

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

RECEIVED
Office of Oil and Gas

SEP 10 2018

WV Department of
Environmental Protection

API 47-059-02263 County MINGO District MAGNOLIA
Quad MAJESTIC Pad Name _____ Field/Pool Name _____
Farm name Logan Coal & Timber, CW Campbell Co & JLCCLCT, LLC Well Number 2408
Operator (as registered with the OOG) QUALITY NATURAL GAS, LLC
Address P.O. BOX 480 City ALLEN State KY Zip 41601

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 208,606 Easting 1,642,895
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing _____ Easting _____

Elevation (ft) 1415 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary


Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
N/A

Date permit issued 10/24/2017 Date drilling commenced 01/08/2018 Date drilling ceased 01/23/2018
Date completion activities began 2/12/2018 Date completion activities ceased 7/23/2018
Verbal plugging (Y/N) n/a Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft None Encountered Open mine(s) (Y/N) depths N
Salt water depth(s) ft None Encountered Void(s) encountered (Y/N) depths N
Coal depth(s) ft NONE Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) NO

Reviewed

Reviewed by:

9-19-18

API 47-059 - 02263 Farm name Logan Coal & Timber, CW Campbell Co & JLCLCT, LLC Well number 2408

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	17 1/2"	13 3/8"	42'	New	LS	None	y- grout to surface
Surface	12 1/4"	9 5/8"	968'	New	LS	967, 504, 42	y- 6 bbl
Coal							
Intermediate 1	8 7/8"	7"	2655'	New	LS	None	y- 2bbl
Intermediate 2							
Intermediate 3							
Production	6 3/8"	4 1/2"	4893'	New	L-65	None	No - 200' up in 7"
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A						
Surface	Class A	340	15.5	1.18	401	Surface	8
Coal							
Intermediate 1	Class A	230, 100	15.6, 12.3	1.84, 1.18	423, 118	Surface	8
Intermediate 2							
Intermediate 3							
Production	Class A	150	13.6	1.90	285	500' up in 7"	8
Tubing							

Drillers TD (ft) ^{4920'} _____ Loggers TD (ft) ^{4937'} _____
 Deepest formation penetrated HARREL SHALE Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) _____

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No
For drilling purposes only.

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING ^{4 1/2" - 4893, 4729, 4561, 4393, 4225, 4057, 3889}
3721, 3563 and 3385

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- 059 - 02263 Farm name Logan Coal & Timber, CW Campbell Co & JLCCT, LLC Well number 2408

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	2/12/18	4470	3566	48	SHALE/BEREA
RECEIVED					Office of Oil and Gas

Please insert additional pages as applicable.

SEP 10 2018

WV Department of Environmental Protection

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	7/18/18	89	2803	3018	2328	NONE	NONE	1.8mmscf, 12bbl acid

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 059 - 02263 Farm name Logan Coal & Timber, CW Campbell Co & JLCLCT, LLC Well number 2408

PRODUCING FORMATION(S)	DEPTHS	TVD	MD
BEREA	3549-3588'		
SHALE	3588-4731'		

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 580 psi Bottom Hole _____ psi DURATION OF TEST 96 hrs

OPEN FLOW Gas 179 mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd
GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	0		0		
SEE ATTACHED					

Please insert additional pages as applicable.


Drilling Contractor MOUNTAIN RIDGE
Address 72 OLD 25 E City BARBOURVILLE State KY Zip 40906

Logging Company WEATHERFORD
Address 40 WESTINGHOUSE DR City LONDON State KY Zip 40741

Cementing Company C & J ENERGY SERVICES
Address 580 HAWTHORN DR City NORTON State VA Zip 24273

Stimulating Company RELIANCE WELL SERVICES
Address 510 Cranberry St, Suite 230 City ERIC State PA Zip 16507

Please insert additional pages as applicable.

Completed by Darrell Fluharty Telephone 606-874-8041 Cell 606-548-1915
Signature  Title Field Supervisor Date 9-6-18

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

09/21/2018

WELL #

2408

API# 47-059-02263

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H2S, ETC)
SAND	0	120			
SAND/SHALE	120	168			
SAND	168	190			
SAND/SHALE	190	395			
SAND	395	494			
SAND/SHALE	494	574			
SAND	574	605			
SAND/SHALE	605	650			
SAND	650	725			
SAND/SHALE	725	753			
SAND	753	815			
SAND/SHALE	815	872			
SAND	872	1170			
SAND/SHALE	1170	1282			
SAND	1282	1410			
SAND/SHALE	1410	1420			
SAND	1420	1560			RECEIVED Office of Oil and Gas
SAND/SHALE	1560	1620			SEP 10 2018
SAND	1620	1740			WV Department of Environmental Protection
SAND/SHALE	1740	1770			
SAND	1770	1830			
SAND/SHALE	1830	1890			
SAND	1890	2040			
SHALE	2040	2110			
RED ROCK	2110	2160			
SAND/SLATE/SHALE	2160	2190			
SLATE/SHALE	2190	2310			
SHALE	2310	2340			
SAND/SHALE	2340	2370			
SAND/SHALE	2370	2400			
SAND	2400	2460			

09/21/2018

Quality Natural Gas, LLC

PO Box 480
Allen, KY 41601
(606)874-8041 ext. 253

September 7, 2018

Oil & Gas Conservation Commission
601 57th Street
Charleston, WV 25304

RE: Completion Report
Quality Natural Gas, LLC

To Whom It May Concern:

Please find enclosed a copy of the completion report (Form WR-35), as-drilled plat and the logs for the below listed wells:

Mingo County Well #2408 (API# 47-059-02263)

Should you need any additional information or have any questions, please feel free to contact me at the above number.

Sincerely,



Janice Wright

RECEIVED
Office of Oil and Gas

SEP 10 2018

WV Department of
Environmental Protection

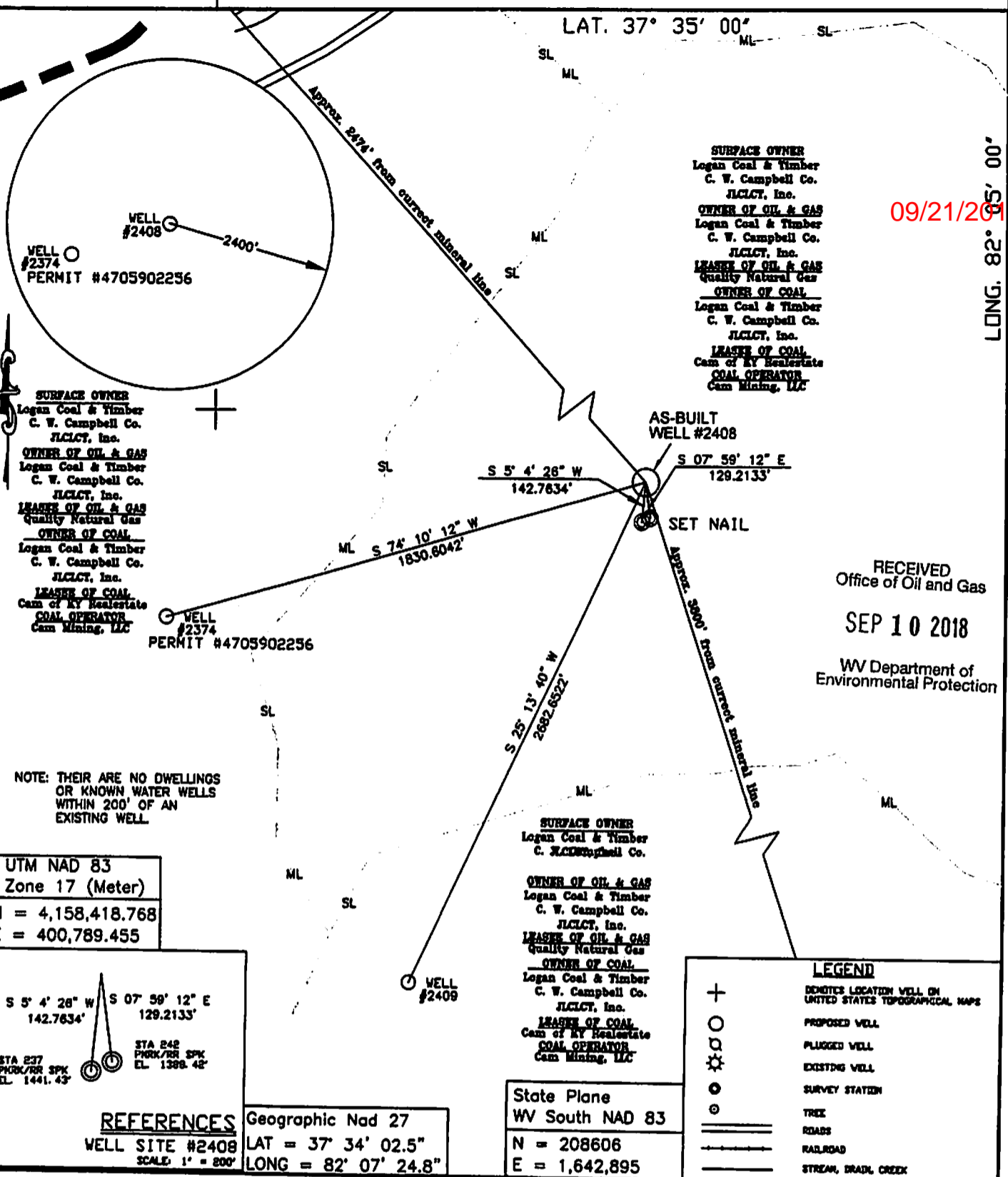
11,659'

LAT. 37° 35' 00"

LONG. 82° 05' 00"

5818

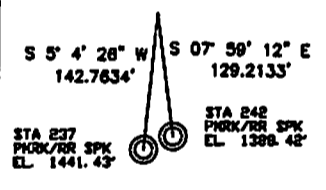
09/21/2018



RECEIVED
Office of Oil and Gas
SEP 10 2018
WV Department of
Environmental Protection

NOTE: THEIR ARE NO DWELLINGS OR KNOWN WATER WELLS WITHIN 200' OF AN EXISTING WELL.

UTM NAD 83
Zone 17 (Meter)
N = 4,158,418.768
E = 400,789.455



REFERENCES
Geographic Nad 27
WELL SITE #2408
SCALE: 1" = 500'

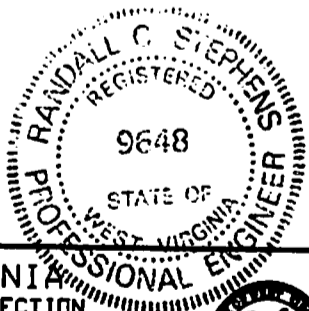
Geographic Nad 27
LAT = 37° 34' 02.5"
LONG = 82° 07' 24.8"

State Plane
WV South NAD 83
N = 208606
E = 1,642,895

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. WVA2408.DWG
SCALE 1" = 500'
MINIMUM DEGREE OF ACCURACY 1 IN 2,500'
PROVEN SOURCE OF ELEVATION USGS B. M.
MONUMENT # 723



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL INFORMATION REQUIRED BY LAWS AND REGULATION ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL AGENCY.

Randall C Stephens
PE # 9648

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

DATE: 3/29/18
OPERATOR'S WELL NO. 2408

47 -- 59 -- 002263
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 1415.27' WATER SHED TUG FORK of BIG SANDY RIVER
DISTRICT MAGNOLIA COUNTY MINGO
QUADRANGLE MAJESTIC

SURFACE OWNER LOGAN COAL & TIMBER CORP., C.W. CAMPBELL CO. & JLCCT, INC ACREAGE +/- 528'
OIL & GAS ROYALTY OWNER LOGAN COAL & TIMBER CORP., C.W. CAMPBELL CO. & JLCCT, INC LEASE ACREAGE +/- 528'
LEASE No. 855

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 HARRELL SHALE ESTIMATED DEPTH 4894
WELL OPERATOR QUALITY NATURAL GAS, LLC DESIGNATED AGENT JAMES HILL
ADDRESS P.O. BOX 480 ADDRESS HC 71 Rt. 4, BOX 87A
Allen, Kentucky 41601 WHARNCLIFFE, WV 25651

09/21/2018

000000000000

000000000000

000000000000