

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

API 47 - 061 - 01788 County Monongalia District Clay
Quad Blacksville Pad Name MEPCO Field/Pool Name _____
Farm name MEPCO, LLC Well Number MEPCO 10H
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 4390679.8 Easting 572727.0
Landing Point of Curve Northing 4390721.9 Easting 573067.9
Bottom Hole Northing 4388596.5 Easting 574469.6

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 11/03/17 Date drilling commenced 01/11/2018 Date drilling ceased 5/17/2018
Date completion activities began 10/22/2018 Date completion activities ceased 11/3/2018
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

Freshwater depth(s) ft 906' Open mine(s) (Y/N) depths _____
Salt water depth(s) ft 2027', 2250', 2460' Void(s) encountered (Y/N) depths SEP N/A 9 2019
Coal depth(s) ft 848', 930' Cavern(s) encountered (Y/N) depths N/A
Is coal being mined in area (Y/N) N

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N/A
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Reviewed

Reviewed by:
MJK 10/28/2019

API 47-061 - 01788

Farm name MEPCO, LLC

Well number MEPCO 10H

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	N/A	N/A	Grouted In
Surface	17-1/2"	13-3/8"	1,400"	N	54.6	N/A	Y, 25 bbl
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,493'	N	40	N/A	Y, 25 bbl
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	17,198'	N	20	N/A	N, 1250'
Tubing	N/A	2-7/8"	N/A	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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	4,500 PSI Grout	36-	-	3 Yds	-	CTS-	-
Surface	Class A + 2%	1130	15.6	1.20	1356	CTS	8
Coal							
Intermediate 1	Class A + 1%	800	15.6	1.19	949	CTS	8
Intermediate 2							
Intermediate 3							
Production	50:50 Class A + Additives	3210	14.5	1.17	3759	1250'	48
Tubing							

Drillers TD (ft) 17,198' Loggers TD (ft) 17,168'

Deepest formation penetrated Marcellus Plug back to (ft) NA

Plug back procedure NA

Kick off depth (ft) 6,779'

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 47-061-01788 Farm name MEPCO, LLC Well number MEPCO 10H

PERFORATION RECORD

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

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)
						Please	See	Attachment

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Please insert additional pages as applicable.

API 47- 061 - 01788 Farm name MEPCO, LLC Well number MEPCO 10H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>7,890'</u>	<u>TVD</u>	<u>17,198'</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 3643 psi Bottom Hole 4113 psi DURATION OF TEST 48 hrs

OPEN FLOW Gas 4665 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, H₂S, 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 Universal Pressure Pumping
Address 2198 University Dr. City Lemont Furnace State PA Zip 15456

Stimulating Company Producers Service Company
Address 109 Graham St City Zanesville State OH Zip 43701 RECEIVED Office of Oil and Gas

Please insert additional pages as applicable.

Completed by Hollie Medley Telephone 304-212-0422
Signature *Hollie Medley* Title Regulatory Manager Date 08/08/2019 WV Department of Environmental Protection

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 10H PERFORATION RECORD				
Stage Number	Report Date	Cluster 5 Top TD	Cluster 1 Top TD	Total Shots
1	10/21/2018	17,032	-	-
2	10/21/2018	16,833	16,992	40
3	10/22/2018	16,713	16,793	40
4	10/22/2018	16,434	16,594	40
5	10/23/2018	16,235	16,394	40
6	10/23/2018	16,035	16,195	40
7	10/23/2018	15,836	15,996	40
8	10/24/2018	15,637	15,796	40
9	10/24/2018	15,437	15,597	40
10	10/24/2018	15,238	15,398	40
11	10/25/2018	15,039	15,198	40
12	10/25/2018	14,839	14,999	40
13	10/25/2018	14,640	14,799	40
14	10/26/2018	14,441	14,600	40
15	10/26/2018	14,241	14,401	40
16	10/26/2018	14,042	14,201	40
17	10/26/2018	13,842	14,002	40
18	10/27/2018	13,643	13,803	40
19	10/27/2018	13,444	13,603	40
20	10/27/2018	13,244	13,404	40
21	10/27/2018	13,045	13,205	40
22	10/28/2018	12,846	13,005	40
23	10/28/2018	12,646	12,806	40
24	10/28/2018	12,447	12,606	40
25	10/29/2018	12,248	12,407	40
26	10/29/2018	12,048	12,208	40
27	10/29/2018	11,849	12,008	40
28	10/29/2018	11,649	11,809	40
29	10/30/2018	11,450	11,610	40
30	10/30/2018	11,251	11,410	40
31	10/30/2018	11,051	11,211	40
32	10/30/2018	10,852	11,012	40
33	10/31/2018	10,653	10,812	40
34	10/31/2018	10,453	10,613	40
35	10/31/2018	10,254	10,413	40
36	11/1/2018	10,055	10,214	40
37	11/1/2018	9,855	10,015	40
38	11/1/2018	9,656	9,815	40
39	11/1/2018	9,456	9,616	40
40	11/2/2018	9,257	9,417	40
41	11/2/2018	9,058	9,217	40
42	11/2/2018	8,858	9,018	40

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43	11/3/2018	8,659	8,819	40
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MEPCO 10H 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 (bbls)	Total Clean Fluid (Bbls)	Pad Volume (bbls)
1	10/21/2018	77	8,284	8,573	4,989	300,420	385	6,831	626
2	10/21/2018	79	8,544	7,658	5,400	350,190	376	7,698	432
3	10/22/2018	78	8,234	8,384	5,725	349,500	372	7,672	431
4	10/22/2018	76	8,983	7,020	5,847	350,860	362	9,622	429
5	10/23/2018	77	9,053	7,452	5,836	349,260	365	7,710	440
6	10/23/2018	79	8,890	7,446	5,465	353,480	364	7,818	438
7	10/23/2018	75	9,001	7,672	6,047	350,340	355	7,744	410
8	10/24/2018	76	8,813	8,000	5,704	350,580	351	7,706	429
9	10/24/2018	78	9,020	7,555	5,676	352,930	347	7,889	455
10	10/24/2018	77	8,875	7,431	6,720	349,760	347	7,918	521
11	10/25/2018	78	8,821	7,219	6,043	352,940	337	7,730	428
12	10/25/2018	79	8,743	7,867	6,287	352,140	332	9,666	410
13	10/25/2018	76	8,428	7,304	6,018	354,850	326	7,715	429
14	10/26/2018	79	8,120	7,196	5,530	353,120	324	7,514	429
15	10/26/2018	80	7,803	6,836	5,611	353,420	318	7,431	400
16	10/26/2018	83	8,004	6,547	5,586	352,560	316	7,570	400
17	10/26/2018	78	7,822	6,876	5,438	350,040	309	7,476	430
18	10/27/2018	80	8,145	7,114	5,714	348,180	306	7,177	429
19	10/27/2018	83	8,471	7,569	5,724	350,580	301	6,949	400
20	10/27/2018	81	8,510	7,951	5,804	351,720	297	7,098	400
21	10/27/2018	80	8,260	8,072	5,828	353,960	295	7,579	429
22	10/28/2018	82	8,358	7,368	6,020	350,570	286	7,474	429
23	10/28/2018	82	8,303	7,542	6,091	351,300	288	7,121	375
24	10/28/2018	81	8,363	7,525	5,555	353,670	281	8,005	429
25	10/29/2018	81	7,863	7,242	5,941	349,990	279	7,396	431
26	10/29/2018	84	7,998	7,141	5,873	350,120	272	7,130	400
27	10/29/2018	84	8,012	7,404	5,823	350,040	269	7,031	380
28	10/29/2018	80	7,650	6,634	5,763	354,440	260	7,801	328
29	10/30/2018	80	7,811	7,241	5,928	352,860	257	7,517	429
30	10/30/2018	81	7,957	7,313	5,911	350,180	254	6,903	130
31	10/30/2018	81	7,884	7,461	6,418	350,100	246	7,419	400
32	10/30/2018	81	7,977	7,447	5,700	349,900	245	7,574	428
33	10/31/2018	82	7,724	7,536	5,568	349,140	242	6,934	105
34	10/31/2018	82	7,726	7,670	5,583	351,020	240	6,765	105
35	10/31/2018	83	7,913	7,493	5,624	351,820	232	7,465	430
36	11/1/2018	84	7,815	6,937	5,882	350,380	231	7,841	429
37	11/1/2018	84	7,748	7,337	5,955	354,820	225	6,802	65
38	11/1/2018	80	7,819	7,154	5,349	349,860	223	7,366	130
39	11/1/2018	84	7,725	6,595	6,031	349,980	215	7,225	429
40	11/2/2018	84	8,143	7,586	5,821	351,940	211	7,789	429
41	11/2/2018	80	7,769	7,029	5,997	348,940	205	7,449	429
42	11/2/2018	84	7,845	7,410	5,862	352,800	200	7,381	301
43	11/3/2018	82	7,668	7,584	5,430	342,400	207	7,077	375

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API Permit #: 47-061-01788

Customer: NE NE

Lease and Well Name: MEPCO #10-H

A.F.E #: 100380-602



Job Type: 13.375

Cement Operator: CurtisNicklow

Date Cemented: 1/12/2017

Drilling Contractor: HIGHLANDS

Cement Slurry Information											
No. of Sacks	Cement Blend Composition				Yield (ft ³ /sk)	MixWater (gal/sk)	Density (lb/gal)	(bbl) Mix Water	(ft ³) Of Slurry	(bbl) Of Slurry	
1130	CLASS A 2%CALC 1/4 FLAKE				1.20	5.20	15.6	140	1356	241	
								Totals	140	1356	241

Wellbore Information							
	New/Used	Diameter (in)	Weight (lb/ft)	Top (ft)	Bottom (ft)	Collapse/Burst Pressures (psi)	Requested TOC (ft)
Casing	New	13 3/8	54.5	1,400	0		
Previous Casing							TVD (ft)
Tubing or Drillpipe							Displacement Depth (ft)
Open Hole							Displacement (bbl)
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)	57	
Cement Returns Seen at Surface	Yes	Blend 1	67			67	Displacement Fluid Type	Water	
Amount of Cement Returns (BBL)	25	Blend 2					Displacement Fluid Temp (°F)	57	
		Blend 3					Displacement Fluid Density (lb/gal)	8.3	

Time	Rate (bpm)	Volume (bbl)	Pressure (psi)	Event or Stage Description
11:00				ARRIVED ON LOCATION
11:02				TALK TO CO.MAN
11:05				SPOT TRUCKS AND RACK
11:45				WAIT ON RIG TO FINISH RUNNING CASING
12:00				FINISH RACK IN
12:20				HOLD SAFETY MMETING
12:40	3.0	3	2500	WET LLINES PPRESSURE TEST
12:45	5.0	230	110	RUN WATER
13:49	0.0	0	0	TRUCK BROKE DOWN CALLED FOR ANOTHER
16:00	0.0	0	0	TRUCK ARRIVED PUT ON LINE START JOB
16:10		10	123	RUN WATER
16:12	5.0	25	135	RUN GEL
16:18	5.0	5	123	RUN WATER
16:20	5.0	241	244	MIX AND PUMP CEMENT
17:22	0.0	0	0	SHUT DOWN DROP PLUG
17:23	5.0	210	547	DISPLACE PLUG
18:05	0.0	0	876	PPLUG DOWN WAIT 3 MINUTES CHECK FLOAT
18:07				FLOAT HELD .5 BBL BACK
18:35				CLEAN PUMP TRUCK
19:00				RACK OUT
19:30				LEAVE LOCATION

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Comments:

MAIN LINE CEMENTED UP WILL NOT BRING ON WATER
CALLED FOR TRUCK AT 1349
PPUMP TRUCKK ARRIVED AT 1600

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Thank You for your Business

UWS Cement Operator Signature:

CurtisNicklow

Customer Representative Signature:

Customer: NORTHEAST NATURAL ENERGY LLC	Date: 1/15/2018	Serv. Supervisor: David Thorne
Cust. Rep.:	Ticket #: JWV1801-0012	Serv. Center: Jane Lew, WV
Lease: Mepco 10H	API Well #: 47-061-01788	County: Monongalia State: WV
Well Type:	Rig: 00	Type of Job: Intermediate 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 (bbls)	Mix Water (bbls)
Spacer 1:	6% Gel			-	8.7				
Lead									
Tail:	CJ910 + 1% CJ110			800	15.6	1.19	5.23	169	100

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)
12 1/4		2493	Casing	9 5/8	40		2425		8.84		

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
13 3/8	54.5	12.61	1400					2425	2383		

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				
Water	8.3 ppg	182 bbl	Water	8.3 ppg				2000	1010	1319	2000

Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press. (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details					
0300am							0	Arrived On Location				
0500am							0	Location Time(waiting on casing crew)				
0800am							0	Rigged Up				
0845am							0	Safety Meeting				
0915am		2500					0	Psi Test				
0920am		250			150	150		Processed Water				
0943am	7	300			10	160		Water				
0945am	7	576			25	185		Gel				
0948am	7	677			10	195		Water				
0950am	7	878			169	364		Slurry				
1015am						364		SD DP				
1017am	7	1100			182	546		Disp				
1043am		1618				546		Plug Landed				
1048am						546		Released Psi				
1200pm						546		Washed Up Rigged Down				
						546						
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Left Yard		Left Loc.		Start Pump						
Arrived Loc.		Returned Yd		End Pump	SEP 9 2019					
Bumped Plug (psi)	Final Differential (psi)	Floats Held (Y/N)	PSI Left on Casing	Cement to Surface (bbl)	Full Circ. During Job (Y/N)	Max Pump Pressure (psi)	Standby Charged (hrs)	David Thorne Department of Service Supervisor Environmental Protection		
Yes	1010	Yes		25	Yes					

Customer: NORTHEAST NATURAL ENERGY LLC	Date: 5/17/2018	Serv. Supervisor: Jason Beeson
Cust. Rep.: jamie	Ticket #: JWV1805-0015	Serv. Center: Jane Lew, WV
Lease: Mepco 10H	API Well #:	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 (bbls)	Mix Water (bbls)
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	3210	14.5	1.17	4.95	669	378

Displacement Chemicals:

OPEN HOLE DATA			TUBULAR DATA								
SIZE (in)	EXCESS (%)	DEPTH (ft)	TYPE (CSG/TBG/DIP)	OD (in)	WEIGHT (lbs/ft)	THREAD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
8 3/4		6800	Casing	5 1/2	20		17198		4.79		
8 1/2		17198									

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	2443					24	17118		

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				
		381 bbl	fresh	8.3 ppg				1500	2737	6816	6500

Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press. (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details				
2:00 AM						0	arrived on location				
2:30 AM						0	spot trucks rig up				
6:00 AM						0	safety meeting				
6:15 AM						0	launch bottom plug psi test				
6:20 AM						0	pre load top plug				
6:30 AM	6	1151			100	100	spacer @ 13.5 ppg				
6:50 AM	6.6	1241			669	769	cement slurry @ 14.5 ppg				
7:17 AM	8	1330				769	cement slurry @ 14.5 ppg				
7:30 AM	8	2800				769	bottom plug landed				
7:52 AM	8.5	1810				769	cement slurry @ 14.5 ppg				
8:10 AM						769	shut down wash lines				
8:17 AM	3	650			381	1150	drop plug start displacement				
8:21 AM	8.5	1850				1150	displacement				
8:42 AM	8	3700				1150	displacement				
9:08 AM	7.6	4200				1150	spacer to surface @ 310 bbl				
9:11 AM	5	3814				1150	slow rate				
9:16 AM		4268				1150	plug down				
9:21 AM						1150	float held 5 bbl return				
						1150					
						1150					
						1150					
						1150					
						1150					

Left Yard	5/16/18 10:00 PM	Left Loc.	5/17/18 10:30 AM	Start Pump	5/17/18 6:30 AM	RECEIVED
Arrived Loc.	5/17/18 2:00 AM	Returned Yd		End Pump	5/17/18 9:47 AM	of Oil and Gas

Bumped Plug (psi)	Final Differential (psi)	Floats Held (Y/N)	PSI Left on Casing	Cement to Surface (bbl)	Full Circ. During Job (Y/N)	Max Pump Pressure (psi)	Standby Charged (hrs)	Jason Beeson		
Yes	3814	Yes	0	0	Yes	4268	5	Service Supervisor		

SEP 9 2019

NORTHEAST NATURAL ENERGY, LLC

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

Slot: Slot #10
 Well: MEPCO LLC 10H
 Wellbore: MEPCO LLC 10H PWB

This reference wellbore is MEPCO LLC 10H PWB Rev-A-0	
* True vertical depths are referenced to Patterson 334 (KB)	
* True horizontal depths are referenced to Patterson 334 (KB)	
* True magnetic depths are referenced to Patterson 334 (KB)	
* True grid depths are referenced to Patterson 334 (KB)	
* True depth to Mean Sea Level (MSL) is 1450 feet	
* Mean Sea Level to Ground level (MSL) is 251 feet	
* Coordinates are in feet referenced to State	
Database: WVA_Properties	

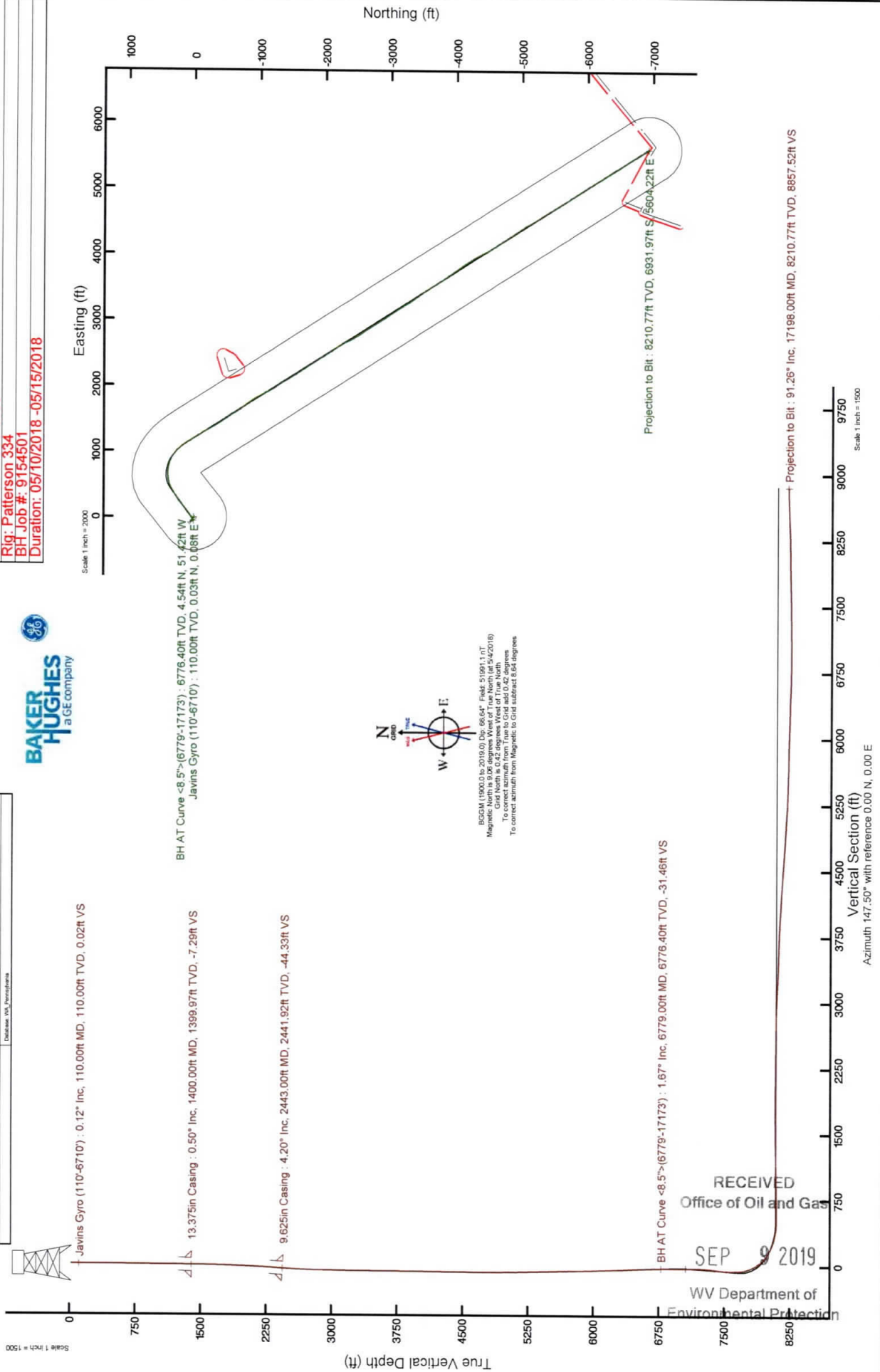
Grid System: NAD83 / Lambert West Virginia Spher. Datum Zone (NAD83) US feet
 * True North was transformed from a different geoid datum
 North Reference: Grid north
 Scale: True distance
 Depths are in feet
 Coordinates are in feet referenced to State

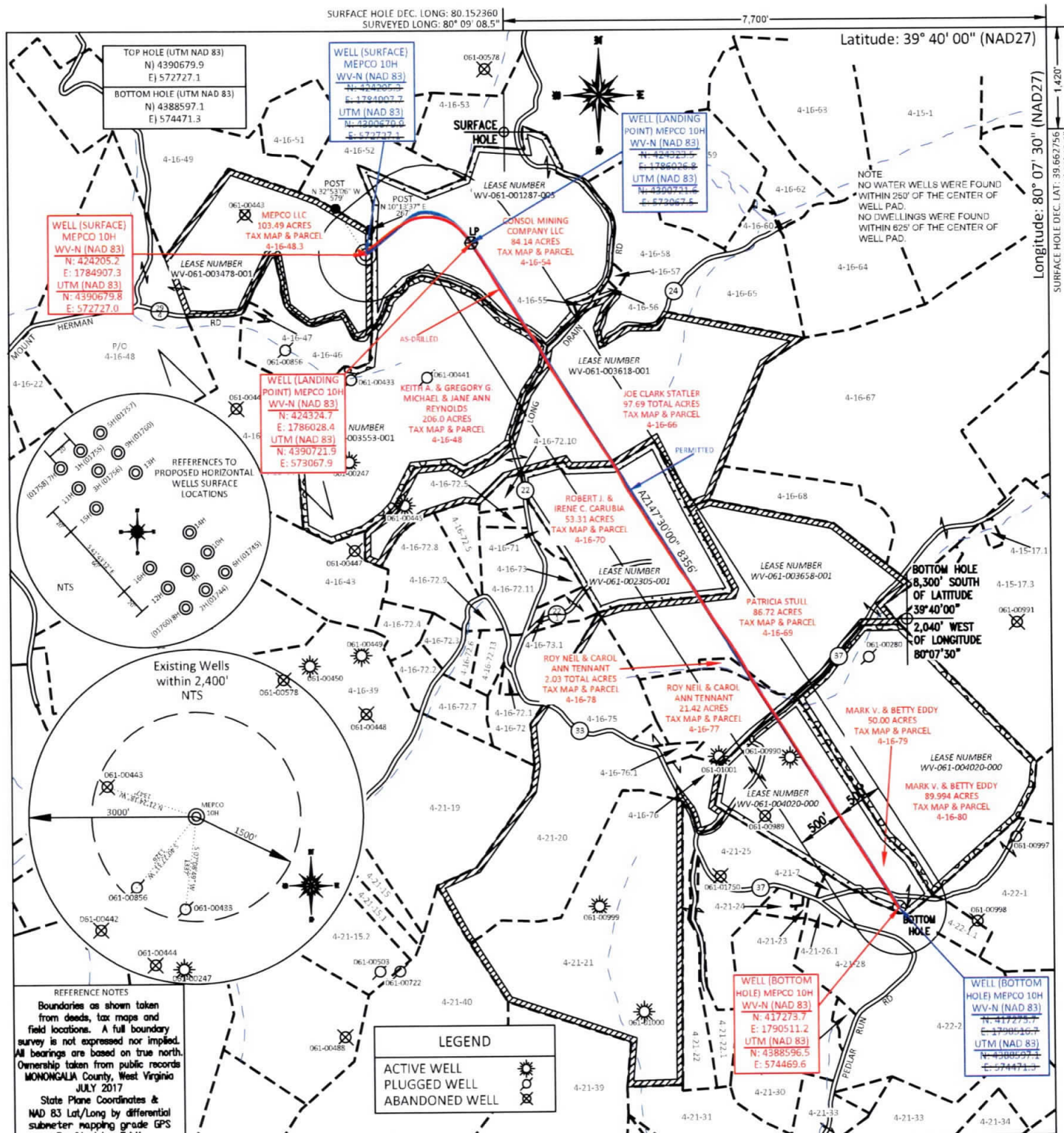


Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
MEPCO Pad	1784821.230	424282.090	80°09'06.866"W
Local N (ft)	Local E (ft)	Grid North (US ft)	Latitude
-76.75	86.43	424205.340	39°39'46.209"N
Slot #10			Longitude
Patterson 334 (KB) to Ground level (At Slot: Slot #10)			80°09'07.754"W
Mean Sea Level to Ground level (At Slot: Slot #10)			251 ft
Patterson 334 (KB) to Mean Sea Level			-1424 ft

Comments

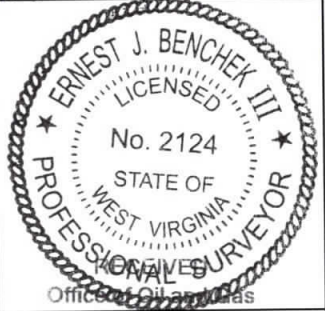
API: 47-061-01788-0000
 Rig: Patterson 334
 BH Job #: 9154501
 Duration: 05/10/2018 - 05/15/2018





FILE #: NNE15
 DRAWING #: 2829
 SCALE: PLAT: 1" = 1500'
 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: NORTHEAST NATURAL ENERGY LLC
 LEASE NUMBERS: _____

DATE: AUGUST 5, 2019
 OPERATOR'S WELL #: MEPCO 10H (AS-DRILLED)
 WV Department of Environmental Protection
 API WELL #: 47 61 01788
 STATE COUNTY PERMIT

AS-BUILT ELEVATION: 1,420.20'
 QUADRANGLE: BLACKSVILLE
 ACREAGE: 103.49 +/-
 ACREAGE: 794.794 +/-

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: 17,256.94'
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301