



 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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Thursday, April 11, 2019
 WELL WORK PERMIT
 Horizontal / Re-Work

CORE APPALACHIA OPERATING LLC
 414 SUMMERS STREET

CHARLESTON, WV 25301

Re: Permit approval for 828038
 47-059-02265-00-00

This well work permit 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 any additional specific 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 of 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.

Per 35 CSR 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- 0450.

James A. Martin
 Chief

Operator's Well Number: 828038
 Farm Name: NIGHBERT LAND COMPANY
 U.S. WELL NUMBER: 47-059-02265-00-00
 Horizontal Re-Work
 Date Issued: 4/11/2019

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.

47-059-02265 W CK# 15365
 Amt \$ 650⁰⁰ 04/12/2019
 Date 4/8/19

WW - 2B
 (Rev. 8/10)

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

1) Well Operator: Core Appalachia Operating LLC

494518671	Mingo	Hardee	Naugatuck
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 _____ Operator ID County District Quadrangle

2) Operator's Well Number: 828038 NIGHTBERT 20H 3) Elevation: 943.30

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4) Well Type: (a) Oil _____ or Gas _____

APR 9 2019

(b) If Gas: Production / Underground Storage _____

WV Department of
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Deep _____ / Shallow _____

5) Proposed Target Formation(s): Devonian Shale Proposed Target Depth: 3480' TVD

6) Proposed Total Depth: 9950' MD Feet Formation at Proposed Total Depth: Devonian Shale

7) Approximate fresh water strata depths: 40', 200'

8) Approximate salt water depths: 1080', 1325', 1570'

9) Approximate coal seam depths: 241' -244'

10) Approximate void depths,(coal, Karst, other): None known.

11) Does land contain coal seams tributary to active mine? None known.

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)

Drill new horizontal well, stimulate new well with nitrogen

NATURAL WELL: OPEN HOLE FROM 2700' TO 844' TO KICK OFF PT. 2802'.

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"	LS	54#	34'	34'	sanded in
Fresh Water	9-5/8"	LS	36#	433'	433'	192 FT ³ CTS
Coal						
Intermediate	7"	AT-50	19#	2700'	2700'	560 FT ³ DID NOT CIRCULATE.
Production						
Tubing						
Liners						

Packers: Kind: _____
 Sizes: _____
 Depths Set _____

WR-35
Rev. 8/23/13

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

API 47-059-02265 County Mingo District Hardee
Quad Naugatuck Pad Name Nighbert Land Co. Field/Pool Name Devonian Shale
Farm name Nighbert Land Company Well Number 828038
Operator (as registered with the OOG) Core Appalachia Operating, LLC
Address 414 Summers Street City Charleston State WV Zip 25301

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,187,703.21 M Easting 382,504.01 M
Landing Point of Curve Northing 4,187,518.86 M Easting 382,569.09 M
Bottom Hole Northing 4,186,199.84 M Easting 383,062.59 M

Elevation (ft) 944.47 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 5/25/2018 Date drilling commenced 7/17/2018 Date drilling ceased 7/31/2018
Date completion activities began 8/3/2018 Date completion activities ceased 8/31/2018
Verbal plugging (Y/N) No Date permission granted _____ Granted by _____

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

Freshwater depth(s) ft 680 Open mine(s) (Y/N) depths None
Salt water depth(s) ft 1110 Void(s) encountered (Y/N) depths None
Coal depth(s) ft 55 Cavern(s) encountered (Y/N) depths None
Is coal being mined in area (Y/N) Yes

Reviewed

Reviewed by:

AF 11-9-2018

WR-35
Rev. 8/23/13

API 47-059 - 02265 Farm name Nighbert Land Company Well number 828038

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"	13 3/8"	34'	New	L.S., 54.5#	-	Sanded In
Surface							
Coal	12 3/8"	9 5/8"	433'	New	L.S., 36#	314'	Yes
Intermediate 1	8 7/8"	7"	2700'	New	AT-50, 19#	2530', 170'	No
Intermediate 2							
Intermediate 3							
Production							
Tubing							
Packer type and depth set							

Comment Details Well completed as natural. No production casing ran.

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	Sanded In	-	-	-	-	-	-
Surface							
Coal	Class A	160	15.6	1.20	192	Surface	11
Intermediate 1	Poz Mix/Class A	230/150	13.2/15.6	1.66/1.20	381.8/180	Not Logged	8
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) 8441' Loggers TD (ft) Not Logged at TD
 Deepest formation penetrated Devonian Shale Plug back to (ft) N/A
 Plug back procedure

Kick off depth (ft) 2802'

Check all wireline logs run at 7" casing point
 caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING
 9 5/8" centralizers on joints #2 and #5
 7" centralizers on joints #1, 3, 8 and 39

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS
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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS Natural well, open hole: 2700'-8441'

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

WV Department of Environmental Protection

WR-35
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API 47- 059 - 02265 Farm name Nighbert Land Company Well number 828038

PRODUCING FORMATION(S)	DEPTHS	
Lower Huron	3280'-3431'	TVD 3334'-8441' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 40 psi Bottom Hole _____ psi DURATION OF TEST 12 hrs

OPEN FLOW Gas 2100 mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY Estimated Orifice Pitot tube

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)
Sand Shale	0	1068	0	1068	Coal 55'-61', water @ 680'
Salt Sand	1068	1458	1068	1458	Water @ 1110'
Upper Maxon	1506	1562	1506	1562	
Lower Maxon	1614	1684	1614	1684	
Little Lime	1773	1814	1773	1814	
Big Lime	1814	2011	1814	2011	Gas Show
Big Injun	2011	2028	2011	2028	
Pocono Shale	2028	2531	2028	2560	
Sunbury Shale	2531	2560	2560	2650	
Berea Sand	2560	2650	2560	2650	
Bedford Shale	2650	2660	2650	2660	
Cleveland	2660	2730	2660	2730	
Upper Dev. Undiff	2730	3280	2730	3334	
Lower Huron	3280	3431	3334	8441	Gas Shows

Please insert additional pages as applicable.

Drilling Contractor Gasco Drilling Inc
Address P.O. Drawer 330 City Cedar Bluff State VA Zip 24609

Logging Company BHI Wireline Services
Address 3415 Millennium Blvd City Massillon State OH Zip 44646

Cementing Company C & J Energy Service
Address 580 Hawthorn Drive City Norton State VA Zip 24273

Stimulating Company N/A
Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by Robert E. Schindler Telephone 304-353-5000
Signature R.E. Schindler Title Completions Superintendent Date 10-17-18

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OCT 25 2018

VA Department of
Environmental Protection

Core Operating

Well: Nighbert 20H
 Site: Nighbert
 Project: Mingo County, West Virginia (UTM NAD83)
 Design: plan8 utm
 Rig: Gasco Drilling rig #12

Section Details

MD	In	At	TVD	+N-S	+E-W	Dirg	TFace	V500	Annotation
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1	20.15	47.35	2214.91	-11.21	-0.08	0.00	0.00	12.02	Survey @ 23:15:00 MD 2214.91 TVD
2	20.00	47.35	2820.10	-10.58	0.00	0.00	0.00	12.16	KDP Begin @ 79°10'00" build
3	20.00	130.40	2820.37	-12.85	1.54	8.70	11.84	12.64	KDP Begin @ 79°10'00" build
4	31.08	139.49	3058.25	-70.50	26.46	8.70	0.00	61.00	Begin @ 79°10'00" build
5	35.22	150.00	3454.00	-622.12	324.34	0.00	0.00	0.00	Begin @ 90°00' build
6	39.53	160.00	3454.00	6026.40	4802.08	0.00	0.00	0.00	Begin @ 90°00' build

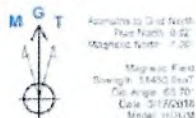
ANNOTATIONS SURVEYS

MD	In	At	TVD	+N-S	+E-W	V500	Annotation
100	0.70	160.19	100.00	0.64	0.18	0.00	
1386	93.74	150.07	3534.15	-4903.28	1812.74	5227.46	Survey @ 8:28:00 MD 3434.55 TVD
1441	95.74	150.07	3430.56	-4953.44	1836.00	5282.20	Survey Projected to 6:44:00 MD 3430.96 TVD

Geoid System: Universal Transverse Mercator (U.S. Survey Feet)
 Datum: NAD83 West Virginia - HARN
 Ellipsoid: GRS 1983
 Zone: Zone 17N (81 W to 76 W)

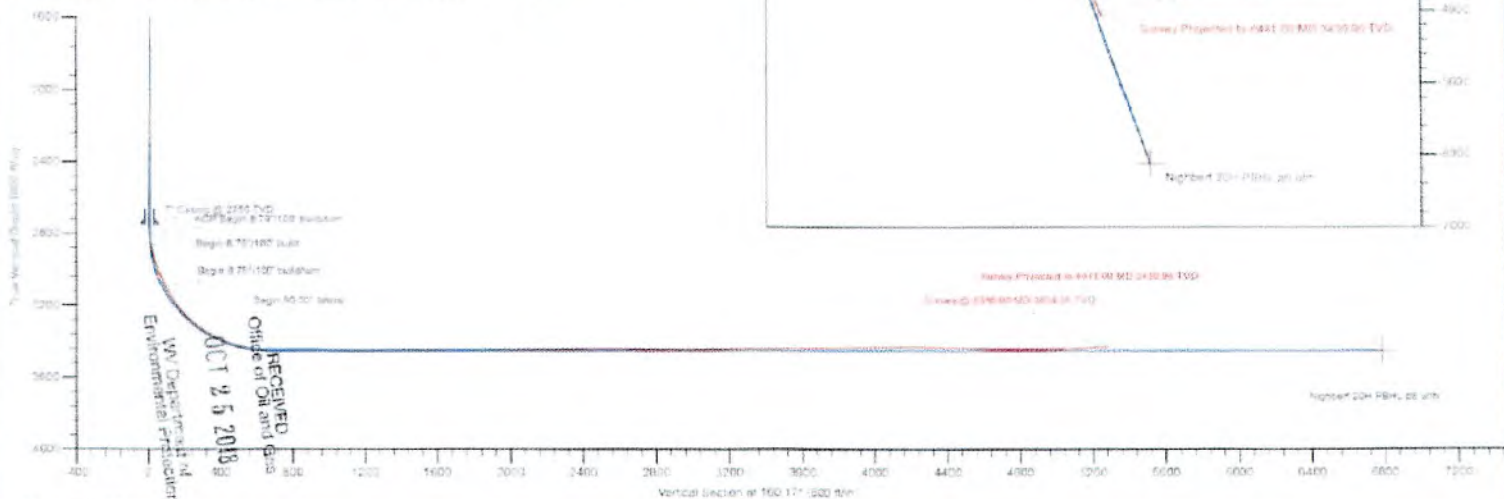
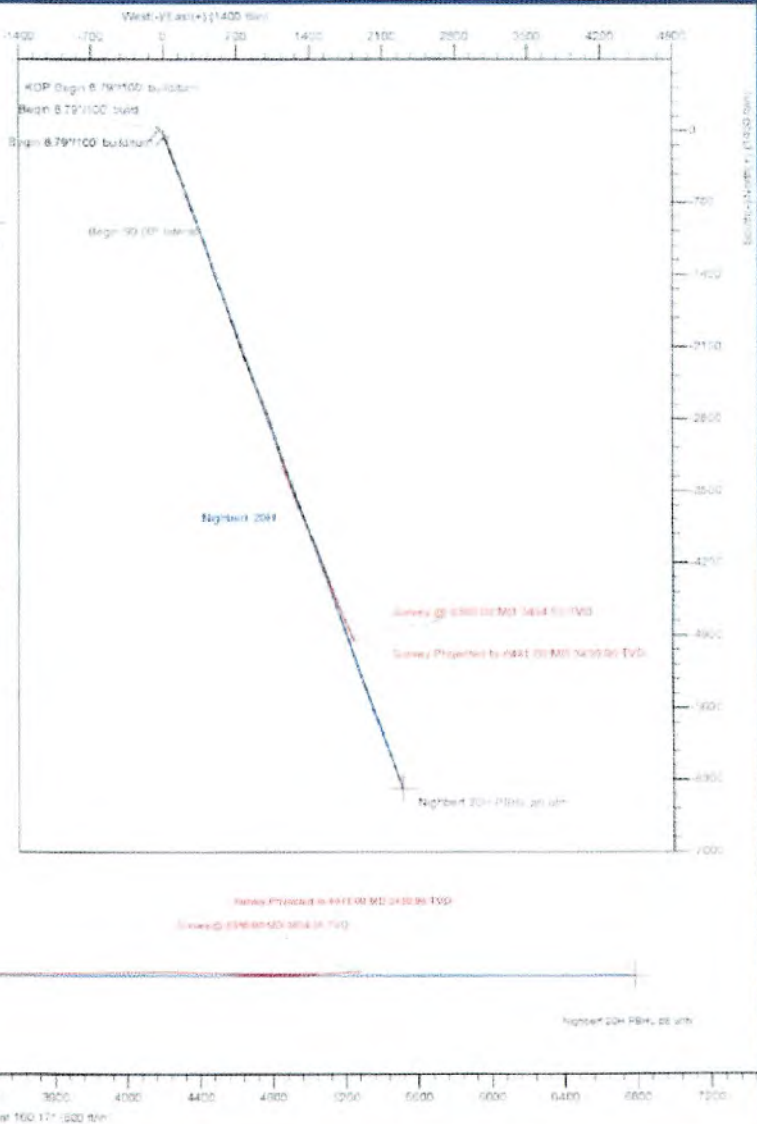
System Origin: Mean Sea Level
 Dept: Reference: G.L. (1000) @ 943.00'

Nothing Easting 1264099.78 Lat/North 37.02913663 Lmp/Depth -82.33015000



Total Cor. (M-G): To convert a Magnetic Direction to a Grid Direction Subtract 7.20"

ALL DEPTHS ARE REFERENCED TO GROUND ELEVATION

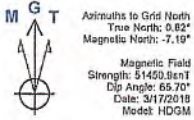


Core Operating

Well: Nighbert 20H (828038)
 Site: Nighbert
 Project: Lincoln County, West Virginia NAD27 WV S
 Design: plan4
 Rig:

Section Details

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dlag	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2790.00	0.00	0.00	2790.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 8.3°/100' build
3	3873.85	90.00	160.18	3480.00	-649.11	234.00	8.30	160.18	690.00	Begin 90.00° lateral
4	9973.86	90.00	160.18	3480.00	-6387.65	2302.86	0.00	0.00	6790.01	PBHLTD 9973.86 MD/3480.00 TVD



Adjustments to Grid North
 True North: 0.82°
 Magnetic North: -7.19°

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

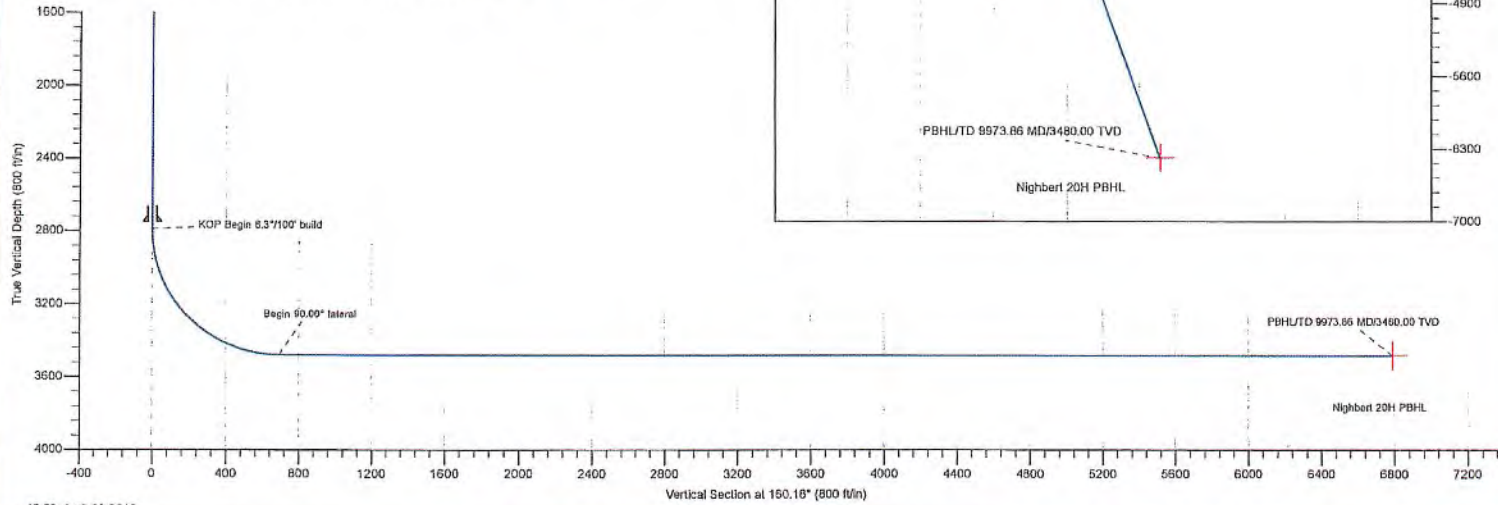
System Datum: Mean Sea Level
 Depth Reference: CL @ 932.00ft

Northing: 304671.78 Easting: 1614353.33 Latitude: 37.82908324 Longitude: -82.33526435

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Subtract 7.19°



ALL DEPTHS ARE REFERENCED TO GROUND ELEVATION



19:59, April 20 2018

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47-059-02265W

59-02201

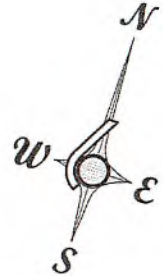
WV Department of Environmental Protection

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Office of Oil and Gas

PROPOSED NIGHBERT 20H (828038)

PROPOSED NIGHBERT 19H (826851)



SURFACE
LAT:37.822093
LONG:82.332284
N:304671.78
E:1614353.33

LANDING
N:304990.30
E:1614573.76

LANDING
LAT:37.827423
LONG:82.334491

47-59-025 (PLUGGED)

WELL BORE
S 18°48'35" E
6.140'

WELL BORE
S 18°48'35" E
6.140'

BOTTOM HOLE
N:309284.14
E:1616025.88
LAT:37.811843
LONG:82.326988

START CURVE
N:304705.55
E:1614593.54
LAT:37.829178
LONG:82.332585

LANDING
N:304492.84
E:1614988.71
LAT:37.829838
LONG:82.333140

DOC'S
P=1.145'
LC=501'

LANDING
N:304478.49
E:1615078.03
LAT:37.828583
LONG:82.332980

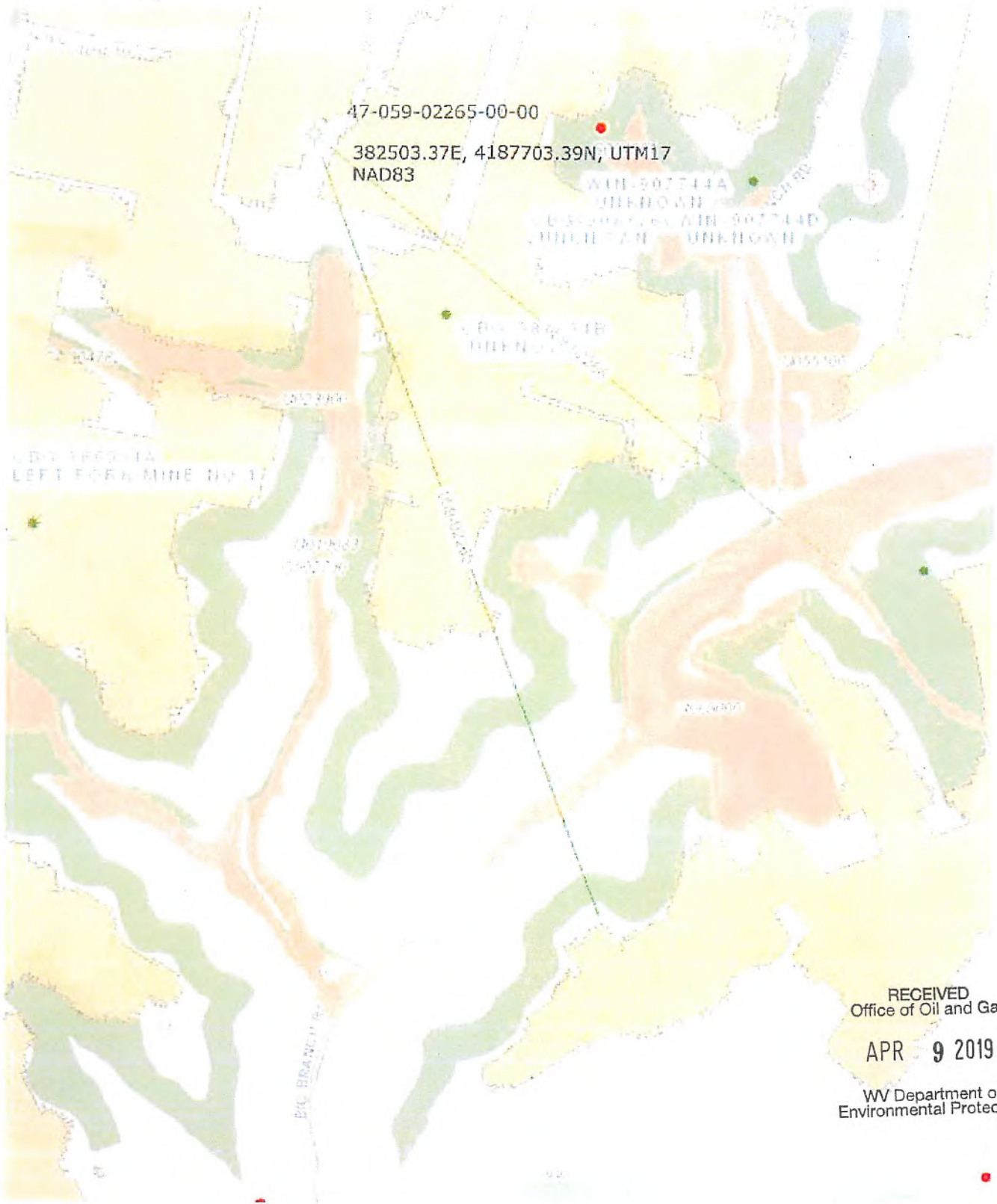
END CURVE
N:304217.57
E:1615440.85
LAT:37.827089
LONG:82.331497

WELL BORE
S 46°05'36" E
4.175'

WELL BORE
S 46°05'36" E
4.175'

WELL No. 828654

BOTTOM HOLE
N:301114.21
E:1618064.24
LAT:37.819484
LONG:82.320182



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WV Department of
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04/12/2019

WW-2A
(Rev. 6-14)

1). Date: 4/5/2019
2.) Operator's Well Number 828038
State County Permit
3.) API Well No.: 47- 059 -

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

4) Surface Owner(s) to be served:
(a) Name Nighbert Land Co
Address 1116 5th AVE
Huntington, WV 25701
(b) Name _____
Address _____
(c) Name _____
Address _____
5) (a) Coal Operator
Name _____
Address _____
(b) Coal Owner(s) with Declaration
Name Nighbert Land Co
Address 1116 5TH AVE
Huntington, WV 25701
Name _____
Address _____
(c) Coal Lessee with Declaration
Name Southeastern Land, LLC
Address 81 Enterprise DR
DEBORD, KY 41214

TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

 Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas

OR
 x Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through on the above named parties by:

- Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of any permit issued under this application.

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, 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 and imprisonment.

Well Operator Core Appalachia Operating, LLC
By: [Signature]
Its: Director - HSE and Administrative Services
Address: 414 Summers Street
Charleston, WV 25301
Telephone: 304-353-5240
Email: icareathouse@coreoperating.com

Subscribed and sworn before me this 5th day of April 2019, Core Appalachia Operating

Sherrice L Moore

Notary Public

My Commission Expires 7-5-2021

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov



47-059-02265W

04/12/2019

Craig Blackburn
Land Manager
Core Appalachia Operating LLC

213 Industrial Road
Debord, KY 41240

Tel: (606) 298-3400, Ext 86671
Email: cblackburn@coreoperating.com

April 5, 2019

Nighbert Land Company
1116 5th Avenue
Huntington, WV 25701

Dear Sir or Madam:

Core Appalachia Operating, LLC is preparing to frack and complete Well 828038 located in Mingo County, WV. Attached is all the pertinent information needed for a permit application.

Core Appalachia Operating, LLC is required by law to notify you on or before the date it files for application. Please read carefully the attached sheets, which explain your rights in this application.

If there are no objections, please sign the waiver. A company representative will pick up the signed waiver at your office.

Sincerely,

CORE APPALACHIA OPERATING, LLC

A handwritten signature in black ink that reads "Craig Blackburn".

Craig Blackburn
Land Manager

CB/slm

Attachment

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Office of Oil and Gas

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WV Department of
Environmental Protection

AFFIDAVIT

State of West Virginia

County of CABELL

Comes the Affiant, Kris Adridge, who being duly sworn, deposes and says, to-wit as follows:

The notification of intent to frac and complete Well No. 828038 (Nighbert Land Co 20H), by Core Appalachia Operating LLC, was personally delivered to:

Nighbert Land Company (Coal, Surface, Oil & Gas Owner)
1116 5th Avenue
Huntington, WV 25701

On the date of 4/8/, 2019

Further affiant saith not.

Kris Adridge
Signature of Affiant

Acknowledgment

State of West Virginia

County of Cabell

On this the 8th day of April, 2019, before me personally appeared Kris Adridge, to me known to be the person described in and who executed the forgoing instrument, and acknowledgement that he executed the same as his free act and deed, for the purposes therein set forth.

RECEIVED
Office of Oil and Gas
Melissa Pettit
APR 9 2019
Notary Public

My Commission expires: April 11, 2021

WV Department of Environmental Protection
Official Seal
Notary Public, State of West Virginia
Melissa Pettit
413 Vinson Road
Huntington WV 25704
My commission expires April 11, 2021

WW-2A Surface Waiver (4/16)

SURFACE OWNER WAIVER

County 059 Operator Core Appalachia Operating Operator well number 828038

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 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, WW-9, 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 of William D. Starks

Date 4/8/19

Company Name By Its

Signature of Nightport Linn Co. Date 4/8/19

Print Name

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Signature of Secretary Date 4/8/19

APR 9 2019



47-059-02265W

04/12/2019

Craig Blackburn
Land Manager
Core Appalachia Operating LLC

213 Industrial Road
Debord, KY 41240

Tel: (606) 298-3400, Ext 86671
Email: cblackburn@coreoperating.com

April 5, 2019

Southeastern Land, LLC
81 Enterprise DR
Debord, KY 41214

Dear Sir or Madam:

Core Appalachia Operating, LLC is preparing to frack and complete Well 828038 located in Mingo County, WV. Attached is all the pertinent information needed for a permit application.

Core Appalachia Operating, LLC is required by law to notify you on or before the date it files for application. Please read carefully the attached sheets, which explain your rights in this application.

If there are no objections, please sign the waiver attached which waives the 15-day waiting period.

Sincerely,

CORE APPALACHIA OPERATING, LLC

A handwritten signature in black ink that reads "Craig Blackburn".

Craig Blackburn
Land Manager

CB/slm

Attachment

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Environmental Protection

AFFIDAVIT

State of Kentucky
County of Martin

Comes the Affiant, Craig E. Blackburn, who being duly sworn, deposes and says, to-wit as follows:

The notification of intent to frac and complete Well No. 828038 (Nighbert Land Co 20H), by Core Appalachia Operating LLC, was personally delivered to:

Southeastern Land, LLC
81 Enterprise Dr.
Debord, KY 41214

On the date of April 5, 2019

Further affiant saith not.

Craig E. Blackburn
Signature of Affiant

Acknowledgment

State of Kentucky
County of Martin

On this the 5th day of April, 2019, before me personally appeared Craig Blackburn, to me known to be the person described in and who executed the forgoing instrument, and acknowledgement that he executed the same as his free act and deed, for the purposes therein set forth.

Sherrie L Moore
Notary Public

My Commission expires: 7-5-2021

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WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County 059 Mingo
Operator Core Appalachia Operating, LLC Operator's Well Number 828038

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 WV 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. Mail objections to:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 925-0499 extension 1654

WAIVER

The undersigned coal operator ____ / owner ____ / 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 _____	Company Name _____	<u>Southeastern Land, LLC</u>
		By _____	Date _____
		Its <u>Paulton POA</u>	Date <u>4/9/19</u>
		Signature _____	Date _____

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WW-2A1
(Rev. 1/11)

Operator's Well Number 828038

**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
Nighbert Land Company	Core Appalachia Operating, LLC	1/8th	23/451

**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:

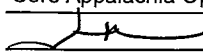
- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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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: Core Appalachia Operating, LLC
By: Its: 
Jessica Greathouse, Director - HSE & Administrative Services

WW-9
(5/16)

API Number 47 - 059 - 02265
Operator's Well No. 828038

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Core Appalachia Operating, LLC OP Code 494518671

Watershed (HUIC 10) Left Fork of Big Branch Quadrangle Naugatuck

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: Fluids and cuttings from drilling and completion activities

Will a synthetic liner be used in the pit? Yes No If so, what ml.? 20

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection (UIC Permit Number Unknown at this time.)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Will closed loop system be used? If so, describe: No

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air/foam

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

Additives to be used in drilling medium? Clay stabilizer and soap

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

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) _____

-Landfill or offsite name/permit number? _____

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, by the Office of Oil and Gas of the West Virginia Department 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 [Signature]

Company Official (Typed Name) Jessica Greathouse

Company Official Title Director - HSE & Administrative Services

Subscribed and sworn before me this 5th day of April, 2019

Sherrie L Moore Notary Public

My commission expires 7-5-2021

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Form WW-9

Operator's Well No. 828038

Proposed Revegetation Treatment: Acres Disturbed 1.2 Prevegetation pH 6.0

Lime 2 Tons/acre or to correct to pH 6.5

Fertilizer type Hydroseed

Fertilizer amount 500 lbs/acre

Mulch hydroseed Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Winter Rye	20	Winter Rye	20
Ladino Clover	5	Ladino Clover	5

OK FOR ALLEN FLOWERS

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: _____

Comments: _____

Title: _____

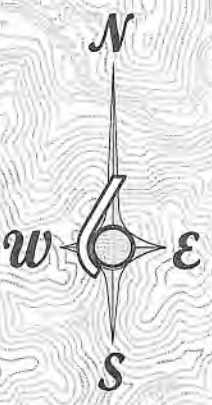
Date: _____

Field Reviewed? () Yes () No

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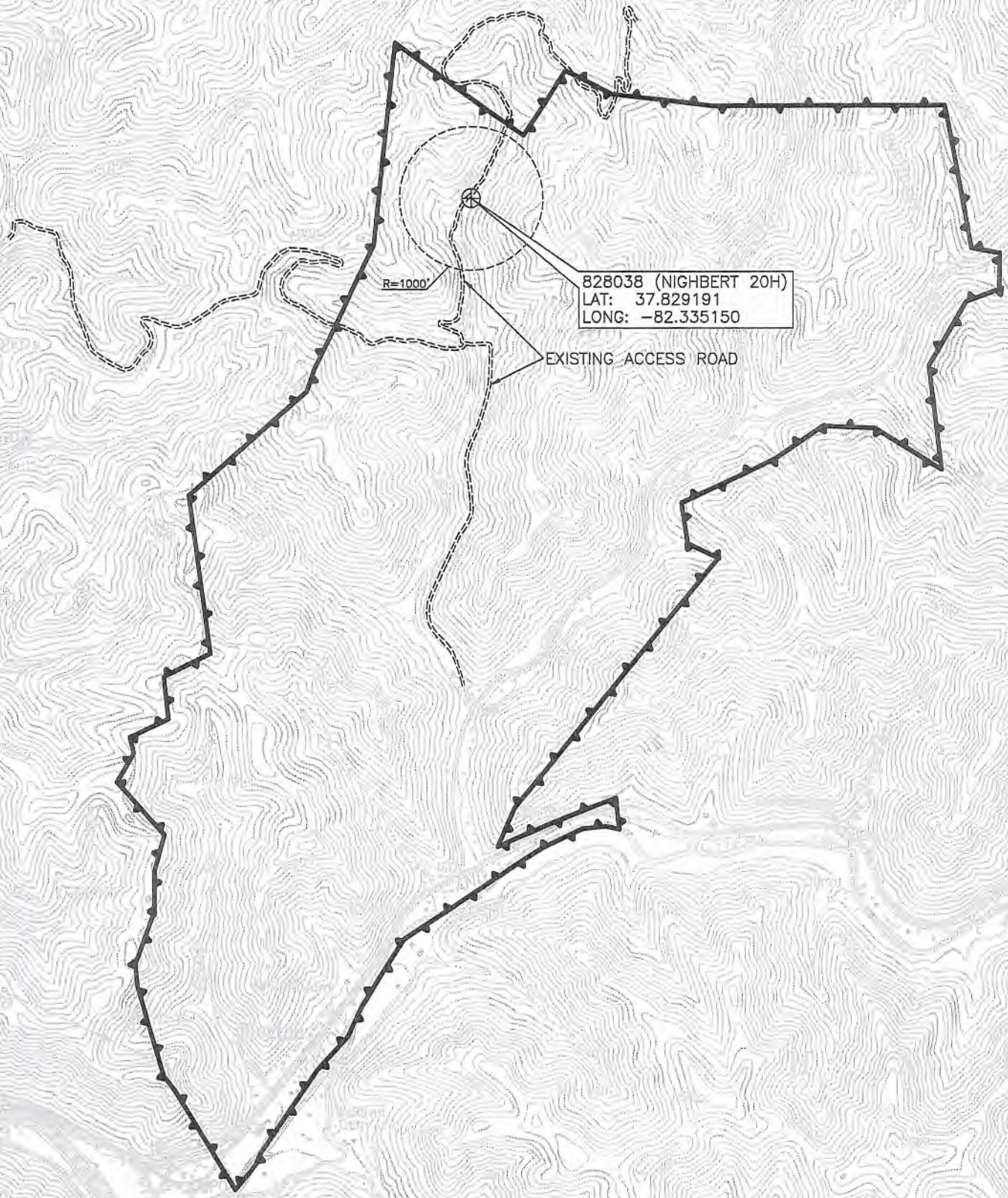
APR 9 2019

WV Department of Environmental Protection



04/12/2019

Well



828038 (NIGHTBERT 20H)
LAT: 37.829191
LONG: -82.335150

R=1000'

EXISTING ACCESS ROAD

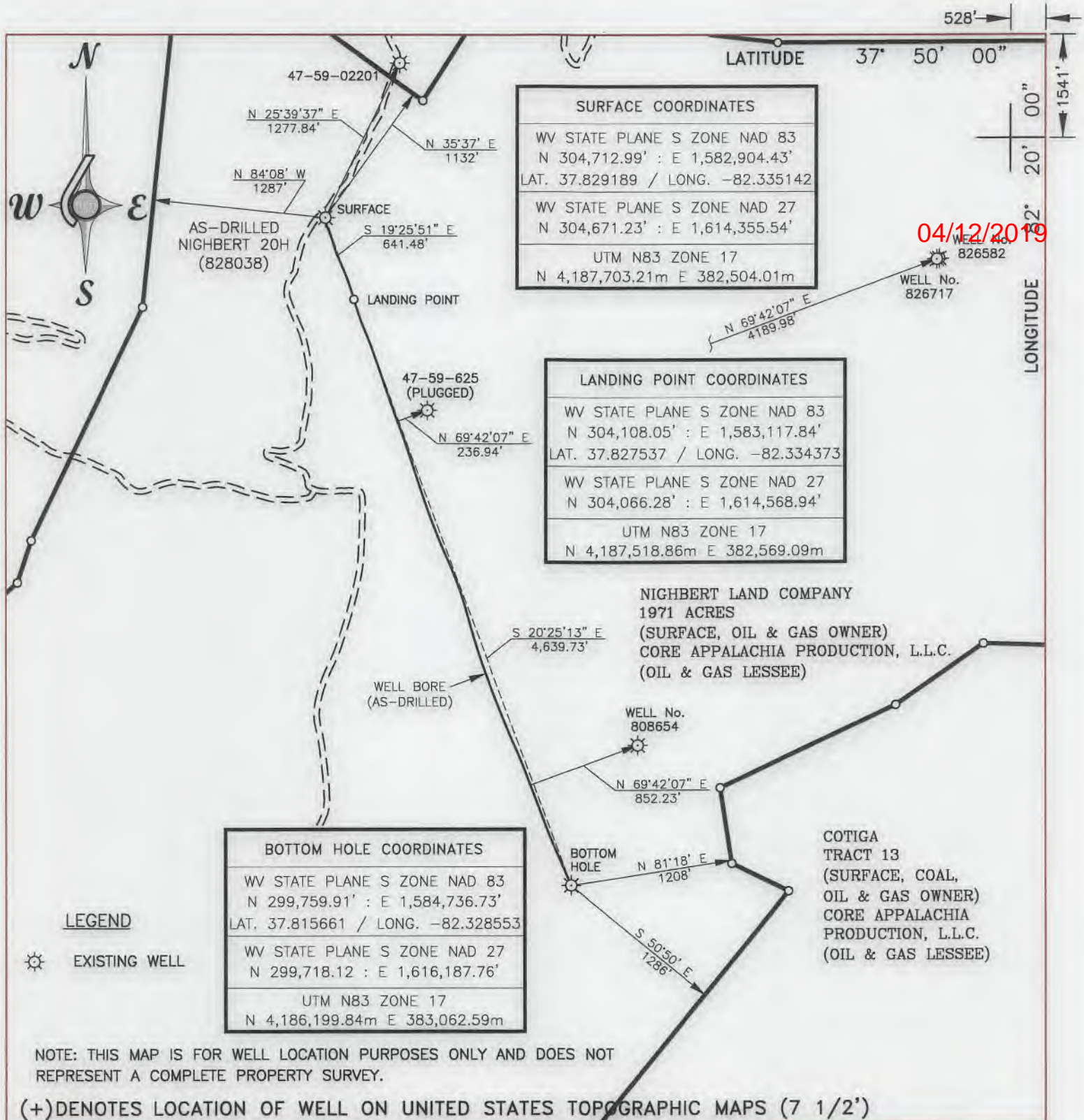
NOTE:
NO WATER WELLS OR OTHER SOURCES OF
GROUNDWATER CURRENTLY BEING UTILIZED FOR
HUMAN CONSUMPTION, DOMESTIC ANIMALS OR
OTHER GENERAL USE WERE IDENTIFIED WITHIN 1000
FEET OF THE PROPOSED WELL SITE.



LOCATION MAP

WELL No: 828038 (NIGHTBERT 20H)
QUAD: NAUGATUCK
SCALE: 1"=2000' DATE: 1/19/2018

Bocook Engineering
CONSULTING ENGINEERS
312 TENTH STREET PAINTSVILLE, KY (606) 789-5961
259 NORTH ARNOLD AVENUE PRESTONSBURG, KY (808) 886-7884



04/12/2019

NIGHTBERT LAND COMPANY
1971 ACRES
(SURFACE, OIL & GAS OWNER)
CORE APPALACHIA PRODUCTION, L.L.C.
(OIL & GAS LESSEE)

COTIGA TRACT 13
(SURFACE, COAL, OIL & GAS OWNER)
CORE APPALACHIA PRODUCTION, L.L.C.
(OIL & GAS LESSEE)

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

(SIGNED) *Dewey L. Bocoock, Jr.*
DEWEY L. BOCOOK, JR.
R.P.E. 6778 L.L.S. 1054



FILE NO. _____
DRAWING NO. GSE1068_20H
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY 1/200
PROVEN SOURCE OF ELEVATION GPS

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
SECTION OF OIL & GAS

DATE: OCTOBER 9, 2018
OPERATOR'S WELL NO. 828038
API WELL NO. _____

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL STATE 47 COUNTY 059 PERMIT 02265 W
(IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 943.30 WATER SHED LEFT FORK OF BIG BRANCH
DISTRICT HARDEE COUNTY MINGO

QUADRANGLE NAUGATUCK NAD 27 COORDINATES LAT: 37.829093 LONG: -82.335284

SURFACE OWNER NIGHTBERT LAND COMPANY ACREAGE 1971
OIL & GAS ROYALTY OWNER NIGHTBERT LAND COMPANY LEASE ACREAGE 1971
COAL OWNER NIGHTBERT LAND COMPANY LEASE NO. 1026481

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 3480' / MEASURED DEPTH 9950'

WELL OPERATOR CORE APPALACHIA OPERATING, LLC DESIGNATED AGENT JESSICA GREATHOUSE
ADDRESS 414 SUMMERS STREET; CHARLESTON, WV 25301 ADDRESS 414 SUMMERS STREET; CHARLESTON, WV 25301

COUNTY NAME MINGO
PERMIT 47-059-02265