

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

API 47 - 061 - 01787 County Monongalia District Clay  
Quad Blacksville Pad Name MEPCO Field/Pool Name \_\_\_\_\_  
Farm name MEPCO LLC Well Number MEPCO 4H  
Operator (as registered with the OOG) Northeast Natural Energy LLC  
Address 707 Virginia Street E., Suite 1200 City Charleston State WV Zip 25301

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4390675.6 Easting 572722.6  
Landing Point of Curve Northing 4390583.2 Easting 572704.0  
Bottom Hole Northing 4388446.7 Easting 574112.9

Elevation (ft) 1,420' 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 Based Mud - Horizontal Section: BIO-BASE 365, CALCIUM CHLORIDE POWDER, G-SEAL PLUS, HRP, LIME, M-I WATE (BARITE),  
M-I-X II MEDIUM, MEGADRIL P SYSTEM, MEGADRIL P SYSTEM RENTAL, MEGAMUL, SAFE-CARB 250, VERSATHIN HF, VERSAWET, VG-PLUS, VINSEAL MEDIUM, WALNUT NUT PLUG MEDIUM

Date permit issued 11/03/2017 Date drilling commenced 12/12/2017 Date drilling ceased 5/24/2018  
Date completion activities began 09/13/2018 Date completion activities ceased 9/24/2018  
Verbal plugging (Y/N) N Date permission granted N Granted by RECEIVED Office of Oil and Gas

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug SEP 9 2019

Freshwater depth(s) ft 906' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 2027', 2250', 2460' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 848', 930' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

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Reviewed

Reviewed by: MSJIC 10/28/2019

API 47-061 - 01787 Farm name MEPCO LLC Well number MEPCO 4H

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	30"	24'	40'	N	NA	N/A	Grouted In
Surface	17-1/2"	13-3/8"	1,400	N	54.6	N/A	Y, 30 bbl
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,443'	N	40	N/A	Y, 25 bbl
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	16,918'	N	20	N/A	N
Tubing	N/A	2-7/8"		N	4.7	N/A	
Packer type and depth set							

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	4,500 PSI Grout	36	-	3 Yds	27	CTS	48
Surface	Class A + 2%	1122	15.6	1.20	1346	CTS	8
Coal							
Intermediate 1	Class A + 1%	800	15.6	1.18	944	CTS	8
Intermediate 2							
Intermediate 3							
Production	50:50 Class A + Additives	3150	14.5	1.17	3685	2,425'	48
Tubing							

Drillers TD (ft) 16,918' Loggers TD (ft) 16,888'

Deepest formation penetrated Marcellus Plug back to (ft) NA

Plug back procedure NA

Kick off depth (ft) 6,386'

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 \_\_\_\_\_ RECEIVED

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Surface: Bow spring centralizers every 3rd joint or approximately 120'

Intermediate: Bow spring centralizers every 3rd joint or approximately 120'

Production: Rigid body centralizers placed at a minimum of every other joint (~80') from TD to surface

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WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_ WV Department of Environmental Protection

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_

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**PERFORATION RECORD**

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
			<b>Please</b>	<b>See</b>	<b>Attachment</b>

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)
						<b>Please</b>	<b>See</b>	<b>Attachment</b>

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>7,890'</u>	<u>TVD</u>	<u>16,918'</u> <u>MD</u>

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 3444 psi Bottom Hole 4047 psi DURATION OF TEST 48 hrs

OPEN FLOW Gas 5036 mcfpd Oil   bpd NGL   bpd Water   bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	<u>0</u>		<u>0</u>		<u>Please See Attachment</u>

Please insert additional pages as applicable.

Drilling Contractor Highlands Drilling  
Address 900 Virginia Street E. City Charleston State WV Zip 25301

Logging Company Baker Hughes  
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Cementing Company Universal Pressure Pumping  
Address 2198 University Dr City Lemont Furnace State PA Zip 15456

Stimulating Company Producers Services  
Address 109 Graham St. City Zanesville State OH Zip 43701

Please insert additional pages as applicable.

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Completed by Hollie Medley Telephone 304-212-0422  
Signature Hollie Medley Title Regulatory Manager Date 08/08/2019

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

Lithology/Formation	Top Depth in FT TVD	Bottom Depth in FT TVD	Describe rock type and record quantity and type of fluid (freshwater, brine, oil, gas, H2S, etc)
Shale/Sand	0	384	Shale/Sand
Shale	384	400	Shale
sand/shale	400	466	sand/shale
shale	466	470	shale
Sandstone/shale/coal	470	570	Sandstone/shale/coal
sand/shale	570	848	sand/shale
coal	848	853	coal
sand/shale	853	930	sand/shale
coal	930	933	sandstone/shale/coal - water @ 906'
sand/shale	933	1214	sand/shale
shale/red rock	1214	1651	shale/red rock
sand/shale	1651	2010	sand/shale
red rock	2010	2110	red rock
Big Lime	2110	2248	Big Lime
Big Injun	2248	2370	Big Injun
siltstone	2370	2430	siltstone
Berea	2430	2450	Berea
siltstone	2450	2610	siltstone
Gantz	2610	2630	Gantz
Upper Devonian undifferentiated	2630	2920	Upper Devonian undifferentiated
red rock/siltstone	2920	3080	red rock/siltstone
Devonian silt/sand/shale	3080	7290	Devonian silt/sand/shale
Middlesex	7290	7530	Middlesex
Burkett	7530	7710	Burkett
Geneseo	7710	7770	Geneseo
Tully	7770	7830	Tully
Hamilton	7830	7890	Hamilton
Marcellus	7890	8082	Marcellus
Onondaga	8082	8114	Onondaga
Huntersville chert	8114		Huntersville chert

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MEPCO 4H PERFORATION RECORD				
Stage Number	Report Date	Cluster 5 Bottom TD	Cluster 1 Top TD	Total Shots
1	9/12/2018	16,753	-	40
2	9/12/2018	16,550	16,708	40
3	9/13/2018	16,350	16,508	40
4	9/13/2018	16,150	16,308	40
5	9/13/2018	15,950	16,108	40
6	9/14/2018	15,750	15,908	40
7	9/14/2018	15,550	15,708	40
8	9/14/2018	15,350	15,508	40
9	9/15/2018	15,150	15,308	40
10	9/15/2018	14,950	15,108	40
11	9/15/2018	14,749	14,908	40
12	9/16/2018	14,549	14,707	40
13	9/16/2018	14,349	14,507	40
14	9/17/2018	14,149	14,307	40
15	9/17/2018	13,949	14,107	40
16	9/17/2018	13,749	13,907	40
17	9/17/2018	13,549	13,707	40
18	9/18/2018	13,349	13,507	40
19	9/18/2018	13,149	13,307	40
20	9/18/2018	12,048	13,107	40
21	9/19/2018	12,748	12,906	40
22	9/19/2018	12,548	12,706	40
23	9/19/2018	12,348	12,506	40
24	9/19/2018	12,148	12,306	40
25	9/20/2018	11,948	12,106	40
26	9/20/2018	11,748	11,906	40
27	9/20/2018	11,548	11,706	40
28	9/21/2018	11,348	11,506	40
29	9/21/2018	11,148	11,306	40
30	9/21/2018	10,947	11,105	40
31	9/22/2018	10,477	10,635	40
32	9/22/2018	10,547	10,705	40
33	9/22/2018	10,347	10,505	40
34	9/22/2018	10,147	10,305	40
35	9/22/2018	9,947	10,105	40
36	9/23/2018	9,747	9,905	40
37	9/23/2018	9,547	9,705	40
38	9/23/2018	9,347	9,505	40
39	9/23/2018	9,146	9,305	40
40	9/24/2018	8,946	9,104	40
41	9/24/2018	8,746	8,904	40
42	9/24/2018	8,546	8,704	40
43	9/24/2018	8,346	8,504	40

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**MEPCO 4H STIMULATION INFORMATION**

Stage Number	Report Date	Avg Treating Rate (BPM)	Avg Treating Pressure (psi)	Breakdown Pressure (psi)	ISIP (psi)	Total Proppant Amount (lbs)	Flush Volume (bbbls)	Total Clean Fluid (Bbbls)	Pad Volume (bbbls)
1	9/12/2018	79	8,684	6,347	5,397	298,810	373	9,104	1,260
2	9/12/2018	80	8,103	6,297	5,206	350,006	373	7,821	440
3	9/13/2018	79	8,117	6,199	5,639	354,437	365	7,858	399
4	9/13/2018	81	8,710	6,978	5,881	354,743	361	7,608	428
5	9/13/2018	79	8,530	6,663	5,661	330,100	365	10,467	1,726
6	9/14/2018	80	8,831	6,766	5,893	351,880	352	7,512	390
7	9/14/2018	81	8,878	6,704	5,704	350,120	358	7,867	342
8	9/14/2018	78	8,663	7,031	5,759	350,460	342	7,796	429
9	9/15/2018	81	8,920	7,358	6,209	348,000	336	7,481	429
10	9/15/2018	79	8,674	6,939	5,809	349,660	330	7,940	312
11	9/15/2018	80	9,006	7,331	5,330	349,890	353	7,629	429
12	9/16/2018	79	8,819	6,776	6,152	354,600	325	7,454	334
13	9/16/2018	77	8,641	7,042	5,114	350,180	320	7,347	429
14	9/17/2018	78	8,875	7,258	5,135	350,180	316	7,568	429
15	9/17/2018	80	8,539	7,104	5,934	350,180	310	7,436	210
16	9/17/2018	80	8,467	6,648	5,952	354,120	313	7,570	430
17	9/17/2018	79	8,548	7,181	6,084	349,130	310	7,272	429
18	9/18/2018	79	8,599	7,158	5,095	278,580	367	6,258	232
19	9/18/2018	81	8,446	6,826	5,581	351,600	294	7,427	240
20	9/18/2018	78	8,463	7,341	5,733	362,480	293	7,562	429
21	9/19/2018	78	8,527	7,124	5,595	349,860	289	7,348	428
22	9/19/2018	80	8,738	6,911	5,181	350,420	279	7,659	510
23	9/19/2018	79	8,605	6,911	4,875	354,520	278	7,190	277
24	9/19/2018	78	8,655	7,041	5,830	349,400	275	7,364	429
25	9/20/2018	81	8,315	6,637	5,383	352,687	294	7,277	420
26	9/20/2018	80	8,399	6,804	5,847	351,200	263	7,240	438
27	9/20/2018	79	8,307	7,000	5,754	349,970	262	7,184	470
28	9/21/2018	80	8,077	6,959	5,855	353,250	253	7,073	430
29	9/21/2018	79	8,231	6,692	4,904	260,800	251	6,503	440
30	9/21/2018	79	7,941	7,109	5,770	353,820	247	7,249	429
31	9/22/2018	80	8,078	6,691	5,687	354,060	247	7,188	429
32	9/22/2018	80	8,017	7,209	6,077	355,700	243	7,188	430
33	9/22/2018	81	8,283	7,040	5,976	346,680	234	7,149	429
34	9/22/2018	80	8,429	6,801	5,267	282,540	228	7,220	428
35	9/22/2018	79	7,894	6,591	6,216	351,508	226	7,431	429
36	9/23/2018	80	8,403	7,608	6,165	351,160	225	7,242	424
37	9/23/2018	80	8,496	7,405	5,967	349,540	214	7,333	428
38	9/23/2018	79	8,199	6,861	6,216	319,600	231	6,420	429
39	9/23/2018	78	7,717	6,814	6,554	349,350	209	7,339	428
40	9/24/2018	81	7,652	6,917	4,999	350,280	202	7,278	429
41	9/24/2018	79	7,665	6,700	5,668	350,480	194	6,986	434
42	9/24/2018	80	7,472	6,666	5,952	354,300	193	7,256	470
43	9/24/2018	80	7,512	6,885	4,844	358,000	193	7,200	430

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API Permit #: 47-061-01787

Customer: Monongalia

Lease and Well Name: Mepco 4-H

A.F.E #: 100377-602



Job Type: 9 5-8

Cement Operator: Brian Fullem

Date Cemented: 12/15/2017

Drilling Contractor: Highlands #8

Cement Slurry Information										
No. of Sacks	Cement Blend Composition				Yield (ft <sup>3</sup> /sk)	Mix Water (gal/sk)	Density (lb/gal)	(bbl) Mix Water	(ft <sup>3</sup> ) Of Slurry	(bbl) Of Slurry
800	Class A 1%Calcium .25%Flake				1.18	5.20	15.6	99	944	168
							Totals	99	944	168

Wellbore Information										
	New/Used	Diameter (in)	Weight (lb/ft)	Top (ft)	Bottom (ft)	Collapse/Burst Pressures (psi)			Requested TOC (ft)	Surface
Casing	New	9 5-8	40.0	0	2,425				TVD (ft)	2,485
Previous Casing		13 3-8	54.5	0	1,400				Displacement Depth (ft)	2,383
Tubing or Drillpipe	New								Displacement (bbl)	180.6
Open Hole		12 1/4		1,400	2,485					
Open Hole										

Pumping Returns			Cement Slurry Temperature Record (°F)					Fluid Information	
Spacer or Gel Sweep Return Seen At Surface	Yes	Cement	Reading 1	Reading 2	Reading 3	Average	Mix Water Temp (°F)	51	
Cement Returns Seen at Surface	Yes	Blend 1	60	60	60	60	Displacement Fluid Type	Water	
Amount of Cement Returns (BBL)	25	Blend 2					Displacement Fluid Temp (°F)	51	
		Blend 3					Displacement Fluid Density (lb/gal)	8.3	

Time	Rate (bpm)	Volume (bbl)	Pressure (psi)	Event or Stage Description
1:30				Arrive on Location
				Wait on Rig to Run Casing
				Hold Safety Meeting
				Spot Trucks, Rig In
8:00	2.0	2	1500	Pressure Test Lines
8:03	5.0	143	90	Pump Recycled Water
8:38	5.0	10	90	Pump Fresh Water
8:40	5.0	25	110	Pump Gel
8:45	5.0	10	100	Pump Fresh Water
8:47	5.0	168	200	Mix and Pump Lead Cement
9:21				Shut Down, Drop Plug
9:22	5,4,3	181	1055	Displace Plug
10:00			1624	Plug Lands, Shut Down
				Hold 5 Minutes, Release Pressure
10:05				Floats Held
				Wash Up, Rack Out
11:00				Leave Location

Comments:

PH-7  
SG 1.001  
Hardness 250

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Thank You for your Business Protection

UWS Cement Operator Signature:

Brian Fullem

Customer Representative Signature:

<b>Customer:</b> NORTHEAST NATURAL ENERGY LLC	<b>Date:</b> 5/24/2018	<b>Serv. Supervisor:</b> Donald Brown									
<b>Cust. Rep.:</b>	<b>Ticket #:</b> JWV1805-0024	<b>Serv. Center:</b> Jane Lew, WV									
<b>Lease:</b> Mepco 4H	<b>API Well #:</b>	<b>County:</b> Monongalia <b>State:</b> West Virginia									
<b>Well Type:</b>	<b>Rig:</b> Patterson 334	<b>Type of Job:</b> Production Casing									
<b>Materials Furnished by C&amp;J ENERGY SERVICES</b>											
<b>Plugs</b>		<b>Casing Hardware</b>			<b>Physical Slurry Properties</b>						
		<b>Sacks of Cement</b>	<b>Fluid Dens (lb/gal)</b>	<b>Yield (cuft/sk)</b>	<b>Mix Water (gal/sk)</b>	<b>Fluid Volume (bbbls)</b>	<b>Mix Water (bbbls)</b>				
Spacer 1:	CJ810 PureScrub Spacer + 1 gal/bbl CPC35	-	13.5			100					
Lead											
Tail:	50:50 CJ010:CJ910 + 3% CJ111 (BWOW) + 0.25% CJ210F + 0.2% CJ500U + 0.2% CJX157011	3150	14.5	1.17	4.95	657	371				
<b>Displacement Chemicals:</b>											
<b>OPEN HOLE DATA</b>				<b>TUBULAR DATA</b>							
<b>SIZE (in)</b>	<b>EXCESS (%)</b>	<b>DEPTH (ft)</b>	<b>TYPE (CSG/TBG/DP)</b>	<b>OD (in)</b>	<b>WEIGHT (lbs/ft)</b>	<b>THREAD</b>	<b>DEPTH (ft)</b>	<b>GRADE</b>	<b>ID (in)</b>	<b>BURST (psi)</b>	<b>COLLAPSE (psi)</b>
8 3/4		6410	Casing	5 1/2	20		16918		4.79		
8 1/2		16918									
<b>PREVIOUS CASING DATA</b>				<b>PERFORATED INTERVAL DATA</b>				<b>CASING EQUIPMENT DEPTHS</b>			
<b>SIZE (in)</b>	<b>WEIGHT (lbs/ft)</b>	<b>ID (in)</b>	<b>DEPTH (ft)</b>	<b>TOP</b>	<b>BTM</b>	<b>SPF</b>	<b>SIZE</b>	<b>SHOE</b>	<b>FLOAT</b>	<b>STAGE</b>	<b>ACP</b>
9 5/8	40	8.84	2443					16918	16838		
<b>WELL FLUID</b>		<b>DISPLACEMENT FLUID (STG 1)</b>				<b>DISPLACEMENT FLUID (STG 2)</b>		<b>WATER ON LOC (bbl)</b>	<b>DIFF PRESS (psi)</b>	<b>CSG LIFT (psi)</b>	<b>MAX PRESS (psi)</b>
<b>TYPE</b>	<b>DENSITY</b>	<b>VOLUME</b>	<b>TYPE</b>	<b>DENSITY</b>	<b>VOLUME</b>	<b>TYPE</b>	<b>DENSITY</b>	2000	2591	6810	6200
oil base	12.3 ppg										
<b>Time</b>	<b>Rate (bbl/min)</b>	<b>Csg. Press. (psi)</b>	<b>Tbg. Press (psi)</b>	<b>Ann. Press. (psi)</b>	<b>Stg. Vol. (bbl)</b>	<b>Cum. Vol. (bbl)</b>	<b>Stage Details</b>				
10:00 AM						0	arrive on location				
11:00 AM						0	spot trucks rig up				
3:19 PM						0	safety meeting				
4:09 PM						0	pressure test 6200 psi				
4:13 PM	6.5	1050			100	100	pump spacer at 13.5ppg				
4:39pm	8	1400			657	757	pump tail cement at 14.5ppg checked with scall				
6:00 PM						757	shut down wash lines drop plug				
6:08 PM	8	4455			374	1131	pump displacement				
7:03 PM	4	4600				1131	plug landed hold for 5 min				
7:10 PM		4600				1131	pressure back up				
7:15 PM						1131	release pressure floats held 6 bbl back				
7:20 PM						1131	wash pumps rig out				
						1131					
						1131					
						1131					
						1131					
						1131					
						1131					
						1131					
						1131					
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						1131					
						1131					
						1131					
<b>Left Yard</b>	5/24/18 8:00 AM			<b>Left Loc.</b>	9:30pm			<b>Start Pump</b>	4:13pm		
<b>Arrived Loc.</b>	10:00am			<b>Returned Yd</b>	11:30pm			<b>End Pump</b>	7:03pm		
<b>Bumped Plug (psi)</b>	<b>Final Differential (psi)</b>	<b>Floats Held (Y/N)</b>	<b>PSI Left on Casing</b>	<b>spacer to Surface (bbl)</b>	<b>Full Circ. During Job (Y/N)</b>	<b>Max Pump Pressure (psi)</b>	<b>Standby Charged (hrs)</b>	<b>RECEIVED</b>			
Yes	3846	Yes	0	52	Yes	4600	8	<b>Donald Brown</b> Office of Oil and Gas			
								Service Supervisor			

SEP 9 2019

# NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV

Field: Monongalia

Facility: MEPCO Pad

Slot: Slot #04

Well: MEPCO LLC 4H

Wellbore: MEPCO LLC 4H PWB

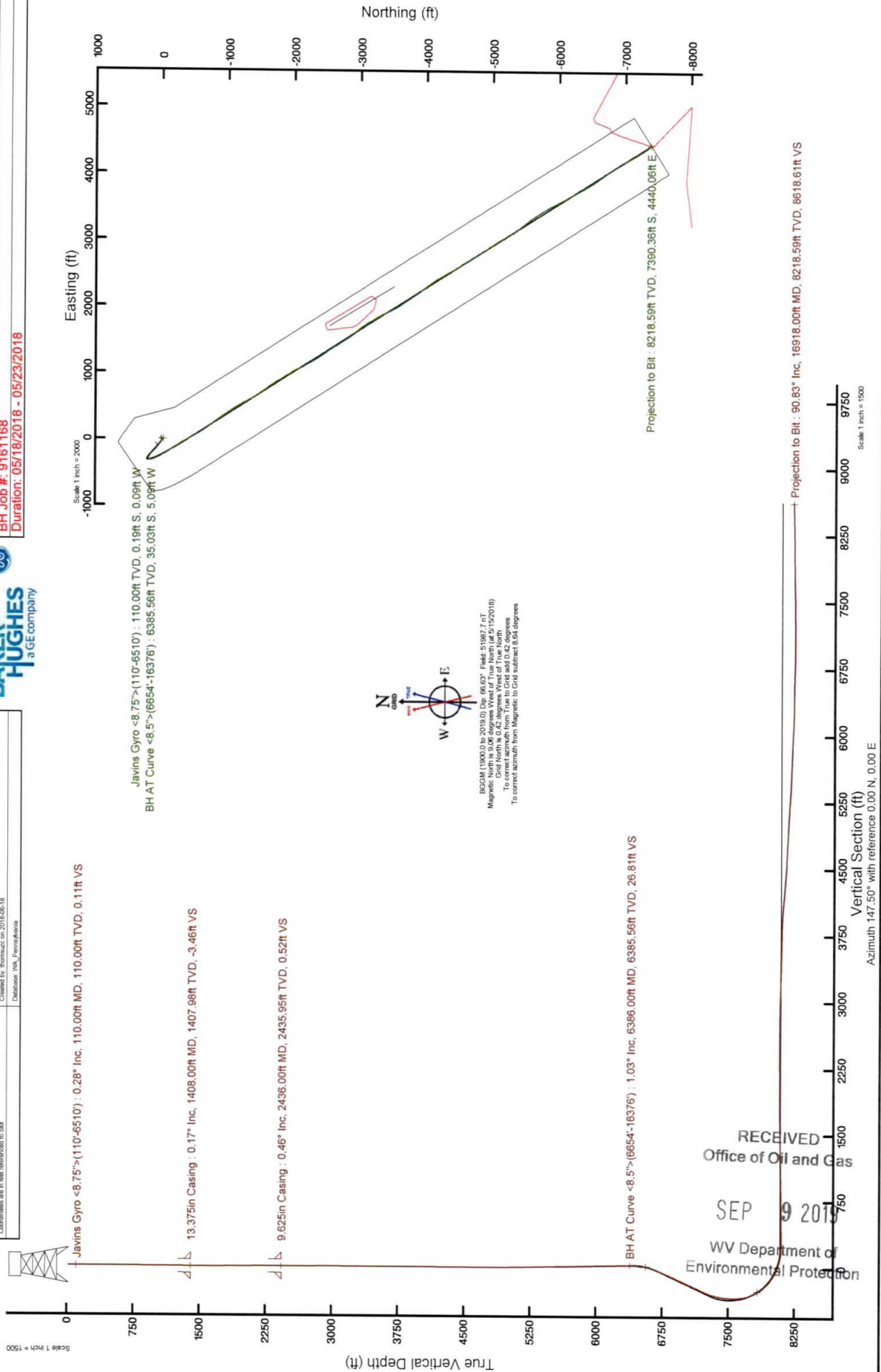
True vertical depth is MEPCO LLC 4H PWB Rev-A.0
Grid System: NAD83 Lambert West Virginia SP, Northern Zone (4301), US feet
True vertical depths are referenced to Patterson 334 (KB)
North Reference: Grid north
Measured depths are referenced to Patterson 334 (KB)
Patterson 334 (KB) to Mean Sea Level: 1449 feet
Scale: True distance
Mean Sea Level to Ground level (At Slot, Slot #04): -1424 feet
Coordinates are in feet referenced to SMT
Created by: Transmatic on 2018/06/18
Dataverse: WVA_Transmatic

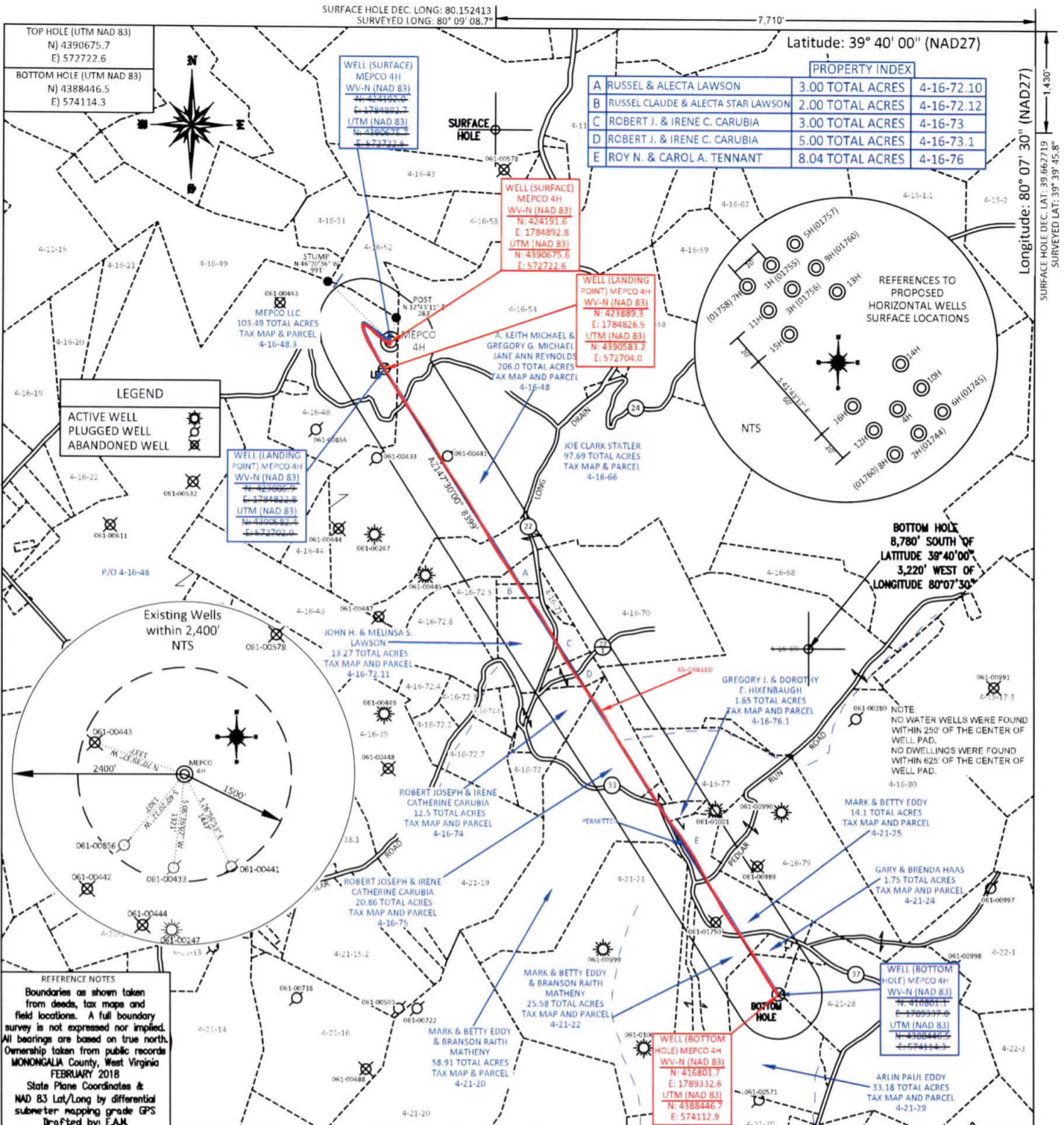


Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
MEPCO Pad	1784821.230	424282.090	80°09'08.866"W
Local N (ft)	Local E (ft)	Grid East (US ft)	Latitude
-90.07	71.50	1784892.730	39°39'46.077"N
Slot #04	Local E (ft)	Grid North (US ft)	Longitude
	71.50	424192.030	80°09'07.943"W
Patterson 334 (KB) to Ground level (At Slot, Slot #04)	25ft		
Mean Sea Level to Ground level (At Slot, Slot #04)	-1424ft		
Patterson 334 (KB) to Mean Sea Level	1449ft		

## Comments

API: 47-061-01787-0000  
 Rig: Patterson 334  
 BH Job #: 9161168  
 Duration: 05/18/2018 - 05/23/2018

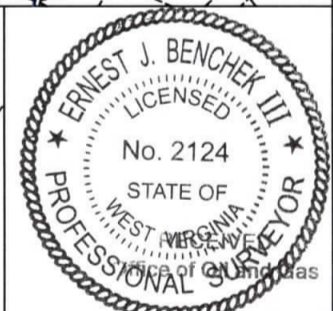




FILE #: NNE16  
 DRAWING #: 2925  
 SCALE: PLAT: 1" = 1800'  
TICK: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/200  
 PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

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 CREEK  
 COUNTY/DISTRICT: MONONGALIA / CLAY  
 SURFACE OWNER: MEPCO LLC  
 OIL & GAS ROYALTY OWNER: NNE LLC ET AL  
 LEASE NUMBERS: \_\_\_\_\_

DATE: AUGUST 5, 2019 SEP 9 2019  
 OPERATOR'S WELL #: MEPCO 4H (AS-DRILLED) of \_\_\_\_\_  
 API WELL #: 47 61 01787  
 STATE COUNTY PERMIT

AS-BUILT ELEVATION: 1,420.20'  
 QUADRANGLE: BLACKSVILLE  
 ACREAGE: 103.49 +/-  
 ACREAGE: 546.98 +/-

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: 8,222' TMD: 17,018.66'  
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC  
 DESIGNATED AGENT: JOHN ADAMS  
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200  
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200  
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301  
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301