

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


API 47 - 061 - 01790 County Monongalia District Clay  
Quad Blacksville Pad Name MEPCO Field/Pool Name \_\_\_\_\_  
Farm name MEPCO, LLC Well Number MEPCO 16H  
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 4390676.1 Easting 572714.1  
Landing Point of Curve Northing 4390143.8 Easting 572079.6  
Bottom Hole Northing 4388272.7 Easting 573309.8

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 12/06/2017 Date drilling ceased 06/09/2018  
Date completion activities began 10/9/2018 Date completion activities ceased 10/20/2018  
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 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

**Reviewed**

Reviewed by: MJC 10/20/2018

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API 47- 061 - 01790 Farm name MEPCO, LLC Well number MEPCO 16H

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	52.78	N/A	Grouted In
Surface	17-1/2"	13-3/8"	1,390'	N	54.6	N/A	Y, 25 bbl
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,448'	N	40	N/A	Y, 15 bbl
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	17,244'	N	20	N/A	N, 1177'
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	-	-	3 Yds	-	CTS	-
Surface	Class A + 2%	1130	15.6	1.20	1356	CTS	8
Coal							
Intermediate 1	Class A + 1%	810	15.6	1.18	956	CTS	8
Intermediate 2							
Intermediate 3							
Production	50:50 Class A + Additives	3200	14.5	1.17	3748	1,177'	48
Tubing							

Drillers TD (ft) 17,244' Loggers TD (ft) 17,214'  
 Deepest formation penetrated Marcellus Plug back to (ft) NA  
 Plug back procedure NA

Kick off depth (ft) 5,999'

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 \_\_\_\_\_

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 \_\_\_\_\_

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

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



API 47- 061 - 01790 Farm name MEPCO, LLC Well number MEPCO 16H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>7890'</u>	<u>TVD</u>	<u>17,244'</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 3221 psi Bottom Hole 4043 psi DURATION OF TEST 48 hrs

OPEN FLOW Gas 3396 mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ bpd GAS MEASURED BY  Estimated  Orifice  Pilot

<u>LITHOLOGY/ FORMATION</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H<sub>2</sub>S, ETC)</u>
	<u>DEPTH IN FT NAME TVD</u>	<u>DEPTH IN FT TVD</u>	<u>DEPTH IN FT MD</u>	<u>DEPTH IN FT MD</u>	
	<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 C&J Energy Services  
Address 528 Industrial Park Rd City Jane Lew State WV Zip 26378

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 **SEP 9 2019**

Submission of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry WV Department of Environmental Protection

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 16H 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	10/9/18	77	8,698	8,499	4,701	299,260	382	6,665	500
2	10/10/18	79	8,516	7,074	5,303	402,120	377	8,338	455
3	10/10/18	79	8,224	6,509	5,254	400,670	372	8,023	424
4	10/10/18	76	8,895	6,732	4,929	400,980	374	10,945	428
5	10/10/18	80	8,921	6,927	4,845	399,320	369	8,348	410
6	10/11/18	80	8,960	6,976	4,907	401,580	363	8,336	420
7	10/11/18	79	9,076	6,842	4,732	399,880	354	8,238	429
8	10/11/18	79	9,095	6,679	5,178	399,670	355	8,285	430
9	10/11/18	79	9,055	6,565	5,344	400,800	351	8,455	429
10	10/12/18	79	8,970	6,783	5,344	400,360	348	8,110	307
11	10/12/18	79	9,065	6,995	6,183	400,630	335	8,140	436
12	10/12/18	78	9,194	7,263	5,026	400,480	334	8,909	429
13	10/12/18	75	8,984	7,575	5,231	399,460	335	8,297	389
14	10/13/18	80	8,821	6,947	5,555	400,360	330	8,247	390
15	10/13/18	79	8,875	6,534	5,582	404,060	319	8,421	429
16	10/13/18	79	8,950	6,514	5,502	400,992	322	8,176	415
17	10/14/18	80	8,531	6,945	5,771	400,110	316	8,012	310
18	10/14/18	79	8,721	6,965	5,000	405,060	308	8,301	430
19	10/14/18	80	8,475	6,171	5,060	401,770	310	8,521	430
20	10/14/18	79	8,440	6,475	5,190	389,960	138	7,712	339
21	10/15/18	76	8,084	6,748	5,601	401,400	295	8,491	429
22	10/15/18	76	8,093	7,204	5,272	408,410	289	8,683	429
23	10/15/18	81	8,436	6,903	5,620	401,900	288	8,028	140
24	10/16/18	81	8,569	7,352	5,780	402,220	279	7,858	150
25	10/16/18	79	8,492	6,839	5,325	400,500	277	8,224	429
26	10/16/18	79	8,228	6,605	5,225	399,540	273	8,286	429
27	10/16/18	80	8,258	6,836	6,147	399,740	266	8,021	150
28	10/17/18	78	8,224	6,753	5,999	399,900	259	8,499	251
29	10/17/18	79	8,115	6,550	5,271	404,700	258	8,108	429
30	10/17/18	79	8,054	6,761	6,084	399,460	251	8,100	150
31	10/18/18	78	7,943	6,993	6,183	398,680	247	8,045	170
32	10/18/18	79	8,148	7,007	5,843	401,740	248	8,395	429
33	10/18/18	78	8,076	7,175	5,853	368,340	242	7,852	431
34	10/18/18	78	8,067	6,825	5,276	403,420	236	8,142	180
35	10/19/18	79	7,826	6,821	6,071	401,950	231	8,192	150
36	10/19/18	79	7,922	6,686	5,975	399,860	230	8,475	428
37	10/19/18	79	8,005	6,466	5,927	406,320	221	8,258	430
38	10/19/18	78	8,171	7,408	4,848	400,370	217	8,346	275

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<b>MEPCO 16H PERFORATION RECORD</b>				
Stage Number	Report Date	Cluster 5 Bottom TD	Cluster 1 Top TD	Total Shots
1	10/9/18	17,079	-	0
2	10/10/18	16,877	17,035	40
3	10/10/18	16,678	16,835	40
4	10/10/18	16,478	16,636	40
5	10/10/18	16,279	16,436	40
6	10/11/18	16,079	16,237	40
7	10/11/18	15,880	16,037	40
8	10/11/18	15,680	15,838	40
9	10/11/18	15,480	15,638	40
10	10/12/18	15,281	15,438	40
11	10/12/18	15,081	15,239	40
12	10/12/18	14,882	15,039	40
13	10/12/18	14,682	14,840	40
14	10/13/18	14,483	14,640	40
15	10/13/18	14,283	14,441	40
16	10/13/18	14,083	14,241	40
17	10/14/18	13,884	14,042	40
18	10/14/18	13,684	13,842	40
19	10/14/18	13,485	13,642	40
20	10/14/18	13,285	13,443	40
21	10/15/18	13,086	13,243	40
22	10/15/18	12,886	13,044	40
23	10/15/18	12,686	12,844	40
24	10/16/18	12,487	12,645	40
25	10/16/18	12,287	12,445	40
26	10/16/18	12,088	12,245	40
27	10/16/18	11,888	12,046	40
28	10/17/18	11,689	11,846	40
29	10/17/18	11,489	11,647	40
30	10/17/18	11,290	11,447	40
31	10/18/18	11,090	11,248	40
32	10/18/18	10,890	11,048	40
33	10/18/18	10,691	10,849	40
34	10/18/18	10,491	10,649	40
35	10/19/18	10,292	10,449	40
36	10/19/18	10,092	10,250	40
37	10/19/18	9,893	10,050	40
38	10/19/18	9,693	9,851	40

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API Permit #: 47-061-01790

Customer: NENE

Lease and Well Name: Mepco 16H

A.F.E #: 100406-602



Job Type: 9.625

Cement Operator: Ralph Hiles

Date Cemented: 12/9/2017

Drilling Contractor: Highlands #8

Cement Slurry Information							
No. of Sacks	Cement Blend Composition	Yield (ft³/sk)	Mix Water (gal/sk)	Density (lb/gal)	(bbl) Mix Water	(ft³) Of Slurry	(bbl) Of Slurry
810	Class A + 1% CaC12	1.18	5.20	15.6	100	956	170
					Totals	100	956

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	2,448		TVD (ft)	2,520
Previous Casing		13 3/8	54.5	0	1,390		Displacement Depth (ft)	2,402
Tubing or Drillpipe							Displacement (bbl)	182.0
Open Hole				2,448	2,520			
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)	55	
Cement Returns Seen at Surface	Yes	Blend 1	67	67	67	67	Displacement Fluid Type	Water	
Amount of Cement Returns (BBL)	15	Blend 2					Displacement Fluid Temp (°F)	55	
		Blend 3					Displacement Fluid Density (lb/gal)	8.4	

Time	Rate (bpm)	Volume (bbl)	Pressure (psi)	Event or Stage Description
10:00				Arrive on location
10:01				Wait on rig to run casing
15:00				Spot trucks, Rig up
16:35				Hold Safety Meeting
16:53	3.0	3	60	Wet lines
16:56	0.1	0	2000	Pressure test lines
17:00	5.5	200	120	Pump Recycled water to clear shoe by 10 barrel
17:32	5.0	10	115	Switch to fresh water
17:35	5.0	25	120	Mix & Pump gel
17:40	5.0	10	120	Pump Fresh Water
17:42	5.0	810 sacks/ 170 bbl	200	Mix and Pump Cement at 15.6
18:18				Shut Down, Drop Plug
18:20	5.5	182	110 TO 1000	Displace Plug with Recycled water
19:00	3.5		1000	Plug Lands, Bump plug to 1500, Shut Down
19:05			1500 TO 0	Hold 5 Minutes, Release Pressure
19:10				Floats Holds, Leave Manifold open
19:18				Rig into Stack to wash up
19:30				Wash Up, Rack Out
20:30				Leave Location

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Comments:

PH - 7/Hardness 120  
Circulation at 290

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Thank You for your Business

UWS Cement Operator Signature:

Ralph Hiles

Customer Representative Signature:



Cement Job Log

Customer: NORTHEAST NATURAL ENERGY LLC	Date: 6/8/2018	Serv. Supervisor: Dave Thorne
Cust. Rep.:	Ticket #: JWV1806-0009	Serv. Center: Jane Lew, WV
Lease: Mepco 16H	API Well #: 100406-603	County: Monongalia State: West Virginia
Well Type:	Rig: Patterson 334	Type of Job: Production Casing

**Materials Furnished by C&J ENERGY SERVICES**

Plugs	Casing Hardware	Physical Slurry Properties					
		Sacks of Cement	Fluid Dens (lb/gal)	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbbls)	Mix Water (bbbls)
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	3200	14.5	1.17	4.95	667	377

Displacement Chemicals:

OPEN HOLE DATA			TUBULAR DATA								
SIZE (in)	EXCESS (%)	DEPTH (ft)	TYPE (CSG/TBG/DP)	OD (in)	WEIGHT (lbs/ft)	THREAD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
8 3/4		6010	Casing	5 1/2	20		17244		4.79		
8 1/2		17244									

PREVIOUS CASING DATA				PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
SIZE (in)	WEIGHT (lbs/ft)	ID (in)	DEPTH (ft)	TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
9 5/8	40	8.84	2448					17244	17164		

WELL FLUID		DISPLACEMENT FLUID (STG 1)			DISPLACEMENT FLUID (STG 2)			WATER ON LOC (bbl)	DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)
TYPE	DENSITY	VOLUME	TYPE	DENSITY	VOLUME	TYPE	DENSITY				
Mud	12.5 ppg	384 bbl	Water	8.3 ppg				2000	2886	6804	

Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details
08:30pm						0	Arrived On Location
09:00pm						0	Location Time
09:00pm						0	Rigged Up
12:30am						0	Safety Meeting
03:00am						0	Drop 1 st Plug
03:10AM		6000				0	Psi Test
03:15AM	7	1200			100	100	Spacer
03:30AM	7	1700			666	766	Slurry ( Top of cement 1177)
04:57AM						766	SD WL DP
05:00AM	8	3600			383	1149	Disp
5:45 AM	4	4100				1149	Plug Laned
5:50 AM						1149	Released Psi
6:00 AM						1149	Washed Up Rigged Down
7:00 AM						1149	
						1149	
						1149	
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						1149	

Left Yard Arrived Loc.	Final Differential (psi)	Floats Held (Y/N)	PSI Left on Casing	Left Loc. Returned Yd	Cement to Surface (bbl)	Full Circ. During Job (Y/N)	Max Pump Pressure (psi)	Standby Charged (hrs)	Start Pump End Pump	RECEIVED Office of Oil and Gas <i>Dave Thorne</i> Service Supervisor	SEP 9 2019
Yes	3600	Yes		0		Yes					

# NORTHEAST NATURAL ENERGY, LLC

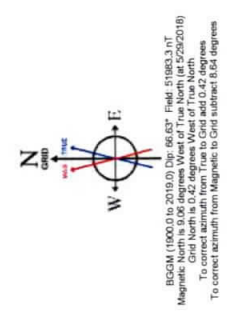
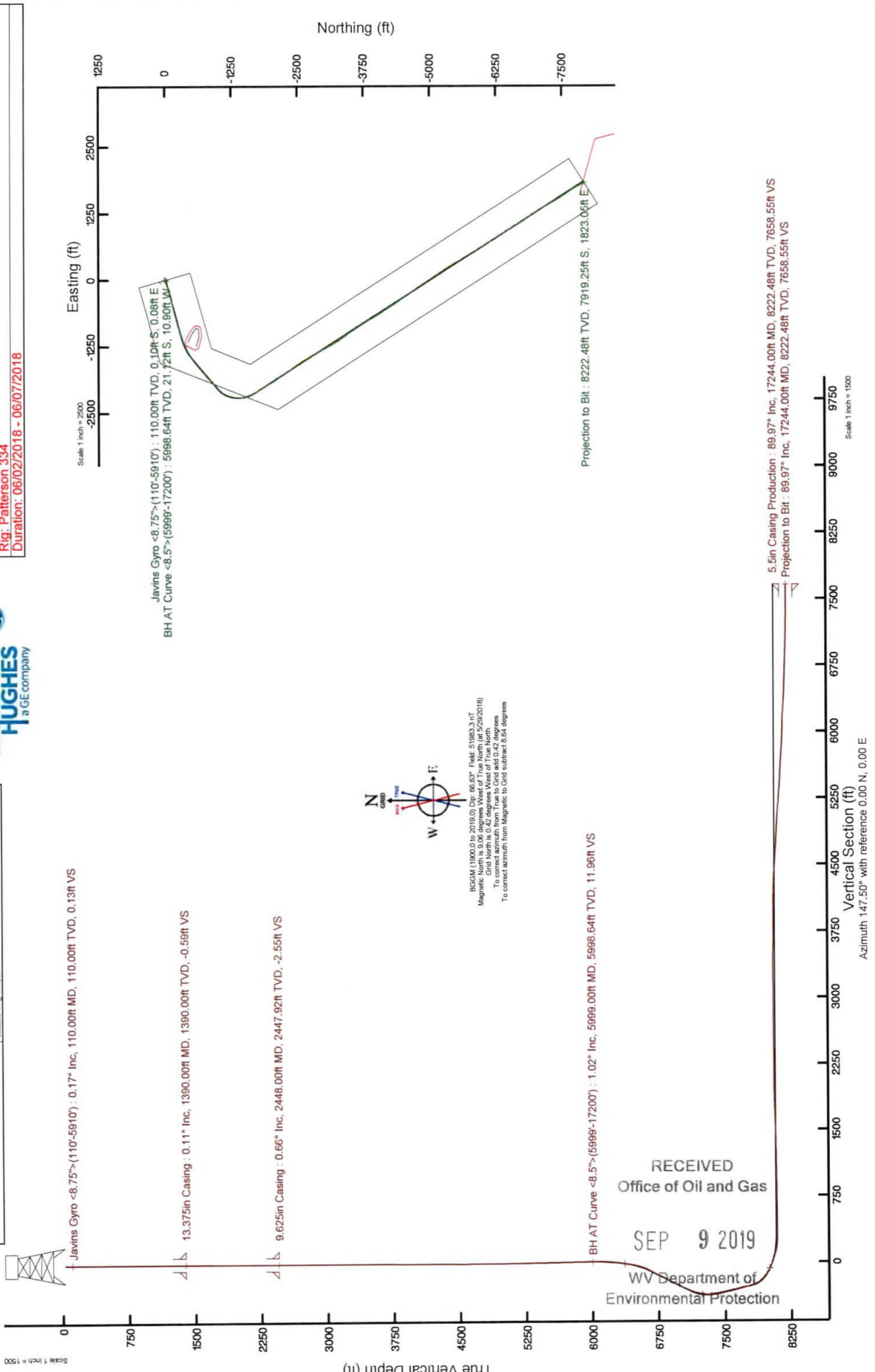
Location: Monongalia County, WV  
 Field: Monongalia  
 Facility: MEPCO Pad

Slot: Slot #16  
 Well: MEPCO LLC 16H  
 Wellbore: MEPCO LLC 16H PWB

True vertical depths in MEPCO LLC 16H PWB True-V	Grid system: NAD83 / Lambert West Virginia 3P, Northern Zone (F70), US Feet
True vertical depths are referenced to Patterson 334 (KB)	North direction: Grid north
Measured depths are referenced to Patterson 334 (KB)	Scale: True distance
Patterson 334 (KB) to Mean Sea Level: 1424 feet	Depth is in feet
Mean Sea Level to Ground level (At Slot: Slot #16): -1424 feet	Created by: Robinson on 2019-06-25
Coordinates are in feet referenced to Slot	Database: WV_Pennsylvania

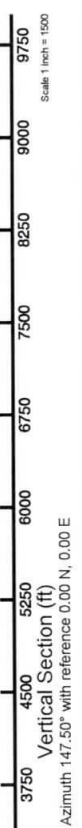


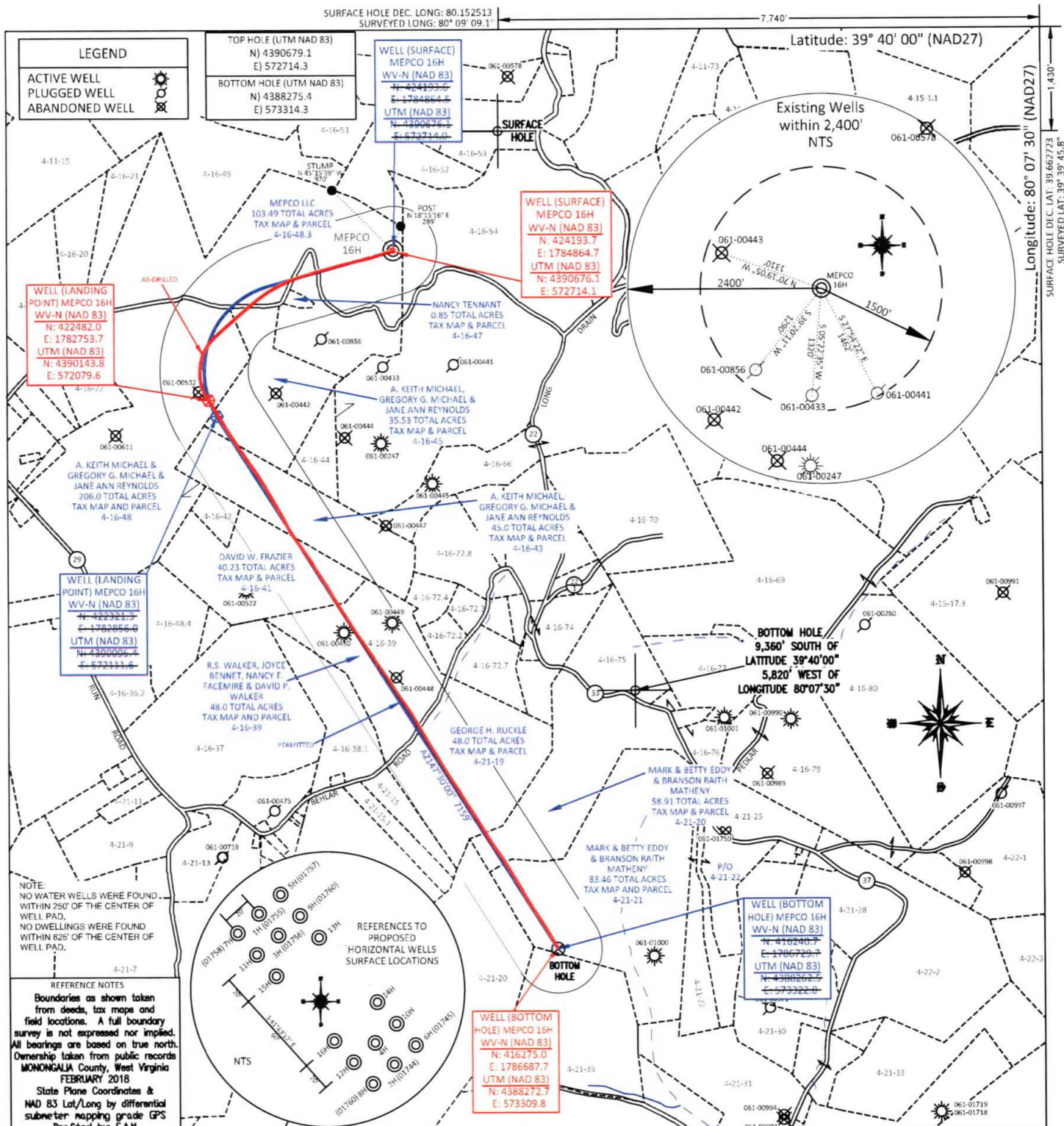
Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
MEPCO Pad	1784821.230	424282.090	80°09'08.866"W
Local N (ft)	Local E (ft)	Grid North (US ft)	Latitude
-88.46	43.26	424193.640	39°39'46.097"N
Slot #16	Local N (ft)	Grid North (US ft)	Latitude
	1784864.490	424193.640	39°39'46.097"N
Patterson 334 (KB) to Ground level (At Slot: Slot #16)			25ft
Mean Sea Level to Ground level (At Slot: Slot #16)			-1424ft
Patterson 334 (KB) to Mean Sea Level			1448ft
Comments			
API: 47-061-01790-0000			
BH Job #: 9190972			
Rig: Patterson 334			
Duration: 06/02/2018 - 06/07/2018			



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5.5in Casing Production : 89.97° Inc, 17244.00ft MD, 8222.48ft TVD, 7658.55ft VS  
 Projection to Bit : 89.97° Inc, 17244.00ft MD, 8222.48ft TVD, 7658.55ft VS

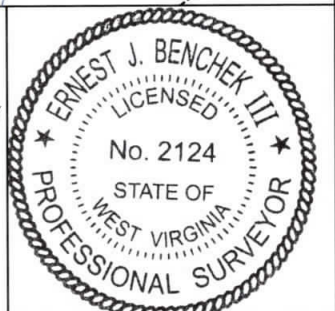




FILE #: NNE16  
 DRAWING #: 2929  
 SCALE: PLAT: 1" = 1800'  
TICK: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/200  
 PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

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 WYDEP

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  
 OPERATOR'S WELL #: MEPCO 16H (AS-DRILLED)  
 API WELL #: 47 SEP 9 2019  
 STATE COUNTY PERMIT Environmental Protection

AS-BUILT ELEVATION: 1,420.20'  
 QUADRANGLE: BLACKSVILLE  
 ACREAGE: 103.49 +/-  
 ACREAGE: 613.43 +/-

TARGET FORMATION: MARCELLUS  
 ESTIMATED DEPTH: TVD: 8,222' TMD: 17,007.41'  
 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

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
 PLUG OFF FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON   
 CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY): \_\_\_\_\_