

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

API 47-051-01724 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 KHS
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 541045.6
Landing Point of Curve Northing 4419002.2 Easting 540812.4
Bottom Hole Northing 4417701.8 Easting 541764.4

Elevation (ft) 1339.33 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

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Date permit issued 1/5/2015 Date drilling commenced 2/25/2014 Date drilling ceased 7/19/2014
Date completion activities began 1/10/2015 Date completion activities ceased 3/1/2015
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

Reviewed by:
AL. 5/26/15 ✓
W.S. 06/11/15
06/12/2015

API 47-051 - 01724 Farm name Tim M. Turley and Tammy JF Well number WEB 22 KHS

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	438.0	N	J-55 94#		Y
Coal							
Intermediate 1	17 1/2	13 3/8	1263.2	N	J-55 54.5#		Y
Intermediate 2	12 1/4	9 5/8	3399.5	N	J-55 36#		Y
Intermediate 3							
Production	8 3/4	5 1/2	13112.5	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	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	Halcem	1175	16.2	1.09	1280.75	0	8
Intermediate 3							
Production	Lead ECONOCEM - Tail Class H	Lead 1020 Tail 1430	Lead 14.2 Tail 15.0	Lead 1.32 Tail 1.30	Lead 1346.4 Tail 1859.0	1550.0	8
Tubing							

Drillers TD (ft) 13,125 Loggers TD (ft) 13,100
 Deepest formation penetrated Marcellus Plug back to (ft) Not a Pilot Hole
 Plug back procedure N/A

Kick off depth (ft) 7378

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 - 4 centralizers used, one every third joint with 2 Baskets Intermediate - 11 centralizers - Intermediate 2 - 28 bow string centralizers on every joint to KOP, on every third joint from KOP to 100' from surface. Production - 205 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 _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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API 47- 051 - 01724 Farm name Tim M. Turley and Tammy JF Well number WEB 22 KHS

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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PERFORMANCE RECORD

API: 47-051-01724

Farm name: TIM M. TURLEY AND TAMMY JENKINS

Well Name: WEB-22 K

Stage No.	Perf Date	Top Perf	Bottom Perf	# of Perfs	Formation
1 Injection Test	1/9/2015	-	-	-	Marcellus
1	1/10/2015	12,772	12,974	50	Marcellus
2	1/10/2015	12,522	12,724	50	Marcellus
3	1/11/2015	12,272	12,474	50	Marcellus
4	1/11/2015	12,022	12,224	50	Marcellus
5	1/11/2015	11,772	11,974	50	Marcellus
6	1/12/2015	11,522	11,724	50	Marcellus
6B (Reperf)	1/12/2015	11,547	11,699	48	Marcellus
7	1/12/2015	11,272	11,474	50	Marcellus
8	1/13/2015	11,022	11,224	50	Marcellus
9	1/13/2015	10,772	10,974	50	Marcellus
10	1/13/2015	10,522	10,724	50	Marcellus
10B (Re-perf I)	1/13/2015	10,537	10,609	48	Marcellus
10C (Re-perf II)	1/14/2015	10,432	10,494	36	Marcellus
11	1/14/2015	10,212	10,390	50	Marcellus
12	1/14/2015	9,994	10,172	50	Marcellus
13 A	1/14/2015	9,776	9,954	50	Marcellus
13 Inj test	1/14/2015	-	-	-	Marcellus
13B(2nd Attempt)	1/15/2015	9,776	9,954	50	Marcellus
14	1/16/2015	9,522	9,724	50	Marcellus
14B (Re-perf I)	1/16/2015	9,537	9,649	48	Marcellus
14C (Re-perf II)	1/16/2015	9,428	9,494	36	Marcellus
14D (Commingle)	1/16/2015	9,209	9,383	50	Marcellus
15	1/17/2015	8,990	9,164	50	Marcellus
16	1/17/2015	8,771	8,945	50	Marcellus
17	1/17/2015	8,522	8,724	50	Marcellus
18	1/18/2015	8,272	8,474	50	Marcellus
19	1/18/2015	8,022	8,224	50	Marcellus
20	1/18/2015	7,772	7,974	50	Marcellus
21	1/19/2015	7,522	7,724	50	Marcellus

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STIMULATION INFORMATION PER STAGE

API: 47-051-01724

Farm name: TIM M. TURLEY AND TAMMY JENKINS

Well Name: WEB-22 K

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	1/9/2015	0.0	-	-	-	-	757.38	
1	1/10/2015	77.9	7,835	6,278	4,301	447,189	21,238.38	
2	1/10/2015	68.7	7,379	6,757	3,832	501,309	22,882.76	
3	1/11/2015	75.8	7,677	6,330	4,253	455,692	12,913.38	
4	1/11/2015	80.7	8,166	5,906	4,366	544,375	16,809.38	
5	1/11/2015	79.3	7,914	5,702	4,244	500,726	18,256.38	
6	1/12/2015	53.5	7,920	5,984	4,885	5,328	5,307.76	
6B (Reperf)	1/12/2015	86.2	8,070	-	4,869	497,113	15,590.38	
7	1/12/2015	86.1	7,847	6,995	5,237	500,149	14,629.38	
8	1/13/2015	80.9	7,341	6,092	4,160	500,401	13,752.38	
9	1/13/2015	87.8	7,902	6,103	4,605	502,846	11,779.38	
10	1/13/2015	51.9	8,083	6,688	4,971	3,271	7,554.14	
10B (Re-perf I)	1/13/2015	64.5	8,224	-	4,944	22,094	5,857.76	
10C (Re-perf II)	1/14/2015	82.4	7,911	-	4,639	476,555	10,363.38	
11	1/14/2015	88.2	7,821	6,677	4,698	501,272	11,665.38	
12	1/14/2015	88.8	7,853	5,770	4,818	501,628	14,189.38	
13 A	1/14/2015	87.9	7,784	5,773	4,427	197,569	7,355.38	
13 Inj test	1/14/2015	0.0	-	-	-	-	801.38	
13B(2nd Attempt)	1/15/2015	73.5	7,465	-	5,612	304,058	10,149.00	
14	1/16/2015	71.7	7,741	6,021	4,688	226,906	11,972.76	
14B (Re-perf I)	1/16/2015	56.6	8,056	-	4,473	24,830	10,812.52	
14C (Re-perf II)	1/16/2015	50.1	8,571	-	5,610	3,167	5,644.76	
14D (Commingle)	1/16/2015	83.3	7,669	-	4,825	690,902	17,729.38	
15	1/17/2015	87.9	7,621	6,701	4,723	501,638	10,666.38	
16	1/17/2015	90.0	7,463	6,690	4,640	503,655	10,698.38	
17	1/17/2015	86.4	7,538	6,528	4,462	446,787	9,915.38	
18	1/18/2015	85.7	7,232	6,549	4,201	503,939	10,387.38	
19	1/18/2015	89.5	7,555	6,411	4,767	501,618	10,565.38	
20	1/18/2015	84.9	6,782	7,337	4,637	440,656	11,411.76	
21	1/19/2015	89.7	7,014	6,962	4,567	548,638	10,529.38	

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
Marcellus	6,948	TVD 13,125 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 2404 mcfpd Oil 10.4 bpd NGL 197.9 bpd Water 491 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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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	
Marcellus	6871	6922	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:	1/10/2015
Job End Date:	1/18/2015
State:	West Virginia
County:	Marshall
API Number:	47-051-01724-00-00
Operator Name:	Noble Energy, Inc.
Well Name and Number:	WEB-22K
Longitude:	-80.51989200
Latitude:	39.92266400
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,948
Total Base Water Volume (gal):	14,371,822
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	91.03425	
4070 White	FTSI	proppant	Silica, Quartz	14808-60-7	100.00000	6.54577	
100 Mesh Sand	FTSI	proppant	Silica, Quartz	14808-60-7	100.00000	1.69806	
Hydrochloric Acid (HCl)	FTSI	Acid	Water	7732-18-5	63.00000	0.35561	
FRW-600	FTSI	Friction Reducer	Hydrogen Chloride	7647-01-0	37.00000	0.20885	
			Acrylamide Polymer	Trade Secret	100.00000	0.06384	
			Hydrotreated light distillate	84742-47-8	30.00000	0.01915	
			Ammonium acetate	631-61-8	6.00000	0.00383	
CS-500 SI	FTSI	Scale inhibitor	Water	7732-18-5	55.00000	0.02745	
			Acrylic Polymer	Proprietary	24.00000	0.01198	
			Ethylene glycol	107-21-1	10.00000	0.00499	
			Sodium chloride	7647-14-5	6.00000	0.00299	
			Sodium Polyacrylate	9003-04-7	5.00000	0.00250	

CI-3240	FTSI	Biocide	Water	7732-18-5	55.00000	0.02223	
			Dazomet (Tetrahydro-3, 5-dimethyl-2H-1, 3, 5-thiadiazine-2-thione)	533-74-4	24.00000	0.00970	
			Sodium Hydroxide	1310-73-2	23.00000	0.00929	
FE-100L	FTSI	Iron control	Water	7732-18-5	60.00000	0.00107	
			Citric acid	77-92-9	55.00000	0.00098	
CI-150	FTSI	Acid Corrosion Inhibitor	Isopropanol	57-63-0	30.00000	0.00030	
			Organic amine resin salt	Proprietary	30.00000	0.00030	
			Ethylene Glycol	107-21-1	30.00000	0.00030	
			Alkylene Oxide Block Polymer	Proprietary	10.00000	0.00010	
			Quaternary ammonium compound	Proprietary	10.00000	0.00010	
			Aromatic aldehyde	Proprietary	10.00000	0.00010	
			Dimethylformamide	88-12-2	10.00000	0.00010	
			Water	7732-18-5	5.00000	0.00005	
			Diethylene glycol	111-46-6	1.00000	0.00001	
			Aliphatic alcohol	Proprietary	0.10000	0.00000	
			Fatty Acid Salt	Proprietary	0.10000	0.00000	
			Fatty Acid	Proprietary	0.10000	0.00000	
NE-100	FTSI	Non-emulsifier	Water	7732-18-5	90.00000	0.00045	
			2-Propanol	57-63-0	10.00000	0.00005	
			2-Butoxyethanol	111-76-2	10.00000	0.00005	
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00003	
			Benzene, C10-16 Alkyl Derivatives	88648-87-3	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%

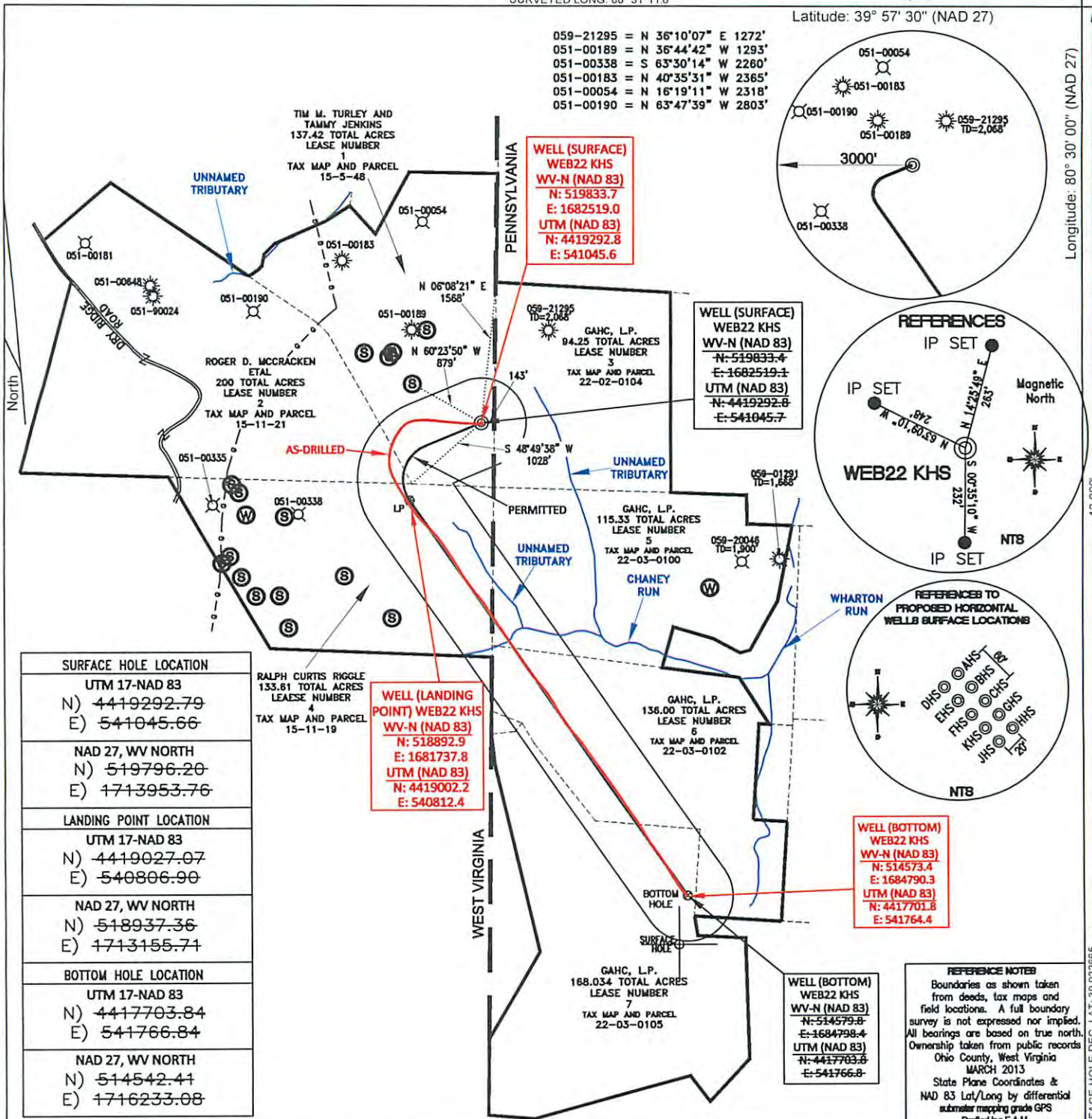
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided. Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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 U.S. Dept. of Environmental Protection

06/12/2015



FILE #: NOB 001

DRAWING #: 2266

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: DUNKARD FORK

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 KHS AS-DRILLED PLAT

API WELL #: 47 51 01724
 STATE COUNTY PERMIT

ELEVATION: 1,339.33'

QUADRANGLE: MAJORSVILLE WV-PA

ACREAGE: 137.42 +/-

ACREAGE: 890.394 +/-

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: 12,942'

DESIGNATED AGENT: STEVEN M. GREEN

ADDRESS: 500 VIRGINIA STREET EAST

CITY: CHARLESTON STATE: WV ZIP CODE: 25301

06/12/2015

SURFACE HOLE DEC. LAT: 39° 55' 21.6"
 SURVEYED LAT: 39° 55' 21.6"