

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

API 47-061-01757 County Monongalia District Clay
Quad Blacksville Pad Name MEPCO Field/Pool Name _____
Farm name MEPCO, LLC Well Number MEPCO 5H
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 4390706.7 Easting 572702.3
Landing Point of Curve Northing 4390948.7 Easting 572735.8
Bottom Hole Northing 4392819.8 Easting 571286.7

Elevation (ft) 1420' 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 11/06/2017 Date drilling commenced 01/28/2018 Date drilling ceased 6/25/2018
Date completion activities began 12/5/2018 Date completion activities ceased 12/18/2018
Verbal plugging (Y/N) N Date permission granted N Granted by Office of Oil and Gas

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

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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:
MGK 10/25/2019

API 47-061 - 01757 Farm name MEPCO, LLC Well number MEPCO 5H

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"	1,402'	N	54.5	N/A	Y, 58 bbl
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,459'	N	40	N/A	Y, 17 bbl
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	16,336'	N	20	N/A	N, 1,590'
Tubing	N/A	2-7/8"		N	6.5	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	-	-	3 Yds	-	CTS	-
Surface	Class A + 2%	1125	15.6	1.20	239 bbl	CTS	8
Coal							
Intermediate 1	Class A + 1%	800	15.6	1.19	169 bbl	CTS	8
Intermediate 2							
Intermediate 3							
Production	50:50 Class A + Additives	3065	14.5	1.16	632 bbl	1,590'	48
Tubing							

Drillers TD (ft) 16,336' Loggers TD (ft) 16,306'
 Deepest formation penetrated Marcellus Plug back to (ft) NA
 Plug back procedure NA

Kick off depth (ft) 6,492'

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 _____

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

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	7710	7830	Tully
Hamilton	7830	7890	Hamilton
Marcellus	7890	8082	Marcellus
Onondaga	8082	8114	Onondaga
Huntersville chert	8114		Huntersville chert

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MEPCO 5H PERFORATION RECORD

Stage Number	Report Date	Cluster 5 Bottom TD	Cluster 1 Top TD	Total Shots
1	12/4/2018	16,186	-	-
2	12/5/2018	15,984	16,141	40
3	12/5/2018	15,786	15,943	40
4	12/5/2018	15,588	15,744	40
5	12/6/2018	15,389	15,546	40
6	12/6/2018	15,191	15,348	40
7	12/6/2018	14,992	15,149	40
8	12/7/2018	14,794	14,951	40
9	12/7/2018	14,596	14,752	40
10	12/7/2018	14,395	14,554	40
11	12/8/2018	14,199	14,356	40
12	12/8/2018	14,001	14,157	40
13	12/8/2018	13,802	13,859	40
14	12/8/2018	13,604	13,761	40
15	12/9/2018	13,405	13,562	40
16	12/9/2018	13,207	13,364	40
17	12/10/2018	13,009	13,165	40
18	12/10/2018	12,810	12,967	40
19	12/10/2018	12,612	12,769	40
20	12/11/2018	12,414	12,570	40
21	12/11/2018	12,215	12,372	40
22	12/11/2018	12,017	12,173	40
23	12/11/2018	11,818	11,975	40
24	12/12/2018	11,620	11,777	40
25	12/12/2018	11,422	11,578	40
26	12/12/2018	11,223	11,380	40
27	12/13/2018	11,025	11,182	40
28	12/13/2018	10,827	10,983	40
29	12/13/2018	10,628	10,785	40
30	12/13/2018	10,430	10,586	40
31	12/14/2018	10,231	10,388	40
32	12/14/2018	10,033	10,190	40
33	12/14/2018	9,835	9,991	40
34	12/15/2018	9,636	9,793	40
35	12/15/2018	9,438	9,595	40
36	12/15/2018	9,240	9,396	40
37	12/15/2018	9,041	9,198	40
38	12/16/2018	8,843	8,999	40
39	12/16/2018	8,644	8,801	40
40	12/16/2018	8,446	8,624	40

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MEPCO 5H STIMULATION INFORMATION

Stage Number	Report Date	Avg Treating	Avg Treating	Breakdown Pressure (psi)	ISIP (psi)	Total Proppant	Flush Volume	Total Clean Fluid (Bbls)	Pad Volume
1	12/4/2018	77	8,713	8,949	5,456	298,980	365	7,865	429
2	12/5/2018	80	8,919	7,059	5,817	449,740	361	10,125	222
3	12/5/2018	76	8,996	7,565	5,295	450,040	353	10,668	780
4	12/5/2018	73	9,095	8,104	5,327	453,220	349	9,448	500
5	12/6/2018	80	8,461	8,333	5,758	449,480	350	9,820	248
6	12/6/2018	75	9,005	7,150	5,612	450,420	343	10,153	451
7	12/6/2018	77	9,066	7,406	5,996	450,340	336	9,472	150
8	12/7/2018	77	9,054	7,069	6,051	449,000	331	10,106	90
9	12/7/2018	73	9,036	7,691	5,517	449,710	327	10,279	427
10	12/7/2018	76	9,100	6,681	5,258	450,080	324	10,404	470
11	12/8/2018	74	9,053	6,820	5,448	489,420	319	9,719	70
12	12/8/2018	80	8,798	6,890	5,551	449,630	314	10,481	429
13	12/8/2018	79	8,941	6,953	6,094	449,280	310	9,959	400
14	12/8/2018	80	8,955	6,872	6,226	449,730	306	10,972	150
15	12/9/2018	80	8,984	6,907	5,807	450,020	301	9,878	400
16	12/9/2018	81	8,901	6,419	5,763	453,780	297	9,479	80
17	12/10/2018	82	8,849	6,736	5,686	451,200	295	9,064	80
18	12/10/2018	80	9,059	7,157	5,196	450,900	287	10,376	135
19	12/10/2018	80	9,141	7,295	5,853	449,340	286	9,533	110
20	12/11/2018	79	8,698	6,930	5,437	450,020	281	9,387	78
21	12/11/2018	81	9,005	6,960	5,233	449,850	275	9,756	150
22	12/11/2018	77	8,880	6,893	5,958	450,010	271	9,880	125
23	12/11/2018	78	8,881	6,602	5,229	450,860	268	9,452	129
24	12/12/2018	81	8,870	6,784	5,367	449,740	271	9,871	110
25	12/12/2018	84	9,019	6,770	5,015	450,400	257	9,900	122
26	12/12/2018	79	8,298	6,526	5,133	450,940	253	9,497	135
27	12/13/2018	80	8,190	7,338	5,931	452,400	250	9,984	190
28	12/13/2018	84	8,691	7,249	5,200	451,320	243	10,007	423
29	12/13/2018	85	8,493	6,934	5,295	449,400	239	9,707	140
30	12/13/2018	80	7,999	6,676	5,498	451,740	239	9,746	151
31	12/14/2018	80	8,124	6,800	5,791	449,660	230	12,479	225
32	12/14/2018	85	8,290	6,737	6,020	454,080	226	9,654	82
33	12/14/2018	80	8,115	6,728	5,732	453,240	222	9,384	117
34	12/15/2018	79	7,958	6,527	6,007	451,060	223	8,785	102
35	12/15/2018	84	7,964	6,964	5,688	447,960	213	9,815	135
36	12/15/2018	85	8,340	6,675	5,151	450,360	207	9,777	115
37	12/15/2018	85	8,130	6,568	5,433	452,420	206	9,030	150
38	12/16/2018	84	8,416	6,636	5,775	451,600	201	8,012	175
39	12/16/2018	86	7,880	7,001	5,910	448,240	196	9,178	168
40	12/16/2018	84	7,936	7,436	5,581	450,920	197	9,168	168

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Customer: NORTHEAST NATURAL ENERGY LLC	Date: 1/29/2018	Serv. Supervisor: Anthony Barbara
Cust. Rep.:	Ticket #: BPA-1801-0035	Serv. Center Black Lick, PA
Lease: Mepco 5H	API Well #:	County: Monongalia State: WV
Well Type:	Rig: 0 0	Type of Job: Surface 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: 6% Gel		-	8.7			25	
Lead							
Tail:	CJ910 + 2% CJ110 + 0.25 LB/SK CJ600	1125	15.6	1.20	5.21	239	139

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)
17 1/2		1423	Casing	13 3/8	54.5		1402		12.61		

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
24	94.5	23.27	45					1406	1363		

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				
Air		10 bbl	H2O	8.3 ppg	200 bbl	Drill Fluid	8.6 ppg	500	530	475	1100

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	Yard Call
3:15 AM						0	Pre Convoy meeting
7:05 AM						0	Pre Rig up Meeting
7:30 AM						0	Rig Up
8:20 AM						0	Safety Meeting with Company man and Rig Crew
8:49 AM	5	150			319	319	Load Lines and Pump Down Casing
10:00 AM						319	Shut down Bleed Pressure off to rig head in
10:35 AM						319	Rig up to Head
10:44 AM	4.3	100			10	329	Pump Spacer of Fresh PH-8 Temp- 59.7
10:49 AM		1600				329	Pressure Test
10:53 AM	4.2	130			25	354	Pump Gelled Water
10:59 AM	4.2	140			5	359	Spacer of Fresh
11:01 AM						359	Mix Cement @ 15.6# PPG Scalled Red Lion- 16.8#
11:05 AM	5.5	220			240	599	Pump Cement Temp-69.7
11:56 AM						599	Drop Plug
11:58 AM	2	15			1	600	Start Displacement with Fresh Water
12:00 PM	6.5	145			9	609	Rate and Pressure @ 10 Back to Drilling Fluid
12:02 PM	6.5	145			10	619	Rate and Pressure @ 20
12:08 PM	6.5	145			40	659	Rate and Pressure @ 60
12:14 PM	6.4	290			40	699	Rate and Pressure @ 100
12:23 PM	6	480			50	749	Rate and Pressure @ 150
12:28 PM	5	510			30	779	Rate and Pressure @ 180
12:30 PM	4	490			10	789	Rate and Pressure @ 190
12:33 PM	3	485			10	799	Rate and Pressure @ 200

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Left Yard	1/29/18 3:30 AM			Left Loc.	1/29/18 2:00 PM			Start Pump	1/29/18 8:49 AM		
Arrived Loc.	1/29/18 7:00 AM			Returned Yd	1/29/2018 18:45			End Pump	1/29/18 12:35 PM		
Bumped Plug (psi)	Final Differential (psi)	Floater Held (Y/N)	PSI Left on Casing	Cement to Surface (bbl)	Full Circ. During Job (Y/N)	Max Pump Pressure (psi)	Standby Charged (hrs)	Environmental Protection Anthony Barbara Service Supervisor			
Yes	485	Yes	0	58	Yes	510	1				

Customer: NORTHEAST NATURAL ENERGY LLC	Date: 1/31/2018	Serv. Supervisor: Jason Jeffries
Cust. Rep.: Jason Whitt	Ticket #: BPA-1801-0038	Serv. Center: Black Lick, PA
Lease: Mepco 5H	API Well #:	County: Monongalia State: WV
Well Type:	Rig: 00	Type of Job: Surface Casing

Materials Furnished by C&J ENERGY SERVICES

Plugs		Casing Hardware			Physical Slurry Properties					
		Cement haed and swedge			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			25	
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	30	2500	Casing	9 5/8	40		2430		8.84	2570	3950

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	1402					2456	2413.8		

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			
H2O	8.3 ppg	183 bbl	H2O					1000	911	1178

	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details
7:00 AM						0	Job called out
8:30 AM						0	Arrived at yard
11:15 AM						0	Pre convoy meeting
11:30 AM						0	Left yard
2:35 PM						0	Arrived at location
4:00 PM						0	Pre rig meeting spot trucks and rig up
8:00 PM						0	Safety meeting with all personel
8:13 PM						0	Prime pumps
8:17 PM	5	0-165-0			5	5	Pump H2O line fill shut down close in head
8:19 PM		0-2850			0.1	5.1	Pressure test lines shut down
8:20 PM		2850-0				5.1	Check lines and release pressure to pump
8:20 PM	9	0-360			186	191.1	Pump capacity of casing uning drill water
8:44 PM	5	360-130			25	216.1	Mix and pump gel spacer
8:53 PM	3	130-65-0			5	221.1	Pump fresh H2O to clean mix tub shut down
8:55 PM						221.1	Batch cement to 15.6 PPG weigh with scale
8:57 PM	7	0-625-0			170	391.1	Mix and pump cement @15.6 PPG shut down (circulation 26away
9:27 PM						391.1	Drop plug
9:30 PM	7.5	0-930			183	574.1	Pump drill H2O displacement land plug
10:01 PM		900-1400				574.1	Bump plug 500 psi over pumping pressure shut down
10:06 PM		1400-0				574.1	Hold pressure 5 minutes and release pressure to pump
10:07 PM						574.1	1 bbl back floats held
						574.1	
						574.1	
						574.1	

Left Yard	1/31/18 11:30 AM	Left Loc.	1/31/18 11:00 PM	Start Pump	1/31/18 6:17 PM
Arrived Loc.	1/31/18 2:35 PM	Returned Yd	2/1/18 1:00 AM	End Pump	1/31/18 10:01 PM

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 Jeffries
Yes	900	Yes	0	17		1400	2	Service Supervisor

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Customer: NORTHEAST NATURAL ENERGY LLC	Date: 6/25/2018	Serv. Supervisor: Jason Beeson
Cust. Rep.: josh	Ticket #: JWV1806-0026	Serv. Center: Jane Lew, WV
Lease: Mepco 5H	API Well #: 100373-603	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 (bbls)	Mix Water (bbls)
Spacer 1:	CJ810 PureScrub Spacer + 1 gal/bbl CPC35	-	13.5			100	
Lead							
Tail:	50:50 CJ010:CJ910 + 0.25% CJ210F + 0.1% CJ501 + 0.2% CJ504 + 0.2% CJX157011	3065	14.5	1.16	4.91	632	358

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		6515	Casing	5 1/2	20		16336		4.79		
8 1/2		16336									

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	2459					24	16256		

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				
		362 bbl	fresh	8.3 ppg				2000	2588	6800	6000

Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press. (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details
1:00 AM						0	Arrived on location spot trucks rig up
3:45 AM						0	safety meeting
4:15 AM						0	psi test @ 6000 psi
4:35 AM	5	903			100	100	spacer slurry @ 13.5 ppg
4:53 AM	8	1540			633	733	cement slurry @ 14.5
5:14 AM	8.8	1372				733	cement slurry @ 14.5
5:28 AM	8.8	1518				733	cement slurry @ 14.5
5:59 AM	8.6	1795				733	cement slurry @ 14.5
6:15 AM						733	shut down wash lines
6:19 AM	8	1468			362	1095	drop plug displace
6:47 AM	7.6	4032				1095	displace
7:03 AM	7.3	4300				1095	spacer slurry to surface @ 300 bbl
7:08 AM	4	3800				1095	slow rate
7:10 AM		4600				1095	plug down
7:14 AM						1095	float held 6 bbl returned
7:19 AM		4532				1095	plug bumped
7:23 AM						1095	float held 6 bbl returned
						1095	
						1095	
						1095	
						1095	
						1095	
						1095	
						1095	

Left Yard	6/24/18 10:00 PM	Left Loc.	6/25/18 9:00 AM	Start Pump	6/25/18 4:35 AM				
Arrived Loc.	6/25/18 1:00 AM	Returned Yd		End Pump	6/25/18 7:23 AM				
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)	RECEIVED Office of Oil and Gas Jason Beeson Service Supervisor	
Yes	3800	Yes	0	0	Yes	4600	4	SEP 9 2019	

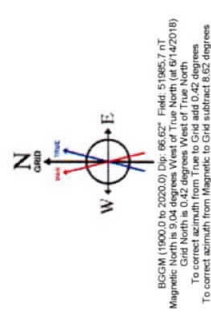
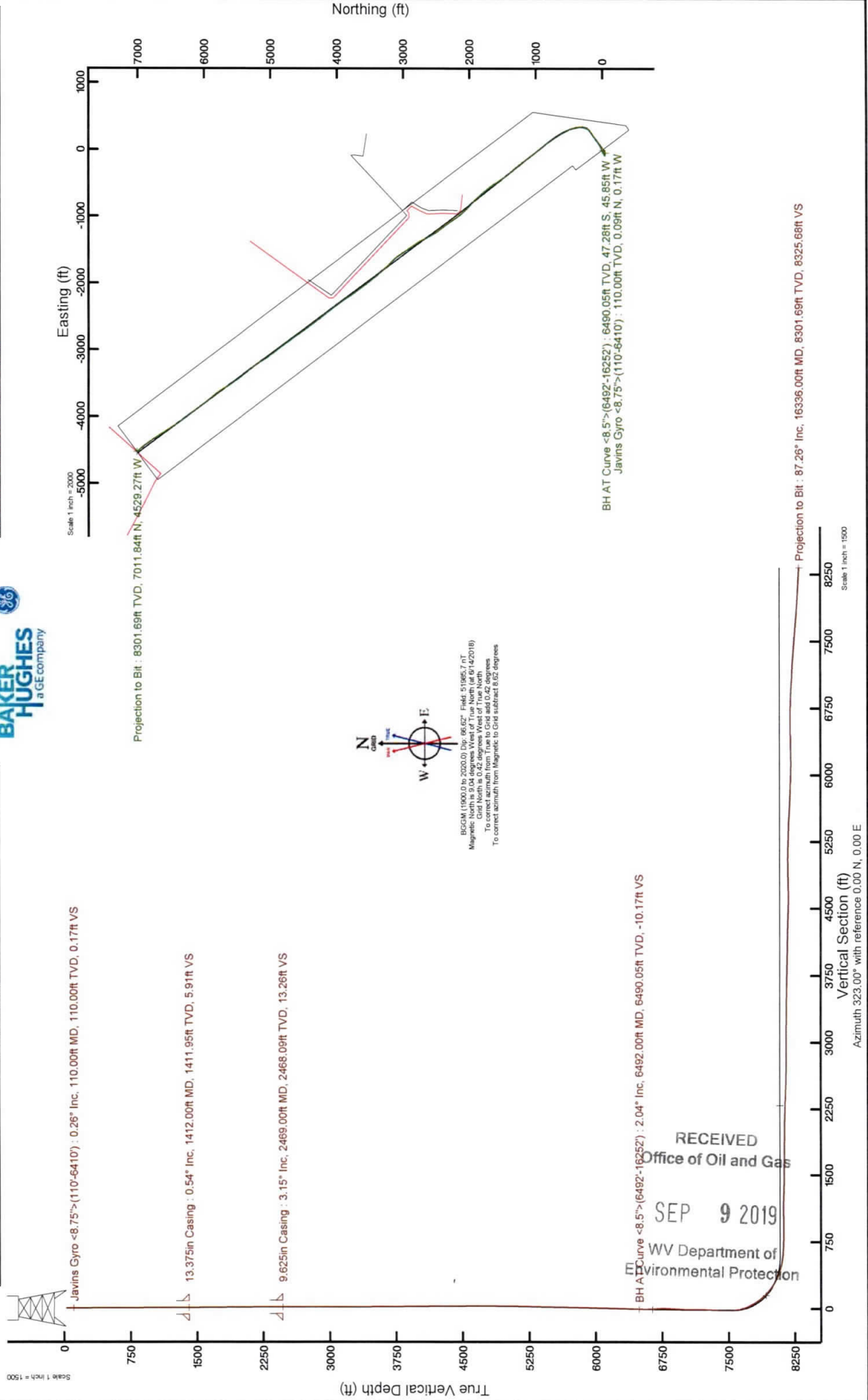
NORTHEAST NATURAL ENERGY, LLC

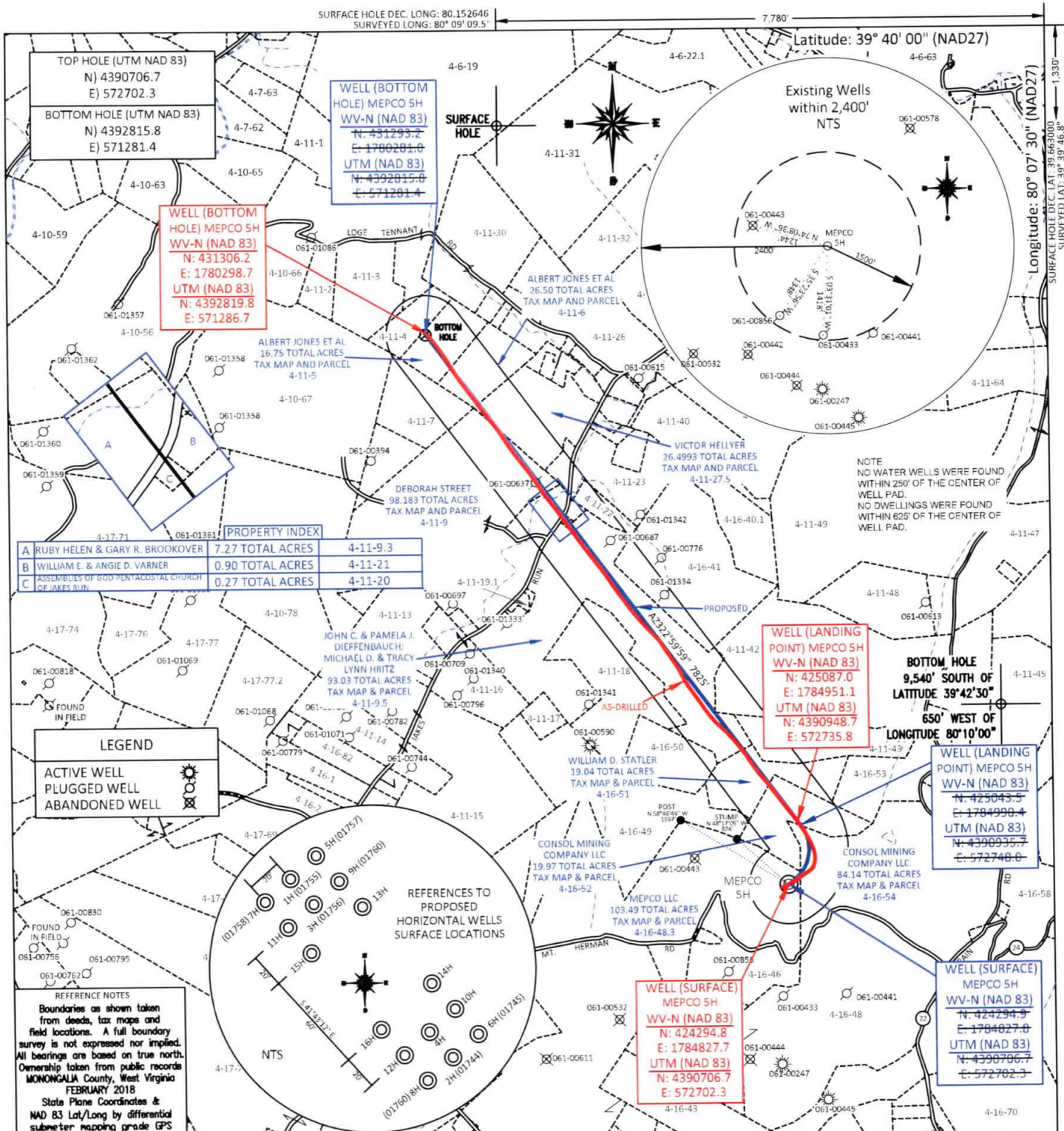
Location: Monongalia County, WV
 Field: Monongalia
 Facility: MEPCO Pad
 Slot: Slot #05
 Well: MEPCO LLC 5H
 Wellbore: MEPCO LLC 5H.PWB

Plot reference wellbore in MEPCO LLC 5H.PWB Rev-A-0	Grid System: NAD83 / Lambert West Virginia SP, Northern Zone (G201), US feet
True vertical depths are referenced to Patterson 334 (RB)	Units: Feet
Measured depths are referenced to Patterson 334 (RB)	North Reference: Grid north
Patterson 334 (RB) to Mean Sea Level: 1449 feet	Scale: True reference
Mean Sea Level to Ground level (At Slot: Slot #05): -1424 feet	Depth are in feet
Coordinates are in feet referenced to SRT	Created by: thornhaug on 2018-06-26
	Database: WV_Pennsylvania



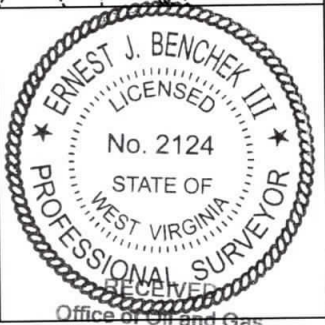
Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
MEPCO Pad	1784821.230	424282.000	80°09'08.866" W
Local N (ft)	Local E (ft)	Grid North (US ft)	Longitude
12.81	1784821.790	424294.900	80°09'08.785" W
Slot #05	6.56	25ft	
Patterson 334 (RB) to Ground level (At Slot: Slot #05)		-1424ft	
Mean Sea Level to Ground level (At Slot: Slot #05)		1449ft	
Comments			
API: 47-061-01757-0000			
BH Job#: 9226007			
Rig: Patterson 334			
Duration: 06/19/2018 - 06/23/2018			





FILE #: NNE16
 DRAWING #: 2932
 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
 OPERATOR'S WELL #: MEPCO 5H (AS-DRILLED)
 API WELL #: 47 61 WV Department of Environmental Protection
 STATE COUNTY PERMIT

AS-BUILT ELEVATION: 1,420.20'
 QUADRANGLE: BLACKSVILLE
 ACREAGE: 103.49 +/-
 ACREAGE: 409.88 +/-

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: 16,475.99'
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC
 DESIGNATED AGENT: JOHN ADAMS
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301