



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Tuesday, January 10, 2023
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

NORTHEAST NATURAL ENERGY LLC
707 VIRGINIA STREET EAST
STE 1200
CHARLESTON, WV 25301

Re: Permit Modification Approval for SULLIVAN 13H
47-061-01921-00-00

Change Lateral Direction/ Change Leases

NORTHEAST NATURAL ENERGY LLC

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin
Chief

A handwritten signature in blue ink, appearing to read 'J. Martin', is written over the typed name and title.

Operator's Well Number: SULLIVAN 13H
Farm Name: ALAN SULLIVAN
U.S. WELL NUMBER: 47-061-01921-00-00
Horizontal 6A New Drill
Date Modification Issued: 01/10/2023

Promoting a healthy environment.

01/20/2023

CK# 85739
5000th
Exp Mod

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

- 1) Well Operator: Northeast Natural Energy 494498281 Monongalia Clay Grant Town
Operator ID County District Quadrangle
- 2) Operator's Well Number: 13H Well Pad Name: Sullivan
- 3) Farm Name/Surface Owner: Alan Sullivan Public Road Access: Route 27/1
- 4) Elevation, current ground: 1,520' Elevation, proposed post-construction: 1,476'
- 5) Well Type (a) Gas Oil Underground Storage
Other
(b) If Gas Shallow Deep
Horizontal
- 6) Existing Pad: Yes or No No
- 7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus, 8,247', 87', 5200 psi
- 8) Proposed Total Vertical Depth: 8,247'
- 9) Formation at Total Vertical Depth: Marcellus
- 10) Proposed Total Measured Depth: 22,031'
- 11) Proposed Horizontal Leg Length: 12,684'
- 12) Approximate Fresh Water Strata Depths: 50', 1,262'
- 13) Method to Determine Fresh Water Depths: Drillers logs from offset wells
- 14) Approximate Saltwater Depths: 2,050', 2,580'
- 15) Approximate Coal Seam Depths: 500', 1,260'
- 16) Approximate Depth to Possible Void (coal mine, karst, other): NA
- 17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes No

(a) If Yes, provide Mine Info: Name: N/A
Depth: _____
Seam: _____
Owner: _____

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Gayne Knitowski
Digitally signed by
Gayne Knitowski
Date: 2023.01.06
16:30:23 -05'00'

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	24"	New	NA	NA	100	100	GTS
Fresh Water	13-3/8"	New	J-55	54.5	1,505	1,475*	CTS
Coal							
Intermediate	9-5/8"	New	J-55	36	2,680	2,650	CTS
Production	5-1/2"	New	P-110	20	22,031	22,001	5,324
Tubing	2-7/8"	New	P-110	6.5	NA		
Liners							

*depth to cover Red Rock formation

Gayne
Knitowski

Digitally signed by
Gayne Knitowski
Date: 2023.01.06
16:30:39 -05'00'

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	24"	28	0.375	NA	NA	Type 1	1.18
Fresh Water	13-3/8"	17-1/2"	0.380	2,730	500	Class A or L	1.19
Coal							
Intermediate	9-5/8"	12-3/8"	0.395	3,520	2800	Class A or L	1.19
Production	5-1/2"	8-3/4"	0.361	14,360	11,400	50:50 POZ	1.07
Tubing	2-7/8"	NA	0.217	13,870	NA	NA	NA
Liners							

PACKERS

Kind:				RECEIVED Office of Oil and Gas JAN 09 2023 WV Department of Environmental Protection
Sizes:				
Depths Set:				

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Utilize auger rig to set cellar & conductor. The conductor will be grouted with cement to surface. Mobilize top hole drilling rig. Drill surface section on air. Run surface (freshwater & coal string) casing to desired depth. The surface section will not penetrate sea level. Surface casing will be cemented to surface. Drill intermediate section on air. Run intermediate casing to desired depth. Intermediate casing will be cemented to surface. Drill on air the production section to the start of the curve (KOP). The well will be loaded with synthetic oil base drilling mud (SOBM). Demobilize top hole rig. Mobilize horizontal drilling rig. Finish drilling the production section utilizing MWD surveys and geosteering practices to maintain the wellbore in the Marcellus shale and prevent anti-collision. Production casing will be ran to TD and cement top will be inside the intermediate casing.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

A cement bond log will determine the top of production casing cement. The production casing will be pressure tested. The hydraulic fracturing equipment will then open the toe sleeves and begin pumping the first stage. The plug-and-perf method will be used for the remaining stages. The max anticipated pressure during frac is 11,200psi and a max rate of 90bpm. After frac, the drillout rig will drill all plugs out of the well. Land production tubing at desired depth. Then flowback well until ready to turn in line to production facilities.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 28.65

22) Area to be disturbed for well pad only, less access road (acres): 15.32

23) Describe centralizer placement for each casing string:

Surface: shoe track & every 3rd joint to surface
Intermediate: shoe track & every 3rd joint to surface
Production: Rigid bow centralizers at shoe track & every other joint in the lateral to KOP. Bow springs from KOP to surface every third joint.

24) Describe all cement additives associated with each cement type:

Surface: Class A or L Cement + Max 3% bwoc Calcium Chloride Fresh Water blend.
Intermediate: Class A or L Cement + Max 3% bwoc Calcium Chloride + Fresh Water.
Production: 50:50 Poz (Fly Ash & Class A or L) plus additives such as defoamer, retarder, & fluid loss to meet well specific requirements

25) Proposed borehole conditioning procedures:

Surface & intermediate on air will utilize high volumetric flow rates of air to ensure the wellbore is clean prior to TOH.
Production section will utilize synthetic oil based drilling mud to properly clean the wellbore. At TD, pump rate and rotation will be maximized and tripping will not begin until shakers flow clean.
Production casing will be circulated prior to cementing to ensure a prepared wellbore for cement.

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*Note: Attach additional sheets as needed.

Well Location Plat
Page 4 Cross Section

Northeast Natural Energy, LLC
Applicant / Well Operator Name

DEP ID#

Sullivan Pad
Monongalia Co., WV
WELL DEP Datum @ 1476.0usft (Original Well Elev)

Well #
Sullivan 13H



WELL PLAN
Operator Name: **Northeast Natural Energy**
Well/Farm Name: **Sullivan Pad**

DEP
Use
Only

Permit #

NOTES:

Name	TVD	Latitude	Longitude	TMD
Sullivan-13H_SHL	0.0	39.6147287	-80.2232604	0
Sullivan-13H_KOP	3848.0	39.6147287	-80.2232604	3848
Sullivan-13H_LP	8247.0	39.6110773	-80.2296268	9346.9
Sullivan-13H_PBHL	8247.0	39.6399148	-80.2548748	22031.7

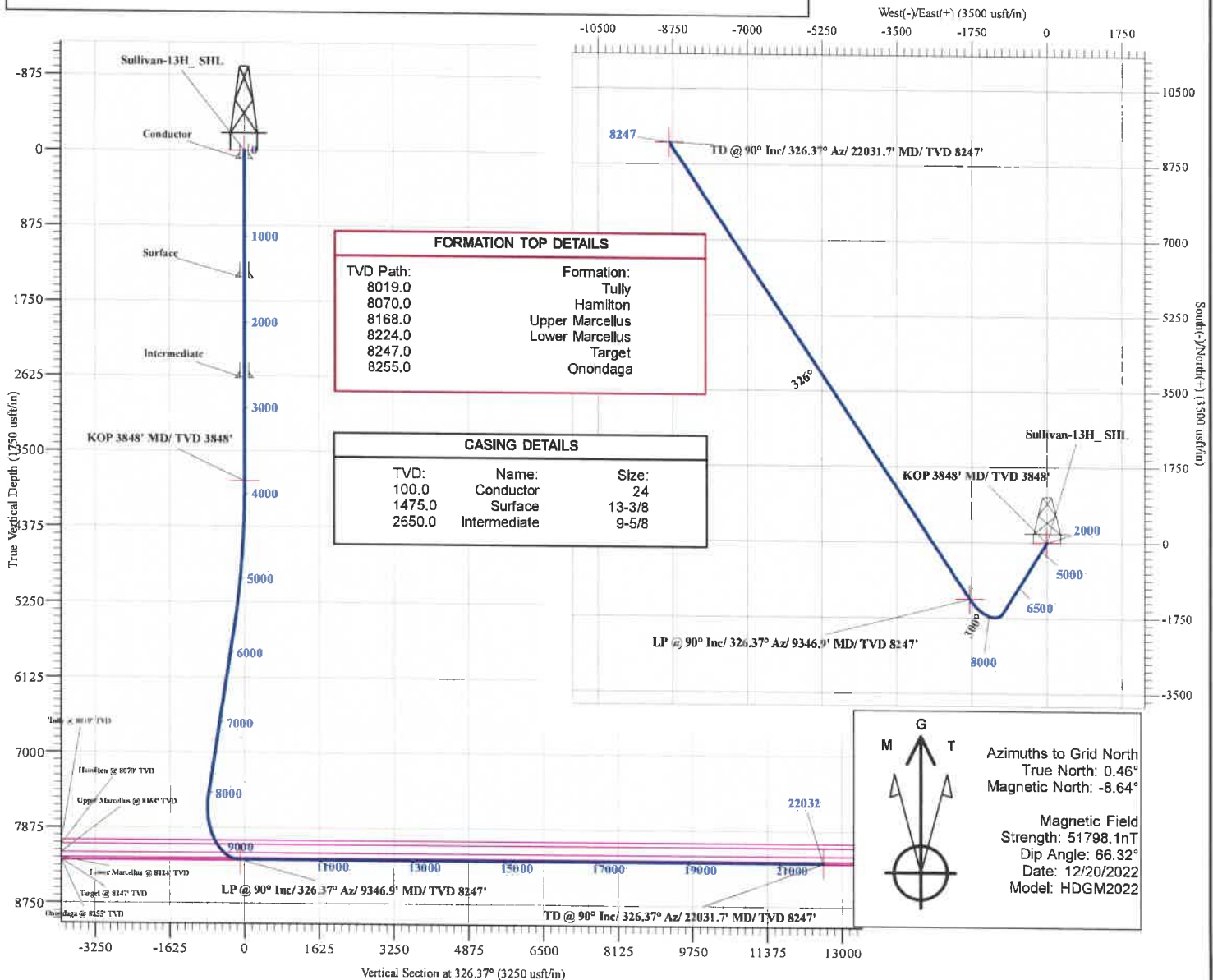
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
3848.0	0.00	0.00	3848.0	0.0	0.0	0.00	0.00	0.0	KOP 3848' MD/ TVD 3848'
5597.9	35.00	212.08	5491.1	-439.0	-275.1	2.00	212.08	-213.1	Hold 35° Inc
8051.2	35.00	212.08	7500.8	-1631.3	-1022.3	0.00	0.00	-792.0	Curve KOP 8°/100
9346.9	90.00	326.37	8247.0	-1315.5	-1804.3	8.00	110.30	-95.0	LP @ 90° Inc/ 326.37° Az
22031.7	90.00	326.37	8247.0	9246.7	-8828.9	0.00	0.00	12588.8	TD @ 90° Inc/ 326.37° Az

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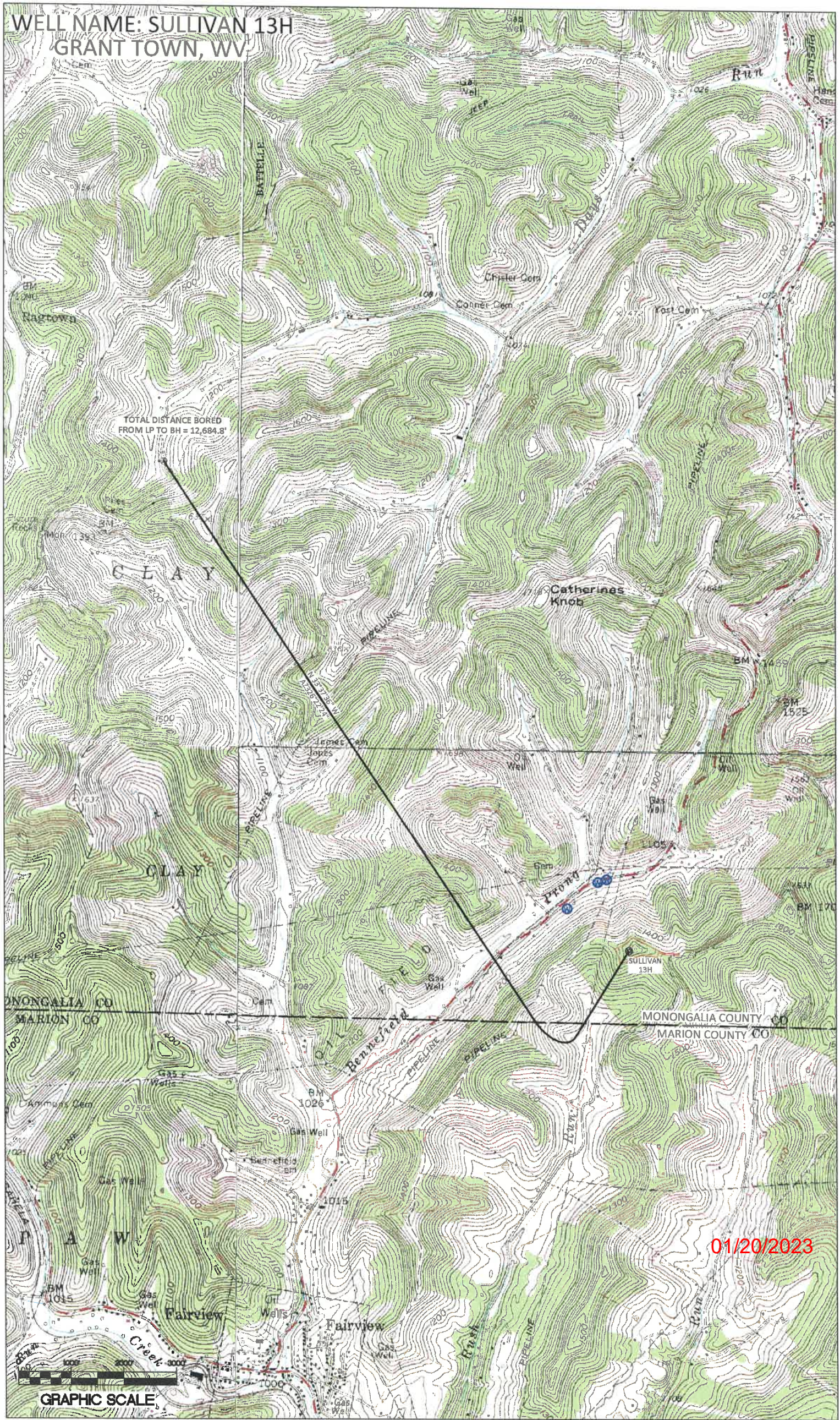
Sullivan 13H AREA OF REVIEW

API Number	Well Name	Well Number	Operator	Latitude (NAD 83)	Longitude (NAD 83)	TMP	TVD	Comments
✓ 061-00630	Clifford O. Yost	21	Pennzoil Company	39.612628	-80.230638	4-26-31	2322'	Plugged 8/5/88
✓ 061-00631	Clifford O. Yost	22	Pennzoil Company	39.613425	-80.230528	4-26-30	2195'	Plugged 7/22/88
✓ 061-00462	Andrew Conaway	4	Pennzoil Company	39.61203	-80.231754	4-26-31	2278'	Plugged 8/12/88
✓ 061-00572	Jarvis Conaway	16	Pennzoil Company	39.613154	-80.231959	4-26-31	2179'	Plugged 8/2/88
✓ 061-00632	Andrew Conaway	17	East Resources Inc.	39.614284	-80.233562	4-26-15	2040'	Plugged 5/13/10
✓ 061-00461	Andrew Conaway	3	Pennzoil Company	39.61435	-80.232505	4-26-15	1974'	Plugged 9/2/88
✓ 061-00981	Bruce & Crystal Curfman	23	East Resources Inc.	39.617976	-80.237756	4-26-14	3315'	NA
✓ 061-01649	Ellen Curfman	NA	Eastern Associated / Peabody Coal Company	39.619217	-80.238091	4-26-14	NA	Plugged 10/26/12
✓ 061-00469	Johnny E. Fluaharty	3	East Resources Inc.	39.619571	-80.236256	4-26-13	2261'	Plugged 8/2/05
✓ 061-00472	Abraham Darrah	8	Pennzoil Company	39.620556	-80.239312	4-26-13	NA	Plugged 1/18/13
✓ 061-01654	Clarence Payton	NA	Eastern Associated / Peabody Coal Company	39.621854	-80.241167	4-26-11	NA	Plugged 3/26/13
✓ 061-01646	Boyd Starkey	NA	Eastern Associated / Peabody Coal Company	39.624804	-80.23963	4-19-23	NA	Plugged 9/4/12
✓ 061-01627	Penny Quickle	NA	Eastern Associated / Peabody Coal Company	39.631062	-80.246926	4-19-14	NA	Plugged 7/1/11

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WELL NAME: SULLIVAN 13H
GRANT TOWN, WV

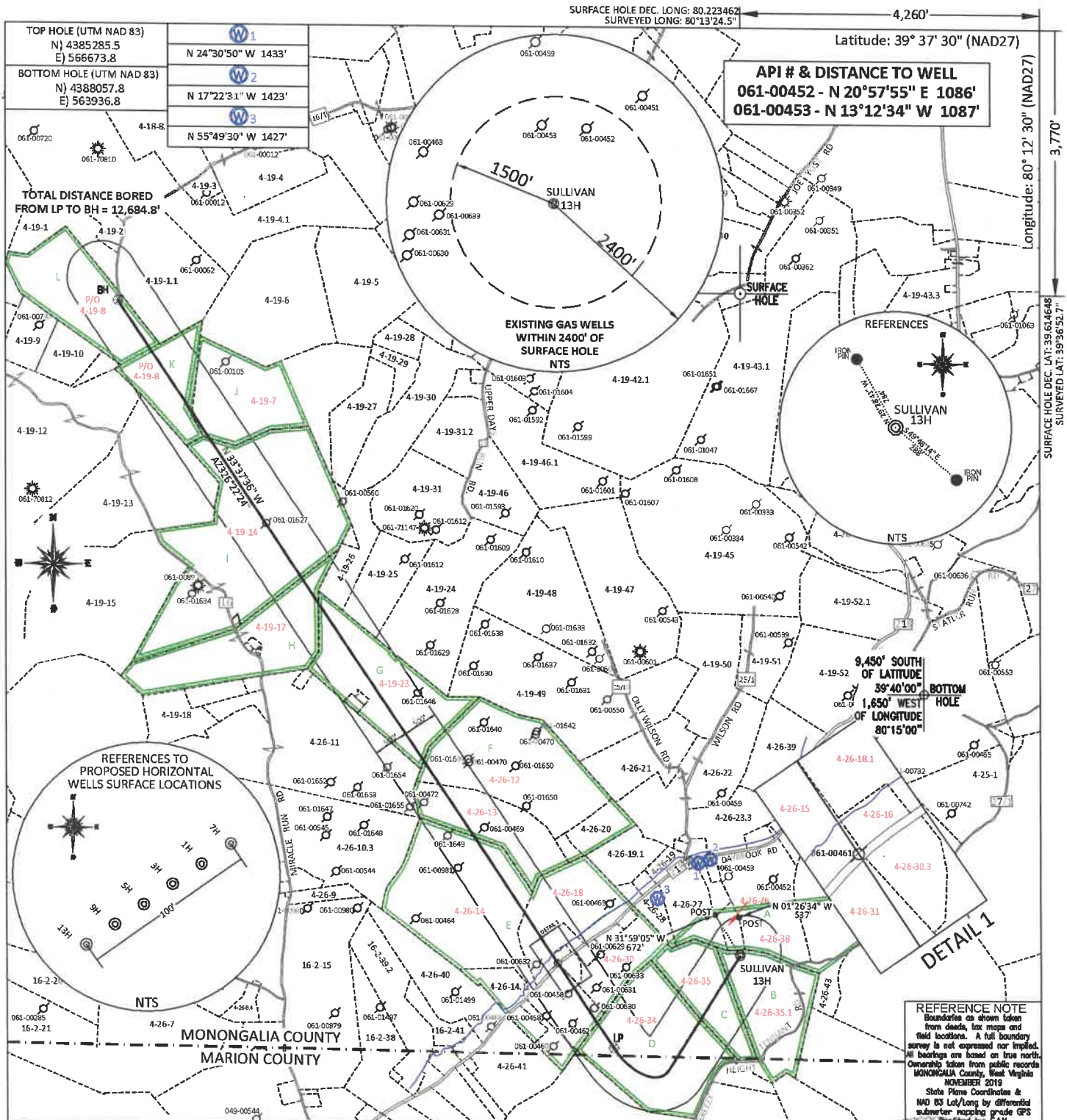


TOTAL DISTANCE BORED
FROM LP TO BH = 12,684.8'

01/20/2023



GRAPHIC SCALE



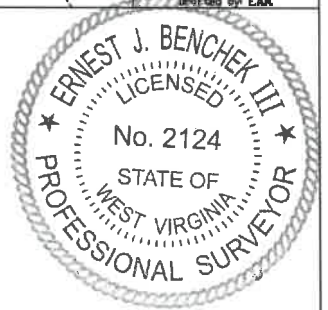
FILE #: NNE20
DRAWING #: 3046
SCALE: PLAT: 1" = 2000'
TICK: 1" = 2000'

MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SOURCE SUBMETER MAPPING
OF ELEVATION: GRADE GPS

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

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



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

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

WATERSHED: UPPER MONONGAHELA RIVER

COUNTY/DISTRICT: MONONGALIA / CLAY

SURFACE OWNER: ALAN SULLIVAN

OIL & GAS ROYALTY OWNER: ALAN SULLIVAN

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

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

DATE: JANUARY 6, 2023

OPERATOR'S WELL #: SULLIVAN 13H

API WELL #: 47 61 01921
STATE COUNTY PERMIT
CURRENT ELEVATION: 1,520'
PROPOSED ELEVATION: 1,476.4'

QUADRANGLE: GRANT TOWN
ACREAGE: 779.53 +/-
ACREAGE: 25.870 + **01/20/2023**

ESTIMATED DEPTH: TVD: 8,247' TMD: 22,031.7'
DESIGNATED AGENT: JOHN ADAMS
ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
CITY: CHARLESTON STATE: WV ZIP CODE: 25301

4-19-8	CHARLES W MOORE; JASON T & KIRSTON KARSON (LIFE)
4-19-7	STEPHEN R WILSON ET AL
4-19-14	PENNY S QUICKLE
4-19-17	LEWIS M MAXWELL II & SHERRY E MAXWELL
4-19-23	BOYD & MARY STARKEY ESTATE
4-26-12	KENNETH W & RUTH E ALBERT
4-26-35.1	ALAN SULLIVAN
4-26-35	RANDY LEE & TRINA TENNANT
4-26-34	SHIRLEY J NEELY, DEANNA M FRAZIER, DONNA J WALDEN & DARRIN NEELY
4-26-18	ROSE MARIE FLUHARTY
4-26-31	ERNEST E & HILERI GORBIEY
4-26-14	ELLEN M CURFMAN
4-26-13	ROSE MARIE FLUHARTY
4-26-18.1	JEFFERY A & BETH FLUHARTY
4-26-30	THOMAS R & LISA A LUZADER
4-26-30.3	LARRY L WHIPKEY
4-26-16	KEVIN MOORE
4-26-15	KEVIN MOORE
4-26-26	NNE MIDTREAM LLC
4-26-38	ADAM CLAY DARRAH

LEASE INDEX			
A	WV-061-000160-001-ACT	G	WV-061-004797-039
B	WV-061-005448-002	H	WV-061-001422-003
C	WV-061-000160-001-ACT	I	WV-061-000160-001-ACT
D	WV-061-000165-001 - LA	J	WV-061-004792-004
E	WV-061-000160-001-ACT	K	WV-061-004357-005
F	WV-061-005998-001	L	WV-061-002965-004

01/20/2023

FILE #: NEE20
DRAWING #: 3046
SCALE: N/A

DATE: JANUARY 6, 2023
OPERATOR'S WELL #: SULLIVAN 13H
API WELL #: 47 61 01921
STATE COUNTY PERMIT

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
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See Attached


**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: Northeast Natural Energy
 By: Hollie Medley 
 Its: Regulatory Manager

WW-5A1

Operators Well No. Sullivan 13H

Tract	Lease Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book	Page
A	WV-061-000160-001-ACT	EQT Production Company	Northeast Natural Energy, LLC	12.5% Royalty or More	1775	44
B	WV-061-005448-002	Alan Sullivan	Northeast Natural Energy, LLC	12.5% Royalty or More	1772	466
C	WV-061-000160-001-ACT	EQT Production Company	Northeast Natural Energy, LLC	12.5% Royalty or More	1775	44
D	WV-061-000165-001 - LA	EQT Production Company	Northeast Natural Energy, LLC	12.5% Royalty or More	1786	405
E	WV-061-000160-001-ACT	EQT Production Company	Northeast Natural Energy, LLC	12.5% Royalty or More	1775	44
F	WV-061-005998-001	Ridgetop Appalachia, LLC	Northeast Natural Energy, LLC	12.5% Royalty or More	1785	204
G	WV-061-004797-039	Clarence Dean Sharp	Northeast Natural Energy, LLC	12.5% Royalty or More	1630	263
	WV-061-003976-021	Charlotte A. Britto	Northeast Natural Energy, LLC	12.5% Royalty or More	1638	508
	WV-061-005770-001	NNE (Equinor USA Onshore Properties, Inc. Interest)	Northeast Natural Energy, LLC	12.5% Royalty or More	1738	798
	WV-061-004797-015	David Marshall Williams	Northeast Natural Energy, LLC	12.5% Royalty or More	1611	272
	WV-061-004797-037	Darrell Conaway a/k/a Henry D. Conaway	Northeast Natural Energy, LLC	12.5% Royalty or More	1619	832
	WV-061-003915-001	NNE	Northeast Natural Energy, LLC	12.5% Royalty or More	1559	698
	WV-061-003915-001	Pachira Energy, LLC	Northeast Natural Energy, LLC	12.5% Royalty or More	1559	698
	WV-061-004797-073	Christopher Louis Darnell	Northeast Natural Energy, LLC	12.5% Royalty or More	1653	146
	WV-061-004797-060	Charles Michael Morrison	Northeast Natural Energy, LLC	12.5% Royalty or More	1650	210
	WV-061-004797-059	Candace Ann Morrison Bunner	Northeast Natural Energy, LLC	12.5% Royalty or More	1650	208
	WV-061-004797-063	Charles Arthur Morrison	Northeast Natural Energy, LLC	12.5% Royalty or More	1650	216
	WV-061-004797-063	David Mitchell Morrison	Northeast Natural Energy, LLC	12.5% Royalty or More	1650	216
	WV-061-003976-010	Danny J. Yost	Northeast Natural Energy, LLC	12.5% Royalty or More	1557; 1778	476; 731
	WV-061-003976-008	Phillip D. Yost	Northeast Natural Energy, LLC	12.5% Royalty or More	1557; 1729	478; 784
	WV-061-003976-014	Randy D. Yost	Northeast Natural Energy, LLC	12.5% Royalty or More	1564; 1727	402; 556
	WV-061-003915-005	Gerald Wayne Stiles	Northeast Natural Energy, LLC	12.5% Royalty or More	1568; 1727	374; 772
	WV-061-003976-007	David Yost	Northeast Natural Energy, LLC	12.5% Royalty or More	1577; 1727	849; 317
	WV-061-003976-018	Dennis L. Yost and Rhonda A. Yost	Northeast Natural Energy, LLC	12.5% Royalty or More	1577; 1727	24; 316
	WV-061-003976-009	Diana L. Fulps	Northeast Natural Energy, LLC	12.5% Royalty or More	1577; 1728	474; 730
	WV-061-003976-015	Melinda P. Heidekat	Northeast Natural Energy, LLC	12.5% Royalty or More	1568; 1727	323; 557
	WV-061-003976-006	Jill Tennant, f/k/a Jill Smith	Northeast Natural Energy, LLC	12.5% Royalty or More	1564; 1727	406; 555
	WV-061-003976-017	Nancy A. Maggard	Northeast Natural Energy, LLC	12.5% Royalty or More	1567; 1729	761; 440
	WV-061-003976-011	Jody Lynn Mailey	Northeast Natural Energy, LLC	12.5% Royalty or More	1560; 1728	262; 732
	WV-061-003976-005	Michael G. Phillips	Northeast Natural Energy, LLC	12.5% Royalty or More	1567; 1727	810; 554
	WV-061-003976-004	LaNelle C. Stiles	Northeast Natural Energy, LLC	12.5% Royalty or More	1567; 1727	805; 568
	WV-061-003976-016	Barry D. Yost	Northeast Natural Energy, LLC	12.5% Royalty or More	1570; 1729	107; 439
	WV-061-003976-013	Connie S. (Yost) Copeland	Northeast Natural Energy, LLC	12.5% Royalty or More	1567	763
	WV-061-003976-012	Dale Lynn Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1560; 1728	260; 733
	WV-061-003976-012	Danny Keith Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1560; 1728	260; 733
	WV-061-003976-012	David Wayne Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1560; 1728	260; 733
	WV-061-003976-012	Diane Lynn Long	Northeast Natural Energy, LLC	12.5% Royalty or More	1560; 1728	260; 733
	WV-061-003976-012	Donny Lee Moore, a/k/a Donny Lee Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1560; 1728	260; 733
	WV-061-003976-002	Gary L. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1567; 1727	71; 315
	WV-061-003976-002	Kenneth R. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1567; 1727	71; 315
	WV-061-003976-002	Linda K. Statler	Northeast Natural Energy, LLC	12.5% Royalty or More	1567; 1727	71; 315
	WV-061-003976-002	Susan L. Heiskell	Northeast Natural Energy, LLC	12.5% Royalty or More	1567; 1727	71; 315
	WV-061-003976-019	Freddie D. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1568; 1729	325; 785
H	WV-061-001422-003	Deep Rock Mineral Group, LLC	Northeast Natural Energy, LLC	12.5% Royalty or More	1678	267
	WV-061-001422-005	H & M Land and Mineral, Inc. (Deep Rock Mineral Group Interest)	Northeast Natural Energy, LLC	12.5% Royalty or More	1684	424
	WV-061-001422-004	Brendan J. McCarthy (H&M Land Interest)	Northeast Natural Energy, LLC	12.5% Royalty or More	1678	580
I	WV-061-000160-001-ACT	EQT Production Company	Northeast Natural Energy, LLC	12.5% Royalty or More	1775	44
J	WV-061-004792-004	Gary L. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1614	621
	WV-061-004792-004	Donna G. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1614	621
	WV-061-004792-004	William Bruce Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1614	621
	WV-061-004792-004	Samuel Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1614	621
	WV-061-004792-004	Jason Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1614	621
	WV-061-004792-027	Derrick Wayne Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1666	121
	WV-061-004792-027	Eric Blaine Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1666	121
	WV-061-004792-027	Darrin Marie Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1666	121
	WV-061-004792-026	Albert George Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1657	335
	WV-061-005258-001	David S. Beal	Northeast Natural Energy, LLC	12.5% Royalty or More	1628	631
	WV-061-005258-002	Donald G. Beal	Northeast Natural Energy, LLC	12.5% Royalty or More	1628	633
	WV-061-004792-025	Clifford Eugene Bidwell	Northeast Natural Energy, LLC	12.5% Royalty or More	1657	333
	WV-061-004792-029	James Daniel Krotzer	Northeast Natural Energy, LLC	12.5% Royalty or More	1666	125
	WV-061-005175-004	Karl Von Krotzer	Northeast Natural Energy, LLC	12.5% Royalty or More	1653	154
	WV-061-004792-028	Yolanda Krotzer	Northeast Natural Energy, LLC	12.5% Royalty or More	1666	123
	WV-061-005175-002	Linda Kay Sipe	Northeast Natural Energy, LLC	12.5% Royalty or More	1845	250
	WV-061-005501-001	Rachel Haught (Rachel Haught, Trustee of the Stephen Ray Haught Revocable Trust dated December 30, 2014 Interest)	Northeast Natural Energy, LLC	12.5% Royalty or More	1650	393

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Tract	Lease Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book	Page
	WV-061-005175-003	Carol Tidwell	Northeast Natural Energy, LLC	12.5% Royalty or More	1645	252
	WV-061-005175-005	Lauren Lynn Luckert	Northeast Natural Energy, LLC	12.5% Royalty or More	1653	156
	WV-061-005788-001	Sandy L. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1748	762
	WV-061-001843-009	LeeAnn Shumiloff	Northeast Natural Energy, LLC	12.5% Royalty or More	1688	553
	WV-061-001843-009	Christopher B. Wilson	Northeast Natural Energy, LLC	12.5% Royalty or More	1688	553
	WV-061-001843-009	Susan Brinegar	Northeast Natural Energy, LLC	12.5% Royalty or More	1688	553
	WV-061-001843-009	Justin Wilson	Northeast Natural Energy, LLC	12.5% Royalty or More	1688	553
	WV-061-001843-009	Deken Wilson	Northeast Natural Energy, LLC	12.5% Royalty or More	1688	553
	WV-061-004792-010	John C. Jones	Northeast Natural Energy, LLC	12.5% Royalty or More	1626	80
	WV-061-004792-008	Janet D. Crabtree	Northeast Natural Energy, LLC	12.5% Royalty or More	1626	85
	WV-061-004792-012	Loruma B. Brokaw	Northeast Natural Energy, LLC	12.5% Royalty or More	1628	287
	WV-061-004792-009	Thomas D. Jones	Northeast Natural Energy, LLC	12.5% Royalty or More	1626	88
	WV-061-004792-001	Marsha Catherine Wilson and Gary L. Wilson, as joint tenants with the right of survivorship	Northeast Natural Energy, LLC	12.5% Royalty or More	1513	312
	WV-061-005137-001	Nancy A. Kalas	Northeast Natural Energy, LLC	12.5% Royalty or More	1618	765
	WV-061-005122-001	Pamela Lane Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1618	785
	WV-061-005122-003	Patricia Jane Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1618	753
	WV-061-005122-002	Kimberly Dawn Huggins Coker	Northeast Natural Energy, LLC	12.5% Royalty or More	1618	787
	WV-061-005122-004	James David Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1618	755
	WV-061-004792-019	Tonya Smerdell	Northeast Natural Energy, LLC	12.5% Royalty or More	1647	466
	WV-061-004792-017	Terry Shriver	Northeast Natural Energy, LLC	12.5% Royalty or More	1647	462
	WV-061-004792-018	Tina Bragg	Northeast Natural Energy, LLC	12.5% Royalty or More	1647	464
	WV-061-005122-007	Marcy Annette Taylor	Northeast Natural Energy, LLC	12.5% Royalty or More	1637	744
	WV-061-005122-006	Anthony Scott Taylor	Northeast Natural Energy, LLC	12.5% Royalty or More	1636	257
	WV-061-005277-001	Beth A. Perchuck	Northeast Natural Energy, LLC	12.5% Royalty or More	1637	602
	WV-061-004792-011	Reginald K. Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1628	285
	WV-061-005188-001	Robert K. Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1621	770
	WV-061-004792-002	Susan L. Stuzen	Northeast Natural Energy, LLC	12.5% Royalty or More	1611	37
	WV-061-005175-001	Jeffrey Dewayne Williams	Northeast Natural Energy, LLC	12.5% Royalty or More	1621	756
	WV-061-004792-005	Kenneth D. Williams	Northeast Natural Energy, LLC	12.5% Royalty or More	1615	585
	WV-061-005170-001	Alan K. Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1621	647
	WV-061-005170-001	Douglas D. Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1621	647
	WV-061-005170-001	Stephen T. Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1621	647
	WV-061-005170-001	Eric G. Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1621	647
	WV-061-004792-020	Roxana Cahill	Northeast Natural Energy, LLC	12.5% Royalty or More	1653	181
	WV-061-004792-016	Jimmy Randall Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1638	534
	WV-061-004792-015	Pamela Kay Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1637	720
	WV-061-004792-014	Billy Ray Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1637	718
K	WV-061-004357-005	Kathleen Atha	Northeast Natural Energy, LLC	12.5% Royalty or More	1579	246
	WV-061-004357-008	Kerry M. Atha	Northeast Natural Energy, LLC	12.5% Royalty or More	1580	609
	WV-061-004357-004	Rafferty Atha Jackson	Northeast Natural Energy, LLC	12.5% Royalty or More	1578	514
	WV-061-004357-006	Lou Atha-Spouse	Northeast Natural Energy, LLC	12.5% Royalty or More	1580	443
	WV-061-004357-001	Thomas M. Atha	Northeast Natural Energy, LLC	12.5% Royalty or More	1576	470
	WV-061-004357-002	William Henry Atha, II	Northeast Natural Energy, LLC	12.5% Royalty or More	1576	472
	WV-061-004357-010	Burns Family General Partnership	Northeast Natural Energy, LLC	12.5% Royalty or More	1589	286
	WV-061-004128-001	Ruth Ann Burns	Northeast Natural Energy, LLC	12.5% Royalty or More	1563	180
	WV-061-004357-007	Kristina Hellyer Dow	Northeast Natural Energy, LLC	12.5% Royalty or More	1580	606
	WV-061-004357-009	Dawn Michelle Fry	Northeast Natural Energy, LLC	12.5% Royalty or More	1581	341
	WV-061-002965-004	Eric T. Finch	Northeast Natural Energy, LLC	12.5% Royalty or More	1717	242
	WV-061-002965-005	Levi T. Finch, by his Gaurdian Jarett Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1681	693
	WV-061-004357-015	Susan K. Skinner	Northeast Natural Energy, LLC	12.5% Royalty or More	1607	758
	WV-061-004357-014	Linda L. Bellie Banks	Northeast Natural Energy, LLC	12.5% Royalty or More	1607	586
	WV-061-004357-012	Pamela Harris	Northeast Natural Energy, LLC	12.5% Royalty or More	1607	77
	WV-061-004357-013	Teena Cook	Northeast Natural Energy, LLC	12.5% Royalty or More	1607	79
	WV-061-004126-001	Nancy B. Lawler	Northeast Natural Energy, LLC	12.5% Royalty or More	1563	190
	WV-061-002965-006	Charles W. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1713	226
	WV-061-002965-007	Jason T. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1713	227
	WV-061-005527-001	Piney Holdings, Inc	Northeast Natural Energy, LLC	12.5% Royalty or More	1658	624
	WV-061-004357-003	Rebel Leigh Wetmore Claire	Northeast Natural Energy, LLC	12.5% Royalty or More	1576	563
L	WV-061-002965-004	Eric R. Finch	Northeast Natural Energy, LLC	12.5% Royalty or More	1717	242
	WV-061-002965-008	Levi Finch	Northeast Natural Energy, LLC	12.5% Royalty or More	1681	693
	WV-061-002965-006	Charles W. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1713	226
	WV-061-002965-007	Jason T. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1713	227

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