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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Friday, May 25, 2018  
WELL WORK PERMIT  
Horizontal / New Drill

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 New Drill  
Date Issued: 5/25/2018

# 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

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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](mailto: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: Core Appalachia Operating LLC

494518671	Mingo	Hardee	Nasugauck
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Operator ID County District Quadrangle

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

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 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

**13) CASING AND TUBING PROGRAM**

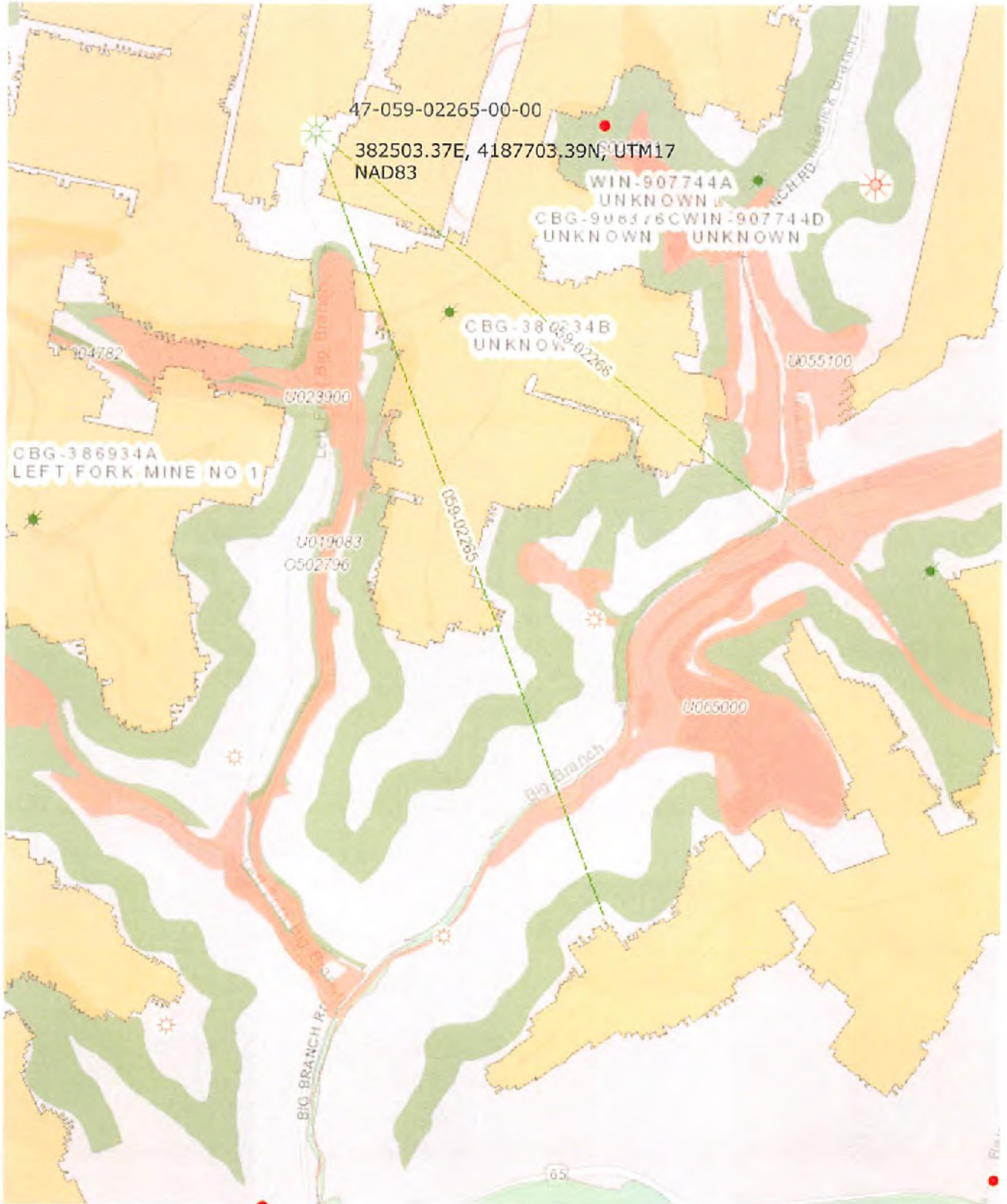
TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor	13-3/8"	LS	54#	40	40	sanded in
Fresh Water	9-5/8"	LS	36#	400	400	125
Coal						
Intermediate	7"	LS	23#	2675	2675	405
Production	4-1/2"	WT80	11.6#		9950	-- *767
Tubing						
Liners						

Packers: Kind: \_\_\_\_\_  
Sizes: \_\_\_\_\_  
Depths Set \_\_\_\_\_

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Office of Oil and Gas  
**MAY 22 2018**  
WV Department of  
Environmental Protection

\*Unless packers are ran

The planned TOC is 2475'.



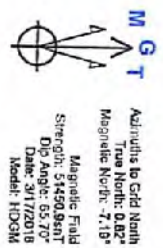


4705902265H

# Core Operating

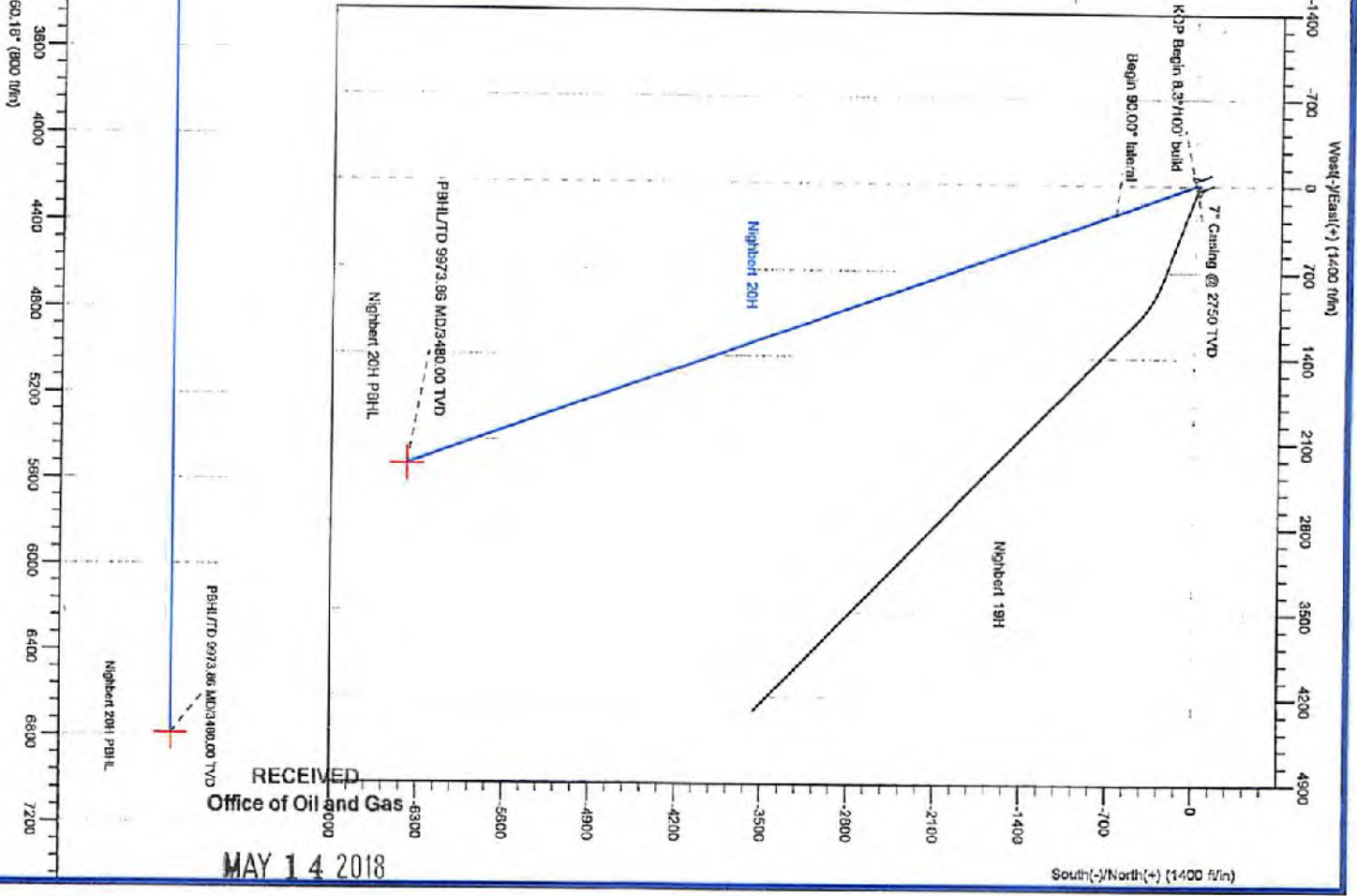
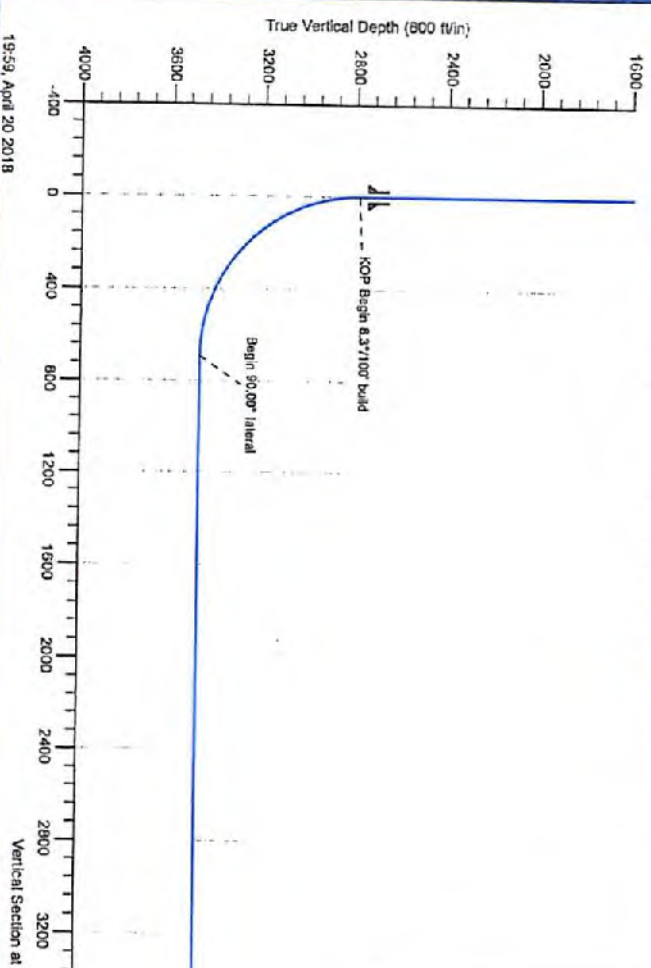
Well: Nighbert 20H (928038)  
 Site: Nighbert  
 Project: Lincoln County, West Virginia NAD27 WVS  
 Design: plan4  
 Rig:

Sec	MD	Inc	Adj	TVD	+N/S	+E/W	Diag	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 8.37100' build
3	3873.85	60.00	160.18	3480.00	-648.11	234.00	8.30	190.18	690.00	Begin 90.00° lateral
4	5973.86	60.00	160.18	5490.00	-6387.65	2302.55	0.00	0.00	6790.01	PBH/LTD 9973.86 MD/3480.00 TVD



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: G.L @ 932.00ft  
 Northing: 304671.78 Easting: 1614953.35 Latitude: 37.82309324 Longitude: -92.33528435  
 Total Corr (M->T): To convert a Magnetic Direction to a Grid Direction, Subtract 7.19°

ALL DEPTHS ARE REFERENCED TO GROUND ELEVATION



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 Office of Oil and Gas  
 MAY 14 2018



1). Date: 4/23/2018 **47 059 02265H**  
2.) Operator's Well Number 828038 State 47 County 059 Permit -  
3.) API Well No.:

**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:**

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

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:

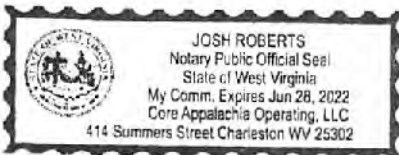
- Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of the 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 23rd day of April, 2018

Notary Public

My Commission Expires June 28, 2022

Oil and Gas Privacy Notice



WW-2A Surface Waiver  
(4/16)

SURFACE OWNER WAIVER

County 059

Operator  
Operator well number

Core Appalachia Operating, L  
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 57<sup>th</sup> 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 Date \_\_\_\_\_

\_\_\_\_\_  
Print Name

Company Name Nighbert Land Company  
 By William D. Stark Date 5/15/18  
 Its Secretary  
 \_\_\_\_\_  
William D. Stark  
 Signature Date

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Office of Oil and Gas

MAY 16 2018

WV Department of  
Environmental Protection



Craig Blackburn  
Land Manager  
Core Appalachia Operating LLC

4705902265H

213 Industrial Road  
Debord, KY 41240

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

CERTIFIED MAIL

April 25, 2018

Southeastern Land, LLC  
81 Enterprise DR  
Debord, KY 41214

Dear Sir or Madam:

Core Appalachia Operating, LLC is preparing to drill 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 and forward to the West Virginia Office of Oil and Gas no later than fifteen (15) days after the above application date. A pre-addressed, postage-paid envelope is provided for your convenience.

Sincerely,

CORE APPALACHIA OPERATING, LLC

A handwritten signature in cursive script that reads "Craig Blackburn".

Craig Blackburn  
Land Manager

CB/slm

Attachment

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Office of Oil and Gas  
APR 27 2018  
WV Department of  
Environmental Protection



**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

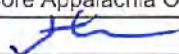
**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

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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Office of Oil and Gas  
APR 27 2018  
WV Department of  
Environmental Protection

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, 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

4705902265H

WW-2B1  
(5-12)

Well No. 828038

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.

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

Listed below is the laboratory chosen by operator to perform analysis, and contractor chosen to collect sample.

Certified Laboratory Name NA - no known water wells or springs within 2000'  
Sampling Contractor \_\_\_\_\_

Well Operator Core Appalachia Operating, LLC  
Address 414 Summers ST  
Charleston, WV 25301  
Telephone (304) 353-5240

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 underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

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Office of Oil and Gas  
APR 27 2018  
WV Department of  
Environmental Protection



WW-9  
(5/16)

API Number 47 - 059 - \_\_\_\_\_  
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 (HUC 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 23rd day of April, 20 18

[Signature] Notary Public

My commission expires June 28, 2022



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

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: Alan D. Flowers

Comments: \_\_\_\_\_

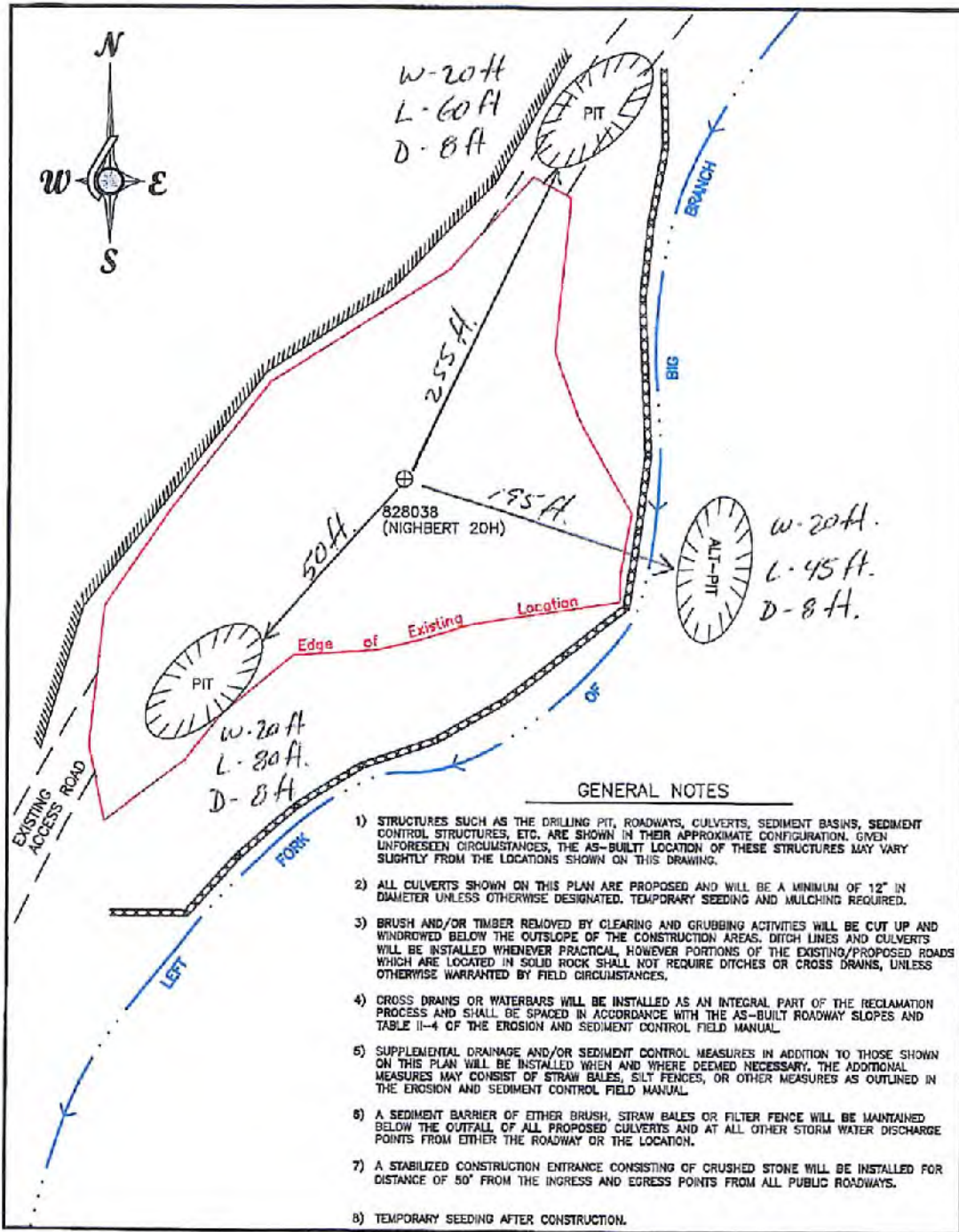
Based on mulch all  
affected areas per job Rep.  
Current job inspection 20 H.  
Best site construction be by

Title: Job Inspector

Date: 5-11-2018

Field Reviewed?  Yes  No





**GENERAL NOTES**

- 1) STRUCTURES SUCH AS THE DRILLING PIT, ROADWAYS, CULVERTS, SEDIMENT BASINS, SEDIMENT CONTROL STRUCTURES, ETC. ARE SHOWN IN THEIR APPROXIMATE CONFIGURATION. GIVEN UNFORESEEN CIRCUMSTANCES, THE AS-BUILT LOCATION OF THESE STRUCTURES MAY VARY SLIGHTLY FROM THE LOCATIONS SHOWN ON THIS DRAWING.
- 2) ALL CULVERTS SHOWN ON THIS PLAN ARE PROPOSED AND WILL BE A MINIMUM OF 12" IN DIAMETER UNLESS OTHERWISE DESIGNATED. TEMPORARY SEEDING AND MULCHING REQUIRED.
- 3) BRUSH AND/OR TIMBER REMOVED BY CLEARING AND GRUBBING ACTIVITIES WILL BE CUT UP AND WINDROWED BELOW THE OUTSLOPE OF THE CONSTRUCTION AREAS. DITCH LINES AND CULVERTS WILL BE INSTALLED WHENEVER PRACTICAL, HOWEVER PORTIONS OF THE EXISTING/PROPOSED ROADS WHICH ARE LOCATED IN SOLID ROCK SHALL NOT REQUIRE DITCHES OR CROSS DRAINS, UNLESS OTHERWISE WARRANTED BY FIELD CIRCUMSTANCES.
- 4) CROSS DRAINS OR WATERBARS WILL BE INSTALLED AS AN INTEGRAL PART OF THE RECLAMATION PROCESS AND SHALL BE SPACED IN ACCORDANCE WITH THE AS-BUILT ROADWAY SLOPES AND TABLE II-4 OF THE EROSION AND SEDIMENT CONTROL FIELD MANUAL.
- 5) SUPPLEMENTAL DRAINAGE AND/OR SEDIMENT CONTROL MEASURES IN ADDITION TO THOSE SHOWN ON THIS PLAN WILL BE INSTALLED WHEN AND WHERE DEEMED NECESSARY. THE ADDITIONAL MEASURES MAY CONSIST OF STRAW BALES, SILT FENCES, OR OTHER MEASURES AS OUTLINED IN THE EROSION AND SEDIMENT CONTROL FIELD MANUAL.
- 6) A SEDIMENT BARRIER OF EITHER BRUSH, STRAW BALES OR FILTER FENCE WILL BE MAINTAINED BELOW THE OUTFALL OF ALL PROPOSED CULVERTS AND AT ALL OTHER STORM WATER DISCHARGE POINTS FROM EITHER THE ROADWAY OR THE LOCATION.
- 7) A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF CRUSHED STONE WILL BE INSTALLED FOR DISTANCE OF 50' FROM THE INGRESS AND EGRESS POINTS FROM ALL PUBLIC ROADWAYS.
- 8) TEMPORARY SEEDING AFTER CONSTRUCTION.

Road:	Existing Fence:	Planned Fence:	Stream:	Open Ditch:	Rock:	North:	Buildings:	Water Wells:	Drill Site:
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Diversion:	Spring:	Wet Spot:	Drain Pipe:	Waterway:	Cross Drain:	Artificial Filter Strip:	Property Lines:	Pit: Cut Walls	Pit: Compacted Fill Walls	Area for Land Application of Pit Waste
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**CORE APPALACHIA**

**Bocook Engineering**

CONSULTING ENGINEERS

312 YORK STREET DANVILLE, VA 24101-9999-0861 540-753-2842  
200 NORTH APPROX AVENUE PETERSBURG, VA 23103-8827-2884

**RECLAMATION SITE PLAN**

WELL NO. 828038 (NIGHTBERT 20H)

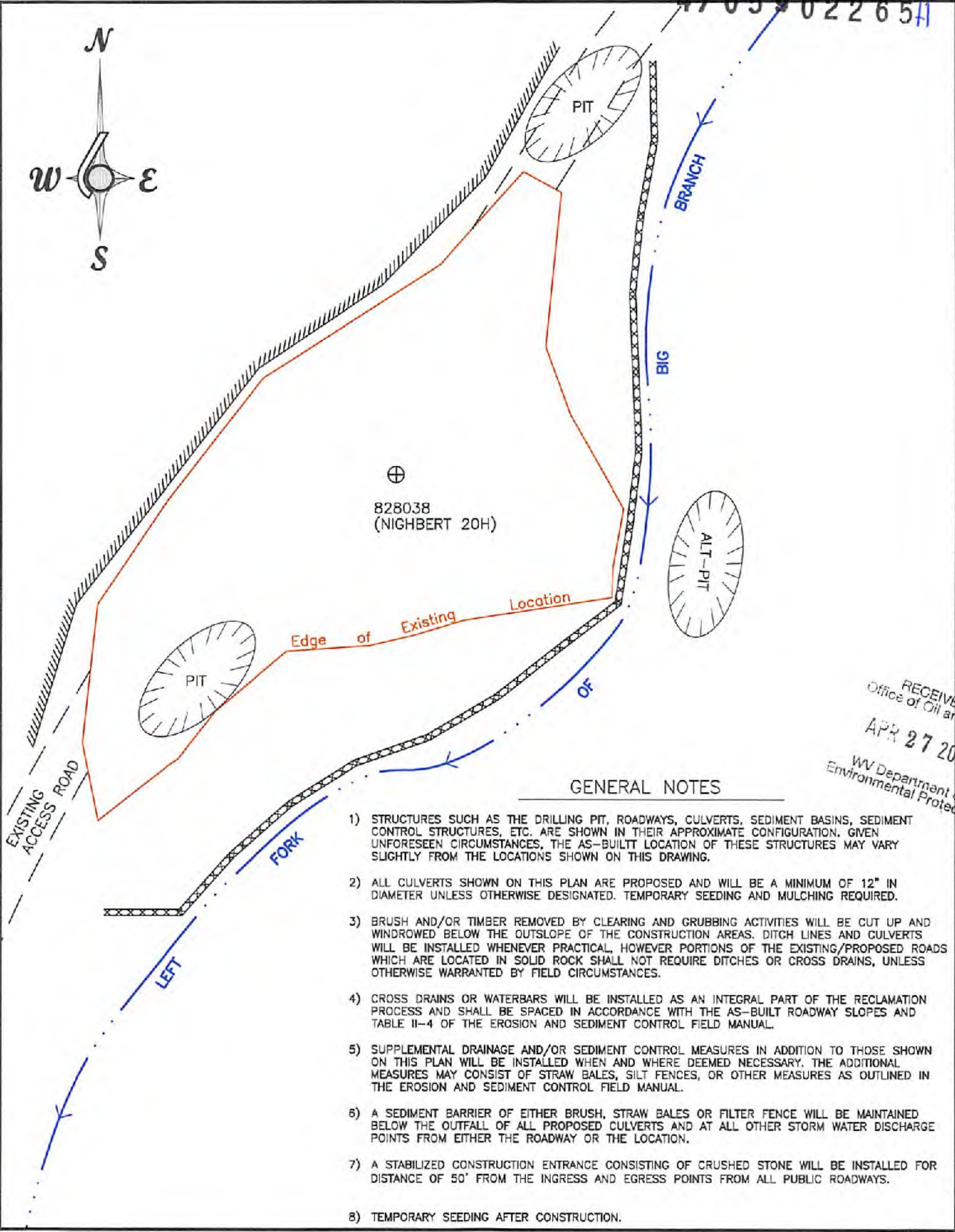
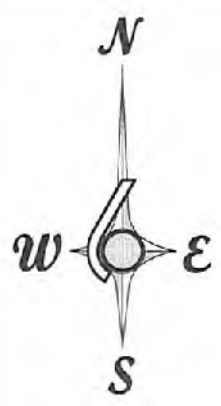
QUADRANGLE NAUGATUCK DRAWING NO. GSE1068\_20H

DATE 4/19/2018 SCALE

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Office of Oil and Gas  
MAY 17 2018  
WV Department of Environmental Protection



4705902265H



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Office of Oil and Gas  
APR 27 2018  
WV Department of  
Environmental Protection

**GENERAL NOTES**

- 1) STRUCTURES SUCH AS THE DRILLING PIT, ROADWAYS, CULVERTS, SEDIMENT BASINS, SEDIMENT CONTROL STRUCTURES, ETC. ARE SHOWN IN THEIR APPROXIMATE CONFIGURATION. GIVEN UNFORESEEN CIRCUMSTANCES, THE AS-BUILT LOCATION OF THESE STRUCTURES MAY VARY SLIGHTLY FROM THE LOCATIONS SHOWN ON THIS DRAWING.
- 2) ALL CULVERTS SHOWN ON THIS PLAN ARE PROPOSED AND WILL BE A MINIMUM OF 12" IN DIAMETER UNLESS OTHERWISE DESIGNATED. TEMPORARY SEEDING AND MULCHING REQUIRED.
- 3) BRUSH AND/OR TIMBER REMOVED BY CLEARING AND GRUBBING ACTIVITIES WILL BE CUT UP AND WINDROWED BELOW THE OUTSLOPE OF THE CONSTRUCTION AREAS. DITCH LINES AND CULVERTS WILL BE INSTALLED WHENEVER PRACTICAL, HOWEVER PORTIONS OF THE EXISTING/PROPOSED ROADS WHICH ARE LOCATED IN SOLID ROCK SHALL NOT REQUIRE DITCHES OR CROSS DRAINS, UNLESS OTHERWISE WARRANTED BY FIELD CIRCUMSTANCES.
- 4) CROSS DRAINS OR WATERBARS WILL BE INSTALLED AS AN INTEGRAL PART OF THE RECLAMATION PROCESS AND SHALL BE SPACED IN ACCORDANCE WITH THE AS-BUILT ROADWAY SLOPES AND TABLE II-4 OF THE EROSION AND SEDIMENT CONTROL FIELD MANUAL.
- 5) SUPPLEMENTAL DRAINAGE AND/OR SEDIMENT CONTROL MEASURES IN ADDITION TO THOSE SHOWN ON THIS PLAN WILL BE INSTALLED WHEN AND WHERE DEEMED NECESSARY. THE ADDITIONAL MEASURES MAY CONSIST OF STRAW BALES, SILT FENCES, OR OTHER MEASURES AS OUTLINED IN THE EROSION AND SEDIMENT CONTROL FIELD MANUAL.
- 6) A SEDIMENT BARRIER OF EITHER BRUSH, STRAW BALES OR FILTER FENCE WILL BE MAINTAINED BELOW THE OUTFALL OF ALL PROPOSED CULVERTS AND AT ALL OTHER STORM WATER DISCHARGE POINTS FROM EITHER THE ROADWAY OR THE LOCATION.
- 7) A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF CRUSHED STONE WILL BE INSTALLED FOR DISTANCE OF 50' FROM THE INGRESS AND EGRESS POINTS FROM ALL PUBLIC ROADWAYS.
- 8) TEMPORARY SEEDING AFTER CONSTRUCTION.

Road: = = = = =	Diversion: // // // //
Existing Fence: - x - x - x -	Spring: (S) →
Planned Fence: - / - / - / - / -	Wet Spot: (W) ○
Stream: ~ ~ ~ ~ ~	Drain Pipe: (12") →
Open Ditch: ————	Waterway: ← ← ←
Rock: (O) (O) (O)	Cross Drain: // // // //
North: ↑	Artificial Filter Strip: x x x x x
Buildings: ■	Property Lines: ▲ ▲ ▲ ▲
Water Wells: (W)	Pit: Cut Walls (P) ○
Drill Site: (⊕)	Pit: Compacted Fill Walls (P) ○
	Area for Land Application of Pit Waste (P) ○

Road: = = = = =	Diversion: // // // //
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CONSULTING ENGINEERS  
312 TENTH STREET PAINTSVILLE, KY (606) 788-5961  
259 NORTH ARNOLD AVENUE PRESTONSBURG, KY (606) 885-7884

**RECLAMATION SITE PLAN**

WELL NO. 828038 (NIGHTBERT 20H)  
 QUADRANGLE NAUGATUCK DRAWING NO. GSE1068\_20H  
 DATE 4/19/2018 SCALE 1"=50'



4705902265H



Well

R=1000'

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

EXISTING ACCESS ROAD

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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



CONSULTING ENGINEERS  
312 TENTH STREET PAINTSVILLE, KY (506) 789-5961  
259 NORTH ARNOLD AVENUE PRESTONSBURG, KY (806) 886-7584

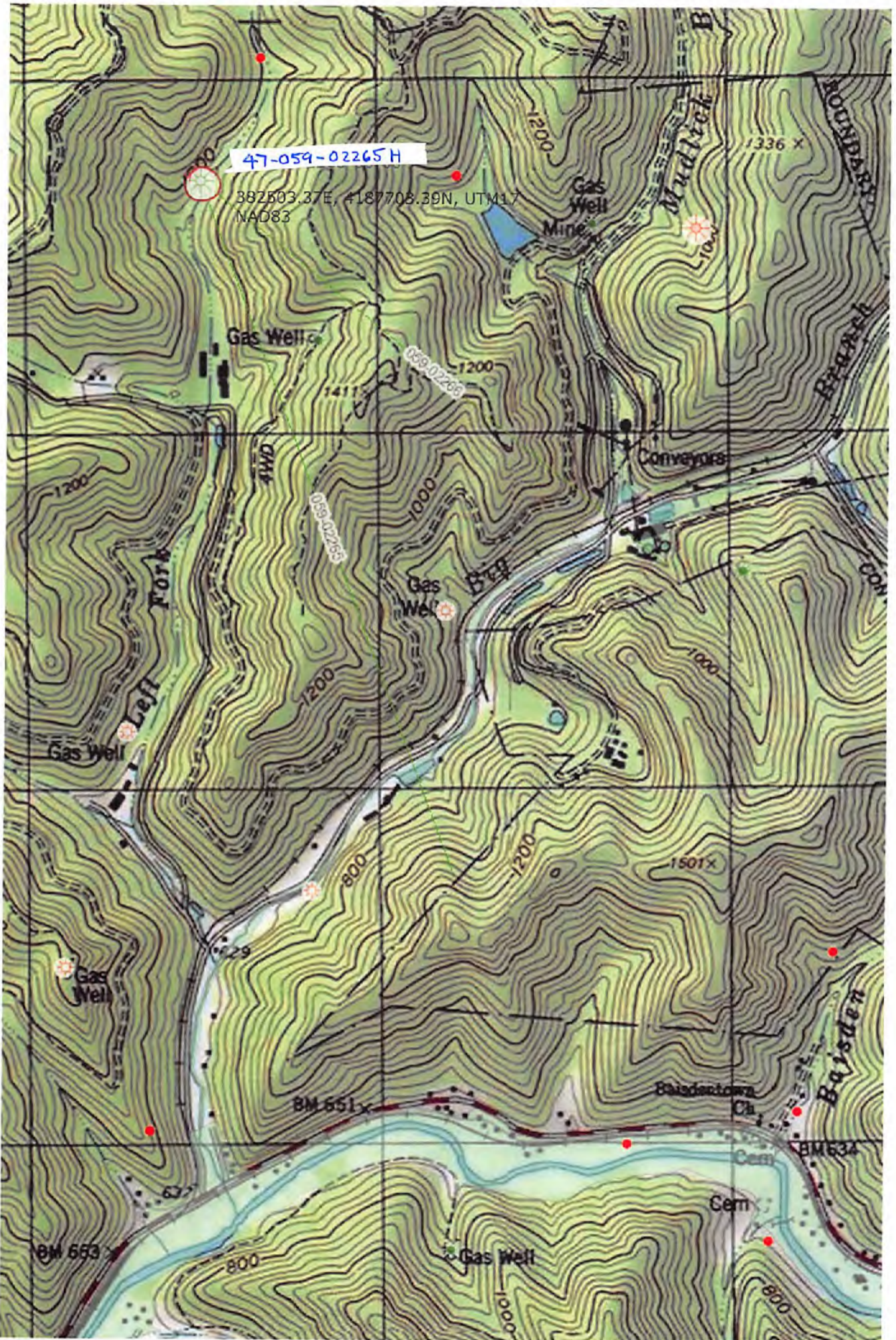


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FEB 23 2018



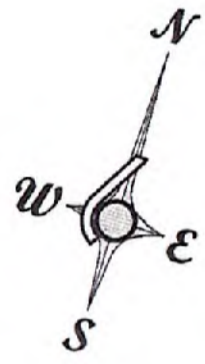




99-02201

### PROPOSED NIGHBERT 19H (826851)

### PROPOSED NIGHBERT 20H (828038)



47-56-625 (PLUGGED)

WELL No. 808654

WELL No. 808654  
BOTTOM HOLE  
N:301114.21, E:1810884.74  
LAT:37.818404, LONG:82.327183

S 18°49'25" E  
6.140'

WELL BORE

S 46°03'36" E  
4.475'

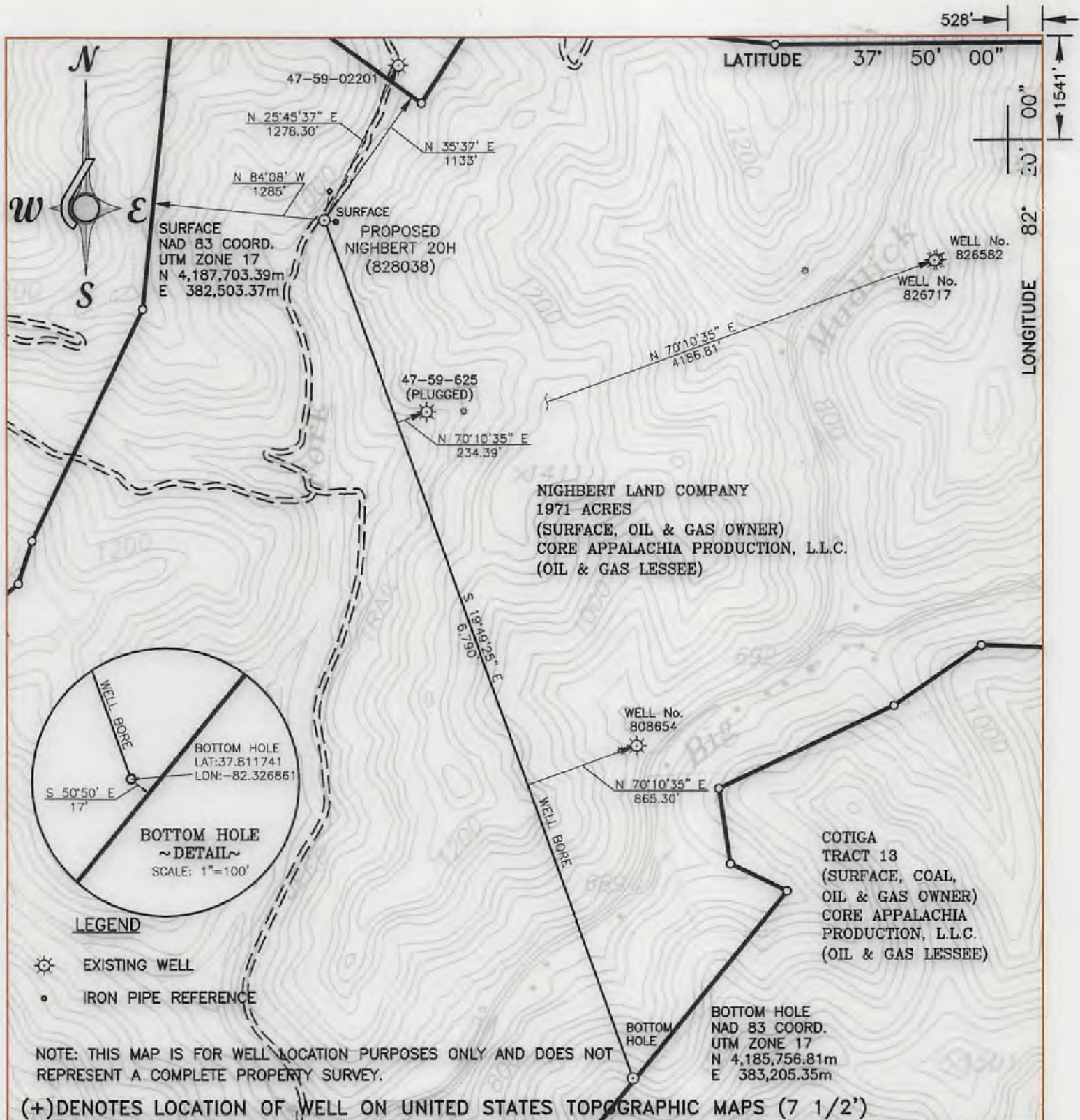
WELL BORE

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MAY 14 2018

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FILE NO. \_\_\_\_\_  
 DRAWING NO. GSE1068\_20H  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY 1/200  
 PROVEN SOURCE OF ELEVATION GPS

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

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



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

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

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

QUADRANGLE NAUGATUCK COORDINATES LAT: 37.829191 LONG: -82.335150

SURFACE OWNER NIGHBERT LAND COMPANY ACREAGE 1971  
 OIL & GAS ROYALTY OWNER NIGHBERT LAND COMPANY LEASE ACREAGE 1971  
 COAL OWNER NIGHBERT 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 TOTAL VERTICAL 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

MINGO COUNTY NAME PERMIT