

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

RECEIVED
Office Of Oil and Gas

API 47 - 061 - 01887 County Monongalia District Battelle OCT 10 2023
Quad Mannington Pad Name McClellan Field/Pool Name _____
Farm name McClellan Well Number 8H WV Department of Environmental Protection
Operator (as registered with the OOG) Northeast Natural Energy LLC
Address 707 Virginia St. 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 4386013.0 Easting 561906.5
Landing Point of Curve Northing 4385513.7 Easting 561505.7
Bottom Hole Northing 4382704.7 Easting 563440.2

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 12/8/2021
Date completion activities began 3/28/2022 Date completion activities ceased 4/12/2022
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

Reviewed by:
[Signature] 1/2/24
02/09/2024

APPROVED

API 47-061 - 01887 Farm name McClellan Well number 8H

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"	1,463'	N	54.5	NA	Y, 45 bbl
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,691'	N	36	NA	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	19,983'	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	1,240	15.6	1.19	1,472	CTS	8
Coal							
Intermediate 1	Class A	895	15.6	1.18	1,055	CTS	8
Intermediate 2							
Intermediate 3							
Production	50:50 Poz	3,660	14.5	1.16	4,237	1,920	48
Tubing							

Drillers TD (ft) 19,983' Loggers TD (ft) 20,016'
 Deepest formation penetrated Marcellus Plug back to (ft) NA
 Plug back procedure NA

Kick off depth (ft) 7,660'

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 - 01887 Farm name McClellan Well number 8H

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.

02/09/2024

API 47- 061 - 01887

Farm name McClellan

Well number 8H

PRODUCING FORMATION(S)

DEPTHS

Marcellus 8,117' TVD 20,016' 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 2,588 psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 2,601 mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd
GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
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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 *Hollie Medley* Title Regulatory Manager Date 9-28-23

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

02/09/2024

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 8H 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	3/28/2022	4,541	6,952	9,249	90	443	7,212	300,000	437
2	3/28/2022	4,187	5,945	9,177	92	21	8,269	390,000	465
3	3/29/2022	4,023	5,888	9,012	90	32	8,215	390,000	467
4	3/29/2022	4,470	8,190	9,630	87	10	8,189	390,000	440
5	3/29/2022	5,732	7,641	9,523	87	96	8,244	390,125	457
6	3/29/2022	6,569	7,739	9,429	85	59	8,119	390,224	382
7	3/29/2022	5,940	7,275	9,668	91	3	8,170	391,578	517
8	3/29/2022	6,001	6,367	9,746	91	17	8,093	389,766	414
9	3/30/2022	6,183	8,665	9,856	92	14	8,008	389,580	410
10	3/30/2022	6,342	8,172	9,482	88	91	8,123	390,225	430
11	3/30/2022	6,220	7,122	9,513	90	74	8,152	389,555	460
12	3/30/2022	6,232	9,014	9,420	90	124	8,192	388,554	438
13	3/30/2022	6,557	7,745	9,395	91	37	8,144	390,640	397
14	3/30/2022	5,617	7,124	9,473	91	48	8,025	391,400	394
15	3/31/2022	5,924	7,209	9,407	91	75	8,092	390,125	432
16	3/31/2022	5,584	7,254	9,513	89	92	8,860	389,775	385
17	3/31/2022	5,964	7,207	9,620	88	77	7,939	389,700	390
18	4/1/2022	5,602	7,561	9,676	85	9	8,042	391,058	383
19	4/1/2022	6,388	7,054	9,403	88	28	7,969	390,112	406
20	4/1/2022	6,181	6,989	9,338	89	59	8,018	390,125	425
21	4/1/2022	5,966	7,456	9,574	91	6	7,979	392,654	383
22	4/2/2022	6,134	8,255	9,547	92	6	7,973	389,160	339
23	4/2/2022	6,000	7,662	9,472	91	3	8,026	390,225	357
24	4/2/2022	5,732	7,783	9,643	91	27	8,034	390,123	366
25	4/2/2022	5,689	8,080	9,559	88	16	7,969	391,005	351
26	4/2/2022	5,746	7,369	9,653	91	59	7,940	389,424	348
27	4/3/2022	5,746	7,369	9,653	91	59	7,940	389,424	345
28	4/3/2022	5,610	7,872	9,537	89	26	8,069	390,000	407
29	4/3/2022	6,024	8,005	9,458	89	10	8,008	390,225	402
30	4/3/2022	5,567	8,669	9,724	92	26	8,168	390,800	392
31	4/4/2022	5,650	8,561	9,723	92	13	8,272	389,765	329
32	4/4/2022	5,899	8,200	9,567	90	27	7,981	390,112	323
33	4/4/2022	5,435	7,365	9,463	90	20	7,846	390,445	316
34	4/4/2022	5,520	8,707	9,588	92	55	7,800	390,100	321
35	4/5/2022	5,339	6,831	9,412	92	39	7,844	390,800	328
36	4/5/2022	5,571	7,171	9,165	92	62	8,008	390,000	316
37	4/5/2022	5,626	7,136	9,318	88	21	8,173	390,000	305
38	4/5/2022	5,430	7,490	9,407	81	41	7,902	389,880	300
39	4/5/2022	5,506	7,892	9,478	90	22	7,894	390,140	290
40	4/6/2022	5,142	8,063	9,573	91	36	7,764	390,000	287
41	4/6/2022	5,429	8,311	9,557	89	35	8,288	392,140	290
42	4/7/2022	5,436	8,110	9,259	91	41	8,011	391,080	288
43	4/7/2022	5,320	8,344	9,323	92	31	7,938	390,000	279
44	4/7/2022	5,748	7,755	9,193	92	29	7,823	391,610	284
45	4/7/2022	6,258	7,241	9,126	92	24	7,983	390,865	287

02/09/2024

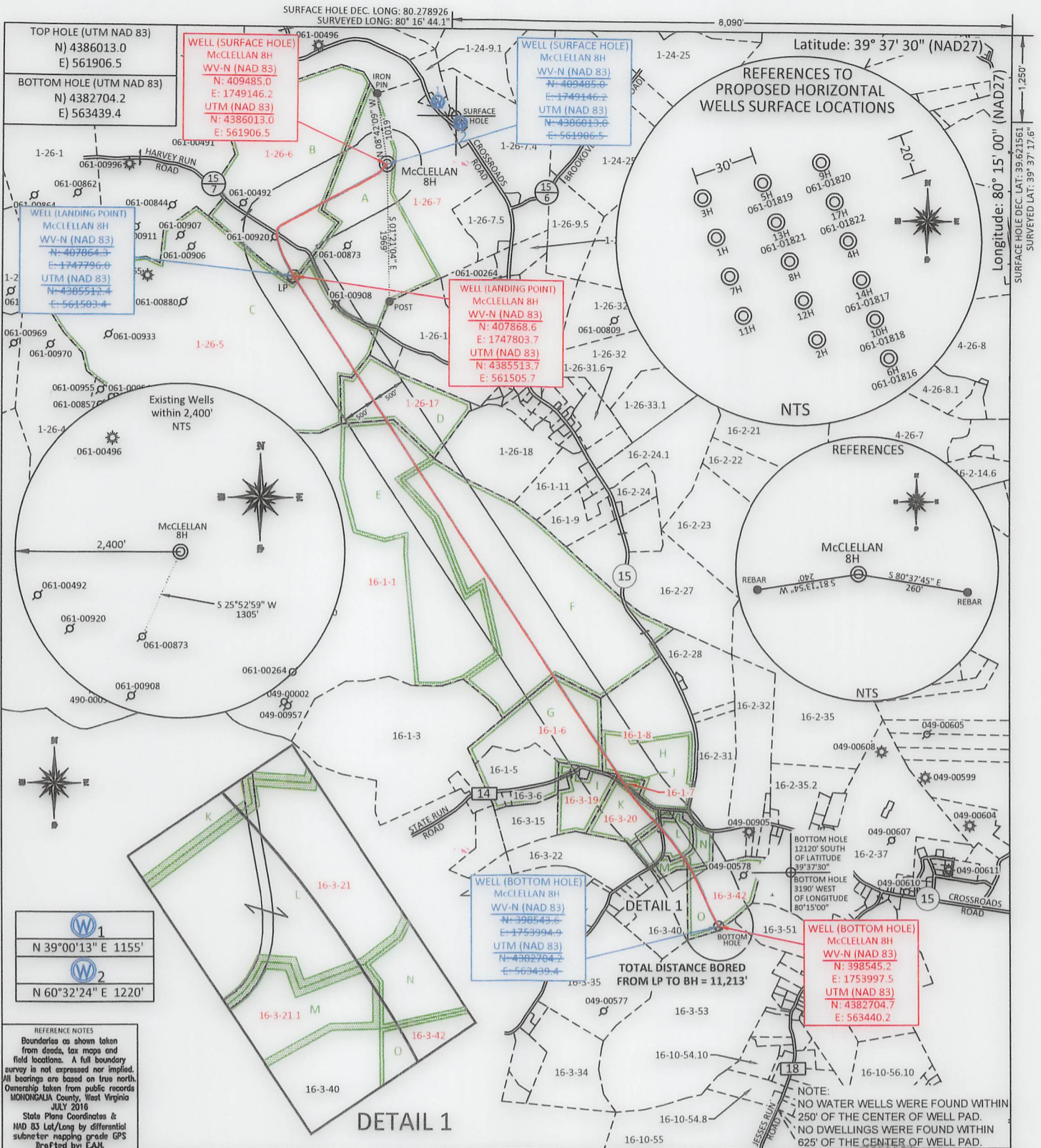
Stage Number	Report Date	ISIP (psi)	Breakdown Pressure (psi)	Avg Treating Pressure (psi)	Avg Treating Rate (BPM)	Pad Volume (bbls)	Total Clean Fluid (Bbls)	Total Proppant Amount (lbs)	Flush Volume (bbls)
46	4/8/2022	5,744	7,449	9,025	92	28	7,914	390,000	273
47	4/8/2022	5,610	7,439	9,068	92	31	7,198	390,000	265
48	4/8/2022	5,152	7,183	9,008	92	19	8,013	390,000	261
49	4/9/2022	5,971	7,115	8,800	92	41	8,100	390,340	280
50	4/9/2022	5,626	7,561	8,975	92	22	7,938	391,100	257
51	4/9/2022	5,264	7,750	9,052	92	19	7,809	390,000	246
52	4/9/2022	5,113	8,175	8,634	92	36	8,032	390,000	242
53	4/9/2022	5,769	7,860	8,555	92	20	7,931	389,615	239
54	4/10/2022	5,703	7,091	8,704	92	24	8,009	389,842	232
55	4/10/2022	5,232	7,647	8,823	92	25	7,828	390,000	232
56	4/10/2022	5,271	7,453	8,885	92	9	7,914	390,000	228
57	4/10/2022	5,292	7,357	8,798	92	9	7,873	391,380	228
58	4/10/2022	5,389	7,552	8,630	92	27	7,892	392,140	225
59	4/11/2022	5,703	7,118	8,575	92	16	7,879	390,380	218
60	4/11/2022	6,149	7,333	8,594	92	75	7,897	390,000	213
61	4/11/2022	5,983	7,812	8,634	92	52	7,819	390,000	210
62	4/11/2022	5,635	7,215	8,511	92	27	7,880	388,900	210
63	4/12/2022	5,364	8,370	8,533	91	48	7,887	393,460	203
64	4/12/2022	5,351	7,890	8,231	92	79	7,786	390,000	197
65	4/12/2022	5,584	7,571	8,591	92	70	8,012	390,000	193

McClellan 8H
Perforation Report

Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
1	3/28/2022	40	0	19,873
2	3/28/2022	40	19,834	19,696
3	3/29/2022	40	19,659	19,521
4	3/29/2022	40	19,484	19,345
5	3/29/2022	40	19,308	19,170
6	3/29/2022	40	19,133	18,995
7	3/29/2022	40	18,958	18,820
8	3/29/2022	40	18,783	18,645
9	3/30/2022	40	18,608	18,470
10	3/30/2022	40	18,433	18,294
11	3/30/2022	40	18,257	18,119
12	3/30/2022	40	18,082	17,944
13	3/30/2022	40	17,907	17,769
14	3/30/2022	40	17,732	17,594
15	3/31/2022	40	17,557	17,419
16	3/31/2022	40	17,382	17,243
17	3/31/2022	40	17,206	17,068
18	4/1/2022	40	17,031	16,893
19	4/1/2022	40	16,856	16,718
20	4/1/2022	40	16,681	16,543
21	4/1/2022	40	16,506	16,368
22	4/2/2022	40	16,331	16,192
23	4/2/2022	40	16,155	16,017
24	4/2/2022	40	15,980	15,842
25	4/2/2022	40	15,805	15,667
26	4/2/2022	40	15,630	15,492
27	4/3/2022	40	15,455	15,317
28	4/3/2022	40	15,280	15,141
29	4/3/2022	40	15,104	14,966
30	4/3/2022	40	14,929	14,791
31	4/4/2022	40	14,754	14,616
32	4/4/2022	40	14,579	14,441
33	4/4/2022	40	14,404	14,266
34	4/4/2022	40	14,229	14,090
35	4/5/2022	40	14,053	13,915
36	4/5/2022	40	13,878	13,740
37	4/5/2022	40	13,703	13,565
38	4/5/2022	40	13,528	13,390
39	4/5/2022	40	13,353	13,215
40	4/6/2022	40	13,178	13,039
41	4/6/2022	40	13,002	12,864
42	4/7/2022	40	12,827	12,689
43	4/7/2022	40	12,652	12,514
44	4/7/2022	40	12,477	12,339
45	4/7/2022	40	12,302	12,164

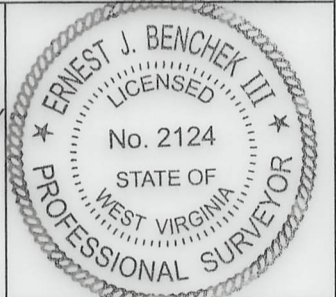
02/09/2024

Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
46	4/8/2022	40	12,126	11,988
47	4/8/2022	40	11,951	11,813
48	4/8/2022	40	11,776	11,638
49	4/9/2022	40	11,601	11,463
50	4/9/2022	40	11,426	11,288
51	4/9/2022	40	11,251	11,113
52	4/9/2022	40	11,075	10,937
53	4/9/2022	40	10,900	10,762
54	4/10/2022	40	10,725	10,587
55	4/10/2022	40	10,550	10,412
56	4/10/2022	40	10,375	10,237
57	4/10/2022	40	10,200	10,061
58	4/10/2022	40	10,024	9,886
59	4/11/2022	40	9,849	9,711
60	4/11/2022	40	9,674	9,536
61	4/11/2022	40	9,499	9,361
62	4/11/2022	40	9,324	9,186
63	4/12/2022	40	9,149	9,010
64	4/12/2022	40	8,973	8,835
65	4/12/2022	40	8,798	8,660



FILE #: NNE14
 DRAWING #: 2966
 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: [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

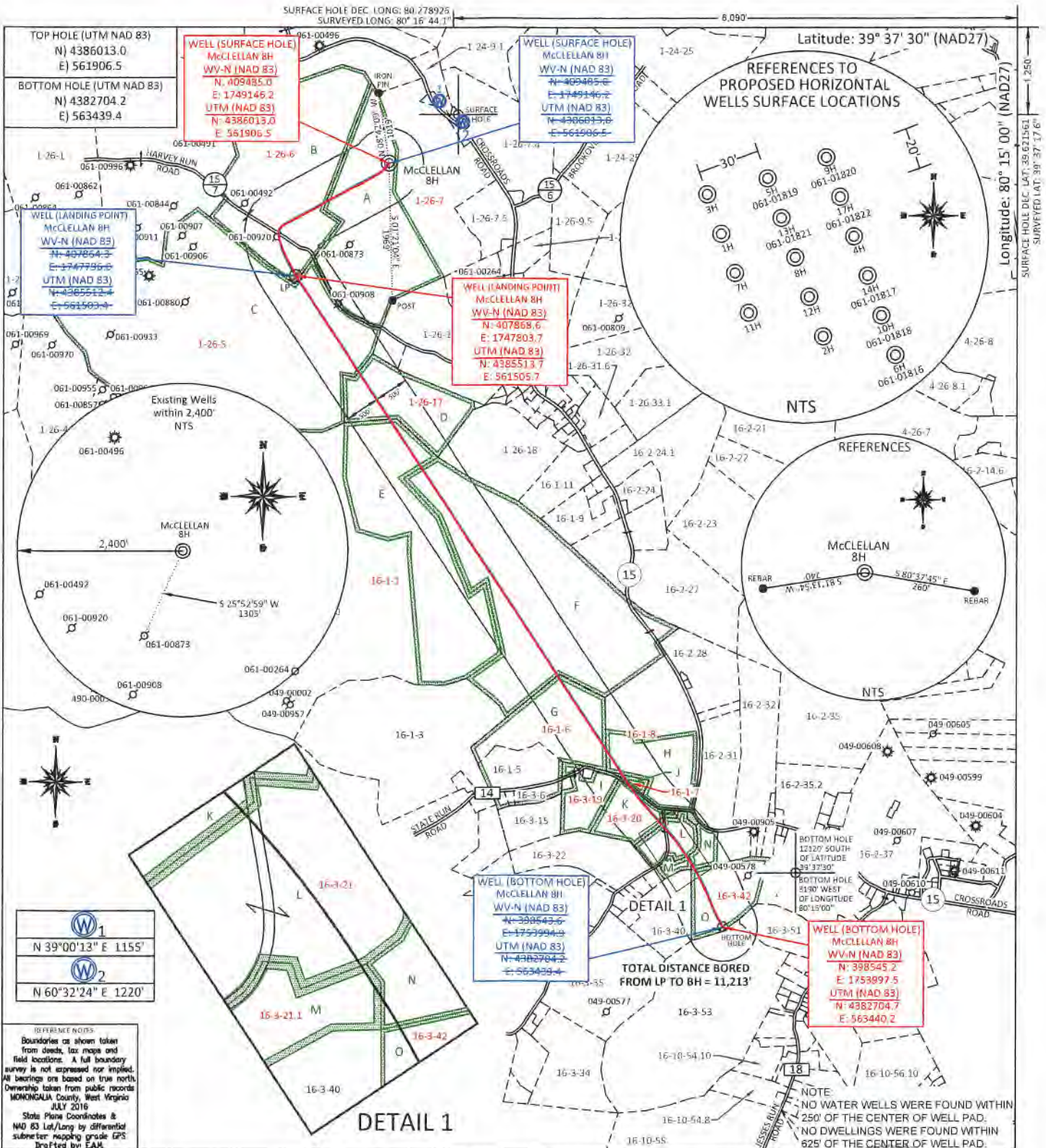
DATE: SEPTEMBER 28, 2023
 OPERATOR'S WELL #: McCLELLAN 8H AS-DRILLED
 API WELL #: 47 61 01887
 STATE COUNTY PERMIT
 AS-BUILT ELEVATION: 1,411.7'

Well Type: Oil Waste Diposal Production Deep
 Gas Liquid Injection Storage Shallow

WATERSHED: UPPER MONONGAHELA
 COUNTY/DISTRICT: MONONGALIA / BATTELLE QUADRANGLE: MANNINGTON
 SURFACE OWNER: KLONDIKE REAL ESTATE PARTNERSHIP ACREAGE: 799.21 +/-
 OIL & GAS ROYALTY OWNER: Barbara June Sutton, et al ACREAGE: 129.4 +/- **02/09/2024**
 LEASE NUMBERS: _____

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: 8,117' TMD: 20,016'
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC DESIGNATED AGENT: JOHN ADAMS
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301 CITY: CHARLESTON STATE: WV ZIP CODE: 25301



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Signed: [Signature]
 L.L.S. #2124 : Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WYDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304

DATE: SEPTEMBER 28, 2023
 OPERATOR'S WELL #: McCLELLAN 8H AS-DRILLED
 API WELL #: 47 61 01887
 STATE COUNTY PERMIT

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: _____

AS-BUILT ELEVATION: 1,411.7'
 QUADRANGLE: MANNINGTON
 ACREAGE: 799.21 +/-
 ACREAGE: 129.4 +/-

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

DRILLED DEPTH: TVD: 8,117' TMD: 20,016'
 DESIGNATED AGENT: JOHN ADAMS
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

02/09/2024

PROPERTY OWNER INDEX	
1-26-7	KLONDIKE REAL ESTATE PARTNERSHIP
1-26-6	RUTH E. SANTEE ET AL
1-26-5	CONSOL MINING COMPANY LLC
1-26-17	KELSI L. & PRESTON K. WILSON
16-1-1	CONSOLIDATION COAL COMPANY
16-1-6	IVA M. TUTTLE
16-1-8	CONSOLIDATION COAL COMPANY
16-3-19	AARON L. SKINNER
16-1-7	JOHN & SAVANNA SPENCER
16-3-20	PROPERTY OWNER NOT AVAILABLE
16-3-21	GARY L. & RUTH A. MOORE
16-3-21.1	SHIRLEY L. MOORE
16-3-42	SHIRLEY L. MOORE

LEASE INDEX			
A	WV-061-004172-011	H	WV-049-005482-001
B	WV-061-004173-066	I	WV-049-005151-006
C	WV-061-005769-001	J	WV-049-005600-005
D	WV-061-004560-050	K	WV-049-005618-001
E	WV-049-004839-001	L	WV-049-005273-000
F	WV-049-004839-001	M	WV-049-005320-000
G	WV-061-000146-001	N	WV-061-005752-059
		O	WV-049-005693-004

02/09/2024

FILE #: <u>NEE14</u>	DATE: <u>SEPTEMBER 28, 2023</u>
DRAWING #: <u>2966</u>	OPERATOR'S WELL #: <u>McCLELLAN 8H</u>
SCALE: <u>N/A</u>	API WELL #: <u>47</u> <u>61</u> <u>01887</u> STATE COUNTY PERMIT



API: 47-061-01887-0000
 BH Job #: 111066131
 Rig: Patterson 277
 Duration: 11/30/21 - 12/16/21

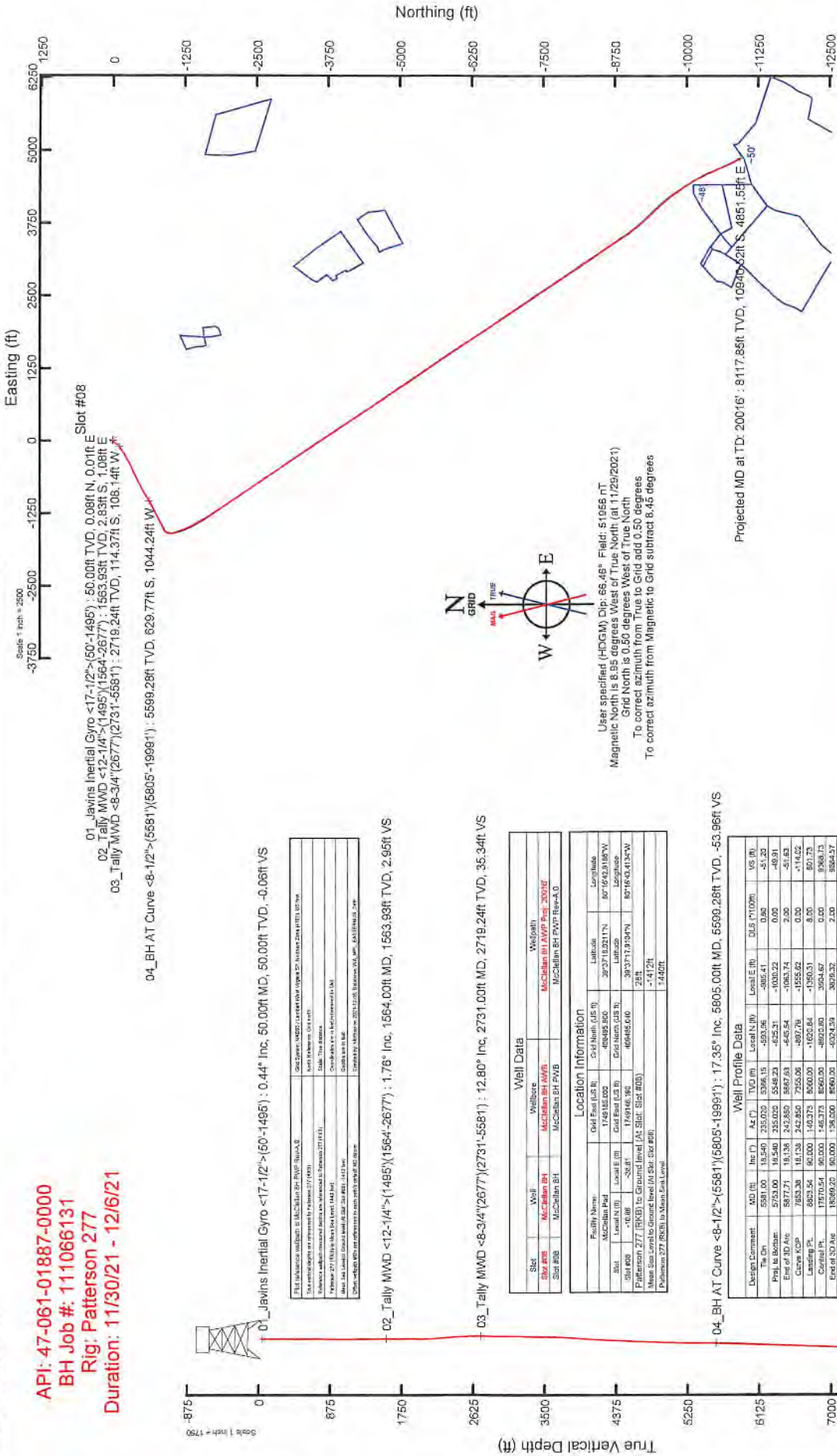
NORTHEAST NATURAL ENERGY, LLC

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

Slot: Slot #08

Well: McClellan 8H

Wellbore: McClellan 8H PWB



Slot #08
 01_Javins Inertial Gyro <17-1/2">(50-1495) : 50.00ft TVD, 0.08ft N, 0.01ft E
 02_Tally MWD <12-1/4">(1495)(1564-2677) : 1563.93ft TVD, 2.83ft S, 1.08ft E
 03_Tally MWD <8-3/4">(2677)(2731-5581) : 2719.24ft TVD, 114.37ft S, 108.14ft W

04_BH AT Curve <8-1/2">(5581)(5805-19991) : 5589.28ft TVD, 629.77ft S, 1044.24ft W

01_Javins Inertial Gyro <17-1/2">(50-1495) : 0.44° Inc, 50.00ft MD, 50.00ft TVD, -0.05ft VS

02_Tally MWD <12-1/4">(1495)(1564-2677) : 1.76° Inc, 1564.00ft MD, 1563.93ft TVD, 2.95ft VS

03_Tally MWD <8-3/4">(2677)(2731-5581) : 12.80° Inc, 2731.00ft MD, 2719.24ft TVD, 35.34ft VS

04_BH AT Curve <8-1/2">(5581)(5805-19991) : 17.35° Inc, 5605.00ft MD, 5589.28ft TVD, -53.96ft VS

Field Name	Grid East (US R)	Grid North (US R)	Longitude
McClellan Pad	1749183.000	408495.800	807165.921887°N
Slot #08	-10.00	-38.81	3933711.8204°N
Wellbore	1749146.362	408488.610	807165.921887°N

Slot	Well	Wellbore	Wellpath
Slot #08	McClellan 8H	McClellan 8H PWB	McClellan 8H PWB Rev-A.0

MD (ft)	Inc (ft)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
591.00	19.540	235.070	5396.15	-591.41	-905.41	0.00	-51.20
573.00	19.540	235.070	5548.23	-625.31	-1003.22	0.00	-40.91
657.71	18.138	242.850	5667.63	-646.54	-1063.74	2.00	-51.63
765.30	18.138	242.850	7555.06	-697.76	-1255.62	0.00	-114.02
803.54	18.000	140.375	8060.00	-1620.64	-1950.31	8.00	807.73
1170.54	18.000	140.375	8060.00	-1620.64	-1950.31	0.00	3568.13
1502.55	18.000	140.375	8060.00	-1620.64	-1950.31	0.00	10074.41
1800.88	18.000	140.375	8060.00	-1620.64	-1950.31	2.00	10090.24
1950.85	18.000	140.375	8060.00	-1620.64	-1950.31	0.00	10740.24
1956.87	18.000	140.375	8060.00	-1620.64	-1950.31	0.00	11350.25
18919.36	18.000	140.375	8060.00	-1620.64	-1950.31	2.00	11968.73
20015.36	18.000	140.375	8060.00	-1620.64	-1950.31	0.00	11786.28

Design Comment	MD (ft)	Inc (ft)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
The On	591.00	19.540	235.070	5396.15	-591.41	-905.41	0.00	-51.20
Proj. In Bottom	573.00	19.540	235.070	5548.23	-625.31	-1003.22	0.00	-40.91
End of 3D Arc	657.71	18.138	242.850	5667.63	-646.54	-1063.74	2.00	-51.63
Curve KcP	765.30	18.138	242.850	7555.06	-697.76	-1255.62	0.00	-114.02
Landing Pt	803.54	18.000	140.375	8060.00	-1620.64	-1950.31	8.00	807.73
Control Pt	1170.54	18.000	140.375	8060.00	-1620.64	-1950.31	0.00	3568.13
End of 3D Arc	1502.55	18.000	140.375	8060.00	-1620.64	-1950.31	0.00	10074.41
End of 3D Arc	1800.88	18.000	140.375	8060.00	-1620.64	-1950.31	2.00	10090.24
Control Pt	1950.85	18.000	140.375	8060.00	-1620.64	-1950.31	0.00	10740.24
End of 3D Arc	1956.87	18.000	140.375	8060.00	-1620.64	-1950.31	0.00	11350.25
End of 3D Arc	18919.36	18.000	140.375	8060.00	-1620.64	-1950.31	2.00	11968.73
End of 3D Arc	20015.36	18.000	140.375	8060.00	-1620.64	-1950.31	0.00	11786.28

02/60/2024

Projected MD at TD: 20016' : 8117.85ft TVD, 10840.52ft S, 4851.55ft E
 Projected MD at TD: 20016' : 90.83° Inc, 20016.00ft MD, 8117.85ft TVD, 11795.34ft VS
 Vertical Section (ft)
 Azimuth 146.37° with reference 0.00 N, 0.00 E
 Scale 1 inch = 1750'

Cement Job Log



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

Customer: NORTHEAST NATURAL ENERGY LLC	Date: 25-Nov-21	Serv. Supervisor: Drew Forsythe
Cust. Rep.: Josh	Ticket #: BPA-2111-0033	Serv. Center: Black Lick - 1571
Well Name: McClellan 8H	API Well #: 47-061-01887	County: Monongalia State: WV
Well Type:	Rig: Patterson 277	Type of Job: CM-SURFACE CASING

Materials Furnished by NexTier

Plugs		Casing Hardware		Physical Slurry Properties					
Top Rubber Supplied by		Sacks of Cement	Fluid Density (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbbls)	Fluid Volume (cuft)	Mix Water (bbbls)
Customer:	13.375" Single Plug Container w/ Buttress Crossover.								
6% Gel Spacer	+20.0 PPB NEX-020+20.0 PPB NAC-115		8.9		5.98	42.95	25.00	-	
15.6 lb/gal Cement	100 % NCM-910 +1.0 % NAC-110+0.25 PPS NLM-600	1240	15.6	30%	1.19	5.21	262.33	1,472.99	154
Fresh Water Displacement			8.33			-	216.12	-	
0						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
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						-		-	

Displacement Chemicals:

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 Tmp.	Bulk Tmp.	Slurry 1 Tmp.	Slurry 2 Tmp.	Slurry 3 Tmp.	Slurry 4 Tmp.	13.375" 54.5#	BTC	1463	J-55	12.615	2730	1130
		60.0 °F										

PREVIOUS CASING DATA

PERFORATED INTERVAL DATA

CASING EQUIPMENT DEPTHS

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
						1460.9	1417.6		

WELL FLUID

DISPLACEMENT FLUID

DIFF PRESS

CSG LIFT

MAX PRESS

MIX H2O Chlorides (ppm)

Mix H2O pH

Mix H2O Temp

WATER ON LOC (bbl)

TYPE	DENSITY	VOLUME	TYPE	DENSITY	DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)	MIX H2O Chlorides (ppm)	Mix H2O pH	Mix H2O Temp	WATER ON LOC (bbl)
H2O	8.3 ppg	219.8 bbl	H2O	8.3 ppg	535	432	2000		7	68.0 °F	1200

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)
Yes	680.00	Y	-	45.00	-	Yes	700.00	No	-	No	37

Comments/Additional Details:

	<p><i>Drew Forsythe</i> Service Supervisor</p>	<p>25-Nov-21 Date</p>
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02/09/2024

Cement Job Log



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

Customer:	NORTHEAST NATURAL ENERGY LLC	Date:	27-Nov-21	Serv. Supervisor:	Robert Given
Cust. Rep.:	JOSH ANGELINE	Ticket #:	BPA-2111-0034	Serv. Center:	Black Lick - 1571
Well Name:	McClellan 8H	API Well #:	47-061-01887	County:	Monongalia
Well Type:	NATURAL GAS	Rig:	PATTERSON 277	State:	WV
				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 PPB NEX-020+20.0 PPB NAC-115		8.7		9.30	67.80	25.00	-	
15.6 lb/gal Cement	100 % NCM-910	895	15.6	30%	1.18	5.23	187.99	1,055.59	111
Fresh Water Displacement			8.33			-	205.65	-	
0						-		-	
						-		-	
						-		-	
						-		-	
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						-		-	
						-		-	

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 Tmp.	Bulk Tmp.	Slurry 1 Tmp.	Slurry 2 Tmp.	Slurry 3 Tmp.	Slurry 4 Tmp.							
31.0 °F		43.5 °F				9.625	BTC	2711	J-55	8.921		2020

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

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								
OCESSED WAT	8.3 ppg	206 bbl	FRESH WATE	8.3 ppg	1006	1341			<200	7	35.0 °F	2000

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)
Yes	1,000.00	Y	-	20.00	-	Yes	1,451.00	Yes		No	30

Comments/Additional Details:


 Service Supervisor

27-Nov-21
 Date

02/09/2024

Cement Job Log



NextTier Completion Solutions
3990 Rogerdate Rd., Houston, TX 77042
(713)325-6000

Customer: NORTHEAST NATURAL ENERGY LLC	Date: 8-Dec-21	Serv. Supervisor: Robert Given
Cust. Rep.: JOSH	Ticket #: BPA-2112-0011	Serv. Center: Black Lick - 1571
Well Name: McClellan 8H	API Well #: 47-061-01887	County: Monongalia State: WV
Well Type: NATURAL GAS	Rig: PATTERSON 277	Type of Job: CM-PROD. CASING

Plugs		Casing Hardware		Physical Slurry Properties						
SPARE RUBBER TOP	5.50 10K BOWLS AND PUMPING CAP	Sacks of Cement	Fluid Density (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbbls)	Fluid Volume (cuft)	Mix Water (bbbls)	
13.5 lb/gal PureScrub Spacer w/Surfactant	+7.0 PPB NFP-703+1.0 GPB NTC-885	105	13.5		5.65	26.79	80.00	593.62	67	
14.5 lb/gal Cement	50 % NCM-910+50 % NPZ-010 +0.2 % NFP-703+0.15 % NAS-504+0.25 % NRT-213+0.15 % NFL-549+0.1 % NTC-405	3660	14.5		1.16	4.90	754.64	4,237.33	427	
Sugar Water Displacement	+5.0 PPB NRT-215					-	20.00	-		
Fresh Water Displacement						-	423.14	-		

Displacement Chemicals:

OPEN HOLE DATA						TUBULAR DATA						
8.75 in. O.H. 2,700 to 8,772 ft			5.5 in. 20#, (0 to 19,985 ft)			SIZE WEIGHT	THRD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
Ambient Tmp.	Bulk Tmp.	Slurry 1 Tmp.	Slurry 2 Tmp.	Slurry 3 Tmp.	Slurry 4 Tmp.							
34.0 °F						5.5	BTC	19979.8	P-110	4.778		11080

PREVIOUS CASING DATA			PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
9.625 in. 36# (0 to 2,700 ft)			TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
							19979.8	19965.2		

WELL FLUID			DISPLACEMENT FLUID			DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)	Mix H2O Chlorides (ppm)	Mix H2O pH	Mix H2O Temp (°F)	WATER ON LOG (bbl)
TYPE	DENSITY	VOLUME	TYPE	DENSITY								
OBM	12.4 ppg	443 bbl	FRESH H2O	8.3 ppg	3.7	16823	6000	<200	7	44.0 °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)	
Yes	3,700.00	Y	-	-	1,920	Yes	4,400.00	No	5.00	No	36.2	

Comments/Additional Details:

	<i>Robert Given</i> Service Supervisor
8-Dec-21 Date	

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 8H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 8H AWB
Slot	Slot #08		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Hiipthop
Scale	0.999941	Report Generated	12/6/2021 at 12:34:20 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	-10.86	-38.81	1749146.19	409485.04	39°37'17.9104"N	80°16'43.4134"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 #08)	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°

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 8H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 8H AWB
Slot	Slot #08		

WELLPATH DATA (229 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 [°]	PLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]
0.00†	0.000	10.000	0.00	0.00	0.00	0.00	1749146.19	409485.04	39°37'17.9104"N	80°16'43.4134"W	0.00	0.000	0.00	0.00	0.00
28.00	0.000	10.000	28.00	0.00	0.00	0.00	1749146.19	409485.04	39°37'17.9104"N	80°16'43.4134"W	0.00	0.000	0.00	0.00	0.00
50.00	0.440	10.000	50.00	-0.06	0.08	0.11	1749146.20	409485.12	39°37'17.9112"N	80°16'43.4132"W	0.50	10.000	2.00	2.00	0.00
100.00	0.510	24.400	100.00	-0.32	0.47	0.14	1749146.33	409485.51	39°37'17.9151"N	80°16'43.4117"W	0.80	16.418	0.28	0.14	28.80
150.00	0.510	57.000	150.00	-0.43	0.80	0.42	1749146.61	409485.84	39°37'17.9183"N	80°16'43.4081"W	0.90	27.651	0.57	0.00	65.20
200.00	0.530	90.200	199.99	-0.30	0.92	0.84	1749147.03	409485.96	39°37'17.9196"N	80°16'43.4028"W	1.24	42.300	0.60	0.04	66.40
250.00	0.570	139.800	249.99	0.07	0.73	1.23	1749147.42	409485.77	39°37'17.9177"N	80°16'43.3978"W	1.43	59.329	0.93	0.08	99.20
300.00	0.490	171.000	299.99	0.52	0.33	1.42	1749147.61	409485.37	39°37'17.9138"N	80°16'43.3953"W	1.46	77.041	0.59	-0.16	62.40
350.00	0.510	215.600	349.99	0.79	-0.06	1.33	1749147.52	409484.98	39°37'17.9099"N	80°16'43.3965"W	1.33	92.800	0.76	0.04	89.20
400.00	0.510	228.400	399.99	0.90	-0.39	1.03	1749147.22	409484.65	39°37'17.9066"N	80°16'43.4002"W	1.10	110.909	0.23	0.00	25.60
450.00	0.490	246.400	449.98	0.89	-0.63	0.67	1749146.86	409484.41	39°37'17.9043"N	80°16'43.4048"W	0.92	133.191	0.32	-0.04	36.00
500.00	0.460	279.300	499.98	0.72	-0.68	0.27	1749146.46	409484.36	39°37'17.9033"N	80°16'43.4098"W	0.73	158.071	0.54	-0.06	65.80
550.00	0.360	285.200	549.98	0.46	-0.61	-0.08	1749146.11	409484.43	39°37'17.9044"N	80°16'43.4143"W	0.61	187.133	0.22	-0.20	11.80
600.00	0.370	329.300	599.98	0.18	-0.43	-0.31	1749145.88	409484.61	39°37'17.9062"N	80°16'43.4173"W	0.63	216.008	0.55	0.02	88.20
650.00	0.330	342.200	649.98	-0.12	-0.15	-0.44	1749145.75	409484.89	39°37'17.9089"N	80°16'43.4190"W	0.46	250.970	0.18	-0.08	25.80
700.00	0.430	13.100	699.98	-0.38	0.17	-0.44	1749145.75	409485.21	39°37'17.9120"N	80°16'43.4190"W	0.47	291.145	0.45	0.20	61.80
750.00	0.420	15.200	749.98	-0.63	0.53	-0.35	1749145.84	409485.57	39°37'17.9156"N	80°16'43.4179"W	0.63	326.714	0.04	-0.02	4.20
800.00	0.410	336.500	799.98	-0.93	0.87	-0.37	1749145.82	409485.91	39°37'17.9190"N	80°16'43.4182"W	0.95	336.927	0.55	-0.02	-77.40
850.00	0.410	53.600	849.98	-1.11	1.14	-0.30	1749145.89	409486.18	39°37'17.9217"N	80°16'43.4173"W	1.18	345.357	1.02	0.00	154.20
900.00	0.480	12.300	899.97	-1.27	1.45	-0.11	1749146.08	409486.49	39°37'17.9247"N	80°16'43.4150"W	1.45	355.693	0.64	0.14	-82.60
950.00	0.390	342.800	949.97	-1.58	1.82	-0.11	1749146.08	409486.86	39°37'17.9284"N	80°16'43.4151"W	1.82	356.381	0.48	-0.18	-59.00
1000.00	0.420	311.700	999.97	-1.92	2.10	-0.30	1749145.89	409487.14	39°37'17.9312"N	80°16'43.4175"W	2.12	351.853	0.44	0.06	-62.20
1017.00	0.500	298.200	1016.97	-2.04	2.18	-0.41	1749145.78	409487.22	39°37'17.9319"N	80°16'43.4189"W	2.22	349.242	0.79	0.47	-79.41
1050.00	0.560	267.000	1049.97	-2.25	2.24	-0.70	1749145.49	409487.28	39°37'17.9325"N	80°16'43.4226"W	2.35	342.590	0.88	0.18	-94.55
1100.00	0.560	183.100	1099.97	-2.18	1.98	-0.96	1749145.38	409487.02	39°37'17.9299"N	80°16'43.4259"W	2.20	334.173	1.50	0.00	-167.80
1150.00	0.640	145.500	1149.97	-1.71	1.51	-0.81	1749145.38	409486.55	39°37'17.9252"N	80°16'43.4240"W	1.71	331.629	0.79	0.16	-75.20
1200.00	0.760	157.700	1199.96	-1.10	0.97	-0.53	1749145.66	409486.01	39°37'17.9200"N	80°16'43.4203"W	1.11	331.357	0.38	0.24	24.40
1250.00	0.730	160.400	1249.96	-0.47	0.36	-0.30	1749145.89	409485.40	39°37'17.9140"N	80°16'43.4172"W	0.47	320.728	0.09	-0.06	5.40
1300.00	0.630	136.000	1299.95	0.11	-0.13	0.00	1749146.19	409484.91	39°37'17.9091"N	80°16'43.4134"W	0.13	179.897	0.61	-0.20	-48.80
1350.00	0.570	127.000	1349.95	0.62	-0.48	0.39	1749146.58	409484.56	39°37'17.9057"N	80°16'43.4084"W	0.62	140.995	0.22	-0.12	-18.00

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 8H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 8H AWB
Slot	Slot #08		

WELLPATH DATA (229 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]
1400.00	0.580	136.100	1399.95	1.10	-0.81	0.76	1749146.95	409484.23	39°37'17.9024"N	80°16'43.4036"W	1.12	136.794	0.18	0.02	18.20
1450.00	0.680	141.400	1449.95	1.64	-1.23	1.12	1749147.31	409483.81	39°37'17.8984"N	80°16'43.3989"W	1.66	137.509	0.23	0.20	10.60
1495.00	0.780	140.800	1494.94	2.22	-1.67	1.48	1749147.67	409483.37	39°37'17.8940"N	80°16'43.3942"W	2.24	138.423	0.22	0.22	-1.33
1564.00	1.760	221.550	1563.93	2.95	-2.83	1.08	1749147.27	409482.21	39°37'17.8825"N	80°16'43.3933"W	3.03	159.139	2.62	1.42	117.03
1658.00	4.310	237.670	1657.79	3.24	-5.80	-2.86	1749143.33	409479.24	39°37'17.8628"N	80°16'43.4494"W	6.47	206.279	2.88	2.71	17.15
1753.00	5.650	238.780	1752.43	2.97	-10.13	-9.88	1749136.31	409474.91	39°37'17.8094"N	80°16'43.5385"W	14.15	224.274	1.41	1.41	1.17
1848.00	6.870	238.070	1846.86	2.60	-15.56	-18.70	1749127.49	409469.48	39°37'17.7550"N	80°16'43.6507"W	24.33	230.234	1.29	1.28	-0.75
1942.00	8.290	233.910	1940.04	2.72	-22.53	-28.95	1749117.24	409462.51	39°37'17.6853"N	80°16'43.7809"W	36.68	232.110	1.62	1.51	-4.43
2036.00	8.720	228.890	2033.01	3.84	-31.21	-39.79	1749106.40	409453.84	39°37'17.5986"N	80°16'43.9185"W	50.57	231.898	0.91	0.48	-5.34
2130.00	8.300	218.780	2125.98	6.92	-41.16	-49.41	1749096.78	409443.86	39°37'17.4992"N	80°16'44.0403"W	64.32	230.193	1.65	-0.45	-10.76
2226.00	7.770	209.450	2221.04	11.95	-52.23	-56.94	1749089.25	409432.81	39°37'17.3893"N	80°16'44.1353"W	77.27	227.471	1.46	-0.55	-9.72
2319.00	7.950	205.810	2313.16	18.07	-63.50	-62.84	1749083.36	409421.55	39°37'17.2775"N	80°16'44.2093"W	89.33	224.700	0.57	0.19	-3.91
2413.00	8.800	210.340	2406.16	24.53	-75.56	-69.30	1749076.90	409409.49	39°37'17.1578"N	80°16'44.2906"W	102.52	222.527	1.14	0.90	4.82
2509.00	8.940	219.760	2501.02	29.89	-87.63	-77.78	1749068.42	409397.42	39°37'17.0378"N	80°16'44.3976"W	117.17	221.592	1.52	0.15	9.81
2603.00	10.100	227.610	2593.73	33.23	-98.80	-88.54	1749057.86	409386.25	39°37'16.9264"N	80°16'44.5339"W	132.67	221.865	1.85	1.23	8.35
2677.00	11.350	231.440	2666.43	34.84	-107.71	-99.02	1749047.17	409377.33	39°37'16.8374"N	80°16'44.6669"W	146.32	222.593	1.94	1.69	5.18
2731.00	12.800	236.000	2719.24	35.34	-114.37	-108.14	1749038.06	409370.68	39°37'16.7709"N	80°16'44.7826"W	157.40	223.396	3.21	2.68	8.44
2825.00	17.270	238.020	2810.00	35.00	-127.59	-128.62	1749021.58	409357.46	39°37'16.6385"N	80°16'45.0429"W	181.17	225.230	4.79	4.76	2.15
2920.00	18.800	236.490	2900.33	34.57	-143.51	-153.34	1748992.85	409341.54	39°37'16.4790"N	80°16'45.3571"W	210.02	226.897	1.69	1.61	-1.61
3014.00	19.480	234.260	2989.14	35.11	-161.01	-178.67	1748967.53	409324.04	39°37'16.3039"N	80°16'45.6738"W	240.52	227.976	1.03	0.68	-2.37
3108.00	21.030	238.210	3077.34	35.14	-179.04	-205.71	1748940.50	409306.02	39°37'16.1234"N	80°16'46.0223"W	272.71	228.966	2.23	1.69	4.20
3203.00	21.780	238.750	3165.79	33.86	-197.16	-235.27	1748910.93	409287.89	39°37'15.9418"N	80°16'46.3980"W	306.96	230.036	0.83	0.80	0.57
3298.00	21.520	241.780	3254.08	31.49	-214.55	-265.70	1748880.51	409270.50	39°37'15.7673"N	80°16'46.7849"W	341.51	231.079	1.21	-0.28	3.19
3393.00	20.940	240.570	3342.64	28.60	-231.13	-295.84	1748850.37	409253.92	39°37'15.6009"N	80°16'47.1682"W	375.42	232.000	0.77	-0.61	-1.27
3490.00	20.190	237.960	3433.46	26.87	-248.53	-325.12	1748821.09	409236.53	39°37'15.4264"N	80°16'47.5406"W	409.23	232.605	0.22	-0.77	-2.69
3585.00	18.690	238.620	3523.04	25.76	-265.11	-352.04	1748794.17	409219.95	39°37'15.2603"N	80°16'47.8827"W	440.70	233.019	1.61	-1.58	0.91
3679.00	19.480	239.230	3611.87	24.34	-280.92	-378.40	1748767.82	409204.13	39°37'15.1017"N	80°16'48.2177"W	471.28	233.410	0.85	0.84	0.44
3775.00	21.580	244.040	3701.79	21.19	-296.83	-407.99	1748738.22	409188.23	39°37'14.9420"N	80°16'48.5942"W	504.54	233.963	2.76	2.14	5.01
3870.00	22.510	243.460	3789.86	16.62	-312.58	-439.94	1748706.28	409172.48	39°37'14.7836"N	80°16'49.0006"W	539.68	234.606	1.06	1.03	-0.61
3964.00	22.610	247.150	3876.67	11.02	-327.64	-472.69	1748673.53	409157.42	39°37'14.6318"N	80°16'49.4176"W	576.14	235.273	1.51	0.11	3.93



Actual Wellpath Report

McClellan 8H AWP Proj: 20016'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 8H
Field	Monongalia	AP/Legal	
Facility	McClellan Pad	Wellbore	McClellan 8H AWB
Slot	Slot #08		

WELLPATH DATA (229 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]
4059.00	23.040	247.560	3964.23	3.99	-341.83	-506.70	1748639.52	409143.23	39°37'14.4888"N	80°16'49.8505"W	611.22	235.996	0.48	0.45	0.43
4157.00	23.180	246.860	4054.37	-3.25	-356.72	-542.16	1748604.06	409128.34	39°37'14.3386"N	80°16'50.3020"W	648.99	236.667	0.31	0.14	-0.69
4252.00	22.080	242.570	4142.06	-8.59	-372.29	-575.21	1748571.02	409112.77	39°37'14.1819"N	80°16'50.7226"W	685.18	237.088	2.09	-1.16	-4.54
4346.00	21.710	245.150	4229.28	-13.15	-387.73	-606.67	1748539.56	409097.33	39°37'14.0265"N	80°16'51.1229"W	719.99	237.416	1.10	-0.39	2.74
4441.00	20.470	240.680	4317.92	-17.07	-403.26	-637.16	1748509.13	409081.80	39°37'13.8705"N	80°16'51.6100"W	754.00	237.668	2.14	-1.31	-4.73
4536.00	20.530	244.510	4406.91	-20.68	-418.57	-666.61	1748479.62	409066.50	39°37'13.7167"N	80°16'51.8855"W	787.13	237.875	1.42	0.06	4.05
4630.00	20.130	244.950	4495.05	-25.42	-432.51	-696.15	1748450.09	409052.56	39°37'13.5763"N	80°16'52.2613"W	819.56	238.148	0.46	-0.43	0.47
4724.00	20.120	242.830	4583.32	-29.65	-446.74	-725.18	1748421.05	409038.32	39°37'13.4332"N	80°16'52.6308"W	851.75	238.365	0.78	-0.01	-2.26
4819.00	19.140	241.150	4672.79	-32.79	-461.72	-753.36	1748392.87	409023.35	39°37'13.2828"N	80°16'52.9892"W	883.59	238.497	1.19	-1.03	-1.77
4913.00	19.310	241.930	4761.55	-35.52	-476.47	-780.57	1748365.66	409008.60	39°37'13.1347"N	80°16'53.3383"W	914.50	238.600	0.33	0.18	0.63
5009.00	20.950	244.400	4851.69	-39.52	-491.35	-810.06	1748336.18	408993.72	39°37'12.9850"N	80°16'53.7104"W	947.43	238.760	1.92	1.71	2.57
5108.00	22.350	240.610	4943.70	-43.38	-508.24	-842.42	1748303.82	408976.63	39°37'12.8154"N	80°16'54.1222"W	983.66	238.897	2.00	1.41	-3.83
5202.00	22.430	238.450	5030.62	-45.35	-526.40	-873.28	1748272.96	408958.68	39°37'12.6533"N	80°16'54.5144"W	1019.66	238.919	0.88	0.09	-2.30
5297.00	21.670	242.610	5118.68	-47.92	-543.95	-904.30	1748241.94	408941.12	39°37'12.4572"N	80°16'54.9089"W	1055.29	238.973	1.83	-0.80	4.38
5392.00	19.710	239.120	5207.55	-50.58	-560.24	-933.63	1748212.62	408924.83	39°37'12.2936"N	80°16'55.2818"W	1088.82	239.033	2.44	-2.06	-3.67
5487.00	19.050	236.720	5297.17	-51.46	-576.97	-960.34	1748185.91	408908.10	39°37'12.1260"N	80°16'55.6213"W	1120.33	239.003	1.09	-0.59	-2.53
5581.00	18.540	235.020	5386.15	-51.20	-593.96	-986.41	1748160.84	408891.12	39°37'11.9660"N	80°16'55.9397"W	1150.57	238.920	0.80	-0.54	-1.81
5605.00	17.350	242.560	5479.28	-53.96	-629.77	-1044.24	1748102.02	408855.31	39°37'11.5970"N	80°16'56.6875"W	1219.44	238.906	1.16	-0.53	3.37
5698.00	17.670	242.010	5568.97	-56.84	-642.79	-1069.01	1748077.25	408842.29	39°37'11.4662"N	80°16'57.0026"W	1247.38	238.982	0.39	0.34	-0.59
5692.00	17.740	242.180	5658.52	-59.70	-656.16	-1094.27	1748051.99	408828.92	39°37'11.3318"N	80°16'57.3289"W	1275.92	239.052	0.09	0.07	0.18
6087.00	17.670	241.720	5868.02	-62.50	-669.75	-1119.77	1748026.49	408815.33	39°37'11.1954"N	80°16'57.6482"W	1304.78	239.116	0.16	-0.07	-0.48
6181.00	17.790	242.000	5957.56	-65.24	-683.25	-1145.01	1748001.25	408801.83	39°37'11.0598"N	80°16'57.9693"W	1333.37	239.175	0.16	0.13	0.30
6275.00	17.570	241.990	6047.12	-68.04	-696.65	-1170.22	1747976.05	408788.43	39°37'10.9251"N	80°16'58.2899"W	1361.89	239.234	0.23	-0.23	-0.01
6370.00	17.600	242.090	6137.68	-70.88	-710.11	-1195.57	1747950.70	408774.97	39°37'10.7900"N	80°16'58.6123"W	1390.55	239.292	0.04	0.03	0.11
6465.00	18.570	241.900	6227.98	-73.72	-723.95	-1221.60	1747924.66	408761.12	39°37'10.6509"N	80°16'58.9435"W	1420.01	239.348	1.02	1.02	-0.20
6560.00	18.740	242.010	6317.99	-76.57	-738.22	-1248.44	1747897.83	408746.86	39°37'10.5076"N	80°16'59.2848"W	1450.37	239.403	0.19	0.18	0.22
6655.00	18.760	241.950	6407.95	-79.75	-752.54	-1275.41	1747870.86	408732.54	39°37'10.3637"N	80°16'59.6278"W	1480.87	239.458	0.06	0.02	-0.17
6750.00	18.770	241.860	6497.90	-82.71	-766.94	-1302.36	1747843.90	408718.15	39°37'10.2192"N	80°16'59.9707"W	1511.41	239.507	0.03	0.01	-0.09
6845.00	18.810	241.840	6587.84	-85.63	-781.37	-1329.34	1747816.93	408703.71	39°37'10.0742"N	80°17'0.3139"W	1541.98	239.553	0.04	0.04	-0.02
6940.00	18.560	242.290	6677.82	-88.65	-795.64	-1366.26	1747790.03	408689.45	39°37'9.9309"N	80°17'0.6561"W	1572.40	239.602	0.29	-0.24	0.47

REFERENCE WELLPATH IDENTIFICATION

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Slot	Slot #08		

WELLPATH DATA (229 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vent Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [P/100ft]	Build Rate [P/100ft]	Turn Rate [°/100ft]
7034.00	18.780	241.940	6766.87	-91.67	-809.72	-1382.86	1747763.42	408675.37	39°37'9.7894"N	80°17'0.9945"W	1602.48	239.649	0.24	0.21	-0.37
7128.00	18.740	241.820	6855.88	-94.57	-823.97	-1409.52	1747736.76	408661.12	39°37'9.6463"N	80°17'1.3337"W	1632.69	239.691	0.06	-0.04	-0.13
7222.00	18.640	240.960	6944.92	-97.21	-838.39	-1435.96	1747710.31	408646.70	39°37'9.5015"N	80°17'1.6700"W	1662.80	239.721	0.31	-0.11	-0.91
7317.00	18.590	242.300	7034.95	-99.98	-852.80	-1462.64	1747683.64	408632.29	39°37'9.3568"N	80°17'2.0093"W	1693.10	239.756	0.45	-0.05	1.41
7411.00	18.490	242.340	7124.07	-103.08	-866.68	-1489.11	1747657.17	408618.41	39°37'9.2173"N	80°17'2.3460"W	1722.96	239.800	0.11	-0.13	0.04
7506.00	18.700	241.580	7214.11	-106.03	-880.93	-1515.85	1747630.43	408604.17	39°37'9.0743"N	80°17'2.6860"W	1753.23	239.837	0.34	0.22	-0.80
7600.00	18.650	242.130	7303.17	-108.91	-895.12	-1542.39	1747603.90	408589.97	39°37'8.9317"N	80°17'3.0236"W	1763.31	239.871	0.19	-0.05	0.59
7695.00	18.970	234.180	7393.11	-109.84	-911.26	-1568.34	1747577.95	408573.83	39°37'8.7699"N	80°17'3.3534"W	1813.86	239.842	2.72	0.34	-8.37
7789.00	20.170	215.230	7481.77	-103.41	-933.47	-1590.10	1747556.19	408551.63	39°37'8.5486"N	80°17'3.6290"W	1843.85	239.585	6.84	1.28	-20.16
7883.00	21.790	191.700	7569.89	-85.27	-963.84	-1693.01	1747543.28	408521.26	39°37'8.2473"N	80°17'3.7906"W	1870.47	239.983	9.07	1.72	-25.03
7978.00	28.590	178.090	7655.87	-53.47	-1003.91	-1605.84	1747540.45	408481.19	39°37'7.8511"N	80°17'3.8222"W	1893.82	237.988	9.36	7.16	-14.33
8073.00	36.680	167.120	7735.68	-7.48	-1054.41	-1598.73	1747547.55	408430.69	39°37'7.3526"N	80°17'3.7258"W	1915.13	236.594	10.52	8.52	-11.55
8168.00	41.690	160.780	7809.32	49.71	-1111.97	-1581.99	1747564.29	408373.14	39°37'6.7853"N	80°17'3.5055"W	1933.69	234.897	6.75	5.27	-6.67
8263.00	48.770	160.340	7876.18	115.05	-1175.52	-1559.54	1747586.74	408309.59	39°37'6.1592"N	80°17'3.2115"W	1952.95	232.993	7.46	7.45	-0.46
8358.00	55.310	160.120	7934.99	187.74	-1245.97	-1534.22	1747612.07	408239.15	39°37'5.4657"N	80°17'2.8800"W	1976.42	230.918	6.89	6.88	-0.28
8453.00	63.700	155.480	7982.77	267.90	-1321.60	-1503.20	1747643.09	408163.52	39°37'4.7203"N	80°17'2.4752"W	2001.56	228.678	9.78	8.33	-4.88
8548.00	70.320	150.520	8019.88	354.89	-1399.41	-1463.45	1747632.93	408085.72	39°37'3.9548"N	80°17'1.9586"W	2024.85	226.281	8.46	8.97	-5.22
8642.00	76.930	150.940	8046.36	444.57	-1478.04	-1419.38	1747726.89	408007.09	39°37'3.1816"N	80°17'1.3868"W	2049.21	223.840	7.04	7.03	0.45
8736.00	83.340	150.960	8062.46	536.84	-1558.96	-1374.44	1747771.84	407926.18	39°37'2.3858"N	80°17'0.8034"W	2078.32	221.401	6.82	6.82	0.02
8831.00	89.750	151.210	8068.18	631.29	-1641.92	-1326.61	1747817.86	407843.22	39°37'1.5898"N	80°17'0.2086"W	2112.13	218.978	6.75	6.75	0.26
8926.00	88.920	146.790	8069.28	726.16	-1723.32	-1279.70	1747866.57	407761.82	39°37'0.7695"N	80°16'59.5745"W	2146.50	216.597	4.73	-0.87	-4.65
9021.00	88.740	146.690	8071.22	821.14	-1802.75	-1227.61	1747918.66	407682.40	39°36'59.9891"N	80°16'58.9001"W	2181.04	214.254	0.22	-0.19	-0.11
9116.00	89.290	146.360	8072.86	916.12	-1881.98	-1175.22	1747971.05	407603.18	39°36'59.2107"N	80°16'58.2218"W	2218.78	211.983	0.66	0.59	-0.35
9210.00	89.230	146.390	8074.07	1010.12	-1960.24	-1123.17	1748023.09	407524.92	39°36'58.4417"N	80°16'57.5480"W	2259.22	209.812	0.50	-0.06	0.03
9305.00	89.600	146.690	8075.04	1105.11	-2039.49	-1070.79	1748075.46	407445.67	39°36'57.6630"N	80°16'56.8699"W	2303.50	207.701	0.50	0.89	0.82
9400.00	89.620	146.540	8075.52	1200.11	-2118.82	-1018.52	1748127.73	407366.35	39°36'56.8835"N	80°16'56.1932"W	2350.91	205.674	0.26	0.23	-0.16
9495.00	89.570	146.890	8076.03	1295.11	-2198.23	-966.38	1748179.87	407286.94	39°36'56.1032"N	80°16'55.5182"W	2401.27	203.731	0.45	-0.26	0.37
9590.00	89.850	146.120	8076.51	1390.10	-2277.45	-913.96	1748232.29	407207.73	39°36'55.3248"N	80°16'54.8395"W	2454.00	201.886	0.86	0.29	-0.81
9684.00	89.850	146.270	8076.75	1484.10	-2355.56	-861.66	1748284.58	407129.62	39°36'54.5574"N	80°16'54.1625"W	2508.21	200.032	0.16	0.00	0.16
9779.00	89.510	146.710	8077.39	1579.10	-2434.77	-809.21	1748337.03	407050.42	39°36'53.7791"N	80°16'53.4836"W	2665.72	199.365	0.59	-0.38	0.46



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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 8H
Field	Monongalia	AP/Legal	
Facility	McClellan Pad	Wellbore	McClellan 8H AWB
Slot	Slot #08		

WELLPATH DATA (229 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 [P/100ft]	Build Rate [P/100ft]	Turn Rate [P/100ft]
9873.00	89.690	146.490	8077.94	1673.10	-2513.24	-757.47	1748388.77	4066971.95	39°38'53.0080"N	80°16'52.8137"W	2624.91	196.772	0.30	0.19	-0.23
9968.00	89.410	146.430	8078.69	1768.09	-2592.42	-704.98	1748441.25	4066992.78	39°36'52.2301"N	80°16'52.1342"W	2686.57	195.213	0.30	-0.29	-0.06
10063.00	89.570	146.490	8079.53	1863.09	-2671.60	-652.49	1748463.74	4068132.60	39°36'51.4521"N	80°16'51.4548"W	2750.13	193.725	0.42	0.17	0.06
10156.00	89.720	146.130	8080.11	1956.09	-2748.98	-600.91	1748545.32	4067336.23	39°36'50.6918"N	80°16'50.7870"W	2813.89	192.330	0.42	0.16	-0.39
10251.00	90.460	146.310	8079.96	2051.09	-2827.94	-548.09	1748599.14	4066567.27	39°36'49.9160"N	80°16'50.1033"W	2880.56	190.969	0.30	0.78	0.19
10345.00	89.910	146.680	8079.55	2146.09	-2907.16	-495.65	1748650.57	4065787.06	39°36'49.1376"N	80°16'49.4245"W	2949.10	189.675	0.70	-0.58	0.39
10441.00	89.880	146.860	8079.83	2241.06	-2986.62	-443.59	1748702.63	4064988.60	39°36'48.3568"N	80°16'48.7505"W	3019.38	188.448	0.19	-0.03	0.19
10535.00	89.880	146.550	8080.02	2335.08	-3065.19	-391.99	1748754.23	4064200.04	39°36'47.5847"N	80°16'48.0824"W	3090.15	187.288	0.33	0.00	-0.33
10629.00	90.880	146.700	8079.32	2429.08	-3143.69	-340.28	1748805.93	4063411.55	39°36'46.8134"N	80°16'47.4130"W	3162.05	186.178	1.18	1.17	0.16
10724.00	90.860	146.470	8077.79	2524.06	-3222.97	-287.97	1748858.24	4062622.27	39°36'46.0344"N	80°16'46.7359"W	3235.81	185.106	0.27	-0.13	-0.24
10819.00	90.740	146.640	8076.49	2619.05	-3302.23	-235.61	1748910.59	4061833.01	39°36'45.2555"N	80°16'46.0582"W	3310.63	184.081	0.22	-0.13	0.18
10914.00	90.920	146.870	8075.09	2714.04	-3381.68	-183.54	1748962.66	4061033.57	39°36'44.4749"N	80°16'45.3840"W	3386.65	183.107	0.31	0.19	0.24
11008.00	90.490	146.600	8073.93	2808.03	-3460.27	-131.98	1749014.22	4060241.98	39°36'43.7026"N	80°16'44.7165"W	3462.78	182.184	0.54	-0.46	-0.29
11103.00	90.280	146.090	8073.30	2903.03	-3539.34	-79.34	1749066.86	4059451.91	39°36'42.9257"N	80°16'44.0351"W	3540.23	181.284	0.58	-0.22	-0.54
11197.00	89.910	145.900	8073.14	2997.03	-3617.87	-26.77	1749119.43	4058671.99	39°36'42.1601"N	80°16'43.3647"W	3617.37	180.324	0.44	-0.39	-0.20
11292.00	89.970	146.310	8073.24	3092.03	-3696.12	26.21	1749172.40	4057891.14	39°36'41.3853"N	80°16'42.6891"W	3696.22	179.594	0.44	0.06	0.43
11386.00	90.090	146.150	8073.19	3186.03	-3774.26	78.46	1749224.65	4057111.01	39°36'40.6176"N	80°16'41.9928"W	3775.08	178.809	0.21	0.13	-0.17
11481.00	89.750	146.770	8073.32	3281.02	-3853.45	130.95	1749277.14	4056311.83	39°36'39.8395"N	80°16'41.3134"W	3855.67	178.054	0.74	-0.36	0.85
11577.00	90.150	146.230	8073.41	3377.02	-3933.50	183.94	1749330.12	4055511.78	39°36'39.0530"N	80°16'40.6276"W	3937.80	177.323	0.70	0.42	-0.56
11671.00	90.560	146.240	8072.81	3471.02	-4011.64	236.18	1749382.36	4054733.66	39°36'38.2852"N	80°16'39.9514"W	4018.59	176.631	0.46	0.46	0.01
11766.00	90.520	146.230	8071.90	3566.02	-4090.61	288.98	1749435.15	4053941.68	39°36'37.5092"N	80°16'39.2681"W	4100.81	175.959	0.06	-0.06	-0.01
11861.00	90.770	146.240	8070.83	3661.01	-4169.58	341.78	1749487.94	4053151.71	39°36'36.7333"N	80°16'38.5848"W	4183.57	175.314	0.26	0.26	0.01
11954.00	90.710	146.490	8069.63	3754.00	-4247.01	393.28	1749539.45	4052381.29	39°36'35.9726"N	80°16'37.9181"W	4265.18	174.709	0.28	-0.06	0.27
12048.00	90.580	146.380	8068.57	3848.00	-4325.33	445.25	1749591.41	4051591.41	39°36'35.2030"N	80°16'37.2455"W	4348.19	174.123	0.18	-0.14	-0.12
12142.00	90.370	146.360	8067.79	3941.99	-4403.59	497.51	1749643.47	4050811.72	39°36'34.4340"N	80°16'36.5717"W	4431.59	173.557	0.22	-0.22	-0.02
12237.00	90.830	146.320	8066.79	4036.99	-4482.66	549.96	1749696.12	4050021.65	39°36'33.6571"N	80°16'35.8903"W	4516.27	173.006	0.49	0.48	-0.04
12332.00	91.050	147.190	8065.23	4131.97	-4562.10	602.04	1749748.19	4049231.22	39°36'32.8765"N	80°16'35.2162"W	4601.65	172.482	0.94	0.23	0.92
12426.00	90.950	146.350	8063.59	4225.95	-4640.72	653.54	1749799.69	4048441.61	39°36'32.1039"N	80°16'34.5494"W	4686.51	171.984	0.90	-0.11	-0.89
12520.00	90.920	146.420	8062.05	4319.94	-4718.99	705.57	1749851.72	4047661.34	39°36'31.3348"N	80°16'33.8760"W	4771.44	171.496	0.08	-0.03	0.07
12614.00	90.810	146.470	8061.05	4413.94	-4797.32	757.53	1749903.67	4046881.02	39°36'30.5652"N	80°16'33.2036"W	4856.76	171.027	0.65	-0.98	0.05



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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 8H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 8H AWB
Slot	Slot #08		

WELLPATH DATA (229 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	90.430	146.270	8060.44	4508.93	-4876.42	810.14	1749566.28	404608.92	39°36'29.7880"N	80°16'32.5226"W	4943.25	170.567	0.25	0.13	-0.21
12804.00	90.620	146.380	8059.57	4603.93	-4955.47	862.81	1750006.95	404529.87	39°36'29.0112"N	80°18'31.8410"W	5030.02	170.123	0.23	0.20	0.12
12898.00	90.370	146.230	8058.76	4697.93	-5033.68	914.96	1750061.09	404451.67	39°36'28.2428"N	80°19'31.1661"W	5116.16	169.698	0.31	-0.27	-0.16
12993.00	90.800	146.330	8057.79	4792.92	-5112.69	967.69	1750113.82	404372.66	39°36'27.4664"N	80°16'30.4835"W	5203.46	169.282	0.46	0.45	0.11
13088.00	90.580	146.950	8056.64	4887.91	-5182.03	1019.93	1750166.06	404293.33	39°36'26.6868"N	80°16'29.8075"W	5291.26	168.886	0.69	-0.23	0.65
13182.00	90.650	146.240	8055.63	4981.91	-5270.50	1071.68	1750217.80	404214.87	39°36'25.9157"N	80°16'29.1377"W	5378.35	168.506	0.76	0.07	-0.76
13278.00	90.340	146.660	8054.80	5077.90	-5350.50	1124.73	1750270.85	404134.87	39°36'25.1295"N	80°16'28.4510"W	5467.44	168.129	0.54	-0.32	0.44
13372.00	89.850	145.940	8054.65	5171.90	-5428.70	1176.89	1750323.00	404056.67	39°36'24.3612"N	80°16'27.7761"W	5554.81	167.768	0.93	-0.52	-0.77
13467.00	90.120	146.400	8054.67	5266.90	-5507.62	1229.78	1750375.89	403977.76	39°36'23.5858"N	80°16'27.0917"W	5643.24	167.413	0.56	0.28	0.48
13561.00	90.060	146.680	8054.52	5360.90	-5586.04	1281.60	1750427.71	403899.34	39°36'22.8152"N	80°16'26.4209"W	5731.17	167.073	0.30	-0.06	0.30
13656.00	90.310	146.360	8054.22	5455.90	-5665.28	1334.01	1750480.12	403820.11	39°36'22.0366"N	80°16'25.7426"W	5820.22	166.750	0.43	0.26	-0.34
13751.00	90.830	146.730	8053.27	5550.89	-5744.53	1386.38	1750532.48	403740.86	39°36'21.2578"N	80°16'25.0648"W	5909.46	166.432	0.67	0.55	0.39
13844.00	90.490	146.270	8052.20	5643.89	-5822.08	1437.70	1750583.81	403663.32	39°36'20.4958"N	80°16'24.4008"W	5996.97	166.129	0.62	-0.37	-0.49
13938.00	90.430	145.860	8051.45	5737.98	-5900.07	1490.18	1750636.28	403585.34	39°36'19.7296"N	80°16'23.7216"W	6085.34	165.825	0.44	-0.06	-0.44
14034.00	91.140	145.820	8050.13	5833.87	-5979.49	1544.08	1750689.17	403505.91	39°36'18.9492"N	80°16'23.0242"W	6175.64	165.521	0.74	0.74	-0.04
14128.00	91.260	145.960	8048.16	5927.84	-6057.31	1596.78	1750742.87	403428.10	39°36'18.1847"N	80°16'22.3424"W	6264.24	165.232	0.20	0.13	0.15
14222.00	91.290	146.530	8046.07	6021.82	-6135.44	1649.00	1750795.09	403349.98	39°36'17.4169"N	80°16'21.6667"W	6353.17	164.956	0.61	0.03	0.61
14317.00	91.420	146.400	8043.82	6116.79	-6214.60	1701.46	1750847.55	403270.82	39°36'16.6390"N	80°16'20.9876"W	6443.31	164.689	0.19	0.14	-0.14
14412.00	91.350	146.370	8041.53	6211.77	-6293.70	1754.04	1750900.12	403191.73	39°36'15.8619"N	80°16'20.3072"W	6533.55	164.427	0.08	-0.07	-0.03
14507.00	90.710	146.580	8039.82	6306.75	-6372.88	1806.50	1750952.58	403112.55	39°36'15.0838"N	80°16'19.6283"W	6623.97	164.174	0.71	-0.67	0.22
14602.00	90.740	146.370	8038.62	6401.74	-6452.07	1858.97	1751005.04	403033.37	39°36'14.3057"N	80°16'18.9494"W	6714.53	163.927	0.22	0.03	-0.22
14697.00	90.830	146.410	8037.32	6496.73	-6531.18	1911.55	1751057.62	402954.26	39°36'13.5283"N	80°16'18.2689"W	6805.17	163.686	0.10	0.09	0.04
14791.00	90.950	146.480	8035.86	6590.72	-6609.51	1963.50	1751109.57	402875.94	39°36'12.7586"N	80°16'17.5966"W	6894.99	163.455	0.15	0.13	0.07
14885.00	90.620	146.250	8034.57	6684.71	-6687.76	2015.56	1751161.83	402797.69	39°36'11.9897"N	80°16'16.9229"W	6984.89	163.228	0.43	-0.35	-0.24
14980.00	90.550	146.460	8033.60	6779.71	-6766.82	2068.22	1751214.28	402718.53	39°36'11.2128"N	80°16'16.2415"W	7075.83	163.005	0.19	-0.07	0.18
15075.00	90.430	146.660	8032.79	6874.70	-6846.08	2120.60	1751266.66	402639.36	39°36'10.4340"N	80°16'15.5637"W	7166.99	162.789	0.28	-0.13	0.25
15170.00	90.710	146.950	8031.84	6969.70	-6925.57	2172.60	1751318.66	402559.99	39°36'9.6528"N	80°16'14.8905"W	7258.36	162.583	0.42	0.28	0.31
15264.00	90.770	146.530	8030.63	7063.69	-7004.17	2224.15	1751370.21	402481.30	39°36'8.8805"N	80°16'14.2233"W	7348.82	162.383	0.45	0.06	-0.45
15359.00	90.680	146.760	8029.43	7158.68	-7083.51	2276.38	1751422.43	402401.96	39°36'8.1008"N	80°16'13.5474"W	7440.30	162.184	0.26	-0.09	0.24
15454.00	90.900	146.580	8028.20	7253.67	-7162.88	2328.58	1751474.62	402322.60	39°36'7.3208"N	80°16'12.8719"W	7531.87	161.991	0.23	0.13	-0.19



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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 8H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 8H AWB
Slot	Slot #08		

WELLPATH DATA (229 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	91.050	146.410	8026.68	7347.65	-7241.25	2380.46	1751526.50	402244.23	39°36'5.5507"N	80°16'12.2005"W	7622.48	151.802	0.32	0.27	-0.18
15643.00	91.230	146.860	8024.79	7442.63	-7320.57	2432.70	1751578.74	402164.92	39°36'5.7712"N	80°16'11.5244"W	7714.19	161.618	0.50	0.19	0.46
15737.00	91.050	146.520	8022.92	7536.61	-7399.11	2484.32	1751630.36	402086.39	39°36'4.9994"N	80°16'10.8564"W	7805.04	161.440	0.40	-0.19	-0.35
15832.00	89.820	146.370	8022.20	7631.61	-7478.27	2536.83	1751682.86	402007.23	39°36'4.2215"N	80°16'10.1769"W	7896.84	161.262	1.30	-1.29	-0.16
15926.00	90.150	146.160	8022.22	7725.61	-7556.45	2589.02	1751735.05	401929.05	39°36'3.4533"N	80°16'9.5016"W	7987.68	161.087	0.41	0.35	-0.20
16020.00	90.220	146.380	8021.92	7819.61	-7634.64	2641.20	1751787.23	401850.87	39°36'2.6851"N	80°16'8.8265"W	8078.59	160.917	0.23	0.07	0.21
16114.00	90.520	146.830	8021.31	7913.61	-7713.12	2692.94	1751838.96	401772.40	39°36'1.9139"N	80°16'8.1569"W	8169.70	160.754	0.58	0.32	0.48
16209.00	89.540	146.230	8021.26	8008.60	-7792.36	2745.33	1751891.35	401693.16	39°36'1.1351"N	80°16'7.4790"W	8261.82	160.592	1.21	-1.03	-0.63
16303.00	89.780	146.370	8021.82	8102.60	-7870.56	2797.48	1751943.50	401614.96	39°36'0.3667"N	80°16'6.8041"W	8352.94	160.433	0.30	0.26	0.15
16398.00	89.880	146.380	8022.10	8197.60	-7949.57	2850.09	1751996.11	401535.86	39°35'59.5894"N	80°16'6.1235"W	8445.12	160.276	0.11	0.17	0.01
16493.00	89.600	146.360	8022.53	8292.60	-8028.77	2902.70	1752048.71	401456.76	39°35'58.8121"N	80°16'5.4427"W	8537.38	160.123	0.30	-0.29	-0.02
16587.00	89.780	146.580	8023.04	8386.60	-8107.12	2954.63	1752100.63	401378.41	39°35'58.0421"N	80°16'4.7708"W	8628.75	159.976	0.30	0.19	0.23
16682.00	89.380	146.360	8023.74	8481.60	-8186.31	3007.10	1752153.10	401299.23	39°35'57.2640"N	80°16'4.0918"W	8721.15	159.830	0.48	-0.42	-0.23
16777.00	89.020	145.680	8025.07	8576.58	-8265.08	3060.19	1752206.19	401220.46	39°35'56.4900"N	80°16'3.4050"W	8813.42	159.683	0.81	-0.38	-0.72
16871.00	89.260	146.840	8026.48	8670.57	-8348.24	3112.39	1752258.39	401142.31	39°35'55.7220"N	80°16'2.7296"W	8904.87	159.542	1.25	0.26	1.23
16966.00	88.280	145.940	8026.49	8764.55	-8421.51	3164.41	1752310.41	401064.05	39°35'54.9529"N	80°16'2.0565"W	8996.40	159.406	1.42	-1.04	-0.96
17061.00	88.280	145.930	8031.38	8860.50	-8501.00	3218.16	1752364.15	400984.56	39°35'54.1719"N	80°16'1.3612"W	9089.75	159.265	0.01	0.00	-0.01
17156.00	88.150	146.220	8034.34	8955.45	-8579.79	3271.15	1752417.14	400905.78	39°35'53.3977"N	80°16'0.6757"W	9182.22	159.130	0.33	-0.14	0.31
17250.00	88.120	146.280	8037.39	9049.40	-8657.90	3323.35	1752469.34	400827.67	39°35'52.6301"N	80°16'0.0004"W	9273.83	159.001	0.07	-0.03	0.06
17345.00	87.780	146.680	8040.78	9144.34	-8737.05	3375.78	1752521.76	400748.52	39°35'51.8523"N	80°15'59.3220"W	9366.53	158.875	0.55	-0.36	0.42
17439.00	87.970	146.710	8044.28	9238.28	-8815.56	3427.36	1752573.34	400670.02	39°35'51.0808"N	80°15'58.6545"W	9458.38	158.755	0.20	0.20	0.03
17534.00	87.970	146.360	8047.64	9333.22	-8894.76	3479.71	1752625.69	400590.82	39°35'50.3025"N	80°15'57.9771"W	9551.19	158.634	0.37	0.00	-0.37
17629.00	88.150	145.230	8050.86	9428.16	-8973.28	3533.08	1752678.06	400512.31	39°35'49.5310"N	80°15'57.2868"W	9643.78	158.509	1.20	0.19	-1.19
17724.00	87.450	143.140	8054.51	9523.01	-9050.26	3588.63	1752734.60	400435.34	39°35'48.7750"N	80°15'56.5688"W	9735.78	158.371	2.32	-0.74	-2.20
17819.00	87.350	142.070	8058.82	9617.71	-9125.65	3645.25	1752792.23	400359.95	39°35'48.0887"N	80°15'55.8244"W	9827.15	158.220	1.13	-0.11	-1.13
17913.00	87.480	138.630	8063.06	9711.08	-9197.94	3706.18	1752852.14	400287.66	39°35'47.3253"N	80°15'55.0512"W	9916.55	158.054	3.66	0.14	-3.66
18007.00	87.510	138.680	8067.17	9804.14	-9268.45	3768.21	1752914.17	400217.16	39°35'46.6338"N	80°15'54.2510"W	10005.18	157.875	0.06	0.03	0.05
18101.00	87.230	136.230	8071.48	9896.90	-9337.62	3831.70	1752977.65	400147.99	39°35'45.9555"N	80°15'53.4325"W	10093.22	157.689	2.62	-0.30	-2.61
18195.00	87.010	136.580	8076.20	9989.36	-9405.61	3896.44	1753042.39	400080.00	39°35'45.2880"N	80°15'52.5982"W	10180.76	157.497	0.44	-0.23	0.37
8239.00	87.220	135.950	8080.85	10081.79	-9473.45	3961.34	1753107.29	400012.17	39°35'44.6247"N	80°15'51.7617"W	10268.32	157.308	0.75	0.33	-0.67

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 8H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 8H AWB
Slot	Slot #08		

WELLPATH DATA (229 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]
18383.00	87.170	138.480	8085.37	10174.48	-9542.35	4025.11	1753171.05	399943.27	39°35'43.9485"N	80°15'50.9396"W	10356.54	157.129	2.69	-0.16	2.69
18478.00	86.890	138.860	8090.29	10268.50	-9613.59	4087.76	1753233.70	399872.04	39°35'43.2497"N	80°15'50.1315"W	10446.58	156.964	0.50	-0.29	0.40
18573.00	86.950	141.420	8095.40	10362.79	-9686.41	4148.56	1753294.49	399799.23	39°35'42.5353"N	80°15'49.3470"W	10537.41	156.815	2.69	0.06	2.69
18668.00	86.770	143.470	8100.60	10457.42	-9761.60	4206.37	1753352.30	399724.04	39°35'41.7970"N	80°15'48.6003"W	10629.32	156.688	2.16	-0.19	2.16
18763.00	86.240	145.360	8106.39	10552.18	-9838.71	4261.55	1753407.48	399646.93	39°35'41.0395"N	80°15'47.8871"W	10721.99	156.581	2.06	-0.56	1.89
18857.00	87.970	145.640	8111.14	10646.05	-9916.08	4314.72	1753460.65	399569.57	39°35'40.2794"N	80°15'47.1995"W	10814.13	156.485	1.86	1.84	0.30
18952.00	88.210	145.640	8114.31	10740.99	-9994.46	4368.31	1753514.23	399491.19	39°35'39.5093"N	80°15'46.5065"W	10907.40	156.391	0.25	0.25	0.00
19047.00	87.570	148.440	8117.81	10835.91	-10074.11	4419.95	1753566.87	399411.55	39°35'38.7265"N	80°15'45.8381"W	11001.07	156.311	3.02	-0.67	2.95
19141.00	87.780	150.190	8121.62	10929.70	-10154.87	4467.88	1753613.80	399330.79	39°35'37.9323"N	80°15'45.2172"W	11094.30	156.252	1.87	0.22	1.86
19236.00	88.150	154.720	8125.00	11024.08	-10239.03	4511.77	1753667.69	399246.64	39°35'37.1043"N	80°15'44.6474"W	11189.01	156.220	4.78	0.39	4.77
19331.00	87.720	154.720	8128.42	11118.01	-10324.88	4552.32	1753698.23	399160.80	39°35'36.2593"N	80°15'44.1202"W	11283.91	156.207	0.45	-0.45	0.00
19426.00	88.620	154.740	8131.45	11211.96	-10410.74	4592.85	1753738.76	399074.94	39°35'35.4142"N	80°15'43.5931"W	11378.83	156.195	0.95	0.95	0.02
19521.00	90.950	154.820	8131.81	11305.93	-10496.68	4633.33	1753779.23	398989.00	39°35'34.5683"N	80°15'43.0668"W	11473.80	156.183	2.45	2.45	0.08
19615.00	92.770	154.810	8128.76	11398.86	-10581.69	4673.30	1753819.21	398903.99	39°35'33.7314"N	80°15'42.5469"W	11567.72	156.172	1.94	1.94	-0.01
19711.00	93.110	154.970	8123.83	11493.66	-10668.49	4714.03	1753859.93	398817.21	39°35'32.8771"N	80°15'42.0172"W	11663.56	156.161	0.37	0.35	0.10
19806.00	90.520	155.050	8120.83	11587.55	-10754.52	4754.19	1753900.09	398731.18	39°35'32.0302"N	80°15'41.4950"W	11758.49	156.151	2.73	-2.73	0.15
19901.00	90.950	151.650	8119.61	11681.83	-10839.41	4796.79	1753942.69	398646.29	39°35'31.1949"N	80°15'40.9416"W	11853.35	156.129	3.61	0.45	-3.58
19991.00	90.830	151.500	8118.21	11771.44	-10918.55	4839.63	1753985.52	398567.16	39°35'30.4164"N	80°15'40.3859"W	11943.06	156.095	0.21	-0.13	-0.17
20016.00‡	90.830	151.500	8117.85	11796.34	-10940.52	4851.55	1753997.45	398545.19	39°35'30.2003"N	80°15'40.2312"W	11967.98	156.085	0.00	0.00	0.00

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 8H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 8H AWB
Slot	Slot #08		

HOLE & CASING SECTIONS - Ref Wellbore: McClellan 8H AWB Ref Wellpath: McClellan 8H AWP Proj: 20016'

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	0.68	0.27
17.5in Open Hole	128.00	1468.00	1340.00	128.00	1467.94	0.68	0.27	-1.40	1.26
13.375in Casing Surface	28.00	1438.00	1410.00	28.00	1437.95	0.00	0.00	-1.12	1.04
12.25in Open Hole	1468.00	2721.00	1253.00	1467.94	2709.48	-1.40	1.26	-113.13	-106.33
9.625in Casing Intermediate	28.00	2691.00	2663.00	28.00	2680.15	0.00	0.00	-109.43	-101.23
8.75in Open Hole	2721.00	5753.00	3032.00	2709.48	5549.68	-113.13	-106.33	-622.35	-1030.50
8.5in Open Hole	5753.00	20016.00	14263.00	5549.68	8117.85	-622.35	-1030.50	-10940.52	4851.55
5.5in Casing Production	28.00	20016.00	19988.00	28.00	8117.85	0.00	0.00	-10940.52	4851.55

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC		Well	McClellan 8H
Field	Monongalia		API/Legal	
Facility	McClellan Pad		Wellbore	McClellan 8H AWB
Slot	Slot #08			

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
McClellan 8H BHL Rev-10	8060.00	-10942.14	4849.00	1753994.89	398543.57	39°35'30.1840"N	80°15'40.2636"W	point
McClellan 8H LP Rev-6	8060.00	-1620.84	-1350.31	1747795.97	407854.30	39°37'1.7763"N	80°17'0.4882"W	point
McClellan Hardline #1 (8.31.21)	8529.00	-1282.79	1569.51	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	-12590.77	3164.54	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	-10602.58	6981.21	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	-10041.72	8250.83	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	-10128.71	4248.54	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	-1590.66	1780.29	1750926.37	407894.48	39°37'2.3424"N	80°16'20.4885"W	polygon
	2D Polygon: dimensions not calculated							

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC			Well	McClellan 8H
Field	Monongalia			API/Legal	
Facility	McClellan Pad			Wellbore	McClellan 8H AWB
Slot	Slot #08				

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	-1779.27	5608.79	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	-3155.27	2997.35	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	-4644.77	3241.73	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	-7608.68	7081.43	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	-10251.75	3039.09	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	-10294.47	2992.78	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	-10956.69	3021.03	1752167.03	398529.02	39°35'29.8865"N	80°16'3.6114"W	polygon
2D Polygon: dimensions not calculated								

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 8H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 8H AWB
Slot	Slot #08		

WELLPATH COMPOSITION - Ref Wellbore: McClellan 8H AWB Ref Wellpath: McClellan 8H AWP Proj: 20016'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
28.00	1495.00	BH Generic gyro - northseeking (Standard)	01_Javins Inertial Gyro <17-1/2">(50'-1495')	McClellan 8H AWB	11/29/2021
1495.00	2677.00	OWSG MWD rev2 + HRGM	02_Tally MWD <12-1/4">(1495')(1564'-2677')	McClellan 8H AWB	11/29/2021
2677.00	5581.00	OWSG MWD rev2 + HRGM	03_Tally MWD <8-3/4"(2677')(2731'-5581')	McClellan 8H AWB	11/29/2021
5581.00	20016.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04_BH AT Curve <8-1/2">(5581')(5805'-19991')	McClellan 8H AWB	11/29/2021



Actual Wellpath Report

McClellan 8H AWP Proj: 20016'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 8H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 8H AWB
Slot	Slot #08		

COMMENTS

Wellpath general comments

API: 47-061-01887-0000
 BH Job #: 111066131
 Rig: Patterson 277
 Duration: 11/30/21 - 12/6/21
 01_Javins Inertial Gyro <17-1/2">(50'-1495')
 02_Tally MWD <12-1/4">(1495')(1564'-2677')
 03_Tally MWD <8-3/4"(2677')(2731'-5581')
 04_BH AT Curve <8-1/2">(5581')(5805'-19991')
 Projected MD at TD: 20016'

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/28/2022
Job End Date:	4/12/2022
State:	West Virginia
County:	Monongalia
API Number:	47-061-01887-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	McClellan 8H
Latitude:	39.62164900
Longitude:	-80.27872600
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,064
Total Base Water Volume (gal):	21,826,434
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					
Sand (100 Mesh Proppant)	ProFrac	Proppant	Water	7732-18-5	100.00000	87.48611	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Silica Substrate	14808-60-7	100.00000	12.10697	None
			Water	7732-18-5	85.00000	0.21433	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.09330	None
StimSTREAM SC 405	Chemstream	Scale Control					
			Non-Hazardous Substances	Proprietary	70.00000	0.02657	None
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00380	None
			Citric Acid	77-92-9	10.00000	0.00380	None
			2-Phosphono-1,2,4-butanetricarboxylic acid (PBTC)	37971-36-1	10.00000	0.00380	None
Sand (40/70 White Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	0.03602	None

Clearal 268	Chemstream	Biocide	Non-Hazardous Substances	Proprietary		80.00000	0.02123	None
			Glutaraldehyde	111-30-8		20.00000	0.00531	None
			Didecyl dimethyl ammonium chloride	7173-51-5		3.00000	0.00080	None
			Quaternary Ammonium Compounds	68424-85-1		3.00000	0.00080	None
			Ethanol	64-17-5		1.50000	0.00040	None
StimSTREAM FR 9800	Chemstream	Friction Reducer						
			Butene, homopolymer	9003-29-6		25.00000	0.00567	None
			Alkanes, C16-20-iso-	90622-59-6		25.00000	0.00567	None
			Ethoxylated alcohols (C12-18)	68213-23-0		3.00000	0.00070	None
StimSTREAM FR 2800	Chemstream	Friction Reducer						
			Distillates (petroleum), hydrotreated light	64742-47-8		25.00000	0.00732	None
			Alcohols, C11-14-iso, C13-rich, ethoxylated	78330-21-9		5.00000	0.00146	None
ProHib 100	CNR	Acid Inhibitor						
			2-Butoxyethanol	111-76-2		60.00000	0.00049	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	0.00014	None
			Acetic Acid	64-19-7		5.00000	0.00003	None
Ingredients shown above are subject to 29 CFR 1910.1200(l) 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	0.21433	
			Non-Hazardous Substances	Proprietary		70.00000	0.02657	
			Non-Hazardous Substances	Proprietary		80.00000	0.02123	
			Butene, homopolymer	9003-29-6		25.00000	0.00567	
			Citric Acid	77-92-9		10.00000	0.00380	
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8		10.00000	0.00380	
			Alcohols, C11-14-iso, C13-rich, ethoxylated	78330-21-9		5.00000	0.00146	
			Didecyl dimethyl ammonium chloride	7173-51-5		3.00000	0.00080	
			Quaternary Ammonium Compounds	68424-85-1		3.00000	0.00080	
			Ethoxylated alcohols (C12-18)	68213-23-0		3.00000	0.00070	
			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 ethoxylated alcohol	Proprietary		10.00000	0.00008	
			Proprietary corrosion inhibitor	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)