



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, December 11, 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 MIRACLE RUN 10H
47-061-01925-00-00

Extended lateral length

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.

A handwritten signature in blue ink, appearing to read 'James A. Martin', is written over a faint, larger version of the signature.

James A. Martin
Chief

Operator's Well Number: MIRACLE RUN 10H
Farm Name: BYRON LANE RAPP
U.S. WELL NUMBER: 47-061-01925-00-00
Horizontal 6A New Drill
Date Modification Issued: 12/11/2023

Promoting a healthy environment.

12/15/2023

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 Battelle Wadestown
Operator ID County District Quadrangle

2) Operator's Well Number: 10H Well Pad Name: Miracle Run

3) Farm Name/Surface Owner: Byron Lane Rapp Public Road Access: Route 13/Zeb Haught Rd

4) Elevation, current ground: 1,520' Elevation, proposed post-construction: 1,458'

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, 8,109', 110', 5,200 psi

8) Proposed Total Vertical Depth: 8,107'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 30,683'

11) Proposed Horizontal Leg Length: 21,750'

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

13) Method to Determine Fresh Water Depths: offset wells

14) Approximate Saltwater Depths: 1,600', 2,600'

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: Marion County Coal Company Mine
Depth: 1,260
Seam: Pittsburgh
Owner: Marion Co. Coal Resources Inc.

CK # 5168
250000

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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	1,485*	1,455*	CTS
Coal							
Intermediate	9-5/8"	New	J-55	36	2,730'	2,700'	CTS
Production	5-1/2"	New	P-110	20	30,683'	30,653'	7,393
Tubing	2-7/8"	New	P-110	6.5	NA		
Liners							

*covering red rock formation

Gayne Knitowski, Digitally signed by Gayne Knitowski, Inspector
 Date: 2023.11.03 08:44:48 -0400

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	2,800	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	0.271	13,870	NA	NA	NA
Liners							

PACKERS

Kind:				RECEIVED Office of Oil and Gas NOV 20 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): 52.95

22) Area to be disturbed for well pad only, less access road (acres): 6.43

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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.

WV Department of
Environmental Protection

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

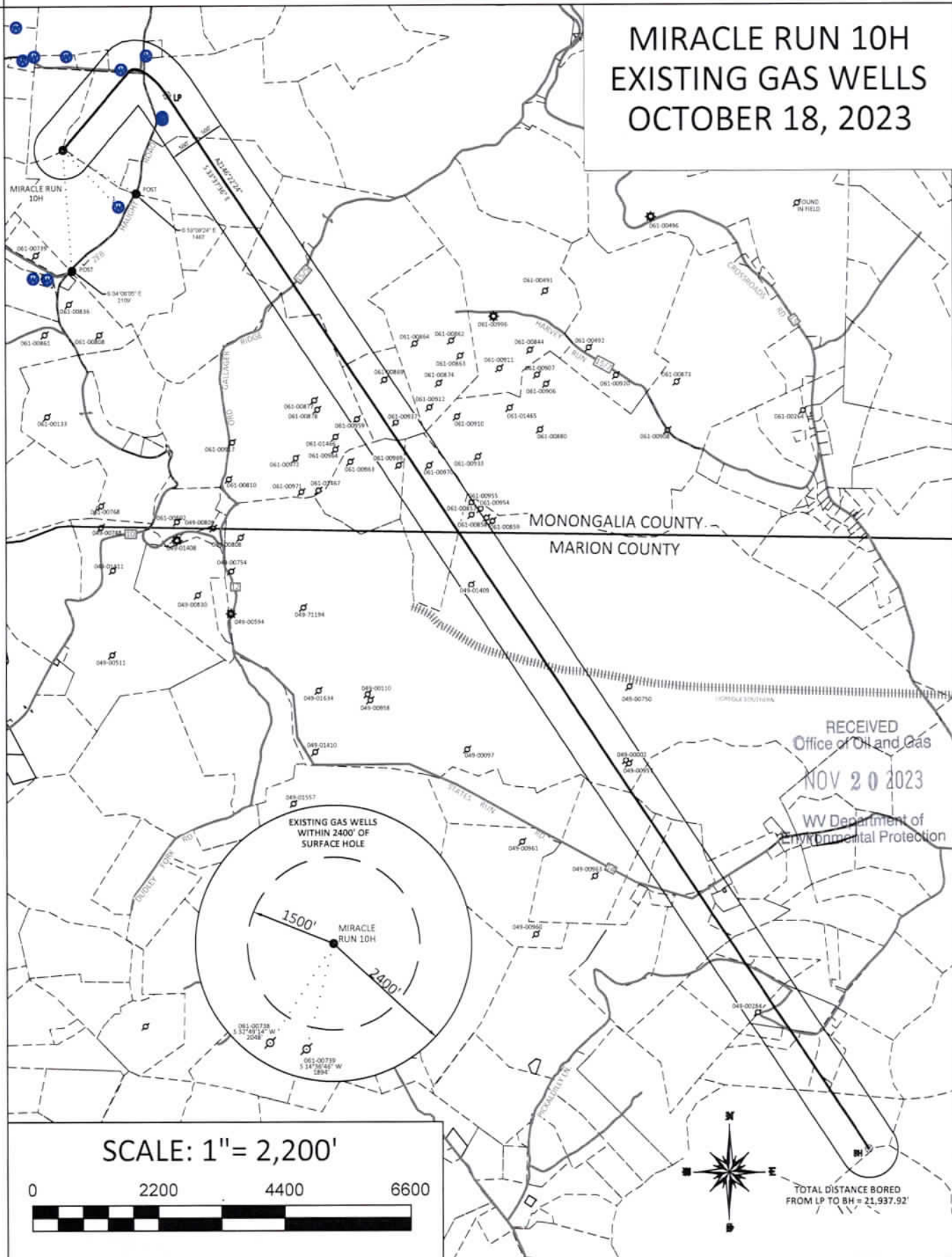
Surface: Class A or L Cement + Max 3% bwoc Calcium Chloride Fresh Water blend.
Intermediate: Class A or L Cement + Max 3% bwoc Calcium Chloride + Fresh Water.
Production: 50:50 Poz (Fly Ash & Class A or L) plus additives such as defoamer, retarder, & fluid loss to meet well specific requirements

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.

*Note: Attach additional sheets as needed.

MIRACLE RUN 10H EXISTING GAS WELLS OCTOBER 18, 2023

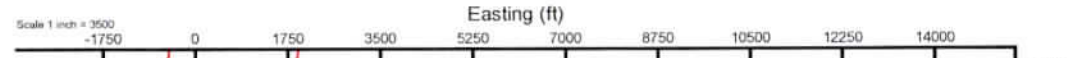


12/15/2023

MIRACLE RUN 10H AREA OF REVIEW

API Number	Well Name	Well Number	Operator	Latitude (NAD 83)	Longitude (NAD 83)	TMP	TVD'	Notes
049-00002	Edgar Fox	2	Owens-Illinois, Inc.	39.60043	-80.283728	16-01-01	3447'	Plugged
049-00284	T N Fluharty	NA	Allegheny Land and Mineral Co.	39.588484	-80.275488	16-03-29	3420'	Plugged
049-00957	Consolidation Coal Co	NA	Consolidation Coal Co.	39.600285	-80.283541	16-01-01	NA	Plugged
049-01409	Consolidation Coal Co	L-89	Diversified Production LLC	39.608694	-80.29334	16-01-01	830'	NA
061-00857	Consol Coal Co	NA	Consolidation Coal Co.	39.612031	-80.293343	16-01-01	NA	Plugged 2/1/1990
061-00869	Consol Coal Co	NA	Consolidation Coal Co.	39.618411	-80.29878	1-26-02	NA	Plugged 8/10/1988
061-00937	Consol Coal	NA	Consolidation Coal Co.	39.616381	-80.29803	1-26-02	NA	Plugged 9/19/1989
061-00954	Consol Coal /Shuma	NA	Consolidation Coal Co.	39.612321	-80.29278	16-01-01	NA	Plugged 4/17/1990
061-00955	Consol Coal /Shuma	1	Consolidation Coal Co.	39.612611	-80.293343	16-01-01	NA	Plugged 4/27/1990
061-00959	Consol Coal	NA	Consolidation Coal Co.	39.616526	-80.300467	1-27-20	NA	Plugged 5/23/1990
061-00969	Consol Coal Co	NA	Consolidation Coal Co.	39.614351	-80.297842	1-26-03	NA	Plugged 7/30/1990
061-00970	Consol Coal Co	NA	Consolidation Coal Co.	39.614351	-80.295967	1-26-04	NA	Plugged

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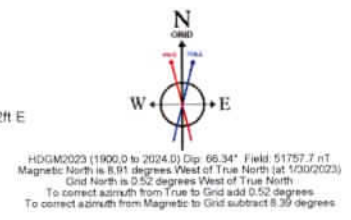


Miracle Run Hardline #2 10.20.2023
Miracle Run Hardline #1 10.20.2023

Curve KOP : 7405.59ft TVD, 1202.74ft N, 1272.17ft E
Landing PL : 8107.00ft TVD, 777.51ft N, 1923.02ft E
Miracle Run 10H LP Rev-1

Start Hold : 4011.06ft TVD, 168.88ft N, 178.63ft E
KOP : 2850.00ft TVD, 0.00ft N, 0.00ft E
Int.Casing (Est) : 2700.00ft TVD, 0.00ft N, 0.00ft E
Srfc.Casing (Est) : 1455.00ft TVD, 0.00ft N, 0.00ft E
Tie On : -0.00ft TVD, 0.00ft N, 0.00ft E

Slot #10



NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV
Field: Monongalia
Facility: Miracle Run Pad

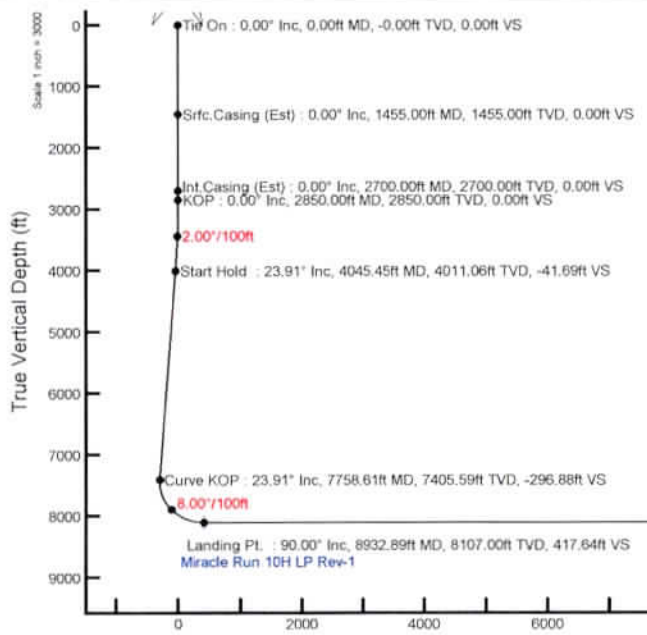
Slot: Slot #10
Well: Miracle Run 10H
Wellbore: Miracle Run 10H PWB

<p>Wellbore depth is Miracle Run 10H (Est)</p> <p>True vertical depth was referenced to Ground Level (GL)</p> <p>Reference wellpath measured depths are referenced to Ground Level (GL)</p> <p>Ground Level (GL) to Mean Sea Level: 145ft</p> <p>Mean Sea Level to Ground level (At Slot: Slot#10) : -145ft</p> <p>Offset wellpath WDE are referenced to each path's default MD system</p>	<p>Grid System: NAD83 (Lambert West Virginia State Plane Zone 1703), US Feet</p> <p>North Reference: Grid north</p> <p>Scale: True distance</p> <p>Coordinates are in feet referenced to Slot</p> <p>Depths are in feet</p> <p>Created by assembly on 2023-10-23 Database: WWS_WFS_EASTWVUS_Data</p>
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Location Information					
Facility Name	Grid East (US Ft)	Grid North (US Ft)	Latitude	Longitude	
Miracle Run Pad	1737889.810	412328.340	39°37'45.0221"N	80°19'7.5870"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US Ft)	Grid North (US Ft)	Longitude
Slot #10	29.30	27.29	1737917.040	412357.640	80°19'7.2524"W
Ground Level (GL) to Ground level (At Slot: Slot#10)	0ft				
Mean Sea Level to Ground level (At Slot: Slot#10)	-145ft				
Ground Level (GL) to Mean Sea Level	145ft				

Formation	Top (GL)
Tully	7835
Hamilton	7932
Upper Marcellus	8042
Lower Marcellus	8083
Target	8107
Onondaga	8140
Huntersville	8150

Casing Type	Hole Size	Casing Size	Grade	Weight	Casing Depth (GL)	Drill Depth
Conductor	32"	24"	N/A	N/A	100	100
Surface	17.5"	13.375"	J-55	54.5	1455	1485
Intermediate	12.25"	9.675"	J-55	36	2700	2730



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

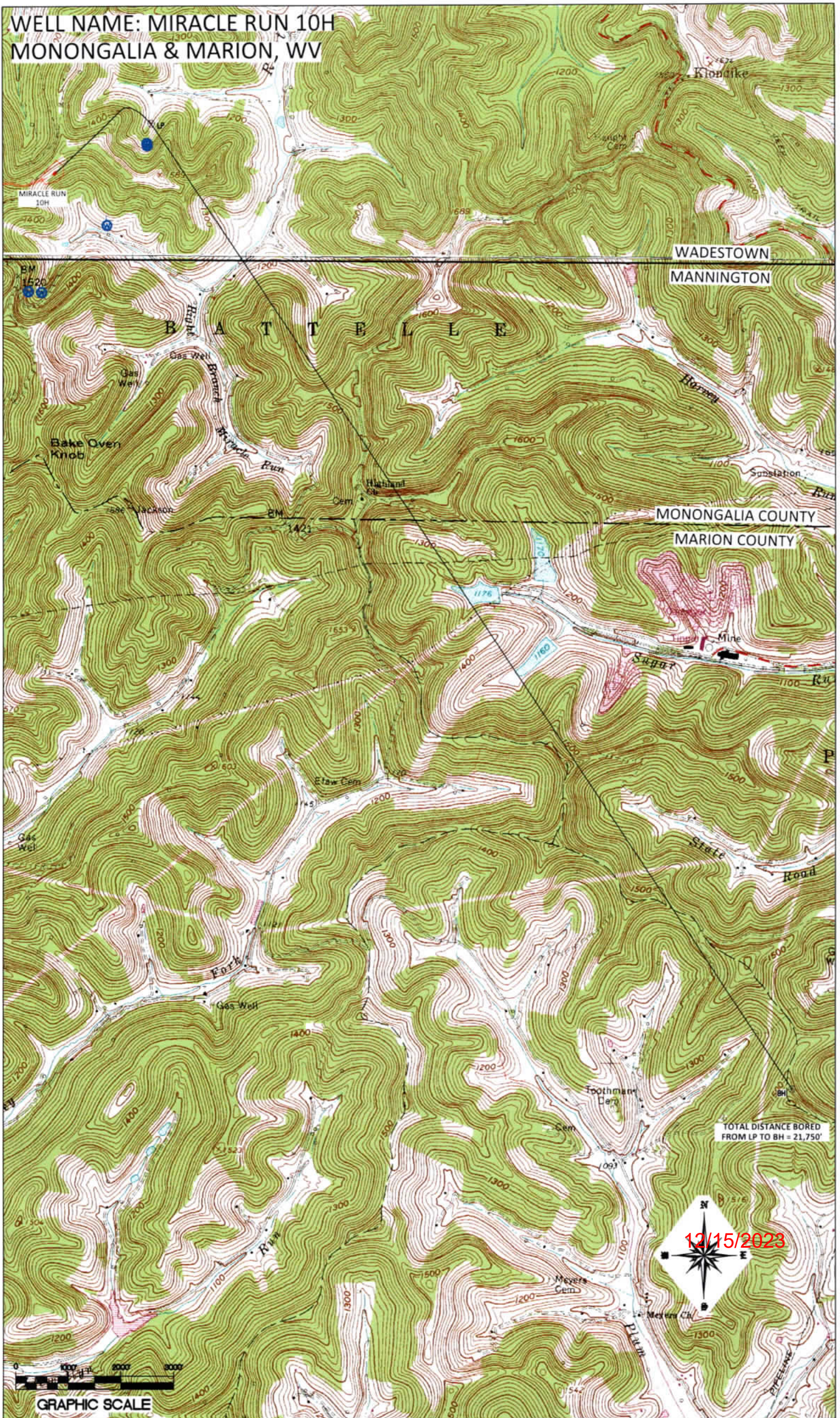
BHL : 8107.00ft TVD, 17332.94ft S, 13967.70ft E
Miracle Run 10H BHL Rev-2

BHL : 90.00° Inc, 30682.89ft MD, 8107.00ft TVD, 22167.64ft VS
Miracle Run 10H BHL Rev-2

Northing (ft)

Scale 1 inch = 3000

WELL NAME: MIRACLE RUN 10H
MONONGALIA & MARION, WV



WADESTOWN
MANNINGTON

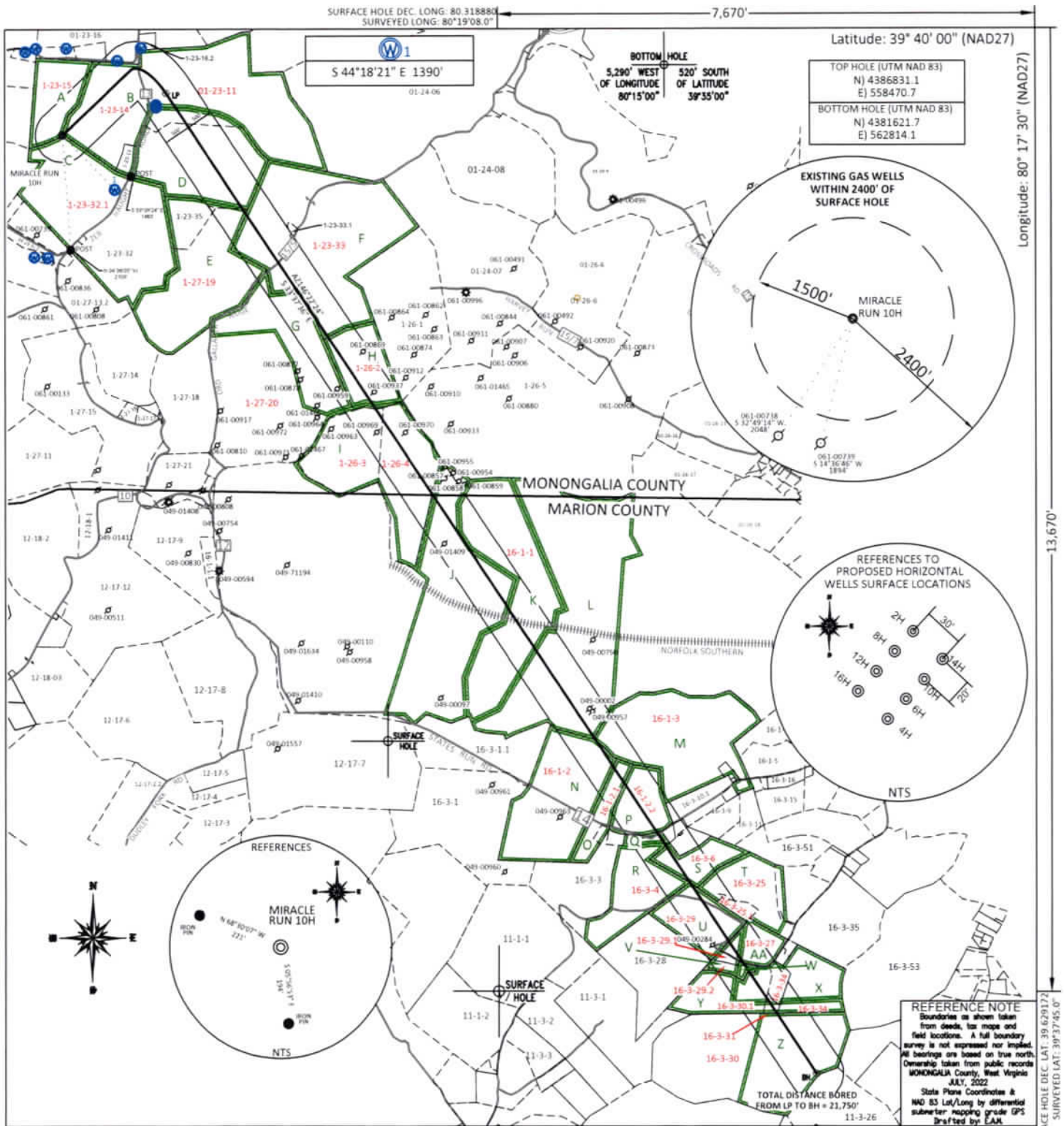
MONONGALIA COUNTY
MARION COUNTY

TOTAL DISTANCE BORED
FROM LP TO BH = 21,750'

12/15/2023



GRAPHIC SCALE



FILE #: NNE20
DRAWING #: 3095
SCALE: PLAT: 1" = 2600'
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 WYDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

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

WATERSHED: DUNKARD CREEK
COUNTY/DISTRICT: MONONGALIA / BATTELLE
SURFACE OWNER: BYRON LANE RAPP
OIL & GAS ROYALTY OWNER:
LEASE NUMBERS:

DATE: NOVEMBER 15, 2023
OPERATOR'S WELL #: MIRACLE RUN 10H
API WELL #: 47 61 01925
STATE COUNTY PERMIT
CURRENT ELEVATION: 1,522'
PROPOSED ELEVATION: 1,458'

QUADRANGLE: WADESTOWN
ACREAGE: 1741.26 +/-
ACREAGE: 56.46 **12/15/2023**

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

ESTIMATED DEPTH: TVD: 8,107' TMD: 30,683'
DESIGNATED AGENT: JOHN ADAMS
ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
CITY: CHARLESTON STATE: WV ZIP CODE: 25301

PROPERTY INDEX	
1-23-11	CLAUDE S & JONI L ANDERSON
1-23-12	CNX LAND LLC
1-23-14	CLAUDE S & JONI L ANDERSON
1-23-15	CLAUDE S & JONI L ANDERSON
1-23-32.1	BYRON LANE RAPP
1-23-33	CONSOL MINING COMPANY LLC
1-27-19	CNX LAND LLC
1-26-2	CONSOL MINING COMPANY LLC
1-27-20	CONSOL MINING COMPANY LLC
1-26-3	CONSOL MINING COMPANY LLC
1-26-4	CONSOL MINING COMPANY LLC
16-1-1	MARION COUNTY COAL RESOURCES INC
16-1-3	MICHAEL A & DOROTHY K DEMARY
16-1-2	JAMES A TENNANT & KIM M DENSON
16-1-2.2	JAMES A TENNANT & KIM M DENSON
16-1-2.1	GREGORY N & JULIE A TENNANT
16-3-6	JUDITH A PRICE
16-3-25	CHARLES L & SUSAN L UNDERWOOD
16-3-4	WACO OIL & GAS
16-3-25.1	TONY & TRACY UNDERWOOD
16-3-29	CHARLES L & SUSAN L UNDERWOOD
16-3-27	MATTHEW PAUL SICKLES
16-3-29.2	MATTHEW PAUL SICKLES
16-3-34	CHESTER L & SUSAN L MICHAEL
16-3-30.1	CHESTER L & SUSAN L MICHAEL
16-3-31	CHARLES L & SUSAN L UNDERWOOD
16-3-30	CHARLES L & SUSAN L UNDERWOOD
1-23-16	SHEILA J TENNANT
16-3-29.1	MATTHEW PAUL SICKLES

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LEASE INDEX			
A	WV-061-003830-005	O	WV-049-086168-003
B	WV-061-003828-007	P	WV-049-086191-002
C	WV-061-005463-023	Q	WV-049-086145-001
D	WV-061-003829-005	R	WV-049-086145-001
E	WV-061-000198-001-LOI	S	WV-049-106467-001
F	WV-061-005633-015	T	WV-049-106467-001
G	WV-061-006138-005	U	WV-049-106399-002
H	WV-061-006138-005	V	WV-049-085259-003
I	WV-061-003844-025	W	WV-049-085259-003
J	WV-061-006503-001	X	WV-049-106436-001
K	WV-049-106389-002	Y	WV-049-106436-001
L	WV-049-004839-001	Z	WV-049-106399-001
M	WV-049-005194-004	AA	WV-049-085259-003
N	WV-049-086168-003		

12/15/2023

FILE #: NEE20

DRAWING #: 3095

SCALE: N/A

DATE: NOVEMBER 15, 2023

OPERATOR'S WELL #: MIRACLE RUN 10H

API WELL #: 47 61
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
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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WV Department of Environmental Protection

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. Miracle Run 10H

Tract	Lease Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book	Page
A	WV-061-003830-005 ✓	Claude S. Anderson and Joni L. Anderson	Northeast Natural Energy, LLC	12.5% or Greater	1578	343
A	WV-061-004540-003	Jerry Yost	Northeast Natural Energy, LLC	12.5% or Greater	1591	124
A	WV-061-004540-004	Gene Yost	Northeast Natural Energy, LLC	12.5% or Greater	1591	126
A	WV-061-004540-006	Eilene Kucix	Northeast Natural Energy, LLC	12.5% or Greater	1591	130
A	WV-061-004540-001	Gary Yost	Northeast Natural Energy, LLC	12.5% or Greater	1591	146
A	WV-061-004540-002	Mary Marlene Miller	Northeast Natural Energy, LLC	12.5% or Greater	1591	122
A	WV-061-004540-007	Roger Yost	Northeast Natural Energy, LLC	12.5% or Greater	1591	132
A	WV-061-004540-005	Larry Yost	Northeast Natural Energy, LLC	12.5% or Greater	1591	128
B	WV-061-003828-007 ✓	Ethel Aldene Efaw	Northeast Natural Energy, LLC	12.5% or Greater	1794	596
C	WV-061-005463-023 ✓	Michael Ray Efaw	Northeast Natural Energy, LLC	12.5% or Greater	1793	300
D	WV-061-003829-005 ✓	Jerry Lee Yost	Northeast Natural Energy, LLC	12.5% or Greater	1579	203
D	WV-061-003829-008	Eilene Yvonne Turner	Northeast Natural Energy, LLC	12.5% or Greater	1579	209
D	WV-061-003829-007	Larry Wayne Yost	Northeast Natural Energy, LLC	12.5% or Greater	1579	207
D	WV-061-003829-009	Mary Marlene Miller	Northeast Natural Energy, LLC	12.5% or Greater	1579	211
D	WV-061-003829-006	Glenn Roger Yost	Northeast Natural Energy, LLC	12.5% or Greater	1579	205
E	WV-061-000198-001-LOI ✓	EQT Production Company	Northeast Natural Energy, LLC	12.5% or Greater	1829	725
F	WV-061-005633-015 ✓	George Birklein	Northeast Natural Energy, LLC	12.5% or Greater	1702	19
F	WV-061-005633-010	Albine Pasko	Northeast Natural Energy, LLC	12.5% or Greater	1697	703
F	WV-061-005633-011	Theodore Jackubowski	Northeast Natural Energy, LLC	12.5% or Greater	1697	705
F	WV-061-005633-002	Jean Jackubowski	Northeast Natural Energy, LLC	12.5% or Greater	1696	228
F	WV-061-005633-009	Raymond A. Jackubowski	Northeast Natural Energy, LLC	12.5% or Greater	1697	701
F	WV-061-005633-014	Beverly M. Chisdock	Northeast Natural Energy, LLC	12.5% or Greater	1699	454
F	WV-061-005633-008	Lisa M. Jackubowski	Northeast Natural Energy, LLC	12.5% or Greater	1697	699
F	WV-061-005633-013	Andrea F. Shotts	Northeast Natural Energy, LLC	12.5% or Greater	1697	709
F	WV-061-005633-012	Cynthia D. Krzywicki	Northeast Natural Energy, LLC	12.5% or Greater	1697	707
F	WV-061-005633-007	Anthony Joseph Jackubowski	Northeast Natural Energy, LLC	12.5% or Greater	1697	713
F	WV-061-005633-020	Benjamin A. Haug	Northeast Natural Energy, LLC	12.5% or Greater	1713	528
F	WV-061-005633-003	Louis Jackubowski Jr.	Northeast Natural Energy, LLC	12.5% or Greater	1696	230
F	WV-061-005633-018	Howard J. Ross	Northeast Natural Energy, LLC	12.5% or Greater	1711	50
F	WV-061-005633-017	Mary E. Stuart	Northeast Natural Energy, LLC	12.5% or Greater	1711	48
F	WV-061-005633-019	Catherine A. Chanudet	Northeast Natural Energy, LLC	12.5% or Greater	1711	586
F	WV-061-005633-004	Susan Buzzard	Northeast Natural Energy, LLC	12.5% or Greater	1695	547
F	WV-061-005633-006	Virginia Hornberger	Northeast Natural Energy, LLC	12.5% or Greater	1697	762
F	WV-061-005633-001	Sharon Graeff	Northeast Natural Energy, LLC	12.5% or Greater	1696	226
F	WV-061-005633-005	Vivian Janice Underwood Wells	Northeast Natural Energy, LLC	12.5% or Greater	1697	760
G	WV-061-006138-005 ✓	William Morrell Cast, Jr.	Northeast Natural Energy, LLC	12.5% or Greater	1795	598
H	WV-061-006138-005 ✓	William Morrell Cast, Jr.	Northeast Natural Energy, LLC	12.5% or Greater	1795	598
I	WV-061-003844-025 ✓	Pamela Fay Koon Mesmer	Northeast Natural Energy, LLC	12.5% or Greater	1600	69
I	WV-061-003844-024	Joe David Koon	Northeast Natural Energy, LLC	12.5% or Greater	1600	67

Tract	Lease Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book	Page
I	WV-061-003844-026	Lisa Gay Koon	Northeast Natural Energy, LLC	12.5% or Greater	1600	13
I	WV-061-003844-011	Pamela Lane Tennant	Northeast Natural Energy, LLC	12.5% or Greater	1560	96
I	WV-061-003844-010	Patricia Jane Tennant	Northeast Natural Energy, LLC	12.5% or Greater	1554	830
I	WV-061-003844-012	Kimberly Dawn Huggins Coker	Northeast Natural Energy, LLC	12.5% or Greater	1560	98
I	WV-061-003844-013	James David Tennant	Northeast Natural Energy, LLC	12.5% or Greater	1559	360
I	WV-061-003844-005	Mary L. Toothman	Northeast Natural Energy, LLC	12.5% or Greater	1575	623
I	WV-061-003844-003	Mary G. Price	Northeast Natural Energy, LLC	12.5% or Greater	1560	316
I	WV-061-003844-018	Howard James Fluharty	Northeast Natural Energy, LLC	12.5% or Greater	1597	381
I	WV-061-003844-020	Steve Fluharty	Northeast Natural Energy, LLC	12.5% or Greater	1598	710
I	WV-061-003844-017	Bruce Nelson Fluharty	Northeast Natural Energy, LLC	12.5% or Greater	1597	379
I	WV-061-003844-001	Connie Suprek	Northeast Natural Energy, LLC	12.5% or Greater	1560	151
I	WV-061-003844-027	Donna B. Jelovic	Northeast Natural Energy, LLC	12.5% or Greater	1608	646
I	WV-061-003844-028	E. Ruth Reeese Revocable Trust	Northeast Natural Energy, LLC	12.5% or Greater	1608	648
I	WV-061-003844-015	Beverly Matheny	Northeast Natural Energy, LLC	12.5% or Greater	1596	496
I	WV-061-003844-016	Barbara Krushanskyy	Northeast Natural Energy, LLC	12.5% or Greater	1596	498
I	WV-061-003844-007	Robert C. Rice	Northeast Natural Energy, LLC	12.5% or Greater	1554	836
I	WV-061-003844-009	Harry R. Rice	Northeast Natural Energy, LLC	12.5% or Greater	1554	832
I	WV-061-003844-008	Sandra Sue Rice McCarty	Northeast Natural Energy, LLC	12.5% or Greater	1554	838
I	WV-061-003844-006	Cecil H. Rice	Northeast Natural Energy, LLC	12.5% or Greater	1554	834
I	WV-061-003844-019	Fred Price	Northeast Natural Energy, LLC	12.5% or Greater	1597	383
I	WV-061-003844-002	Ronald J. Haught	Northeast Natural Energy, LLC	12.5% or Greater	1563	819
J	WV-061-006503-001 ✓	CNX Gas Company LLC	Northeast Natural Energy, LLC	12.5% or Greater	1817	466
K	WV-049-106389-002 ✓	Jeanne R. Allen	Marion Natural Energy LLC	12.5% or Greater	1324	27
L	WV-049-004839-001 ✓	CNX Gas Company LLC	Northeast Natural Energy, LLC	12.5% or Greater	1226	918
L	WV-049-004839-002	CSX Transportation, Inc.	Northeast Natural Energy, LLC	12.5% or Greater	1226	927
M	WV-049-005194-004 ✓	Deanna Leach	Northeast Natural Energy, LLC	12.5% or Greater	1228	448
M	WV-049-005194-004	Debra Boykin	Northeast Natural Energy, LLC	12.5% or Greater	1228	448
M	WV-049-005194-007	Larry Ratliff	Northeast Natural Energy, LLC	12.5% or Greater	1228	454
M	WV-049-005194-016	Sharolyn Mathews	Northeast Natural Energy, LLC	12.5% or Greater	1229	888
M	WV-049-005194-003	Kathryn Griesel	Northeast Natural Energy, LLC	12.5% or Greater	1228	446
M	WV-049-005194-014	Jeanne Heinrichs	Northeast Natural Energy, LLC	12.5% or Greater	1229	876
M	WV-049-005194-005	Judy Mathews Riley	Northeast Natural Energy, LLC	12.5% or Greater	1228	450
M	WV-049-005194-073	Susan Matthews	Northeast Natural Energy, LLC	12.5% or Greater	1261	132
M	WV-049-005194-048	Faye Young	Northeast Natural Energy, LLC	12.5% or Greater	1233	259
M	WV-049-005194-010	Joanne Michael Slavik	Northeast Natural Energy, LLC	12.5% or Greater	1228	461
M	WV-049-005247-007	John P. Wood	Northeast Natural Energy, LLC	12.5% or Greater	1264	1012
M	WV-049-005247-008	Jerome C. Wood	Northeast Natural Energy, LLC	12.5% or Greater	1265	175
M	WV-049-005247-009	Pauline June Elliott	Northeast Natural Energy, LLC	12.5% or Greater	1265	177
M	WV-049-005194-042	Charles R. Michael Jr.	Northeast Natural Energy, LLC	12.5% or Greater	1232	793
M	WV-049-005194-034	Judith Lynn Michael	Northeast Natural Energy, LLC	12.5% or Greater	1232	212
M	WV-049-005194-041	Billie J. McCall	Northeast Natural Energy, LLC	12.5% or Greater	1232	795
M	WV-049-005194-043	Nancy A. Parmley	Northeast Natural Energy, LLC	12.5% or Greater	1232	781

Tract	Lease Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book	Page
M	WV-049-005194-035	Sandy Anderson	Northeast Natural Energy, LLC	12.5% or Greater	1232	214
M	WV-049-005194-013	Kimberly Lee	Northeast Natural Energy, LLC	12.5% or Greater	1229	874
M	WV-049-005194-013	Kitty Moore	Northeast Natural Energy, LLC	12.5% or Greater	1229	874
M	WV-049-005194-013	Bruce Lee	Northeast Natural Energy, LLC	12.5% or Greater	1229	874
M	WV-049-005194-002	Joseph Parrish Jr.	Northeast Natural Energy, LLC	12.5% or Greater	1228	444
M	WV-049-005194-006	Barbara L. Yost	Northeast Natural Energy, LLC	12.5% or Greater	1228	452
M	WV-049-005194-001	LueHa R. Conaway	Northeast Natural Energy, LLC	12.5% or Greater	1228	442
M	WV-049-005194-008	John Robert Wright	Northeast Natural Energy, LLC	12.5% or Greater	1228	457
M	WV-049-005194-009	Michael J. Wright	Northeast Natural Energy, LLC	12.5% or Greater	1228	459
M	WV-049-005194-028	Kimberly D. Cain	Northeast Natural Energy, LLC	12.5% or Greater	1231	514
M	WV-049-005194-015	Lynn Franklin Wright	Northeast Natural Energy, LLC	12.5% or Greater	1229	886
M	WV-049-005194-056	Joan C. Nader	Northeast Natural Energy, LLC	12.5% or Greater	1234	324
M	WV-049-005194-050	Barry W. Collins	Northeast Natural Energy, LLC	12.5% or Greater	1233	263
M	WV-049-005194-049	Beverly C. Danley	Northeast Natural Energy, LLC	12.5% or Greater	1233	261
M	WV-049-005194-052	Barbara L. Jones	Northeast Natural Energy, LLC	12.5% or Greater	1233	267
M	WV-049-005194-074	Kay Mardelle Lepeter	Northeast Natural Energy, LLC	12.5% or Greater	1259	396
M	WV-049-005194-027	Sandra J. Inghram	Northeast Natural Energy, LLC	12.5% or Greater	1231	512
M	WV-049-005194-077	Craig Henderson	Northeast Natural Energy, LLC	12.5% or Greater	1260	475
M	WV-049-005194-075	Jackie Toothman	Northeast Natural Energy, LLC	12.5% or Greater	1259	398
M	WV-049-005194-076	Frances Eads	Northeast Natural Energy, LLC	12.5% or Greater	1259	400
M	WV-049-005194-061	Elkton Ambulance Fund	Northeast Natural Energy, LLC	12.5% or Greater	1235	161
M	WV-049-005194-052	Singerly Fire Company	Northeast Natural Energy, LLC	12.5% or Greater	1235	163
M	WV-049-005194-023	Beth Butcher	Northeast Natural Energy, LLC	12.5% or Greater	1231	502
M	WV-049-005194-030	David Haught	Northeast Natural Energy, LLC	12.5% or Greater	1231	516
M	WV-049-005194-051	Stanley Haught	Northeast Natural Energy, LLC	12.5% or Greater	1233	265
M	WV-049-005194-058	Warren Haught	Northeast Natural Energy, LLC	12.5% or Greater	1234	328
M	WV-049-005194-044	Connie Leary	Northeast Natural Energy, LLC	12.5% or Greater	1232	783
M	WV-049-005194-037	James Haught	Northeast Natural Energy, LLC	12.5% or Greater	1234	322
M	WV-049-005194-046	Mary Denise Ohms Mount	Northeast Natural Energy, LLC	12.5% or Greater	1232	787
M	WV-049-005194-011	Louella Woods	Northeast Natural Energy, LLC	12.5% or Greater	1229	870
M	WV-049-005194-040	Robert N. Tennant	Northeast Natural Energy, LLC	12.5% or Greater	1232	797
M	WV-049-005194-034	Rejester Dale Haught	Northeast Natural Energy, LLC	12.5% or Greater	1231	504
M	WV-049-005194-038	Belleta K. Haught	Northeast Natural Energy, LLC	12.5% or Greater	1232	805
M	WV-049-005194-064	Donald J. Haught	Northeast Natural Energy, LLC	12.5% or Greater	1237	889
M	WV-049-005194-055	James B. Haught	Northeast Natural Energy, LLC	12.5% or Greater	1234	322
M	WV-049-005194-063	Jason L. Haught	Northeast Natural Energy, LLC	12.5% or Greater	1235	165
M	WV-049-005505-012	James Aldon Wiley	Northeast Natural Energy, LLC	12.5% or Greater	1261	677
M	WV-049-005505-011	Sandra Pazdric	Northeast Natural Energy, LLC	12.5% or Greater	1256	311
M	WV-049-005505-008	Cathy Boylen	Northeast Natural Energy, LLC	12.5% or Greater	1254	267
M	WV-049-005505-009	Bernadetta Fleeman	Northeast Natural Energy, LLC	12.5% or Greater	1254	269
M	WV-049-005505-010	David Toothman	Northeast Natural Energy, LLC	12.5% or Greater	1254	271
M	WV-049-005741-001	Jennifer Troy-Black	Northeast Natural Energy, LLC	12.5% or Greater	1277	154

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M	WV-049-005194-053	Heather L. Hay	Northeast Natural Energy, LLC	12.5% or Greater	1233	269
M	WV-049-005194-036	Donald P. Betman	Northeast Natural Energy, LLC	12.5% or Greater	1232	216
N	WV-049-086168-003 ✓	The Burns Family General Partnership	NNE Land LLC	12.5% or Greater	1318	59
		NNE Land LLC	Marion Natural Energy LLC	Assignment book	64	938
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
O	WV-049-086168-003 ✓	The Burns Family General Partnership	NNE Land LLC	12.5% or Greater	1318	59
		NNE Land LLC	Marion Natural Energy LLC	Assignment book	64	938
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
P	WV-049-086191-002 ✓	Ashley McAtee-Kincade	NNE Land LLC	12.5% or Greater	1315	1062
		NNE Land LLC	Marion Natural Energy LLC	Assignment book	64	938
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
Q	WV-049-086145-001 ✓	Mike Ross, Inc.	NNE Land LLC	12.5% or Greater	1314	838
		NNE Land LLC	Marion Natural Energy LLC	Assignment book	64	938
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
Q	WV-049-086145-002	Waco Oil and Gas	NNE Land LLC	12.5% or Greater	1314	840
		NNE Land LLC	Marion Natural Energy LLC	Assignment book	64	938
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
R	WV-049-086145-001 ✓	Mike Ross, Inc.	NNE Land LLC	12.5% or Greater	1314	838
		NNE Land LLC	Marion Natural Energy LLC	Assignment book	64	938
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
R	WV-049-086145-002	Waco Oil and Gas	NNE Land LLC	12.5% or Greater	1314	840
		NNE Land LLC	Marion Natural Energy LLC	Assignment book	64	938
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
S	WV-049-106467-001 ✓	Diane Market Gaston	Marion Natural Energy LLC	12.5% or Greater	1328	541
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
T	WV-049-106467-001 ✓	Diane Market Gaston	Marion Natural Energy LLC	12.5% or Greater	1328	541
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
U	WV-049-106399-002 ✓	Tony C. Underwood	Marion Natural Energy LLC (75%) NNE Land LLC (25%)	12.5% or Greater	1324	53
		NNE Land LLC	Marion Natural Energy LLC	Assignment book	64	938
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
V	WV-049-085259-003 ✓	Rosella Mae McClelland	Northeast Natural Energy, LLC	12.5% or Greater	1232	226
W	WV-049-085259-003 ✓	Rosella Mae McClelland	Northeast Natural Energy, LLC	12.5% or Greater	1232	226
X	WV-049-106436-001 ✓	Pamela Whisler Cox	Marion Natural Energy LLC (75%) NNE Land (25%)	12.5% or Greater	1327	653
		NNE Land LLC	Marion Natural Energy LLC	Assignment book	64	938
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
Y	WV-049-106436-001 ✓	Pamela Whisler Cox	Marion Natural Energy LLC (75%) NNE Land (25%)	12.5% or Greater	1327	653
		NNE Land LLC	Marion Natural Energy LLC	Assignment book	64	938
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
Z	WV-049-106399-001 ✓	Susan L. Underwood	Marion Natural Energy LLC (75%) NNE Land (25%)	12.5% or Greater	1324	9
		NNE Land LLC	Marion Natural Energy LLC	Assignment book	64	938
		Marion Natural Energy LLC	Northeast Natural Energy	Assignment book	1330	528
AA	WV-049-085259-003 ✓	Rosella Mae McClelland	Northeast Natural Energy, LLC	12.5% or Greater	1232	226