



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

Friday, March 7, 2025
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 ERP 5H
47-061-01960-00-00

Side Track

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 circular stamp.

James A. Martin
Chief

Operator's Well Number: ERP 5H
Farm Name: PHOENIX ENERGY RESOURCES
U.S. WELL NUMBER: 47-061-01960-00-00
Horizontal 6A New Drill
Date Modification Issued: 3/7/2025

Promoting a healthy environment.

03/07/2025

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: 5H Well Pad Name: ERP

3) Farm Name/Surface Owner: Phoenix Energy Resources LLC Public Road Access: Route 17/Miracle Run Rd

4) Elevation, current ground: NA Elevation, proposed post-construction: 1,338' (built)

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, 8,113', 99', 5200 psi

8) Proposed Total Vertical Depth: 8,062'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 22,649.18'

11) Proposed Horizontal Leg Length: 14,058'

12) Approximate Fresh Water Strata Depths: 1,217'

13) Method to Determine Fresh Water Depths: Drillers Log from Offset Wells

14) Approximate Saltwater Depths: 2,470'

15) Approximate Coal Seam Depths: 1,119'

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 active/non-producing No

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(a) If Yes, provide Mine Info: Name: Federal #2
Depth: 1,230'
Seam: Pittsburgh
Owner: Phoenix Federal No 2 Mining, LLC

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	CTS
Fresh Water	13-3/8	New	J-55	54.5	1,350'	1,320	CTS
Coal							
Intermediate	9-5/8	New	J-55	36	2,640'	2,610	CTS
Production	5-1/2	New	P-110	20	22,649.18'	22,619.18'	5,391
Tubing	2-7/8	New	P-110	6.5	NA		
Liners							

Gayne Knitowski
 Digitally signed by Gayne Knitowski
 Date: 2025.02.19 15:10:25 -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	2730	500	Class A or L	1.19
Coal							
Intermediate	9-5/8	12-3/8	0.395	3520	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	2-7/5	NA	0.217	13,870	NA	NA	NA
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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 WW-6B-01-001
 Environmental Protection

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): 51.23 (built) + 4.60 (expansion)

22) Area to be disturbed for well pad only, less access road (acres): 29.70 (built) + 4.60 (expansion)

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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.

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

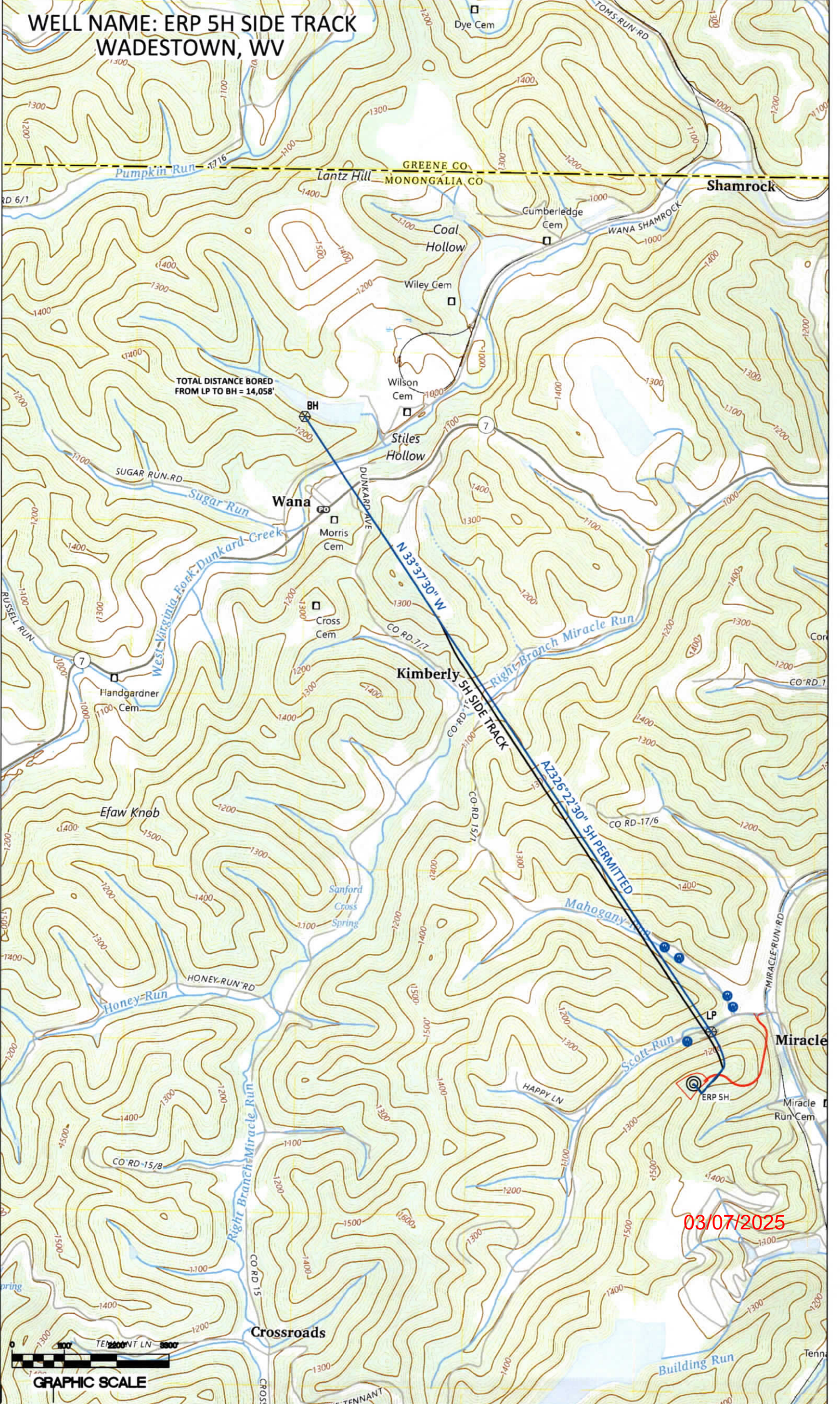
Surface string cement will be a Type 1 + Max 3% bwoc Calcium Chloride Fresh Water blend.
Intermediate string cement will be a Type 1 Cement + Max 3% bwoc Calcium Chloride + Fresh Water.
Production string cement will be (50:50) Poz (Fly Ash):Type I Cement with a gas migration additive.

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.

**WELL NAME: ERP 5H SIDE TRACK
WADESTOWN, WV**



TOTAL DISTANCE BORED
FROM LP TO BH = 14,058'

BH

Shamrock

GREENE CO.
MONONGALIA CO.

Wana

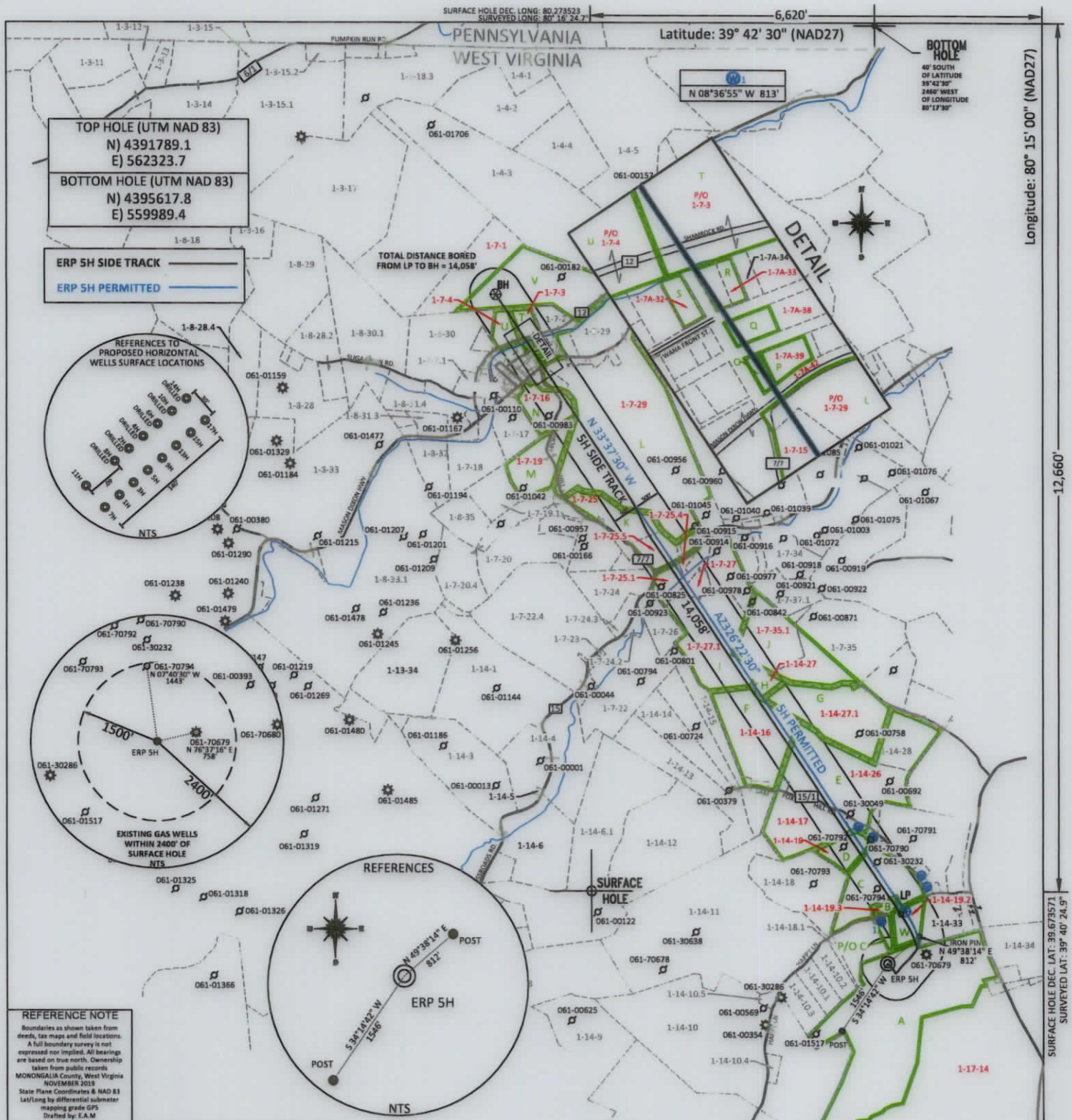
Kimberly 5H SIDE TRACK

Miracle

03/07/2025



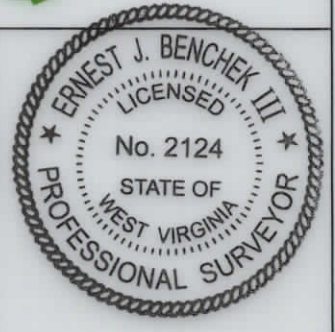
GRAPHIC SCALE



FILE #: NNE20
 DRAWING #: 3059
 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.

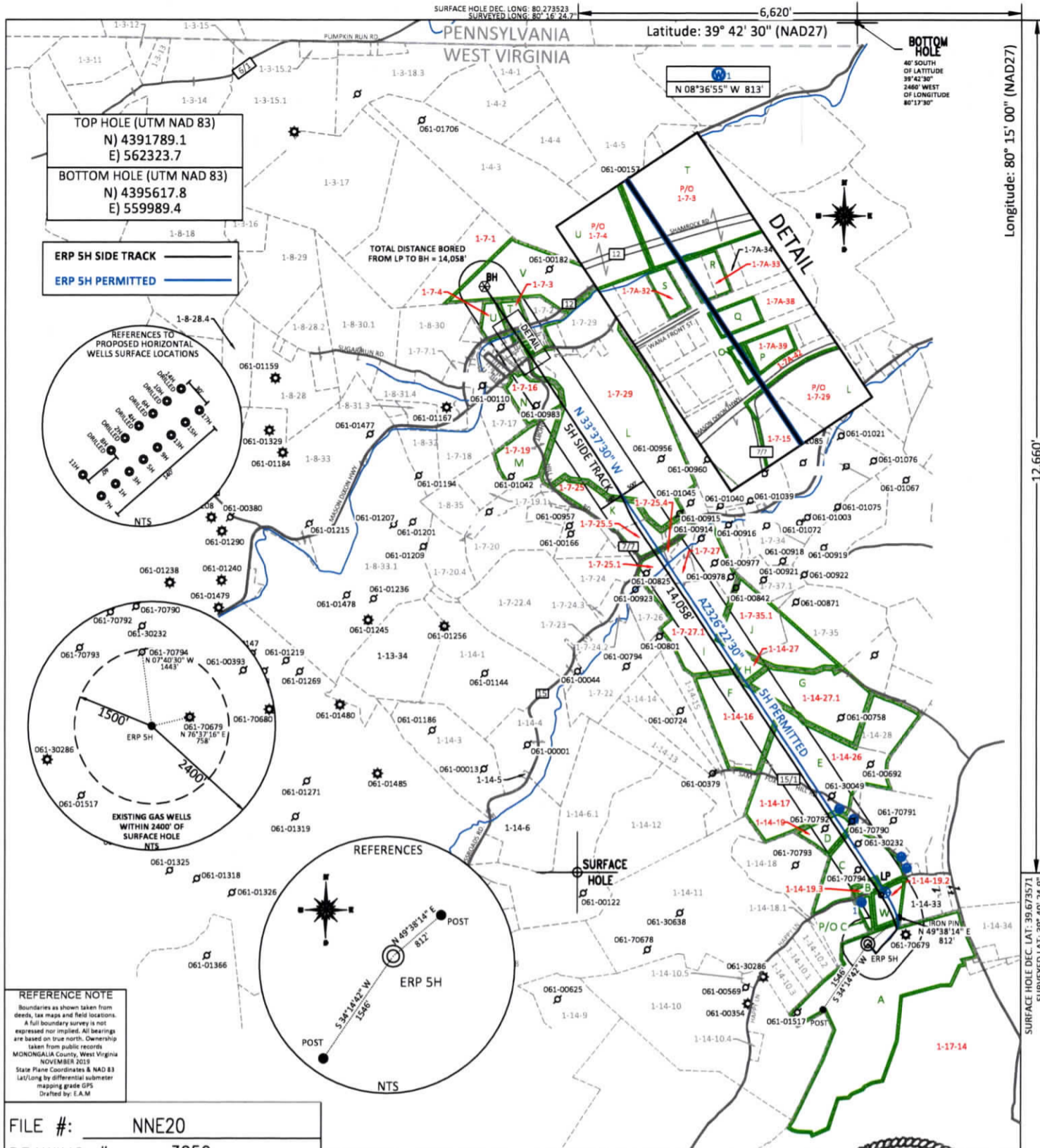
Signed: [Signature]
 L.L.S. #2124 : Ernest J. Benchek III



(+) 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: Phoenix Energy Resources, LLC
 OIL & GAS ROYALTY OWNER: Phoenix Energy Resources, LLC, et al.
 LEASE NUMBERS: _____

DATE: FEBRUARY 18, 2025
 OPERATOR'S WELL #: ERP 5H SIDE TRACK
 API WELL #: 47 61 01960
 STATE COUNTY PERMIT
 AS-BUILT ELEVATION: 1,338.6'
 QUADRANGLE: WADESTOWN
 ACREAGE: 908.354 +/-
 ACREAGE: 54.587 +/-

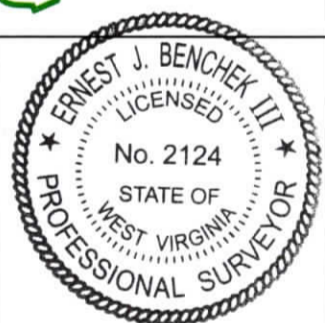
DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
 CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): _____
 TARGET FORMATION: MARCELLUS
 ESTIMATED DEPTH: TVD: 8,062 TMD: 22,649.18
 WELL OPERATOR: Northeast Natural Energy LLC
 DESIGNATED AGENT: 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



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PROPERTY OWNER INDEX	
1-7-1	CONSOL MINING COMPANY LLC
1-7-3	CONSOLIDATION COAL COMPANY
1-7-4	CONSOLIDATION COAL COMPANY
1-7-15	ALBERTA R MYERS
1-7-16	TRACEY D & ELIZABETH A DAVIS
1-7-19	REBECCA L FRODELIUS & WILLIAM C & TAMELA D CROSS
1-7-25	CLOVIS FAMILY IRREVOCABLE TRUST DATED MAY 23 2011 (LIFE)
1-7-25.1	RANDY & BETH A STILES
1-7-25.4	EDWARD F HOLIPSKY JR
1-7-25.5	JOSHUA V CLOVIS
1-7-27	EDWARD F HOLIPSKY JR
1-7-27.1	EDWARD F HOLIPSKY
1-7-29	CLOVIS FAMILY IRREVOCABLE TRUST DATED MAY 23 2011 (LIFE)
1-7-35.1	EDWARD F HOLIPSKY JR
1-14-16	RUSSELL L & VIRGINIA M TOOTHMAN
1-14-17	RANDELL LEE LANTZ
1-14-19	NORMA WILLIAMS
1-14-19.3	CHAD A SWANSON
1-14-26	RANDELL LEE LANTZ
1-14-27	N/A
1-14-27.1	RUSSELL L & VIRGINIA M TOOTHMAN
1-17-14	ERP FEDERAL MINING COMPLEX LLC
1-7A-32	CURTIS R & CRYSAAN E MOORE
1-7A-33	CURTIS R & CRYSAAN E MOORE
1-7A-38	SHAWN ALLEN TRUMP & ALEEDA MARIE FORD
1-7A-39	WOLFPEN KNOB DEVELOPMENT COMPANY
1-7A-42	WOLFPEN KNOB DEVELOPMENT COMPANY
1-14-19.2	FEDERAL NATIONAL MORTGAGE ASSOCIATION

LEASE INDEX			
A	WV-061-005667-001	N	WV-061-000195-001-JOA
B	WV-061-005702-001	O	WV-061-000195-001-JOA
C	WV-061-005697-001	P	WV-061-000195-001-JOA
D	WV-061-006663-001	Q	WV-061-000195-001-JOA
E	WV-061-005810-037	R	WV-061-000195-001-JOA
F	WV-061-000208-001-JOA	S	WV-061-006199-001
G	WV-061-000208-001-JOA	T	WV-061-000195-001-JOA
H	WV-061-000208-001-JOA	U	WV-061-000195-001-JOA
I	WV-061-006368-001	V	WV-061-000195-001-JOA
J	WV-061-000208-001-JOA	W	WV-061-006722-001
K	WV-061-006384-001		
L	WV-061-004196-001		
M	WV-061-006430-001		

03/07/2025

FILE #: NEE20

DRAWING #: 3059

SCALE: N/A

DATE: FEBRUARY 18, 2025

OPERATOR'S WELL #: ERP 5H

API WELL #: 47 61 01960
STATE COUNTY PERMIT



February 19, 2025

WV Department of Environmental Protection
Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304

Re: ERP 5H (061-01960) Expedited Modification

Dear Permit Reviewer,

Please find enclosed Expedited Permit Application for Northeast Natural Energy's ("NNE") proposed ERP 5H Modification to Sidetrack original well bore. The proposed well will be in the Battelle District of Monongalia County, WV.

Enclosed with this permit application is a check in the amount of \$5,000 for the expedited review fee. Also enclosed is an updated WW-6B, Well Schematic, and mylar plat.

Should you have any questions please contact me at hmedley@nne-llc.com.

Sincerely,

A handwritten signature in blue ink that reads 'Hollie Medley'.

Hollie Medley
Regulatory Manager

Ch #3441
5000⁰⁰

Ch #3507
2500⁰⁰

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