	-1.94000	
5,699.988	3.320	196.190	5,698.220	2,721.226	-92.325	17.406	-92.961	0.12028	-0.12000	0.14000	
5,799.988	3.160	197.050	5,798.060	2,821.066	-97.741	15.790	-97.556	0.16722	-0.16000	0.86000	
5,899.988	2.980	200.400	5,897.917	2,920.923	-102.812	14.076	-101.793	0.25407	-0.18000	3.35001	
5,999.988	2.270	209.080	5,997.811	3,020.817	-106.980	12.208	-105.125	0.81176	-0.71000	8.68002	
6,099.988	2.000	218.280	6,097.742	3,120.748	-110.080	10.164	-107.391	0.43549	-0.27000	9.20002	
6,199.987	1.940	242.010	6,197.684	3,220.690	-112.244	7.588	-108.598	0.81206	-0.06000	23.73005	
6,299.987	1.880	250.520	6,297.629	3,320.635	-113.586	4.547	-108.876	0.28962	-0.06000	8.51002	
6,399.987	1.450	231.180	6,397.587	3,420.593	-114.926	2.015	-109.319	0.70177	-0.43000	-19.34004	
6,499.987	1.200	210.990	6,497.560	3,520.566	-116.617	0.490	-110.421	0.52564	-0.25000	-20.19004	
6,599.986	1.080	189.080	6,597.541	3,620.547	-118.445	-0.198	-111.926	0.44899	-0.12000	-21.91004	
6,699.986	0.930	168.490	6,697.525	3,720.532	-120.171	-0.185	-113.562	0.38834	-0.15000	-20.59004	
6,799.986	1.270	154.940	6,797.507	3,820.513	-121.970	0.447	-115.469	0.42584	0.34000	-13.55003	
6,899.986	0.830	147.820	6,897.490	3,920.496	-123.587	1.302	-117.276	0.45810	-0.44000	-7.12001	
6,999.986	0.940	146.950	6,997.477	4,020.484	-124.888	2.135	-118.777	0.11081	0.11000	-0.87000	
7,099.985	0.470	186.180	7,097.470	4,120.476	-125.983	2.538	-119.944	0.64811	-0.47000	39.23008	
7,199.985	0.370	151.000	7,197.467	4,220.473	-126.673	2.651	-120.633	0.27116	-0.10000	-35.18007	
7,299.985	0.420	158.770	7,297.465	4,320.471	-127.297	2.940	-121.317	0.07317	0.05000	7.77002	
7,399.985	0.390	149.960	7,397.462	4,420.468	-127.933	3.243	-122.017	0.06903	-0.03000	-8.81002	
7,499.985	0.600	136.200	7,497.458	4,520.464	-128.606	3.776	-122.827	0.23986	0.21000	-13.76003	
<b>513058 TD</b>											
7,543.989	0.677	131.692	7,541.460	4,564.466	-128.945	4.129	-123.263	0.20909	0.17533	-10.24387	
<b>513058 LP</b>											
7,548.297	0.685	131.306	7,545.767	4,568.773	-128.979	4.168	-123.307	0.20909	0.17991	-8.96488	
7,599.984	0.780	127.280	7,597.450	4,620.457	-129.396	4.680	-123.868	0.20909	0.18399	-7.78921	
7,699.984	0.700	113.660	7,697.442	4,720.448	-130.053	5.781	-124.848	0.19263	-0.08000	-13.62003	
7,799.984	0.650	130.120	7,797.435	4,820.441	-130.664	6.774	-125.749	0.19948	-0.05000	16.46003	
7,899.984	0.450	103.520	7,897.430	4,920.436	-131.121	7.590	-126.447	0.31925	-0.20000	-26.60005	
<b>Final Gyro Survey=7999' MD/7996' TVD</b>											
7,998.984	0.440	120.970	7,996.427	5,019.433	-131.408	8.293	-126.947	0.13673	-0.01010	17.62630	
<b>PROJ to Bit=8100' MD/8097' TVD</b>											
8,100.000	0.440	120.970	8,097.440	5,120.446	-131.807	8.959	-127.541	0.00000	0.00000	0.00000	

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Where energy meets innovation.

## EQT Survey Report

<b>Database:</b> EDM_Definitive <b>Company:</b> EQT Production <b>Project:</b> Randolph County, WV <b>Site:</b> Randolph County 513058 <b>Well:</b> Well #513058 <b>Wellbore:</b> Main Wellbore <b>Design:</b> 513058 Surveys	<b>Local Co-ordinate Reference:</b> <b>TVD Reference:</b> <b>MD Reference:</b> <b>North Reference:</b> <b>Survey Calculation Method:</b>	<b>Site Randolph County 513058</b> <b>WELL @ 2976.994usft (Original Well Elev)</b> <b>WELL @ 2976.994usft (Original Well Elev)</b> <b>Grid</b> <b>Minimum Curvature</b>
---	--	---

Design Targets										
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
- hit/miss target	(°)	(°)	(usft)	(536.581)	(-184.760)	(usft)	(usft)			
- Shape										
513058 LP	0.000	0.000	7,552.98 5	536.581	-184.760	633,927.581	2,243,389.241	38.7378264	80.1467450°W	
- actual wellpath misses target center by 691.893usft at 7548.297usft MD (7545.768 TVD, -128.979 N, 4.168 E)										
- Point										
513058 TD	0.000	0.000	7,612.98 4	6,397.000	-2,203.000	639,788.000	2,241,371.000	38.7539681	80.1536323°W	
- actual wellpath misses target center by 6889.448usft at 7544.466usft MD (7541.936 TVD, -128.949 N, 4.134 E)										
- Point										

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)		
7,998.984	7,996.427	-131.408	8.293	Final Gyro Survey=7999' MD/7996' TVD	
8,100.000	8,097.440	-131.807	8.959	PROJ to Bit=8100' MD/8097' TVD	

Checked By: _____	Approved By: _____	Date: _____
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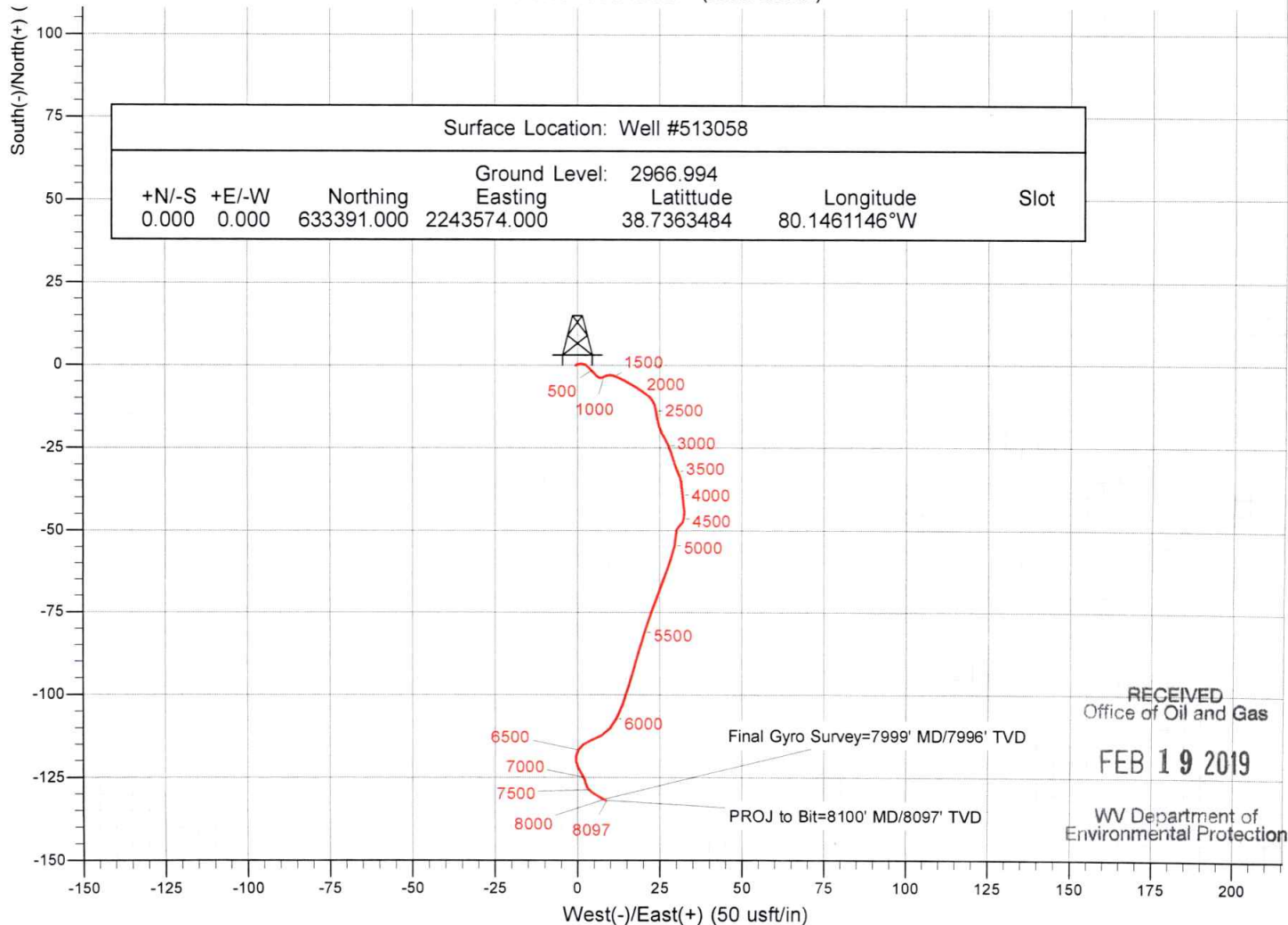
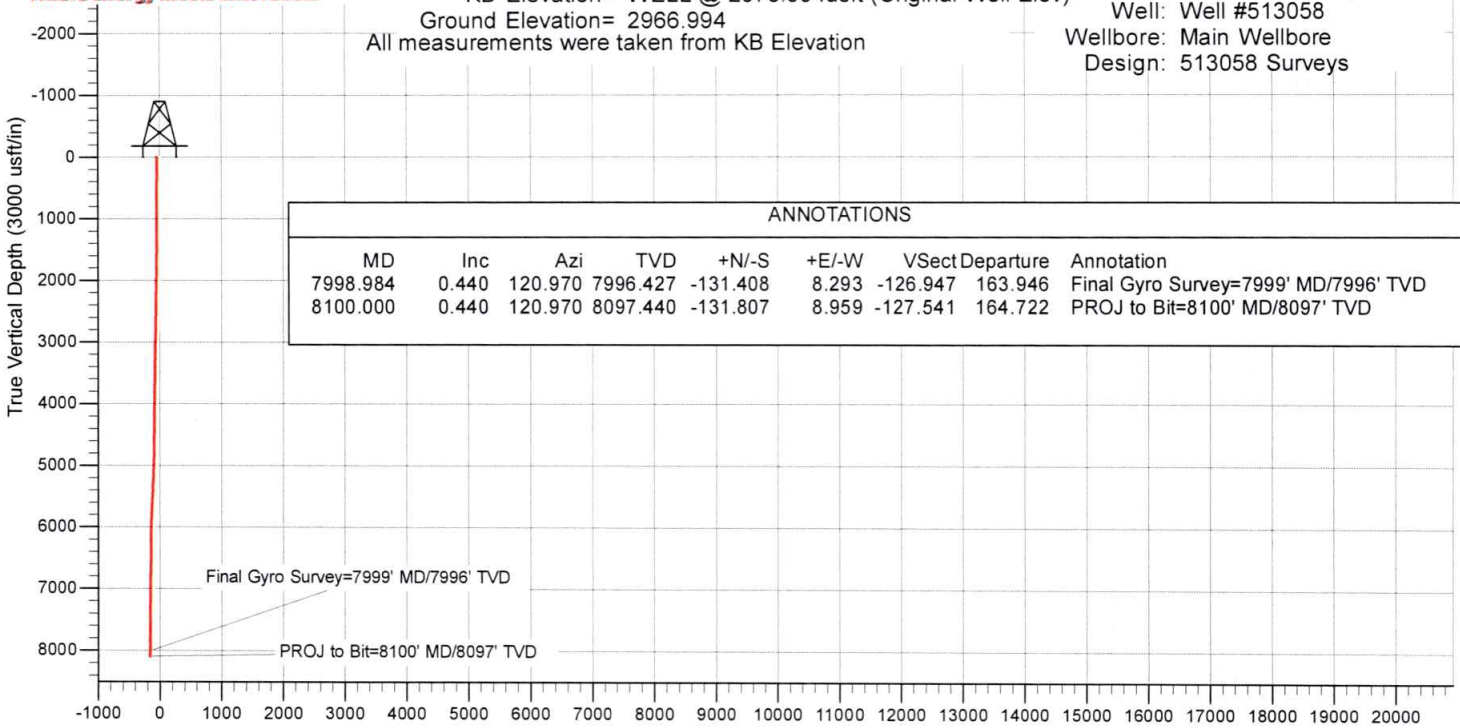
# EQT Production

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KB Elevation= WELL @ 2976.994usft (Original Well Elev)  
 Ground Elevation= 2966.994  
 All measurements were taken from KB Elevation

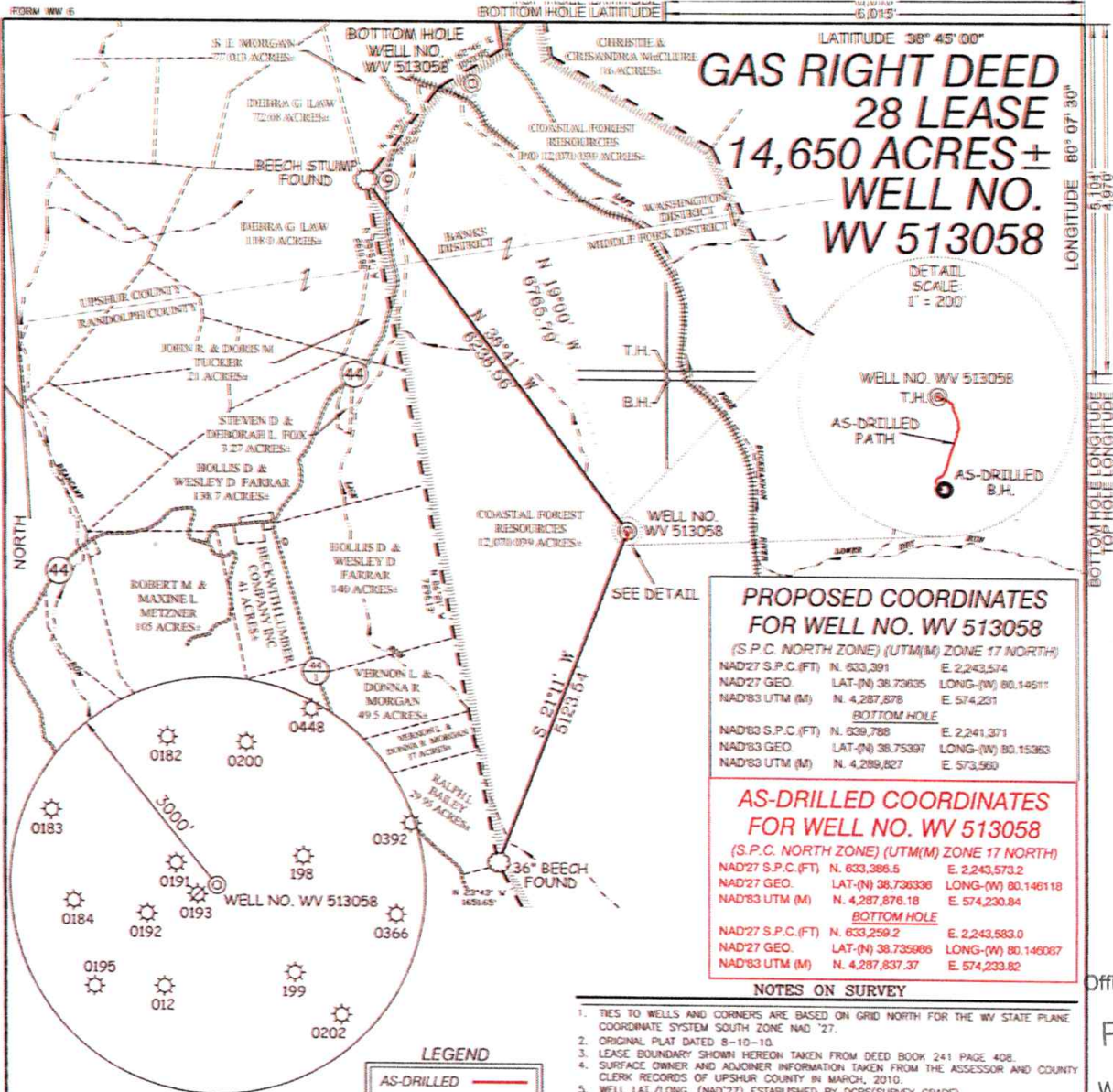
Project: Randolph County, WV  
 Site: Randolph County 513058  
 Well: Well #513058  
 Wellbore: Main Wellbore  
 Design: 513058 Surveys

ANNOTATIONS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
7998.984	0.440	120.970	7996.427	-131.408	8.293	-126.947	163.946	Final Gyro Survey=7999' MD/7996' TVD
8100.000	0.440	120.970	8097.440	-131.807	8.959	-127.541	164.722	PROJ to Bit=8100' MD/8097' TVD



Surface Location: Well #513058							
+N/-S	+E/-W	Northing	Ground Level:	Easting	Latitude	Longitude	Slot
0.000	0.000	633391.000	2966.994	2243574.000	38.7363484	80.1461146°W	

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 Environmental Protection



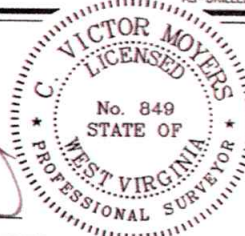
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I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. *C. Victor Moyers*  
849



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
DATE FEBRUARY 6, 20 19  
OPERATORS WELL NO. WV 513058  
API WELL NO. 47 - 083 - 01224  
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 6985ASDRILLED513058(PKN99H1)  
HORIZONTAL & VERTICAL CONTROL DETERMINED BY: DGPS (SURVEY GRADE TIE TO CORS NETWORK) 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: PROPOSED: 2.967' AS-BUILT: 2.970' WATERSHED LEFT FORK BUCKHANNON RIVER  
DISTRICT MIDDLE FORK COUNTY RANDOLPH QUADRANGLE PICKENS 7.5'

SURFACE OWNER COASTAL FOREST RESOURCES ACREAGE 12,070.04±  
ROYALTY OWNER EQT PRODUCTION COMPANY LEASE ACREAGE 14,650±

PROPOSED WORK: LEASE NO. 190028  
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 MARCELLUS  
ESTIMATED DEPTH \_\_\_\_\_

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT JASON RANSON  
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

# GAS RIGHT DEED 28 LEASE 14,650 ACRES± WELL NO. WV 513058

DETAIL  
SCALE:  
1" = 200'



### PROPOSED COORDINATES FOR WELL NO. WV 513058

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

NAD'27 S.P.C.(FT) N. 633,391 E. 2,243,574  
NAD'27 GEO. LAT-(N) 38.73635 LONG-(W) 80.14611  
NAD'83 UTM (M) N. 4,287,878 E. 574,231

#### BOTTOM HOLE

NAD'83 S.P.C.(FT) N. 639,788 E. 2,241,371  
NAD'83 GEO. LAT-(N) 38.75397 LONG-(W) 80.15363  
NAD'83 UTM (M) N. 4,289,827 E. 573,560

### AS-DRILLED COORDINATES FOR WELL NO. WV 513058

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

NAD'27 S.P.C.(FT) N. 633,386.5 E. 2,243,573.2  
NAD'27 GEO. LAT-(N) 38.736336 LONG-(W) 80.146118  
NAD'83 UTM (M) N. 4,287,876.18 E. 574,230.84

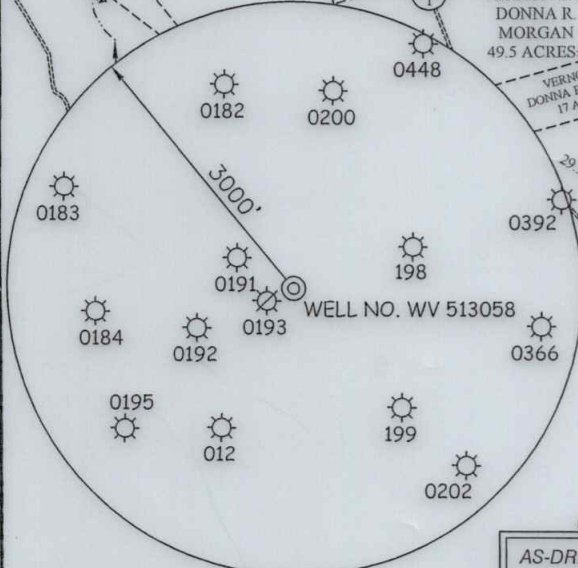
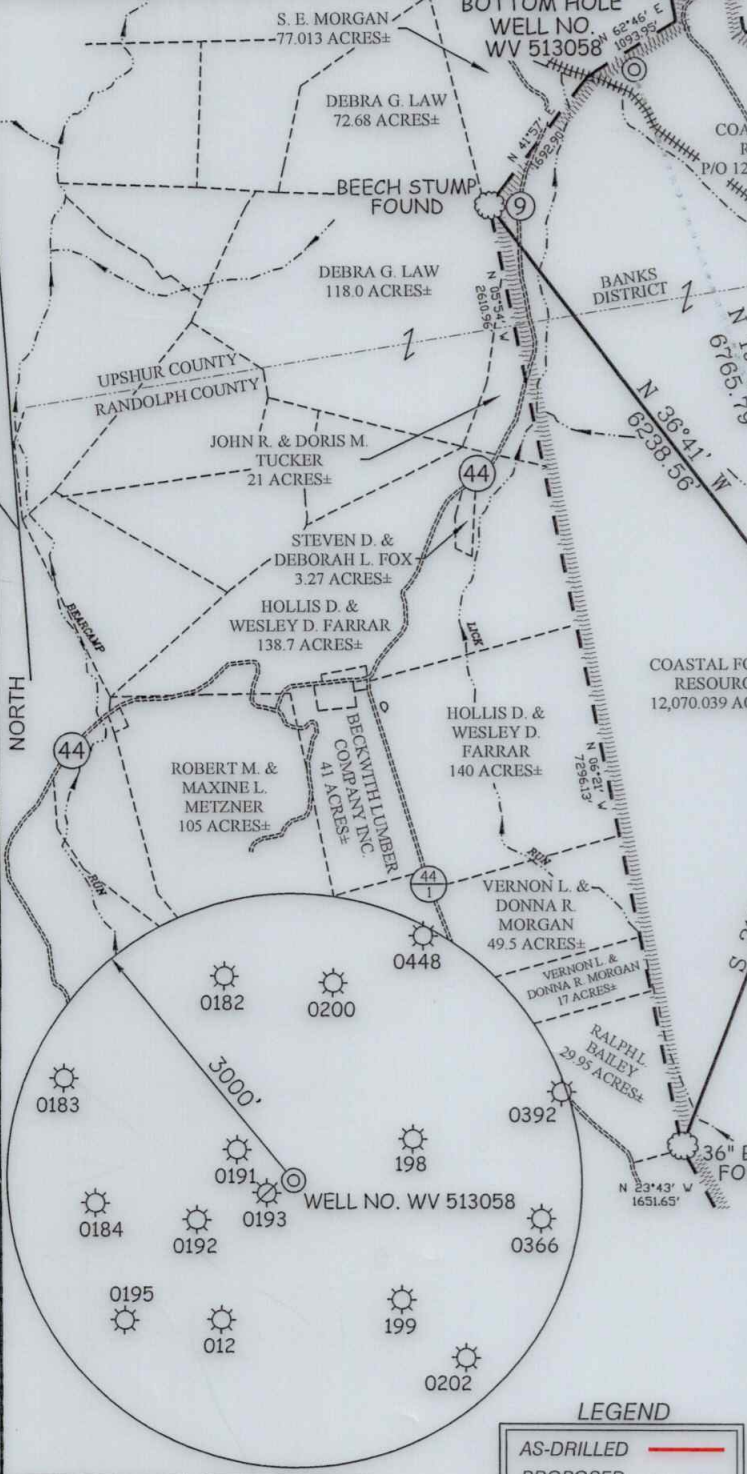
#### BOTTOM HOLE

NAD'27 S.P.C.(FT) N. 633,259.2 E. 2,243,583.0  
NAD'27 GEO. LAT-(N) 38.735986 LONG-(W) 80.146087  
NAD'83 UTM (M) N. 4,287,837.37 E. 574,233.82

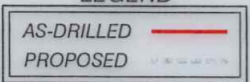
#### NOTES ON SURVEY

1. TIES TO WELLS AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM SOUTH ZONE NAD '27.
2. ORIGINAL PLAT DATED 8-10-10.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 241 PAGE 408.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF UPSHUR COUNTY IN MARCH, 2010.
5. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS(SURVEY GRADE).
6. PLAT UPDATED ON 02-05-19 TO SHOW AS DRILLED PATH BASED ON INFORMATION PROVIDED BY EQT ON 02-04-10.
7. UPDATE APPLIES TO AS-DRILLED INFORMATION ONLY.
8. AS-DRILLED TOP HOLE COORDINATES BASED ON AS-BUILT SURVEY, FEBRUARY, 2017. AS-DRILLED TOP HOLE S11-55-53W 4.81 FEET FROM PROPOSED.

NORTH

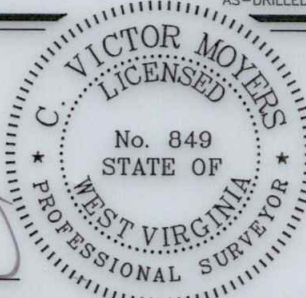


#### LEGEND



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