

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

API 47 - 051 - 01678 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 CHS
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 4419601.5 Easting 541045.6
Landing Point of Curve Northing 4419508.0 Easting 541000.1
Bottom Hole Northing 4421323.2 Easting 539680.7

Elevation (ft) 1338.95 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 11/18/2013 Date drilling commenced 2/17/2014 Date drilling ceased 5/1/2014
Date completion activities began 10/15/2014 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

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Reviewed by:
A.L. 5/26/15
W.S. 08/12/2015

API 47-051 - 01678 Farm name Tim M. Turley and Tammy JF Well number WEB 22 CHS

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	418.0	N	J-55 94#		Y
Coal							
Intermediate 1	17 1/2	13 3/8	1271.0	N	J-55 54.5#		Y
Intermediate 2	12 1/4	9 5/8	3409.0	N	J-55 36#		
Intermediate 3							
Production	8 3/4	5 1/2	14792.4	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	695	15.6	1.22	847.69	0	8
Coal							
Intermediate 1	Class A	1052	15.8	1.16	1220.32	0	8
Intermediate 2	Class A	1138	15.8	1.19	1354.22	0	8
Intermediate 3							
Production	Lead ECONOCEM - Tail Class H	Lead 479 Tail 1757	Lead 14.2 Tail 14.8	Lead 1.56 Tail 1.39	Lead 747.24 Tail 2442.23	3209	8
Tubing							

Drillers TD (ft) 14,797 Loggers TD (ft) 14,772
 Deepest formation penetrated Marcellus Plug back to (ft) Not a Pilot Hole
 Plug back procedure N/A

Kick off depth (ft) 6931

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 centralizers - Intermediate 2 - 28 centralizers on every joint to KOP, on every third joint from KOP to 100' from surface.
Production - 260 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 _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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PERFORATION RECORD

API: 47-051-01678 Farm name: TIM M. TURLEY AND TAMMY JENKINS

Well Name: WEB-22C

Stage No.	Perf Date	Top Perf	Bottom Perf	# of Perfs	Formation
1	10/15/2014	14,438	14,640	50	Marcellus
2	10/16/2014	14,188	14,390	50	Marcellus
3	10/16/2014	13,938	14,140	50	Marcellus
4	10/16/2014	13,688	13,890	50	Marcellus
5 (Screen Out)	10/18/2014	13,438	13,640	50	Marcellus
5 inj test	10/20/2014	-	-	-	Marcellus
5 Reperf	11/5/2014	13,466	13,618	48	Marcellus
6	11/8/2014	13,192	13,410	54	Marcellus
7	11/9/2014	12,944	13,162	54	Marcellus
8	11/12/2014	12,696	12,914	54	Marcellus
9	11/13/2014	12,448	12,666	54	Marcellus
10	11/13/2014	12,200	12,418	54	Marcellus
11	11/14/2014	11,952	12,170	54	Marcellus
12	11/14/2014	11,704	11,922	54	Marcellus
13	11/14/2014	11,456	11,674	54	Marcellus
14	11/14/2014	11,208	11,426	54	Marcellus
15	11/16/2014	10,960	11,178	54	Marcellus
16	11/16/2014	10,712	10,930	54	Marcellus
17	11/17/2014	10,464	10,682	54	Marcellus
18	11/18/2014	10,216	10,434	54	Marcellus
19	11/18/2014	9,968	10,186	54	Marcellus
20	11/19/2014	9,720	9,938	54	Marcellus
21	11/19/2014	9,472	9,690	54	Marcellus
22	11/20/2014	9,224	9,442	54	Marcellus
23 Inj Test	11/20/2014	-	-	-	Marcellus
23	11/21/2014	8,976	9,194	54	Marcellus
24	11/21/2014	8,728	8,946	54	Marcellus
25	11/22/2014	8,480	8,698	54	Marcellus
26	11/22/2014	8,232	8,450	54	Marcellus
27	11/22/2014	7,984	8,202	54	Marcellus
28	11/23/2014	7,736	7,954	54	Marcellus
29	11/24/2014	7,488	7,706	54	Marcellus
30	11/24/2014	7,240	7,458	54	Marcellus
31	11/25/2014	6,992	7,210	54	Marcellus

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STIMULATION INFORMATION PER STAGE

API: 47-051-01678

Farm name: TIM M. TURLEY AND TAMMY JENKINS

Well Name: WEB-22 C

Stage No.	Stim Date	Avg Rate (bpm)	ATP (psi)	Max BD Pressure	ISIP (psi)	Proppant (lbs)	Water (BBLs)	Amount of N ² / other
1	10/15/2014	84.0	7,152	5,298	4,107	502,868	18,209.29	
2	10/16/2014	90.4	7,642	5,837	4,493	502,428	10,644.38	
3	10/16/2014	89.3	7,931	6,027	4,480	501,274	10,466.38	
4	10/16/2014	86.4	7,851	6,920	4,498	492,779	12,359.38	
5 (Screen Out)	10/18/2014	64.1	6,937	5,443	3,682	500,632	8,259.10	
5 inj test	10/20/2014	-	-	-	-	-	763.00	
5 Reperf	11/5/2014	87.6	8,015	-	4,790	-	9,202.38	
6	11/8/2014	84.1	8,469	5,819	4,511	490,290	16,524.38	
7	11/9/2014	85.7	7,987	5,761	4,651	492,399	13,573.38	
8	11/12/2014	75.2	8,060	5,772	3,978	500,486	20,366.38	
9	11/13/2014	88.0	8,390	5,342	4,236	444,425	13,673.38	
10	11/13/2014	88.9	8,220	5,262	4,267	500,065	12,444.38	
11	11/14/2014	85.4	7,646	4,964	4,713	502,701	17,003.38	
12	11/14/2014	88.5	7,834	5,745	4,813	503,330	15,667.38	
13	11/14/2014	88.3	7,791	5,661	4,554	502,973	14,143.38	
14	11/14/2014	88.4	7,491	6,250	5,095	500,087	17,811.38	
15	11/16/2014	90.1	7,543	5,795	4,558	501,230	11,554.38	
16	11/16/2014	89.6	7,551	5,340	4,529	503,003	11,085.38	
17	11/17/2014	88.5	7,486	5,866	4,571	500,138	12,956.38	
18	11/18/2014	88.8	7,252	6,050	4,544	503,592	11,970.38	
19	11/18/2014	89.9	7,424	5,566	4,435	500,915	11,431.38	
20	11/19/2014	90.0	7,676	5,774	4,276	501,157	10,526.38	
21	11/19/2014	88.3	7,607	4,952	4,354	501,156	11,288.38	
22	11/20/2014	88.2	7,622	5,365	5,728	492,924	10,083.38	
23 Inj Test	11/20/2014	-	-	-	-	-	390.00	
23	11/21/2014	86.6	7,373	5,649	4,644	481,627	13,431.38	
24	11/21/2014	88.8	7,127	5,633	4,791	500,452	11,958.38	
25	11/22/2014	87.9	7,300	5,589	7,884	469,131	10,842.38	
26	11/22/2014	89.6	7,070	5,619	5,275	501,261	10,325.38	
27	11/22/2014	87.8	7,077	5,185	4,488	503,392	14,164.38	
28	11/23/2014	89.2	6,904	5,859	4,603	501,125	10,615.38	
29	11/24/2014	88.4	7,188	6,773	4,888	501,796	10,470.38	
30	11/24/2014	88.3	7,017	6,204	5,391	500,462	11,321.38	
31	11/25/2014	88.7	7,034	7,788	4,567	501,442	9,998.38	

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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	not encountered	

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/15/2014
Job End Date:	11/25/2014
State:	West Virginia
County:	Marshall
API Number:	47-051-01678-00-00
Operator Name:	Noble Energy, Inc.
Well Name and Number:	WEB-22C
Longitude:	-80.51989100
Latitude:	39.92274300
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,820
Total Base Water Volume (gal):	17,031,958
Total Base Non Water Volume:	0

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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	89.73195	
40/70 White	FTSI	proppant	Silica, Quartz	14808-60-7	100.00000	7.73833	
100 Mesh Sand	FTSI	proppant	Silica, Quartz	14808-60-7	100.00000	1.99095	
Hydrochloric Acid (HCl)	FTSI	Acid	Water	7732-18-5	63.00000	0.23699	
			-Hydrogen Chloride	7647-01-0	37.00000	0.13918	
FRW-600	FTSI	Friction Reducer	Acrylamide Polymer	Trade Secret	100.00000	0.06790	
			-Hydrotreated light distillate	54742-47-8	30.00000	0.02037	
			Ammonium acetate	531-61-8	6.00000	0.00407	
CS-500 SI	FTSI	Scale inhibitor	Water	7732-18-5	55.00000	0.02698	
			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	

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CI-3240	FTSI	Biocide	Water	7732-18-5	55.00000	0.02191	
			Dazomet (Tetrahydro-3, 5-dimethyl-2H-1, 3, 5-thiadiazine-2-thione.	533-74-4	24.00000	0.00956	
			Sodium Hydroxide	1310-73-2	23.00000	0.00916	
HVG-1	FTSI	Water Gelling Agent	Petroleum Distillate	34742-47-8	55.00000	0.00192	
			Guar Gum	9000-30-0	55.00000	0.00192	
			Raffinates (Petroleum), Sorption Process	34741-85-1	50.00000	0.00174	
			Clay	1302-78-9	5.00000	0.00017	
			Surfactant	Proprietary	2.00000	0.00007	
			Clay	14808-60-7	2.00000	0.00007	
			Surfactant	24938-91-8	1.00000	0.00003	
			Surfactant	9043-30-5	1.00000	0.00003	
			Surfactant	154518-36-2	1.00000	0.00003	
FE-100L	FTSI	Iron control	Water	7732-18-5	60.00000	0.00072	
			Citric acid	77-92-9	55.00000	0.00066	
CI-150	FTSI	Acid Corrosion Inhibitor	Isopropanol	37-63-0	30.00000	0.00020	
			Organic amine resin salt	Proprietary	30.00000	0.00020	
			Ethylene Glycol	107-21-1	30.00000	0.00020	
			Aromatic aldehyde	Proprietary	10.00000	0.00007	
			Alkyene Oxide Block Polymer	Proprietary	10.00000	0.00007	
			Quaternary ammonium compound	Proprietary	10.00000	0.00007	
			Dimethylformamide	38-12-2	10.00000	0.00007	
			Water	7732-18-5	5.00000	0.00003	
			Diethylene glycol	111-46-6	1.00000	0.00001	
			Fatty Acid Salt	Proprietary	0.10000	0.00000	
			Aliphatic alcohol	Proprietary	0.10000	0.00000	
			Fatty Acid	Proprietary	0.10000	0.00000	
NE-100	FTSI	Non-emulsifier	Water	7732-18-5	90.00000	0.00031	
			2-Propanol	37-63-0	10.00000	0.00003	
			2-Butoxyethanol	111-76-2	10.00000	0.00003	
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00002	
			Benzene, C10-16 Alkyl Derivatives	38648-87-3	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	0.00013
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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%

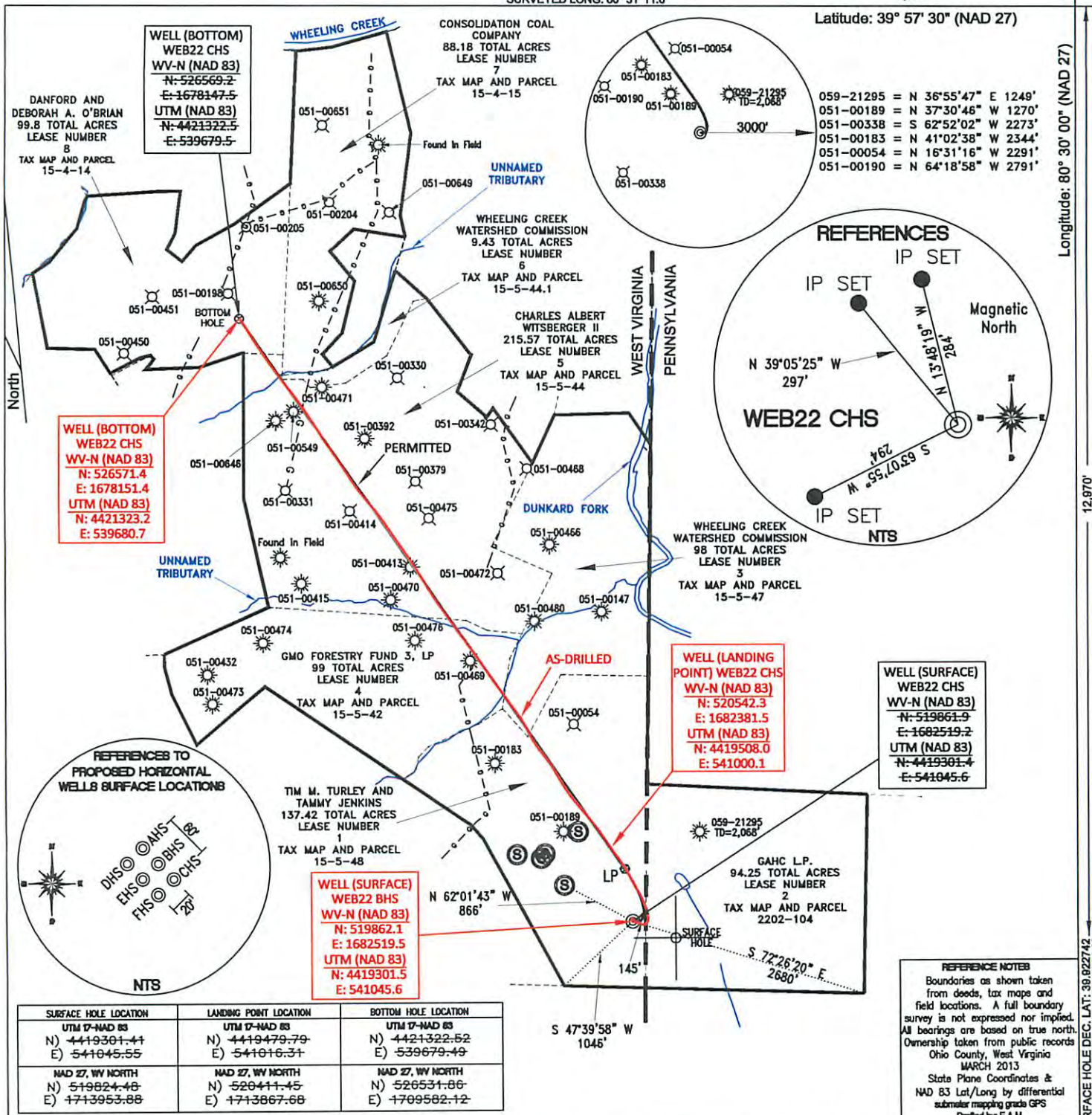
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided. Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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FILE #: NOB 001
DRAWING #: 2166
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: WHEELING CREEK ELEVATION: 1,338.95'
COUNTY/DISTRICT: MARSHALL / WEBSTER QUADRANGLE: MAJORSVILLE WV-PA
SURFACE OWNER: TIM M. TURLEY AND TAMMY JENKINS ACREAGE: 137.42 + 06/12/2015
OIL & GAS ROYALTY OWNER: TIM M. TURLEY AND TAMMY JENKINS ACREAGE: 841.65 +/-
LEASE NUMBERS: _____

DATE: JANUARY 27, 2015
OPERATOR'S WELL #: WEB22 CHS AS-DRILLED PLAT
API WELL #: 47 51 01678
STATE COUNTY PERMIT

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: 14,758'
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