



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

Monday, January 9, 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 1H
47-061-01917-00-00

Change lateral direction/ 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

Operator's Well Number: SULLIVAN 1H
Farm Name: ALAN SULLIVAN
U.S. WELL NUMBER: 47-061-01917-00-00
Horizontal 6A New Drill
Date Modification Issued: 01/09/2023

Promoting a healthy environment.

01/13/2023

CK # 85739
5000
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: 1H 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: 21,523' ✓

11) Proposed Horizontal Leg Length: 12,423' ✓

12) Approximate Fresh Water Strata Depths: 50', 1,262' ✓

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13) Method to Determine Fresh Water Depths: Drillers logs from offset wells

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14) Approximate Saltwater Depths: 2,050', 2,580' ✓

WV Department of
Environmental Protection

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: _____

Digitally signed by
Gayne Knitowski
Date: 2023.01.06
16:24:44 -0500' ✓

18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
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	21,523'	21,493 ✓	5083
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 16:23:05 -0500

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
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.

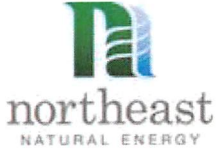
Well Location Plat
Page 4 Cross Section

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 1H



WELL PLAN

Operator Name: Northeast Natural Energy

Well/Farm Name: Sullivan Pad

DEP
Use
Only

Permit #

NOTES:

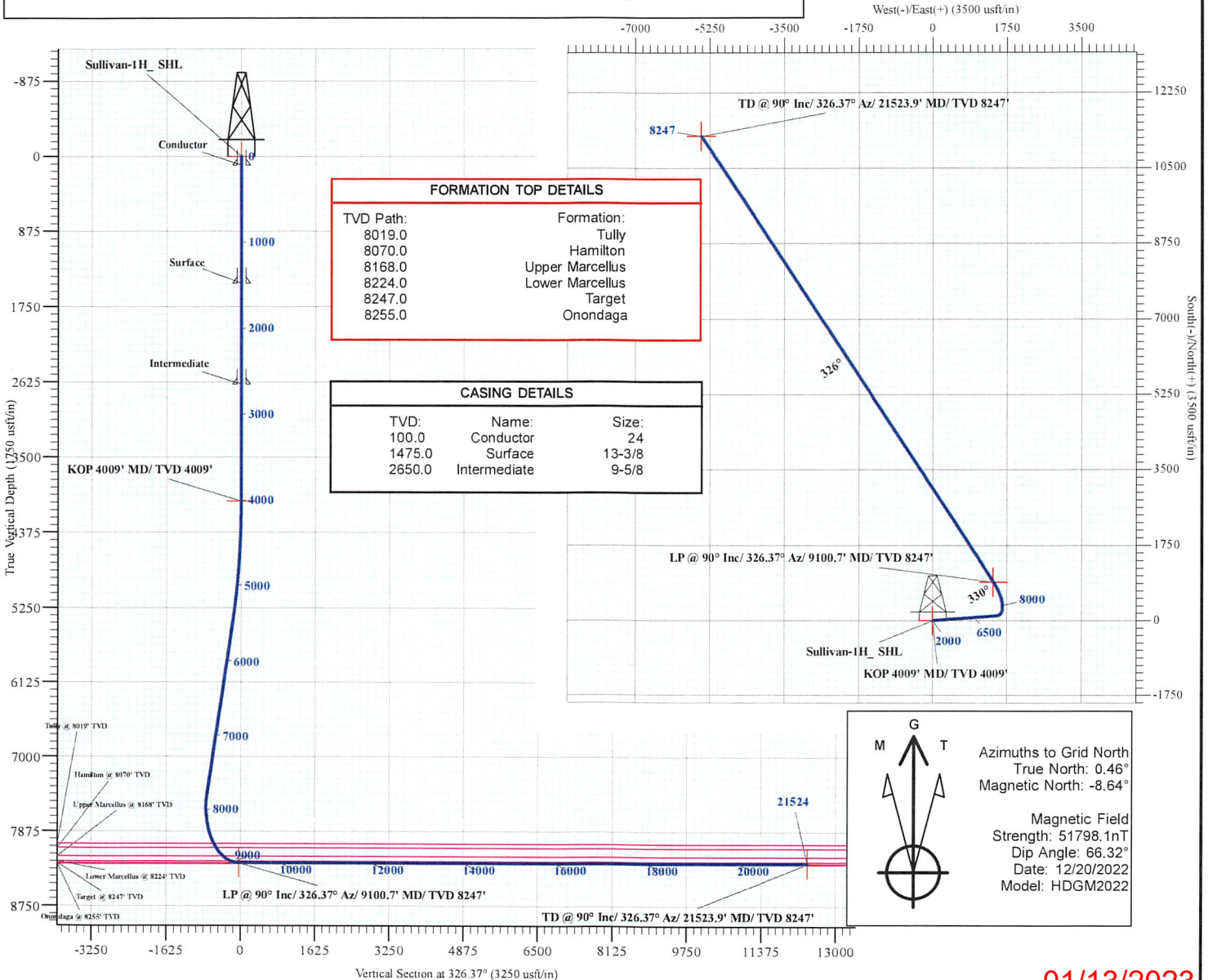
Name	TVD	Latitude	Longitude	TMD
Sullivan-1H_SHL	0.0	39.6148553	-80.2230284	0
Sullivan-1H_KOP	4009.0	39.6148553	-80.2230284	4009
Sullivan-1H_LP	8247.0	39.6173686	-80.2179872	9100.7
Sullivan-1H_PBHL	8247.0	39.6456138	-80.2427117	21523.9

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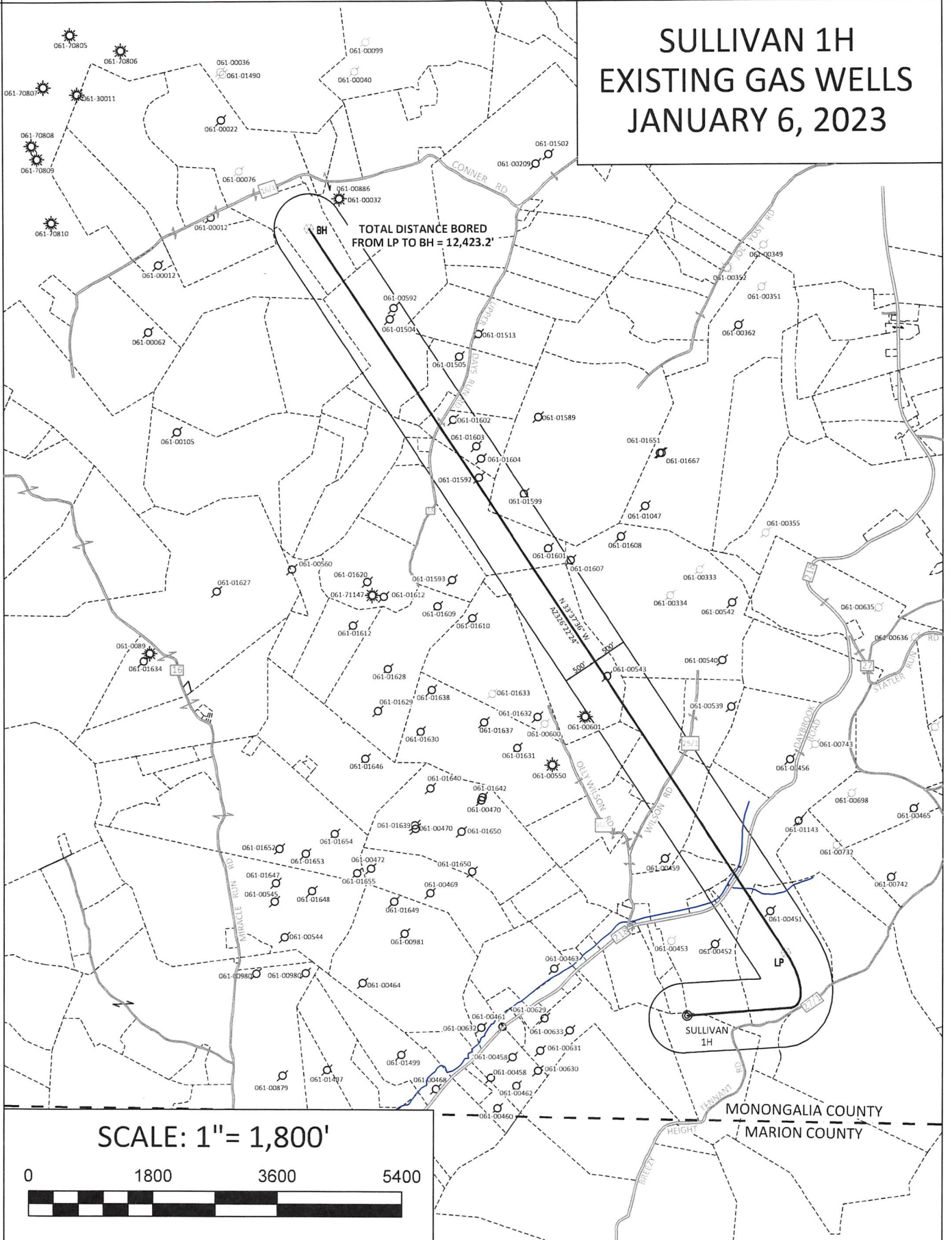
WV Department of
Environmental Protection

SECTION DETAILS									
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	
4009.0	0.00	0.00	4009.0	0.0	0.0	0.0	0.00	0.0	KOP 4009' MD/ TVD 4009'
5458.8	29.00	85.73	5397.7	26.7	358.1	2.00	85.73	-176.1	Hold 29° Inc
7803.8	29.00	85.73	7448.8	111.3	1491.7	0.00	0.00	-733.5	Curve KOP 8°/100
9100.7	90.00	326.37	8247.0	904.0	1427.4	8.00	-116.20	-37.8	LP @ 90° Inc/ 326.37° Az
21523.9	90.00	326.37	8247.0	11248.4	-5452.3	0.00	0.00	12385.3	TD @ 90° Inc/ 326.37° Az



01/13/2023

SULLIVAN 1H EXISTING GAS WELLS JANUARY 6, 2023



Sullivan 1H AREA OF REVIEW

API Number	Well Name	Well Number	Operator	Latitude (NAD 83)	Longitude (NAD 83)	TMP	TVD	Producing Formation
✓ 061-00451	Milton Ammons	3	South Penn Oil	39.618991	-80.218819	4-26-36	Bayard	NA
✓ 061-00543	Rocky & Cathy Barr	10	East Resources Inc.	39.628175	-80.227258	4-19-47	Fourth	Plugged 10/6/05
✓ 061-01601	Arlyn Perkey	12	Eastern Associated / Peabody Coal Company	39.632992	-80.22997	4-19-46.1	Fifth	Plugged 12/14/09
✓ 061-01607	D L Toothman	12	NA	39.632545	-80.228812	4-19-45	NA	Plugged 3/3/10
✓ 061-01599	Thomas Zyra	NA	Eastern Associated / Peabody Coal Company	39.635265	-80.231611	4-19-42.1	NA	Plugged 6/25/09
✓ 061-01592	Elizabeth Bean	1	NA	39.635692	-80.233566	4-19-46.1	NA	Plugged 10/10/09
✓ 061-01604	D L Ammons	1	NA	39.636442	-80.233481	4-19-31.4	NA	Plugged 11/13/08
✓ 061-01603	D L Ammons	2	NA	39.636928	-80.233733	4-19-31.4	NA	Plugged 12/11/09
✓ 061-01602	Rodney Tennant	4	Eastern Associated / Peabody Coal Company	39.637955	-80.234931	4-19-31.4	NA	Plugged 1/14/10
✓ 061-01504	Roxie Tennant	NA	Eastern Associated / Peabody Coal Company	39.642096	-80.238515	4-19-32.1	NA	Plugged 11/8/06
✓ 061-00592	Wm Tennant/D Ammons	2	Oper in Min.owner fld,no code assgn(Orphan well proj)	39.642531	-80.238328	4-19-32.1	NA	NA

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**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
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 *Hollie Medley*
 Its: Regulatory Manager

WW-6A1

Operators Well No. Sullivan 1H

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-061-000160-001-ACT	EQT Production Company	Northeast Natural Energy, LLC	12.5% Royalty or More	1775	44
/ C	WV-061-005448-002	Alan Sullivan	Northeast Natural Energy, LLC	12.5% Royalty or More	1772	466
/ D	WV-061-000160-001-ACT	EQT Production Company	Northeast Natural Energy, LLC	12.5% Royalty or More	1775	44
/ E	WV-061-000160-001-ACT	EQT Production Company	Northeast Natural Energy, LLC	12.5% Royalty or More	1775	44
/ F	WV-061-000160-001-ACT	EQT Production Company	Northeast Natural Energy, LLC	12.5% Royalty or More	1775	44
/ G	WV-061-001851-0014	Terrance W. Mason	Northeast Natural Energy, LLC	12.5% Royalty or More	1568	321
	WV-061-001851-032	Judith Ann Munkittrick	Northeast Natural Energy, LLC	12.5% Royalty or More	1570	113
	WV-061-001851-027	Debra L. Frazier	Northeast Natural Energy, LLC	12.5% Royalty or More	1567	814
	WV-061-001851-026	Gary W. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1727	240
	WV-061-001851-026	Donna G. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1727	240
	WV-061-001851-026	William Bruce Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1727	240
	WV-061-001851-026	Samuel Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1727	240
	WV-061-001851-026	Jason Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1727	240
/ H	WV-061-004442-001	Julia Kay Wilson Hill	Northeast Natural Energy, LLC	12.5% Royalty or More	1580	600
	WV-061-004442-005	Mikell Ann Wilson Reagan	Northeast Natural Energy, LLC	12.5% Royalty or More	1584	807
	WV-061-004442-001	Julia Kay Wilson Hill	Northeast Natural Energy, LLC	12.5% Royalty or More	1580	600
	WV-061-004442-004	Jo Ann Snyder	Northeast Natural Energy, LLC	12.5% Royalty or More	1580	744
	WV-061-004442-003	Marvin Lynn Wilson	Northeast Natural Energy, LLC	12.5% Royalty or More	1580	604
	WV-061-004442-002	Royal J. Burnett	Northeast Natural Energy, LLC	12.5% Royalty or More	1580	602
/ I	WV-061-006350-001	MM-Marcellus II, L.P.	Northeast Natural Energy, LLC	12.5% Royalty or More	1796	77
/ J	WV-061-000171-002	Reta Meredith Erdos	Northeast Natural Energy, LLC	12.5% Royalty or More	1526	158
	WV-061-000171-005	Noah Charles Ammons	Northeast Natural Energy, LLC	12.5% Royalty or More	1526	161
	WV-061-004342-001	Randolph K. Ammons (Donnie Ray Ammons Heir)	Northeast Natural Energy, LLC	12.5% Royalty or More	1575	542
	WV-061-004328-001	Stone Hill Minerals Holdings, LLC (Eric Ammons Interest)	Northeast Natural Energy, LLC	12.5% Royalty or More	1576	499
	WV-061-004328-001	Stone Hill Minerals Holdings, LLC (Donny Ray Ammons, Jr. interest (Donnie Ray Ammons Heir)	Northeast Natural Energy, LLC	12.5% Royalty or More	1576	499
	WV-061-004328-001	Stone Hill Minerals Holdings, LLC (Cristi Kwei interest (Donnie Ray Ammons Heir)	Northeast Natural Energy, LLC	12.5% Royalty or More	1576	499
/ K	WV-061-006017-001	Pamela Kay Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1787	74
	WV-061-006084-002	Patricia Ann Ammons Ricketts	Northeast Natural Energy, LLC	12.5% Royalty or More	1794	444
	WV-061-006084-001	Steven F. Ammons	Northeast Natural Energy, LLC	12.5% Royalty or More	1793	442
	WV-061-006084-005	Richard N. Wilson	Northeast Natural Energy, LLC	12.5% Royalty or More	1793	450
	WV-061-006084-003	David L. Wilson	Northeast Natural Energy, LLC	12.5% Royalty or More	1793	446
	WV-061-006084-004	Lois J. McCoy	Northeast Natural Energy, LLC	12.5% Royalty or More	1793	448
	WV-061-006100-001	Clifford E. Bidwell Jr.	Northeast Natural Energy, LLC	12.5% Royalty or More	1793	487
	WV-061-006029-002	Ida M. Osecky	Northeast Natural Energy, LLC	12.5% Royalty or More	1789	494
	WV-061-006029-001	Jack L. Yost	Northeast Natural Energy, LLC	12.5% Royalty or More	1788	518
	WV-061-006029-003	Jimmy F. Yost	Northeast Natural Energy, LLC	12.5% Royalty or More	1789	496
	WV-061-006108-001	Linda M. Sutphin	Northeast Natural Energy, LLC	12.5% Royalty or More	1794	494
	WV-061-006029-005	Patricia Ann Eddy	Northeast Natural Energy, LLC	12.5% Royalty or More	1795	140
	WV-061-006029-006	Robert Mark Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1795	138
	WV-061-006029-007	Waynetta J. Parker	Northeast Natural Energy, LLC	12.5% Royalty or More	1795	271
	WV-061-006029-004	Robin L. Libert	Northeast Natural Energy, LLC	12.5% Royalty or More	1794	582
/ L	WV-061-006016-001	Jimmy Randall Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1787	72
/ M	WV-061-006016-001	Jimmy Randall Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1787	72
	WV-061-006019-002	Roxana Cahill	Northeast Natural Energy, LLC	12.5% Royalty or More	1788	512
	WV-061-006017-001	Pamela Kay Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1787	74
	WV-061-006019-001	Billy Ray Tennant	Northeast Natural Energy, LLC	12.5% Royalty or More	1787	78
/ N	WV-061-005747-001	Piney Holdings Inc.	Northeast Natural Energy LLC	12.5% or Greater	1730	306
	WV-061-005747-002	Ridgetop Appalachia, LLC	Northeast Natural Energy LLC	12.5% or Greater	1730	25
	WV-061-005769-001	Equinor USA Onshore Properties, Inc.	Northeast Natural Energy LLC	12.5% or Greater	1738	803

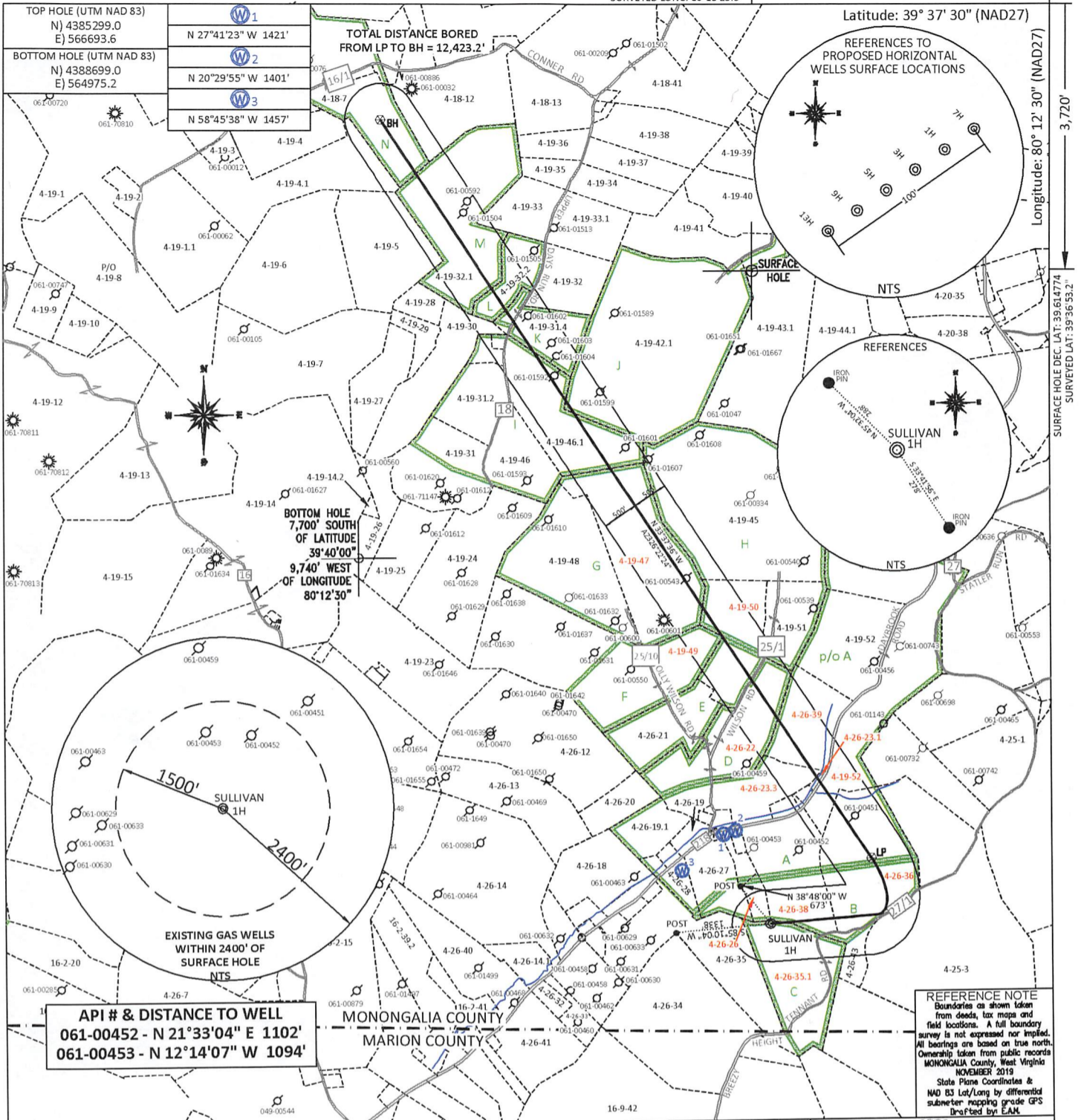
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SURFACE HOLE DEC. LONG: 80.223230
SURVEYED LONG: 80°13'23.6"

Latitude: 39° 37' 30" (NAD27)

Longitude: 80° 12' 30" (NAD27)

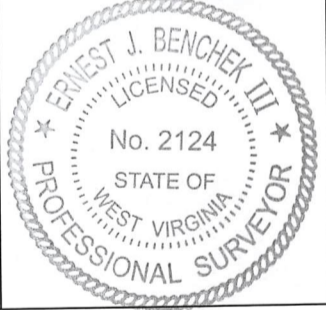


API # & DISTANCE TO WELL
061-00452 - N 21°33'04" E 1102'
061-00453 - N 12°14'07" W 1094'

REFERENCE NOTE
Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records MONONGALIA County, West Virginia NOVEMBER 2019
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
Drafted by EAM

FILE #: NNE20
DRAWING #: 3049
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

Well Type: Oil Waste Diposal 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: _____

DATE: JANUARY 6, 2023
OPERATOR'S WELL #: SULLIVAN 1H
API WELL #: 47 61 01917 MOD
STATE COUNTY PERMIT
CURRENT ELEVATION: 1,520'
PROPOSED ELEVATION: 1,476.4'
QUADRANGLE: GRANT TOWN
ACREAGE: 1,085.135 +/-
ACREAGE: 25.870 +/-

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
ESTIMATED DEPTH: TVD: 8,247' TMD: 21,523.9'
DESIGNATED AGENT: JOHN ADAMS
ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
CITY: CHARLESTON STATE: WV ZIP CODE: 25301

4-26-38	ADAM CLAY DARRAH
4-26-22	LINDA KAY FOGT
4-26-35.1	ALAN SULLIVAN
4-26-26	NNE MIDSTREAM LLC
4-19-47	JAMES & LINDA A KARUS
4-19-50	ROCKY & CATHY J BARR
4-19-49	MICHAEL J LATOCHA
4-26-39	ADAM CLAY DARRAH
4-26-23.1	ADAM CLAY DARRAH
4-19-52	LARRY F & BRENDA KAY KUHN
4-26-23.3	ADAM CLAY DARRAH (LIFE- KERRY L DARRAH)
4-26-36	LARRY NOLAN & LINDA MAE PAYTON
4-18-7	RODDY D & CAROLYN CHISLER
4-19-32.1	JIMMY R & PAMELA K TENNANT; BILLY RAY & ROXANA CAHILL
4-19-32.2	JIMMY RANDALL TENNANT
4-19-31.4	PAMELA K TENNANT
4-19-46	ARLYN W PERKEY
4-19-14.2	PENNY S QUICKLE

LEASE INDEX			
A	WV-061-000160-001-ACT	H	WV-061-004442-001
B	WV-061-000160-001-ACT	I	WV-061-006350-001
C	WV-061-005448-002	J	WV-061-000171-002
D	WV-061-000160-001-ACT	K	WV-061-006017-001
E	WV-061-000160-001-ACT	L	WV-061-006016-001
F	WV-061-000160-001-ACT	M	WV-061-006016-001
G	WV-061-001851-0014	N	WV-061-005747-001

01/13/2023

FILE #: NEE20

DRAWING #: 3049

SCALE: N/A

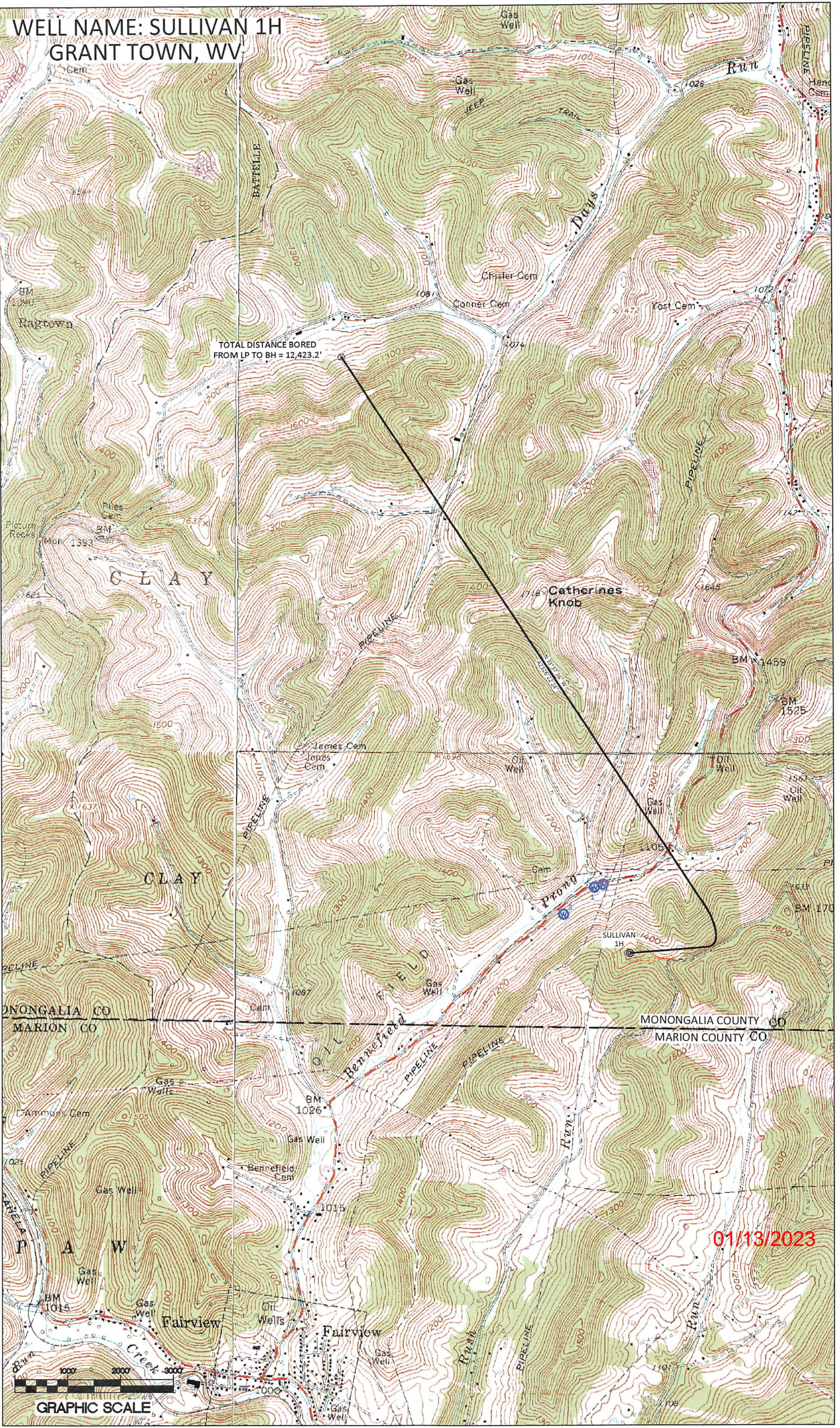
DATE: JANUARY 6, 2023

OPERATOR'S WELL #: SULLIVAN 1H

API WELL #: 47 61 01917 MOD
STATE COUNTY PERMIT

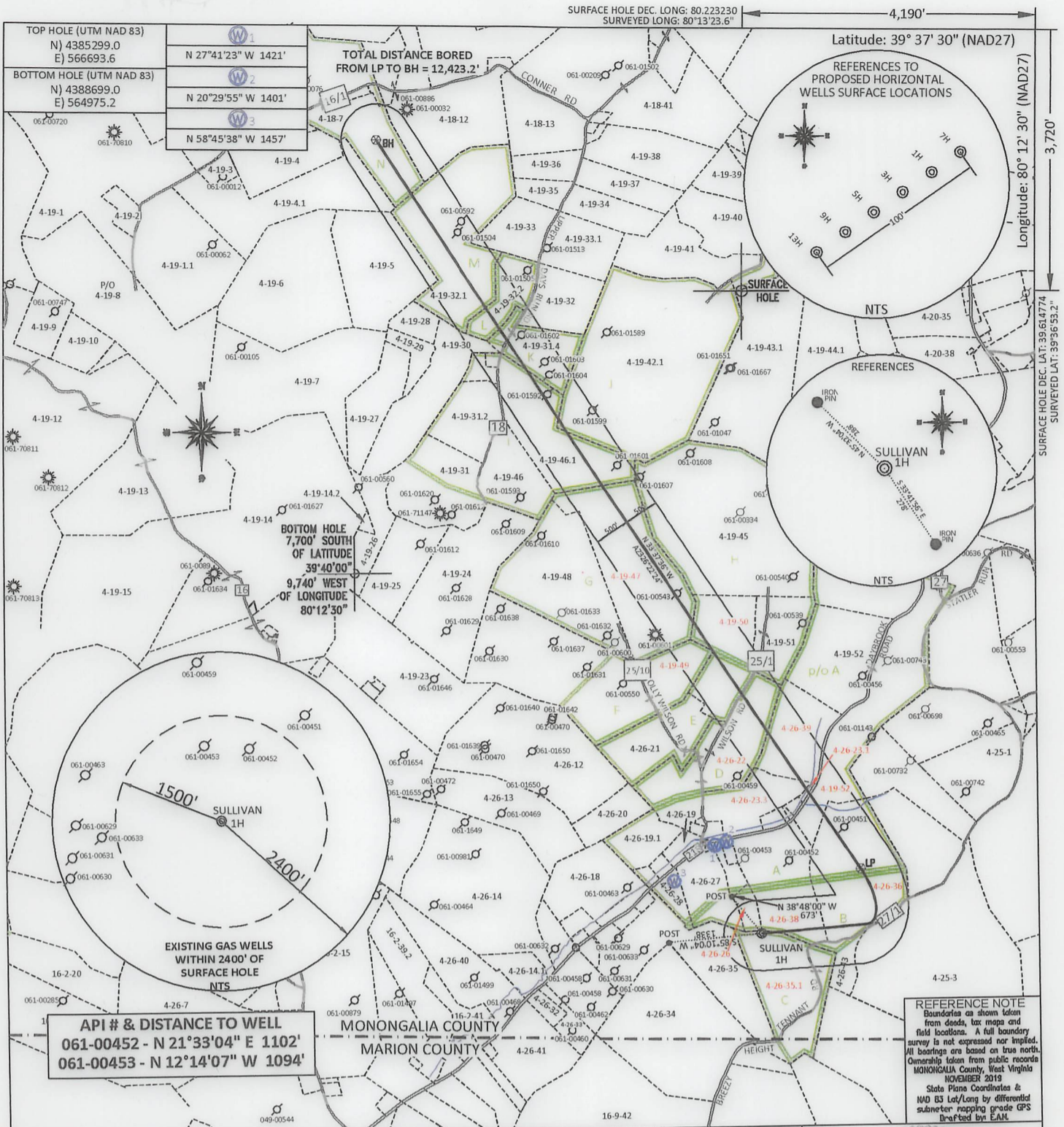
WELL NAME: SULLIVAN 1H GRANT TOWN, WV

TOTAL DISTANCE BORED
FROM LP TO BH = 12,423.2'



01/13/2023

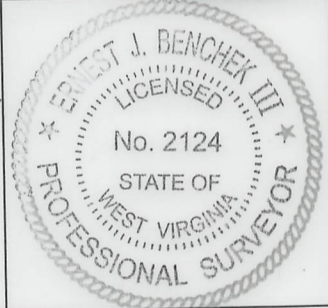
GRAPHIC SCALE



FILE #: NNE20
 DRAWING #: 3049
 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

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:

DATE: JANUARY 6, 2023
 OPERATOR'S WELL #: SULLIVAN 1H
 API WELL #: 47 61 01917 MOD
 STATE COUNTY PERMIT
 CURRENT ELEVATION: 1,520'
 PROPOSED ELEVATION: 1,476.4'

QUADRANGLE: GRANT TOWN
 ACREAGE: 1,085.135 +/-
 ACREAGE: 25.870 +/01/13/2023

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
 CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY):

TARGET FORMATION: MARCELLUS
 ESTIMATED DEPTH: TVD: 8,247' TMD: 21,523.9'
 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



Stansberry, Wade A <wade.a.stansberry@wv.gov>

Expedited Modification Horizontal H6A Well Work Permit API : (47-069-00339, 47-069-00348, 47-069-00349, 47-069-00350)

1 message

Stansberry, Wade A <wade.a.stansberry@wv.gov>

Tue, Jan 10, 2023 at 8:46 AM

To: Brittany Woody <Brittany_Woody@swn.com>, Liz Gee <liz_gee@swn.com>, Tiffany Hoffman <THOFFMAN@wvassessor.com>, Strader C Gower <strader.c.gower@wv.gov>

I have attached a copy of the newly issued well [permit](#) number(s):

- 47-069-00339 - ROTH OHI 10H**
- 47-069-00348 - ROTH 8H**
- 47-069-00349 - ROTH 6H**
- 47-069-00350 - ROTH 206H**

These will serve as your copy.

Thank you,

Wade A. Stansberry

Environmental Resource Specialist 3

West Virginia Department of Environmental Protection

Office of Oil & Gas

601 57th St. SE





Charleston, WV 25304

(304) 926-0499 ext. 41115

(304) 926-0452 fax

Wade.A.Stansberry@wv.gov

4 attachments

-  **47-069-00350 - mod.pdf**
3013K
-  **47-069-00348 - mod.pdf**
2898K
-  **47-069-00339 - mod.pdf**
3429K
-  **47-069-00349 - mod.pdf**
2013K

01/13/2023