



 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

Wednesday, November 14, 2018
 WELL WORK PLUGGING PERMIT
 Vertical Plugging

HARPER CROSBY HOLDINGS, LLC
 PO BOX 14604

PITTSBURGH, PA 152344604

Re: Permit approval for MOORE 1
 47-017-04524-00-00

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.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. Please be advised that form WR-38, Affidavit of Plugging and Filling Well, 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: MOORE 1
 Farm Name: RILL, ELWOOD & ELIZABETH
 U.S. WELL NUMBER: 47-017-04524-00-00
 Vertical Plugging
 Date Issued: 11/14/2018

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

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.

- 1) Date September 10th, 2018 ~~11/16/2018~~
- 2) Operator's Well No. Moore #1
- 3) API Well No. 47-017 -04524

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 ___
- 5) Location: Elevation 955' Watershed Tributary of Meathouse Fork
District New Milton County Doddridge Quadrangle Smithburg 7.5'
- 6) Well Operator Harper Crosby Holdings, LLC Designated Agent Wesley Donaldson
Address PO Box 14604 Address 162 Brookview Dr.
Pittsburgh PA 15234 Weston, WV 26452
- 8) Oil and Gas Inspector to be notified Name Daniel Flack
Address 58 Rive Ave
Buckhannon WV 26201
- 9) Plugging Contractor Name Patchwork Oil & Gas, LLC
Address PO Box 168
Davisville, WV 26142

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

See attached

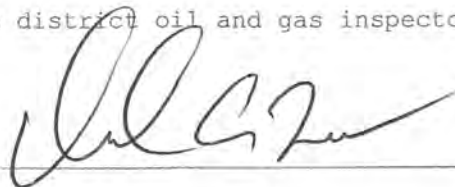
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Environmental Protection

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

Work order approved by inspector



Date

9/18/18

11/16/2018

Work Order Attachment

47-017-04524

Moore #1

Rill, Elwood & Elizabeth

Run Bond log when necessary to find cement top. Gel spacers in between all cement plugs.

1. Prepare plugging permit application.
2. Certify to surface and coal owners as necessary.
3. Certify and/or email to designated State inspector for signature.
4. Once all signatures are obtained, copy for our records and certify at the state level for approval.
5. Receive plugging permit good for 2 years.
6. Notify the designated State inspector 24 hours prior to commencing operations.
7. Move rig and equipment to location.
8. Verify total depth of 5059'.
9. Attempt to clean out well bore, pull rods and tubing, if necessary.
10. Run gel
11. Run tubing to 50' below the bottom of the perforations (4956'-4993') set first plug with Class A cement with no more than 3% CaCl₂ and no other additives from 4906' to TD'. *MINIMUM OF 100'*
12. Pull tubing back, wait for cement to set.
13. Run in and tag plug, add additional cement if needed.
14. Run 6% Bentonite gel
15. Run tubing to 50' below the second set of perforations (4660'- 4665') set second plug with Class A cement with no more than 3% CaCl₂ and no other additives from 4610' to 4715'.
16. Pull tubing back, wait for cement to set.
17. Run in and tag plug, add cement if needed.
18. Run tubing to 50' below the third set of perforations (4204'-4209') set third plug with Class A cement with no more than 3% CaCl₂ and no other additives from 4154' to 4259'.

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19. Begin looking for free point; records show cement to 3459'
20. Cut and remove casing and place the third 100' plug across the casing cut using Class A cement with no more than 3% CaCl₂ and no other additives.
20.A. SET 100' CLASS A CEMENT PLUG TO COVER CEMENT SHOW FROM 2350'-2250'.
21. Pull tubing back, wait for cement to set. gwm
22. Run in and tag plug, add cement if needed.
22.A. SET 100' CLASS A CEMENT PLUG TO COVER SHOW IN BIG INSUN FROM 1700'-1600'.
23. Pull tubing to 50' below the bottom of the 8 5/8 set fourth plug with Class A cement with no more than 3% CaCl₂ and no other additives covering the 8 5/8 casing shoe and elevation from 1155' to 905'.
24. Pull tubing back, wait cement to set.
25. Run in and tag plug, add cement if needed.
26. Pull tubing back to 350' and place a surface plug with Class A cement with no more than 3% CaCl₂ and no other additives covering the coal depth and fresh water zones and remove plugging string.
27. Set 3' high x 7" casing with concrete; add API for identification.
28. RDMO
29. Reclaim location.
- 30 Prepare WR-34 & WR-35 for permit release

Every attempt must be made to pull
as much pipe as possible

DAF
9/18/18

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WR-35

18-Aug-99

API # 47- 17-04524

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas
Well Operator's Report of Well Work

Reviewed ALH

Farm name: RILL, ELWOOD & ELIZABETH Operator Well No.: MOORE #1

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LOCATION: Elevation: 955.00 Quadrangle: SMITHBURG

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District: NEW MILTON County: DODDRIDGE
Latitude: 7230 Feet South of 39 Deg. 17Min. 30 Sec.
Longitude 4240 Feet West of 80 Deg. 42 Min. 30 Sec.

WV Department of
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Company: COBHAM GAS INDUSTRIES, IN
P. O. BOX 1697
CLARKSBURG, WV 26302-1697

Agent: RICK UNDERWOOD

Inspector: MIKE UNDERWOOD
Permit Issued: 08/18/99
Well work Commenced: 11/29/00
Well work Completed: 12/4/00
Verbal Plugging
Permission granted on:
Rotary X Cable Rig
Total Depth (feet); 5100
Fresh water depths (ft) 50; 290
Salt water depths (ft) None

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
16"	30	30'	None
11 3/4	132.6	132.6	To Surface 75sk̄s
8 5/8	1105	1105	To Surface 253sk̄s
4 1/2	5059	5059	1600 Fill 260sk̄s

Is coal being mined in area (Y/N)? N
Coal Depths (ft): 287-290

OPEN FLOW DATA

Producing formation Riley Pay zone depth (ft) 4204-4210
Gas: Initial open flow 230 MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow 760 MCF/d Final open flow show Bbl/d
Time of open flow between initial and final tests 144 Hours
Static rock Pressure 1100 psig (surface pressure) after 120 Hours

Second producing formation Benson/Alexander Pay zone depth (ft) 4660-64:4950-5000
Gas: Initial open flow 230 MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow 760 MCF/d Final open flow show Bbl/d
Time of open flow between initial and final tests 144 Hours
Static rock Pressure 1100 psig (surface pressure) after 120 Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

*Comingled Production

For: COBHAM GAS INDUSTRIES, INC.

By: [Signature]
Date: 3/8/01



1000 45211

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FRACTURING RECORD

-) Alexander 4956-93 (20 shots) Foamed Cross Link; 5000lb 80/100; 35,000lb 20/40: 500 gal HCL ✓
) Benson 4660-65 (20 shots) Foamed Cross Link; 5000lb 80/100; 35,000lb 20/40: 500 gal HCL ✓
) Riley 4204-09 (20 shots) Foamed Cross Link; 5000lb 80/100; 35,000 lb 20/40: 500 gal HCL ✓

FORMATIONS						
NAME	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (FRESH OR SALT WATER)	SOURCE OF DATA
Sand & Shale	0	90			50' DAMP	Driller's Log
Red Rock	.90	111				
Sand	111	206				
Sand & Shale	206	287				
Coal	287	290			1/2" Stream @	
Sand & Shale	290	400			290	
Red Rock	400	452				
Sand & Shale	452	800				
Sand	800	950				
Sand & Shale	950	1560				
Little Lime	1560	1570				Open Hole Log
Shale	1570	1580				
Big Lime	1580	1670				
Big Injun	1670	1770	104mcf @1765			
Shales	1770	1920				
Weir	1920	2010				
Shale	2010	2135				
Berea	2135	2142				
Shales	2142	2335				
Gordons	2335	2365	Gas check 2408 @ 239 mcf			
Shales	2365	3010				
Speechley	3010	3060				
Shales	3060	3750				
Sand	3750	3780				
Shales	3780	4100				
Rileys	4100	4220				
Shales	4220	4660				
Benson	4660	4685	Gas Check 4675 @ 239 mcf			
Shales	4685	5000				
TD	5000		Gas Check TD @ 189 mcf			

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47-017-04524P

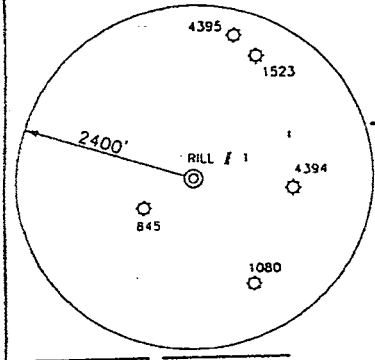
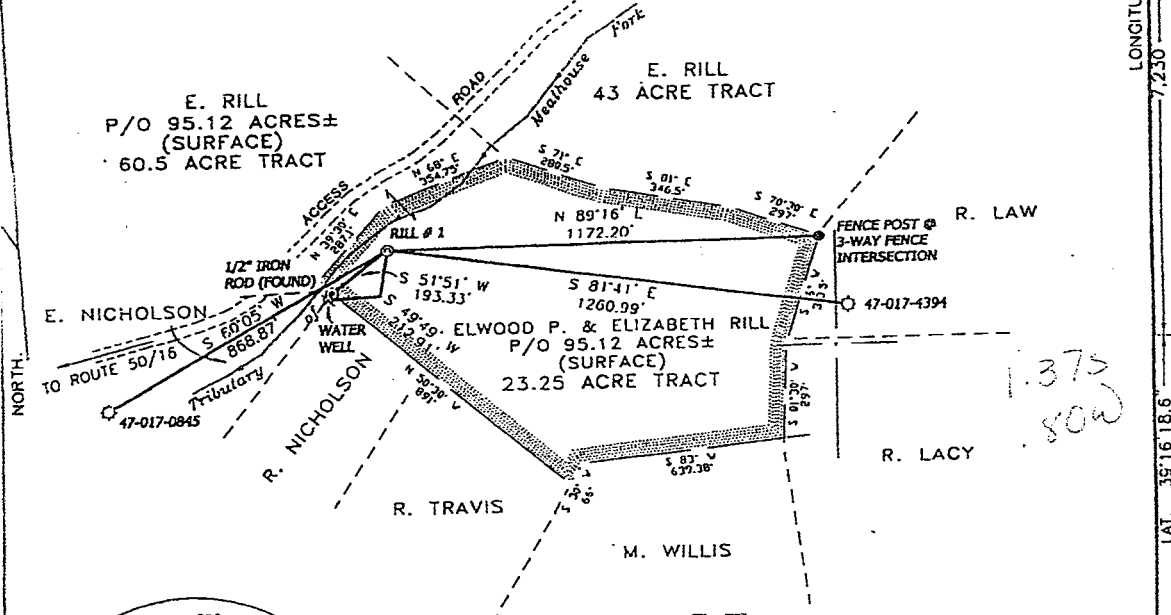
LONG. 80°43'24.1" LATITUDE 39°17'30"

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RILL LEASE

23.25 ACRES±

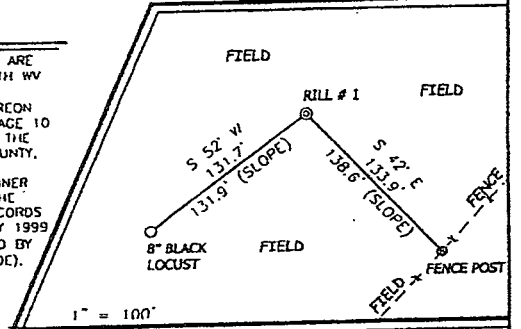
WELL # 1



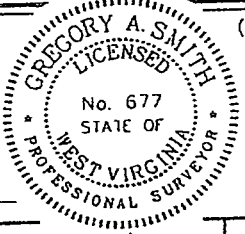
NOTES ON SURVEY

1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV - NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 165 AT PAGE 10 AS RECORDED IN THE OFFICE OF THE COUNTY CLERK OF DODDRIDGE COUNTY, WEST VIRGINIA.
3. SURFACE OWNERS AND ADJOINER INFORMATION OBTAINED FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF DODDRIDGE COUNTY IN FEBRUARY 1999.
4. WELL LAT./LONG. ESTABLISHED BY DGPS (SUBMETER MAPPING GRADE).

REFERENCES



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.



P.S. *Gregory A. Smith*
677

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE FEBRUARY 24, 19 99
OPERATORS WELL NO. RILL # 1
API WELL NO. 47-017-04524
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 4141P1 (73-3)
PROVEN SOURCE OF ELEVATION TOP OF KNOB ELEVATION 1343' SCALE 1" = 400'

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

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

LOCATION: ELEVATION 955' WATERSHED TRIBUTARY OF MEATHOUSE FORK
DISTRICT NEW MILTON COUNTY DODDRIDGE QUADRANGLE SMITHBURG 7.5'

SURFACE OWNER ELWOOD P. & ELIZABETH RILL ACREAGE 95.12
ROYALTY OWNER RICHARD WILSON LEASE ACREAGE 23.25
LEASE NO. _____

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER _____

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION ALEXANDER
ESTIMATED DEPTH 5300'

WELL OPERATOR COBHAM GAS INDUSTRIES, INC. DESIGNATED AGENT RICK UNDERWOOD
ADDRESS P.O. BOX 1697 CLARKSBURG, WV 26302 ADDRESS P.O. BOX 1697 CLARKSBURG, WV 26302

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COUNTY NAME DODD
PERMIT 4524

66 99

47-017-04524P

11/16/2018

WW-4A
Revised 6-07

1) Date: September 10th, 2018
2) Operator's Well Number
Moore #1
3) API Well No.: 47 - 017 - 04524

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

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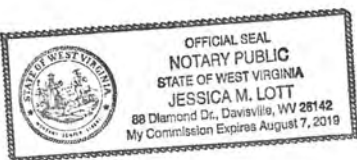
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Elwood P. & Elizabeth Rill</u>	Name <u>n/a</u>
Address <u>4619 Glenville Rd.</u>	Address _____
<u>Glen Rock, PA 17327</u>	
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>n/a</u>
	Address _____
(c) Name _____	Name <u>n/a</u>
Address _____	Address _____
6) Inspector <u>Daniel Flack</u>	(c) Coal Lessee with Declaration
Address <u>58 Rive Ave</u>	Name <u>n/a</u>
<u>Buckhannon WV 26201</u>	Address _____
Telephone <u>304-545-0109</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 Application 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.



Well Operator Harper Crosby Holdings
 By: Wesley Donaldson Wesley Donaldson
 Its: Designated Agent
 Address 162 Brookview Dr.
Weston, WV 26452
 Telephone 304-439-4177

Subscribed and sworn before me this 13 day of Sept. 2018
J. M. Lott Notary Public

My Commission Expires Aug. 7, 2019

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.

11/16/2018

WW-9
(5/16)

API Number 47 - 017 04524
Operator's Well No. moore #1

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

Operator Name Harper Crosby Holdings, LLC OP Code 494510624
Watershed (HUC 10) Tributary of Meathouse Fork Quadrangle Smithburg 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
Will a synthetic liner be used in the pit? Yes No If so, what ml.? n/a

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Proposed Disposal Method For Treated Pit Wastes:

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- 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 Vac truck will be used for any fluids, no pit will be used. Fluids will be disposed of properly.)

WV Department of
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OFF-SITE
JMM

Will closed loop system be used? If so, describe: n/a

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. n/a
-If oil based, what type? Synthetic, petroleum, etc. _____

Additives to be used in drilling medium? n/a

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. n/a
-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.

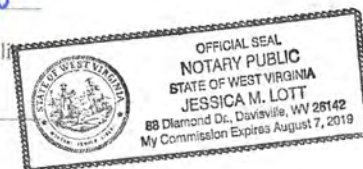
Company Official Signature Wesley Donaldson
Company Official (Typed Name) Wesley Donaldson
Company Official Title Designated Agent

Subscribed and sworn before me this 13 day of Sept., 20 18

Jmolott

Notary Public

My commission expires Aug. 7, 2019



Operator's Well No. moore #1

Proposed Revegetation Treatment: Acres Disturbed 3.2 Prevegetation pH 6.67

Lime 2 Tons/acre or to correct to pH 6.5

Fertilizer type 10-10-20 Equivalent

Fertilizer amount 500 lbs/acre

Mulch Straw Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type lbs/acre

Seed Type lbs/acre

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.

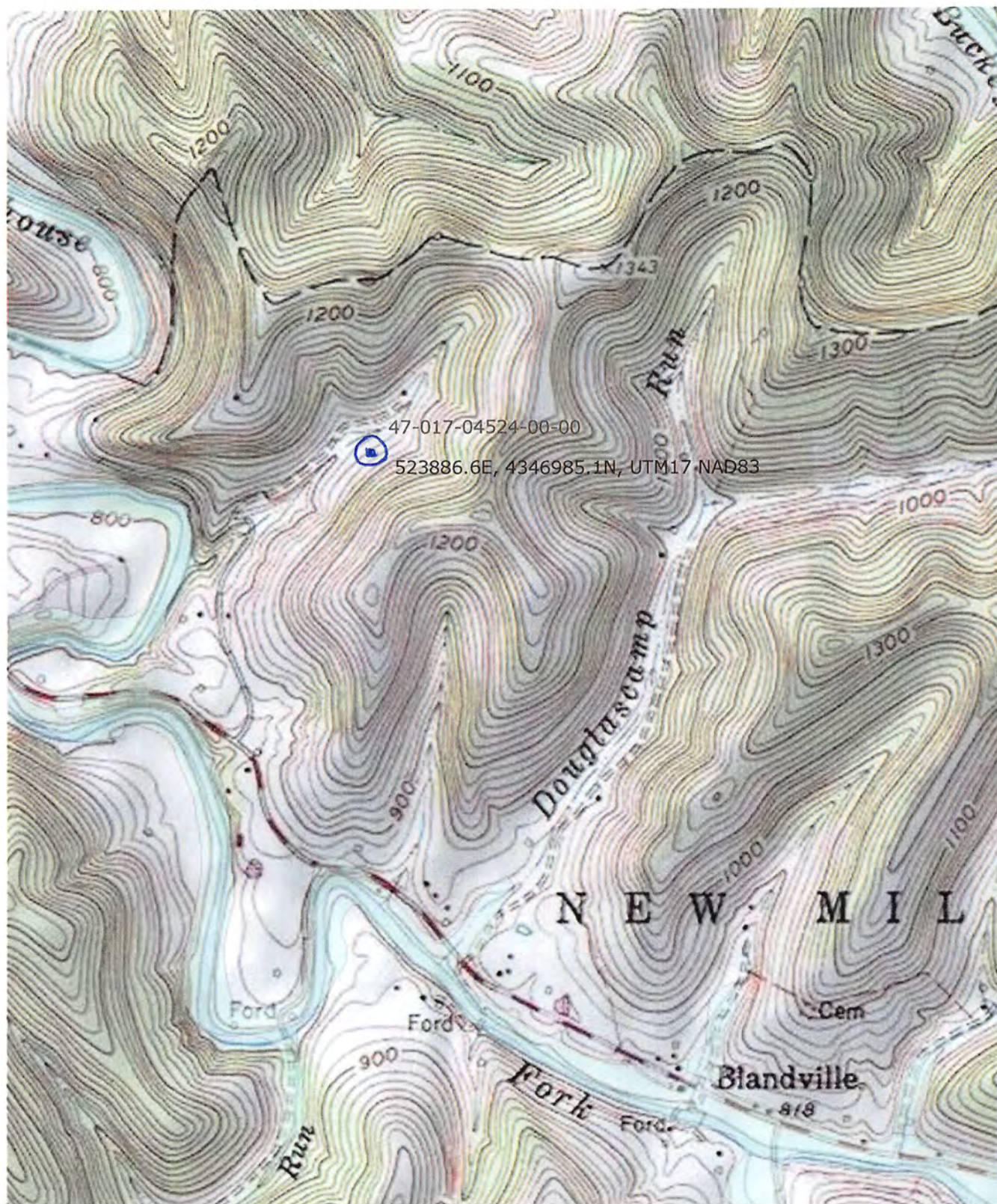
Plan Approved by: [Signature]

Comments: _____

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OCT 01 2018
WV Department of
Environmental Protection

Title: Oil & Gas Inspector Date: 9/18/18

Field Reviewed? () Yes () No



WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-017-04524 WELL NO.: Moore #1

FARM NAME: Rill, Elwood, & Elizabeth

RESPONSIBLE PARTY NAME: Harper Crosby

COUNTY: Doddridge DISTRICT: New Milton

QUADRANGLE: Smithburg 7.5'

SURFACE OWNER: Elwood P & Elizabeth Rill

ROYALTY OWNER: Elwood P & Elizabeth Rill

UTM GPS NORTHING: 4346985.1

UTM GPS EASTING: 523886.6 GPS ELEVATION: 955'

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 X: Post Processed Differential X

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.

Harper Crosby Designated Agent 9-13-18
 Signature Title Date

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