

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

API 47 - 061 - 01885 County Monongalia District Battelle
Quad Mannington Pad Name McClellan Field/Pool Name _____
Farm name McClellan Well Number 4H

Operator (as registered with the OOG) Northeast Natural Energy LLC
Address 707 Virginia St. E., Suite 1200 City Charleston State WV Zip 25301

RECEIVED
Office Of Oil and Gas

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4386016.2 Easting 561615.1
Landing Point of Curve Northing 4385752.3 Easting 562075.4
Bottom Hole Northing 4382843.3 Easting 564081.2

OCT 10 2023

WV Department of
Environmental Protection

Elevation (ft) 1,412' 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 FOR 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 9/17/2021 Date drilling commenced 9/21/2021 Date drilling ceased 11/22/2021

Date completion activities began 3/11/2023 Date completion activities ceased 3/27/2022

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 726', 1105', 1135' Open mine(s) (Y/N) depths N

Salt water depth(s) ft 2150', 2470' Void(s) encountered (Y/N) depths N

Coal depth(s) ft 1095' Cavern(s) encountered (Y/N) depths N

Is coal being mined in area (Y/N) N

APPROVED

Reviewed by:

[Signature]

02/09/2024

API 47-061 - 01885 Farm name McClellan Well number 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"	100'	N		NA	Y
Surface	17-1/2"	13-3/8"	1,435'	N	54.5	NA	Y, 2 bbl
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,715'	N	36	NA	Y, 60 bbl
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	20,382'	N	20	NA	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	4500 psi ready mix					CTS	48
Surface	Class A	1,230	15.6	1.20	1,471	CTS	8
Coal							
Intermediate 1	Class A	890	15.6	1.19	1,057	CTS	8
Intermediate 2							
Intermediate 3							
Production	50:50 Poz	3,705	14.5	1.16	4,289	2,228'	48
Tubing							

Drillers TD (ft) 20,382' Loggers TD (ft) 20,402'

Deepest formation penetrated Marcellus Plug back to (ft) NA

Plug back procedure NA

Kick off depth (ft) 7,695'

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

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 _____

API 47- 061 - 01885 Farm name McClellan Well number 4H

PERFORATION RECORD

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

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							

Please insert additional pages as applicable.

API 47- 061 - 01885 Farm name McClellan Well number 4H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>8,136'</u> TVD	<u>20,402'</u> 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 3,081 psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 4,145 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 ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
Attached	0		0		

Please insert additional pages as applicable.

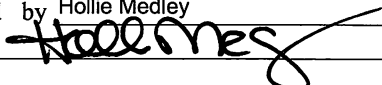
Drilling Contractor Patterson UTI
Address 4000 Town Center Blvd, Suite 240 City Canonsburg State PA Zip 15317

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

Cementing Company NextTier
Address 4000 Town Center Blvd City Canonsburg State PA Zip 15317

Stimulating Company ProFrac
Address 800 Mountain View Drive City Smithfield State PA Zip 15478

Please insert additional pages as applicable.

Completed by Hollie Medley Telephone 304-212-0422
Signature  Title Regulatory Manager Date 9-28-23

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

NORTHEAST NATURAL ENERGY, LLC

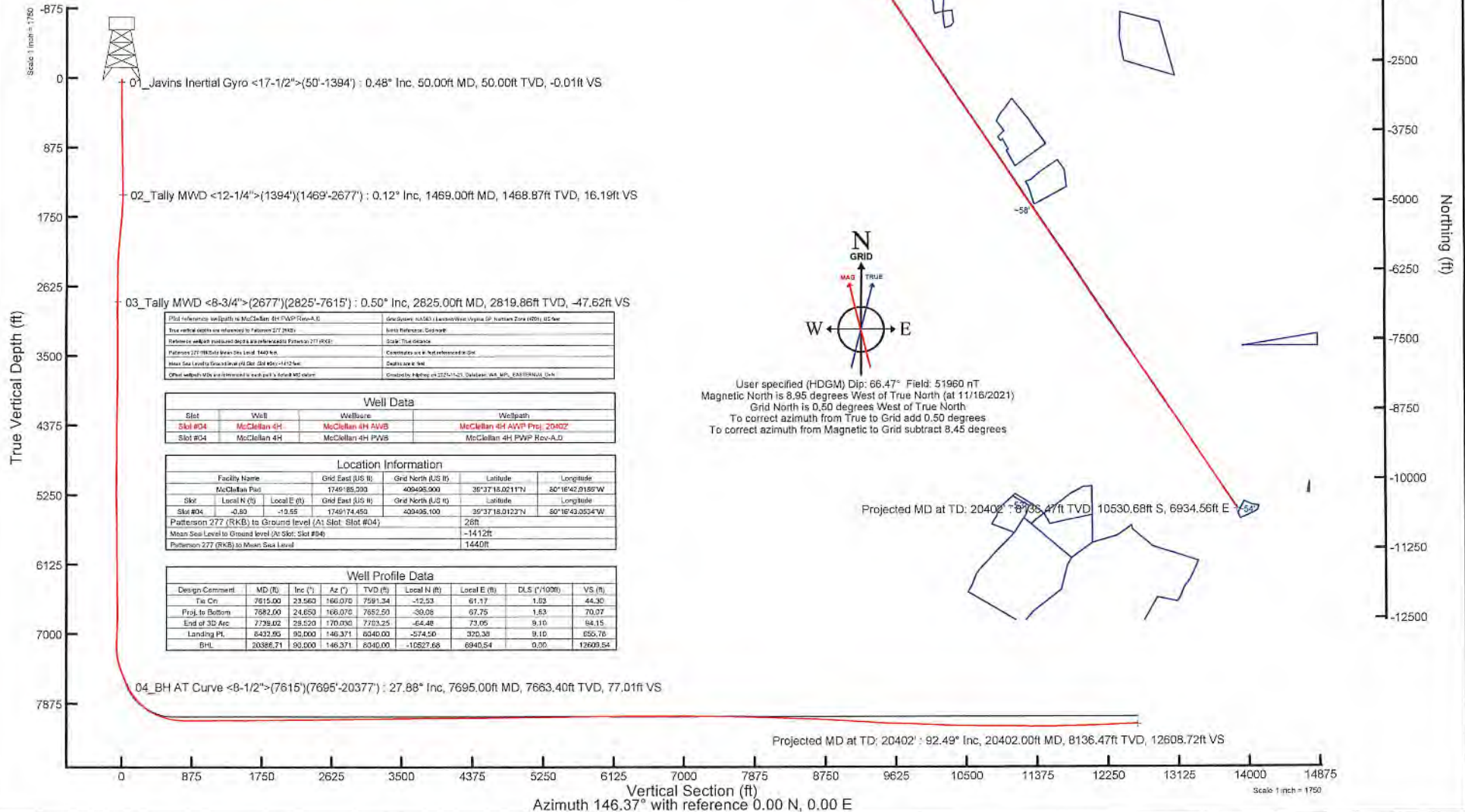
Location: Monongalia County, WV
 Field: Monongalia
 Facility: McClellan Pad

Slot: Slot #04
 Well: McClellan 4H
 Wellbore: McClellan 4H PWB

Scale 1 inch = 2500
 Easting (ft)
 -3750 -2500 -1250 0 1250 2500 3750 5000 6250 7500 8750

API: 47-061-01885-0000
 BH Job #: 111066129
 Rig: Patterson 277
 Duration: 11/16/21 - 11/20/21

02_Tally MWD <12-1/4">(1394)(1469-2677) : 1468.87ft TVD, 14.68ft S, 7.15ft E
 01_Javins Inertial Gyro <17-1/2">(50-1394) : 50.00ft TVD, 0.06ft N, 0.07ft E
 03_Tally MWD <8-3/4">(2677)(2825-7615) : 2819.86ft TVD, 69.68ft N, 18.76ft E
 04_BH AT Curve <8-1/2">(7615)(7695-20377) : 7663.40ft TVD, 46.20ft S, 69.59ft E
 Slot #04



PSD reference wellpath is McClellan 4H PWB (Open-A-D)	Grid System: NAD83 / UTM Zone 18N UTM
True vertical depth was referenced to Patterson 277 (2140)	North Reference: Grid North
Reference wellbore used was 04BH AT Curve (Patterson 277 (2140))	Scale: True Distance
Patterson 277 (2140) Mean Sea Level: 1440 ft	Coordinates are in feet referenced to grid
Mean Sea Level to Ground level (At Slot: Slot #04)	Depth unit is: ft
Other wellbore MWD are referenced to well path's vertical MD values	Coordinate system is: UTM (NAD83, Datum: NAD83, Units: UTM)

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #04	McClellan 4H	McClellan 4H AVB	McClellan 4H AVB Proj_20402
Slot #04	McClellan 4H	McClellan 4H PWB	McClellan 4H PWB Rev-A-D

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
McClellan Pad	1749.85,503	409495,900	38°37'18.02117N	80°18'42.9188W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Latitude	Longitude
Slot #04	-2.50	-12.65	1749174.452	38°37'18.01237N	80°18'42.9254W
Patterson 277 (RKB) to Ground level (At Slot: Slot #04)					
Mean Sea Level to Ground level (At Slot: Slot #04)					
Patterson 277 (RKB) to Mean Sea Level					

Well Profile Data						
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)
Tie Cr.	7615.00	23.560	166.070	7591.34	-12.53	61.17
Proj. to Bottom	7682.00	24.650	166.070	7652.50	-30.06	67.75
End of 3D Arc	7739.02	28.520	170.000	7703.25	-64.48	73.05
Landing Pt.	8432.95	90.000	146.371	8040.00	-574.50	320.38
BHL	20386.71	80.000	146.371	8040.00	-10827.68	6940.54
						DLS (1/1000)
						VS (ft)
						44.30
						70.07
						84.15
						85.78
						12609.54

User specified (HDGM) Dip: 66.47° Field: 51960 nT
 Magnetic North is 8.95 degrees West of True North (at 11/16/2021)
 Grid North is 0.50 degrees West of True North
 To correct azimuth from True to Grid add 0.50 degrees
 To correct azimuth from Magnetic to Grid subtract 8.45 degrees

Projected MD at TD: 20402 : 92.49° Inc, 20402.00ft MD, 8136.47ft TVD, 12608.72ft VS

Vertical Section (ft)
 Azimuth 146.37° with reference 0.00 N, 0.00 E

Scale 1 inch = 1750

McClellan Completion lithology

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)
Sand/silt	0	160	Sand/silt
silt/red shale	160	490	silt/red shale
siltstone/sandstone/limestone	490	520	siltstone/sandstone/limestone
limestone/siltstone/sandstone	520	576	siltstone
coal	576	580	coal
siltstone/limestone/shale	580	760	siltstone/shale
coal	760	992	siltstone/shale/limestone
siltstone/sandstone	992	998	coal
coal	998	1084	siltstone/shale/limestone
sandstone/siltstone/limestone	1084	1092	coal - Pittsburgh
coal-Pittsburgh	1092	1120	siltstone/shale/limestone
sandstone/limestone	1120	1150	sandstone
red shale/siltstone	1150	1480	siltstone/limestone/sand/red shale
Limestone/siltstone	1480	2050	siltstone/sandstone
sandstone	2050	2110	sandstone
sandstone/siltstone/red shale	2110	2260	siltstone/sandstone
siltstone/sandstone	2260	2470	siltstone/limestone
sandstone	2470	2500	Big Injun Sandstone
Upper Devonian Sands/silts	2500	3010	sandstone/siltstone
shale/siltstone	3010	3020	Gantz sandstone
Upper Devonian Sands/silts	3020	3560	Upper Devonian sandstones/siltstones
Devonian siltstones/shales	3560	7620	Devonian siltstones/shales
Middlesex shale/silt	7620	7790	Middlesex shale/silt
Burkett shale	7790	7816	Burkett Shale
Geneseo shale	7816	7845	Geneseo shale
Tully Limestone	7845	7898	Tully Limestone
Hamilton shale	7898	7996	Hamilton shale
Marcellus shale	7996	TD	Marcellus shale

McClellan 4H Stimulation Report

Stage Number	Report Date	ISIP (psi)	Breakdown Pressure (psi)	Avg Treating Pressure (psi)	Avg Treating Rate (BPM)	Pad Volume (bbls)	Total Clean Fluid (Bbls)	Total Proppant Amount (lbs)	Flush Volume (bbls)
1	3/11/2022	4,676	0	8,983	91	75	7,278	300,360	465
2	3/11/2022	5,461	5,852	8,893	91	53	8,150	391,880	447
3	3/11/2022	5,918	5,908	8,852	92	70	8,138	389,706	446
4	3/11/2022	5,815	5,860	8,810	90	74	8,104	390,008	471
5	3/11/2022	6,156	6,547	8,915	91	72	8,205	389,971	446
6	3/12/2022	5,466	6,574	9,102	92	39	7,979	392,040	444
7	3/11/2022	5,936	6,779	9,235	92	35	8,190	392,340	434
8	3/11/2022	5,995	7,607	9,367	92	35	8,554	389,970	436
9	3/13/2022	5,914	6,595	9,403	92	37	8,084	390,060	445
10	3/13/2022	5,832	7,556	9,254	92	40	8,046	390,000	419
11	3/13/2022	5,581	6,769	9,322	92	35	8,054	390,000	47
12	3/11/2022	5,947	6,832	9,242	92	713	8,156	389,991	428
13	3/11/2022	5,860	8,938	9,162	91	720	8,072	390,063	412
14	3/14/2022	6,071	7,282	9,293	91	716	8,018	389,965	400
15	3/14/2022	5,358	7,324	9,325	92	615	8,149	390,080	525
16	3/14/2022	6,034	7,146	9,401	88	715	8,261	390,006	404
17	3/15/2022	6,264	7,074	9,013	90	698	8,133	389,837	396
18	3/15/2022	6,086	7,910	9,199	92	70	8,104	390,000	392
19	3/15/2022	5,992	8,520	9,512	85	34	8,032	390,000	424
20	3/15/2022	6,073	8,258	9,317	85	32	8,052	389,769	391
21	3/16/2022	6,270	7,762	9,643	90	92	8,117	391,048	404
22	3/16/2022	6,031	7,786	9,216	91	61	8,146	390,000	386
23	3/16/2022	5,807	7,546	9,320	91	14	8,084	389,988	457
24	3/17/2022	5,950	7,518	9,291	91	13	8,549	390,084	604
25	3/17/2022	5,944	7,510	9,313	92	37	7,904	390,000	372
26	3/17/2022	5,523	7,279	9,417	92	25	7,965	390,254	366
27	3/17/2022	5,334	7,264	9,197	91	25	8,039	390,000	375
28	3/18/2022	5,651	6,967	9,216	91	12	7,848	390,000	440
29	3/18/2022	5,546	7,354	9,456	91	64	8,043	390,000	357
30	3/18/2022	5,546	7,226	9,096	92	78	8,414	390,000	355
31	3/18/2022	5,206	6,742	9,081	92	57	8,197	390,000	341
32	3/19/2022	5,566	7,569	9,043	92	58	8,360	390,000	336
33	3/19/2022	5,636	7,407	9,055	92	24	8,033	390,000	331
34	3/19/2022	5,408	7,268	9,091	92	12	8,034	390,000	330
35	3/20/2022	5,408	7,589	9,073	92	22	7,950	390,000	328
36	3/20/2022	5,663	7,536	9,237	89	58	7,968	390,000	331
37	3/20/2022	5,149	7,199	9,163	92	50	7,940	390,000	332
38	3/20/2022	5,248	7,117	8,932	92	21	8,011	390,000	324
39	3/21/2022	5,468	7,021	8,976	92	31	7,941	390,000	309
40	3/21/2022	5,570	7,304	9,066	91	53	7,974	390,000	307
41	3/21/2022	5,265	7,207	9,230	91	86	8,039	390,000	298
42	3/21/2022	5,616	5,435	9,053	92	49	7,930	390,000	300
43	3/22/2022	5,341	4,805	9,118	92	36	8,717	390,000	291
44	3/22/2022	5,659	7,168	9,067	90	63	8,103	390,000	293
45	3/22/2022	5,934	7,116	8,950	92	42	7,979	390,094	289

02/29/2024

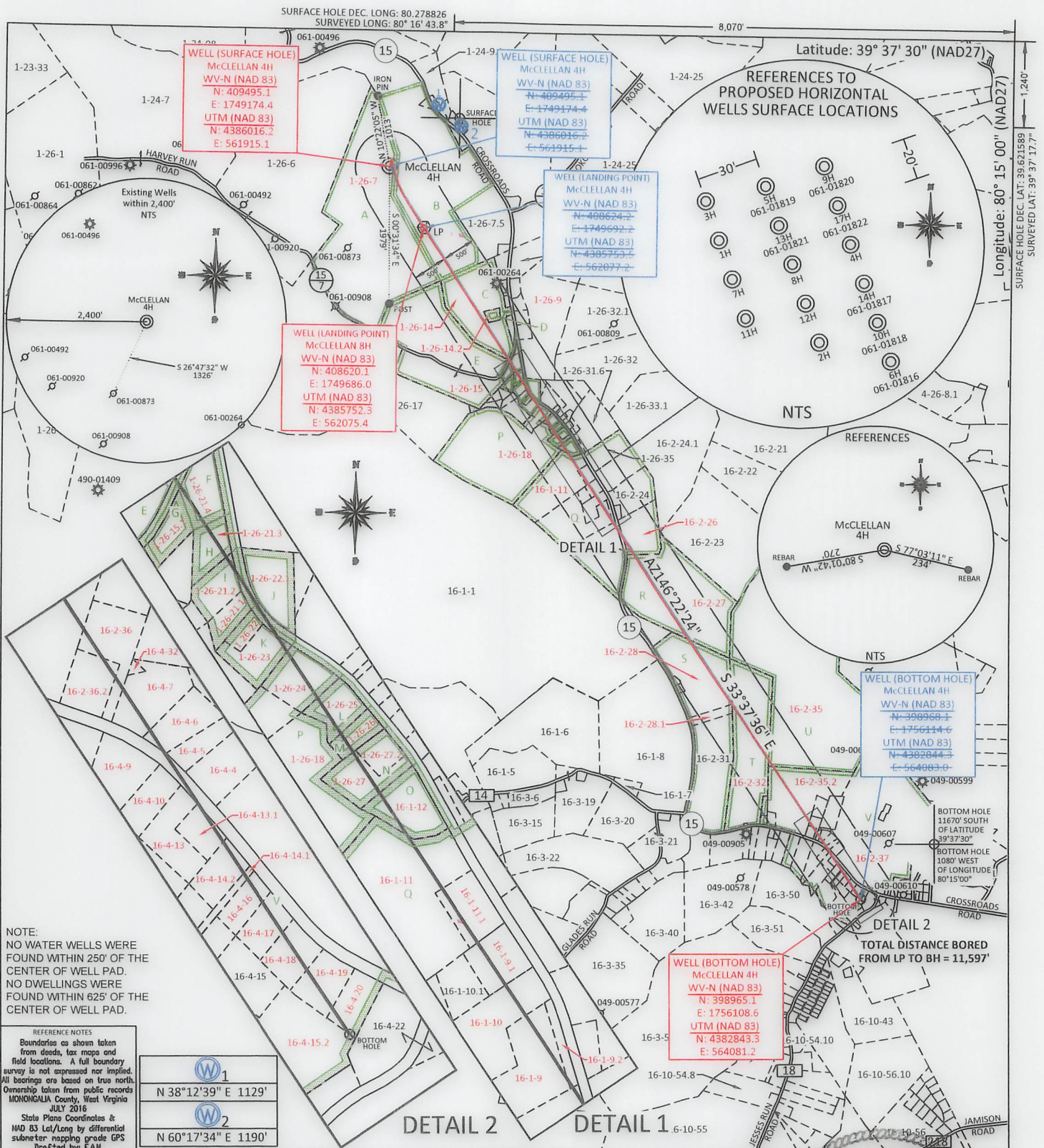
Stage Number	Report Date	ISIP (psi)	Breakdown Pressure (psi)	Avg Treating Pressure (psi)	Avg Treating Rate (BPM)	Pad Volume (bbbls)	Total Clean Fluid (Bbls)	Total Proppant Amount (lbs)	Flush Volume (bbbls)
46	3/22/2022	5,510	7,128	8,744	92	64	7,736	389,926	285
47	3/23/2022	5,010	7,584	8,802	92	29	7,718	390,000	277
48	3/23/2022	5,708	8,345	8,726	92	68	7,919	390,000	276
49	3/23/2022	6,109	7,184	8,951	92	52	7,964	389,728	272
50	3/23/2022	5,832	7,302	9,447	92	23	8,621	390,360	1,762
51	3/23/2022	5,205	7,609	9,020	92	7	9,753	390,000	265
52	3/23/2022	5,532	8,110	8,935	92	37	8,114	390,000	265
53	3/24/2022	6,699	7,460	8,983	92	61	7,926	390,064	261
54	3/24/2022	5,361	7,691	8,787	92	68	7,928	390,055	257
55	3/24/2022	6,254	6,852	8,708	92	24	7,915	389,728	249
56	3/24/2022	4,964	7,093	8,551	92	25	7,915	390,000	251
57	3/25/2022	5,625	7,357	8,497	92	36	8,098	390,000	245
58	3/25/2022	5,954	6,991	8,436	92	83	7,966	390,343	236
59	3/25/2022	5,749	7,763	8,492	92	63	7,990	389,721	233
60	3/25/2022	6,054	7,224	8,549	92	65	7,878	389,775	226
61	3/25/2022	5,658	7,369	8,655	92	43	7,976	390,000	226
62	3/26/2022	5,451	7,163	8,486	92	75	7,886	390,000	228
63	3/26/2022	5,262	7,177	8,549	92	82	7,928	390,094	219
64	3/26/2022	5,662	6,780	8,576	91	205	8,006	389,428	209
65	3/26/2022	5,099	6,920	8,400	92	33	7,732	390,000	212
66	3/25/2022	5,188	7,211	8,478	93	91	7,966	390,000	256
67	3/27/2022	5,172	7,933	8,388	92	29	7,977	390,000	206
68	3/27/2022	5,546	7,956	8,345	92	88	7,921	389,792	197
69	3/27/2022	5,706	7,532	8,282	91	77	8,027	389,744	197

McClellan 4H
Perforation Report

Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
1	3/11/2022	0	0	20,272
2	3/11/2022	40	20,233	20,095
3	3/11/2022	40	20,059	19,921
4	3/11/2022	40	19,884	19,747
5	3/11/2022	40	19,710	19,572
6	3/12/2022	40	19,533	19,398
7	3/11/2022	40	19,361	19,223
8	3/11/2022	40	19,186	19,049
9	3/13/2022	40	19,012	18,874
10	3/13/2022	40	18,837	18,700
11	3/13/2022	40	18,663	18,526
12	3/11/2022	40	18,489	18,351
13	3/11/2022	40	18,314	18,177
14	3/14/2022	40	18,140	18,002
15	3/14/2022	40	17,965	17,828
16	3/14/2022	40	17,791	17,653
17	3/15/2022	40	17,616	17,479
18	3/15/2022	40	17,442	17,304
19	3/15/2022	40	17,268	17,132
20	3/15/2022	40	17,093	19,956
21	3/16/2022	40	16,919	16,781
22	3/16/2022	40	16,744	16,607
23	3/16/2022	40	16,570	16,432
24	3/17/2022	40	16,393	16,258
25	3/17/2022	40	16,221	16,083
26	3/17/2022	40	16,046	15,909
27	3/17/2022	40	15,872	15,734
28	3/18/2022	40	15,698	15,560
29	3/18/2022	40	15,523	15,386
30	3/18/2022	40	15,349	15,211
31	3/18/2022	40	15,174	15,037
32	3/19/2022	40	15,000	14,862
33	3/19/2022	40	14,825	14,688
34	3/19/2022	40	14,651	14,513
35	3/20/2022	40	14,476	14,339
36	3/20/2022	40	14,302	14,165
37	3/20/2022	40	14,128	13,990
38	3/20/2022	40	13,953	13,816
39	3/21/2022	40	13,779	13,641
40	3/21/2022	40	13,604	13,467
41	3/21/2022	40	13,430	13,292
42	3/21/2022	40	13,255	13,118
43	3/22/2022	40	13,081	12,943
44	3/22/2022	40	12,907	12,769
45	3/22/2022	40	12,732	12,595
46	3/22/2022	40	12,558	12,420

02/09/2024

Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
47	3/23/2022	40	12,383	12,246
48	3/23/2022	40	12,209	12,071
49	3/23/2022	40	12,034	11,897
50	3/23/2022	40	11,860	11,722
51	3/23/2022	40	11,685	11,548
52	3/23/2022	40	11,511	11,373
53	3/24/2022	40	11,337	11,199
54	3/24/2022	40	11,162	11,025
55	3/24/2022	40	10,988	10,850
56	3/24/2022	40	10,813	10,676
57	3/25/2022	40	10,639	10,501
58	3/25/2022	40	10,464	10,327
59	3/25/2022	40	10,290	10,152
60	3/25/2022	40	10,115	9,978
61	3/25/2022	40	9,941	9,803
62	3/26/2022	40	9,767	9,629
63	3/26/2022	40	9,592	9,455
64	3/26/2022	40	9,418	9,280
65	3/26/2022	40	9,243	9,106
66	3/25/2022	40	9,069	8,931
67	3/27/2022	40	8,894	8,757
68	3/27/2022	40	8,720	8,582
69	3/27/2022	40	8,546	8,408



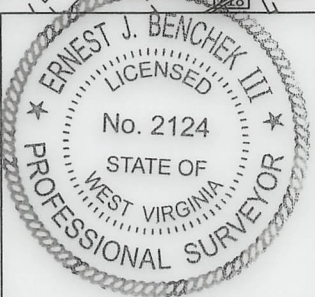
NOTE:
NO WATER WELLS WERE FOUND WITHIN 250' OF THE CENTER OF WELL PAD.
NO DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF WELL PAD.

REFERENCE NOTES
Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records MONONGALIA County, West Virginia JULY 2016
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS Drafted by EAJH

	1
N 38°12'39" E 1129'	
	2
N 60°17'34" E 1190'	

FILE #: NNE14
DRAWING #: 2964
SCALE: PLAT: 1" = 2000'
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:
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: UPPER MONONGAHELA
COUNTY/DISTRICT: MONONGALIA / BATTELLE
SURFACE OWNER: KLONDIKE REAL ESTATE PARTNERSHIP
OIL & GAS ROYALTY OWNER: Barbara June Sutton, et al
LEASE NUMBERS:

DATE: SEPTEMBER 28, 2023
OPERATOR'S WELL #: McCLELLAN 4H AS-DRILLED
API WELL #: 47 61 01885 WR-35
STATE COUNTY PERMIT
AS-BUILT ELEVATION: 1,411.7'
QUADRANGLE: MANNINGTON
ACREAGE: 609.66 +/-
ACREAGE: 129.4 +/- 02/09/2024

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
DRILLED DEPTH: TVD: 8,136' TMD: 20,402'
WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC
ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
CITY: CHARLESTON STATE: WV ZIP CODE: 25301
DESIGNATED AGENT: JOHN ADAMS
ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
CITY: CHARLESTON STATE: WV ZIP CODE: 25301

PROPERTY OWNER INDEX	
1-26-7	KLONDIKE REAL ESTATE PARTNERSHIP
1-26-14	KEVIN D. & MARLA J. AMMONS
1-26-15	KELSI L. & PRESTON K. WILSON
1-26-14.2	KEVIN D. & MARLA J. AMMONS
1-26-21.4	DONALD R. & JUDY A. PETHTEL
1-26-15.1	MICHAEL TODD WRIGHT
1-26-21.3	DONALD R. & JUDY A. PETHTEL
1-26-22.1	GARY A. & TAMMY L. NICHOLSON
1-26-21.2	JERRY & JANICE SUE FLUHARTY
1-26-21.1	BETTY LOU FLUHARTY
1-26-22	RANDY L. & TRINA R. TENNANT
1-26-24	STEVEN T. & MISTY R. NICHOLSON
1-26-25	SUSAN TENNANT & DELAS STUZEN
1-26-26	SUSAN TENNANT & DELAS STUZEN
1-26-27.2	BREDNA HARDESTY & FRANK HENSEY
1-26-27	MICHAEL J. GLENN
1-26-9	GARY A & TAMMY L NICHOLSON
1-26-18	CHARLENE CHAPMAN & DALE REISING
1-26-23	RANDY L & TRINA R TENNANT
16-2-37	REKAB LLC
16-2-32	DOROTHY GRIEGER
16-1-12	DOUGLAS M. JONES
16-1-11	MARSHA E. & BRADLEY D. WOLFE
16-1-11.1	MARSHA E. & BRADLEY D. WOLFE
16-1-9.1	ONEITA A. OPYOKE
16-1-9.2	VIRGINIA T. HULL
16-1-9	ZACHARY R. & JACQUELINE E. PHILLIPS
16-1-10	ZACHARY R. & JACQUELINE E. PHILLIPS
16-2-26	L. B. UNDERWOOD EST
16-2-27	B. A. & L. A. AMMONS
16-2-35	REKAB LLC
16-2-28	CONSOLIDATION COAL COMPANY
16-2-28.1	CONSOLIDATION COAL COMPANY
16-2-35.2	JOHN & SHARON TIANO
16-2-36.2	LACK LOWE
16-4-7	JACK E. & ROWENA LOWE
16-4-32	JACK E. & ROWENA LOWE
16-4-6	ROBERT D. & NORMA J. HOOD
16-2-36	SANDRA & MICHAEL LAYMAN
16-4-5	BETHANY L RETTON
16-4-9	MARILYN S CHISLER
16-4-10	MARILYN S CHISLER
16-4-13	STEPHEN L CHISLER
16-4-14.2	STANLEY T HAUGHT Jr & RHONA L HAUGHT
16-4-13.1	BDW MANAGEMENT INC
16-4-14.1	FAIRVIEW FURNACE & SHEET METAL INC
16-4-16	SHARON K HOUGHTON DELMAS
16-4-17	TIMOTHY L OR SHERRY L GUMP
16-4-18	NORMA J & ROBERT L YOST
16-4-4	JAMES L & CATHY A HARTZELL
16-4-20	GARRET L KELLEY
16-4-19	DELORES L WHITE
16-4-15.2	BENNETT E. & CATHIE S. HAUGHT

LEASE INDEX	
A	WV-061-004172-011
B	WV-061-000146-001
	WV-061-005656-003
C	WV-061-004381-001
D	WV-061-004381-002
E	WV-061-005241-001
F	WV-061-004793-039
G	WV-061-004381-001
H	WV-061-004560-050
I	WV-061-004793-039
J	WV-061-005120-001
K	WV-061-004560-050
L	WV-061-005106-001
M	WV-061-005106-001
N	WV-061-005106-001
O	WV-061-004734-001
P	WV-061-004793-039
Q	WV-061-005509-006
R	WV-049-004233-047
S	WV-061-000146-001
T	WV-049-005251-000
U	WV-049-005680-000
V	WV-049-005680-000

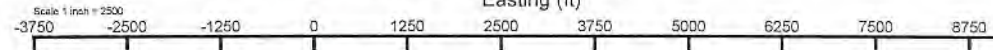
02/09/2024

FILE #: <u>NEE14</u>	DATE: <u>SEPTEMBER 28, 2023</u>
DRAWING #: <u>2964</u>	OPERATOR'S WELL #: <u>McCLELLAN 4H</u>
SCALE: <u>N/A</u>	API WELL #: <u>47</u> <u>61</u> <u>01585</u> STATE COUNTY PERMIT

NORTHEAST NATURAL ENERGY, LLC

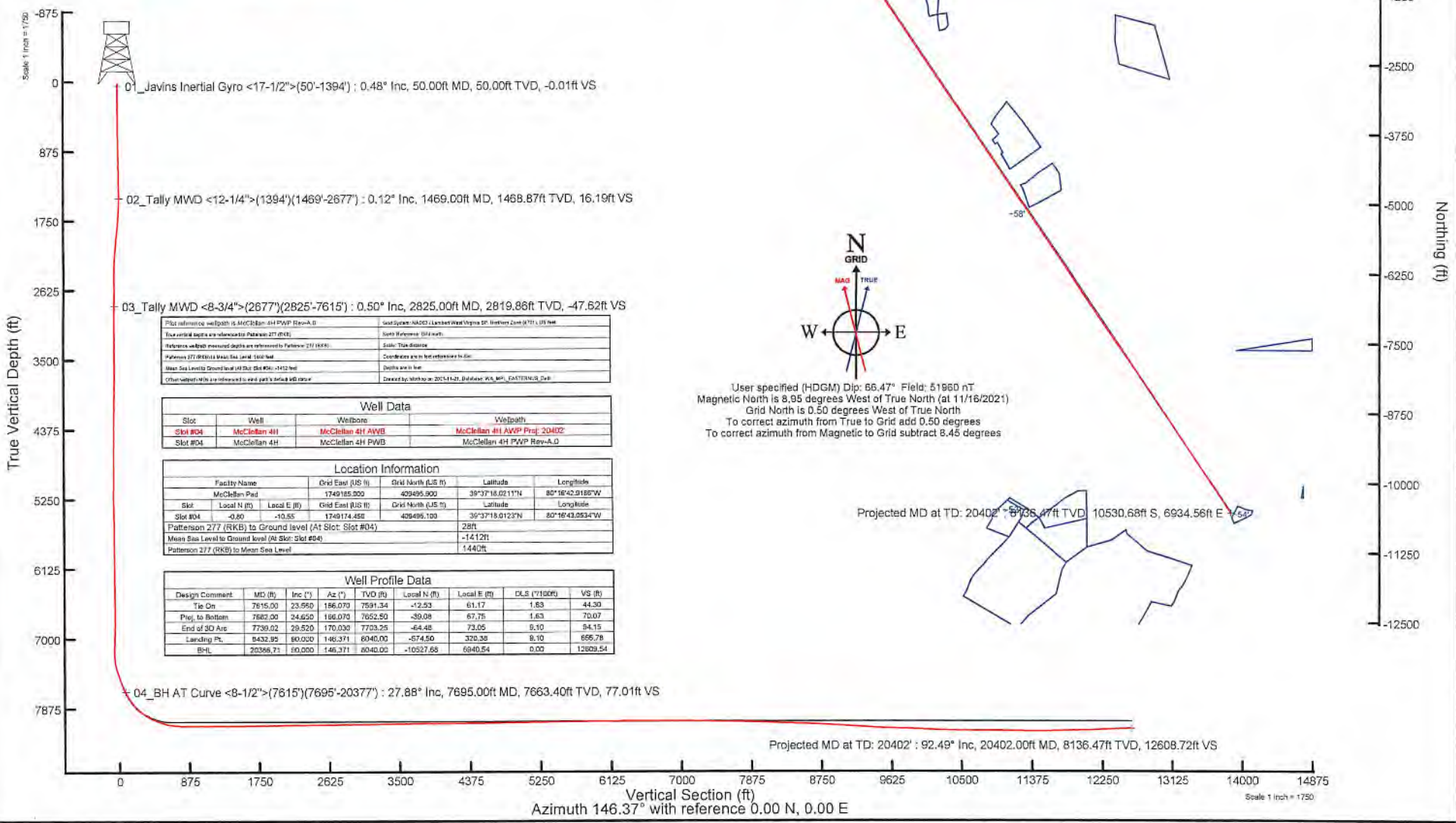
Location: Monongalia County, WV
 Field: Monongalia
 Facility: McClellan Pad

Slot: Slot #04
 Well: McClellan 4H
 Wellbore: McClellan 4H PWB



API: 47-061-01885-0000
 BH Job #: 111066129
 Rig: Patterson 277
 Duration: 11/16/21 - 11/20/21

02_Tally MWD <12-1/4">(1394')(1469'-2677') : 0.12° Inc, 1469.00ft MD, 1469.87ft TVD, 16.19ft VS
 01_Javins Inertial Gyro <17-1/2">(50'-1394') : 0.48° Inc, 50.00ft MD, 50.00ft TVD, -0.01ft VS
 03_Tally MWD <8-3/4">(2677')(2825'-7615') : 0.50° Inc, 2825.00ft MD, 2819.86ft TVD, -47.62ft VS
 04_BH AT Curve <8-1/2">(7615')(7695'-20377') : 27.88° Inc, 7695.00ft MD, 7663.40ft TVD, 46.20ft S, 69.59ft E
 Slot #04



01_Javins Inertial Gyro <17-1/2">(50'-1394') : 0.48° Inc, 50.00ft MD, 50.00ft TVD, -0.01ft VS

02_Tally MWD <12-1/4">(1394')(1469'-2677') : 0.12° Inc, 1469.00ft MD, 1469.87ft TVD, 16.19ft VS

03_Tally MWD <8-3/4">(2677')(2825'-7615') : 0.50° Inc, 2825.00ft MD, 2819.86ft TVD, -47.62ft VS

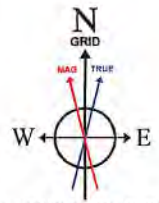
Plot reference wellbore (McClellan 4H PWB Rev-A.D)	Grid System: NAD83 (Lambert West Virginia State Reference Zone (N79 L US Feet)
True vertical depth are referenced to Patterson 277 (RKB)	North Reference: Grid north
Reference wellbore measured depths are referenced to Patterson 277 (RKB)	Scale: True distance
Patterson 277 (RKB) Mean Sea Level: 1412 feet	Coordinates are in feet unless otherwise stated
Mean Sea Level to Ground level (At Slot: Slot #04)	Depth are in feet
Other values within are referenced to east part of Section 60 (RKB)	Created by: Baker Hughes, 2021-11-21, Database: WGS_84_P, EASTERN TIMEZONE, Day

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #04	McClellan 4H	McClellan 4H AWB	McClellan 4H AWP Proj: 20402
Slot #04	McClellan 4H	McClellan 4H PWB	McClellan 4H PWB Rev-A.D

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
McClellan Pad	1749185.300	4294895.300	39°37'18.02117"N	80°16'42.91887"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #04	-0.80	-10.55	1749114.450	4294895.100
Patterson 277 (RKB) to Ground level (At Slot: Slot #04)				
28ft				
Mean Sea Level to Ground level (At Slot: Slot #04)				
-1412ft				
Patterson 277 (RKB) to Mean Sea Level				
1442ft				

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	7615.00	23.550	186.070	7591.34	-12.93	61.17	1.83	44.30
Proj. to Bottom	7662.00	24.650	186.070	7652.50	-39.08	67.75	1.63	70.07
End of 3D Arc	7739.02	29.520	170.030	7703.25	-64.48	73.05	9.10	94.15
Landing Pt.	8432.95	80.030	146.371	8040.00	-574.90	320.38	9.10	856.78
BHL	20366.71	10.000	146.371	8040.00	-10527.69	6940.54	0.00	12609.54

04_BH AT Curve <8-1/2">(7615')(7695'-20377') : 27.88° Inc, 7695.00ft MD, 7663.40ft TVD, 46.20ft S, 69.59ft E
 Slot #04



User specified (HDGM) Dip: 66.47° Field: 51960 nT
 Magnetic North is 8.95 degrees West of True North (at 11/16/2021)
 Grid North is 0.50 degrees West of True North
 To correct azimuth from True to Grid add 0.50 degrees
 To correct azimuth from Magnetic to Grid subtract 8.45 degrees

Projected MD at TD: 20402' : 8936.47ft TVD, 10530.68ft S, 6934.56ft E

Projected MD at TD: 20402' : 92.49° Inc, 20402.00ft MD, 8136.47ft TVD, 12608.72ft VS

Vertical Section (ft)
 Azimuth 146.37° with reference 0.00 N, 0.00 E

Scale 1 inch = 1750



Actual Wellpath Report

McClellan 4H AWP Proj: 20402'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Hilpthop
Scale	0.999941	Report Generated	11/21/2021 at 9:51:37 PM
Convergence at slot	0.50° West	Database	WA_MPL_EASTERNUS_Defn

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-0.80	-10.55	1749174.45	409495.10	39°37'18.0123"N	80°16'43.0534"W
Facility Reference Pt			1749185.00	409495.90	39°37'18.0211"N	80°16'42.9186"W
Field Reference Pt			1777685.71	440640.65	39°42'28.1140"N	80°10'41.6900"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 277 (RKB) to Facility Vertical Datum	1440.00ft
Horizontal Reference Pt	Slot	Patterson 277 (RKB) to Mean Sea Level	1440.00ft
Vertical Reference Pt	Patterson 277 (RKB)	Patterson 277 (RKB) to Ground Level at Slot (Slot #04)	28.00ft
MD Reference Pt	Patterson 277 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	146.37°



Actual Wellpath Report

McClellan 4H AWP Proj: 20402'

Page 2 of 14



REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

WELLPATH DATA (233 stations) † = interpolated, ‡ = extrapolated station															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
0.00†	0.000	52.100	0.00	0.00	0.00	0.00	1749174.45	409495.10	39°37'18.0123"N	80°16'43.0534"W	0.00	0.000	0.00	0.00	0.00
28.00	0.000	52.100	28.00	0.00	0.00	0.00	1749174.45	409495.10	39°37'18.0123"N	80°16'43.0534"W	0.00	0.000	0.00	0.00	0.00
50.00	0.480	52.100	50.00	-0.01	0.06	0.07	1749174.52	409495.16	39°37'18.0128"N	80°16'43.0524"W	0.09	52.100	2.18	2.18	0.00
100.00	0.480	52.600	100.00	-0.04	0.31	0.40	1749174.85	409495.41	39°37'18.0154"N	80°16'43.0482"W	0.51	52.305	0.01	0.00	1.00
150.00	0.360	69.200	150.00	-0.02	0.50	0.72	1749175.17	409495.60	39°37'18.0172"N	80°16'43.0442"W	0.87	55.377	0.34	-0.24	33.20
200.00	0.470	118.700	200.00	0.20	0.45	1.04	1749175.49	409495.55	39°37'18.0168"N	80°16'43.0401"W	1.14	66.561	0.72	0.22	99.00
250.00	0.870	149.500	249.99	0.76	0.03	1.42	1749175.87	409495.13	39°37'18.0126"N	80°16'43.0353"W	1.42	88.900	1.05	0.80	61.60
300.00	0.650	181.800	299.99	1.37	-0.58	1.60	1749176.05	409494.52	39°37'18.0066"N	80°16'43.0328"W	1.70	110.024	0.95	-0.44	64.60
350.00	0.540	198.100	349.99	1.75	-1.09	1.52	1749175.97	409494.01	39°37'18.0016"N	80°16'43.0338"W	1.87	125.691	0.40	-0.22	32.60
400.00	0.570	202.500	399.98	2.03	-1.54	1.35	1749175.80	409493.56	39°37'17.9971"N	80°16'43.0359"W	2.05	138.842	0.10	0.06	8.80
450.00	0.500	187.700	449.98	2.34	-1.99	1.23	1749175.68	409493.11	39°37'17.9927"N	80°16'43.0375"W	2.34	148.376	0.31	-0.14	-29.60
500.00	0.510	189.000	499.98	2.66	-2.43	1.16	1749175.61	409492.67	39°37'17.9884"N	80°16'43.0382"W	2.69	154.417	0.03	0.02	2.60
550.00	0.580	182.300	549.98	3.03	-2.90	1.12	1749175.57	409492.20	39°37'17.9837"N	80°16'43.0388"W	3.11	158.934	0.19	0.14	-13.40
600.00	0.970	148.500	599.97	3.66	-3.51	1.33	1749175.78	409491.59	39°37'17.9777"N	80°16'43.0360"W	3.76	159.296	1.17	0.78	-67.60
650.00	0.970	148.700	649.96	4.51	-4.24	1.77	1749176.22	409490.86	39°37'17.9706"N	80°16'43.0303"W	4.59	157.334	0.01	0.00	0.40
700.00	0.960	151.600	699.96	5.35	-4.97	2.19	1749176.64	409490.13	39°37'17.9634"N	80°16'43.0249"W	5.43	156.222	0.10	-0.02	5.80
750.00	0.890	146.700	749.95	6.15	-5.66	2.60	1749177.05	409489.44	39°37'17.9566"N	80°16'43.0195"W	6.23	155.320	0.21	-0.14	-9.80
800.00	0.940	142.800	799.94	6.95	-6.31	3.06	1749177.51	409488.79	39°37'17.9502"N	80°16'43.0135"W	7.01	154.118	0.16	0.10	-7.80
850.00	0.990	157.100	849.94	7.78	-7.03	3.48	1749177.93	409488.07	39°37'17.9430"N	80°16'43.0081"W	7.85	153.694	0.49	0.10	28.60
900.00	0.870	156.500	899.93	8.58	-7.78	3.80	1749178.25	409487.32	39°37'17.9357"N	80°16'43.0040"W	8.66	153.987	0.24	-0.24	-1.20
950.00	0.950	163.300	949.93	9.35	-8.53	4.07	1749178.52	409486.58	39°37'17.9284"N	80°16'43.0004"W	9.45	154.495	0.27	0.16	13.60
1000.00	1.020	155.900	999.92	10.19	-9.33	4.37	1749178.82	409485.77	39°37'17.9204"N	80°16'42.9965"W	10.30	154.909	0.29	0.14	-14.80
1015.00	1.000	152.500	1014.92	10.45	-9.57	4.48	1749178.93	409485.53	39°37'17.9181"N	80°16'42.9950"W	10.56	154.891	0.42	-0.13	-22.67
1050.00	0.850	185.800	1049.91	10.95	-10.10	4.60	1749179.05	409485.00	39°37'17.9129"N	80°16'42.9935"W	11.09	155.514	1.57	-0.43	95.14
1100.00	0.770	137.300	1099.91	11.57	-10.71	4.79	1749179.24	409484.39	39°37'17.9068"N	80°16'42.9910"W	11.73	155.915	1.34	-0.16	-97.00
1150.00	0.780	140.300	1149.90	12.24	-11.22	5.23	1749179.68	409483.88	39°37'17.9018"N	80°16'42.9852"W	12.38	154.994	0.08	0.02	6.00
1200.00	0.970	174.300	1199.90	12.95	-11.90	5.49	1749179.94	409483.20	39°37'17.8951"N	80°16'42.9819"W	13.11	155.229	1.09	0.38	68.00
1250.00	0.900	148.700	1249.89	13.72	-12.66	5.74	1749180.19	409482.44	39°37'17.8876"N	80°16'42.9786"W	13.90	155.615	0.84	-0.14	-51.20
1300.00	0.870	145.100	1299.88	14.49	-13.31	6.16	1749180.61	409481.79	39°37'17.8813"N	80°16'42.9732"W	14.66	155.159	0.13	-0.06	-7.20
1350.00	0.820	150.000	1349.88	15.23	-13.93	6.56	1749181.01	409481.17	39°37'17.8752"N	80°16'42.9680"W	15.39	154.793	0.18	-0.10	9.80



Actual Wellpath Report

McClellan 4H AWP Proj: 20402'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

WELLPATH DATA (233 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
1394.00	0.700	136.400	1393.87	15.81	-14.40	6.90	1749181.35	409480.71	39°37'17.8706"N	80°16'42.9636"W	15.96	154.394	0.49	-0.27	-30.91
1469.00	0.120	303.320	1468.87	16.19	-14.68	7.15	1749181.60	409480.42	39°37'17.8678"N	80°16'42.9604"W	16.33	154.040	1.09	-0.77	222.56
1564.00	2.680	16.730	1563.84	14.68	-12.50	7.71	1749182.16	409482.60	39°37'17.8894"N	80°16'42.9535"W	14.69	148.352	2.79	2.69	77.27
1659.00	6.000	21.630	1658.55	10.43	-5.76	10.18	1749184.63	409489.34	39°37'17.9562"N	80°16'42.9227"W	11.69	119.502	3.51	3.49	5.16
1753.00	8.460	22.020	1751.80	3.73	5.22	14.58	1749189.03	409500.32	39°37'18.0651"N	80°16'42.8676"W	15.49	70.297	2.62	2.62	0.41
1848.00	8.520	16.440	1845.76	-4.73	18.45	19.19	1749193.64	409513.55	39°37'18.1962"N	80°16'42.8102"W	26.62	46.130	0.87	0.06	-5.87
1942.00	7.750	6.000	1938.82	-14.08	31.43	21.83	1749196.27	409526.53	39°37'18.3248"N	80°16'42.7779"W	38.27	34.774	1.77	-0.82	-11.11
2036.00	6.150	350.350	2032.13	-23.57	42.70	21.64	1749196.09	409537.80	39°37'18.4361"N	80°16'42.7815"W	47.87	26.879	2.62	-1.70	-16.65
2130.00	6.040	342.380	2125.60	-32.92	52.38	19.30	1749193.75	409547.48	39°37'18.5315"N	80°16'42.8125"W	55.82	20.230	0.91	-0.12	-8.48
2226.00	4.670	345.490	2221.18	-41.47	60.98	16.79	1749191.24	409556.07	39°37'18.6163"N	80°16'42.8455"W	63.25	15.399	1.46	-1.43	3.24
2319.00	2.930	7.000	2313.98	-46.85	67.00	16.14	1749190.58	409562.10	39°37'18.6758"N	80°16'42.8546"W	68.92	13.540	2.39	-1.87	23.13
2413.00	1.890	32.060	2407.90	-49.31	70.70	17.25	1749191.70	409565.80	39°37'18.7124"N	80°16'42.8407"W	72.77	13.712	1.55	-1.11	26.66
2509.00	0.510	84.450	2503.87	-49.76	72.08	18.52	1749192.97	409567.18	39°37'18.7262"N	80°16'42.8247"W	74.42	14.407	1.70	-1.44	54.57
2603.00	0.550	167.730	2597.87	-49.15	71.68	19.03	1749193.48	409566.78	39°37'18.7223"N	80°16'42.8181"W	74.17	14.867	0.75	0.04	88.60
2677.00	0.600	176.410	2671.87	-48.48	70.95	19.13	1749193.58	409566.04	39°37'18.7151"N	80°16'42.8168"W	73.48	15.089	0.14	0.07	11.73
2825.00	0.500	219.790	2819.86	-47.62	69.68	18.76	1749193.21	409564.77	39°37'18.7025"N	80°16'42.8213"W	72.16	15.072	0.28	-0.07	29.31
2920.00	0.620	208.640	2914.86	-47.27	68.91	18.25	1749192.70	409564.01	39°37'18.6948"N	80°16'42.8278"W	71.29	14.835	0.17	0.13	-11.74
3014.00	0.520	212.990	3008.85	-46.86	68.11	17.78	1749192.23	409563.20	39°37'18.6868"N	80°16'42.8337"W	70.39	14.628	0.12	-0.11	4.63
3108.00	0.530	190.070	3102.85	-46.38	67.32	17.47	1749191.92	409562.42	39°37'18.6790"N	80°16'42.8376"W	69.55	14.546	0.22	0.01	-24.38
3203.00	1.030	93.630	3197.84	-45.54	66.83	18.24	1749192.69	409561.93	39°37'18.6743"N	80°16'42.8276"W	69.28	15.268	1.27	0.53	-101.52
3298.00	2.220	68.000	3292.80	-44.66	67.47	20.80	1749195.25	409562.56	39°37'18.6808"N	80°16'42.7950"W	70.60	17.135	1.44	1.25	-26.98
3393.00	2.340	67.010	3387.73	-43.93	68.91	24.29	1749198.74	409564.01	39°37'18.6954"N	80°16'42.7506"W	73.07	19.418	0.13	0.13	-1.04
3487.00	2.110	58.080	3481.66	-43.52	70.58	27.53	1749201.98	409565.67	39°37'18.7121"N	80°16'42.7094"W	75.76	21.308	0.44	-0.24	-9.50
3582.00	1.460	25.350	3576.61	-44.09	72.60	29.53	1749203.98	409567.69	39°37'18.7322"N	80°16'42.6840"W	78.37	22.135	1.25	-0.68	-34.45
3680.00	1.150	26.310	3674.59	-45.23	74.61	30.50	1749204.95	409569.70	39°37'18.7522"N	80°16'42.6719"W	80.60	22.236	0.32	-0.32	0.98
3775.00	1.060	16.140	3769.57	-46.27	76.31	31.17	1749205.62	409571.40	39°37'18.7690"N	80°16'42.6635"W	82.43	22.218	0.23	-0.09	-10.71
3870.00	0.870	358.310	3864.56	-47.45	77.87	31.39	1749205.84	409572.97	39°37'18.7845"N	80°16'42.6608"W	83.96	21.955	0.37	-0.20	-18.77
3964.00	1.120	357.880	3958.54	-48.84	79.50	31.34	1749205.78	409574.60	39°37'18.8006"N	80°16'42.6617"W	85.46	21.512	0.27	0.27	-0.46
4060.00	1.020	348.680	4054.53	-50.43	81.28	31.13	1749205.58	409576.37	39°37'18.8182"N	80°16'42.6645"W	87.04	20.959	0.21	-0.10	-9.58
4154.00	1.100	344.510	4148.51	-52.06	82.97	30.73	1749205.18	409578.06	39°37'18.8348"N	80°16'42.6699"W	88.48	20.323	0.12	0.09	-4.44



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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

WELLPATH DATA (233 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
4249.00	0.950	339.930	4243.49	-53.70	84.59	30.21	1749204.66	409579.68	39°37'18.8508"N	80°16'42.6766"W	89.82	19.657	0.18	-0.16	-4.82
4343.00	0.860	328.330	4337.48	-55.16	85.92	29.58	1749204.03	409581.01	39°37'18.8639"N	80°16'42.6849"W	90.87	18.996	0.22	-0.10	-12.34
4437.00	0.770	296.380	4431.47	-56.41	86.80	28.64	1749203.09	409581.89	39°37'18.8725"N	80°16'42.6970"W	91.40	18.261	0.49	-0.10	-33.99
4536.00	0.830	301.590	4530.46	-57.64	87.47	27.43	1749201.88	409582.57	39°37'18.8790"N	80°16'42.7125"W	91.67	17.413	0.10	0.06	5.26
4631.00	0.650	287.390	4625.46	-58.68	87.99	26.33	1749200.78	409583.09	39°37'18.8841"N	80°16'42.7266"W	91.85	16.661	0.27	-0.19	-14.95
4725.00	0.500	237.830	4719.45	-59.11	87.93	25.48	1749199.93	409583.03	39°37'18.8834"N	80°16'42.7375"W	91.55	16.158	0.53	-0.16	-52.72
4819.00	0.470	227.130	4813.45	-59.05	87.45	24.85	1749199.30	409582.55	39°37'18.8786"N	80°16'42.7455"W	90.91	15.861	0.10	-0.03	-11.38
4914.00	0.580	306.110	4908.45	-59.44	87.47	24.17	1749198.62	409582.57	39°37'18.8788"N	80°16'42.7541"W	90.75	15.449	0.71	0.12	83.14
5009.00	0.510	305.960	5003.44	-60.29	88.00	23.44	1749197.89	409583.10	39°37'18.8840"N	80°16'42.7635"W	91.07	14.917	0.07	-0.07	-0.16
5105.00	0.500	313.890	5099.44	-61.10	88.54	22.80	1749197.24	409583.64	39°37'18.8893"N	80°16'42.7719"W	91.43	14.437	0.07	-0.01	8.26
5199.00	0.470	259.350	5193.43	-61.65	88.76	22.12	1749196.57	409583.85	39°37'18.8913"N	80°16'42.7805"W	91.47	13.995	0.47	-0.03	-58.02
5294.00	0.470	196.770	5288.43	-61.55	88.31	21.63	1749196.07	409583.41	39°37'18.8869"N	80°16'42.7868"W	90.92	13.760	0.51	0.00	-65.87
5389.00	1.010	173.920	5383.42	-60.56	87.11	21.60	1749196.05	409582.20	39°37'18.8749"N	80°16'42.7870"W	89.74	13.928	0.64	0.57	-24.05
5484.00	0.990	163.570	5478.41	-59.04	85.49	21.92	1749196.37	409580.58	39°37'18.8590"N	80°16'42.7827"W	88.25	14.383	0.19	-0.02	-10.89
5582.00	0.430	103.190	5576.40	-57.96	84.59	22.52	1749196.97	409579.69	39°37'18.8502"N	80°16'42.7749"W	87.54	14.908	0.88	-0.57	-61.61
5676.00	0.540	78.530	5670.40	-57.54	84.60	23.30	1749197.75	409579.69	39°37'18.8503"N	80°16'42.7650"W	87.75	15.397	0.25	0.12	-26.23
5770.00	0.580	87.490	5764.40	-57.12	84.71	24.21	1749198.66	409579.80	39°37'18.8515"N	80°16'42.7534"W	88.10	15.949	0.10	0.04	9.53
5864.00	0.810	78.490	5858.39	-56.63	84.86	25.33	1749199.78	409579.96	39°37'18.8531"N	80°16'42.7390"W	88.56	16.622	0.27	0.24	-9.57
5958.00	0.810	85.280	5952.38	-56.06	85.05	26.65	1749201.10	409580.14	39°37'18.8550"N	80°16'42.7223"W	89.12	17.397	0.10	0.00	7.22
6053.00	1.030	72.150	6047.37	-55.50	86.36	28.13	1749202.58	409580.46	39°37'18.8583"N	80°16'42.7034"W	89.88	18.238	0.32	0.23	-13.82
6147.00	0.170	39.240	6141.36	-55.31	85.73	29.02	1749203.47	409580.83	39°37'18.8620"N	80°16'42.6920"W	90.51	18.702	0.95	-0.91	-35.01
6241.00	0.150	92.020	6235.36	-55.28	85.84	29.23	1749203.68	409580.93	39°37'18.8630"N	80°16'42.6893"W	90.68	18.807	0.15	-0.02	56.15
6336.00	0.630	111.790	6330.36	-54.78	85.64	29.84	1749204.29	409580.73	39°37'18.8611"N	80°16'42.6815"W	90.69	19.212	0.52	0.51	20.81
6434.00	0.970	111.630	6428.35	-53.65	85.13	31.11	1749205.56	409580.23	39°37'18.8562"N	80°16'42.6652"W	90.64	20.076	0.35	0.35	-0.16
6529.00	0.500	105.680	6523.34	-52.68	84.72	32.26	1749206.71	409579.82	39°37'18.8523"N	80°16'42.6505"W	90.66	20.845	0.50	-0.49	-6.26
6624.00	1.110	80.340	6618.33	-51.99	84.77	33.57	1749208.01	409579.86	39°37'18.8528"N	80°16'42.6338"W	91.17	21.603	0.73	0.64	-26.67
6719.00	1.200	100.720	6713.31	-50.92	84.73	35.45	1749209.90	409579.83	39°37'18.8527"N	80°16'42.6097"W	91.85	22.703	0.44	0.09	21.45
6814.00	1.320	353.870	6808.30	-51.19	85.64	36.31	1749210.76	409580.73	39°37'18.8617"N	80°16'42.5988"W	93.02	22.977	2.13	0.13	-112.47
6909.00	1.750	343.990	6903.26	-53.55	88.12	35.79	1749210.24	409583.21	39°37'18.8662"N	80°16'42.6057"W	95.11	22.107	0.53	0.45	-10.40
7003.00	1.740	340.490	6997.22	-56.30	90.84	34.92	1749209.37	409585.94	39°37'18.9130"N	80°16'42.6172"W	97.33	21.027	0.11	-0.01	-3.72



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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	McClellan 4H
Field	Monongalia		API/Legal	
Facility	McClellan Pad		Wellbore	McClellan 4H AWB
Slot	Slot #04			

WELLPATH DATA (233 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
7097.00	1.820	331.430	7091.18	-59.17	93.50	33.73	1749208.18	409588.60	39°37'18.9392"N	80°16'42.6327"W	99.40	19.837	0.31	0.09	-9.64
7191.00	1.030	186.550	7185.16	-60.01	93.97	32.92	1749207.37	409589.07	39°37'18.9438"N	80°16'42.6431"W	99.57	19.307	2.90	-0.84	-154.13
7290.00	8.470	163.810	7283.76	-52.37	86.08	34.85	1749209.30	409581.17	39°37'18.8659"N	80°16'42.6175"W	92.86	22.045	7.61	7.52	-22.97
7384.00	16.450	163.890	7375.47	-33.04	66.61	40.49	1749214.93	409561.70	39°37'18.6740"N	80°16'42.5434"W	77.95	31.293	8.49	8.49	0.09
7479.00	20.760	165.350	7465.48	-4.28	37.38	48.48	1749222.93	409532.48	39°37'18.3859"N	80°16'42.4380"W	61.22	52.365	4.56	4.54	1.54
7573.00	22.880	165.880	7552.74	28.71	3.54	57.15	1749231.60	409498.64	39°37'18.0521"N	80°16'42.3234"W	57.26	86.456	2.27	2.26	0.56
7615.00	23.560	166.070	7591.34	44.30	-12.53	61.17	1749235.61	409482.58	39°37'17.8937"N	80°16'42.2703"W	62.44	101.573	1.63	1.62	0.45
7695.00	27.880	165.870	7683.40	77.01	-46.20	69.59	1749244.03	409448.90	39°37'17.5617"N	80°16'42.1590"W	83.53	123.580	5.40	5.40	-0.25
7789.00	34.420	163.020	7743.81	123.23	-92.97	82.72	1749257.17	409402.13	39°37'17.1005"N	80°16'41.9859"W	124.45	138.338	7.13	6.96	-3.03
7884.00	41.190	163.000	7818.82	176.99	-148.63	99.73	1749274.18	409346.48	39°37'16.5519"N	80°16'41.7624"W	176.99	146.139	7.13	7.13	-0.02
7979.00	48.020	161.820	7886.42	243.07	-212.17	119.92	1749294.36	409282.94	39°37'15.9257"N	80°16'41.4974"W	243.72	150.525	7.24	7.19	-1.24
8073.00	55.360	157.670	7944.67	314.79	-281.25	145.55	1749319.99	409213.87	39°37'15.2453"N	80°16'41.1622"W	316.68	152.637	8.54	7.81	-4.41
8168.00	61.860	153.740	7994.14	394.76	-355.06	178.98	1749353.42	409140.06	39°37'14.5187"N	80°16'40.7269"W	397.62	153.248	7.70	6.84	-4.14
8263.00	69.270	148.720	8033.43	480.85	-430.74	220.66	1749395.09	409064.39	39°37'13.7744"N	80°16'40.1859"W	483.97	152.875	9.16	7.80	-5.28
8358.00	75.130	146.880	8062.46	571.23	-507.23	268.85	1749443.29	408987.90	39°37'13.0226"N	80°16'39.5616"W	574.07	152.074	6.44	6.17	-1.94
8453.00	81.450	146.980	8081.73	664.20	-585.14	319.59	1749494.02	408910.00	39°37'12.2569"N	80°16'38.9047"W	666.73	151.358	6.65	6.65	0.11
8548.00	88.400	146.410	8090.13	758.77	-664.18	371.52	1749545.94	408830.96	39°37'11.4803"N	80°16'38.2324"W	761.02	150.779	7.34	7.32	-0.60
8642.00	90.000	146.540	8091.44	852.76	-742.53	423.43	1749597.85	408752.62	39°37'10.7104"N	80°16'37.5604"W	854.77	150.306	1.71	1.70	0.14
8737.00	89.910	146.400	8091.52	947.76	-821.72	475.90	1749650.32	408673.43	39°37'9.9322"N	80°16'36.8811"W	949.58	149.923	0.18	-0.09	-0.15
8831.00	89.940	146.120	8091.64	1041.78	-899.89	528.11	1749702.53	408595.27	39°37'9.1642"N	80°16'36.2053"W	1043.41	149.593	0.30	0.03	-0.30
8926.00	89.910	146.420	8091.76	1136.76	-978.90	580.86	1749755.28	408516.26	39°37'8.3879"N	80°16'35.5224"W	1138.26	149.316	0.32	-0.03	0.32
9021.00	80.090	146.730	8091.76	1231.76	-1058.18	633.19	1749807.60	408436.98	39°37'7.6088"N	80°16'34.8450"W	1233.16	149.105	0.38	0.19	0.33
9116.00	90.030	146.430	8091.66	1326.76	-1137.48	685.52	1749859.92	408357.69	39°37'6.8297"N	80°16'34.1676"W	1328.07	148.924	0.32	-0.06	-0.32
9210.00	90.030	146.440	8091.61	1420.76	-1215.80	737.49	1749911.89	408279.37	39°37'6.0600"N	80°16'33.4949"W	1421.99	148.760	0.01	0.00	0.01
9306.00	90.490	146.220	8091.18	1516.75	-1295.70	790.71	1749965.11	408199.48	39°37'5.2750"N	80°16'32.8050"W	1517.91	148.606	0.53	0.48	-0.23
9401.00	90.340	146.420	8090.49	1611.75	-1374.75	843.39	1750017.79	408120.44	39°37'4.4983"N	80°16'32.1241"W	1612.84	148.471	0.26	-0.16	0.21
9495.00	90.770	146.550	8089.58	1705.75	-1453.12	895.29	1750069.69	408042.07	39°37'3.7282"N	80°16'31.4522"W	1706.78	148.362	0.48	0.46	0.14
9590.00	90.710	146.500	8088.35	1800.74	-1532.35	947.69	1750122.08	407962.84	39°37'2.9496"N	80°16'30.7740"W	1801.72	148.265	0.08	-0.06	-0.05
9684.00	91.010	146.240	8088.94	1894.73	-1610.61	999.74	1750174.13	407884.59	39°37'2.1807"N	80°16'30.1002"W	1895.66	148.171	0.42	0.32	-0.28
9779.00	90.980	146.700	8085.29	1989.71	-1689.79	1052.21	1750226.59	407805.41	39°37'1.4027"N	80°16'29.4211"W	1990.61	148.090	0.49	-0.02	0.48



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

WELLPATH DATA (233 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	
9874.00	90.770	146.220	8083.84	2084.70	-1768.96	1104.69	1750279.07	407726.25	39°37'0.6247"N	80°16'28.7417"W	2085.56	148.016	0.55	-0.22	-0.51	
9968.00	90.310	146.270	8082.96	2178.70	-1847.11	1156.92	1750331.30	407648.10	39°36'59.8568"N	80°16'28.0657"W	2179.51	147.939	0.49	-0.49	0.05	
10063.00	90.370	146.280	8082.39	2273.69	-1926.12	1209.66	1750384.04	407569.09	39°36'59.0805"N	80°16'27.3831"W	2274.47	147.870	0.06	0.06	0.01	
10156.00	90.370	146.680	8081.79	2366.69	-2003.65	1261.02	1750435.39	407491.57	39°36'58.3186"N	80°16'26.7183"W	2367.45	147.815	0.43	0.00	0.43	
10252.00	90.430	146.450	8081.12	2462.69	-2083.77	1313.91	1750488.28	407411.48	39°36'57.5314"N	80°16'26.0336"W	2463.42	147.767	0.25	0.06	-0.24	
10346.00	90.310	146.560	8080.51	2556.69	-2162.15	1365.79	1750540.15	407333.08	39°36'56.7612"N	80°16'25.3621"W	2557.40	147.720	0.17	-0.13	0.12	
10441.00	90.890	146.350	8079.52	2651.68	-2241.33	1418.28	1750592.64	407253.91	39°36'55.9832"N	80°16'24.8827"W	2652.37	147.675	0.65	0.61	-0.22	
10535.00	90.770	146.010	8078.16	2745.67	-2319.41	1470.59	1750644.95	407175.83	39°36'55.2159"N	80°16'24.0056"W	2746.33	147.624	0.38	-0.13	-0.36	
10630.00	90.830	146.610	8076.83	2840.66	-2398.45	1523.28	1750697.64	407096.80	39°36'54.4393"N	80°16'23.3237"W	2841.29	147.580	0.63	0.06	0.63	
10724.00	90.680	146.300	8075.59	2934.65	-2476.79	1575.22	1750749.58	407018.46	39°36'53.6696"N	80°16'22.6514"W	2935.27	147.544	0.67	-0.16	-0.33	
10819.00	90.580	146.220	8074.55	3029.65	-2555.78	1627.98	1750802.33	406939.48	39°36'52.8934"N	80°16'21.9685"W	3030.24	147.504	0.13	-0.11	-0.08	
10914.00	90.680	146.140	8073.50	3124.64	-2634.70	1680.86	1750855.20	406860.56	39°36'52.1180"N	80°16'21.2843"W	3125.21	147.463	0.13	0.11	-0.08	
11009.00	90.830	146.470	8072.25	3219.63	-2713.74	1733.56	1750907.90	406781.53	39°36'51.3414"N	80°16'20.6022"W	3220.18	147.429	0.38	0.16	0.35	
11103.00	91.010	146.140	8070.74	3313.62	-2791.93	1785.70	1750960.04	406703.34	39°36'50.5730"N	80°16'19.9274"W	3314.15	147.397	0.40	0.19	-0.35	
11197.00	90.920	146.660	8069.16	3407.61	-2870.22	1837.71	1751012.05	406625.06	39°36'49.8038"N	80°16'19.2542"W	3408.12	147.370	0.56	-0.10	0.55	
11292.00	90.860	146.140	8067.68	3502.59	-2949.33	1890.27	1751064.61	406545.95	39°36'49.0264"N	80°16'18.5739"W	3503.10	147.344	0.55	-0.06	-0.55	
11387.00	90.460	146.580	8066.59	3597.59	-3028.42	1942.90	1751117.23	406466.67	39°36'48.2493"N	80°16'17.8928"W	3598.08	147.318	0.63	-0.42	0.46	
11482.00	90.580	146.500	8065.73	3692.58	-3107.67	1995.27	1751169.60	406387.62	39°36'47.4705"N	80°16'17.2149"W	3693.07	147.298	0.15	0.13	-0.08	
11577.00	90.430	146.100	8064.89	3787.58	-3186.70	2047.96	1751222.31	406308.59	39°36'46.8939"N	80°16'16.5327"W	3788.05	147.273	0.45	-0.16	-0.42	
11672.00	90.120	146.430	8064.43	3882.58	-3265.71	2100.74	1751275.06	406229.59	39°36'45.9176"N	80°16'15.8500"W	3883.03	147.248	0.48	-0.33	0.35	
11766.00	90.060	146.180	8064.29	3976.58	-3343.91	2152.89	1751327.21	406151.39	39°36'45.1491"N	80°16'15.1751"W	3977.02	147.226	0.27	-0.06	-0.27	
11861.00	90.220	146.420	8064.05	4071.58	-3422.95	2205.60	1751379.91	406072.36	39°36'44.3725"N	80°16'14.4929"W	4072.01	147.204	0.30	0.17	0.25	
11954.00	90.370	146.330	8063.58	4164.58	-3500.39	2257.10	1751431.41	405994.93	39°36'43.6116"N	80°16'13.8264"W	4165.00	147.186	0.19	0.16	-0.10	
12048.00	90.280	146.160	8063.04	4258.57	-3578.54	2309.33	1751483.64	405916.78	39°36'42.8437"N	80°16'13.1505"W	4258.98	147.165	0.20	-0.10	-0.18	
12143.00	90.400	146.530	8062.48	4353.57	-3657.62	2361.97	1751536.28	405837.71	39°36'42.0667"N	80°16'12.4692"W	4353.97	147.147	0.41	0.13	0.39	
12238.00	90.490	146.250	8061.74	4448.57	-3736.73	2414.56	1751588.86	405758.60	39°36'41.2893"N	80°16'11.7887"W	4448.96	147.131	0.31	0.09	-0.29	
12332.00	90.860	146.540	8060.63	4542.56	-3815.02	2466.58	1751640.88	405680.32	39°36'40.5200"N	80°16'11.1154"W	4542.95	147.116	0.50	0.39	0.31	
12427.00	90.920	146.420	8059.16	4637.55	-3894.21	2519.04	1751693.33	405601.13	39°36'39.7418"N	80°16'10.4365"W	4637.93	147.102	0.14	0.06	-0.13	
12521.00	90.830	146.490	8057.72	4731.54	-3972.54	2570.97	1751745.27	405522.80	39°36'38.9721"N	80°16'9.7643"W	4731.91	147.090	0.12	-0.10	0.07	
12615.00	90.920	146.670	8056.29	4825.53	-4050.99	2622.74	1751797.03	405444.36	39°36'38.2012"N	80°16'9.0943"W	4825.90	147.080	0.21	0.10	0.19	



Actual Wellpath Report

McClellan 4H AWP Proj: 20402'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

WELLPATH DATA (233 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
12709.00	91.200	146.520	8054.55	4919.51	-4129.45	2674.48	1751848.77	405365.90	39°36'37.4302"N	80°16'8.4246"W	4919.88	147.070	0.34	0.30	-0.16
12804.00	91.050	146.490	8052.68	5014.49	-4208.66	2726.90	1751901.18	405286.70	39°36'36.6518"N	80°16'7.7463"W	5014.86	147.060	0.16	-0.16	-0.03
12899.00	91.050	146.540	8050.94	5109.48	-4287.88	2779.30	1751953.58	405207.49	39°36'35.8734"N	80°16'7.0680"W	5109.84	147.050	0.05	0.00	0.05
12993.00	90.580	146.300	8049.60	5203.47	-4366.18	2831.29	1752005.57	405129.19	39°36'35.1039"N	80°16'6.3953"W	5203.82	147.038	0.56	-0.50	-0.26
18088.00	90.580	146.460	8046.64	5298.46	-4445.29	2883.89	1752058.16	405050.09	39°36'34.3266"N	80°16'5.7146"W	5298.81	147.026	0.17	0.00	0.17
13183.00	90.830	146.870	8047.47	5393.45	-4524.65	2936.09	1752110.36	404970.73	39°36'33.5467"N	80°16'5.0390"W	5393.80	147.020	0.51	0.26	0.43
13278.00	90.740	146.580	8046.17	5488.44	-4604.07	2988.21	1752162.47	404891.32	39°36'32.7662"N	80°16'4.3644"W	5488.79	147.015	0.32	-0.09	-0.31
13372.00	90.650	146.400	8045.03	5582.43	-4682.44	3040.10	1752214.36	404812.95	39°36'31.9961"N	80°16'3.6928"W	5582.78	147.006	0.21	-0.10	-0.19
13467.00	90.770	146.520	8043.85	5677.43	-4761.61	3092.58	1752266.84	404733.78	39°36'31.2181"N	80°16'3.0136"W	5677.77	146.997	0.18	0.13	0.13
13562.00	90.520	146.460	8042.79	5772.42	-4840.82	3145.03	1752319.29	404654.58	39°36'30.4897"N	80°16'2.2849"W	5772.76	146.989	0.27	-0.26	-0.06
13657.00	90.650	146.300	8041.82	5867.42	-4919.92	3197.63	1752371.88	404575.48	39°36'29.6624"N	80°16'1.6543"W	5867.75	146.979	0.22	0.14	-0.17
13751.00	90.710	146.580	8040.70	5961.41	-4998.25	3249.59	1752423.84	404497.16	39°36'28.8927"N	80°16'0.9819"W	5961.74	146.970	0.30	0.06	0.30
13844.00	90.580	146.420	8039.65	6054.40	-5075.80	3300.91	1752475.16	404419.82	39°36'28.1307"N	80°16'0.3176"W	6054.73	146.963	0.22	-0.14	-0.17
13939.00	90.620	146.360	8038.66	6149.40	-5154.91	3353.50	1752527.74	404340.51	39°36'27.3533"N	80°15'59.6372"W	6149.72	146.954	0.08	0.04	-0.06
14034.00	90.550	146.530	8037.69	6244.39	-5234.07	3406.00	1752580.24	404261.35	39°36'26.5754"N	80°15'58.9577"W	6244.71	146.946	0.19	-0.07	0.18
14128.00	90.680	146.560	8036.68	6338.39	-5312.50	3457.82	1752632.06	404182.93	39°36'25.8047"N	80°15'58.2871"W	6338.70	146.941	0.14	0.14	0.03
14223.00	90.150	146.320	8035.99	6433.38	-5391.66	3510.34	1752684.57	404103.77	39°36'25.0268"N	80°15'57.6076"W	6433.69	146.933	0.61	-0.56	-0.25
14317.00	89.880	146.600	8035.97	6527.38	-5470.01	3562.27	1752736.50	404025.43	39°36'24.2569"N	80°15'56.9355"W	6527.69	146.926	0.41	-0.29	0.30
14413.00	90.000	146.570	8036.07	6623.38	-5550.14	3615.14	1752789.37	403945.30	39°36'23.4894"N	80°15'56.2513"W	6623.69	146.921	0.13	0.13	-0.03
14508.00	90.120	147.060	8035.97	6718.38	-5629.64	3667.14	1752841.36	403866.80	39°36'22.6881"N	80°15'55.5783"W	6718.69	146.920	0.53	0.13	0.52
14602.00	90.150	146.370	8035.75	6812.38	-5708.22	3718.72	1752892.95	403787.23	39°36'21.9159"N	80°15'54.9107"W	6812.69	146.917	0.73	0.03	-0.73
14697.00	90.060	146.450	8035.57	6907.38	-5787.36	3771.28	1752945.50	403708.10	39°36'21.1382"N	80°15'54.2306"W	6907.68	146.910	0.13	-0.09	0.08
14791.00	89.570	146.240	8035.88	7001.38	-5865.60	3823.38	1752997.59	403629.86	39°36'20.3694"N	80°15'53.5565"W	7001.68	146.902	0.57	-0.52	-0.22
14885.00	88.890	145.590	8037.14	7095.36	-5943.45	3876.05	1753050.26	403552.02	39°36'19.6045"N	80°15'52.8751"W	7095.65	146.889	1.00	-0.72	-0.69
14980.00	88.740	146.400	8039.10	7190.34	-6022.18	3929.17	1753103.38	403473.29	39°36'18.8308"N	80°15'52.1879"W	7190.62	146.878	0.87	-0.16	0.85
15075.00	89.080	146.710	8040.91	7285.32	-6101.44	3981.52	1753155.72	403394.04	39°36'18.0520"N	80°15'51.5105"W	7285.60	146.873	0.48	0.36	0.33
15170.00	89.110	146.580	8042.41	7380.31	-6180.78	4033.74	1753207.95	403314.70	39°36'17.2723"N	80°15'50.8346"W	7380.59	146.870	0.14	0.03	-0.14
15264.00	89.630	146.990	8043.44	7474.30	-6259.42	4085.23	1753259.43	403236.07	39°36'16.4995"N	80°15'50.1683"W	7474.58	146.869	0.70	0.55	0.44
15359.00	89.290	146.450	8044.34	7569.29	-6338.83	4137.36	1753311.56	403156.66	39°36'15.7190"N	80°15'49.4937"W	7569.58	146.867	0.67	-0.36	-0.57
15454.00	89.420	146.720	8045.41	7664.29	-6418.12	4189.67	1753363.87	403077.37	39°36'14.9898"N	80°15'48.8167"W	7664.57	146.864	0.32	0.14	0.28



Actual Wellpath Report

McClellan 4H AWP Proj: 20402'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

WELLPATH DATA (233 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
15548.00	88.370	146.310	8047.22	7758.27	-6496.51	4241.52	1753415.71	402996.99	39°36'14.1695"N	80°15'48.1458"W	7758.55	146.860	1.20	-1.12	-0.44
15643.00	88.650	146.530	8049.69	7853.24	-6575.63	4294.05	1753468.24	402919.88	39°36'13.3920"N	80°15'47.4662"W	7853.52	146.854	0.37	0.29	0.23
15738.00	87.820	146.160	8052.62	7948.19	-6654.66	4346.67	1753520.86	402840.84	39°36'12.6153"N	80°15'46.7853"W	7948.47	146.848	0.96	-0.87	-0.39
15832.00	87.910	146.250	8056.12	8042.12	-6732.73	4398.92	1753573.10	402762.78	39°36'11.8482"N	80°15'46.1093"W	8042.40	146.841	0.14	0.10	0.10
15926.00	87.940	146.400	8059.52	8136.06	-6810.90	4451.01	1753625.19	402684.61	39°36'11.0800"N	80°15'45.4354"W	8136.33	146.835	0.16	0.03	0.16
16021.00	88.090	146.630	8062.81	8231.00	-6890.09	4503.39	1753677.56	402605.43	39°36'10.3019"N	80°15'44.7576"W	8231.27	146.831	0.29	0.16	0.24
16114.00	88.180	146.410	8065.84	8323.96	-6967.62	4554.67	1753728.84	402527.91	39°36'9.5400"N	80°15'44.0941"W	8324.22	146.826	0.26	0.10	-0.24
16210.00	88.090	146.530	8068.97	8419.90	-7047.60	4607.67	1753781.83	402447.93	39°36'8.7540"N	80°15'43.4084"W	8420.17	146.824	0.16	-0.09	0.12
16304.00	87.970	145.140	8072.20	8513.84	-7125.33	4660.42	1753834.59	402370.21	39°36'7.9902"N	80°15'42.7260"W	8514.10	146.813	1.48	-0.13	-1.48
16398.00	87.940	146.020	8075.55	8607.77	-7202.82	4713.52	1753887.68	402292.72	39°36'7.2288"N	80°15'42.0392"W	8608.01	146.799	0.94	-0.03	0.94
16493.00	87.480	145.560	8079.35	8702.69	-7281.32	4766.89	1753941.05	402214.22	39°36'6.4575"N	80°15'41.3489"W	8702.92	146.788	0.68	-0.48	-0.48
16587.00	86.920	145.620	8083.94	8796.57	-7358.78	4819.95	1753994.10	402136.77	39°36'5.6965"N	80°15'40.6627"W	8796.79	146.775	0.60	-0.60	0.06
16682.00	86.860	145.440	8089.09	8891.42	-7436.98	4873.63	1754047.79	402058.57	39°36'4.9281"N	80°15'39.9684"W	8891.63	146.762	0.20	-0.06	-0.19
16777.00	86.340	145.530	8094.73	8986.24	-7515.12	4927.37	1754101.52	401980.44	39°36'4.1604"N	80°15'39.2734"W	8986.44	146.749	0.56	-0.55	0.09
16871.00	86.520	145.660	8100.58	9080.05	-7592.58	4980.38	1754154.52	401903.04	39°36'3.3998"N	80°15'38.5878"W	9080.24	146.737	0.24	0.19	0.14
16966.00	86.340	145.590	8106.50	9174.86	-7670.79	5033.91	1754208.05	401824.78	39°36'2.6309"N	80°15'37.8955"W	9175.03	146.725	0.20	-0.19	-0.07
17061.00	86.610	145.850	8112.34	9269.67	-7749.14	5087.32	1754261.46	401746.44	39°36'1.8611"N	80°15'37.2047"W	9269.84	146.715	0.39	0.28	0.27
17156.00	85.690	145.260	8118.72	9364.45	-7827.30	5140.93	1754315.06	401668.28	39°36'1.0931"N	80°15'36.5114"W	9364.60	146.703	1.15	-0.97	-0.62
17250.00	86.800	145.480	8124.87	9458.23	-7904.46	5194.23	1754368.36	401591.10	39°36'0.3348"N	80°15'35.8221"W	9458.38	146.690	1.20	1.18	0.23
17345.00	87.810	145.580	8129.34	9553.11	-7982.71	5247.94	1754422.07	401512.87	39°35'59.5662"N	80°15'35.1276"W	9553.25	146.679	1.07	1.05	0.11
17440.00	89.020	145.300	8131.97	9648.06	-8060.92	5301.81	1754475.93	401434.68	39°35'58.7978"N	80°15'34.4310"W	9648.19	146.666	1.31	1.27	-0.29
17535.00	88.860	145.360	8133.72	9743.03	-8139.04	5355.84	1754529.96	401356.56	39°35'58.0303"N	80°15'33.7323"W	9743.15	146.653	0.18	-0.17	0.06
17630.00	88.030	145.450	8136.30	9837.98	-8217.21	5409.76	1754583.88	401278.39	39°35'57.2622"N	80°15'33.0350"W	9838.09	146.641	0.88	-0.87	0.09
17724.00	87.320	145.630	8140.11	9931.89	-8294.65	5462.90	1754637.02	401200.96	39°35'56.5014"N	80°15'32.3478"W	9931.99	146.631	0.78	-0.76	0.19
17819.00	87.380	146.880	8144.51	10026.79	-8373.54	5515.65	1754689.76	401122.08	39°35'55.7262"N	80°15'31.6654"W	10026.89	146.627	1.26	0.06	1.26
17913.00	87.010	146.770	8149.11	10120.67	-8452.10	5567.06	1754741.17	401043.52	39°35'54.9541"N	80°15'31.0002"W	10120.78	146.629	0.40	-0.39	-0.06
18007.00	87.630	146.830	8153.50	10214.57	-8530.87	5618.47	1754792.58	400964.96	39°35'54.1819"N	80°15'30.3349"W	10214.67	146.630	0.66	0.66	0.06
18101.00	87.910	146.500	8157.16	10308.49	-8609.14	5670.09	1754844.19	400886.49	39°35'53.4106"N	80°15'29.6671"W	10308.60	146.631	0.46	0.30	-0.35
18195.00	88.980	146.840	8159.71	10402.46	-8687.65	5721.72	1754896.82	400807.98	39°35'52.6391"N	80°15'28.9991"W	10402.56	146.631	1.19	1.14	0.36
18289.00	86.980	146.750	8161.38	10498.44	-8766.30	5773.17	1754947.27	400729.33	39°35'51.8661"N	80°15'28.3333"W	10498.55	146.632	0.06	0.00	-0.06



Actual Wellpath Report

McClellan 4H AWP Proj: 20402'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

WELLPATH DATA (233 stations) † = interpolated, ‡ = extrapolated station															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
18384.00	89.290	146.430	8162.82	10591.43	-8845.61	5825.45	1754999.55	400650.03	39°35'51.0867"N	80°15'27.6569"W	10591.54	146.632	0.49	0.33	-0.37
18479.00	89.570	146.600	8163.76	10686.42	-8924.84	5877.86	1755051.95	400570.81	39°35'50.3081"N	80°15'26.9789"W	10686.53	146.631	0.34	0.29	0.18
18574.00	90.310	146.650	8163.86	10781.42	-9004.17	5930.12	1755104.21	400491.48	39°35'49.5284"N	80°15'26.3027"W	10781.53	146.631	0.78	0.78	0.05
18668.00	89.380	146.480	8164.12	10875.42	-9082.61	5981.92	1755156.00	400413.04	39°35'48.7575"N	80°15'25.6326"W	10875.53	146.631	1.01	-0.99	-0.18
18763.00	89.510	146.560	8165.04	10970.41	-9161.85	6034.32	1755208.40	400333.81	39°35'47.9788"N	80°15'24.9547"W	10970.53	146.630	0.16	0.14	-0.08
18857.00	89.050	146.400	8166.22	11064.41	-9240.21	6086.23	1755260.30	400255.46	39°35'47.2087"N	80°15'24.2832"W	11064.52	146.628	0.52	-0.49	-0.17
18952.00	89.110	146.910	8167.74	11159.39	-9319.56	6138.44	1755312.51	400176.11	39°35'46.4289"N	80°15'23.6077"W	11159.51	146.629	0.54	0.06	0.54
19047.00	89.230	146.770	8169.12	11254.38	-9399.08	6190.40	1755364.47	400096.60	39°35'45.6473"N	80°15'22.9354"W	11254.50	146.630	0.19	0.13	-0.15
19142.00	89.230	146.520	8170.40	11349.37	-9478.42	6242.62	1755416.69	400017.26	39°35'44.8675"N	80°15'22.2597"W	11349.49	146.631	0.26	0.00	-0.26
19236.00	90.030	146.720	8171.00	11443.37	-9556.91	6294.34	1755468.40	399938.77	39°35'44.0961"N	80°15'21.5908"W	11443.48	146.630	0.88	0.85	0.21
19331.00	90.520	146.430	8170.55	11538.36	-9636.20	6346.67	1755520.73	399859.49	39°35'43.3169"N	80°15'20.9137"W	11538.48	146.630	0.60	0.52	-0.31
19426.00	91.570	146.810	8168.82	11633.35	-9715.51	6398.93	1755572.99	399780.18	39°35'42.5374"N	80°15'20.2376"W	11633.46	146.630	1.18	1.11	0.40
19521.00	91.450	146.420	8166.31	11728.31	-9794.81	6451.18	1755625.24	399700.89	39°35'41.7581"N	80°15'19.5615"W	11728.43	146.630	0.43	-0.13	-0.41
19616.00	91.780	146.720	8163.63	11823.27	-9874.06	6503.50	1755677.55	399621.64	39°35'40.9792"N	80°15'18.8847"W	11823.39	146.629	0.47	0.35	0.32
19711.00	91.020	147.060	8161.31	11918.24	-9953.61	6555.39	1755729.43	399542.10	39°35'40.1974"N	80°15'18.2134"W	11918.36	146.631	0.87	-0.80	0.35
19806.00	91.200	146.940	8159.47	12013.22	-10033.26	6607.12	1755781.17	399462.45	39°35'39.4145"N	80°15'17.5440"W	12013.34	146.634	0.22	0.19	-0.12
19901.00	90.980	146.910	8157.67	12108.19	-10112.85	6658.96	1755833.00	399382.87	39°35'38.6323"N	80°15'16.8733"W	12108.33	146.636	0.23	-0.23	-0.03
19996.00	93.200	146.520	8154.20	12203.12	-10192.21	6711.06	1755885.10	399303.51	39°35'37.8523"N	80°15'16.1993"W	12203.26	146.637	2.37	2.34	-0.41
20092.00	92.800	146.610	8149.18	12298.99	-10272.21	6763.88	1755937.92	399223.51	39°35'37.0661"N	80°15'15.5160"W	12299.12	146.637	0.43	-0.42	0.09
20186.00	92.280	147.230	8145.01	12392.89	-10350.90	6815.13	1755989.17	399144.83	39°35'36.2927"N	80°15'14.8528"W	12393.03	146.639	0.86	-0.55	0.66
20280.00	92.090	145.880	8141.43	12486.82	-10429.28	6866.90	1756040.93	399066.46	39°35'35.5224"N	80°15'14.1831"W	12486.96	146.638	1.45	-0.20	-1.44
20377.00	92.490	146.560	8137.55	12583.74	-10509.84	6920.79	1756094.82	398985.91	39°35'34.7307"N	80°15'13.4861"W	12583.88	146.635	0.81	0.41	0.70
20402.00†	92.490	146.560	8136.47	12608.72	-10530.68	6934.56	1756108.58	398965.07	39°35'34.5259"N	80°15'13.3081"W	12608.85	146.635	0.00	0.00	0.00



Actual Wellpath Report

McClellan 4H AWP Proj: 20402'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

HOLE & CASING SECTIONS - Ref Wellbore: McClellan 4H AWB Ref Wellpath: McClellan 4H AWP Proj: 20402'									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
24in Conductor	28.00	128.00	100.00	28.00	128.00	0.00	0.00	0.43	0.58
17.5in Open Hole	128.00	1468.00	1340.00	128.00	1467.87	0.43	0.58	-14.69	7.15
13.375in Casing Surface	28.00	1438.00	1410.00	28.00	1437.87	0.00	0.00	-14.66	7.14
12.25in Open Hole	1468.00	2743.00	1275.00	1467.87	2737.86	-14.69	7.15	70.31	19.08
9.625in Casing Intermediate	28.00	2713.00	2685.00	28.00	2707.87	0.00	0.00	70.59	19.12
8.75in Open Hole	2743.00	7682.00	4939.00	2737.86	7651.87	70.31	19.08	-40.37	68.12
8.5in Open Hole	7682.00	20402.00	12720.00	7651.87	8136.47	-40.37	68.12	-10530.68	6934.56
5.5in Casing Production	28.00	20402.00	20374.00	28.00	8136.47	0.00	0.00	-10530.68	6934.56



Actual Wellpath Report

McClellan 4H AWP Proj: 20402'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
McClellan 4H BHL Rev-8	8040.00	-10527.68	6940.54	1756114.57	398968.06	39°35'34.5560"N	80°15'13.2319"W	point
McClellan 4H LP Rev-6	8040.00	-574.50	320.38	1749494.81	408920.64	39°37'12.3622"N	80°16'38.8957"W	point
McClellan Hardline #1 (8.31.21)	8529.00	-1292.85	1541.24	1750715.60	408202.33	39°37'5.3671"N	80°16'23.2158"W	polygon
2D Polygon: dimensions not calculated								
McClellan Hardline #10 (8.31.21)	8529.00	-12600.83	3136.28	1752310.54	396895.04	39°35'13.7495"N	80°16'1.6000"W	polygon
2D Polygon: dimensions not calculated								
McClellan Hardline #11 (8.31.21)	8529.00	-10612.64	6952.95	1756126.98	398883.11	39°35'33.7174"N	80°15'13.0643"W	polygon
2D Polygon: dimensions not calculated								
McClellan Hardline #12 (8.31.21)	8529.00	-10051.78	8222.56	1757396.51	399443.93	39°35'39.3651"N	80°14'56.9065"W	polygon
2D Polygon: dimensions not calculated								
McClellan Hardline #13 (8.31.21)	8529.00	-10138.77	4220.27	1753394.47	399356.95	39°35'38.1725"N	80°15'48.0219"W	polygon
2D Polygon: dimensions not calculated								
McClellan Hardline #2 (8.31.21)	8529.00	-1600.72	1752.03	1750926.37	407894.48	39°37'2.3424"N	80°16'20.4885"W	polygon
2D Polygon: dimensions not calculated								



Actual Wellpath Report

McClellan 4H AWP Proj: 20402'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
McClellan Hardline #3 (8.31.21)	8529.00	-1789.33	5580.52	1754754.63	407705.88	39°37'0.8009"N	80°15'31.5471"W	polygon
	2D Polygon: dimensions not calculated							
McClellan Hardline #4 (8.31.21)	8529.00	-3165.33	2969.09	1752143.36	406329.97	39°36'46.9831"N	80°16'4.7658"W	polygon
	2D Polygon: dimensions not calculated							
McClellan Hardline #5 (8.31.21)	8529.00	-4654.83	3213.47	1752387.72	404840.56	39°36'32.2836"N	80°16'1.4808"W	polygon
	2D Polygon: dimensions not calculated							
McClellan Hardline #6 (8.31.21)	8529.00	-7618.74	7053.17	1756227.19	401876.83	39°36'3.3135"N	80°15'12.1048"W	polygon
	2D Polygon: dimensions not calculated							
McClellan Hardline #7 (8.31.21)	8529.00	-10261.81	3010.83	1752185.09	399233.92	39°35'36.8547"N	80°16'3.4577"W	polygon
	2D Polygon: dimensions not calculated							
McClellan Hardline #8 (8.31.21)	8529.00	-10304.53	2964.52	1752138.79	399191.20	39°35'36.4286"N	80°16'4.0446"W	polygon
	2D Polygon: dimensions not calculated							
McClellan Hardline #9 (8.31.21)	8529.00	-10966.75	2992.77	1752167.03	398529.02	39°35'29.8865"N	80°16'3.6114"W	polygon
	2D Polygon: dimensions not calculated							



Actual Wellpath Report

McClellan 4H AWP Proj: 20402'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

WELLPATH COMPOSITION - Ref Wellbore: McClellan 4H AWB Ref Wellpath: McClellan 4H AWP Proj: 20402'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
28.00	1394.00	BH Generic gyro - northseeking (Standard)	01_Javins Inertial Gyro <17-1/2">(50'-1394')	McClellan 4H AWB	11/15/2021
1394.00	2677.00	OWSG MWD rev2 + HRGM	02_Tally MWD <12-1/4">(1394')(1469'-2677')	McClellan 4H AWB	11/15/2021
2677.00	7615.00	OWSG MWD rev2 + HRGM	03_Tally MWD <8-3/4">(2677')(2825'-7615')	McClellan 4H AWB	11/15/2021
7615.00	20402.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04_BH AT Curve <8-1/2">(7615')(7695'-20377')	McClellan 4H AWB	11/15/2021



Actual Wellpath Report

McClellan 4H AWP Proj: 20402'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 4H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 4H AWB
Slot	Slot #04		

COMMENTS
<p>Wellpath general comments API: 47-061-01885-0000 BH Job #: 111066129 Rig: Patterson 277 Duration: 11/16/21 - 11/20/21</p> <p>01_Javins Inertial Gyro <17-1/2">(50'-1394') 02_Tally MWD <12-1/4">(1394')(1469'-2677') 03_Tally MWD <8-3/4">(2677')(2825'-7615') 04_BH AT Curve <8-1/2">(7615')(7695'-20377') Projected MD at TD: 20402'</p>

Cement Job Log

NEXTIER

NexTier Completion Solutions
3990 Rogerdale Rd., Houston, TX 77042
(713)325-6000

Customer:	NORTHEAST NATURAL ENERGY LLC	Date:	8-Nov-21	Serv. Supervisor:	Tim Monoskey
Cust. Rep.:	SAM	Ticket #:	BPA-2111-0006	Serv. Center:	Black Lick - 1571
Well Name:	McClellan 4H	API Well #:	47-061-01885	County:	Monongalia
Well Type:		Rig:	PATTERSON 277	State:	WV
			Type of Job:	CM-SURFACE CASING	

Materials Furnished by NexTier

Plugs	Casing Hardware	Physical Slurry Properties							
		Sacks of Cement	Fluid Density (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbls)	Fluid Volume (cuft)	Mix Water (bbls)
CUSTOMER SUPPLIED	NEXTIER 13 3/8 PLUG CONTAINER								
TOP PLUG									
6% Gel Spacer	+20.0 PPB NEX-020		8.7		4.62	33.66	25.00	-	
15.6 lb/gal Cement	100% NCM-910 +2.0% NAC-110+0.25 PPS NJM-600	1230	15.6	30%	1.20	5.21	282.07	1,471.53	153
Fresh Water Displacement			8.33			-	216.12	-	
0									
Displacement Chemicals:	N/A								

OPEN HOLE DATA

TUBULAR DATA

17.5 in. O.H. 128 to 1,438 ft				13.375 in. 54.5#, (0 to 1,438 ft)			SIZE WEIGHT	THRD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
Ambient Temp.	Bulk Temp.	Slurry 1 Temp.	Slurry 2 Temp.	Slurry 3 Temp.	Slurry 4 Temp.	13.375" 54.5#	LTC	1435	J-55	12.615	2730	1130	
65.0 °F	65.0 °F	72.0 °F	86.0 °F										

PREVIOUS CASING DATA

PERFORATED INTERVAL DATA

CASING EQUIPMENT DEPTHS

24 in. 97.4# (0 to 128 ft)			TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
							1435	1389.7		

WELL FLUID

DISPLACEMENT FLUID

DIFF PRESS

CEG LIFT

MAX PRESS

MIX H2O Chlorides (ppm)

Mix H2O pH

Mix H2O Temp

WATER ON LOC (bbl)

TYPE	DENSITY	VOLUME	TYPE	DENSITY	(psi)	(psi)	(psi)	MIX H2O Chlorides (ppm)	Mix H2O pH	Mix H2O Temp	WATER ON LOC (bbl)
H2O	8.3 ppg	215 bbl	REC	9.0 ppg	477	424	3000	<300	7	69.0 °F	600
Bumped Plug	Final Differential (psi)	Floats Held (Y/N)	PSI Left on Casing	Cement to Surface (bbl)	Top of Cement (ft)	Full Circ. During Job (Y/N)	Max Pump Pressure (psi)	Casing Rotation	Additional Hrs Charged (hrs)	Casing Redirection	Rathole Length (ft)
No	680.00	N	530.00	2.00	-	No	3,000.00	No	5.00	No	30

Comments/Additional Details:

CEMENT FELL BACK 53'

Tim Monoskey
Service Supervisor

8-Nov-21
Date

Cement Job Log



NexTier Completion Solutions
3990 Rogerdale Rd., Houston, TX 77042
(713)325-6000

Customer:	NORTHEAST NATURAL ENERGY LLC			Date:	11-Nov-21		Serv. Supervisor:	Steven Long						
Cust. Rep.:	TROY			Ticket #:	BPA-2111-0007		Serv. Center:	Black Lick - 1571						
Well Name:	McClellan 4H			API Well #:	47-061-01885		County:	Monongalia	State: WV					
Well Type:	GAS			Rig:	PATTERSON 277		Type of Job:	CM-INTER. CASING						
Materials Furnished by NexTier														
Plugs		Casing Hardware			Physical Slurry Properties									
					Sacks of Cement	Fluid Density (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbls)	Fluid Volume (cuft)	Mix Water (bbls)		
6% Gel Spacer		+20.0 PP8 NEX-020				8.7		4.62	33.66	25.00	-			
15.6 lb/gal Cement		100% NCM-910 +1.0% NAC-110			890	15.6	30%	1.19	5.24	188.29	1,057.23	111		
Fresh Water Displacement						8.33			-	205.65	-			
0									-		-			
									-		-			
									-		-			
									-		-			
									-		-			
									-		-			
									-		-			
TOP OUT CEMENT		100% NCM-910			850	15.6								
Displacement Chemicals:														
OPEN HOLE DATA				TUBULAR DATA										
12.25 in. O.H. 1,438 to 2,700 ft				9.625 in. 36#, (0 to 2,700 ft)				SIZE WEIGHT	THRD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
Ambient Temp.	Bulk Temp.	Slurry 1 Temp.	Slurry 2 Temp.	Slurry 3 Temp.	Slurry 4 Temp.	9.625 36#	BTC	2715	J-55	8.921	3520	2020		
40.0 °F		85.0 °F	83.0 °F	64.0 °F										
PREVIOUS CASING DATA				PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS						
13.375 in. 54.5# (0 to 1,438 ft)				TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP			
								2715	2670		835-838			
WELL FLUID		DISPLACEMENT FLUID				DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)	Mix H2O Chlorides (ppm)	Mix H2O pH	Mix H2O Temp	WATER ON LOC (bbl)		
TYPE	DENSITY	VOLUME	TYPE	DENSITY										
H2O	8.3 ppg	206.4 bbl	H2O	8.3 ppg	1008	1023	2800	< 200	7	47.0 °F	1600			
Bumped Plug	Final Differential (psi)	Floats Held (Y/N)	PSI Left on Casing	Cement to Surface (bbl)	Top of Cement (ft)	Full Circ. During Job (Y/N)	Max Pump Pressure (psi)	Casing Rotation	Additional Hrs Charged (hrs)	Casing Reciprocation	Rathole Length (ft)			
No	310.00		267.00	60.00	-	No	1,800.00	No	21.00	No	35			
Comments/Additional Details:														
Steven Long										11-Nov-21				
Service Supervisor										Date				

02/09/2024

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/11/2022
Job End Date:	3/27/2022
State:	West Virginia
County:	Monongalia
API Number:	47-061-01885-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	McClellan 4H
Latitude:	39.62167800
Longitude:	-80.27862900
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,089
Total Base Water Volume (gal):	23,389,968
Total Base Non Water Volume:	0



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	Northeast Natural Energy	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	87.60497	None
Sand (100 Mesh Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	9.64007	None
Sand (40/70 White Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	2.40011	None
Hydrochloric Acid (7.5%)	CNR	Acidizing					
			Water	7732-18-5	85.00000	0.19211	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.08362	None
StimSTREAM SC 405	Chemstream	Scale Control					
			Non-Hazardous Substances	Proprietary	70.00000	0.02660	None
			Citric Acid	77-92-9	10.00000	0.00380	None
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00380	None
			2-Phosphono-1,2,4-butanetricarboxylic acid (PBTC)	37971-36-1	10.00000	0.00380	None

Clearal 268	Chemstream	Biocide					
			Non-Hazardous Substances	Proprietary	80.00000	0.02134	None
			Glutaraldehyde	111-30-8	20.00000	0.00533	None
			Quaternary Ammonim Compounds	68424-85-1	3.00000	0.00080	None
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00080	None
			Ethanol	64-17-5	1.50000	0.00040	None
StimSTREAM FR 9800	Chemstream	Friction Reducer					
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.00603	None
			Butene, homopolymer	9003-29-6	25.00000	0.00603	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00072	None
StimSTREAM FR 2800	Chemstream	Friction Reducer					
			Distillates (petroleum), hydrotreated light	64742-47-8	25.00000	0.00967	None
			Alcohols, C11-14-iso, C13-rich, ethoxylated	78330-21-9	5.00000	0.00193	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00048	None
			Proprietary material	Proprietary	30.00000	0.00024	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00016	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00008	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00008	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00011	None
			Acetic Acid	64-19-7	5.00000	0.00003	None
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.							
Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Water	7732-18-5	85.00000	0.19211	
			Non-Hazardous Substances	Proprietary	70.00000	0.02660	
			Non-Hazardous Substances	Proprietary	80.00000	0.02134	
			Butene, homopolymer	9003-29-6	25.00000	0.00603	
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00380	
			Citric Acid	77-92-9	10.00000	0.00380	
			Alcohols, C11-14-iso, C13-rich, ethoxylated	78330-21-9	5.00000	0.00193	
			Quaternary Ammonim Compounds	68424-85-1	3.00000	0.00080	
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00080	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00072	
			Ethanol	64-17-5	1.50000	0.00040	
			Proprietary material	Proprietary	30.00000	0.00024	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00016	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00008	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00008	

		Acetic Acid	64-19-7	5.00000	0.00003
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* 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)