



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, July 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 DOLLS RUN 9H
47-061-01932-00-00

Lateral Extension

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 blue ink signature of James A. Martin, written in a cursive style.

James A. Martin
Chief

Operator's Well Number: DOLLS RUN 9H
Farm Name: BRYAN & SIERRA VANNORMAN
U.S. WELL NUMBER: 47-061-01932-00-00
Horizontal 6A New Drill
Date Modification Issued: 07/10/2023

Promoting a healthy environment.

07/14/2023

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 Clay Osage
Operator ID County District Quadrangle

2) Operator's Well Number: 9H Well Pad Name: Dolls Run

3) Farm Name/Surface Owner: Bryan & Sierra VanNorman Public Road Access: Little Indian Creek Rd/SR 41

4) Elevation, current ground: 1,535' Elevation, proposed post-construction: 1,521'

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, 8,029', 110', 5,200 psi

8) Proposed Total Vertical Depth: 8,074'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 24,594'

11) Proposed Horizontal Leg Length: 15,010'

12) Approximate Fresh Water Strata Depths: 50', 890'

13) Method to Determine Fresh Water Depths: offset wells

14) Approximate Saltwater Depths: 2,299'

15) Approximate Coal Seam Depths: 399', 890'

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: _____
Depth: _____
Seam: _____
Owner: _____

Gayne Knitowski Digitally signed by Gayne Knitowski Date: 2023.06.23 08:17:38 -04'00'

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	26"	New	NA	NA	100	100' ✓	GTS
Fresh Water	13-3/8"	New	J-55	54.5	1,070'	1,040' ✓	CTS
Coal							
Intermediate	9-5/8"	New	J-55	36	2,530'	2,500' ✓	CTS
Production	5-1/2"	New	P-110	20	24,594'	24,564' ✓	5962
Tubing	2-7/8"	New	P-110	6.5	NA		
Liners							

Gayne Knitowski
Digitally signed by Gayne Knitowski
Date: 2023.06.23 08:18:06 -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	26"	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:				
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): 27.36

22) Area to be disturbed for well pad only, less access road (acres): 10.01

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.

*Note: Attach additional sheets as needed.

NORTHEAST NATURAL ENERGY, LLC
 Location: Monongalia County, WV
 Field: Monongalia
 Facility: Dolls Run Pad
 Slot: Slot #9H
 Well: Dolls Run 9H
 Wellbore: Dolls Run 9H PWB



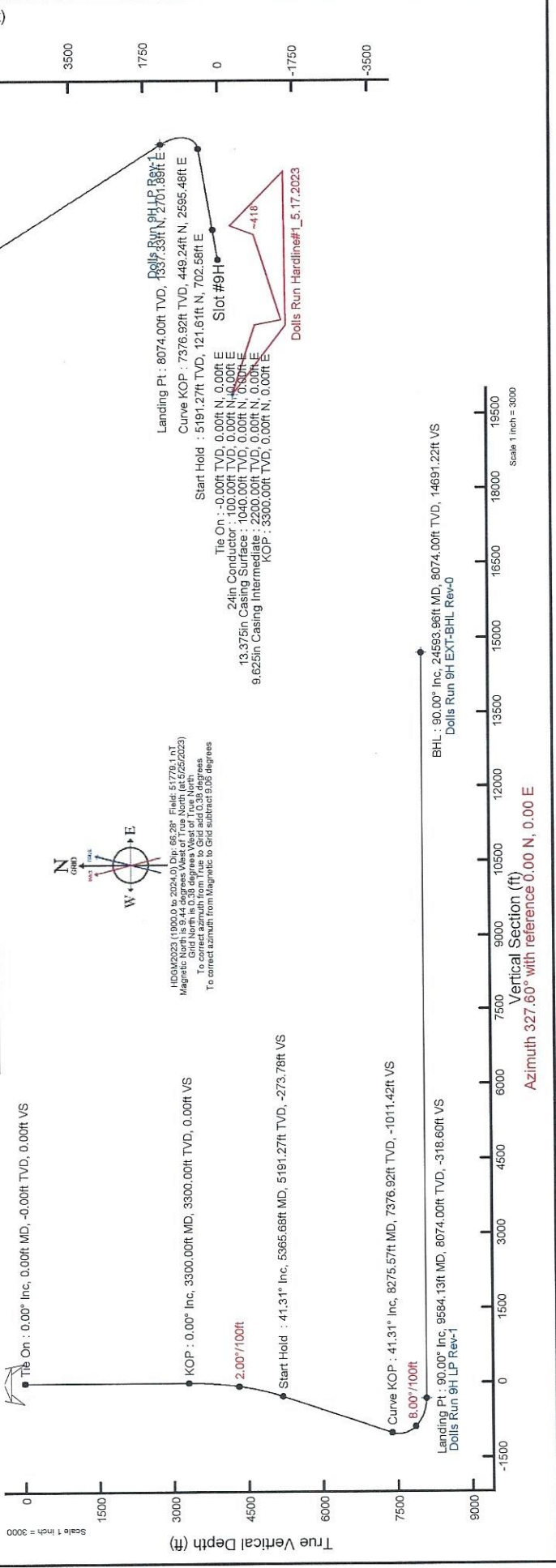
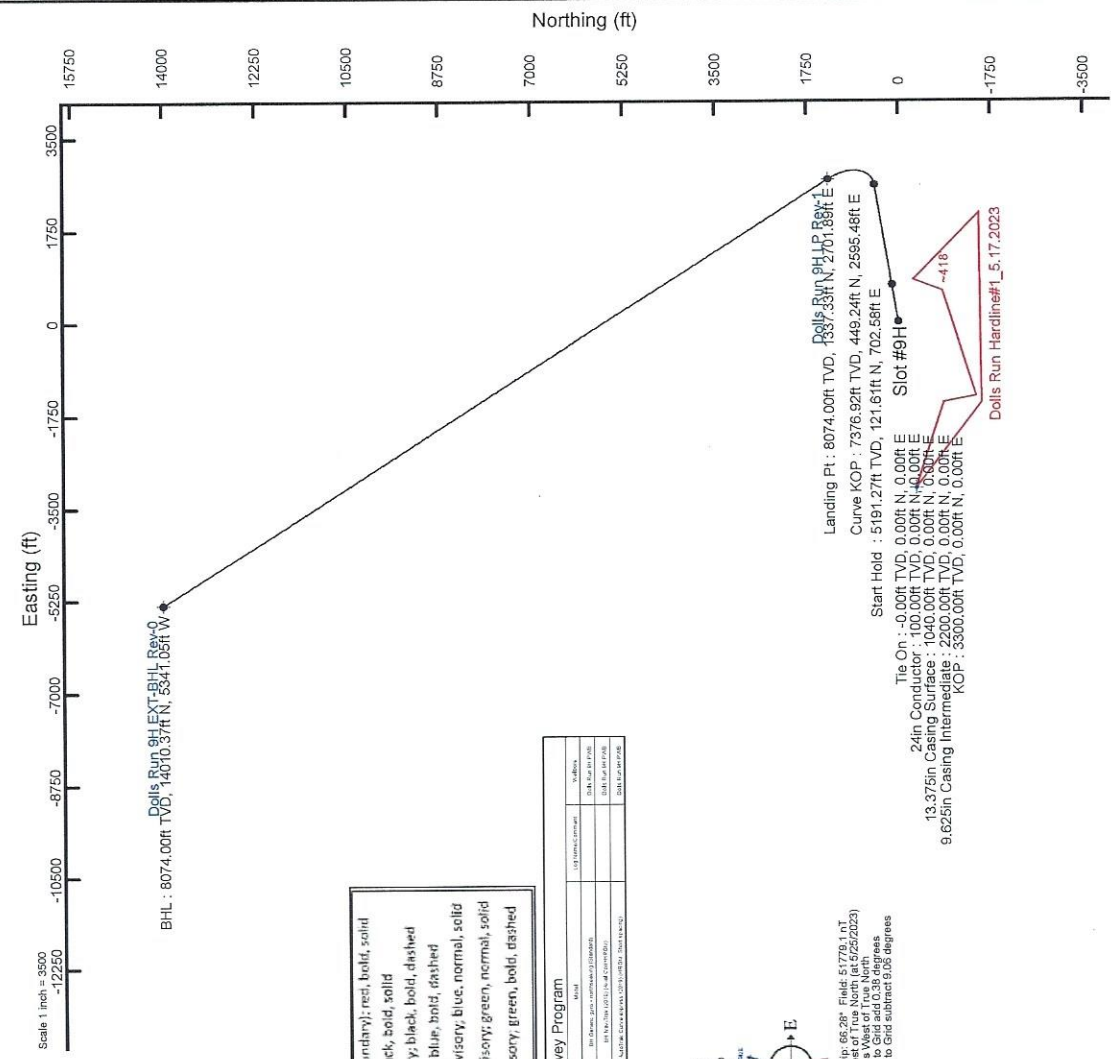
Plan reference available in CAD Plan 011-12225
 This wellbore depth is as referenced to Ground Level (GL)
 The vertical depth is as referenced to Ground Level (GL)
 Horizontal coordinates are as referenced to Central Meridian (CM)
 Meters shall be used to measure wellbore depth
 Meters shall be used to measure wellbore depth
 Coordinates are in feet referenced to BHL
 Depths are in feet
 Created by: mmp/ep on 2023-05-22; Database: VVA, VUL, EASTERNUS, DWH

Location Information			
Facility Name	Grid East (US Ft)	Grid North (US Ft)	Longitude
Dolls Run Pad	180147.970	470193.940	80°25'33.217W
SMA	79.034	471865.858	80°25'33.170W
Grid East (GL)	79.034	471865.858	80°25'33.170W
Grid North (GL)	172.32	471865.858	80°25'33.170W
Wellbore Name	Dolls Run 9H		
Wellbore ID	162291		

Well Profile Data									
MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLE (ft/100ft)	VS (ft)	VS (ft)	VS (ft)
0.00	0.000	50.180	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3000.00	0.000	50.180	3000.00	0.00	0.00	0.00	0.00	0.00	0.00
5295.65	41.314	50.180	5191.27	171.91	702.58	2.00	0.00	0.00	0.00
5876.57	41.314	50.180	5706.92	469.74	1411.42	2.00	0.00	0.00	0.00
9584.13	0.000	50.180	9584.13	469.74	2375.88	8.00	0.00	0.00	0.00
24939.96	0.000	50.180	24939.96	469.74	5344.08	0.00	0.00	0.00	0.00

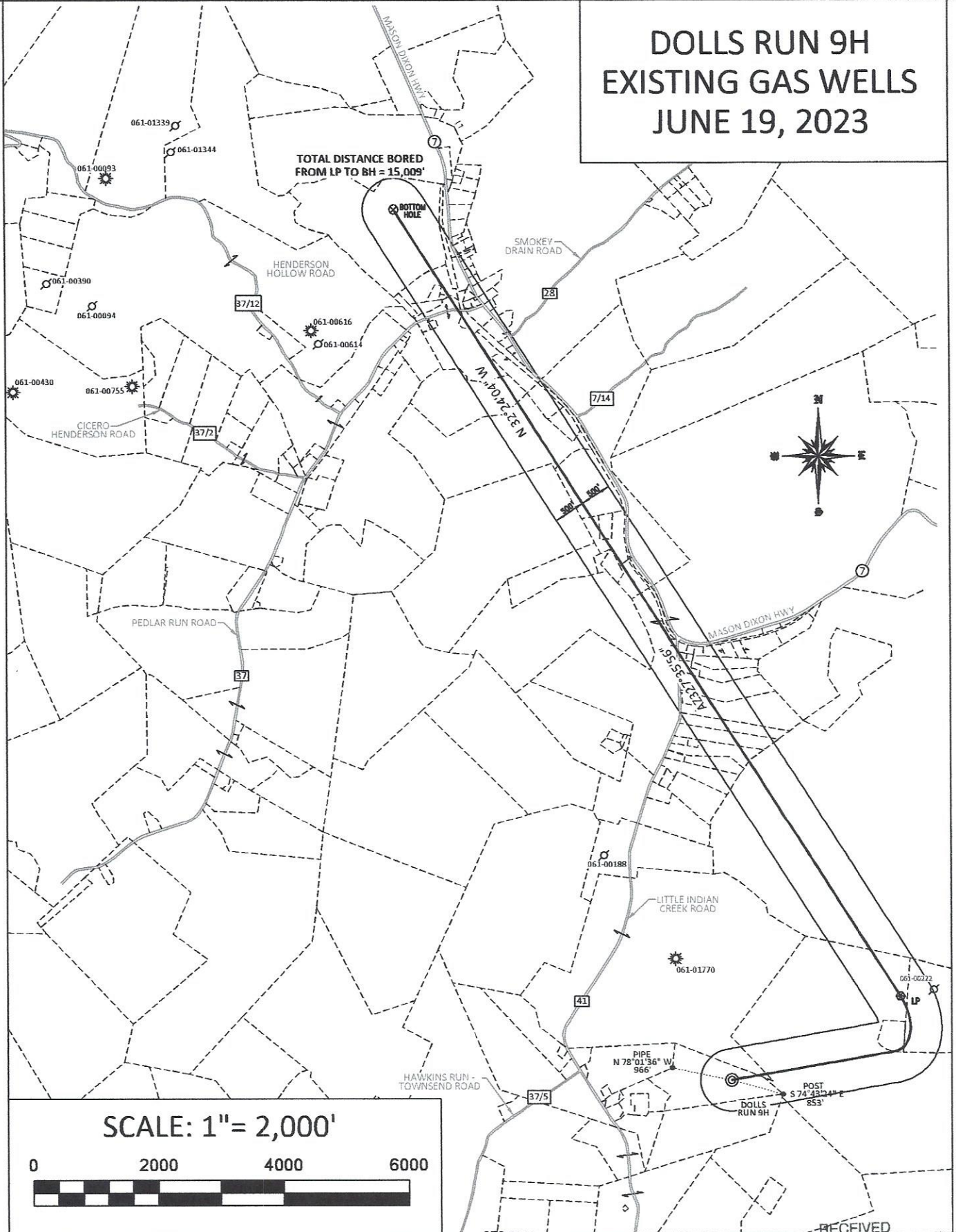
Targets									
Name	MD (ft)	VS (ft)	Local N (ft)	Local E (ft)	Start MD (ft)	End MD (ft)	Start VS (ft)	End VS (ft)	Longitude
Dolls Run 9H PWB	24939.96	8747.60	469.74	5344.08	24939.96	24939.96	8747.60	8747.60	80°25'33.170W
Dolls Run 9H PWB	5876.57	1411.42	469.74	1411.42	5876.57	5876.57	1411.42	1411.42	80°25'33.170W
Dolls Run 9H PWB	3000.00	0.00	0.00	0.00	3000.00	3000.00	0.00	0.00	80°25'33.170W

Hole and Casing Sections									
Start MD (ft)	End MD (ft)	Start VS (ft)	End VS (ft)	Start Local N (ft)	End Local N (ft)	Start Local E (ft)	End Local E (ft)	Inc (ft)	VS (ft)
0.00	100.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	3000.00	100.00	2900.00	0.00	0.00	0.00	0.00	0.00	0.00
3000.00	5295.65	3000.00	5195.65	0.00	0.00	0.00	0.00	0.00	0.00
5295.65	5876.57	5295.65	5776.57	0.00	0.00	0.00	0.00	0.00	0.00
5876.57	9584.13	5876.57	9584.13	0.00	0.00	0.00	0.00	0.00	0.00
9584.13	24939.96	9584.13	24939.96	0.00	0.00	0.00	0.00	0.00	0.00



07/14/2023

DOLLS RUN 9H EXISTING GAS WELLS JUNE 19, 2023



RECEIVED
Office Of Oil and Gas

JUN 27

WV Department of
Environmental Protection

07/14/2023

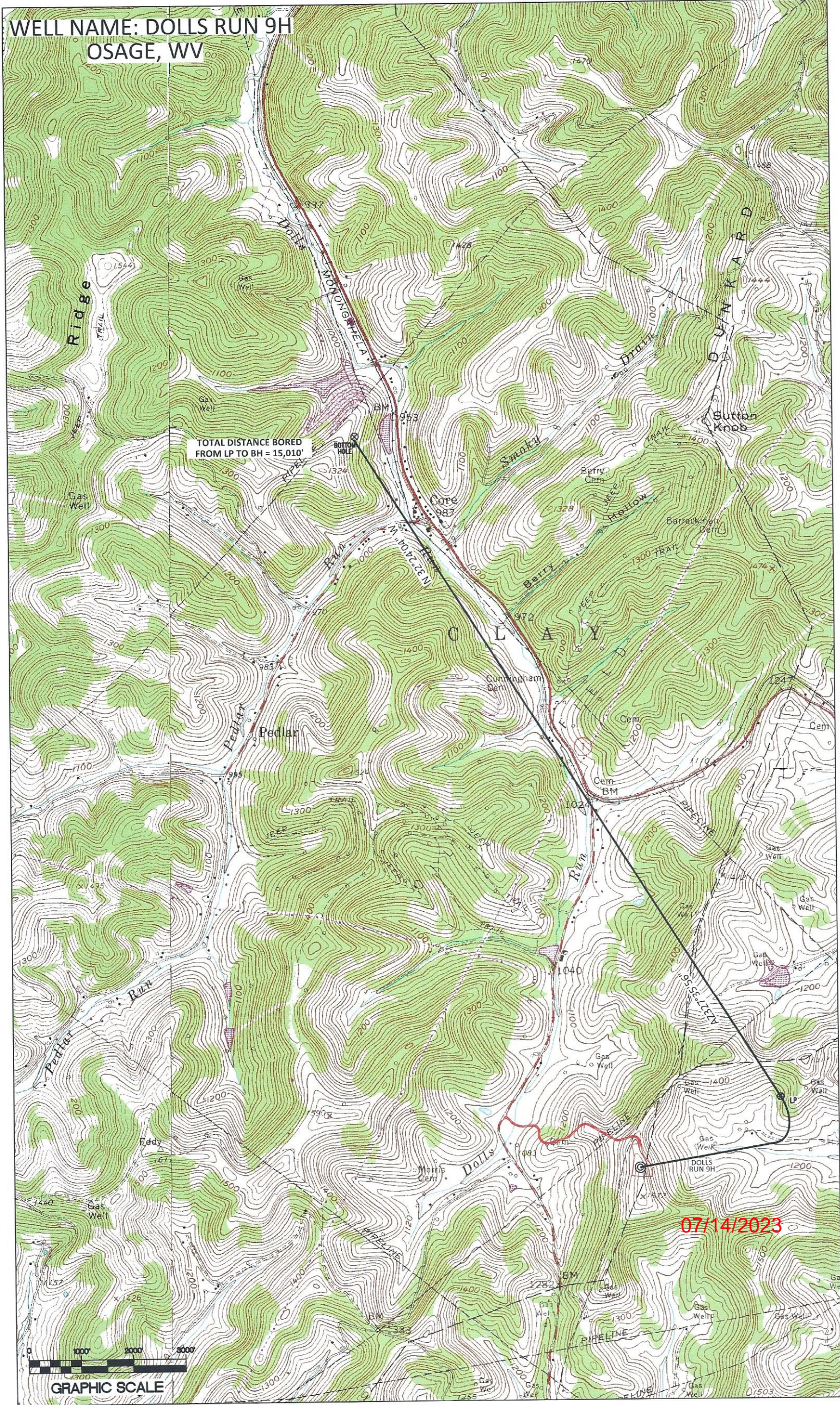
DOLLS RUN AREA OF REVIEW

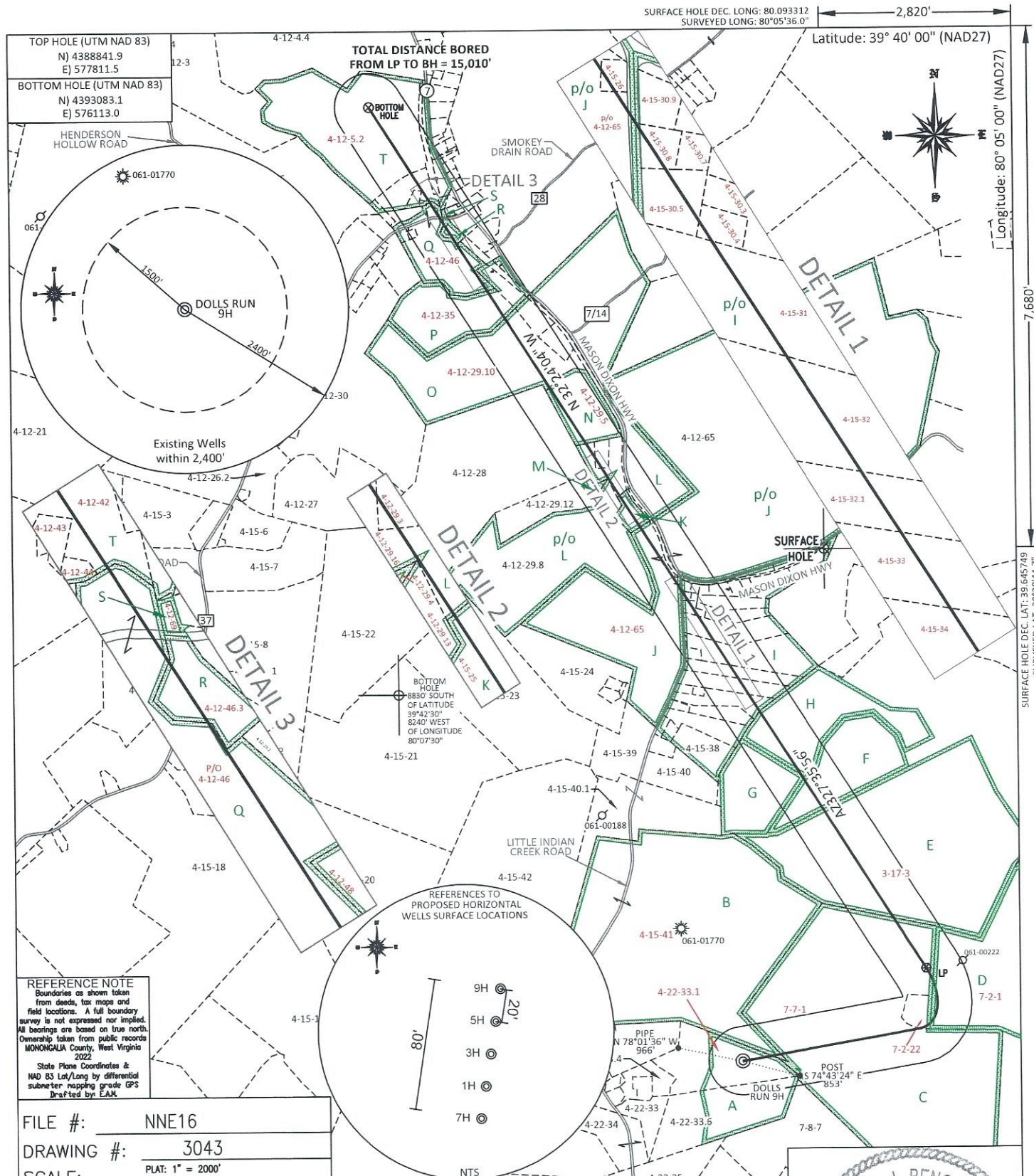
API Number	Well Name	Well Number	Operator	Latitude (NAD 83)	Longitude (NAD 83)	TMP	TVD	Producing Formation
061-00222	D RIGGS ESTATE	1	OPER IN MIN. OWNER FLD	39.64845	-80.081649	7-2-1	961	BUFFLO SS/1ST COW RN

WELL NAME: DOLLS RUN 9H
OSAGE, WV

TOTAL DISTANCE BORED
FROM LP TO BH = 15,010'

07/14/2023

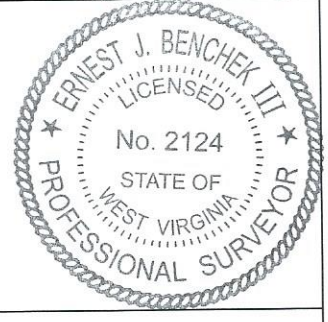




REFERENCE NOTE
 Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records MONONGALIA County, West Virginia 2022
 State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
 Drafted by: EAJ

FILE #: NNE16
 DRAWING #: 3043
 SCALE: PLAT: 1" = 2000'
TICK: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/200
 PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

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: DUNKARD CREEK
 COUNTY/DISTRICT: MONONGALIA / CLAY
 SURFACE OWNER: BRYAN & SIERRA VANNORMAN
 OIL & GAS ROYALTY OWNER: MARK V EDDY
 LEASE NUMBERS: _____
 TARGET FORMATION: MARCELLUS
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

DATE: JUNE 21, 2023
 OPERATOR'S WELL #: DOLLS RUN 9H
 API WELL #: 47 61 01932 HGA
 STATE COUNTY PERMIT
 PROPOSED ELEVATION: 1,521.9'
 QUADRANGLE: OSAGE
 ACREAGE: 27.74 +/-
 ACREAGE: 1,694.04 +/-
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
 CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): _____
 ESTIMATED DEPTH: TVD: 8,074' TMD: 24,594'
 DESIGNATED AGENT: JOHN ADAMS
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

07/14/2023

PROPERTY OWNER INDEX	
4-12-5.2	STATE OF WEST VIRGINIA BUREAU OF COMMERCE
4-12-42	MARY ANN HIGGINBOTHAM
4-12-46	TRAVIS D & SUSIE J ANDERSON
4-12-35	ROBERT LYNN CORE
4-12-29.10	DEANNA S TENNANT
4-12-65	BLAKE R & H PRESTON BOGCESS
3-17-3	PENN PLASTIC CO
4-15-41	DONNA N & ROBERT ALLEN WRIGHT
4-22-33.1	DENNIS J & MELINDA S THORNE
7-7-1	OWEN REALTY CO INC
7-2-1	MARK S HASELEU & KELLEY J OWEN
7-2-22	MARK S HASELEU & KELLEY J OWEN
4-15-26	DEANNA S TENNANT
4-15-30.9	DONNA SUE & DAVID JONES
4-15-30.8	RYAN C HOXTER
4-15-30.7	LAURIE NICHOL COZORT
4-15-30.5	DAVE & DONNA JONES
4-15-30.3	LAURIE NICHOL COZORT
4-15-30.4	LAURIE NICHOL COZORT
4-15-31	TIMOTHY G LIMING ET AL
4-15-32	SUSAN BETH KISH
4-15-32.1	KEITH R WRIGHT ET AL
4-15-33	LOUIS TOLKA JR & LINDA LOU TOLKA
4-15-34	YOST FAMILY REVOCABLE TRUST AGREEMENT
4-12-29.3	CHARLES N HOY IRREVOCABLE TRUST
4-12-29.16	CHRISTOPHER D & TERESA A TENNANT
4-12-29.13	CHRISTOPHER D & TERESA A TENNANT
4-15-25	MARK V & BETTY A EDDY
4-12-43	KAREN R SELF POLING
4-12-44	KAREN R SELF POLING
4-12-69	STATE OF WEST VIRGINIA BUREAU OF COMMERCE
4-12-46.3	WEST VIRGINIA DEPARTMENT OF HIGHWAYS
4-12-48	ROBERT LYNN CORE
4-12-29.4	CHRISTOPHER D & TERESA A TENNANT
4-12-29.5	CORE PROPERTIES LLC

LEASE INDEX			
A	WV-061-004020-000	K	WV-061-006385-001
B	WV-061-005246-002	L	WV-061-006385-001
C	WV-061-086230-001	M	WV-061-004662-000
D	WV-061-106300-001	N	WV-061-005202-000
E	WV-061-106300-001	O	WV-061-006385-001
F	WV-061-086005-001	P	WV-061-004267-001
G	WV-061-086005-001	Q	WV-061-004645-006
H	WV-061-086005-001	R	WV-061-006003-001
I	WV-061-003269-003	S	WV-061-005944-001
J	WV-061-003269-003	T	WV-061-005944-001

07/14/2023

FILE #: NEE14

DRAWING #: 3043

SCALE: N/A

DATE: JUNE 21, 2023

OPERATOR'S WELL #: DOLLS RUN 9H

API WELL #: 47 61 01932 H6A
STATE COUNTY PERMIT

WW-6A1
(5/13)

Operator's Well No. Dolls Run 9H

**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:

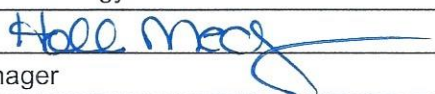
Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
See Attached				

**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

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

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WW6A-1

Operators Well No. Dolls Run 9H

Tract	Lease Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book	Page
A	WV-061-004020-000	Mark V. Eddy	Northeast Natural Energy, LLC	12.5% Royalty or More	1505	572
	WV-061-002154-006	Donald Ayersman	Northeast Natural Energy, LLC	12.5% Royalty or More	1786	413
	WV-061-002154-008	Raymond D. Williams	Northeast Natural Energy, LLC	12.5% Royalty or More	1786	650
	WV-061-002154-005	Deloris Hoey	Northeast Natural Energy, LLC	12.5% Royalty or More	1786	411
	WV-061-005246-002	Beverly J. Core	Northeast Natural Energy, LLC	12.5% Royalty or More	1642	145
	WV-061-086230-001	Shuman Inc.	NNE Land, LLC	12.5% Royalty or More	1800	88
C	WV-061-086230-001	Mark S. Haseleu and Kelley J. Owen	Marion Natural Energy, LLC	12.5% Royalty or More	1807	466
	WV-061-086300-001	Mark S. Haseleu and Kelley J. Owen	NNE Land, LLC	12.5% Royalty or More	1807	463
E	WV-061-106300-001	Penn Plastics Company	Marion Natural Energy, LLC	12.5% Royalty or More	1807	463
	WV-061-086300-001	Penn Plastics Company	Marion Natural Energy, LLC	12.5% Royalty or More	1807	463
F	WV-061-086005-001	David Henderson and Mary Henderson	Union Utility Company	12.5% Royalty or More	103	457
	WV-061-086005-001	Union Utility Company and Harry R. Warfield	West Virginia Traction and Electric Company	12.5% Royalty or More	104	109
		Union Utilities Company	West Virginia Traction and Electric Company	12.5% Royalty or More	121	120
		John J. Coniff and Joseph D. Whittemore, as Commissioners, Joseph D. Whittemore, as Receiver of the West Virginia Traction and Electric Company, appointed by the U.S. District Court for the Northern District of West Virginia, Joseph D. Whittemore and Francis R. Harbison, as ancillary Receivers, and West Virginia Traction and Electric Company	West Virginia Utilities Company	12.5% Royalty or More	164	140
		West Virginia Utilities Company	The Morgantown Water Company	12.5% Royalty or More	216	446
		West Virginia Utilities Company	Monongahela West Penn Public Service Company (Monongahela Power Company)	12.5% Royalty or More	216	446
		Monongahela Power Company	Hope Natural Gas Company	12.5% Royalty or More	216	454
		Hope Natural Gas Company	Consolidated Gas Supply Corporation	12.5% Royalty or More	458	322
		Consolidated Gas Supply Corporation	Consolidated Gas Supply Corporation	12.5% Royalty or More	633	144
		Consolidated Gas Supply Company (Hope Natural Gas Company)	CNG Producing Company (Dominion Exploration and Production, Inc.)	12.5% Royalty or More	1132	4
		Dominion Exploration and Production, Inc.	Antero Resources Appalachia Corporation (Antero Resources Corporation)	12.5% Royalty or More	102	797
G	WV-061-086005-001	Antero Resources Corporation	NNE Land, LLC	12.5% Royalty or More	158	101
	WV-061-086005-001	David Henderson and Mary Henderson	Union Utility Company	12.5% Royalty or More	103	457
		Union Utility Company and Harry R. Warfield	Union Utilities Company	12.5% Royalty or More	104	109
		Union Utilities Company	West Virginia Traction and Electric Company	12.5% Royalty or More	121	120
		John J. Coniff and Joseph D. Whittemore, as Commissioners, Joseph D. Whittemore, as Receiver of the West Virginia Traction and Electric Company, appointed by the U.S. District Court for the Northern District of West Virginia, Joseph D. Whittemore and Francis R. Harbison, as ancillary Receivers, and West Virginia Traction and Electric Company	West Virginia Utilities Company	12.5% Royalty or More	164	140
		West Virginia Utilities Company	The Morgantown Water Company	12.5% Royalty or More	216	446
		West Virginia Utilities Company	Monongahela West Penn Public Power Company	12.5% Royalty or More	216	454
		Monongahela Power Company	Hope Natural Gas Company	12.5% Royalty or More	458	322
		Hope Natural Gas Company	Consolidated Gas Supply Corporation	12.5% Royalty or More	633	144
		Consolidated Gas Supply Company (Hope Natural Gas Company)	CNG Producing Company (Dominion Exploration and Production, Inc.)	12.5% Royalty or More	1132	4
		Dominion Exploration and Production, Inc.	Antero Resources Appalachia Corporation (Antero Resources Corporation)	12.5% Royalty or More	102	797
H	WV-061-086005-001	Antero Resources Corporation	NNE Land, LLC	12.5% Royalty or More	158	101
	WV-061-086005-001	David Henderson and Mary Henderson	Union Utility Company	12.5% Royalty or More	103	457
		Union Utility Company and Harry R. Warfield	Union Utilities Company	12.5% Royalty or More	104	109
		Union Utilities Company	West Virginia Traction and Electric Company	12.5% Royalty or More	121	120
		John J. Coniff and Joseph D. Whittemore, as Commissioners, Joseph D. Whittemore, as Receiver of the West Virginia Traction and Electric Company, appointed by the U.S. District Court for the Northern District of West Virginia, Joseph D. Whittemore and Francis R. Harbison, as ancillary Receivers, and West Virginia Traction and Electric Company	West Virginia Utilities Company	12.5% Royalty or More	164	140
		West Virginia Utilities Company	The Morgantown Water Company	12.5% Royalty or More	216	446

Tract	Lease Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book	Page
		West Virginia Utilities Company Monongahela Power Company Hope Natural Gas Company	Monongahela West Penn Public Service Company (Monongahela Power Company) Hope Natural Gas Company Consolidated Gas Supply Corporation	12.5% Royalty or More 12.5% Royalty or More 12.5% Royalty or More	216 458 633	454 322 144
		Consolidated Gas Supply Company (Hope Natural Gas Company)	CNG Producing Company (Dominion Exploration and Production, Inc. Antero Resources Appalachia Corporation (Antero Resources Corporation) NNE Land, LLC	12.5% Royalty or More 12.5% Royalty or More 12.5% Royalty or More	1132 102 158	4 797 101
/ I	WV-061-003269-003	Blake R. Boggess and H. Preston Boggess	Northeast Natural Energy, LLC	12.5% Royalty or More	1509; 1510	698; 607
/ J	WV-061-003269-003	Blake R. Boggess and H. Preston Boggess	Northeast Natural Energy, LLC	12.5% Royalty or More	1509; 1510	698; 607
/ K	WV-061-006385-001	CNX Gas Company, LLC	Northeast Natural Energy, LLC	12.5% Royalty or More	1812	592
/ L	WV-061-006385-001	CNX Gas Company, LLC	Northeast Natural Energy, LLC	12.5% Royalty or More	1812	592
/ M	WV-061-004662-000	Melissa T. Hettman	Northeast Natural Energy, LLC	12.5% Royalty or More	1604; 1786	242; 649
/ N	WV-061-005202-000	Core Properties, LLC	Northeast Natural Energy, LLC	12.5% Royalty or More	1628; 1805	578; 651
/ O	WV-061-006385-001	CNX Gas Company, LLC	Northeast Natural Energy, LLC	12.5% Royalty or More	1812	592
/ P	WV-061-004267-001	Beverly J. Core	Northeast Natural Energy, LLC	12.5% Royalty or More	1645	352
	WV-061-003586-001	Charles L. Core, a/k/a Charles Lawrence Core	Northeast Natural Energy, LLC	12.5% Royalty or More	1645	666
	WV-061-004404-001	Westhawk Minerals, LLC	Northeast Natural Energy, LLC	12.5% Royalty or More	132	537
	WV-061-004308-001	William B. Core	Northeast Natural Energy, LLC	12.5% Royalty or More	1644	9
	WV-061-004263-001	Paula Kay Jenkins	Northeast Natural Energy, LLC	12.5% Royalty or More	1645	348
	WV-061-004265-001	Susan Beth Kish, a/k/a Susan Beth Core Kish	Northeast Natural Energy, LLC	12.5% Royalty or More	1645	350
	WV-061-003586-003	Golden Eagle Resources II, LLC	Northeast Natural Energy, LLC	12.5% Royalty or More	141	403
	WV-061-004264-001	June Core Myers Living Trust dated August 2, 2013	Northeast Natural Energy, LLC	12.5% Royalty or More	1644	7
	WV-061-001368-003	Kimberly Dawn Schnopp, a/k/a Kimberly Schnopp	Northeast Natural Energy, LLC	12.5% Royalty or More	1600	590
/ Q	WV-061-004645-006	Martha L. Price	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1786	632; 472
	WV-061-004645-004	Wayne Tennant Jr.	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1786	592; 469
	WV-061-004645-001	Nancy Elkins	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1786	594; 470
	WV-061-004645-009	Shelia P. Kochis	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1786	316; 468
	WV-061-004645-005	Fred H. Moore IV	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1786	638; 471
	WV-061-004645-007	Sonya L. Quaintance	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1786	630; 474
	WV-061-004645-011	Delores J. Moore	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1786	634; 473
	WV-061-004645-010	Patricia S. Mallott	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1786	642; 648
	WV-061-004645-002	Martha E. Lipscomb	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1786	640; 647
	WV-061-004645-013	Robert L. Duell	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1786	628; 646
	WV-061-004645-008	Paul T. Linderman Jr.	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1786	470; 492
	WV-061-004645-018	Mary K. Schmidt	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1790	636; 491
	WV-061-004645-012	LaRae Porupski	Northeast Natural Energy, LLC	12.5% Royalty or More	1600; 1787	387; 214
/ R	WV-061-006003-001	Joy Sue Henderson	Northeast Natural Energy, LLC	12.5% Royalty or More	1786	448
/ S	WV-061-005944-001	MAP2012-OK Scott Harrison	Northeast Natural Energy, LLC	12.5% Royalty or More	1782	300
/ T	WV-061-005944-001	MAP2012-OK Scott Harrison	Northeast Natural Energy, LLC	12.5% Royalty or More	1786	433
	WV-061-005944-002	Scott Harrison	Northeast Natural Energy, LLC	12.5% Royalty or More	1782	300
	WV-061-005944-002	Scott Harrison	Northeast Natural Energy, LLC	12.5% Royalty or More	1786	433