

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

API 47-051-01728 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 HHS
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 4419292.8 Easting 541054.4
Landing Point of Curve Northing 4419187.8 Easting 541255.2
Bottom Hole Northing 4418005.1 Easting 542112.9

Elevation (ft) 1339.06 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 12/13/2013 Date drilling commenced 2/16/2014 Date drilling ceased 6/26/2014
Date completion activities began 12/1/2014 Date completion activities ceased 3/7/2015
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

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Reviewed by:
A.L. 5/26/15
W.S. 06/11/15
06/12/2015
Office of Oil and Gas
WV Dept. of Environmental Protection

API 47-051 - 01728 Farm name Tim M. Turley and Tammy JF Well number WEB 22 HHS

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	417.0	N	J-55 94#		Y
Coal							
Intermediate 1	17 1/2	13 3/8	1250.4	N	J-55 54.5#		Y
Intermediate 2	12 1/4	9 5/8	3428.6	N	J-55 36#		Y
Intermediate 3							
Production	8 3/4	5 1/2	12172.5	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	720	15.6	1.22	878.4	0	8
Coal							
Intermediate 1	Class A	1054	15.8	1.16	1222.64	0	8
Intermediate 2	Halcem	1185	16.2	1.09	1291.65	0	8
Intermediate 3							
Production	Lead ECONOCEM - Tail Class H	Lead 1020 Tail 1235	Lead 14.2 Tail 15.0	Lead 1.32 Tail 1.30	Lead 1346.4 Tail 1605.5	540.0	8
Tubing							

Drillers TD (ft) 12,185 Loggers TD (ft) 12,160
 Deepest formation penetrated Marcellus Plug back to (ft) Not a Pilot Hole
 Plug back procedure N/A

Kick off depth (ft) 6035

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 - 170 bow string centralizers - rigid bow spring every third joint from KOP to TOC, rigid bow spring every joint to KOP.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS Received

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: 47-051-01728

Farm name: TIM M. TURLEY AND TAMMY JENKINS

Well Name: WEB-22 H

Stage No.	Perf Date	Top Perf	Bottom Perf	# of Perfs	Formation
1 Injection Test		-	-	-	Marcellus
1	12/1/2014	11,855	12,017	50	Marcellus
2	12/2/2014	11,653	11,815	50	Marcellus
2 Reperf	12/2/2014	11,669	11,692	36	Marcellus
3	12/3/2014	11,393	11,509	50	Marcellus
3 Acid Run 1	12/3/2014	-	-	-	Marcellus
3 Acid Run 2	12/4/2014	-	-	-	Marcellus
3 Reperf	12/5/2014	11,383	11,437	36	Marcellus
3 Commingled	12/6/2014	11,226	11,340	50	Marcellus
4	12/6/2014	11,051	11,173	50	Marcellus
5	12/7/2014	10,845	11,007	50	Marcellus
6	12/7/2014	10,643	10,805	50	Marcellus
6 Acid Run	12/8/2014	-	-	-	Marcellus
6 Reperf	12/8/2014	10,633	10,691	36	Marcellus
7	12/9/2014	10,441	10,603	50	Marcellus
8	12/9/2014	10,239	10,401	50	Marcellus
9	12/9/2014	10,037	10,199	50	Marcellus
10	12/10/2014	9,835	9,997	50	Marcellus
10 Reperf	12/10/2014	9,825	9,867	36	Marcellus
10C	12/10/2014	9,735	9,797	36	Marcellus
11A	12/11/2014	9,543	9,673	50	Marcellus
11 Reperf	12/12/2014	9,447	9,513	36	Marcellus
11 Commingled	12/12/2014	9,277	9,407	50	Marcellus
12	12/13/2014	9,107	9,237	50	Marcellus
13	12/14/2014	8,935	9,065	50	Marcellus
14	12/14/2014	8,765	8,895	50	Marcellus
15	12/15/2014	8,595	8,725	50	Marcellus
16	12/15/2014	8,425	8,555	50	Marcellus
17	12/16/2014	8,219	8,381	50	Marcellus
18	12/16/2014	8,017	8,179	50	Marcellus
19	12/17/2014	7,815	7,977	50	Marcellus
20	12/17/2014	7,613	7,775	50	Marcellus
21	12/17/2014	7,411	7,573	50	Marcellus
22	12/17/2014	7,209	7,371	50	Marcellus

06/12/2015

STIMULATION INFORMATION PER STAGE

API: 47-051-01728

Farm name: TIM M. TURLEY AND TAMMY JENKINS

Well Name: WEB-22 H

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		-	-	-	-	-	-	
1	12/1/2014	73.0	7,346	6,765	4,191	401,123	10,233.38	
2	12/2/2014	48.5	8,229	6,668	5,030	3,079	5,094.76	
2 Reperf	12/2/2014	86.0	7,961	-	4,555	397,111	12,165.76	
3	12/3/2014	76.0	8,050	6,775	4,781	272,256	10,570.76	
3 Acid Run 1	12/3/2014	10.6	8,882	-	5,257	-	254.38	
3 Acid Run 2	12/4/2014	15.4	7,409	-	8,502	-	294.38	
3 Reperf	12/5/2014	53.4	8,183	-	5,507	6,659	11,248.14	
3 Commingled	12/6/2014	85.1	8,122	-	4,741	584,359	12,221.38	
4	12/6/2014	86.2	8,186	6,004	4,810	401,113	10,267.38	
5	12/7/2014	87.4	8,376	5,913	5,098	400,262	10,808.38	
6	12/7/2014	60.9	8,571	6,096	8,867	7,111	3,520.38	
6 Acid Run	12/8/2014	6.3	4,864	-	5,111	-	855.38	
6 Reperf	12/8/2014	70.5	8,311	-	4,707	399,593	21,442.76	
7	12/9/2014	86.7	7,959	5,981	4,864	380,534	9,454.38	
8	12/9/2014	87.9	7,595	6,373	4,689	394,602	8,719.38	
9	12/9/2014	87.8	7,872	6,118	4,688	400,399	8,759.38	
10	12/10/2014	51.7	8,526	7,219	5,115	4,331	5,985.76	
10 Reperf	12/10/2014	66.0	8,746	-	6,082	7,793	8,011.76	
10C	12/10/2014	85.7	7,743	-	5,022	587,917	11,626.38	
11A	12/11/2014	47.0	8,508	6,016	5,746	12,641	10,887.14	
11 Reperf	12/12/2014	41.2	7,375	-	5,173	4,150	3,372.76	
11 Commingled	12/12/2014	83.3	7,762	-	4,501	583,257	14,328.38	
12	12/13/2014	79.9	8,275	6,886	5,134	346,901	14,521.76	
13	12/14/2014	86.6	7,260	5,281	5,175	400,315	9,887.38	
14	12/14/2014	89.2	7,399	6,513	4,849	400,776	10,774.38	
15	12/15/2014	88.4	7,756	6,540	4,522	401,040	9,866.38	
16	12/15/2014	87.2	8,046	6,651	4,776	370,846	9,969.38	
17	12/16/2014	73.3	7,270	7,070	4,772	430,839	9,091.38	
18	12/16/2014	86.4	7,263	6,670	4,407	401,355	10,131.38	
19	12/17/2014	90.1	7,081	6,545	4,815	400,493	8,527.38	
20	12/17/2014	90.9	7,249	6,968	4,637	400,692	8,988.38	
21	12/17/2014	88.7	7,399	6,270	4,522	400,556	9,331.38	
22	12/17/2014	72.5	7,498	5,779	4,583	400,481	14,476.76	

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APR 20 2015

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06/12/2015

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	

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APR 20 2015

06/12/2015

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/1/2014
Job End Date:	12/17/2014
State:	West Virginia
County:	Marshall
API Number:	47-051-01728-00-00
Operator Name:	Noble Energy, Inc.
Well Name and Number:	WEB-22H
Longitude:	-80.51978900
Latitude:	39.92266500
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,949
Total Base Water Volume (gal):	12,838,918
Total Base Non Water Volume:	0



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APR 20 2015

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	Operator	Carrier	Water	7732-18-5	100.00000	90.94947	
40/70 White	FTSI	proppant	Silica, Quartz	14808-60-7	100.00000	6.47383	
100 Mesh Sand	FTSI	proppant	Silica, Quartz	14808-60-7	100.00000	1.68248	
Hydrochloric Acid (HCl)	FTSI	Acid					
			Water	7732-18-5	63.00000	0.45735	
			Hydrogen Chloride	7647-01-0	37.00000	0.26860	
FRW-600	FTSI	Friction Reducer					
			Acrylamide Polymer	Trade Secret	100.00000	0.07246	
			Hydrotreated light distillate	34742-47-8	30.00000	0.02174	
			Ammonium acetate	331-61-8	6.00000	0.00435	
CS-500 SI	FTSI	Scale inhibitor					
			Water	7732-18-5	55.00000	0.02728	
			Acrylic Polymer	Proprietary	24.00000	0.01190	
			Ethylene glycol	107-21-1	10.00000	0.00496	
			Sodium chloride	7647-14-5	6.00000	0.00298	
			Sodium Polyacrylate	9003-04-7	5.00000	0.00248	

CI-3240	FTSI	Biocide	Water	7732-18-5	55.00000	0.02203	
			Dazomet (Tetrahydro-3, 5-dimethyl-2H-1, 3, 5-thiadiazine-2-thione.	533-74-4	24.00000	0.00961	
			Sodium Hydroxide	1310-73-2	23.00000	0.00921	
HVG-1	FTSI	Water Gelling Agent	Guar Gum	9000-30-0	55.00000	0.00101	
			Petroleum Distillate	54742-47-8	55.00000	0.00101	
			Raffinates (Petroleum), Sorption Process	54741-85-1	50.00000	0.00092	
			Clay	1302-78-9	5.00000	0.00009	
			Clay	14808-60-7	2.00000	0.00004	
			Surfactant	Proprietary	2.00000	0.00004	
			Surfactant	24938-91-8	1.00000	0.00002	
			Surfactant	3043-30-5	1.00000	0.00002	
			Surfactant	154518-36-2	1.00000	0.00002	
FE-100L	FTSI	Iron control	Water	7732-18-5	60.00000	0.00138	
			Citric acid	77-92-9	55.00000	0.00127	
CI-150	FTSI	Acid Corrosion Inhibitor	Ethylene Glycol	107-21-1	30.00000	0.00038	
			Organic amine resin salt	Proprietary	30.00000	0.00038	
			Isopropanol	57-63-0	30.00000	0.00038	
			Dimethylformamide	38-12-2	10.00000	0.00013	
			Aromatic aldehyde	Proprietary	10.00000	0.00013	
			Alkylen Oxide Block Polymer	Proprietary	10.00000	0.00013	
			Quaternary ammonium compound	Proprietary	10.00000	0.00013	
			Water	7732-18-5	5.00000	0.00006	
			Diethylene glycol	111-46-6	1.00000	0.00001	
			Fatty Acid Salt	Proprietary	0.10000	0.00000	
			Fatty Acid	Proprietary	0.10000	0.00000	
			Aliphatic alcohol	Proprietary	0.10000	0.00000	
NE-100	FTSI	Non-emulsifier	Water	7732-18-5	90.00000	0.00058	
			2-Propanol	57-63-0	10.00000	0.00006	
			2-Butoxyethanol	111-76-2	10.00000	0.00006	
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00003	
			Benzene, C10-16 Alkyl Derivatives	58648-87-3	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	
APB-1	FTSI	Gel breaker					

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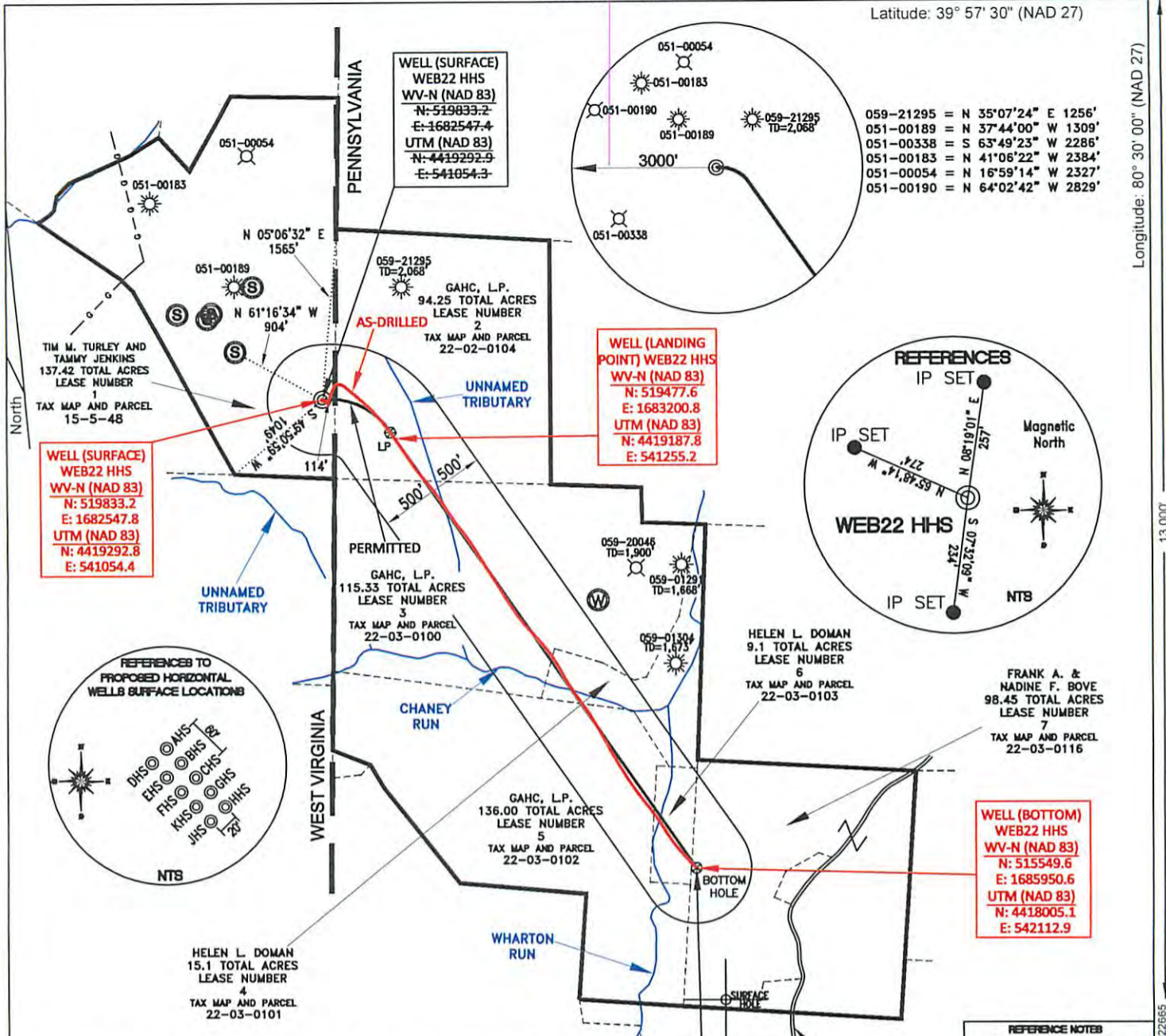
	Ammonium Persulfate	7727-54-0	100.00000	0.00009
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Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* 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)



SURFACE HOLE LOCATION	LANDING POINT LOCATION	BOTTOM HOLE LOCATION	WELL (BOTTOM) WEB22 HHS WV-N (NAD 83)
UTM 17-NAD 83 N) 4419292.90 E) 541054.28	UTM 17-NAD 83 N) 4419204.62 E) 541243.15	UTM 17-NAD 83 N) 4418005.31 E) 542113.20	N: 515550.9 E: 1685951.5 UTM (NAD 83) N: 4418005.3 E: 542113.2
NAD 27, WV NORTH N) 519796.07 E) 4713982.04	NAD 27, WV NORTH N) 519496.01 E) 4714596.97	NAD 27, WV NORTH N) 515512.66 E) 4717386.14	

FILE #: NOB 001
DRAWING #: 2264
SCALE: PLAT - 1"=1400'
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: DUNKARD FORK ELEVATION: 1,339.06'

COUNTY/DISTRICT: MARSHALL / WEBSTER QUADRANGLE: MAJORSVILLE WV-PA

SURFACE OWNER: TIM M. TURLEY AND TAMMY JENKINS ACREAGE: 137.42 +/-

OIL & GAS ROYALTY OWNER: TIM M. TURLEY AND TAMMY JENKINS ACREAGE: 605.65 +/-

LEASE NUMBERS: _____

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 ESTIMATED DEPTH: TVD: 6,913' TMD: 12,192'

WELL OPERATOR: NOBLE ENERGY, INC. DESIGNATED AGENT: STEVEN M. GREEN

ADDRESS: 333 TECHNOLOGY DRIVE SUITE 116 ADDRESS: 500 VIRGINIA STREET EAST

CITY: CANONSBURG STATE: PA ZIP CODE: 15317 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

DATE: JANUARY 27, 2015

OPERATOR'S WELL #: WEB22 HHS AS-DRILLED PLAT

API WELL #: 47 51 01728
STATE COUNTY PERMIT

06/12/2015