



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

May 12, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4700104, issued to CABOT OIL & GAS CORPORATION, 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 all 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. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalties being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.


James Martin
Chief

Operator's Well No: 57
Farm Name: POCAHONTAS LAND
API Well Number: 47-4700104
Permit Type: Plugging
Date Issued: 05/12/2016

Promoting a healthy environment.

05/13/2016

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 / Liquid injection / Waste disposal /
(If "Gas, Production or Underground storage) Deep / Shallow

5) Location: Elevation 1,792.77' Watershed UT of Barrenshe Ck. of Dry Fk. of Tug Fk. of Big Sandy
District Big Creek County McDowell Quadrangle War

6) Well Operator Cabot Oil & Gas Corporation 7) Designated Agent Phillip Hill - Cabot Oil & Gas Corporation
Address 2000 Park Lane, Suite 300 Address 900 Lee Street East, Suite 1500
Pittsburgh, PA 15275 Charleston, WV 25301

8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Brian Ferguson Name Contractor Services, Inc.
Address 708 Manor Drive Address 929 Charleston, Road
Beckley, WV 25801 Spencer, WV 25276

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

See Attached Sheet

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

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Work order approved by inspector _____

Date WV Department of Environmental Protection

05/13/2016

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Pocahontas Land #57
API # 47 - 047 - 00104
PLUGGING PROCEDURE

Current Configuration

TD @ 4542'

Elevation – 1793'

13-3/8" – 48# casing @ 103' on shoe

10-3/4" – 32.75# casing @ 596' on shoe

8-5/8" – 24# casing @ 1583' on shoe

7" – 23# casing @ 3283' on shoe

2 3/8" – 4.6# tubing @ 4542'

Berea @ 4524' – 4542' & shot from 4524' – 4542'

Coal @ 173' – 177', 289' – 294', 362' – 364', 641' – 645', & 712' – 718'

No water reported

PROCEDURE

1. Contact Pineville Office a minimum of 48 hours prior to starting work.
2. Contact State Inspector a minimum of 24 hours prior to starting work.
3. Lay 2" line from wellhead to pit/tank and stake down securely.
4. MIRU service rig and blow down well. Have vacuum truck available to catch any fluids circulated from well.
5. Unpack wellhead.
6. Pull 2 3/8" tubing
7. TIH with 2-3/8" work string to TD.
8. MIRU Cementing Company.
9. Pump 50 bbls 6% gel followed by 35 sks of Class A cement for plug 1 from 4520' to 4325'.
10. Displace w/ 16 bbls of 6% Gel.
11. TOOH with work string. Let cement plug set for a minimum of eight hours.
12. Tag plug 1 to verify TOC @ 4325'
13. Pull 7" casing.
14. TIH with 2-3/8" work string to 3300' and pump 100 bbls 6% gel.
15. Pull work up to 1850' and pump 60 sks of Class A cement for plug 2 from 1850' to 1650'.
16. Displace w/ 6 bbls of 6% Gel.
17. TOOH with work string. WOC minimum 8 hours.
18. Tag plug 2 to verify TOC @ 1650'
19. Pull 8-5/8" casing string. (**NOTE:** if the 8 5/8", 10 3/4", and/or 13 3/8" pull together, then adjust accordingly by pumping cement plugs 3,4, and 5 sequentially).
20. TIH w/ work string to 1500' and pump 50 bbls 6% gel.
21. Pull work up to 760' and pump 20 bbls 6% gel followed by 75 sks of Class A cement for cement plug 3 from 760' to 600'.
22. Displace w/ 2 bbls of 6% Gel. POH. WOC minimum 8 hours.
23. Tag plug 3 to verify TOC @ 600'
24. Pull 10-3/4" casing string.
25. TIH w/ work string to 410'.
26. Pump 180 sks of Class A cement for cement plug 4 from 410' to 150'.
27. Displace w/ 1/2 bbl of 6% Gel. POH. WOC minimum 8 hours.
28. Tag plug 4 to verify TOC @ 150'
29. Pull 13-3/8" casing string.
30. TIH w/ work string to 100' and pump 120 sks of Class A cement for plug 5 from 100' to surface.
31. TOOH with work string and lay down.
32. RDMO Cementing Company.

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- 33. Place monument as required by law on top of well bore.
- 34. Reclaim well site.

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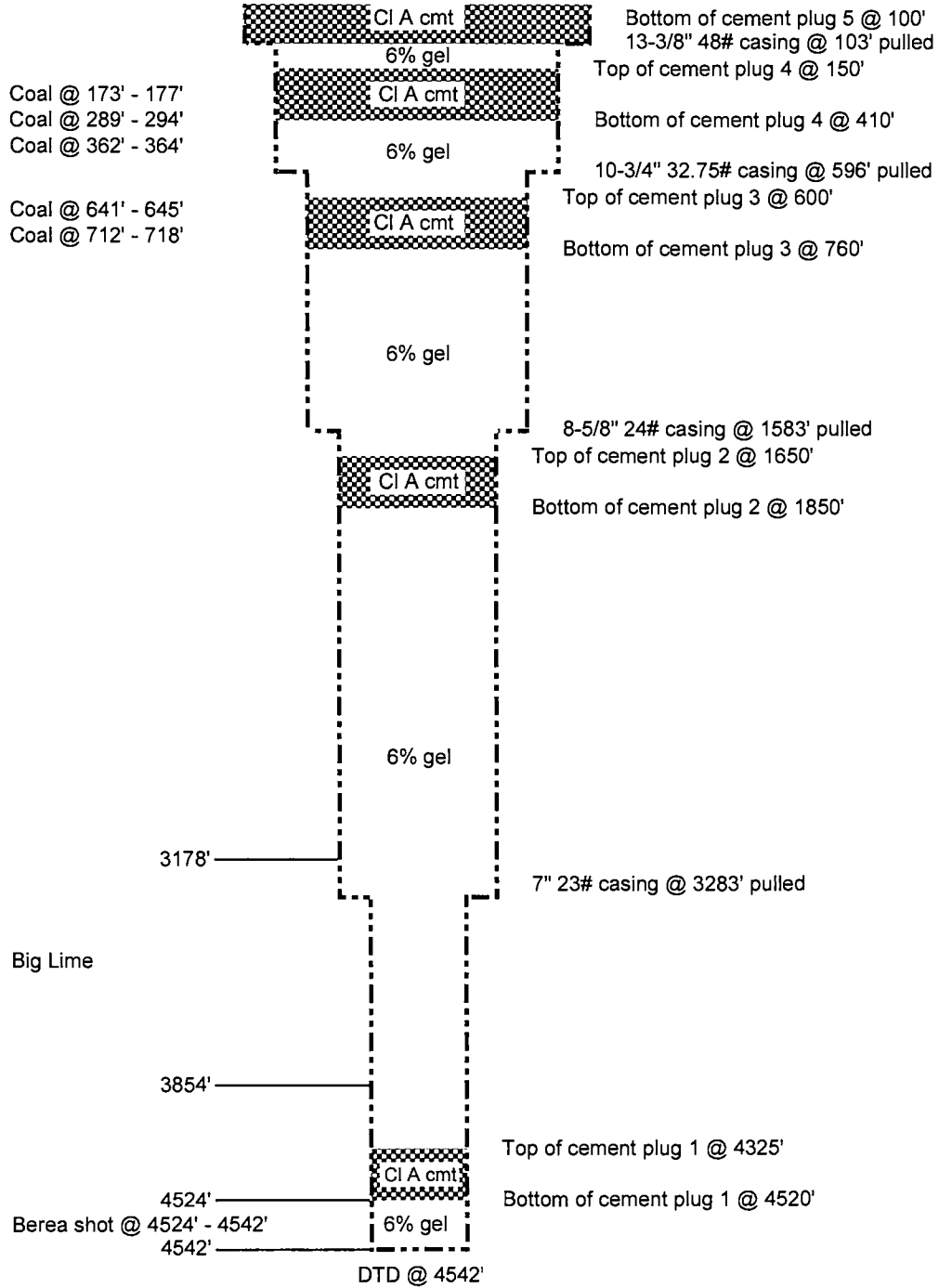
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POCAHONTAS LAND #57

API 47-047-00104

PROPOSED CONFIGURATION

Elevation - 1793'



Schematic is not to scale

T. Ott 06/11/15

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POCAHONTAS LAND #57

API 47-047-00104

CURRENT CONFIGURATION

Elevation - 1793'

Coal @ 173' - 177'
Coal @ 289' - 294'
Coal @ 362' - 364'

Coal @ 641' - 645'
Coal @ 712' - 718'

13-3/8" 48# casing @ 103' on shoe

10-3/4" 32.75# casing @ 596' on shoe

8-5/8" 24# casing @ 1583' on shoe

3178'

7" 23# casing @ 3283' on shoe

Big Lime

3854'

4524'

Cave catcher @ 4512'

Berea shot @ 4524' - 4542'

4542'

2 3/8" 4.6# tubing to TD

DTD @ 4542'

Schematic is not to scale

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Widely

GODFREY L. CABOT, INC.

WELL RECORD

McD-104

SERIAL NO. 1359 OPERATING DISTRICT Southern
 FARM Pocahontas Land Corporation NO. 57 LEASE NO.
 COUNTY McDowell TAX DISTRICT TOWNSHIP Big Creek STATE W. Va.
 DRILLING COMMENCED September 14, 1951 DRILLING COMPLETED February 29, 1952
 CONTRACTOR Company tools ADDRESS

Map Square Lot No. Warrant No. -7-35

ROCK PRESSURE RECORD

Berea Sand 975 lbs., in 64 hrs.
 Sand lbs., in hrs.
 Sand lbs., in hrs.

PRODUCING SAND RECORD

Berea Sand, from 4524 to 4542 Init. Prod. 989 M.
 Sand, from to Init. Prod. M.
 Sand, from to Init. Prod. M.

OPEN FLOW

Time, Condition: After shot:
 Water
 10ths Mercury in inch opening
 Volume 1,400 M. C. F.

CASING RECORD

| SIZE | WEIGHT | USED IN DRILLING | LEFT IN WELL | HOW CASING SET |
|------|--------|------------------|--------------|----------------|
| 13" | 48# | 103 | 103 | |
| 10" | 32.75 | 596 | 596 | |
| 8" | 24# | 1583 | 1583 | |
| 7" | 23# | 3283 | 3283 | Shoe. |

24 HOUR PRODUCTION TEST AFTER TUBING

M. C. F. Line Pressure
 Bbls. Oil in 24 Hours

TUBED AND SHUT IN Date

Packer, Size Kind
 Set, Depth Size Anchor
 Perf. Top Bottom
 Perf. Top Bottom

SHOOTING RECORD

Shot with 60 qts. from 4524 to 4542 Date 3/3/52
 Gauge Before Shot 989 Mcf Gauge 30 Min. After Shot 1,

ELEVATION: 1793

| FORMATION | COLOR | TOP | BOTTOM | STEEL LINE MEASUREMENTS | HARD OR SOFT | OIL, GAS OR WATER | DEPTH FOUND | REMARKS |
|----------------|-------|------|--------|-------------------------|--------------|-------------------|-------------|---------|
| Soil | | 0 | 3616 | | | | | |
| Slate | | 16 | 3632 | | | | | |
| Sand | | 32 | 3650 | | | | | |
| Slate | | 50 | 3657 | | | | | |
| Lime | | 57 | 3679 | | | | | |
| Slate | | 79 | 3617 | | | | | |
| Lime | | 117 | 3625 | | | | | |
| Sand | | 125 | 3673 | | | | | |
| Coal | | 173 | 3677 | | | | | |
| Lime | | 177 | 36201 | | | | | |
| Sand | | 201 | 36284 | | | | | |
| Lime | | 284 | 36289 | | | | | |
| Coal | | 289 | 36294 | | | | | |
| Sand | | 294 | 36362 | | | | | |
| Coal | | 362 | 36364 | | | | | |
| Slate & Shells | | 364 | 36404 | | | | | |
| Sand | White | 404 | 36457 | | | | | |
| Sand | | 457 | 36468 | | | | | |
| Lime | | 468 | 36498 | | | | | |
| Sand | | 498 | 36533 | | | | | |
| Broken Lime | | 533 | 36565 | | | | | |
| Slate | | 565 | 36581 | | | | | |
| Lime | | 581 | 36611 | | | | | |
| Coal | | 611 | 36645 | | | | | |
| Lime | | 645 | 36712 | | | | | |
| Coal | | 712 | 36718 | | | | | |
| Lime | | 718 | 36812 | | | | | |
| Sand | | 812 | 36845 | | | | | |
| Slate & Shell | | 845 | 36871 | | | | | |
| Sand | | 871 | 36930 | | | | | |
| Slate & Shell | | 930 | 36947 | | | | | |
| Sand | | 947 | 36981 | | | | | |
| Slate | | 981 | 36988 | | | | | |
| Sand | | 1008 | 361203 | | | | | |
| Lime | | 1203 | 361247 | | | | | |
| Slate | | 1247 | 361255 | | | | | |

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MW 104

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SERIAL NO. 1359 FARM Pocahontas NO 2557 OPERATING DIST. SOUTH DIST TOWNSHIP SOUTH DIST
 MINE/VEIN NO. TOLE NO. MAP SQUARE LOT NO. WARRANT NO.

| FORMATION | COLOR | TOP | BOTTOM | STEEL LINE MEASUREMENTS | HARD OR SOFT | OIL, GAS OR WATER | DEPTH FOUND | REMARKS |
|----------------|-------|------|--------|-------------------------|--------------|-------------------|-------------|----------------------|
| Red Rock | | 1295 | 1295 | | | | | |
| Lime | | 1295 | 1314 | | | | | |
| Slate & Shell | | 1314 | 1614 | | | | | |
| Sand | | 1614 | 1769 | | | | | |
| Lime | | 1769 | 1918 | | | | | |
| Red Rock | | 1918 | 1939 | | | | | |
| Sand | | 1939 | 1952 | | | | | |
| Lime, Red | | 1952 | 1988 | | | | | |
| Sand | | 1988 | 1995 | | | | | |
| Lime | | 1995 | 2010 | | | | | |
| Red Rock | | 2010 | 2060 | | | | | |
| Lime | | 2060 | 2116 | | | | | |
| Red Rock | | 2116 | 2159 | | | | | |
| Lime | | 2159 | 2189 | | | | | |
| Red Rock | | 2189 | 2202 | | | | | |
| Lime | | 2202 | 2239 | | | | | |
| Sand | | 2239 | 2316 | | | | | |
| Lime | | 2316 | 2389 | | | | | |
| Slate & Shells | | 2389 | 2568 | | | | | |
| Lime | | 2568 | 2566 | | | | | |
| Slate & Shells | | 2566 | 2635 | | | | | |
| Lime | | 2635 | 2695 | | | | | |
| Slate & Shells | | 2695 | 2877 | | | | | |
| Lime Shells | | 2877 | 2965 | | | | | |
| Slate & Shells | | 2965 | 3020 | | | | | |
| Lime Shells | | 3020 | 3077 | | | | | |
| Lime | | 3077 | 3093 | | | | | |
| Slate & Shells | | 3093 | 3121 | | | | | |
| Lime | | 3121 | 3160 | | | | | |
| Broken Lime | | 3160 | 3178 | | | | | |
| Lime Shells | | 3178 | 3854 | | | | | |
| Lime | | 3854 | 3879 | | | | | |
| Red Injun | | 3879 | 3895 | | | | | |
| Slate & Shell | | 3895 | 3906 | | | | | |
| Lime Shells | | 3906 | 4140 | | | | | |
| Weir Shells | | 4140 | 4211 | | | | | |
| Slate & Shell | | 4211 | 4277 | | | | | |
| Lime | | 4277 | 4485 | | | | | |
| Slate & Shell | | 4485 | 4504 | | | | | |
| Brown Shale | | 4504 | 4524 | | | | | |
| Lime | | 4524 | | 4524 | | Gas | 4532-40 | 843 M increased to 1 |
| Berea | | | | | | Gas | 4542 | gauged 989 Mcf. |
| Total Depth | | | 4542 | | | | | |

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TOTAL DEPTH
 WV Department of Environmental Protection
 DATE
 APPROVED

4700104P

WW-4A
Revised 6-07

1) Date: January 12, 2016
2) Operator's Well Number
Pocahontas Land #57

3) API Well No.: 47 - 047 - 00104

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>Pocahontas Land Corporation</u> / | Name <u>See Attached Sheet</u> |
| Address <u>P.O. Box 1517</u> / | Address _____ |
| <u>Bluefield, WV 24701</u> | |
| (b) Name _____ | (b) Coal Owner(s) with Declaration <u>1/</u> |
| Address _____ | Name <u>Pocahontas Land Corporation</u> |
| | Address <u>P.O. Box 1517</u> |
| | <u>Bluefield, WV 24701</u> |
| (c) Name _____ | Name _____ |
| Address _____ | Address _____ |
| 6) Inspector <u>Brian Ferguson</u> | (c) Coal Lessee with Declaration <u>1/</u> |
| Address <u>708 Manor Drive</u> ✓ | Name <u>U.S. Steel Mining Company, LLC</u> |
| <u>Beckley, WV 25801</u> | Address <u>610 Preserve Parkway, Suite 200</u> |
| Telephone <u>(304) 550-6265</u> | <u>Hoover, AL 35226</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.

| | |
|--|---|
| COMMONWEALTH OF PENNSYLVANIA Notarial Seal Constance C. Carden, Notary Public McDonald Boro, Washington County My Commission Expires Nov. 16, 2017 <small>MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES</small> | Well Operator <u>Cabot Oil & Gas Corporation</u> |
| | By: <u>Kenneth L. Marcum</u> <i>Kenneth L. Marcum</i> |
| | Its: <u>Regulatory Supervisor</u> |
| | Address <u>2000 Park Lane, Suite 300</u> |
| | <u>Pittsburgh, PA 15275</u> |
| Telephone <u>(412) 249-3850</u> | |

Subscribed and sworn before me this 14th day of January, 2016
Constance C. Carden Notary Public
My Commission Expires November 16, 2017

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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.

05/13/2016

COAL OPERATORS
POCAHONTAS LAND #57
47-047-00104

C & A Coal Company //
P.O. Box 1030
Bluefield, VA 24605

Glow Worm Coal Company //
P.O. Box 822
North Tazewell, VA 24630

Ambush Mining, Inc. //
HC 32 Box 588
Caretta, WV 24892

Harman Branch Mining, Inc. //
HC 32 Box 588
Caretta, WV 24892

Brooks Run Mining Company, Inc. //
2691 Little Birch Road
Sutton, WV 26601

Raw Coal Mining Company, Inc. //
P.O. Box 1030
Bluefield, VA 24605

XMV, Inc. //
640 Clover Dew Dairy Road
Princeton, WV 24739

Little Seam Mining Company, Inc. //
HC 32 Box 588
Caretta, WV 24892

Baystar Coal Company, Inc. //
P.O. Box 1084
Bluefield, VA 24605

Extra Energy, Inc. //
640 Clover Dew Dairy Road
Princeton, WV 24739

Caretta Mining, Inc. //
P.O. Box 1090
Oceana, WV 24870

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West Virginia Properties, Inc.
Attn: Bob Silvers
P.O. Box 920
Welch, WV 24801

D. D. S. Leasing, Inc.
HC 32, Box 610
Caretta, WV 24892

Concept Mining, Inc.
640 Clover Dew Dairy Road
Princeton, WV 24739

Kidd's Energy Sales, Inc.
P.O. Box 976
N. Tazewell, VA 24630

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47 00104P

WW-9
(2/15)

API Number 47 - 047 - 00104

Operator's Well No. Pocahontas Land #57

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Cabot Oil & Gas Corporation OP Code 08145

Watershed (HUC 10) Ut of Barrenshee Creek of Dry Fork Quadrangle War

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: _____

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

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain No treated pit wastes will be produced)

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. no drilling proposed

-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. No cuttings produced during plugging operation

-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 August 1, 2005, 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 Kenneth L. Marcum

Company Official (Typed Name) Kenneth L. Marcum

Company Official Title Regulatory Supervisor

Subscribed and sworn before me this 14th day of January, 2016

Constance C. Carden Notary Public

My commission expires 11/16/2017

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COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Constance C. Carden, Notary Public
McDonald Boro, Washington County
My Commission Expires 11/16/2017
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Cabot Oil & Gas Corporation

Proposed Revegetation Treatment: Acres Disturbed 0.27 Prevegetation pH 6.5

Lime 2 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20/20 or equivalent

Fertilizer amount 500 lbs/acre

Mulch Pulp Fiber at 1000 to 1500 lbs. Tons/acre

Seed Mixtures

Temporary

Permanent

| Seed Type | lbs/acre |
|--|----------|
| (Grain Rye - 100) (Red Clover - 5) (Fescue - 40) | |
| (Annual Rye - 20) (White Clover - 5) | |
| (Perennial Rye - 10) (Alta Sweet Clover - 5) | |
| (Yellow Clover - 5) (Birdsfoot Trefoil - 10) | |

| Seed Type | lbs/acre |
|--|----------|
| (Grain Rye - 100) (Red Clover - 5) (Fescue - 40) | |
| (Annual Rye - 20) (White Clover - 5) | |
| (Perennial Rye - 10) (Alta Sweet Clover - 5) | |
| (Yellow Clover - 5) (Birdsfoot Trefoil - 10) | |

Attach:

Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: _____

Comments: _____

Title: _____

Date: _____

Field Reviewed? () Yes () No

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GENERAL NOTES:

- 1.) THESE DRAWINGS ARE A SCHEMATIC REPRESENTATION OF THE PROPOSED WELL SITE AND ACCESS ROAD. PROPOSED STRUCTURES SUCH AS THE DRILLING PIT, ROADWAY, CULVERTS, SEDIMENT BARRIERS, ETC. ARE SHOWN IN THEIR APPROXIMATE PREPLANNING CONFIGURATION. GIVEN UNFORSEEN CIRCUMSTANCES, THE AS-BUILT LOCATION OF THESE STRUCTURES MAY VARY SLIGHTLY FROM THE LOCATION SHOWN ON THE ATTACHED DRAWINGS.
- 2.) ALL ROADS SHOWN THEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH THE GUIDELINES AND REQUIREMENTS OF THE WV DEP OIL & GAS EROSION AND SEDIMENT CONTROL MANUAL.
- 3.) ALL CULVERTS SHOWN ON THESE DRAWINGS ARE PROPOSED AND WILL BE A MINIMUM OF 15" IN DIAMETER UNLESS OTHERWISE NOTED.
- 4.) DITCHLINES AND CULVERTS WILL BE INSTALLED WHENEVER PRACTICAL; HOWEVER, PORTIONS OF THE EXISTING ROADS WHICH ARE LOCATED IN SOLID ROCK SHALL NOT REQUIRE DITCHES OR CROSS DRAINS, UNLESS OTHERWISE WARRANTED BY FIELD CIRCUMSTANCES.
- 5.) SUPPLEMENTAL DRAINAGE AND/OR SEDIMENT CONTROL STRUCTURES/MEASURES IN ADDITION TO THOSE SHOWN ON THE ATTACHED DRAWINGS WILL BE INSTALLED WHERE AND WHEN DEEMED NECESSARY. SUCH ADDITIONAL MEASURES MAY CONSIST OF SILT FENCES OR OTHER MEASURES AS OUTLINED IN THE EROSION AND SEDIMENT CONTROL MANUAL.
- 6.) SEDIMENT BASINS (TRAPS) WILL BE CONSTRUCTED AT ALL CULVERTS AND CROSS DRAIN INLETS AS REQUIRED IN THE WV-DEP OIL & GAS EROSION AND SEDIMENT CONTROL MANUAL. FIELD CONDITIONS SUCH AS ROCK OUTCROPS AND BEDROCK MAY PROHIBIT INLET TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST, ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.
- 7.) SEDIMENT BARRIERS OF EITHER WINDROWED BRUSH, FILTER FENCE ET CETERA WILL BE INSTALLED AND MAINTAINED BELOW THE OUTFALL OF ALL PROPOSED CULVERTS AND AT ALL OTHER STORM WATER DISCHARGE POINTS FROM EITHER THE ROADWAY OR SITE LOCATIONS.
- 8.) ALL NECESSARY TIMBER AND BRUSH WILL BE REMOVED FROM THE PROPOSED ROADWAY AND SITE LOCATIONS BY CLEARING AND GRUBBING ACTIVITIES. ANY MARKETABLE TIMBER WILL BE CUT AND STACKED TO THE SIDE OF THE ROADWAY OR REMOVED TO A STOCKPILE AREA. THE REMAINING TIMBER AND BRUSH WILL BE CUT AND WINDROWED BELOW THE OUTSLOPE OF THE CONSTRUCTION AREAS, TO BE UTILIZED AS A SEDIMENT BARRIER.
- 9.) SEPARATE PERMITS WILL BE OBTAINED FROM THE WV-DOT FOR ALL POINTS OF INGRESS-EGRESS FROM COUNTY/STATE ROADS. THESE INGRESS-EGRESS POINTS WILL BE MAINTAINED IN ACCORDANCE WITH CURRENT WV-DOT REGULATIONS. A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF 8" OF CRUSHED STONE WILL BE CONSTRUCTED FOR A MINIMUM DISTANCE OF 50' FROM THE INGRESS-EGRESS POINTS OF ALL PUBLIC ROADWAYS IN ACCORDANCE WITH CURRENT WV-DOT REGULATIONS.
- 10.) ALL CULVERTS SHOWN ON THESE DRAWINGS ARE TO BE CONSIDERED PERMANENT AND WILL REMAIN IN PLACE AFTER THE COMPLETION OF CONSTRUCTION ACTIVITIES UNLESS NOTED OTHERWISE. A STABILIZED OUTLET CONTROL DEVICE SUCH AS RIPRAP, NATURAL STONE, BRUSH, ETC. WILL BE INSTALLED BELOW THE OUTFALL OF ANY ROADWAY CULVERT(S) WHICH ARE NOT LOCATED IN A STREAM CHANNEL OR CREEK.
- 11.) PERMANENT 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 GRADES AND TABLE II-4 OF THE SEDIMENT AND EROSION CONTROL FIELD MANUAL.
- 12.) TEMPORARY SEEDING AND MULCHING WILL BE UTILIZED TO PROVIDE A VEGETATIVE COVER ON ALL DISTURBED AREAS I.E. ROADWAYS, STIE LOCATIONS, ROAD OR SITE OUTSLOPES AND ANY OTHER AREAS THAT ARE DISTURBED BY CONSTRUCTION ACTIVITIES RESULTING FROM THE PROPOSED WELL.
- 13.) THE LOCATION OF DRILLING PIT(S) MAY BE ADJUSTED TO MINIMIZE ENVIRONMENTAL IMPACTS AND MEET THE REQUIREMENTS OF THE WV-DEP.

DRAWING LEGEND

- Proposed Road
- Existing Road
- Silt Fence
- Brush Barrier
- Tree Line
- Rock Rip Rap
- Cross Drain
- Culvert
- Drilling Pit
- Road Ditch
- Gas Line
- Fence Line
- Rock Outcrop
- Water Well
- House/Structure
- Utility Pole
- Spring
- Wet Spot
- Pit Waste App. Area

SPACING OF CULVERTS BY GRADE

| ROAD GRADE (%) | DISTANCE |
|----------------|----------|
| 2-5 | 500-300 |
| 6-10 | 300-200 |
| 11-15 | 200-100 |
| 16-20 | 100 |

SPACING OF CROSS DRAINS BY GRADE

| ROAD GRADE (%) | DISTANCE |
|----------------|----------|
| 1 | 400 |
| 2 | 250 |
| 5 | 135 |
| 10 | 80 |
| 15 | 60 |
| 20 | 45 |

CONTRACTOR NOTE:

IT IS THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR TO FIELD VERIFY THE SIZE/CONDITION OF ALL UNDERGROUND UTILITIES, SANITARY SEWERS, STORM SEWERS, ETC. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION AND/OR EXCAVATION ACTIVITIES

WEST VIRGINIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS NOTICE IN DESIGN STAGE.

Office of Oil and Gas
Office of Oil and Gas
JAN 27 2016

Cabot Oil & Gas Corporation Pocahontas Land 57

TOPO SECTION OF:
United States Department of the Interior
Geological Survey - War, WVVA - 7 1/2' Quadrangle

PROPOSED CULVERT INVENTORY (For Bid Purposes Only)

| | |
|--|---------------|
| 15" (Minimum) Culverts | none proposed |
| Additional Culverts and/or other drainage structures and sediment control devices may be required by the WVDEP Oil & Gas Inspector. Operator is responsible for coordination with contractor and True Line regarding any changes or additions the State may require. | |

PROJECTED EARTHEN DISTURBANCE

| | |
|-------------------------------|------------|
| Well Location Site | 0.23 Acres |
| Access Road | 0.04 Acres |
| Approximate Total Disturbance | 0.27 Acres |

All roads shown hereon are existing unless otherwise noted and shall be maintained in accordance with the WVDEP best management practices contained in the Erosion and Sediment Control Field Manual.

Entrances at County/State roads shall be maintained in accordance with WVDOT regulations. Separate permits may be required by the WVDOT.

Sediment basins (sumps) and appropriate erosion control barriers are to be constructed at all culvert and cross drain inlets and outlets as required in the WVDEP Oil & Gas Erosion and Sediment Control Field Manual. Field conditions (rock outcrops or bedrock) may prohibit inlet sumps (traps) being installed. When these conditions exist, additional erosion control measures shall be evaluated and employed as needed.

Earthwork contractors are responsible for notification to the operator and Oil & Gas Inspector prior to any deviation from this plan.

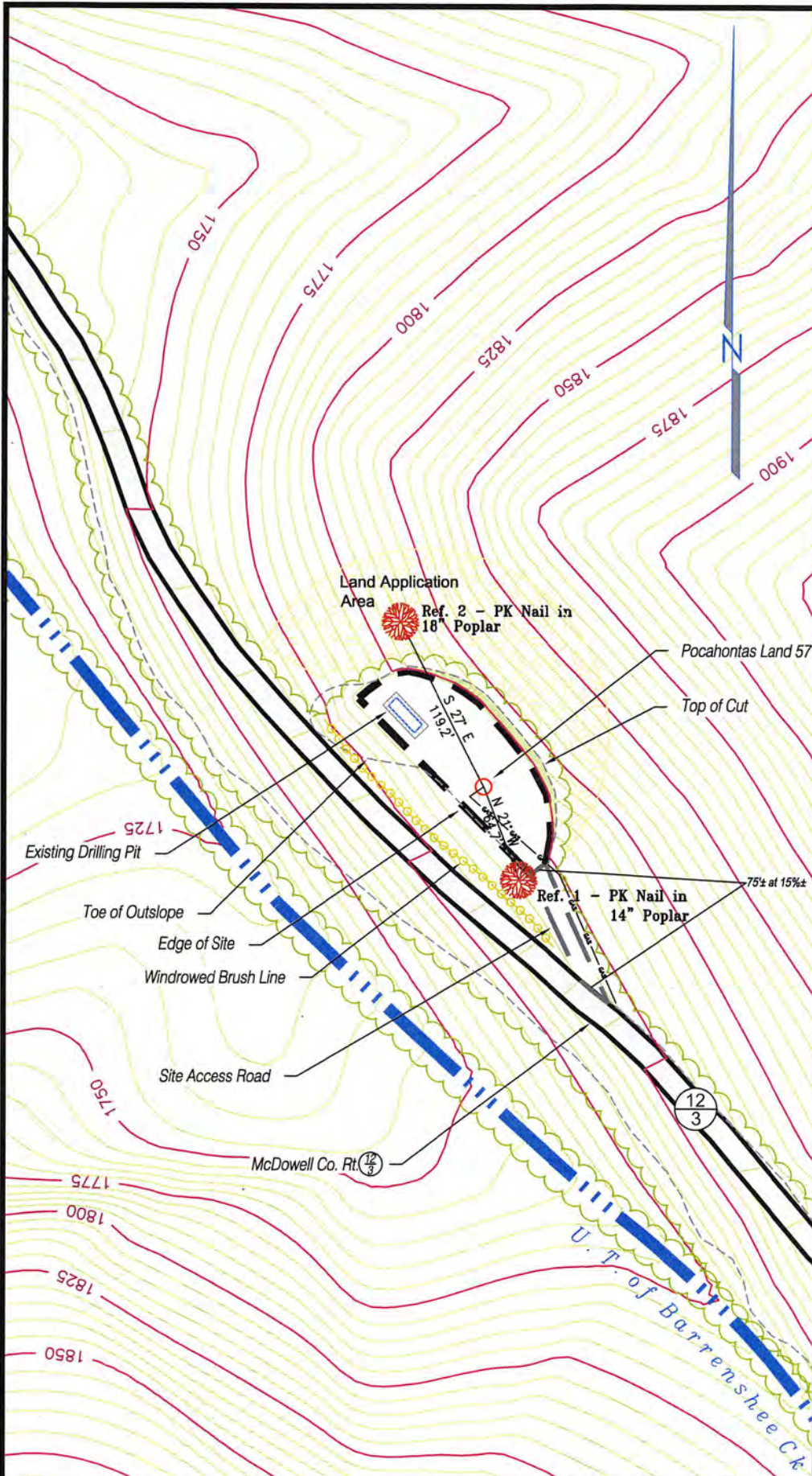
All slopes shall be seeded and mulched after site construction is complete. All slopes created during road construction will receive temporary seeding and mulch immediately following completion.

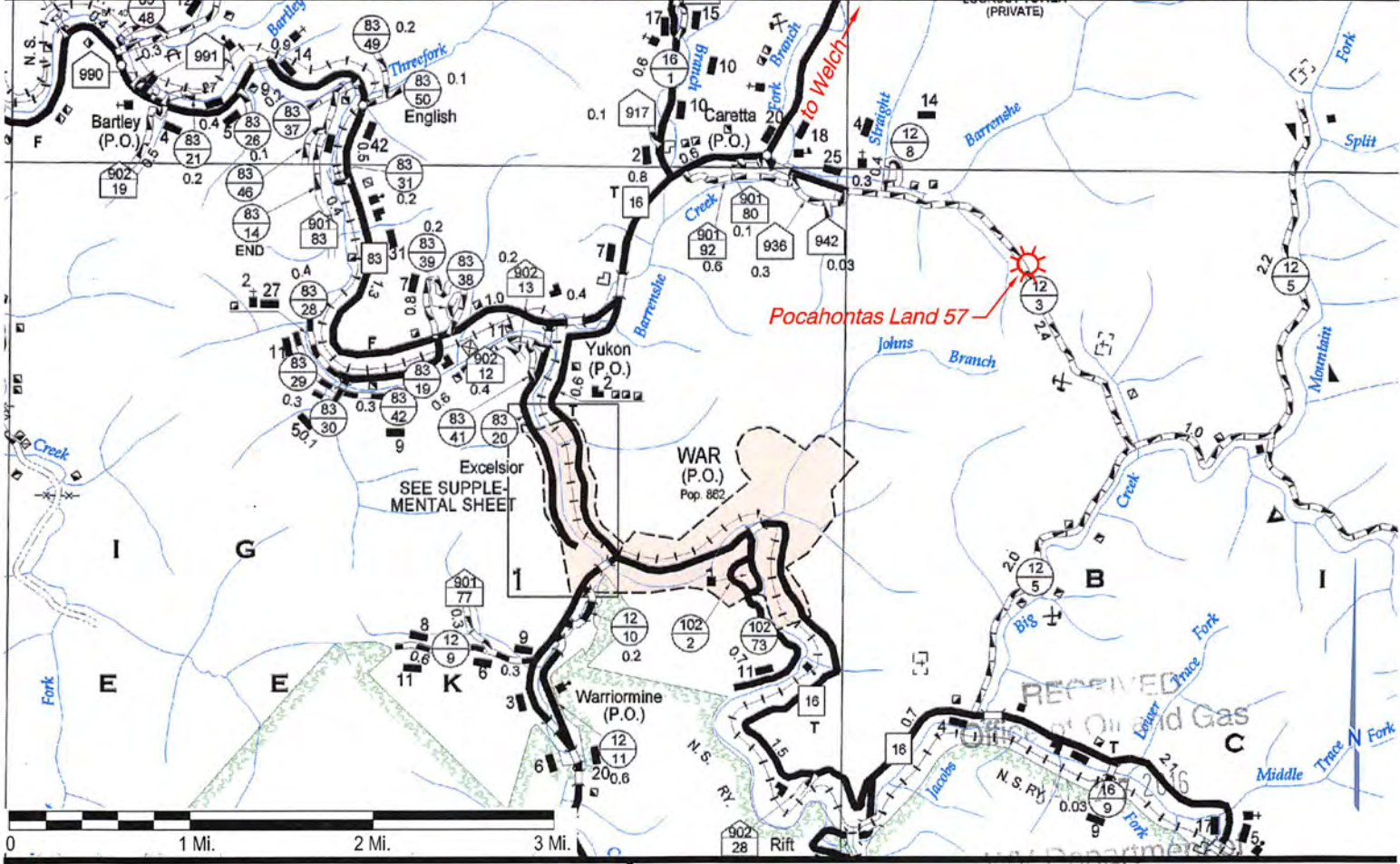
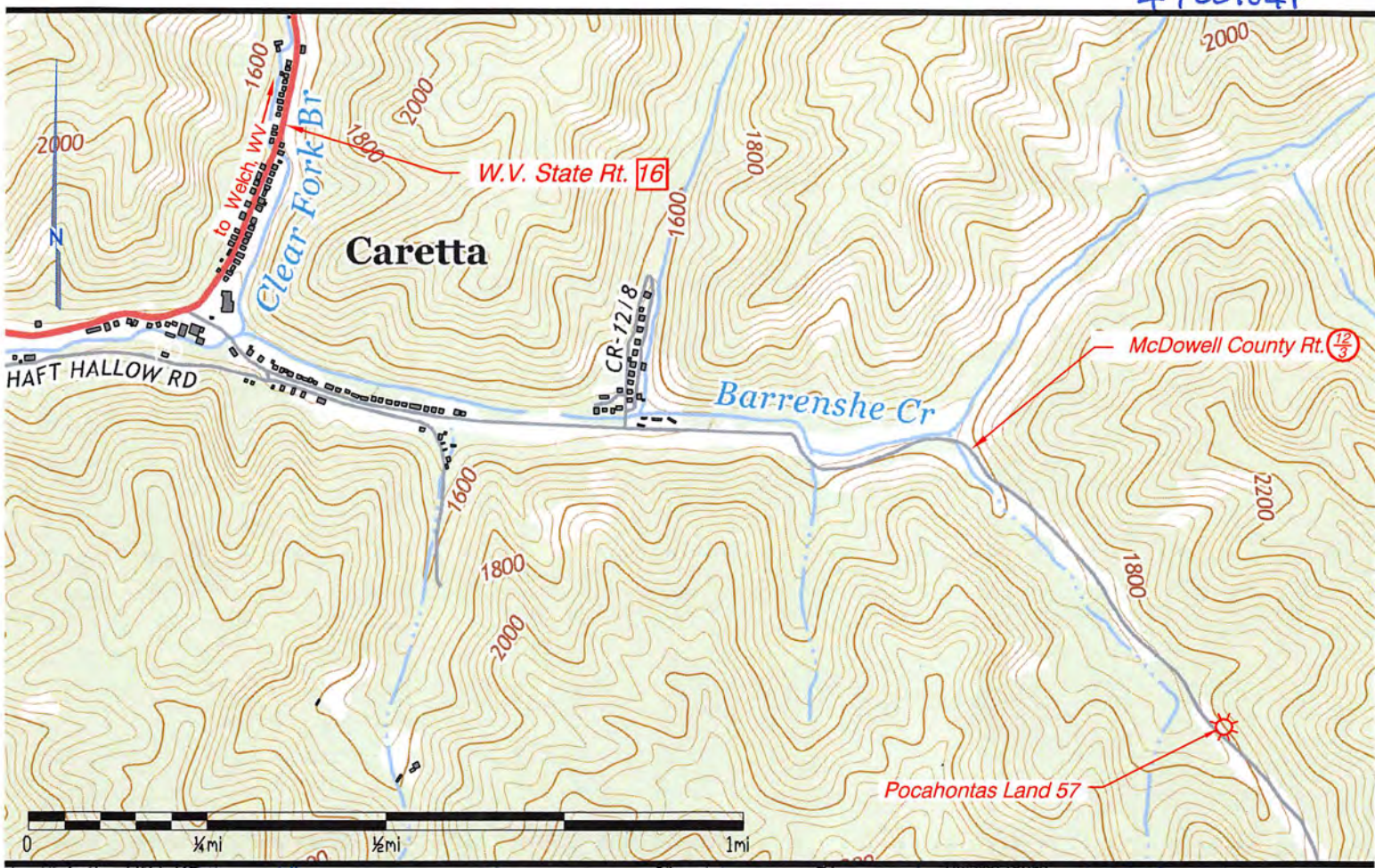
Marketable timber shall be cut and stacked at an accessible location. Stacked or windrowed brush may be used for sediment control.

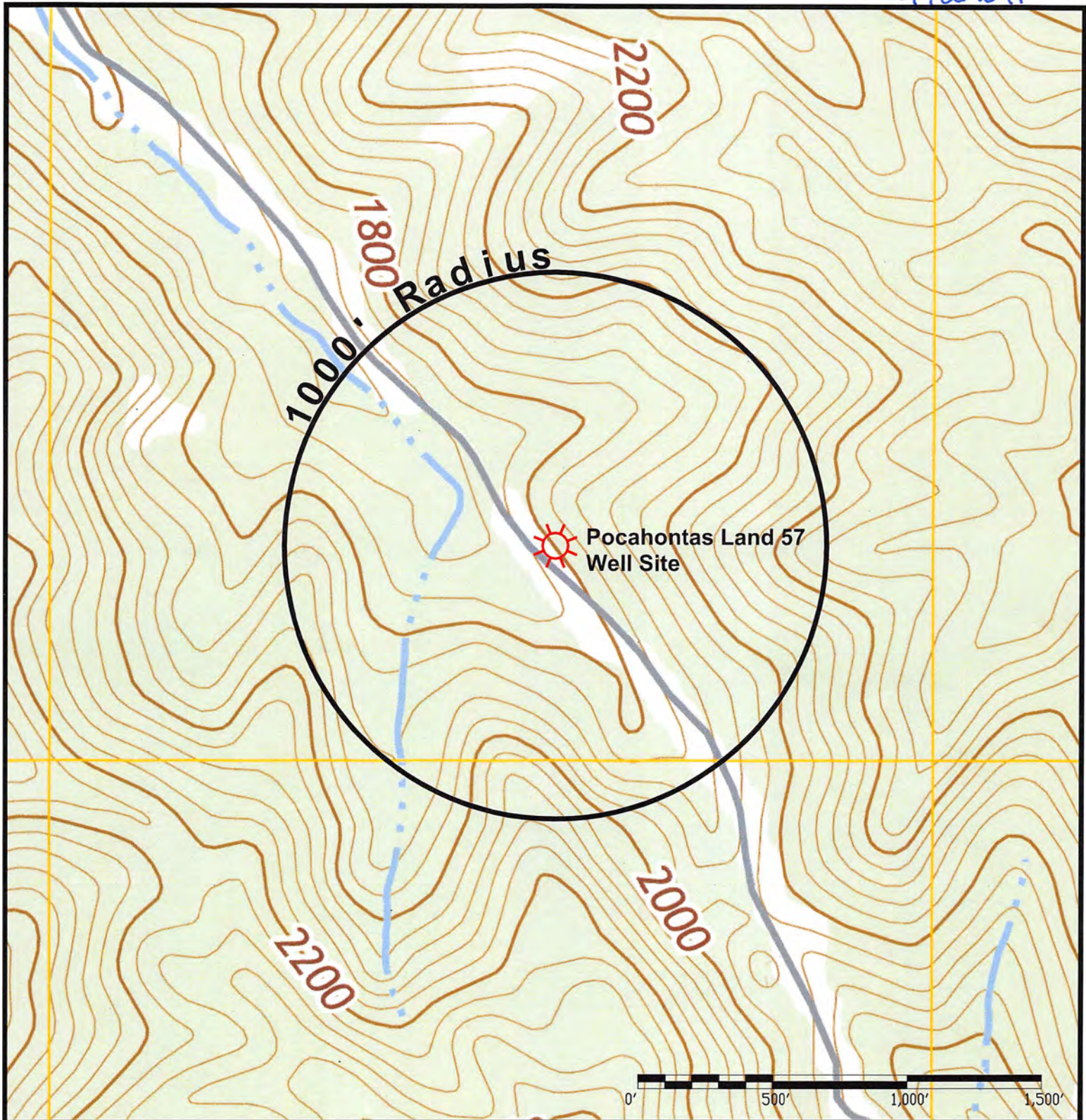
Applications for separate Public Lands Corporation permits on the access road stream crossings (if any) have been provided when applicable.

LEGEND

| | |
|--|--|
| Proposed Road | |
| Existing Road | |
| Existing Culvert | |
| Proposed Culvert (15" Min. unless noted) | |
| Proposed Stream Crossing | |
| Cross Drain | |
| Diversion Ditch | |
| Silt Fence | |
| Brush Barrier | |
| Tree Line | |
| Road Ditch | |
| Gas Line | |
| Fence Line | |
| Water Well | |
| House/Structure | |
| Spring | |
| Wet Spot | |











War, WV/VA 7½' USGS Quadrangle

Notes:

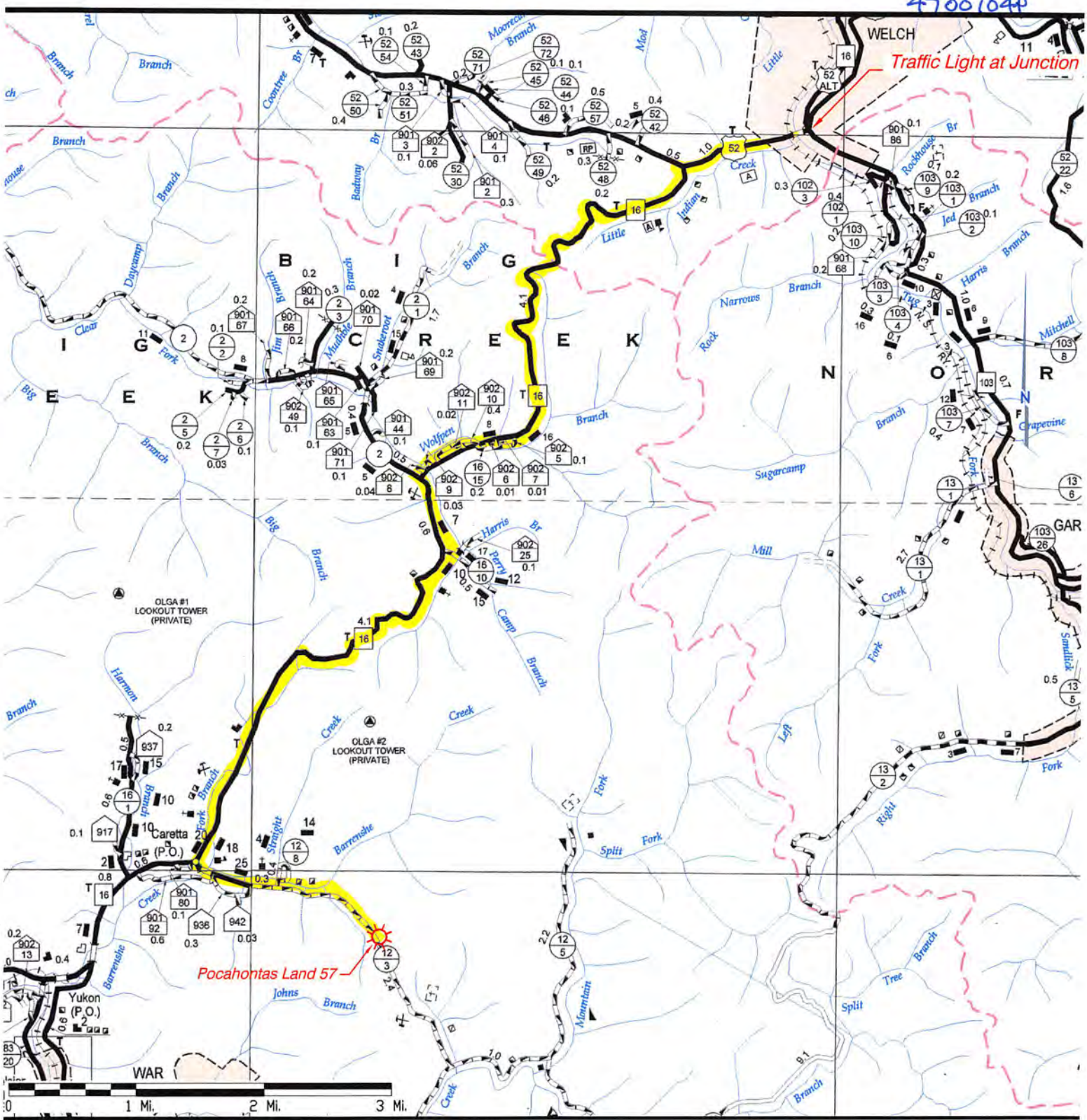
No water wells or other sources of groundwater currently being used for human consumption, domestic animals or other general uses were identified within 1000' of the proposed well site.

Legend:

- Water Well 
- Spring 
- Wet Spot 
- House/Structure 

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 JAN 27 2016
 WV Department of Environmental Protection

47001049



Traffic Light at Junction

Pocahontas Land 57

Driving Directions:

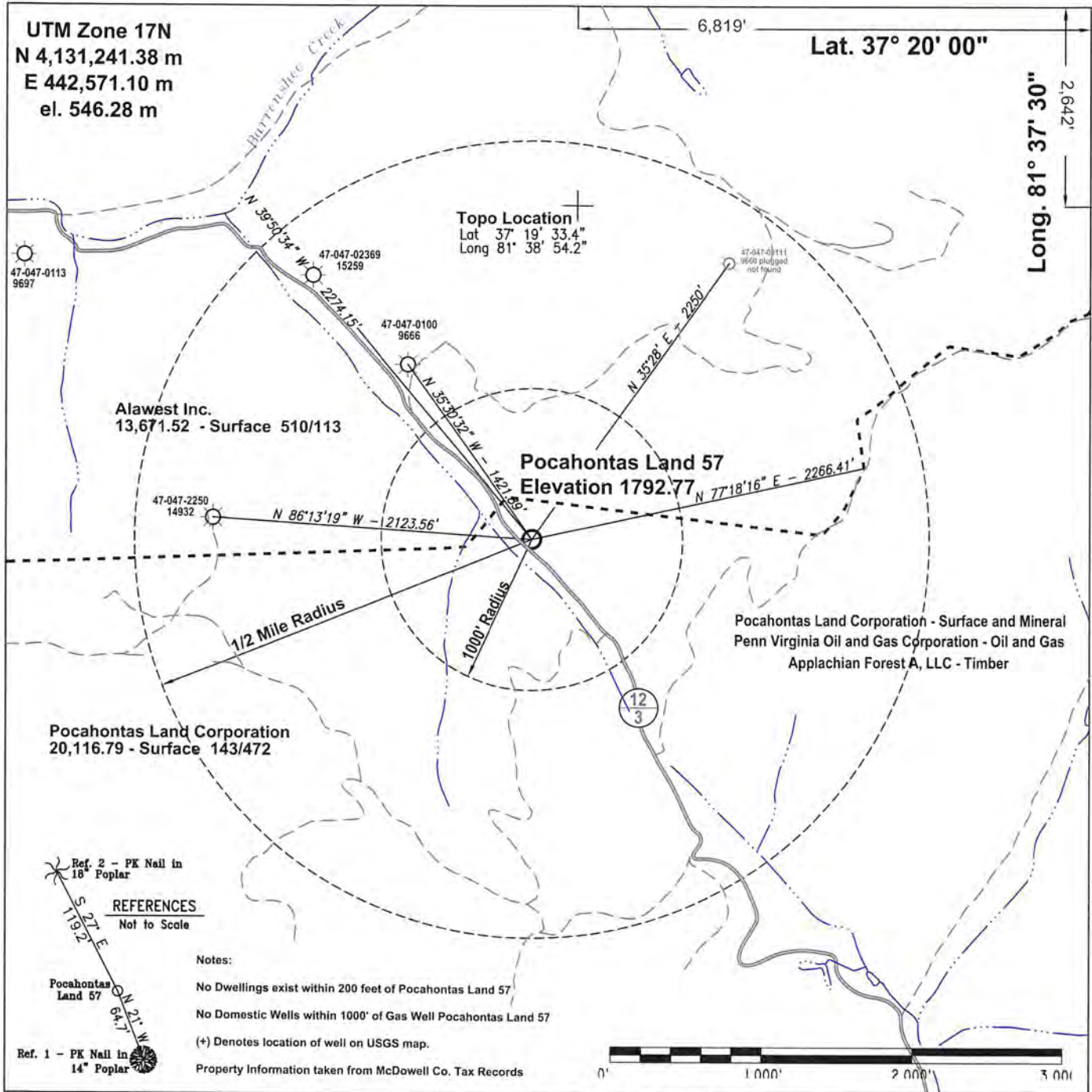
1. Beginning in Welch at the intersection of US Rt. 52 and WV Route 16 at a traffic light; take Rt. 52 North 0.9 miles to WV 16 South at a fork on the left. Make the left onto Rt. 16 South toward Caretta.
2. Follow Rt. 16 South 4.7 miles to a "T" intersection, turn left to stay on Rt. 16 toward the community of Six. Continue on Rt. 16 for an additional 4.7 miles to a fork at the community of Caretta, WV. Bear left at the fork leaving Rt. 16.
3. From the fork, leave Rt. 16 turning onto McDowell Co. Rt. 12 for 1 1/4 miles.
4. The Pocahontas Land 57 well site sits above the county road and is accessed by a 75' lease road on the left.

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JAN 27 2016

WV Department of Environmental Protection
September 5, 2014
05/13/2016

4700104F



FILE #: W:\filestation1\Station4D\work\Cabot Oil & Gas\Cabot2014
 DRAWING #: PocaLand57.pdf's\WW-6-PocaLand57.pdf
 SCALE: see barscale above
 MINIMUM DEGREE OF ACCURACY: 1 part in 2500
 PROVEN SOURCE OF ELEVATION: sub meter GPS location

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.
 Signed: *[Signature]*
 R.P.E.: _____ L.L.S.: 1065



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304



DATE: September 5, 2014
 OPERATOR'S WELL #: Pocahontas Land 57
 API WELL #: 47 047 00104
 STATE COUNTY PERMIT

Well Type: Oil Waste Disposal Production Deep
 Gas Liquid Injection Storage Shallow

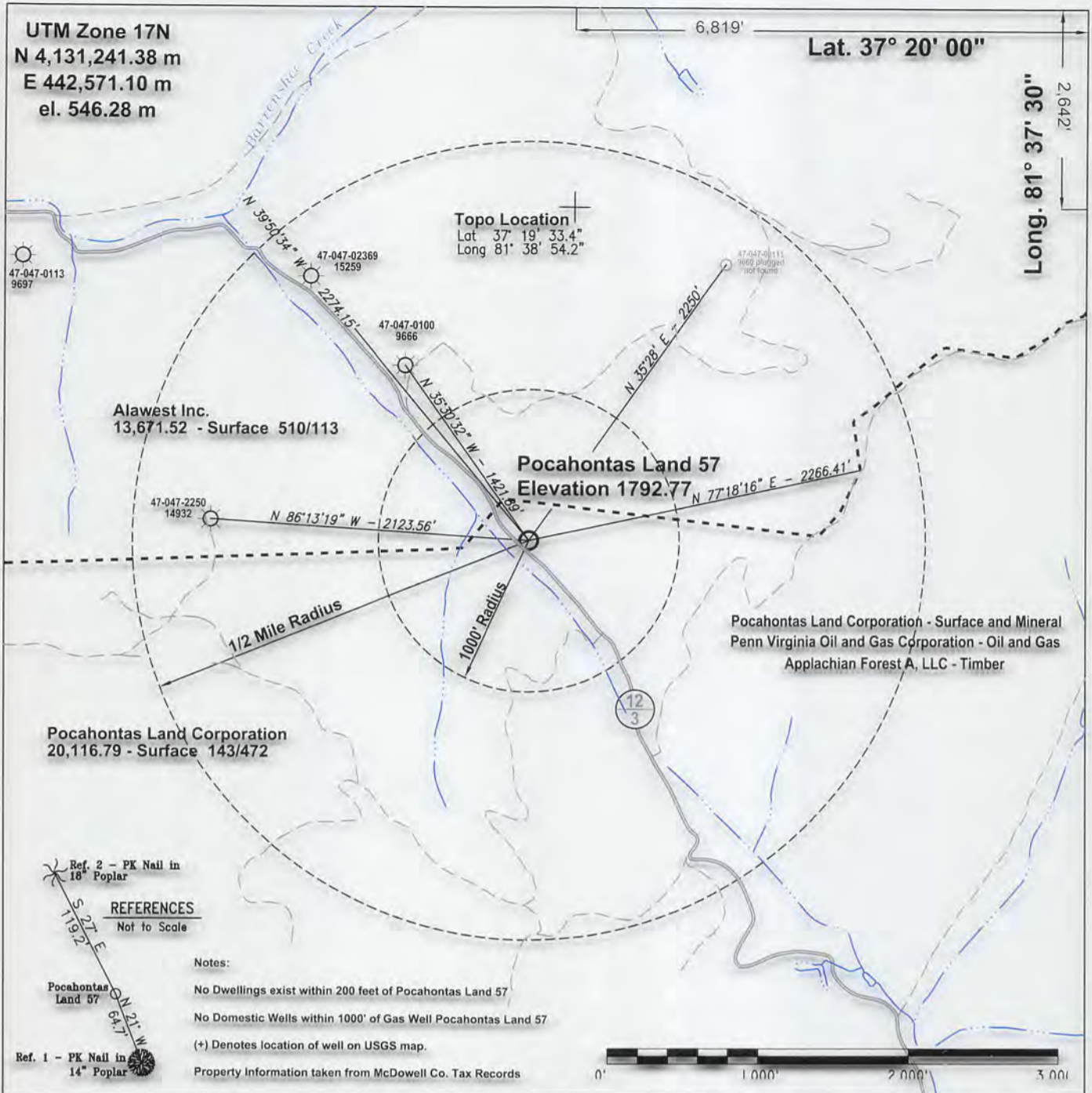
WATERSHED: UT of Barrenshe Ck of Dry Fk of Tug Fk of Big Sandy ELEVATION: 1792.77
 COUNTY/DISTRICT: 047-McDowell / 2-Big Creek QUADRANGLE: 657 - WAR
 SURFACE OWNER: Pocahontas Land Corporation ACREAGE: 20,116.79
 OIL & GAS ROYALTY OWNER: Penn Virginia Oil and Gas Corporation ACREAGE: 47,520

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

TARGET FORMATION: Berea Sandstone ESTIMATED DEPTH: 4,542'

WELL OPERATOR Cabot Oil & Gas Corporation DESIGNATED AGENT Whitney Johnson
 Address Five Penn Center West, Suite 401 Address P.O. Box 450
 City Pittsburgh State PA Zip Code 15276 City Glasgow State WV Zip Code 25086

05/13/2016



FILE #: \\filestation1\Station4D\work\Cabot Oil & Gas\Cabot2014
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WELL OPERATOR Cabot Oil & Gas Corporation DESIGNATED AGENT Whitney Johnson
 Address Five Penn Center West, Suite 401 Address P.O. Box 450
 City Pittsburgh State PA Zip Code 15276 City Glasgow State WV Zip Code 25086

05/13/2016