



west virginia department of environmental protection

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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

September 10, 2015

WELL WORK PERMIT

Horizontal Well

This permit, API Well Number: 47-5902260, issued to QUALITY NATURAL GAS, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto.

Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No:

Farm Name:

API Well Number: 47-5902260

Permit Type: Horizontal Well

Date Issued: 09/10/2015

Promoting a healthy environment.

PERMIT CONDITIONS

West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code §22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
2. Pursuant to 35 CSR 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
3. Pursuant to 35 CSR 4-19.1.c, if the operator is unable to sample and analyze any water well or spring with one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
5. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours.
7. Well work activities shall not constitute a hazard to the safety of persons.
8. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

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

1) Well Operator Quality Natural Gas, LLC 494477013 059 Magnolia Majestic
Operator ID County District Quadrangle

2) Operators Well Number 2403 3) Elevation: 1161.24'

4) Well Type: (a) Oil _____ or Gas X
(b) If Gas: Production X / Underground Storage _____
Deep _____ / Shallow X

5) Proposed Target Formation(s): Devonian Shale

6) Proposed Total Depth: TVD 4611' TMD 8943' Feet

7) Approximate fresh water strata depths: +/- 502'

8) Approximate salt water depths: None

9) Approximate coal seam depths: None

10) Approximate void depths, (coal, karst, other):

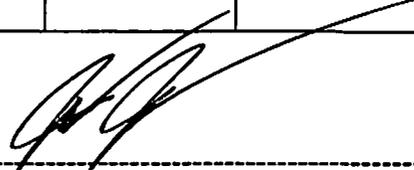
11) Does land contain coal seams tributary to active mine? No

12) Describe proposed well work in detail see Attachment

13) **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor	13 3/8"	L.S.	37	42'	42'	C.T.S.
Fresh Water	9 5/8"	L.S.	36	785'	785'	C.T.S. 245
Coal	9 5/8"		26	785'	785'	C.T.S. 245
Intermediate	7"	L.S.	17	2467'	2467'	C.T.S. 400
Production	4 1/2"	J55	11.6	8943'	8943'	in 7" line Packer System
Tubing						
Liners						

Packers: Kind
 Sizes
 Depths Set



Received
Office of Oil & Gas

AUG 17 2015

WW-28

Quality Natural Gas, LLC

Proposed Well #: 2403

Detailed Description Of Propose Well Work

- 1) MIRU,
- 2) Spud well w/ 17 ½" air hammer bit. Drill to 42' and set 42' of 13 3/8" 37# casing for conductor,
- 3) Install diverter head. RIH w/ 12 ¼" air bit and drill to 815'. Run 785' of 36# 9 5/8" casing. Cement casing to surface w/ 260 sacks of Class A 2% CaCl w/ flake. W.O.C.,
- 4) Install B.O.P., R.I.H. w/ 8 7/8" air bit and drill to 2,490' or drill to top of big lime formation. Run 2,467' +/- of 19# 7" casing. Cement 7" to surface with 100 sacks of Class A 2% and 200 sacks of 35/65 poz mix (lead) W.O.C.,
- 5) Install B.O.P., R.I.H. w/ 6 ¼" air bit and drill to 4,038' +/- or kick off point. Clean hole. Trip out w/ hammer,
- 6) Pick up BHA (motor, bent sub etc.) and trip in hole w/ 6 ¼" bit,
- 7) Start drilling and building radius / curve on 10 deg @ 4,038' w/ air foam mist,
- 8) Land curve at approx. 4,943' MD @ 90.50 deg.,
- 9) Stabilize and drill horizontal section to 8,943' +/- MD,
- 10) Clean hole – trip out of hole w/ BHA,
- 11) Trip back in hole w/ 6 ¼" bit and full gage reamer to total MD. Ream hole then remove,
- 12) Run packer system on 11.6# 4 1/2" casing (approx. 20 stages). Set packers w/ pump truck. Last packer set in 7" casing,
- 13) Pump 50 sacks (approx.. 500' fill up) between 4 ½" and 7" (annulus) for seal,
- 14) Frack well w/ N2. 1,000 mscf per stage @ 100,000 scf per min.,
- 15) Flow well back.

Received
Office of Oil & Gas
SEP 09 2015

Kinzer Drilling Company, LLC

**Mingo County, WV
Logan Coal & Timber
#2403**

OH

Plan: Plan #1

Standard Planning Report

12 May, 2015

**Received
Office of Oil & Gas
SEP 09 2015**

Planning Report

Database:	Single User DB Primary	Local Co-ordinate Reference:	Well #2403
Company:	Kinzer Drilling Company, LLC	TVD Reference:	RKB = 9' @ 1169.00usft (Original Well Elev)
Project:	Mingo County, WV	MD Reference:	RKB = 9' @ 1169.00usft (Original Well Elev)
Site:	Logan Coal & Timber	North Reference:	True
Well:	#2403	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Mingo County, WV		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	West Virginia South 4702		

Site	Logan Coal & Timber				
Site Position:		Northing:	208,747.71 usft	Latitude:	37° 34' 5.797 N
From:	Map	Easting:	1,687,080.59 usft	Longitude:	82° 4' 46.654 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.67 °

Well	#2403					
Well Position	+N-S	0.00 usft	Northing:	208,747.71 usft	Latitude:	37° 34' 5.797 N
	+E-W	0.00 usft	Easting:	1,687,080.59 usft	Longitude:	82° 4' 46.654 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	1,160.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/12/2015	-7.20	65.55	51,407

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.00	0.00	0.00	322.39	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,038.06	0.00	0.00	4,038.06	0.00	0.00	0.00	0.00	0.00	0.00	
4,943.06	90.50	322.39	4,611.00	457.86	-352.70	10.00	10.00	0.00	322.39	
9,425.62	90.50	322.39	4,571.88	4,008.85	-3,088.08	0.00	0.00	0.00	0.00	

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SEP 09 2015

Planning Report

Database: Single User DB Primary
 Company: Kinzer Drilling Company, LLC
 Project: Mingo County, WV
 Site: Logan Coal & Timber
 Well: #2403
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well #2403
 TVD Reference: RKB = 9' @ 1169.00usft (Original Well Elev)
 MD Reference: RKB = 9' @ 1169.00usft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,038.06	0.00	0.00	4,038.06	0.00	0.00	0.00	0.00	0.00	0.00
4,050.00	1.19	322.39	4,050.00	0.10	-0.08	0.12	10.00	10.00	0.00
4,100.00	6.19	322.39	4,099.88	2.65	-2.04	3.34	10.00	10.00	0.00
4,150.00	11.19	322.39	4,149.29	8.64	-6.65	10.90	10.00	10.00	0.00
4,200.00	16.19	322.39	4,197.85	18.01	-13.87	22.73	10.00	10.00	0.00
4,250.00	21.19	322.39	4,245.20	30.70	-23.65	38.75	10.00	10.00	0.00
4,300.00	26.19	322.39	4,290.97	46.61	-35.91	58.84	10.00	10.00	0.00
4,350.00	31.19	322.39	4,334.82	65.63	-50.55	82.84	10.00	10.00	0.00
4,400.00	36.19	322.39	4,376.40	87.59	-67.47	110.57	10.00	10.00	0.00
4,450.00	41.19	322.39	4,415.42	112.35	-86.54	141.82	10.00	10.00	0.00
4,500.00	46.19	322.39	4,451.56	139.70	-107.61	176.34	10.00	10.00	0.00
4,550.00	51.19	322.39	4,484.55	169.45	-130.53	213.89	10.00	10.00	0.00
4,600.00	56.19	322.39	4,514.15	201.36	-155.11	254.17	10.00	10.00	0.00

Received
 Office of Oil & Gas

Planning Report

Database: Single User DB Primary
 Company: Kinzer Drilling Company, LLC
 Project: Mingo County, WV
 Site: Logan Coal & Timber
 Well: #2403
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well #2403
 TVD Reference: RKB = 9' @ 1169.00usft (Original Well Elev)
 MD Reference: RKB = 9' @ 1169.00usft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,650.00	61.19	322.39	4,540.12	235.19	-181.17	296.88	10.00	10.00	0.00
4,684.84	64.68	322.39	4,555.97	259.76	-200.10	327.90	10.00	10.00	0.00
#2403: LP Provided									
4,700.00	66.19	322.39	4,562.27	270.69	-208.51	341.69	10.00	10.00	0.00
4,750.00	71.19	322.39	4,580.43	307.58	-236.93	388.26	10.00	10.00	0.00
4,800.00	76.19	322.39	4,594.47	345.58	-266.21	436.23	10.00	10.00	0.00
4,850.00	81.19	322.39	4,604.27	384.41	-296.12	485.24	10.00	10.00	0.00
4,900.00	86.19	322.39	4,609.76	423.77	-326.44	534.92	10.00	10.00	0.00
4,943.06	90.50	322.39	4,611.00	457.86	-352.70	577.96	10.00	10.00	0.00
#2403: LP Plan									
5,000.00	90.50	322.39	4,610.50	502.97	-387.44	634.89	0.00	0.00	0.00
5,100.00	90.50	322.39	4,609.63	582.19	-448.47	734.89	0.00	0.00	0.00
5,200.00	90.50	322.39	4,608.76	661.40	-509.49	834.89	0.00	0.00	0.00
5,300.00	90.50	322.39	4,607.88	740.62	-570.51	934.88	0.00	0.00	0.00
5,400.00	90.50	322.39	4,607.01	819.84	-631.54	1,034.88	0.00	0.00	0.00
5,500.00	90.50	322.39	4,606.14	899.06	-692.56	1,134.88	0.00	0.00	0.00
5,600.00	90.50	322.39	4,605.26	978.28	-753.58	1,234.87	0.00	0.00	0.00
5,700.00	90.50	322.39	4,604.39	1,057.49	-814.60	1,334.87	0.00	0.00	0.00
5,800.00	90.50	322.39	4,603.52	1,136.71	-875.63	1,434.86	0.00	0.00	0.00
5,900.00	90.50	322.39	4,602.65	1,215.93	-936.65	1,534.86	0.00	0.00	0.00
6,000.00	90.50	322.39	4,601.77	1,295.15	-997.67	1,634.86	0.00	0.00	0.00
6,100.00	90.50	322.39	4,600.90	1,374.36	-1,058.70	1,734.85	0.00	0.00	0.00
6,200.00	90.50	322.39	4,600.03	1,453.58	-1,119.72	1,834.85	0.00	0.00	0.00
6,300.00	90.50	322.39	4,599.16	1,532.80	-1,180.74	1,934.84	0.00	0.00	0.00
6,400.00	90.50	322.39	4,598.28	1,612.02	-1,241.76	2,034.84	0.00	0.00	0.00
6,500.00	90.50	322.39	4,597.41	1,691.24	-1,302.79	2,134.84	0.00	0.00	0.00
6,600.00	90.50	322.39	4,596.54	1,770.45	-1,363.81	2,234.83	0.00	0.00	0.00
6,700.00	90.50	322.39	4,595.67	1,849.67	-1,424.83	2,334.83	0.00	0.00	0.00
6,800.00	90.50	322.39	4,594.79	1,928.89	-1,485.85	2,434.83	0.00	0.00	0.00
6,900.00	90.50	322.39	4,593.92	2,008.11	-1,546.88	2,534.82	0.00	0.00	0.00
7,000.00	90.50	322.39	4,593.05	2,087.32	-1,607.90	2,634.82	0.00	0.00	0.00
7,100.00	90.50	322.39	4,592.17	2,166.54	-1,668.92	2,734.81	0.00	0.00	0.00
7,200.00	90.50	322.39	4,591.30	2,245.76	-1,729.95	2,834.81	0.00	0.00	0.00
7,300.00	90.50	322.39	4,590.43	2,324.98	-1,790.97	2,934.81	0.00	0.00	0.00
7,400.00	90.50	322.39	4,589.56	2,404.20	-1,851.99	3,034.80	0.00	0.00	0.00
7,500.00	90.50	322.39	4,588.68	2,483.41	-1,913.01	3,134.80	0.00	0.00	0.00
7,600.00	90.50	322.39	4,587.81	2,562.63	-1,974.04	3,234.80	0.00	0.00	0.00
7,700.00	90.50	322.39	4,586.94	2,641.85	-2,035.06	3,334.79	0.00	0.00	0.00
7,800.00	90.50	322.39	4,586.07	2,721.07	-2,096.08	3,434.79	0.00	0.00	0.00
7,900.00	90.50	322.39	4,585.19	2,800.29	-2,157.10	3,534.78	0.00	0.00	0.00
8,000.00	90.50	322.39	4,584.32	2,879.50	-2,218.13	3,634.78	0.00	0.00	0.00
8,100.00	90.50	322.39	4,583.45	2,958.72	-2,279.15	3,734.78	0.00	0.00	0.00
8,200.00	90.50	322.39	4,582.58	3,037.94	-2,340.17	3,834.77	0.00	0.00	0.00
8,300.00	90.50	322.39	4,581.70	3,117.16	-2,401.20	3,934.77	0.00	0.00	0.00
8,400.00	90.50	322.39	4,580.83	3,196.37	-2,462.22	4,034.76	0.00	0.00	0.00
8,500.00	90.50	322.39	4,579.96	3,275.59	-2,523.24	4,134.76	0.00	0.00	0.00
8,600.00	90.50	322.39	4,579.08	3,354.81	-2,584.26	4,234.76	0.00	0.00	0.00
8,700.00	90.50	322.39	4,578.21	3,434.03	-2,645.29	4,334.75	0.00	0.00	0.00
8,800.00	90.50	322.39	4,577.34	3,513.25	-2,706.31	4,434.75	0.00	0.00	0.00
8,900.00	90.50	322.39	4,576.47	3,592.46	-2,767.33	4,534.75	0.00	0.00	0.00
9,000.00	90.50	322.39	4,575.59	3,671.68	-2,828.36	4,634.74	0.00	0.00	0.00
9,100.00	90.50	322.39	4,574.72	3,750.90	-2,889.38	4,734.74	0.00	0.00	0.00
9,200.00	90.50	322.39	4,573.85	3,830.12	-2,950.40	4,834.73	0.00	0.00	0.00

Received
 Office of Oil & Gas

5902260H

Planning Report

Database: Single User DB Primary
 Company: Kinzer Drilling Company, LLC
 Project: Mingo County, WV
 Site: Logan Coal & Timber
 Well: #2403
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well #2403
 TVD Reference: RKB = 9' @ 1169.00usft (Original Well Elev)
 MD Reference: RKB = 9' @ 1169.00usft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,300.00	90.50	322.39	4,572.98	3,909.33	-3,011.42	4,934.73	0.00	0.00	0.00
9,400.00	90.50	322.39	4,572.10	3,988.55	-3,072.45	5,034.73	0.00	0.00	0.00
9,425.62	90.50	322.39	4,571.88	4,008.85	-3,088.08	5,060.35	0.00	0.00	0.00

#2403: PBHL

Design Targets

Target Name	- hit/miss target	- Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N-S (usft)	+E-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
#2403: PBHL			0.00	0.00	4,571.88	4,008.85	-3,088.08	212,792.26	1,684,039.41	37° 34' 45.430 N	82° 5' 25.015 W
	- plan hits target center										
	- Point										
#2403: LP Provided			0.00	0.00	4,611.00	226.43	-198.78	208,976.45	1,686,884.46	37° 34' 6.036 N	82° 4' 49.123 W
	- plan misses target center by 64.35usft at 4684.84usft MD (4555.97 TVD, 259.76 N, -200.10 E)										
	- Point										
#2403: LP Plan			0.00	0.00	4,611.00	457.86	-352.70	209,209.65	1,686,733.24	37° 34' 10.324 N	82° 4' 51.035 W
	- plan hits target center										
	- Point										

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
2,460.00	2,460.00	7"	7	7-1/2

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,726.00	2,726.00	Big Lime Base		-0.50	322.39
2,790.00	2,790.00	Weare Too		-0.50	322.39
3,372.00	3,372.00	Sunberry Top		-0.50	322.39
3,406.00	3,406.00	Berea Top		-0.50	322.39
3,416.00	3,416.00	Dev. Shale		-0.50	322.39

Received
 Office of Oil & Gas
 SEP 09 2015

Kinzer Drilling Company, LLC

Project: Mingo County, WV
 Site: Logan Coal & Timber
 Well: #2403
 Wellbore: OH
 Design: Plan #1

Received
 Office of Oil & Gas
 SEP 09 2015



WELL DETAILS: #2403

Rig Name:		Original Well Elev		RKB = 9' @ 1169.00usft (Original Well Elev)		Ground Level: 1160.00	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
0.00	0.00	208747.71	1687080.59	37° 34' 5.797 N	82° 4' 46.654 W		

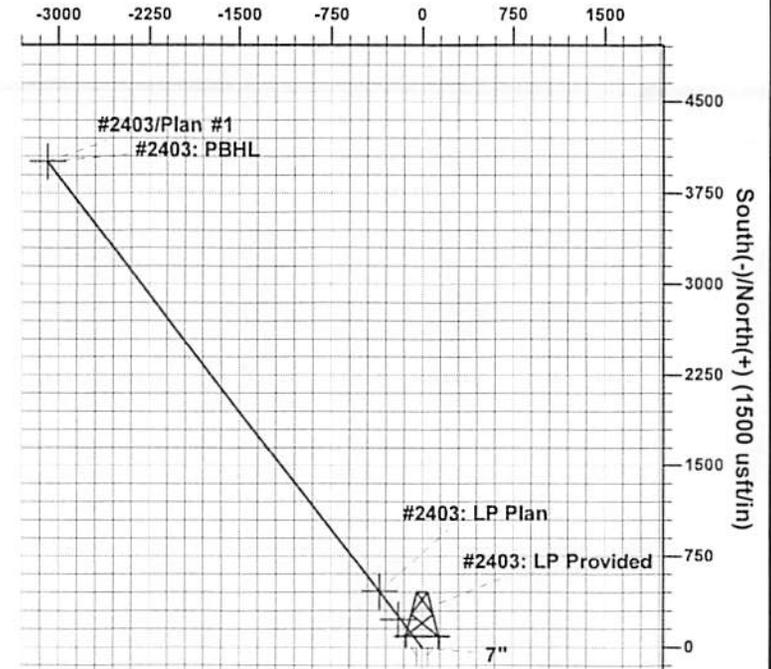
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	4038.06	0.00	0.00	4038.06	0.00	0.00	0.00	0.00	0.00	
3	4943.06	90.50	322.39	4611.00	457.86	-352.70	10.00	322.39	577.96	
4	9425.62	90.50	322.39	4571.88	4008.85	-3088.08	0.00	0.00	5060.35	

DESIGN TARGET DETAILS

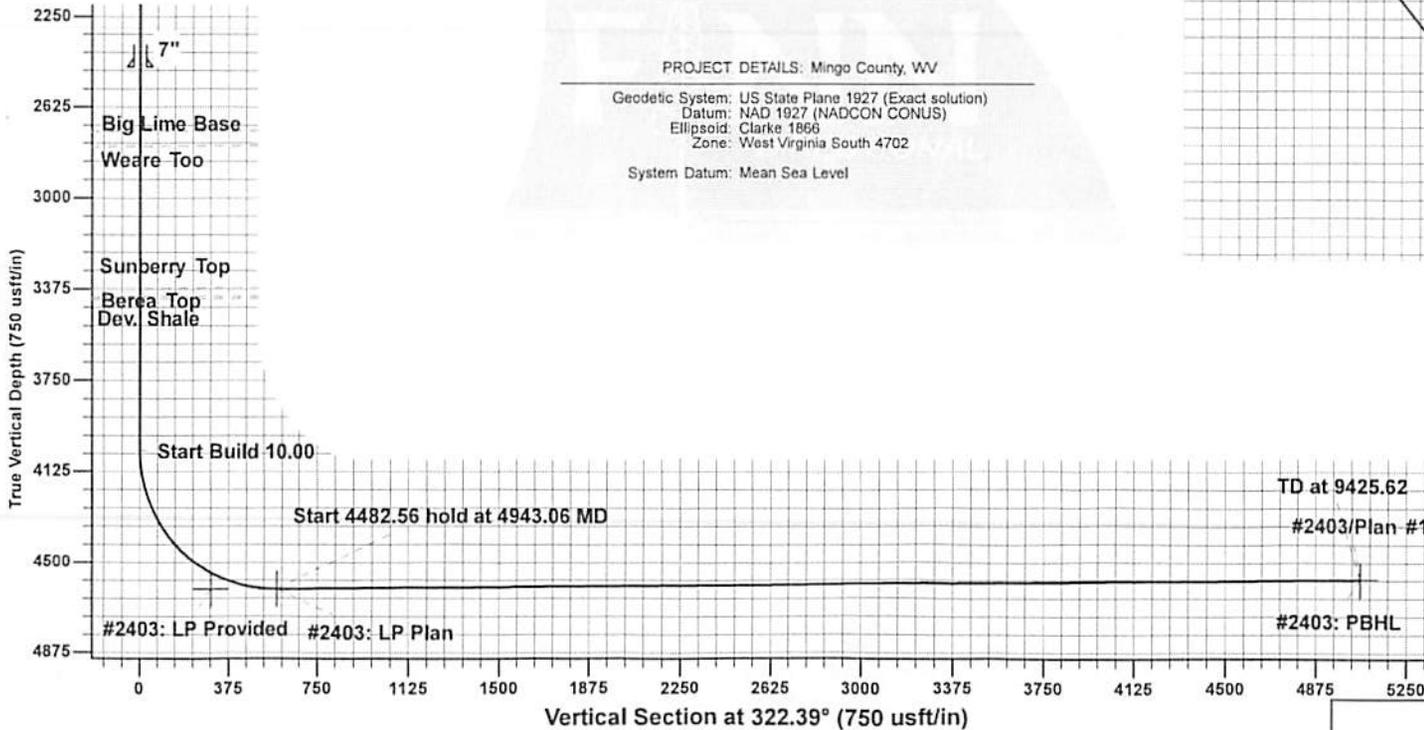
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
#2403: PBHL	4571.88	4008.85	-3088.08	212792.26	1684039.41	37° 34' 45.430 N	82° 5' 25.015 W	Point
#2403: LP Plan	4611.00	457.86	-352.70	209209.65	1686733.25	37° 34' 10.324 N	82° 4' 51.035 W	Point
#2403: LP Provided	4611.00	226.43	-198.78	208976.44	1686884.47	37° 34' 8.036 N	82° 4' 49.123 W	Point

West(-)/East(+) (1500 usft/in)



PROJECT DETAILS: Mingo County, WV

Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: West Virginia South 4702
 System Datum: Mean Sea Level



Azimuths to True North
 Magnetic North: -7.20°

Magnetic Field
 Strength: 51406.6snT
 Dip Angle: 65.55°
 Date: 5/12/2015
 Model: IGRF2015

Plan: Plan #1 (#2403/OH)

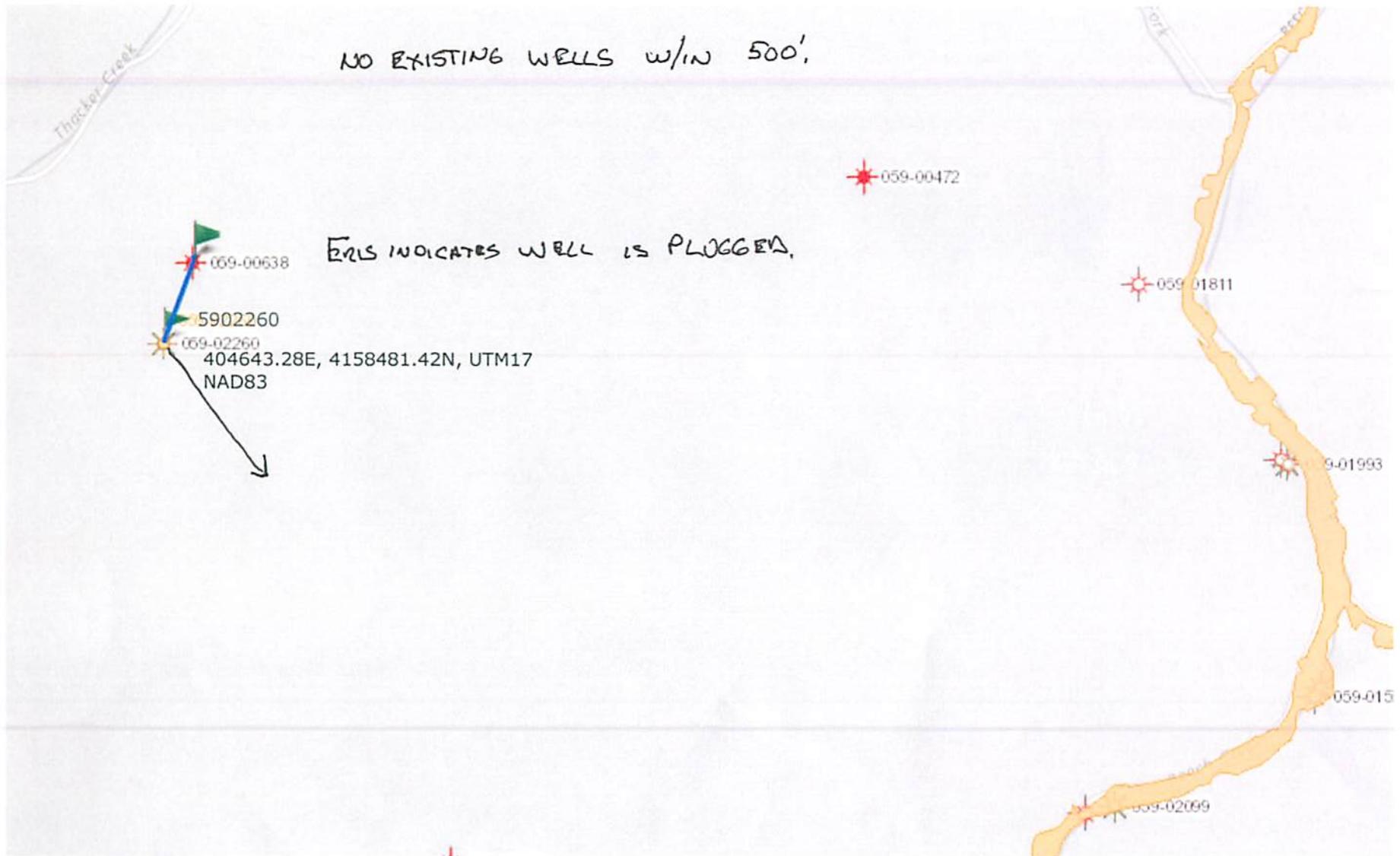
Created By: Matthew May Date: 11:17, May 12 2015

5902260 H

| Feet

Measurement Result

775.6 Feet



5902260H

59022604

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Mingo
Operator Quality Natural Gas, LLC Operator's Well Number 2403

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

To the coal operator, owner, or lessee named on page WW2-A. You are hereby notified that any objection you wish to make or are required to make by Code 22-6-15, 16 or 17, must be filed with the Chief of the Office of Oil and Gas within fifteen (15) days after the receipt of this application by the Office.

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0499 extension 1654

WAIVER

The undersigned coal operator _____ / owner X / lessee _____ / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided; the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

Ruffner Woody
Signature Date 7/10/15

Company
Name Logan Coal & Timber Corporation
By Ruffner Woody
Its Vice President
Ruffner Woody 7/10/15
Signature Date

Received
Office of Oil & Gas
AUG 17 2015

Logan Coal & Timber Corporation

37 North Valley Road, Suite 2-A
Paoli, Pennsylvania 19301

June 2, 2015

Chief, Office of Oil & Gas
Department of Environmental Protection
601 57th Street
Charleston, WV 25304

Quality Natural Gas, LLC
Gas Well Application
Well Number 2403 WV State Plane Coordinates N 208,790
E 1,655,632

Dear Mr. Martin:

The undersigned owner of the coal that underlies this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided; the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: 7/10/15

Logan Coal & Timber Corporation

By: 

Received
Office of Oil & Gas
AUG 17 2015

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Mingo
Operator Quality Natural Gas, LLC Operator's Well Number 2403

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

To the coal operator, owner, or lessee named on page WW2-A. You are hereby notified that any objection you wish to make or are required to make by Code 22-6-15, 16 or 17, must be filed with the Chief of the Office of Oil and Gas within fifteen (15) days after the receipt of this application by the Office.

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0499 extension 1654

WAIVER

The undersigned coal operator _____ / owner X / lessee _____ / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

_____	Date	_____	Name	Company
Signature			By	<u>C.W. Campbell Company</u>
			Its	<u>Gary D. Baldwin</u>
				<u>President</u>
				<u>Gary D. Baldwin</u>
			Signature	<u>7-6-2015</u>
				Date

Received
Office of Oil & Gas
AUG 17 2015

C.W Campbell Company

848 Fourth Avenue, Suite 301
Huntington, West Virginia 25701

June 2, 2015

Chief, Office of Oil & Gas
Department of Environmental Protection
601 57th Street
Charleston, WV 25304

Quality Natural Gas, LLC
Gas Well Application
Well Number 2403 WV State Plane Coordinates N 208,790
E 1,655,632

Dear Mr. Martin:

The undersigned owner of the coal that underlies this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided; the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: July 6, 2015

C.W. Campbell Company

By: Amy J. Babluin, President

Received
Office of Oil & Gas
AUG 17 2015

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Mingo
Operator Quality Natural Gas, LLC Operator's Well Number 2403

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

To the coal operator, owner, or lessee named on page WW2-A. You are hereby notified that any objection you wish to make or are required to make by Code 22-6-15, 16 or 17, must be filed with the Chief of the Office of Oil and Gas within fifteen (15) days after the receipt of this application by the Office.

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0499 extension 1654

WAIVER

The undersigned coal operator _____ / owner X / lessee _____ / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.


Signature

Date 7/23/15 Name By Its

Company JLCLCT, LLC

Signature Date

Received
Office of Oil & Gas
AUG 17 2015

JLCLCT, LLC

723 Kanawha Blvd 14th Floor
Charleston, West Virginia 25301

June 2, 2015

Chief, Office of Oil & Gas
Department of Environmental Protection
601 57th Street
Charleston, WV 25304

Quality Natural Gas, LLC
Gas Well Application
Well Number 2403 WV State Plane Coordinates N 208,790
E 1,655,632

Dear Ms. Torey Evans:

The undersigned coal owner of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided; the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: 2/23/15

JLCLCT, LLC

By: Tony Evans

Received
Office of Oil & Gas
AUG 17 2015

WW-2A Surface Waiver

SURFACE OWNER WAIVER

County Mingo Operator Quality Natural Gas, LLC
Operator well number 2403

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A

The well operator named on page WW2A is applying for a permit from the State to do oil or gas well work. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

Chief, Office of Oil and Gas OR District Oil and Gas Inspector
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Time Limits and methods for filing comments. The law requires these materials to be served on or before the date the operator files his Application. You have **FIFTEEN (15) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 1) The proposed well work will constitute a hazard to the safety of persons.
- 2) The soil erosion and sediment control plan is not adequate or effective;
- 3) Damage would occur to publicly owned lands or resources;
- 4) The proposed well work fails to protect fresh water sources or supplies;
- 5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation..."

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

List of Water Testing Laboratories. The Office maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Chief to obtain a copy.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application for a Well Work Permit on Form WW2-A, and attachments consisting of pages 1 through ___ including a work order on Form WW2-B, a survey plat, and a soil and erosion plan, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

Ruffen Woody
Signature

Date 7/10/15

Received
Office of Oil & Gas
AUG 17 2015

Company Logan Coal & Timber Corporation
By Ruffen Woody
Its Vice President
Ruffen Woody 7/10/15
Signature Date

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Mingo
Operator Quality Natural Gas, LLC Operator's Well Number 2403

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

To the coal operator, owner, or lessee named on page WW2-A. You are hereby notified that any objection you wish to make or are required to make by Code 22-6-15, 16 or 17, must be filed with the Chief of the Office of Oil and Gas within fifteen (15) days after the receipt of this application by the Office.

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0499 extension 1654

WAIVER

The undersigned coal operator _____ / owner ___ / lessee X / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

Signature
Date _____
Name Cam of Kentucky Real Estate, LLC
By _____
Its _____
Dennis R. Hatfield 8/7/15
Signature Date

Received
Office of Oil & Gas
AUG 17 2015

596 2260H

CAM of Kentucky Real Estate, LLC

P.O. Box 1169
Pikeville, Kentucky 41502

June 2, 2015

Chief, Office of Oil & Gas
Department of Environmental Protection
601 57th Street
Charleston, WV 25304

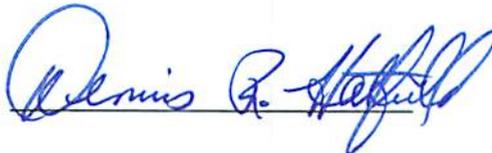
Quality Natural Gas, LLC
Gas Well Application
Well Number 2403 WV State Plane Coordinates N 208,790
E 1,655,632

Dear Mr. Martin:

The undersigned owner of the coal that underlies this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided; the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: 8/7/15

CAM of Kentucky Real Estate, LLC

By: 

Received
Office of Oil & Gas
AUG 17 2015

590 2260 H

WW-2A Surface Waiver

SURFACE OWNER WAIVER

County Mingo Operator Quality Natural Gas, LLC
Operator well number 2403

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A

The well operator named on page WW2A is applying for a permit from the State to do oil or gas well work. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.
WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

Chief, Office of Oil and Gas OR District Oil and Gas Inspector
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(305) 926-0450

Time Limits and methods for filing comments. The law requires these materials to be served on or before the date the operator files his Application. You have FIFTEEN (15) DAYS after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 6) The proposed well work will constitute a hazard to the safety of persons.
7) The soil erosion and sediment control plan is not adequate or effective;
8) Damage would occur to publicly owned lands or resources;
9) The proposed well work fails to protect fresh water sources or supplies;
10) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation...

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

List of Water Testing Laboratories. The Office maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Chief to obtain a copy.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application for a Well Work Permit on Form WW2-A, and attachments consisting of pages 1 through including a work order on Form WW2-B, a survey plat, and a soil and erosion plan, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

Received
Office of Oil & Gas
AUG 17 2015

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

Signature Date Name C.W. Campbell Company
By Gary D. Baldwin
Its President
Signature Date 7-6-2015

5902260 H

WW-2A Surface Waiver

SURFACE OWNER WAIVER

County Mingo Operator Quality Natural Gas, LLC
Operator well number 2403

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A

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Chief, Office of Oil and Gas OR District Oil and Gas Inspector
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(306) 926-0450

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Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 11) The proposed well work will constitute a hazard to the safety of persons.
- 12) The soil erosion and sediment control plan is not adequate or effective;
- 13) Damage would occur to publicly owned lands or resources;
- 14) The proposed well work fails to protect fresh water sources or supplies;
- 15) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation..."

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VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application for a Well Work Permit on Form WW2-A, and attachments consisting of pages 1 through ___ including a work order on Form WW2-B, a survey plat, and a soil and erosion plan, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.


Signature

Date 7/23/15 Name _____
By _____
Its _____

Company JLCLCT, LLC

Received
Office of Oil & Gas
AUG 17 2015

Signature _____ Date _____

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Mingo
Operator Quality Natural Gas, LLC Operator's Well Number 2403

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

To the coal operator, owner, or lessee named on page WW2-A. You are hereby notified that any objection you wish to make or are required to make by Code 22-6-15, 16 or 17, must be filed with the Chief of the Office of Oil and Gas within fifteen (15) days after the receipt of this application by the Office.

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0499 extension 1654

WAIVER

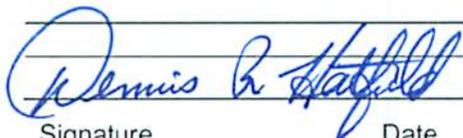
The undersigned coal operator _____ / owner _____ / lessee X / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

Signature

Date

Company
Name CAM MINING, LLC
By
Its 
Signature

8/7/15
Date

Received
Office of Oil & Gas
AUG 17 2015

5902260 H

CAM MINING, LLC.

P.O. Box 1169
Pikeville, Kentucky 41502

June 2, 2015

Chief, Office of Oil & Gas
Department of Environmental Protection
601 57th Street
Charleston, WV 25304

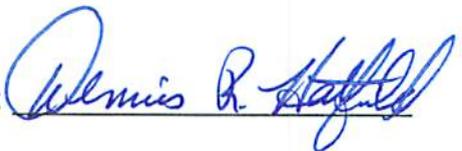
Quality Natural Gas, LLC
Gas Well Application
Well Number 2403 WV State Plane Coordinates N 208,790
E 1,655,632

Dear Mr. Martin:

The undersigned owner of the coal that underlies this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided; the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: 8/7/15

CAM MINING, LLC.

By: 

Received
Office of Oil & Gas
AUG 17 2015

Form WW-2A-1
(Rev.1/11)

Operator's Well Number 2403

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6, Section 8(d)
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:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
Logan Coal & Timber Corporation	Kinzer Business Realty, LTD	1/8	BK 27 P 208
C.W. Campbell Company	Kinzer Business Realty, LTD	1/8	BK 27 P 208
JLCLCT, LLC	Kinzer Business Realty, LTD	1/8	BK 27 P 208

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

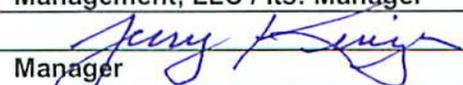
The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- 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: Quality Natural Gas, LLC / BY: Quality Natural Gas Management, LLC / Its: Manager

By: 

Its: Manager

WW2-A-1 SURFACE OWNERS

Logan Coal & Timber Corporation
37 North Valley Road, Suite 2-A
Paoli, Pennsylvania 19301

Wain

C.W. Campbell Company
848 Fourth Avenue, Suite 301
Huntington, West Virginia 25701

Wain

JLCLCT, LLC
723 Kanawha Blvd 14th Floor
Charleston, West Virginia 25301

Wain

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Office of Oil & Gas
AUG 17 2015

59022604

WW2-A-1 COAL OWNERS

Logan Coal & Timber Corporation
37 North Valley Road, Suite 2-A
Paoli, Pennsylvania 19301

*✓
warren*

C.W. Campbell Company
848 Fourth Avenue, Suite 301
Huntington, West Virginia 25701

JLCLCT, LLC
723 Kanawha Blvd 14th Floor
Charleston, West Virginia 25301

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West Virginia Department of Environmental Protection
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing. The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore, if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

If no water well or spring is located within 1000 feet, the Chief may require the operator to sample and analyze water from a water well or spring within 2000 feet of the proposed well site.

Be advised, you have the right to sample and analyze any water supply at your own expense.

The laboratory used by the operator to analyze the samples will be approved by the Chief. The operator named below has decided to use the following laboratory to analyze the water samples:

_____ Contractor Name	See Note Below: _____
_____ Well operator's private laboratory	_____
Well Operator	Quality Natural Gas, LLC
Address	P.O. Box 480
	Allen, KY 41601
Telephone	(606) 874-8041

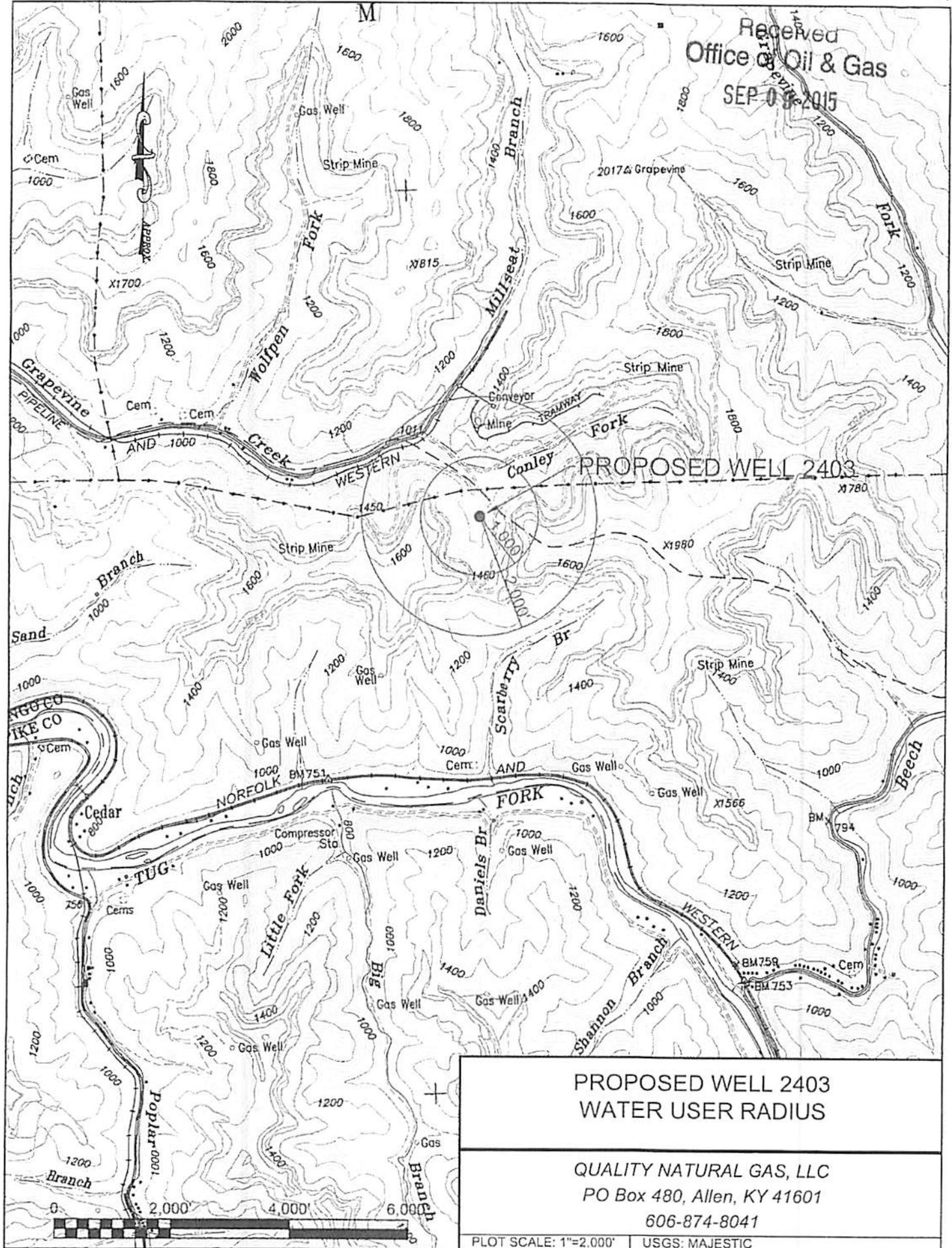
FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underlining which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site please indicate such.

There are no water well or spring users within a 2,000' radius of the proposed well. See attached topo map.

Received
Office of Oil & Gas

SEP 09 2015

Received
Office of Oil & Gas
SEP 09 2015



**PROPOSED WELL 2403
WATER USER RADIUS**

QUALITY NATURAL GAS, LLC
PO Box 480, Allen, KY 41601
606-874-8041

PLOT SCALE: 1"=2,000' USGS: MAJESTIC

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name: Quality Natural Gas, LLC OP Code: 494477013

Watershed: Pigeon Creek of Tug Fork Quadrangle: Majestic

Elevation 1161.24' County: Mingo District: Magnolia

Description of anticipated Pit Waste: Drill water flow back and various settings

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes No

Will a synthetic liner be used in the pit? Yes a 20 mil liner will be used to line the pit even if impervious material is available onsite

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Drilling medium anticipated for this well? Air, Freshwater, oil based, etc. Air

-If oil based what type? Synthetic, petroleum, etc.

Additives to be used? Foam mist when needed with air

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc.

-If left in pit and plan to solidify what medium will be used? Cement, lime, sawdust

Lime, Dirt

-Landfill or offsite name/permit number? _____

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on December 31, 1999, by the Office of Oil and Gas of the West Virginia Division of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Terry Kinzer*

Company Official (Typed Name) Terry Kinzer and/or Jerry Kinzer

Company Official Title Manager / Quality Natural Gas Management, LLC / Manager of Quality Natural Gas, LLC

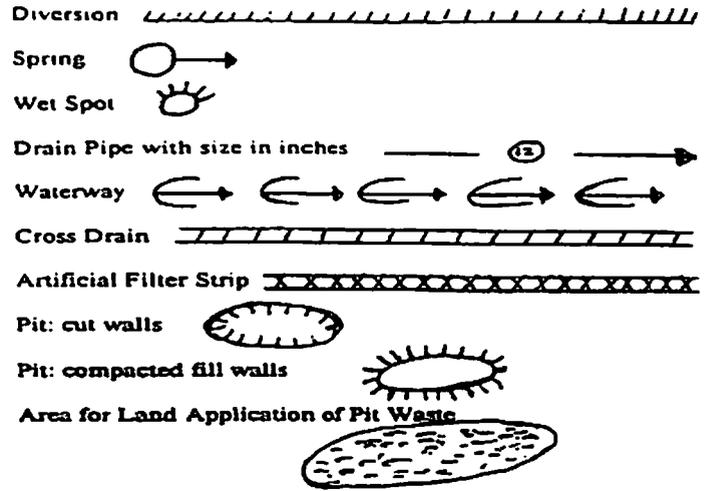
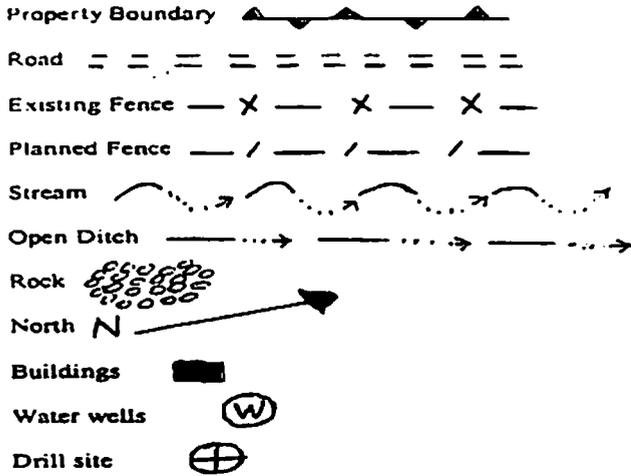
Subscribed and sworn before me this 12 day of June, 2015

[Signature] Notary Public

My Commission Expires 7-27-2017 #492274



LEGEND



Proposed Revegetation Treatment: Acres Disturbed 2 Prevegetation pH 7.0

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 1/3 Ton lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre or hydroseed

Seed Mixtures

Seed Type	Area I	lbs/acre	Seed Type	Area II	lbs/acre
KY-31		40	Orchard Grass		15
Alsike Clover		10	Alsike Clover		5
Annual Rye		5			
Redtop		2			

Attach:
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by:

Comments: _____

Title Inspector Date: 6-25-15

Field Reviewed? Yes No

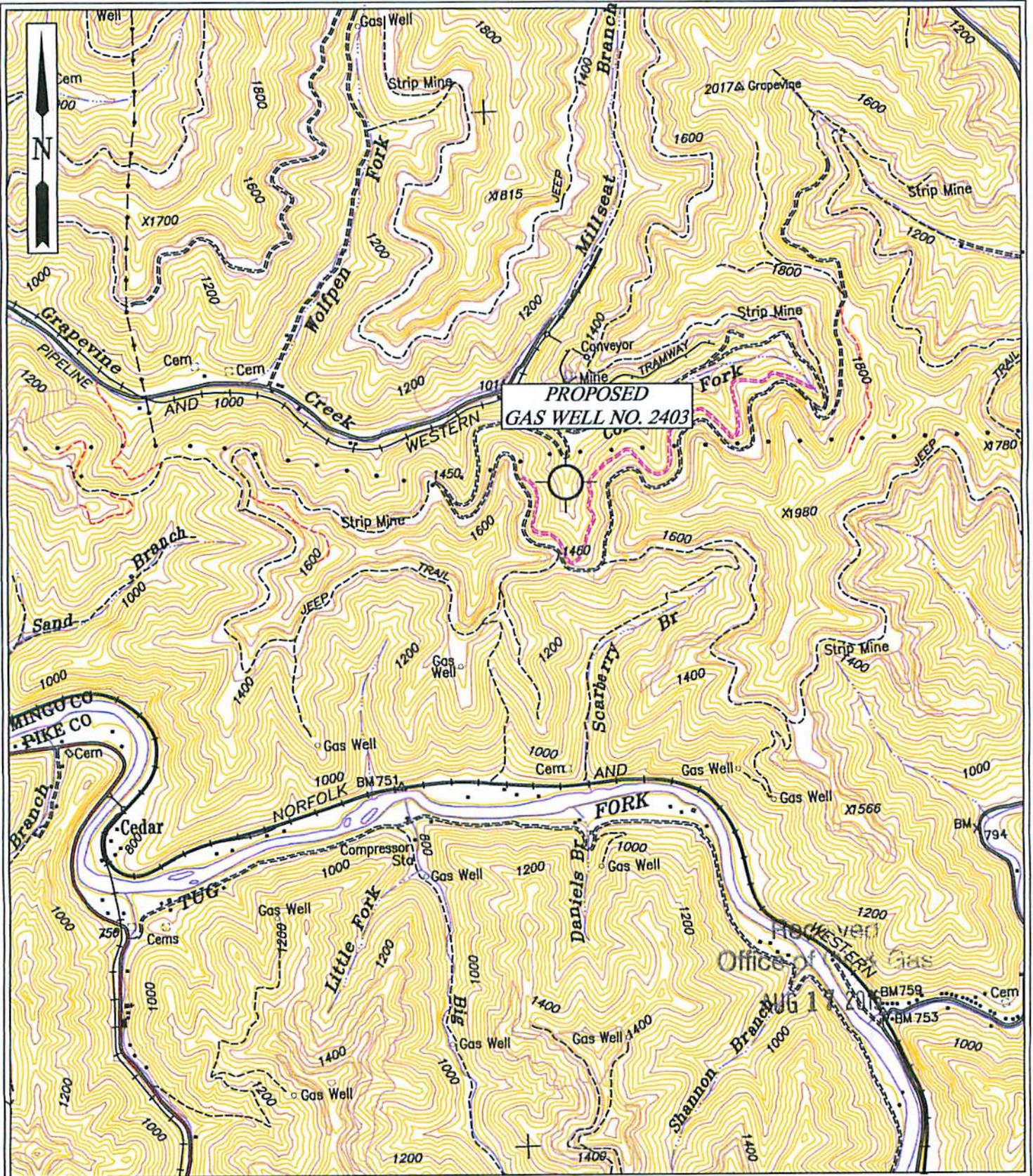
Received
Office of Oil & Gas
AUG 17 2015

WW-9

Quality Natural Gas, LLC

Proposed Well #: 2403

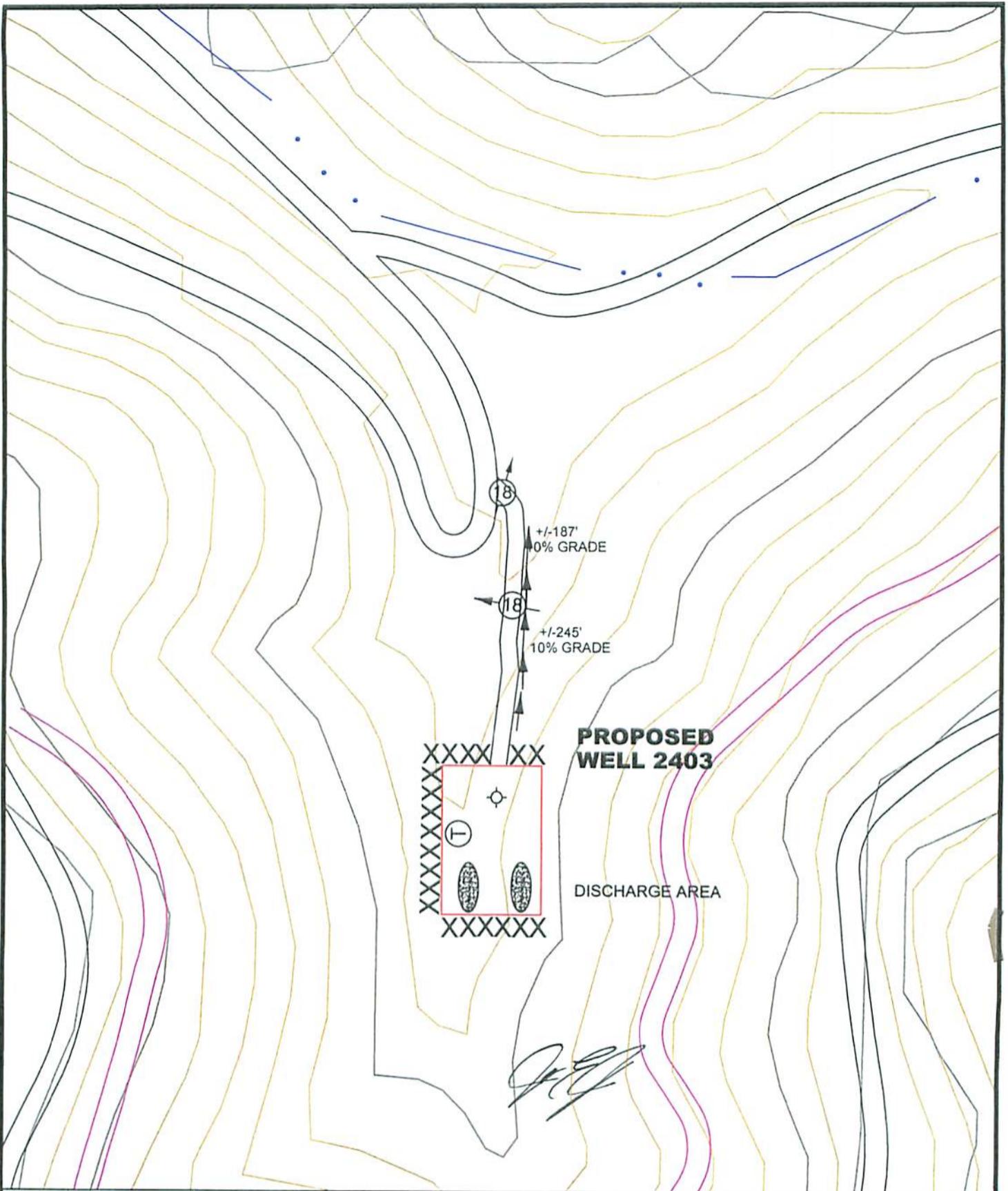
1. Drilling medium anticipated for the well? Air.
2. Additives to be used? Foam mist when needed w/ air.
3. Drill cuttings disposal method? If left in pit and plan to solidify what medium will be used? Fluids treated and land applied. Lime, Dirt.

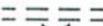


B & B Engineering, LLC
 36 Hatfield Lane
 Prestonsburg, KY 41653
 Phone: (606) 784-7005

QUALITY NATURAL GAS, LLC.
LOCATION MAP
 PROPOSED GAS WELL NO. 2403

QUAD: MAJESTIC
 SCALE: 1" = 2000'
 DATE: 03/07/2015
 FILE NAME: WVA2403VIC.DWG



 <p>EXHIBIT MAP SURFACE PROPERTY LINES ARE APPROXIMATE; NOT TO BE USED FOR TRANSFER PURPOSES</p>	<p>STREAM</p> 	<p>WATER WELL</p> 	<p>STORAGE TANK</p> 
	<p>ROAD</p> 	<p>PROPOSED WELL</p> 	<p>SPRING</p> 
<p>EXISTING FENCE</p> 	<p>FLOW LINE</p> 	<p>PIT: FILL WALLS</p> 	
<p>PLANNED FENCE</p> 	<p>CROSS DRAIN</p> 	<p>PIT: CUT WALLS</p> 	
<p>OPEN DITCH</p> 	<p>DRAIN PIPE</p> 	<p>STORAGE</p> 	
<p>ROCK</p> 	<p>FILTER STRIP</p> 	<p>WASTE AREA</p> 	
<p>BUILDING</p> 	<p>DIVERSION DITCH</p> 		

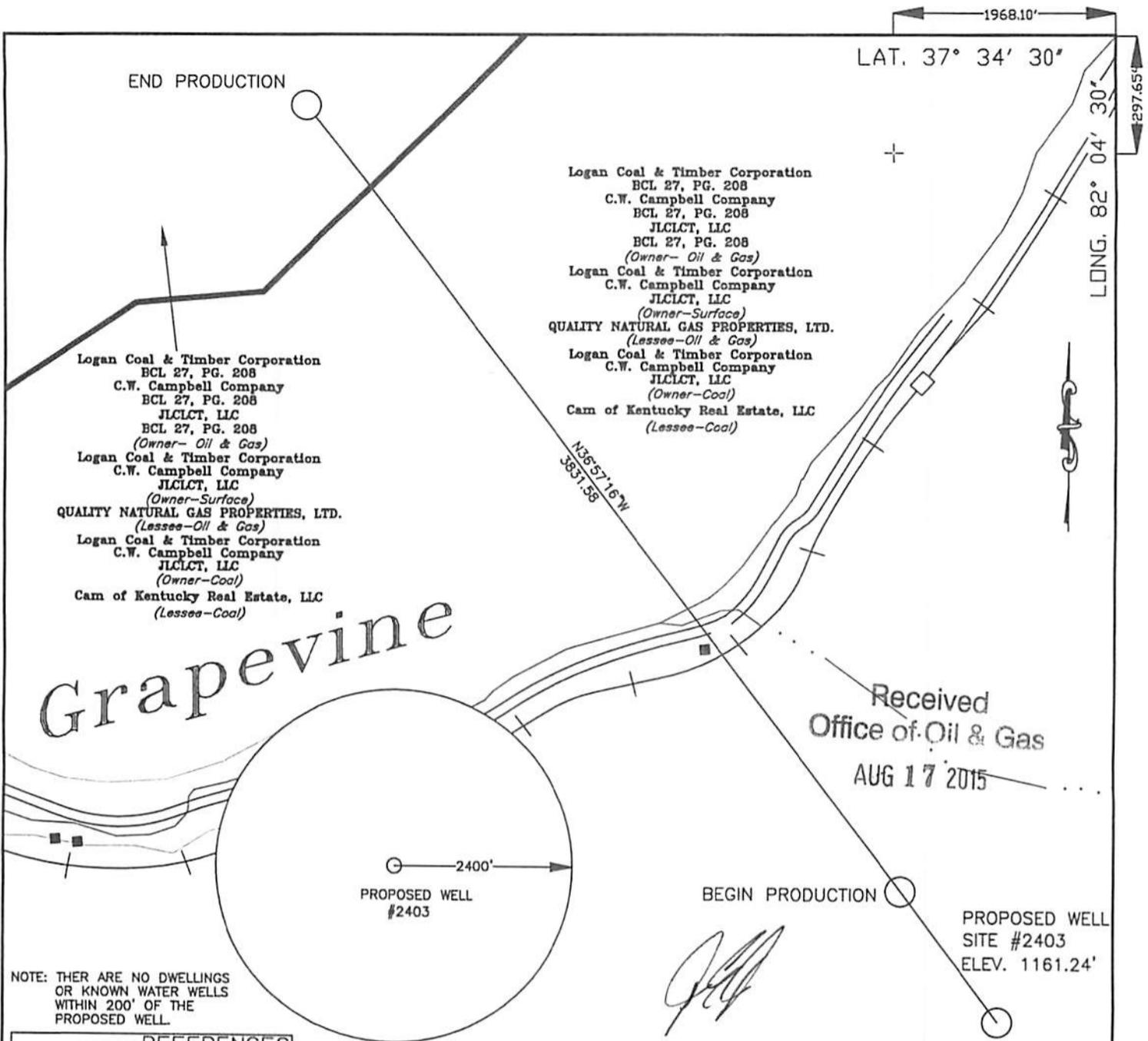
B & B Engineering, LLC
 36Hatfield Lane
 Prestonsburg, KY 41653
 Phone: (606) 874-7005

QUADRANGLE: MAJESTIC
 COUNTY: MINGO
 LEASE #: 1147
 DATE: 06/02/2015
 SCALE: 1" = 200'
 DRAWING FILE: WVA2403REC.DWG

STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL & GAS
 CHARLESTON, WVA 25304

**WELL SITE RECLAMATION PLAN
 GAS WELL No. 2403**

QUALITY NATURAL GAS, LLC.
 P.O. Box 480
 Allen, Kentucky 41601



END PRODUCTION

Logan Coal & Timber Corporation
BCL 27, PG. 208
C.W. Campbell Company
BCL 27, PG. 208
JLCLCT, LLC
BCL 27, PG. 208
(Owner- Oil & Gas)

Logan Coal & Timber Corporation
C.W. Campbell Company
JLCLCT, LLC
(Owner-Surface)

QUALITY NATURAL GAS PROPERTIES, LTD.
(Lessee-Oil & Gas)

Logan Coal & Timber Corporation
C.W. Campbell Company
JLCLCT, LLC
(Owner-Cool)

Cam of Kentucky Real Estate, LLC
(Lessee-Cool)

Logan Coal & Timber Corporation
BCL 27, PG. 208
C.W. Campbell Company
BCL 27, PG. 208
JLCLCT, LLC
BCL 27, PG. 208
(Owner- Oil & Gas)

Logan Coal & Timber Corporation
C.W. Campbell Company
JLCLCT, LLC
(Owner-Surface)

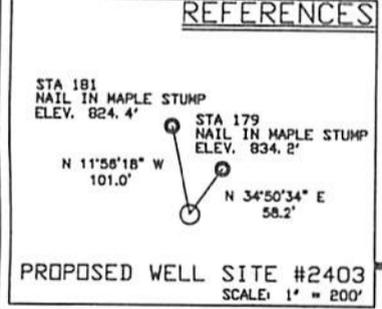
QUALITY NATURAL GAS PROPERTIES, LTD.
(Lessee-Oil & Gas)

Logan Coal & Timber Corporation
C.W. Campbell Company
JLCLCT, LLC
(Owner-Cool)

Cam of Kentucky Real Estate, LLC
(Lessee-Cool)

Received
Office of Oil & Gas
AUG 17 2015

NOTE: THERE ARE NO DWELLINGS
OR KNOWN WATER WELLS
WITHIN 200' OF THE
PROPOSED WELL.



Geographic Nad 27
LAT = 37° 34' 5.97"
LONG = 82° 04' 47.77"

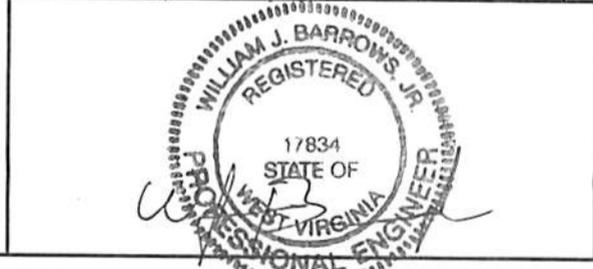
UTM NAD 83
Zone 17 (Meter)
N = 4,158481.42
E = 404643.28

State Plane
WV South NAD 83
N = 208790
E = 1,655,632

LEGEND

- + DENOTES LOCATION WELL ON UNITED STATES TOPOGRAPHICAL MAPS
- PROPOSED WELL
- ⊗ PLUGGED WELL
- ⊙ EXISTING WELL
- SURVEY STATION
- TREE
- ROADS
- RAILROAD
- STREAM, DRAIN, CREEK

DRAWING No. WVA2403.DWG
SCALE 1" = 500'
MINIMUM DEGREE OF ACCURACY 1 IN 2,500
PROVEN SOURCE OF ELEVATION USGS B. M. MONUMENT #722



B & B Engineering, LLC
36 Hatfield Lane
Prestonsburg, KY 41653
Phone: (606) 874-7005

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
CHARLESTON, WV. 25304



DATE: 06/11/2015
OPERATOR'S WELL NO. 2403
API WELL NO. 47-59-02260H
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF 'GAS') PRODUCTION OR STORAGE DEEP OR SHALLOW

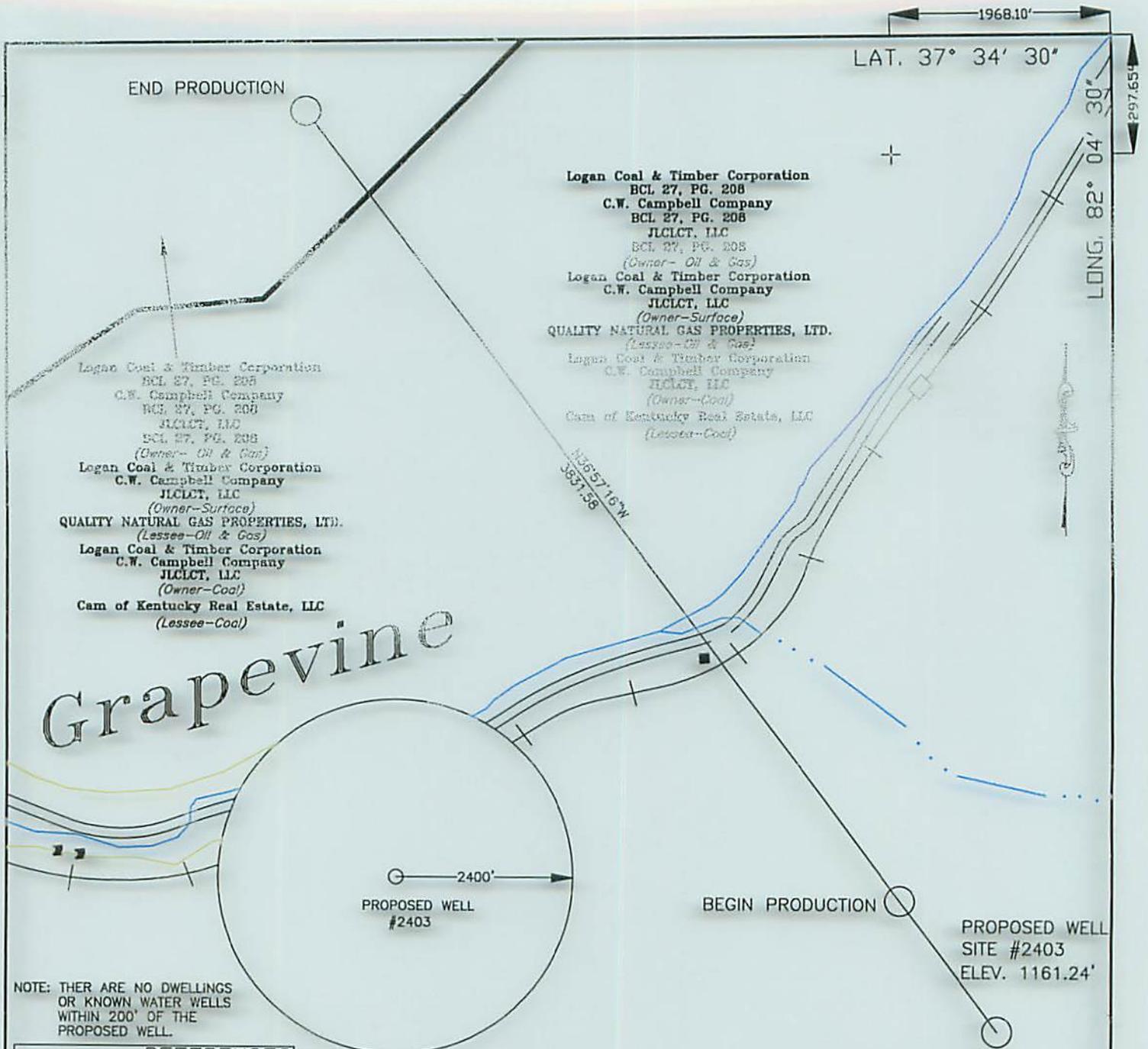
LOCATION: ELEVATION 1161.24 WATER SHED GRAPEVINE CREEK of TUG FORK of BIG SANDY
DISTRICT Magnolia COUNTY MINGO
QUADRANGLE MAJESTIC

SURFACE OWNER Logan Coal & Timber, C.W. Campbell & JLCLCT, LLC ACREAGE +/-260 Acres
OIL & GAS ROYALTY OWNER Logan Coal & Timber, C.W. Campbell & JLCLCT, LLC LEASE ACREAGE +/-260 Acres
LEASE No. _____

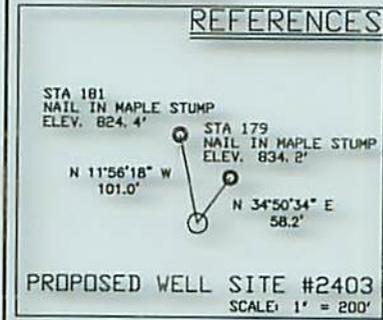
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION
OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON CLEAN OUT AND REPLUG

TARGET FORMATION DEVONIAN SHALE ESTIMATED DEPTH TVD 4611 TMD 8943
WELL OPERATOR QUALITY NATURAL GAS, LLC DESIGNATED AGENT JAMES HILL
ADDRESS P.O. BOX 480 ADDRESS H.C. 71 Rt. 4 BOX 87-A
Allen, Kentucky 41601 WHARNCLIFFE, WV. 25651



NOTE: THERE ARE NO DWELLINGS OR KNOWN WATER WELLS WITHIN 200' OF THE PROPOSED WELL.



Geographic Nad 27
LAT = 37° 34' 5.97"
LONG = 82° 04' 47.77"

UTM NAD 83
Zone 17 (Meter)
N = 4,158481.42
E = 404643.28
State Plane
WV South NAD 83
N = 208790
E = 1,655,632

LEGEND

+	DENOTES LOCATION WELL ON UNITED STATES TOPOGRAPHICAL MAPS
○	PROPOSED WELL
⊙	PLUGGED WELL
⊗	EXISTING WELL
●	SURVEY STATION
○	TREE
—	ROADS
+++++	RAILROAD
—	STREAM, DRAIN, CREEK

DRAWING No. WVA2403.DWG
SCALE 1" = 500'
MINIMUM DEGREE OF ACCURACY 1 IN 2,500
PROVEN SOURCE OF ELEVATION USGS B. M. MONUMENT #722



B & B Engineering, LLC
36 Hatfield Lane
Prestonsburg, KY 41653
Phone: (606) 874-7005

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
CHARLESTON, WV. 25304

DATE: 06/11/2015
OPERATOR'S WELL NO. 2403
API WELL NO. 47-59-02260H
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION OR STORAGE DEEP OR SHALLOW

LOCATION: ELEVATION 1161.24 WATER SHED GRAPEVINE CREEK of TUG FORK of BIG SANDY
DISTRICT Magnolia COUNTY MINGO
QUADRANGLE MAJESTIC

SURFACE OWNER Logan Coal & Timber, C.W. Campbell & JLCCLT, LLC ACREAGE +/-260 Acres
OIL & GAS ROYALTY OWNER Logan Coal & Timber, C.W. Campbell & JLCCLT, LLC LEASE ACREAGE +/-260 Acres
LEASE No. _____

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION
OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON CLEAN OUT AND REPLUG
TARGET FORMATION DEVONIAN SHALE

WELL OPERATOR QUALITY NATURAL GAS, LLC ESTIMATED DEPTH TVD 4611 TMD 8943
ADDRESS P.O. BOX 480 DESIGNATED AGENT JAMES HILL
Allen, Kentucky 41601 ADDRESS H.C. 71 Rt. 4 BOX 87-A
WHARNCLIFFE, WV. 25651

**PRESCRIPTION NOT TO BURY
PRODUCTION OR GATHERING LINES**

Pursuant to the Administrative Regulation 35CSR4-16.7 of the Office of Oil and Gas, Department of Environmental Protection, the undersigned states that:

(1) The undersigned is/are the owner(s) of record of

the surface

or

_____ an interest in the surface of a tract of land described as follows:

Acres 260
Watershed Grapevine Creek of Tug Fork of Big Sandy River
District Magnolia
County Mingo
Public road access RT. 49
Generally used farm name Logan Coal & Timber

(2) The undersigned realize (s) that a production or gathering pipeline is to be installed across the referenced surface tract in connection with the operation of the well identified below:

Well Operator Quality Natural Gas, LLC
Address P.O. Box 450
Allen, KY 41601
Telephone (606) 874-8041
Well: Api Permit No. 47-_____

(3) For sufficient and satisfactory reasons, the undersigned hereby prescribe that as far as the surface interest owned by the undersigned is/are concerned, the production or gathering pipeline need not be buried as follows:

On any part of the surface tract identified above:

or

_____ On the following parts of the surface tract identified above:

From _____ To _____
From _____ To _____
From _____ To _____

(For execution by corporation, partnership, etc.) (For execution by natural persons)

Name: Logan Coal & Timber Corp.

By: [Signature] Signature

Date: 8/12/15

Its: Vice President Signature

Date: _____

Received
Office of Oil & Gas
AUG 17 2015

WW-75
(REV. 9/94)

PRESCRIPTION NOT TO BURY
PRODUCTION OR GATHERING LINES

Pursuant to the Administrative Regulation 35CSR4-16.7 of the Office of Oil and Gas, Department of Environmental Protection, the undersigned states that:

(1) The undersigned is/are the owner(s) of record of

the surface

or

_____ an interest in the surface of a tract of land described as follows:

Acres 260
Watershed Grapevine Creek of Tug Fork of Big Sandy River
District Magnolia
County Mingo
Public road access RT. 49
Generally used farm name Logan Coal & Timber

(2) The undersigned realize (s) that a production or gathering pipeline is to be installed across the referenced surface tract in connection with the operation of the well identified below:

Well Operator Quality Natural Gas, LLC
Address P.O. Box 480
Allen, KY 41601
Telephone (606) 874-8041
Well: Api Permit No. 47-_____ - _____;

(3) For sufficient and satisfactory reasons, the undersigned hereby prescribe that as far as the surface interest owned by the undersigned is/are concerned, the production or gathering pipeline need not be buried as follows:

On any part of the surface tract identified above:

or

_____ On the following parts of the surface tract identified above:

From _____ To _____
From _____ To _____
From _____ To _____

(For execution by corporation,
partnership, etc.)

(For execution by natural persons)

Name: ILBERT, LLC

By: TORREY EVANS Signature Date: 8/12/15

Its: _____ Signature Date: _____

Received
Office of Oil & Gas
AUG 17 2015

WW-75
(REV. 9/94)

PRESCRIPTION NOT TO BURY
PRODUCTION OR GATHERING LINES

Pursuant to the Administrative Regulation 35CSR4-16.7 of the Office of Oil and Gas, Department of Environmental Protection, the undersigned states that:

(1) The undersigned is/are the owner(s) of record of

the surface

or

_____ an interest in the surface of a tract of land described as follows:

Acres 250
Watershed Grapevine Creek of Tug Fork of Big Sandy River
District Magnolia
County Mingo
Public road access RT. 49
Generally used farm name Logan Coal & Timber

(2) The undersigned realize (s) that a production or gathering pipeline is to be installed across the referenced surface tract in connection with the operation of the well identified below:

Well Operator Quality Natural Gas, LLC
Address P.O. Box 480
Allen, KY 41801
Telephone (606) 874-8041
Well: Api Permit No. 47-_____ - _____;

(3) For sufficient and satisfactory reasons, the undersigned hereby prescribe that as far as the surface interest owned by the undersigned is/are concerned, the production or gathering pipeline need **not** be buried as follows:

On any part of the surface tract identified above:

or

_____ On the following parts of the surface tract identified above:

From _____ To _____
From _____ To _____
From _____ To _____

(For execution by corporation,
partnership, etc.)

(For execution by natural persons)

Name: C.W. Campbell Company

By: Ray D. Baldwin
Signature

President

Date: 8/12/2015

Its: President
Signature

Date: _____

Received
Office of Oil & Gas
AUG 17 2015