



west virginia department of environmental protection

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

Jim Justice , Governor  
Austin Caperton , Cabinet Secretary  
www.dep.wv.gov

Friday, January 19, 2018  
WELL WORK PERMIT  
Horizontal / Plugging

TUG HILL OPERATING, LLC  
550 BAILEY AVENUE, SUITE 510

FORT WORTH, TX 76107

Re: Permit approval for CORLEY 5H  
47-051-01439-00-00

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: CORLEY 5H  
Farm Name: CORLEY, JAMES A. & JILL C.  
U.S. WELL NUMBER: 47-051-01439-00-00  
Horizontal / Plugging  
Date Issued: 1/19/2018

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

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1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. 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.
3. Well work activities shall not constitute a hazard to the safety of persons.

WW-4B  
Rev. 2/01

1) Date December, 18 , 2017  
2) Operator's  
Well No. Corley No. 5H  
3) APT Well No. 47-051 - 01439

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil      / Gas X / Liquid injection      / Waste disposal      /  
(If "Gas, Production      or Underground storage     ) Deep      / Shallow X

5) Location: Elevation 1253' Watershed Tributary of Long Run  
District Franklin County Marshall Quadrangle Powhatan Point 7.5'

6) Well Operator Tug Hill Operating, LLC 7) Designated Agent DIANNA STAMPER, CT CORPORATION SYSTEM  
Address 380 Southpointe Boulevard, Plaza II, Suite 200 Address 5400 D Big Tyler Road  
Canonsburg, PA 15317 Charleston, WV 25313

8) Oil and Gas Inspector to be notified Name James Nicholson  
Address P.O. Box 44  
Moundsville, WV 26041  
9) Plugging Contractor Name Shallenberger Construction, Inc.  
Address 195 Enterprise Lane  
Connellsville, PA 15425

10) Work Order: The work order for the manner of plugging this well is as follows:

Remove metal plate covering well (20" conductor set at TVD 40').  
Install cement tub TVD 38' to circulate cement from bottom up.  
Cement to surface with Class "A" Type 1 cement.

*SET MONUMENT PER WV STATE CODE.*

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Office of Oil and Gas

DEC 22 2017

WV Department of  
Environmental Protection

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector *James Nicholson* Date 12/19/17

5701439P

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

API 47 - 051 - 01439 County MARSHALL District FRANKLIN  
Quad POWHATAN POINT 7.5' Pad Name CORLEY Field/Pool Name \_\_\_\_\_  
Farm name CORLEY, JAMES A. & JILL C. Well Number CORLEY 5H  
Operator (as registered with the OOG) GASTAR EXPLORATION USA, INC.  
Address 229 W MAIN STREET - STE 301 City CLARKSBURG State WV Zip 26301

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4,400,347.44 Easting 520,290.47  
Landing Point of Curve Northing N/A Easting N/A  
Bottom Hole Northing 4,400,347.44 Easting 520,290.47

Elevation (ft) 1253' 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)  
\_\_\_\_\_  
\_\_\_\_\_

Date permit issued 04/5/2011 Date drilling commenced 4/10/2011 Date drilling ceased 4/12/2011  
Date completion activities began N/A Date completion activities ceased \_\_\_\_\_  
Verbal plugging (Y/N) N 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 N/A (NONE ENCOUNTERED) Open mine(s) (Y/N) depths N  
Salt water depth(s) ft N/A Void(s) encountered (Y/N) depths N  
Coal depth(s) ft N/A Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

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Approved by: Jane M. Hoke Reviewed by: \_\_\_\_\_  
9/20/17

WR-35  
Rev. 8/23/13

API 47-051 - 01439 Farm name CORLEY, JAMES A. & JILL C. Well number CORLEY 5H

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	26"	20"	40'	NEW	54.5#/ft	N/A	Y
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							
Packer type and depth set							

Comment Details The Corley 5H well had 40' of conductor casing set at 40' TVD. The well was then temporarily abandoned. The original intent was to come back and finished drilling the well to the permitted TMD, however, this never occurred under Gaatar's ownership.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	CLASS "A" TYPE 1	99	15.6	1.19	117	SFC	8
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) 40' Loggers TD (ft) \_\_\_\_\_  
 Deepest formation penetrated SURFACE MATERIAL Plug back to (ft) \_\_\_\_\_  
 Plug back procedure N/A

Kick off depth (ft) N/A

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

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING N/A

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 \_\_\_\_\_





**Corley 5H Cement Additives**

Surface: Class A + 3% CaCl + ¼ #per sack flake

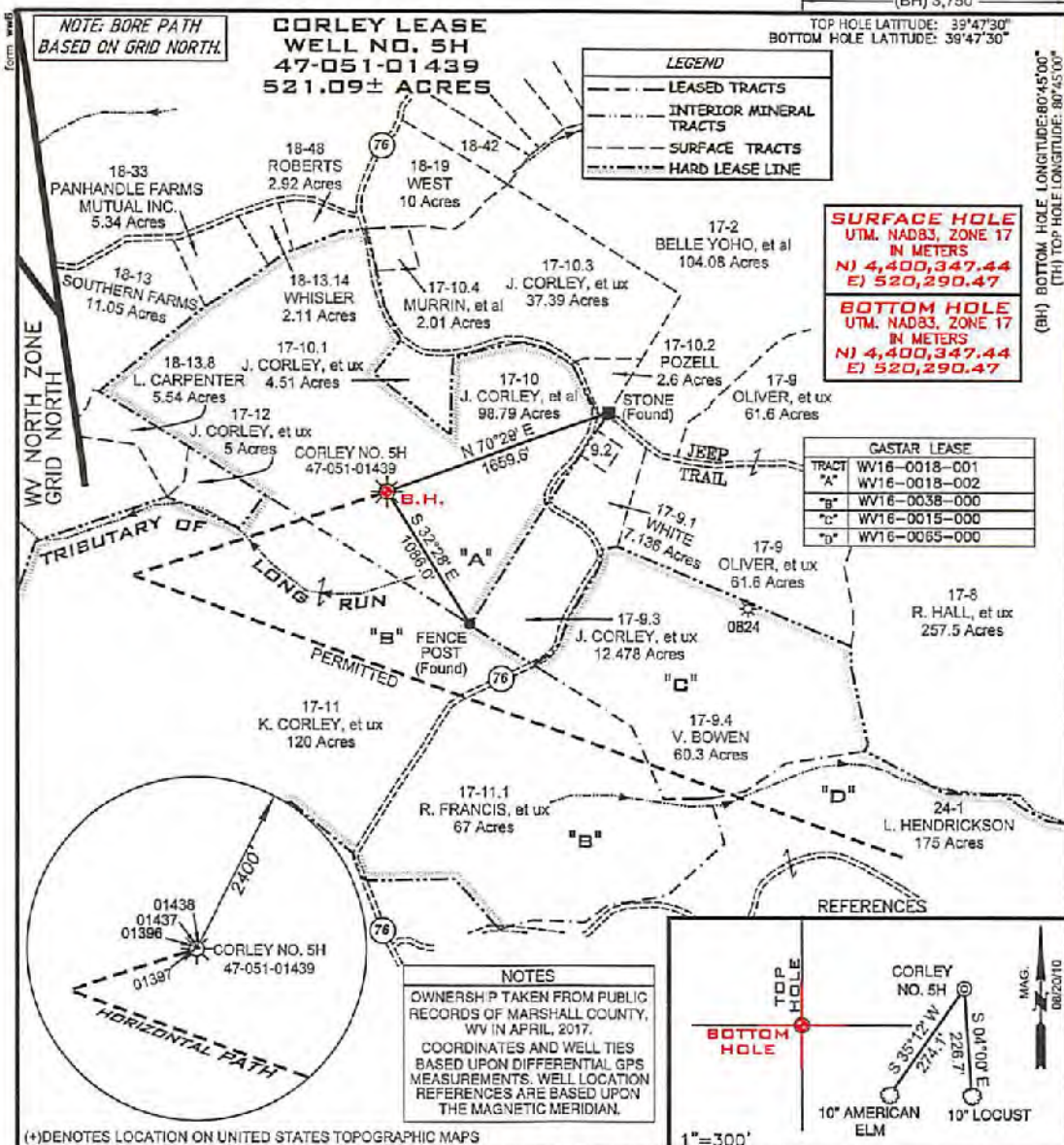
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Page 5 of 6 Environmental Protection



5101439P



(\*) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER	WD100271 (WB16-58)
DRAWING NUMBER	W100271_WP_5H_REV1-AD
SCALE	1" = 1000'
MINIMUM DEGREE OF ACCURACY	1/200
PROVEN SOURCE OF ELEVATION	SUBMETER MAPPING GRADE 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 ENVIRONMENTAL PROTECTION

P.S. 2122 *Jonathan N. White*

DATE: APRIL 18, 2017  
DATE REVISED: APRIL 15, 2011  
OPERATORS WELL NO. CORLEY NO. 5H AS-DRILLED  
API WELL NO. 47-051-01439  
STATE COUNTY PERMIT

WV DEP  
OFFICE OF OIL & GAS  
601 57TH STREET  
CHARLESTON, WV 25304

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

LOCATION ELEVATION 1253' WATERSHED TRIBUTARY OF LONG RUN

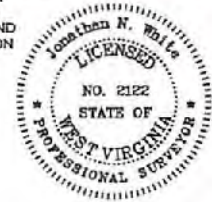
DISTRICT FRANKLIN COUNTY MARSHALL  
QUADRANGLE POWHATAN POINT 7.5' LEASE NUMBER WV16-0018-001, WV16-0018-002, WV16-0038-000, WV16-0015-000, WV16-0065-000

SURFACE OWNER JAMES A. & JILL C. CORLEY, et al ACREAGE 98.79  
OIL & GAS ROYALTY OWNER JAMES A. & JILL C. CORLEY, et al LEASE ACREAGE 521.09

PROPOSED WORK: DRILL \_\_\_ CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE \_\_\_ PLUG OFF OLD FORMATION \_\_\_  
PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE (SPECIFY) \_\_\_  
PLUG & ABANDON \_\_\_ CLEAN OUT & REPLUG \_\_\_

TARGET FORMATION MARCELLUS ESTIMATED DEPTH TVD = 40'

WELL OPERATOR GASTAR EXPLORATION USA, INC. DESIGNATED AGENT MICHAEL McCOWN  
ADDRESS 229 W MAIN STREET, SUITE 301 CLARKSBURG WV, 26301



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WV Department of  
Environmental Protection

WW-4A  
Revised 6-07

1) Date: December 18, 2017  
2) Operator's Well Number  
Corley No. 5H  
3) API Well No.: 47 - 051 - 01439

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL**

4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>James A. and Jill C. Corley</u>	Name _____
Address <u>208 Flicksville Road</u>	Address _____
<u>Bangor, PA 18013</u>	
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>CNX Land Resources, Inc.</u>
	Address <u>Consol Plaza Tax Level 2, 1000 Consol Energy Drive</u>
	<u>Canonsburg, PA 15317</u>
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector <u>James Nicholson</u>	(c) Coal Lessee with Declaration
Address <u>P.O. Box 44</u>	Name _____
<u>Moundsville, WV 26041</u>	Address _____
Telephone <u>304-552-3874</u>	

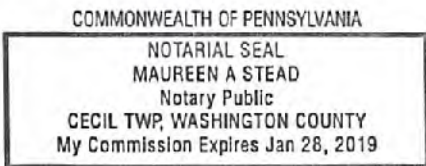
**TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:**

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

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DEC 20 2017  
WV Department of  
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Well Operator Tug Hill Operating, LLC  
By: Jonathan A. White  
Its: Regulatory Analyst  
Address 380 Southpointe Boulevard, Plaza II, Suite 200  
Canonsburg, PA 15317  
Telephone 724-749-8388

Subscribed and sworn before me this 18 day of DECEMBER  
My Commission Expires Maureen A Stead Notary Public 1/28/19

**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 [depprivacyoffier@wv.gov](mailto:depprivacyoffier@wv.gov).

BOOK 0017 PAGE 0138 LOCAL REGISTRAR'S CERTIFICATION OF DEATH

WARNING: It is illegal to duplicate this copy by photostat or photograph.

Fee for this certificate, \$6.00



This is to certify that the information here given is correctly copied from an original Certificate of Death duly filed with me as Local Registrar. The original certificate will be forwarded to the State Vital Records Office for permanent filing.

Handwritten signature: Keith A. Corley

05/14/13

P 19610775

Certification Number

Local Registrar

Date Issued

Form titled 'CERTIFICATE OF DEATH' with fields for decedent information, cause of death, and registrar details. Includes handwritten entries for 'Ruth A. Corley', 'April 8, 1938', and 'Metastatic Chronic Lymphocytic Leukemia'.

Jan Pest MARSHALL County 09:57:46 AM Instrument No 1344966 Date Recorded 06/25/2013 Document Type MIS Pages Recorded 1 Book-Page 17-138 Recording Fee \$5.00 Additional \$6.00

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DEC 27 2017

WV Department of Environmental Protection

STATE OF WEST VIRGINIA, MARSHALL COUNTY, SCT.:

I, JAN PEST, Clerk of the County Commission of said County, do hereby certify that the annexed writing, bearing date on the 12th day of May, 2013 was presented for and by me, admitted to record in my office upon the above certificate as to the parties therein named this 25th day of June 2013, 9:57 o'clock A.M.

TESTE: [Signature] Clerk.

5101439P

WW-9  
(5/16)

API Number 47 - 051 - 01439  
Operator's Well No. Corley No. 5H

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

Operator Name Tug Hill Operating, LLC OP Code 494510851

Watershed (HUC 10) Fish Creek - Ohio River (Undefined) Quadrangle Powhatan Point 7.5'

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: N/A - Cement will be mixed on site in trucks

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

Proposed Disposal Method For Treated Pit Wastes:

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

*ANY WELL EFFLUENT MUST BE CONTAINED IN TANKS AND DISPOSED OF OFFSITE IN A PROPER MANNER. 2011*

Will closed loop system be used? If so, describe: N/A - No drilling will be done

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. N/A - No drilling will be done

-If oil based, what type? Synthetic, petroleum, etc. N/A - No drilling will be done

Additives to be used in drilling medium? N/A - No drilling will be done

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. N/A - No drilling will be done

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) N/A - No drilling will be done

-Landfill or offsite name/permit number? N/A - No drilling will be done

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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.

DEC 22 2017

WV Department of Environmental Protection

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 Jonathan White

Company Official (Typed Name) Jonathan White

Company Official Title Regulatory Analyst

Subscribed and sworn before me this 18 day of DECEMBER, 20 17

Maureen A Stead

Notary Public

My commission expires 1/28/19

COMMONWEALTH OF PENNSYLVANIA  
NOTARIAL SEAL  
MAUREEN A STEAD  
Notary Public  
CECIL TWP, WASHINGTON COUNTY  
My Commission Expires Jan 28, 2019

Proposed Revegetation Treatment: Acres Disturbed 17.78 Prevegetation pH 6.0

Line 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch 2.5 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Rye Grain	140	Tall Fescue	40
		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: *Jim Wilkins*

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

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Title: Oil & Gas Inspector Date: 12/19/17

Field Reviewed?  Yes  No

WW-9

# CORLEY No.5H API# 47-051-01439

SUPPLEMENT PG 1

DRAWING NOT TO SCALE

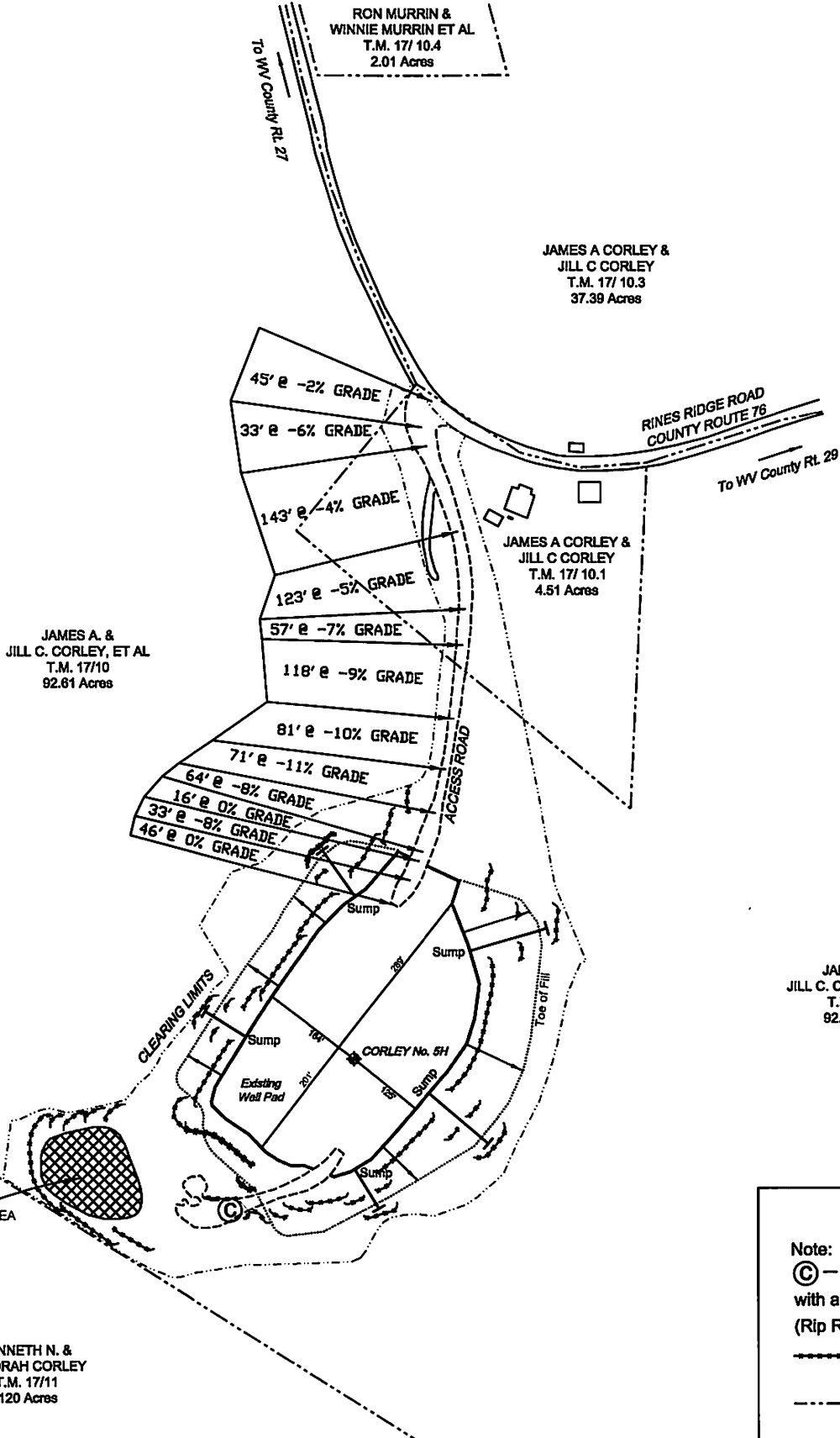
REFERENCE IS HEREBY MADE TO THE WV D.E.P. OFFICE OF OIL & GAS, "EROSION AND SEDIMENT CONTROL FIELD MANUAL" FOR REQUIREMENTS AND BMPs FOR AVERAGE FIELD CONDITIONS CONCERNING THE MAINTENANCE OF EXISTING ROADS AND THE CONSTRUCTION OF PROPOSED ROADS. FIELD CONDITIONS MAY REQUIRE VARIANCE FROM THESE GUIDELINES AND THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION TO THE INSPECTOR AND THE OPERATOR SHOULD THESE CONDITIONS OCCUR.

INSTALL CULVERTS AS SHOWN ON RECLAMATION PLAN OR AS FIELD CONDITIONS REQUIRE.

ENTRANCES ONTO PUBLIC ROADS SHALL BE CONSTRUCTED OR MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATIONS. ADDITIONAL PERMITS MAY BE REQUIRED. TEMPORARILY SEED AND MULCH ALL SLOPES UPON CONSTRUCTION OF LOCATION.

ALL CUT AND FILL SLOPES ARE 2H : 1V SLOPE.

ALL TREES 6-INCHES AND ABOVE ARE TO BE CUT AND STACKED. BRUSH SLASHINGS ARE TO UTILIZED DOWN SLOPE OF SITE AND STRUCTURES TO ACT AS A CONTROL BARRIER IF AVAILABLE.



JAMES A. & JILL C. CORLEY, ET AL  
T.M. 17/10  
92.61 Acres

RON MURRIN & WINNIE MURRIN ET AL  
T.M. 17/ 10.4  
2.01 Acres

JAMES A CORLEY & JILL C CORLEY  
T.M. 17/ 10.3  
37.39 Acres

JAMES A CORLEY & JILL C CORLEY  
T.M. 17/ 10.1  
4.51 Acres

JAMES A. & JILL C. CORLEY, ET AL  
T.M. 17/10  
92.61 Acres

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### LEGEND

Note:

- Ⓢ — Denotes existing culvert with appropriate sediment outlet control (Rip Rap splash pad).
- Silt Fence and or Sediment and Erosion Control Measure.
- Surface Boundary

DATE: 12/18/17

PROJECT NO: 494510851

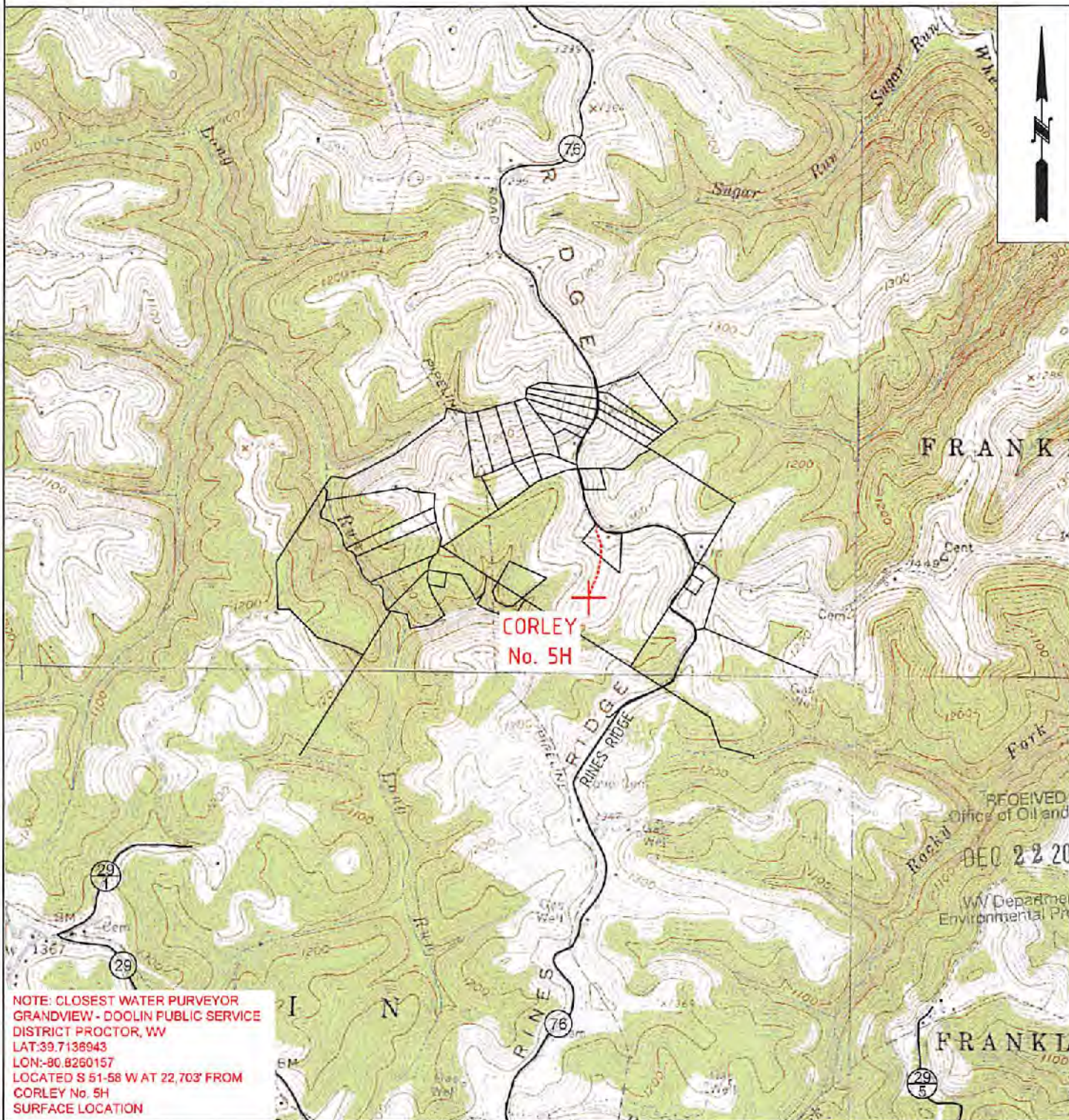
DRAWN BY: J.N.W.

WW-9

# CORLEY No. 5H

## API# 47-051-01439

SUPPLEMENT PG 2



NOTE: CLOSEST WATER PURVEYOR  
 GRANDVIEW - DOOLIN PUBLIC SERVICE  
 DISTRICT PROCTOR, WV  
 LAT: 39.7136943  
 LON: -80.8260157  
 LOCATED S 51-58 W AT 22,703' FROM  
 CORLEY No. 5H  
 SURFACE LOCATION

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 DEC 22 2017  
 WV Department of  
 Environmental Protection



**TUG HILL**  
 OPERATING

OPERATOR **494510851**  
 TUG HILL OPERATING, LLC  
 380 SOUTHPOINTE BLVD  
 SUITE 200  
 CANONSBURG, PA 15317

TOPO SECTION  
 POWHATAN POINT 7.5'  
 SCALE:  
 1" = 2000'

LEASE NAME  
 CORLEY  
 DATE:  
 DATE: 12/18/17

WW-7  
8-30-06



West Virginia Department of Environmental Protection  
Office of Oil and Gas  
**WELL LOCATION FORM: GPS**

API: 47-051-01439 WELL NO.: Corley No. 5H  
 FARM NAME: Fish Creek - Ohio River (Undefined)  
 RESPONSIBLE PARTY NAME: Tug Hill Operating, LLC  
 COUNTY: Marshall DISTRICT: Franklin  
 QUADRANGLE: Powhatan Point 7.5'  
 SURFACE OWNER: James A. and Jill C. Corley  
 ROYALTY OWNER: James A. and Jill C. Corley , Et Al  
 UTM GPS NORTHING: 4,400,347.44  
 UTM GPS EASTING: 520,290.47 GPS ELEVATION: 381.81 M. <sup>(1253')</sup>

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS  : Post Processed Differential

Real-Time Differential

Mapping Grade GPS  : Post Processed Differential

Real-Time Differential

4. **Letter size copy of the topography map showing the well location.**

I the undersigned, hereby certify this data 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 Office of Oil and Gas.

Jonathan White  
Signature

Regulatory Analyst

Title

12/18/17

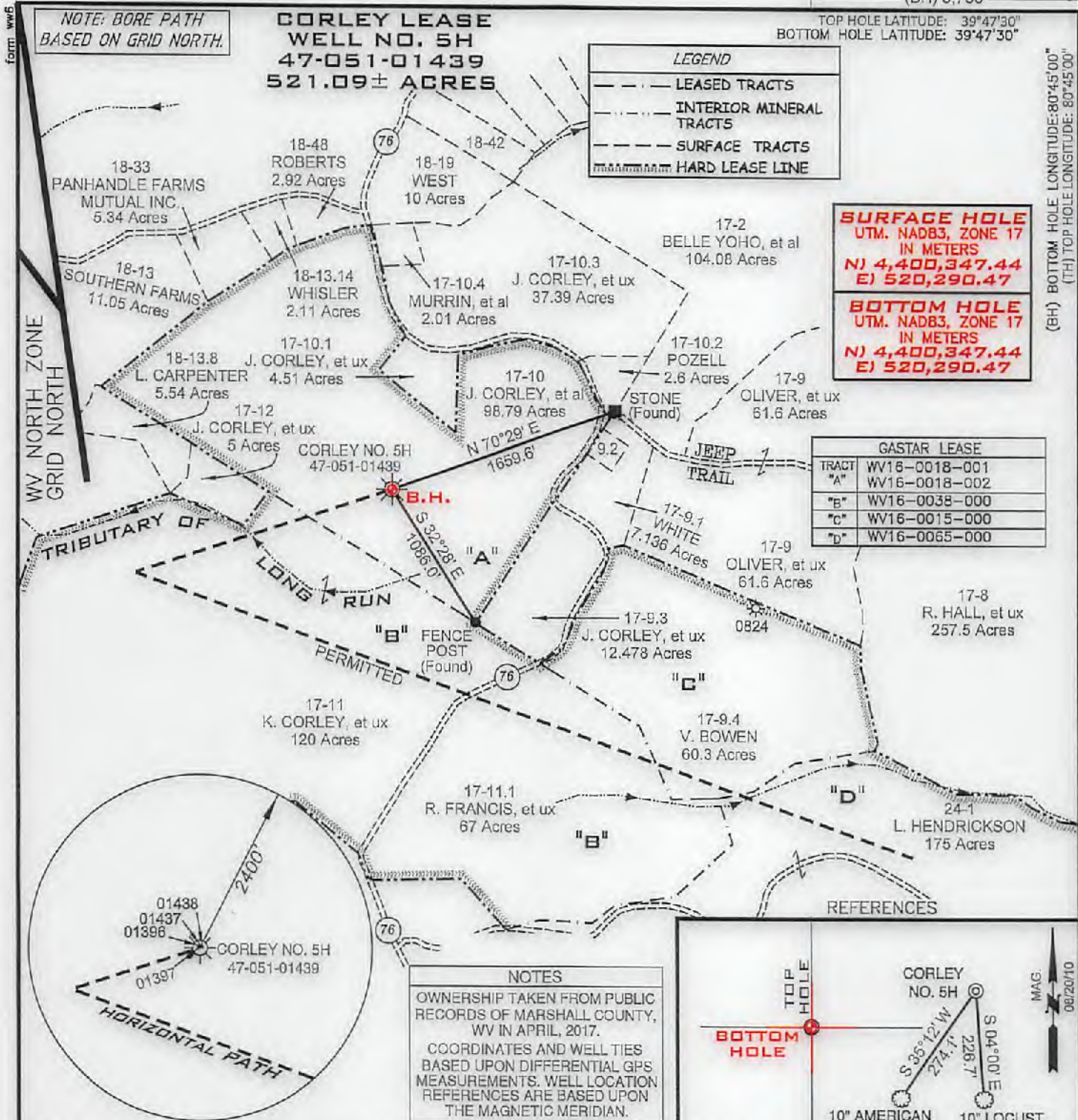
Date

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(TH) 3,750'  
(BH) 3,750'

TOP HOLE LATITUDE: 39°47'30"  
BOTTOM HOLE LATITUDE: 39°47'30"

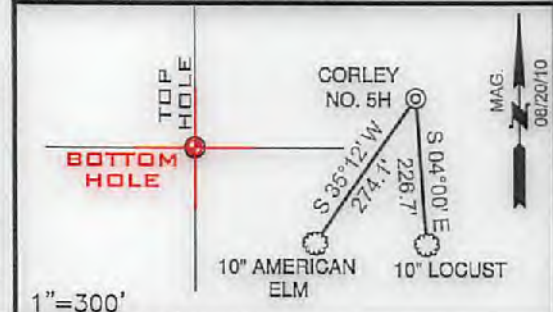
LEGEND	
	LEASED TRACTS
	INTERIOR MINERAL TRACTS
	SURFACE TRACTS
	HARD LEASE LINE

**SURFACE HOLE**  
UTM. NAD83, ZONE 17  
IN METERS  
N) 4,400,347.44  
E) 520,290.47

**BOTTOM HOLE**  
UTM. NAD83, ZONE 17  
IN METERS  
N) 4,400,347.44  
E) 520,290.47

GASTAR LEASE	
TRACT "A"	WV16-0018-001
	WV16-0018-002
"B"	WV16-0038-000
"C"	WV16-0015-000
"D"	WV16-0065-000

**NOTES**  
OWNERSHIP TAKEN FROM PUBLIC RECORDS OF MARSHALL COUNTY, WV IN APRIL, 2017.  
COORDINATES AND WELL TIES BASED UPON DIFFERENTIAL GPS MEASUREMENTS. WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.



(+)-DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER W0100271 (WB16-58)

DRAWING NUMBER W100271\_WP\_5H\_REV1-AD

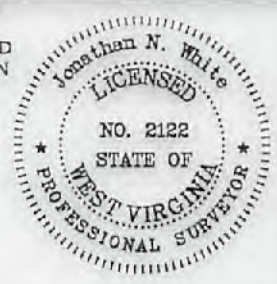
SCALE 1" = 1000'

MINIMUM DEGREE OF ACCURACY 1/200

PROVEN SOURCE OF ELEVATION SUBMETER MAPPING  
GRADE 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 ENVIRONMENTAL PROTECTION

P.S. 2122 *Jonathan N. White*



WVDEP  
OFFICE OF OIL & GAS  
601 57TH STREET  
CHARLESTON, WV 25304

DATE: December 18, 2017  
DATE REVISED: APRIL 15, 2011  
OPERATORS WELL NO. CORLEY NO. 5H  
API WELL NO. 47-051-01439 P  
STATE COUNTY PERMIT

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

LOCATION ELEVATION 1253' WATERSHED TRIBUTARY OF LONG RUN  
DISTRICT FRANKLIN COUNTY MARSHALL  
QUADRANGLE POWHATAN POINT 7.5' LEASE NUMBER WV16-0018-001, WV16-0018-002, WV16-0038-000, WV16-0015-000, WV16-0065-000

SURFACE OWNER JAMES A. & JILL C. CORLEY, et al ACREAGE 98.79  
OIL & GAS ROYALTY OWNER JAMES A. & JILL C. CORLEY, et al LEASE ACREAGE 521.09

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION   
PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE (SPECIFY) \_\_\_\_\_  
 PLUG & ABANDON  CLEAN OUT & REPLUG \_\_\_\_\_

TARGET FORMATION MARCELLUS ESTIMATED DEPTH TVD = 40'

WELL OPERATOR GASTAR EXPLORATION USA, INC. DESIGNATED AGENT MICHAEL McCOWN  
ADDRESS 229 W MAIN STREET, SUITE 301 CLARKSBURG WV, 26301 ADDRESS 229 W MAIN STREET, SUITE 301 CLARKSBURG WV, 26301

(BH) BOTTOM HOLE LONGITUDE: 80°45'00"  
(TH) TOP HOLE LONGITUDE: 80°45'00"

(TH) 14,175'  
(BH) 14,175'

form wv6

A.R.L.S