

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

API 47 - 051 - 01734 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 EHS
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 4419301.4 Easting 541036.9
Landing Point of Curve Northing 4419077.4 Easting 540452.7
Bottom Hole Northing 4420971.7 Easting 539092.5

Elevation (ft) 1339.26 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 2/21/2014 Date drilling ceased 8/14/2014
Date completion activities began 12/19/2014 Date completion activities ceased 2/19/2015
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:
AL. 5/26/15 ✓
W.S. 4/15
06/12/2015

WR-35
Rev. 8/23/13

API 47-051 - 01734

Farm name Tim M. Turley and Tammy JF

Well number WEB 22 EHS

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	434.0	N	J-55 94#		Y
Coal							Y
Intermediate 1	17 1/2	13 3/8	1251.0	N	J-55 54.5#		Y
Intermediate 2	12 1/4	9 5/8	3422.0	N	J-55 36#		Y
Intermediate 3							Y
Production	8 3/4	5 1/2	15757.0	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						0	8
Surface	GEL SPACER	640	15.6	1.22	780.8		
Coal						0	8
Intermediate 1	Class A	1054	15.8	1.16	1222.64	0	8
Intermediate 2	Class A	1180	16.2	1.09	1286.2	0	8
Intermediate 3							8
Production	Lead ECONOCEM - Tail Class H	Lead 1035 Tail 1878	Lead 14.2 Tail 15.0	Lead 1.32 Tail 1.30	Lead 1366.2 Tail 2441.4	1342.5	
Tubing							

Drillers TD (ft) 15,765 Loggers TD (ft) 15,739

Deepest formation penetrated Marcellus Plug back to (ft) Not a Pilot Hole

Plug back procedure N/A

Kick off depth (ft) 7288

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 - 282 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 _____
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API 47- 051 - 01734 Farm name Tim M. Turley and Tammy JF Well number WEB 22 EHS

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
SEE ATTACHED PERFORATION RECORD					

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)
SEE ATTACHED STIMULATION INFORMATION PER STAGE RECORD								
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Please insert additional pages as applicable.

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PERFORATION RECORD

API: 47-051-01734

Farm name: TIM M. TURLEY AND TAMMY JENKINS

Well Name: WEB-22E

Stage No.	Perf Date	Top Perf	Bottom Perf	# of Perfs	Formation
1	12/19/2014	15,377	15,619	50	Marcellus
2	12/19/2014	15,075	15,317	50	Marcellus
3	12/19/2014	14,773	15,015	50	Marcellus
4	12/20/2014	14,471	14,713	50	Marcellus
5	12/20/2014	14,169	14,411	50	Marcellus
6	12/20/2014	13,867	14,109	50	Marcellus
7	12/21/2014	13,565	13,807	50	Marcellus
8	12/21/2014	13,263	13,505	50	Marcellus
9	12/21/2014	12,961	13,203	50	Marcellus
10	12/22/2014	12,659	12,901	50	Marcellus
11	12/22/2014	12,357	12,599	50	Marcellus
12	12/22/2014	12,055	12,297	50	Marcellus
13	12/23/2014	11,753	11,995	50	Marcellus
14	12/23/2014	11,451	11,693	50	Marcellus
15	12/23/2014	11,149	11,391	50	Marcellus
16	12/24/2014	10,847	11,089	50	Marcellus
17	12/27/2014	10,545	10,787	50	Marcellus
18	12/29/2014	10,243	10,485	50	Marcellus
19	12/30/2014	9,941	10,183	50	Marcellus
20	12/30/2014	9,639	9,881	50	Marcellus
21A	12/30/2014	9,337	9,579	50	Marcellus
21 Inj Test	12/31/2014	-	-	-	Marcellus
21B(Re-perf I)	1/1/2015	9,304	9,326	24	Marcellus
21C(reperf-II)	1/1/2015	9,214	9,276	36	Marcellus
22	1/1/2015	8,954	9,164	50	Marcellus
23	1/2/2015	8,694	8,904	50	Marcellus
24	1/3/2015	8,431	8,673	50	Marcellus
25	1/4/2015	8,129	8,371	50	Marcellus
26	1/4/2015	7,827	8,069	50	Marcellus

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STIMULATION INFORMATION PER STAGE

API: 47-051-01734

Farm name: TIM M. TURLEY AND TAMMY JENKINS

Well Name: WEB-22 E

Stage No.	Stim Date	Avg Rate (bpm)	ATP (psi)	Max BD Pressure	ISIP (psi)	Proppant (lbs)	Water (BBLS)	Amount of N ² / other (units)
1	12/19/2014	78.2	8,050	5,274	4,041	601,946	17,662.76	
2	12/19/2014	84.6	8,295	5,858	4,761	601,591	17,072.38	
3	12/19/2014	77.6	8,131	5,777	5,138	540,559	18,944.38	
4	12/20/2014	80.4	7,801	6,598	4,605	640,378	14,816.38	
5	12/20/2014	81.1	8,147	6,544	5,371	599,649	15,172.38	
6	12/20/2014	78.3	7,709	5,969	4,399	600,435	15,340.38	
7	12/21/2014	83.6	8,115	5,971	4,460	600,099	16,281.38	
8	12/21/2014	88.0	8,281	5,158	4,602	601,378	13,831.38	
9	12/21/2014	78.5	7,969	6,431	5,465	601,441	14,997.38	
10	12/22/2014	80.4	7,978	6,048	5,545	600,937	16,228.38	
11	12/22/2014	80.8	8,276	5,889	4,597	600,959	17,391.38	
12	12/22/2014	85.6	8,184	6,065	4,535	566,467	14,464.38	
13	12/23/2014	86.3	8,107	6,058	5,207	635,315	17,154.57	
14	12/23/2014	85.3	8,581	6,086	5,332	552,920	18,419.95	
15	12/23/2014	78.9	7,933	6,160	5,317	635,746	18,550.57	
16	12/24/2014	80.4	7,869	6,463	5,920	540,243	15,305.57	
17	12/27/2014	85.3	7,786	5,819	5,741	586,400	19,251.57	
18	12/29/2014	82.4	7,753	6,581	5,630	540,579	16,977.57	
19	12/30/2014	79.1	7,556	7,137	5,012	591,899	17,657.57	
20	12/30/2014	83.8	7,385	6,336	4,570	595,200	15,737.57	
21A	12/30/2014	71.3	7,599	6,258	5,700	144,125	9,076.95	
21 Inj Test	12/31/2014	0.0	-	-	-	-	992.52	
21B(Re-perf I)	1/1/2015	61.6	8,596	-	5,180	38,033	7,423.95	
21C(reperf-II)	1/1/2015	88.8	7,740	-	5,499	418,442	10,345.38	
22	1/1/2015	89.6	7,354	5,958	4,767	516,445	16,502.57	
23	1/2/2015	86.4	7,194	5,713	5,413	535,500	13,684.57	
24	1/3/2015	85.6	7,514	6,397	5,635	604,836	16,347.57	
25	1/4/2015	87.8	7,295	6,357	5,102	575,300	11,456.57	
26	1/4/2015	86.7	7,179	6,190	4,725	642,000	11,483.57	

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Marcellus	6,833	TVD	15,765 MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface psi Bottom Hole psi DURATION OF TEST hrs

OPEN FLOW Gas 3483 mcfpd Oil 15.4 bpd NGL 291.4 bpd Water 657 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 ₂ S, ETC)
	0		0		
	SEE ATTACHED				
	FORMATION SHEET				

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Please insert additional pages as applicable.

Drilling Contractor Precision Drilling Company
Address 5400 D Big Tyler Road City Charleston State WV Zip 25313

Logging Company Baker Hughes
Address 400 Technology Drive, Suite 120 City Canonsburg State PA Zip 15317

Cementing Company Schlumberger
Address 4600 J. Barry Court, Suite 200 City Canonsburg State PA Zip 15317

Stimulating Company FTS International
Address 6000 Town Center Boulevard, Suite 120 City Canonsburg State PA Zip 15317

Please insert additional pages as applicable.

Completed by Regina A. Logue Telephone 724-820-3559
Signature Regina A. Logue Title Regulatory Analyst Date

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

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	6921	7400	not encountered	
Onondaga	6922	6930	not encountered	not encountered	
Huntersville	6930		not encountered	not encountered	

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/19/2014
Job End Date:	1/4/2015
State:	West Virginia
County:	Marshall
API Number:	47-051-01734-00-00
Operator Name:	Noble Energy, Inc.
Well Name and Number:	WEB-22E
Longitude:	-80.51999300
Latitude:	39.92274200
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,833
Total Base Water Volume (gal):	18,000,006
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	Operator	Carrier	Water	7732-18-5	100.00000	90.18553	
40/70 White	FTSI	proppant	Silica, Quartz	14808-60-7	100.00000	7.58080	
100 Mesh Sand	FTSI	proppant	Silica, Quartz	14808-60-7	100.00000	1.61606	
Hydrochloric Acid (HCl)	FTSI	Acid	Water	7732-18-5	63.00000	0.28374	
			Hydrogen Chloride	7647-01-0	37.00000	0.16664	
FRW-600	FTSI	Friction Reducer	Acrylamide Polymer	Trade Secret	100.00000	0.07434	
			Hydrotreated light distillate	54742-47-8	30.00000	0.02230	
			Ammonium acetate	531-61-8	6.00000	0.00446	
CS-500 SI	FTSI	Scale inhibitor	Water	7732-18-5	55.00000	0.02704	
			Acrylic Polymer	Proprietary	24.00000	0.01180	
			Ethylene glycol	107-21-1	10.00000	0.00492	
			Sodium chloride	7647-14-5	6.00000	0.00295	
			Sodium Polyacrylate	9003-04-7	5.00000	0.00246	

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ICI-3240	FTSI	Biocide	Water	7732-18-5	55.00000	0.02194	
			Dazomet (Tetrahydro-3, 5-dimethyl-2H-1, 3, 5-thiadiazine-2-thione.	533-74-4	24.00000	0.00958	
HVG-1	FTSI	Water Gelling Agent	Sodium Hydroxide	1310-73-2	23.00000	0.00918	
			Petroleum Distillate	34742-47-8	55.00000	0.00062	
			Guar Gum	9000-30-0	55.00000	0.00062	
			Raffinates (Petroleum), Sorption Process	34741-85-1	50.00000	0.00057	
			Clay	1302-78-9	5.00000	0.00006	
			Surfactant	Proprietary	2.00000	0.00002	
			Clay	14808-60-7	2.00000	0.00002	
			Surfactant	154518-36-2	1.00000	0.00001	
			Surfactant	9043-30-5	1.00000	0.00001	
			Surfactant	24938-91-8	1.00000	0.00001	
FE-100L	FTSI	Iron control	Water	7732-18-5	60.00000	0.00086	
			Citric acid	77-92-9	55.00000	0.00079	
CI-150	FTSI	Acid Corrosion Inhibitor	Organic amine resin salt	Proprietary	30.00000	0.00024	
			Ethylene Glycol	107-21-1	30.00000	0.00024	
			Isopropanol	67-63-0	30.00000	0.00024	
			Alkyene Oxide Block Polymer	Proprietary	10.00000	0.00008	
			Dimethylformamide	68-12-2	10.00000	0.00008	
			Quaternary ammonium compound	Proprietary	10.00000	0.00008	
			Aromatic aldehyde	Proprietary	10.00000	0.00008	
			Water	7732-18-5	5.00000	0.00004	
			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	0.00039	
			2-Butoxyethanol	111-76-2	10.00000	0.00004	
			2-Propanol	67-63-0	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	
APB-1	FTSI	Gel breaker					

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	Ammonium Persulfate	7727-54-0	100.00000	0.00003
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Ingredients shown above are subject to 29 CFR 1910.1200(j) 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

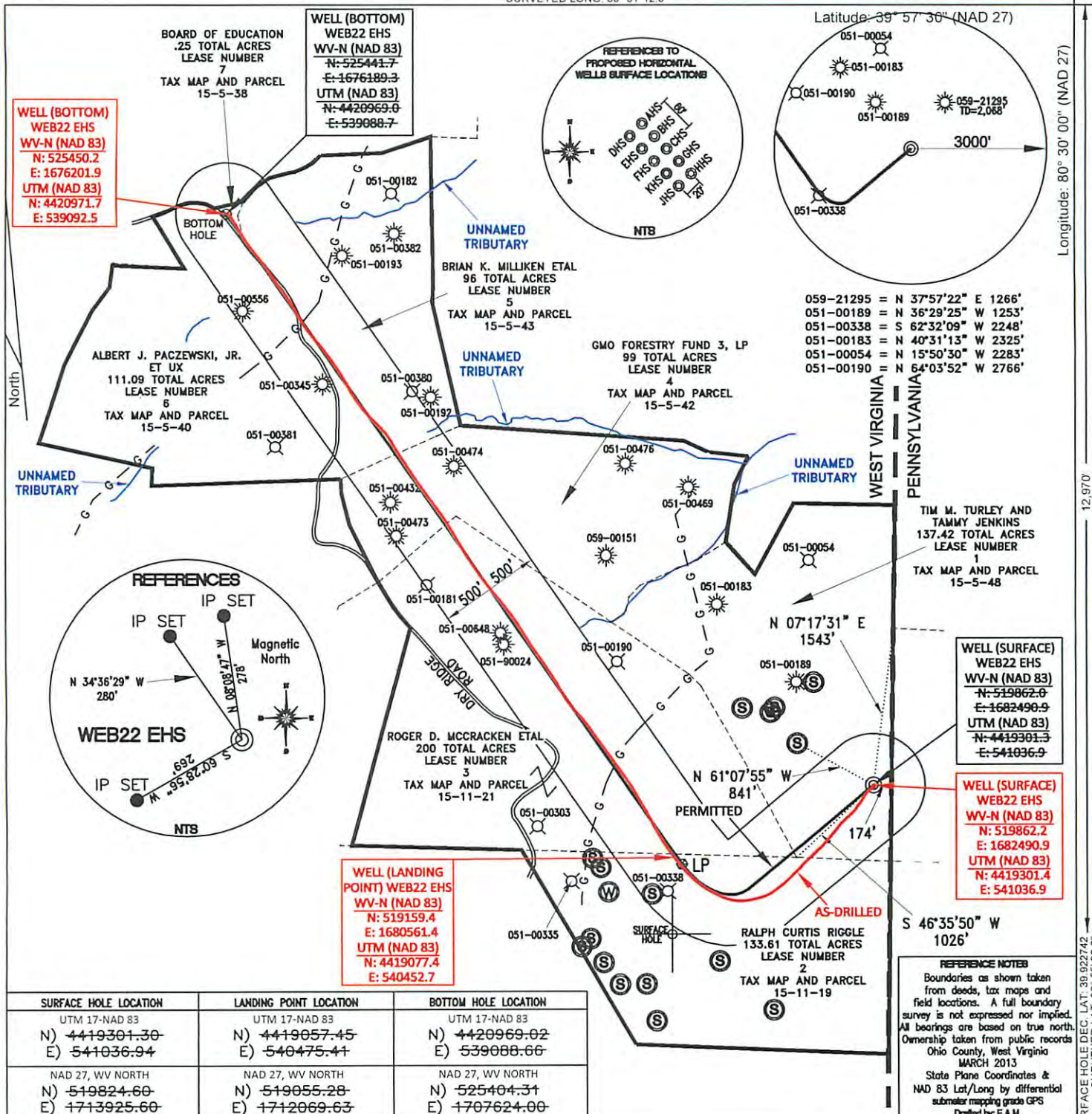
** Information is based on the maximum potential for concentration and thus the total may be over 100%

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)

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WV Dept of Environmental Protection



FILE #: NOB 001
DRAWING #: 2170
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: WHEELING CREEK
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 EHS AS-DRILLED PLAT
API WELL #: 47 51 01734
STATE COUNTY PERMIT

ELEVATION: 1,339.26'
QUADRANGLE: MAJORSVILLE WV-PA
ACREAGE: 137.42 +/-
ACREAGE: 777.12 +/-

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: 15,674'
DESIGNATED AGENT: STEVEN M. GREEN
ADDRESS: 500 VIRGINIA STREET EAST
CITY: CHARLESTON STATE: WV ZIP CODE: 25301

SURFACE HOLE DEC. LAT: 39.952742 SURVEYED LAT: 39° 55' 22.0"