

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

API 47 - 051 - 01735 County Marshall District Webster
Quad Majorsville Pad Name WEB22 Field/Pool Name NA
Farm name Tim M. Turley and Tammy JF Well Number WEB 22 FHS
Operator (as registered with the OOG) Noble Energy, Inc.
Address 1000 Noble Energy Drive City Canonsburg State PA Zip 15317

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4419297.1 Easting 541041.4
Landing Point of Curve Northing 4418939.8 Easting 540277.5
Bottom Hole Northing 4421202.9 Easting 538636.4

Elevation (ft) 1339.48 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)
Synthetic Oil Based

Date permit issued 2/10/2014 Date drilling commenced 2/23/2014 Date drilling ceased 8/30/2014
Date completion activities began 12/31/2014 Date completion activities ceased 2/14/2015
Verbal plugging (Y/N) N Date permission granted NA Granted by NA

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 212', 295' Open mine(s) (Y/N) depths Near Bailey Mine - approx. 770'
Salt water depth(s) ft None noted for Offsets Void(s) encountered (Y/N) depths none
Coal depth(s) ft 761' to 771' Pittsburgh Cavern(s) encountered (Y/N) depths none
Is coal being mined in area (Y/N) N

Received
APR 20 2015
Reviewed by:
A. S/26/15
W.S. 6/15
06/12/2015

API 47-051 - 01735

Farm name Tim M. Turley and Tammy JF

Well number WEB 22 FHS

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	36	30	40	N	X-70		Y
Surface	24	20	436.0	N	J-55 94#		Y
Coal							
Intermediate 1	17 1/2	13 3/8	1283.7	N	J-55 54.5#		Y
Intermediate 2	12 1/4	9 5/8	3401.2	N	J-55 36#		Y
Intermediate 3							
Production	8 3/4	5 1/2	17530.6	N	P-110 20#		Y
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							
Surface	GEL SPACER	640	15.6	1.22	780.8	0	8
Coal							
Intermediate 1	Class A	1053	15.8	1.16	1221.48	0	8
Intermediate 2	Class A	1185	16.2	1.09	1291.65	0	8
Intermediate 3							
Production	Lead ECONOCEM - Tail Class H	Lead 1045 Tail 2380	Lead 14.2 Tail 15.0	Lead 1.29 Tail 1.30	Lead 1348.05 Tail 3094.0	1500	8
Tubing							

Drillers TD (ft) 17,550

Loggers TD (ft) 17,527

Deepest formation penetrated Marcellus

Plug back to (ft) Not a Pilot Hole

Plug back procedure N/A

Kick off depth (ft) 8272

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/Surface-
Surface - 4 centralizers used, one every third joint with 2 Baskets Intermediate - 11 bow string centralizers - Intermediate 2 - 28 bow string centralizers on every joint to KOP, on every third joint from KOP to 100' from surface.
Production - 297 bow string centralizers - rigid bow spring every third joint from KOP to TOC, rigid bow spring every joint to KOP.

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

APR 20 2015

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

Office of Oil and Gas
WV Dept. of Environmental Protection

PERFORMANCE RECORD

API: 47-051-01735

Farm name: TIM M. TURLEY AND TAMMY JENKINS

Well Name: WEB-22 F

Stage No.	Perf Date	Top Perf	Bottom Perf	# of Perfs	Formation
1 Injection Test	12/31/2014	-	-	-	Marcellus
1	12/31/2014	17,132	17,372	50	Marcellus
2	1/1/2015	16,830	17,070	50	Marcellus
3	1/1/2015	16,528	16,768	50	Marcellus
4	1/2/2015	16,226	16,466	50	Marcellus
5	1/3/2015	15,924	16,164	50	Marcellus
6	1/4/2015	15,622	15,862	50	Marcellus
7	1/5/2015	15,320	15,560	50	Marcellus
8	1/5/2015	15,018	15,258	50	Marcellus
9	1/6/2015	14,716	14,956	50	Marcellus
9B (Reperf)	1/6/2015	14,706	14,762	48	Marcellus
10	1/20/2015	14,414	14,654	50	Marcellus
10 Inj Test I	1/20/2015	-	-	-	Marcellus
10 Inj Test II	1/20/2015	-	-	-	Marcellus
11A	1/27/2015	14,112	14,354	50	Marcellus
11 Acid Drop	1/27/2015	-	-	-	Marcellus
11B (Re-peft I)	1/29/2015	14,068	14,073	24	Marcellus
11C (Re-perf II)	1/29/2015	14,084	14,104	24	Marcellus
11D (Commingled)	1/30/2015	13,810	14,032	50	Marcellus
12	1/31/2015	13,508	13,750	50	Marcellus
13	1/31/2015	13,206	13,448	50	Marcellus
14	2/1/2015	12,904	13,146	50	Marcellus
15	2/1/2015	12,602	12,844	50	Marcellus
16	2/1/2015	12,300	12,542	50	Marcellus
17	2/2/2015	11,998	12,240	50	Marcellus
18	2/2/2015	11,696	11,938	50	Marcellus
19	2/2/2015	11,394	11,636	50	Marcellus
20	2/3/2015	11,092	11,334	50	Marcellus
21	2/3/2015	10,790	11,032	50	Marcellus
22	2/4/2015	10,488	10,730	50	Marcellus
23	2/4/2015	10,186	10,428	50	Marcellus
24	2/4/215	9,884	10,126	50	Marcellus
25	2/4/2015	9,582	9,824	50	Marcellus
26	2/4/2015	9,280	9,522	50	Marcellus
27	2/5/2015	8,978	9,220	50	Marcellus
28	2/6/2015	8,676	8,918	50	Marcellus
29	2/6/2015	8,374	8,616	50	Marcellus
30	2/6/2015	8,072	8,314	50	Marcellus

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STIMULATION INFORMATION PER STAGE

API: 47-051-01735

Farm name: TIM M. TURLEY AND TAMMY JENKINS

Well Name: WEB-22 F

Stage No.	Stim Date	Avg Rate (bpm)	ATP (psi)	Max BD Pressure	ISIP (psi)	Proppant (lbs)	Water (BBLs)	Amount of N ² / other
1 Injection Test	12/31/2014	0.0	-	-	-	-	953.38	
1	12/31/2014	80.1	8,112	6,193	4,525	557,500	14,130.38	
2	1/1/2015	76.1	7,587	5,923	4,306	604,600	16,909.38	
3	1/1/2015	79.1	7,967	5,829	4,512	530,829	15,235.38	
4	1/2/2015	78.6	7,762	6,038	4,417	601,411	20,273.38	
5	1/3/2015	76.0	7,624	6,409	4,880	556,521	20,714.76	
6	1/4/2015	79.0	8,200	7,117	4,642	551,547	17,358.38	
7	1/5/2015	76.1	7,794	6,512	4,797	529,200	17,877.76	
8	1/5/2015	76.6	8,050	5,723	4,745	601,579	18,789.38	
9	1/6/2015	79.2	8,054	6,228	4,777	405,701	16,694.76	
9B (Reperf)	1/6/2015	73.0	8,160	-	4,301	195,784	7,428.38	
10	1/20/2015	76.3	7,658	5,792	4,865	259,330	9,667.38	
10 Inj Test I	1/20/2015	0.0	-	-	-	-	343.38	
10 Inj Test II	1/20/2015	0.0	-	-	-	-	1,474.38	
11A	1/27/2015	71.1	7,656	5,903	4,795	438,754	11,704.76	
11 Acid Drop	1/27/2015	0.0	-	-	-	-	171.38	
11B (Re-peft I)	1/29/2015	35.9	7,823	-	4,890	630	1,594.38	
11C (Re-perf II)	1/29/2015	45.6	8,123	-	4,847	8,579	4,613.76	
1D (Commingle)	1/30/2015	70.9	8,150	-	4,073	533,517	23,434.76	
12	1/31/2015	79.1	8,061	6,032	4,388	600,623	14,098.38	
13	1/31/2015	87.9	8,083	5,257	4,678	600,549	14,949.38	
14	2/1/2015	72.2	7,415	6,210	4,566	600,539	12,794.38	
15	2/1/2015	74.4	7,418	6,163	4,410	600,329	13,861.38	
16	2/1/2015	83.4	7,425	5,853	4,837	602,357	14,155.38	
17	2/2/2015	85.3	8,032	6,711	4,622	600,707	13,828.38	
18	2/2/2015	87.3	7,771	5,669	4,867	577,765	11,346.38	
19	2/2/2015	88.7	7,917	5,470	4,824	600,264	11,334.38	
20	2/3/2015	86.1	7,921	6,054	4,749	606,535	12,769.38	
21	2/3/2015	84.2	7,803	6,306	4,401	603,688	11,679.38	
22	2/4/2015	87.8	7,694	6,205	4,740	535,554	13,461.38	
23	2/4/2015	87.5	7,550	6,432	4,460	558,948	11,205.38	
24	2/4/2015	81.2	7,450	6,946	4,708	658,342	13,314.38	
25	2/4/2015	88.9	7,566	6,840	5,402	604,412	13,127.38	
26	2/4/2015	88.7	7,358	6,152	4,644	600,865	11,960.38	
27	2/5/2015	85.2	7,453	6,423	4,557	567,453	12,767.38	
28	2/6/2015	78.5	7,863	6,770	4,554	551,756	17,472.38	
29	2/6/2015	72.6	7,651	6,301	4,435	539,986	15,669.38	
30	2/6/2015	86.1	7,287	6,347	4,287	662,415	13,843.38	

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Formations	Top TVD	Base TVD	Top MD	Base MD	Fluid
Shale	0	780	0	780	
Pittsburgh Coal	780	790	780	790	
Shale and Sandstone	790	1308	790	1308	
Dunkard Sand	1308	1329	1308	1329	
Shale	1329	1470	1329	1470	
Gas Sand	1470	1518	1470	1518	
Shale	1518	1594	1518	1594	
1st Salt Sand	1594	1605	1594	1605	
Shale	1605	1730	1605	1730	
2nd Salt Sand	1730	1778	1730	1778	
Shale	1778	1798	1778	1798	
Maxton Sand	1798	1862	1798	1862	
Shale	1862	1905	1862	5409	
Big Lime	1905	1991	1905	6064	
Big Injun	1991	2147	1991	6637	
Price	2147	2492	2147	7111	
Murrysville	2492	2508	2492	7145	
Shale	2508	2694	2508	7221	
50' Sand	2694	2701	2694	5307	
Shale	2701	2808	2701	5409	
30' Sand	2808	2817	2808	6064	
Shale	2817	2869	2817	6637	
Gordon	2869	2873	2869	7111	
Shale	2873	2969	2873	7145	
Fifth Sand	2969	3008	2969	7221	
Shale	3008	3418	3008	7242	
Speechley Sand	3418	3438	3419	7274	
Shale	3438	4509	3440	7400	
Warren Sand	4509	4514	4521	not encountered	
Shale	4514	5180	4526	not encountered	
Java Shale	5180	5287	5199	not encountered	
Pipe Creek Shale	5287	5388	5307	not encountered	
Angola Shale	5388	6035	5409	6064	
Rhinestreet	6035	6495	6064	6637	
Cashaqua	6495	6603	6637	7111	
Middlesex	6603	6634	7111	7145	
West River	6634	6705	7145	7221	
Burkett	6705	6724	7221	7242	
Tully Limestone	6724	6754	7242	7274	
Hamilton	6754	6871	7274	7400	Gas
Marcellus	6871	6922	7400	not encountered	
Onondaga	6922	6930	not encountered	not encountered	
Huntersville	6930		not encountered	not encountered	

Received

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06/12/2015

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/31/2014
Job End Date:	2/6/2015
State:	West Virginia
County:	Marshall
API Number:	47-051-01735-00-00
Operator Name:	Noble Energy, Inc.
Well Name and Number:	WEB-22F
Longitude:	-80.51994200
Latitude:	39.92270400
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,803
Total Base Water Volume (gal):	19,866,368
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Operator	Carrier	Water	7732-18-5	100.00000	89.82754	
4070 White	FISI	proppant	Silica, Quartz	14808-60-7	100.00000	7.61082	
100 Mesh Sand	FISI	proppant	Silica, Quartz	14808-60-7	100.00000	1.95747	
Hydrochloric Acid (HCl)	FISI	Acid	Water	7732-18-5	63.00000	0.27923	
FRW-600	FISI	Friction Reducer	Hydrogen Chloride	7647-01-0	37.00000	0.16399	
			Acrylamide Polymer	Trade Secret	100.00000	0.06953	
			Hydrotreated light distillate	84742-47-8	30.00000	0.02086	
			Ammonium acetate	531-61-8	6.00000	0.00417	
CS-500 SI	FISI	Scale inhibitor	Water	7732-18-5	55.00000	0.02697	
			Acrylic Polymer	Proprietary	24.00000	0.01177	
			Ethylene glycol	107-21-1	10.00000	0.00490	
			Sodium chloride	7647-14-5	6.00000	0.00294	
			Sodium Polyacrylate	9003-04-7	5.00000	0.00245	

CI-3240	FTSI	Biocide	Water	7732-18-5	55.00000	0.02189	
			Dazomet (Tetrahydro-3, 5-dimethyl-2H-1, 3, 5-thiadiazine-2-thione.	633-74-4	24.00000	0.00955	
			Sodium Hydroxide	1310-73-2	23.00000	0.00916	
FE-100L	FTSI	Iron control	Water	7732-18-5	60.00000	0.00084	
			Citric acid	77-92-9	55.00000	0.00077	
CI-150	FTSI	Acid Corrosion Inhibitor	Organic amine resin salt	Proprietary	30.00000	0.00023	
			Ethylene Glycol	107-21-1	30.00000	0.00023	
			Isopropanol	67-63-0	30.00000	0.00023	
			Aromatic aldehyde	Proprietary	10.00000	0.00008	
			Dimethylformamide	68-12-2	10.00000	0.00008	
			Quaternary ammonium compound	Proprietary	10.00000	0.00008	
			Alkylene Oxide Block Polymer	Proprietary	10.00000	0.00008	
			Water	7732-18-5	5.00000	0.00004	
			Diethylene glycol	111-46-6	1.00000	0.00001	
			Aliphatic alcohol	Proprietary	0.10000	0.00000	
			Fatty Acid	Proprietary	0.10000	0.00000	
			Fatty Acid Salt	Proprietary	0.10000	0.00000	
NE-100	FTSI	Non-emulsifier	Water	7732-18-5	90.00000	0.00035	
			2-Propanol	67-63-0	10.00000	0.00004	
			2-Butoxyethanol	111-76-2	10.00000	0.00004	
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00002	
			Benzene, C10-16 Alkyl Derivatives	68648-87-3	0.04000	0.00000	
			Unsulphonated Matter	Proprietary	0.03000	0.00000	
			Sulfuric Acid	7664-93-9	0.01000	0.00000	
			Sulfur Dioxide	7446-09-5		0.00000	

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)

Received

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Office of Oil and Gas
 WV Dept. of Environmental Protection

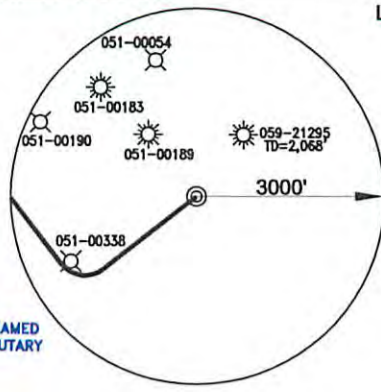
06/12/2015

WELL (BOTTOM)
WEB22 FHS
WV-N (NAD 83)
N: 526233.9
E: 1674718.2
UTM (NAD 83)
N: 4421202.9
E: 538636.4

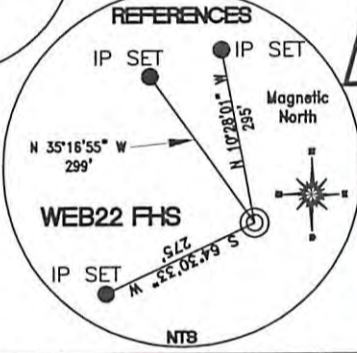
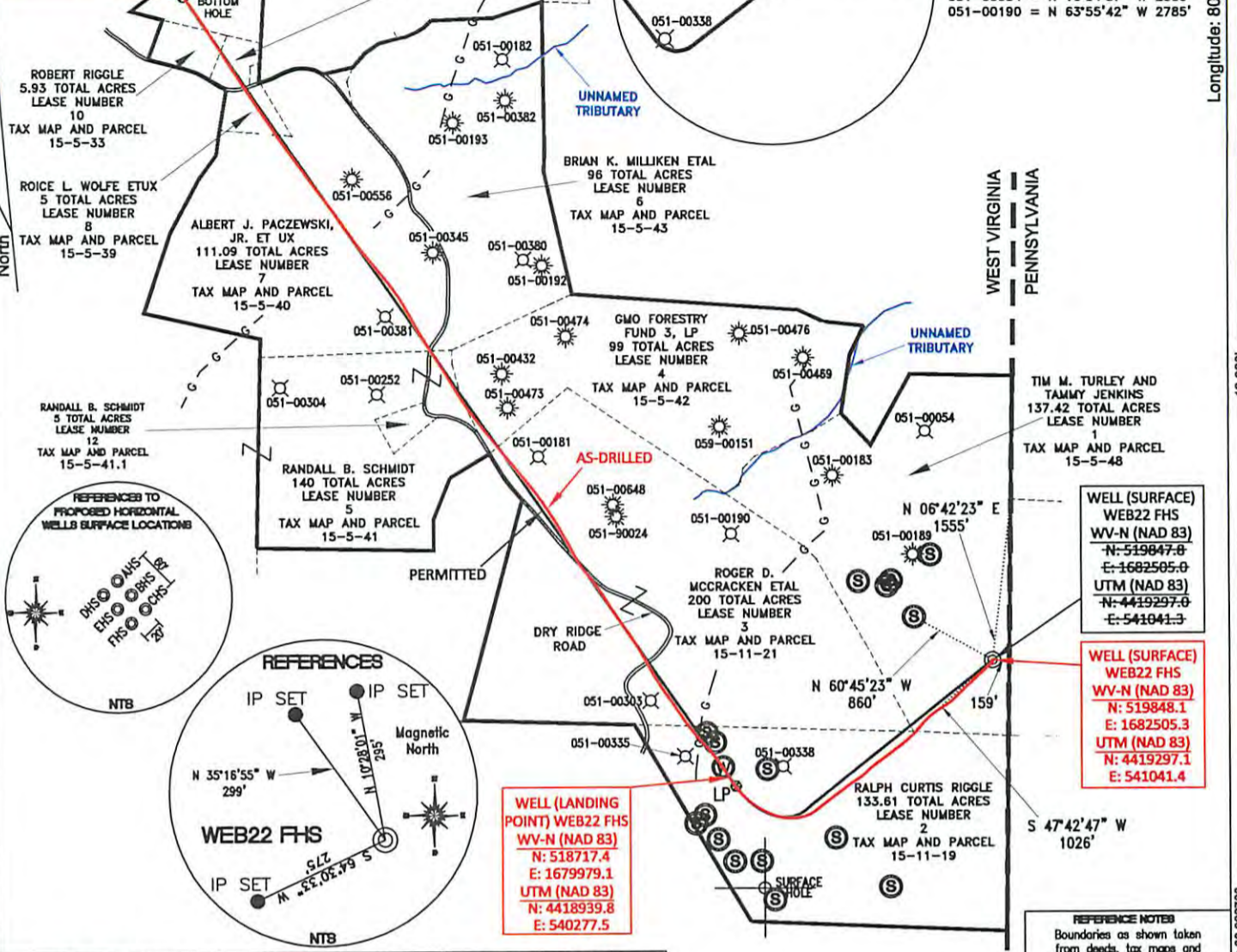
MABLE L. RIGGLE
LIFE ESTATE
14.35 TOTAL ACRES
LEASE NUMBER
11
TAX MAP AND PARCEL
15-5-34

WELL (BOTTOM)
WEB22 FHS
WV-N (NAD 83)
N: 526234.4
E: 1674718.7
UTM (NAD 83)
N: 4421203.6
E: 538636.6

ROBERT RIGGLE
4.25 TOTAL ACRES
LEASE NUMBER
9
TAX MAP AND PARCEL
15-5-34.1



059-21295 = N 37°03'38" E 1269'
051-00189 = N 36°37'11" W 1273'
051-00338 = S 62°01'16" W 2254'
051-00183 = N 40°33'23" W 2345'
051-00054 = N 16°04'57" W 2300'
051-00190 = N 63°55'42" W 2785'



WELL (LANDING POINT) WEB22 FHS
WV-N (NAD 83)
N: 518717.4
E: 1679979.1
UTM (NAD 83)
N: 4418939.8
E: 540277.5

WELL (SURFACE)
WEB22 FHS
WV-N (NAD 83)
N: 519847.8
E: 1682505.0
UTM (NAD 83)
N: 4419297.0
E: 541041.3

WELL (SURFACE)
WEB22 FHS
WV-N (NAD 83)
N: 519848.1
E: 1682505.3
UTM (NAD 83)
N: 4419297.1
E: 541041.4

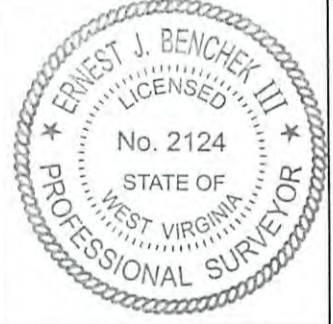
SURFACE HOLE LOCATION	LANDING POINT LOCATION	BOTTOM HOLE LOCATION
UTM 17-NAD 83 N) -4419297.04 E) 541041.30	UTM 17-NAD 83 N) 4418914.46 E) 540296.79	UTM 17-NAD 83 N) 4421203.07 E) 538636.56
NAD 27, WV NORTH N) 519810.40 E) 1713939.68	NAD 27, WV NORTH N) 518595.87 E) 1711475.69	NAD 27, WV NORTH N) 526196.99 E) 1706153.32

REFERENCE NOTES
Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records Ohio County, West Virginia MARCH 2013
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
Drafter by: E.A.M.

FILE #: NOB 001
DRAWING #: 2171
SCALE: PLAT - 1"=1600'
TICK MARK - 1"=2000'
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

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 ENVIRONMENTAL PROTECTION.

Signed: *[Signature]*
L.L.S. #2124 : Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

Well Type: Oil Waste Diposal Production Deep
 Gas Liquid Injection Storage Shallow

WATERSHED: UPPER OHIO SOUTH
COUNTY/DISTRICT: MARSHALL / WEBSTER
SURFACE OWNER: TIM M. TURLEY AND TAMMY JENKINS
OIL & GAS ROYALTY OWNER: TIM M. TURLEY AND TAMMY JENKINS
LEASE NUMBERS:

DATE: JANUARY 27, 2015
OPERATOR'S WELL #: WEB22 FHS AS-DRILLED PLAT
API WELL #: 47 51 01735
STATE COUNTY PERMIT

ELEVATION: 1,339.48'
QUADRANGLE: MAJORSVILLE WV-PA
ACREAGE: 137.42 +/-
ACREAGE: 946.64 +/-

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY):

TARGET FORMATION: MARCELLUS
WELL OPERATOR: NOBLE ENERGY, INC.
ADDRESS: 333 TECHNOLOGY DRIVE SUITE 116
CITY: CANONSBURG STATE: PA ZIP CODE: 15317

ESTIMATED DEPTH: TVD: 6,913' TMD: 17,524'
DESIGNATED AGENT: STEVEN M. GREEN
ADDRESS: 500 VIRGINIA STREET EAST
CITY: CHARLESTON STATE: WV ZIP CODE: 25301