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**west virginia** department of environmental protection

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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

August 21, 2015

**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-9901933, 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: CNR 4R  
Farm Name: BLANKENSHIP DWIGHT&TERIN  
**API Well Number: 47-9901933**  
**Permit Type: Plugging**  
Date Issued: 08/21/2015

**Promoting a healthy environment.**

**08/21/2015**

## 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.
4. This well is under a consent order and must be plugged under the terms of that agreement.

WW-4B  
Rev. 2/01

AUG 21 2015

- 1) Date July 13, 2015
- 2) Operator's  
Well No. CNR #4
- 3) API Well No. 47-099 - 01933

WV Department of  
Environmental Protection  
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 X or Underground storage \_\_\_) Deep \_\_\_ / Shallow X

5) Location: Elevation 871.33' Watershed West Fork of Twelvepole Creek  
District Lincoln County Wayne Quadrangle Wayne

6) Well Operator Cabot Oil & Gas Corporation 7) Designated Agent Phillip Hill  
Address Five Penn Center West, Ste. 401 Address 900 Lee St., E. Suite 1500, Huntington Sq.  
Pittsburgh, PA 15276 Charleston, WV 25301

8) Oil and Gas Inspector to be notified 9) Plugging Contractor  
Name Jeremy James Name Contractor Services, Inc.  
Address P.O. Box 147 Address 929 Charleston Road  
Ona, WV 25545 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.

Work order approved by inspector



Date

8-10-15

# CNR #4R

## API # 47 - 099 - 01933

### PLUGGING PROCEDURE

#### Current Configuration

DTD @ 5085'  
 TVD @ 3912'  
 Elevation - 868' GL  
 20" conductor @ 40' KB, not cemented  
 13 <sup>3</sup>/<sub>8</sub>" - 48# H-40 casing @ 490' KB, cemented to surface  
 9 <sup>5</sup>/<sub>8</sub>" - 36# J-55 casing @ 1667' KB, cemented to surface  
 7" - 20# J-55 casing @ 3270' KB, calculated TOC @ 1256' KB  
 2 <sup>7</sup>/<sub>8</sub>" - 6.5# tubing @ 5060' MD  
 Big Six encountered @ 4202' MD  
 Berea formation: 2090 - 2210' (not perforated)  
 No coal reported  
 Salt water @ 784', 1051', & 1145'  
 Fresh water @ 68' & 362'

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#### PROCEDURE

1. Contact Danville District Office a minimum of 48 hours prior to starting work
2. Contact state inspector a minimum of 24 hours prior to starting work.
3. MIRU company certified in H<sub>2</sub>S safety. All personnel on location must be trained in the proper use of respirators and other safety devices. Respiratory equipment is to worn in areas with H<sub>2</sub>S concentrations that exceed 10 ppm. **NOTE: Big Six tested 120 ppm H<sub>2</sub>S while drilling.**
4. MIRU service rig and blow down well.
5. Lay 2" line from wellhead to pit/tank and stake down securely. Vent 2 <sup>7</sup>/<sub>8</sub>" x 7" and 7" X 9 <sup>5</sup>/<sub>8</sub>" annuli.
6. Unpack wellhead.
7. POOH with 2 <sup>7</sup>/<sub>8</sub>" tubing.
8. RU Wireline and set cast iron bridge plug for 6 <sup>1</sup>/<sub>4</sub>" hole at 3800' KB. Inclination should be ±42°.
9. RIH with 2 <sup>7</sup>/<sub>8</sub>" tubing to top of bridge plug.
10. MIRU Cementing Company.
11. Pump 80 barrels of 6% Gel.
12. Pump 22 c.f. of latex cement for cement plug 1 from 3800' to 3700'.
13. Displace with 21 bbls of 6% Gel.
14. Pull tubing up to 3300' and pump 40 bbls of 6% gel followed by 40 sacks of Class A cement for cement plug 2 from 3300' to 3100'.
15. Displace with 18 bbls of 6% Gel.
- ★ 16. POOH with tubing. *Add cement plug 1700-1300 to protect from salt water migration*
17. Run freepoint and cut 7" casing where free. Estimate ±1250'. Pick up casing 1 jt.
18. Pump 55 sacks Class A cement for cement plug 3 from ±1250' to 1100'.
19. Displace with 44 bbls of 6% Gel.
20. Pull casing up to 900' and pump 75 sacks of Class A cement for cement plug 4 from 900' to 700'.
21. Displace with 36 bbls of 6% Gel.
22. Pull casing up to 200' and pump 75 sacks of Class A cement for cement plug 5 from 200' to surface.
23. TOOH with casing and lay down.
24. RDMO Cement company
25. Erect Monument according to Law.
26. RDMO.

08/21/2015

**CNR #4R**  
**47-099-01933**  
Proposed Configuration  
Elevation - 868' GL

FW @ 60' & 200'

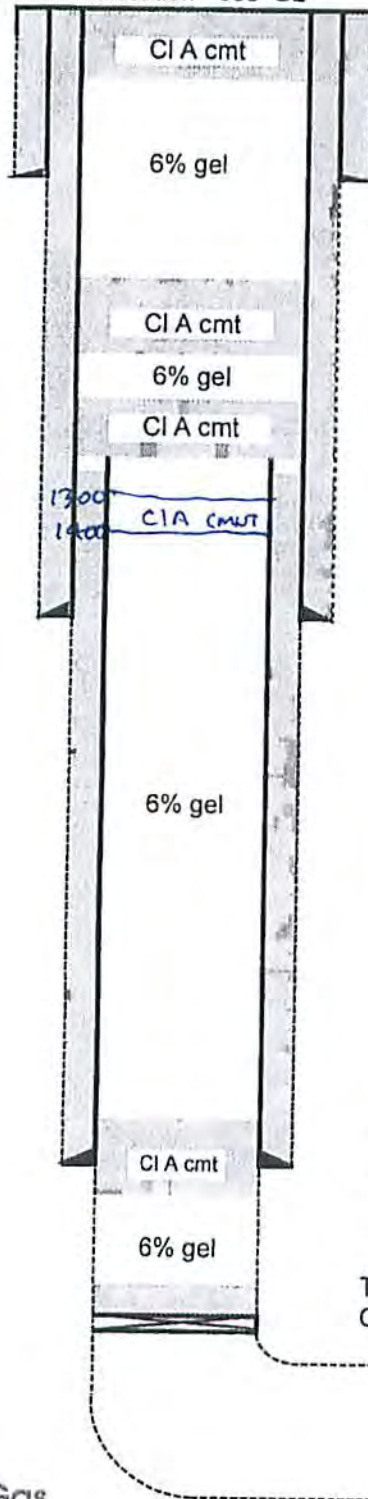
SW @ 784', 1051', & 1145'  
Salt Sand @ 892' - 1263'

Big Six @ 4202' MD  
3899' TVD

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20" LS conductor @ 40' KB

Bottom of plug 5 @ 200'

13 3/8" 48# H-40 casing @ 490' KB  
Cement to surface

Top of plug 4 @ 700'

Bottom of plug 4 @ 900'

Top of plug 3 @ 1100'

Bottom of plug 3 @ ±1250'

Calculated 7" TOC @ 1256' KB

9 5/8" 36# J-55 casing @ 1667' KB  
Cement to surface

Top of plug 2 @ 3100'  
7" 20# J55 casing @ 3270' KB  
w/260 sx latex cement  
Bottom of plug 2 @ 3300'

Top of latex cmt plug 1 @ 3700'  
CIBP @ 3800' (inclination is 42°)

DTD @ 5085' MD  
TVD @ 3912'

WR-35

Date: 5-Jan-99  
API # 47-099-01933

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

Farm name: Blankenship Dwight & Terina Operator Well No.: CNR #4R

LOCATION: Elevation: 868' Quadrangle: Wayne  
District: Lincoln County: Wayne  
Latitude: 14,750 feet South of 38 DEG. 10 MIN. 0 SEC.  
Longitude: 3,300 feet West of 82 DEG. 27 MIN. 30 SEC.

Company: Cabot Oil & Gas Corporation  
400 Fairway Drive: Suite 400  
Coraopolis, PA 15108-4308

Agent: John Abshire  
Inspector: David Belcher  
Permit Issued: 8/12/98  
Well Work Commenced: 8/30/98  
Well Work Completed: 10/20/98  
Verbal Plugging  
Permission granted on:  
Rotary X Cable Rig  
Total Depth (feet) \*4056' (TVD),  
3912' (TVD),  
5085' (MD)  
Fresh Water Depths (ft) 60', 200'  
Salt Water Depths (ft) 784', 1051', 1145'

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill up Cu. Ft.
20"	30'	30'	
13-3/8"	484.15'	484.15'	380 sks Class "A"
9-5/8"	1657'	1657'	150 sks Class "A"
7"	3262'	3262'	260 sks latex

Is coal being mined in area (Y / N)? \_\_\_\_\_  
Coal Depths (ft) \_\_\_\_\_

\*Original vertical wellbore was plugged back to 3329'; Whipstock was set and kicked off

**OPEN FLOW DATA**

Producing formation Big Six Pay zone depth (ft) 3899'-3912'(TVD)  
4202'-5085' (MD)

Gas: Initial open flow 231 MCF/d Oil: Initial open flow N/A Bbl/d  
Final open flow 800 MCF/d Final open flow N/A Bbl/d  
Time of open flow between initial and final tests 6 Days  
Static rock pressure 1200 psig (surface pressure after 48 Hours)

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock pressure \_\_\_\_\_ psig (surface pressure after \_\_\_\_\_ 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.

For: CABOT OIL & GAS CORPORATION

By: Ray Prudnick, Jr.  
Date: 1-12-99

Wayne 7

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Environmental Protection  
08/21/2015

WAY-1933  
9901933P

OPEN FLOW DATA

Well was drilled to a true vertical depth of 4056'. Open hole logs were run to determine thickness of the Big Six formation. A cement plug was pumped from 4056'-3329' with a mechanical whipstock placed on top of cement plug to kickoff and drill horizontally through the Big Six formation. Hit Big Six @ 3899' (TVD), 4202' (MD), drilled horizontally 883' for a final measured depth of 5085' and a final TVD of 3912'. Ran 2-7/8" tubing to 3399' and turned well inline without stimulation of the Big Six.

FORMATION	TOP	BOTTOM	REMARKS
Sand/Shale	0	892	
Salt Sand	892	1263	
Shale	1263	1325	
Little Lime	1325	1364	
Big Lime	1364	1570	
MacCrady	1570	1617	
Injun	1617	1648	
Shale	1648	2138	
Berea	2138	2277	
Shale	2277	3234	
Corniferous	3234	3899	
Big Six	3899	3950	
Shale	3950	4056 - TD	

TVD off of the vertical open hole logs.

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9901933P

WW-4A  
Revised 6-07

1) Date: July 13, 2015  
2) Operator's Well Number  
CNR #4  
3) API Well No.: 47 - 099 - 01933

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>Dwight Dale &amp; Romana Blankenship</u>	Name <u>None</u>
Address <u>1684 Old N&amp;W RR bed</u> ✓	Address _____
<u>Genoa, WV 25517</u>	_____
(b) Name <u>William M. &amp; Judy Osborne</u>	(b) Coal Owner(s) with Declaration
Address <u>P.O. Box 235</u> ✓	Name <u>Northfolk Southern Railway</u>
<u>Genoa, WV 25517</u>	Address <u>c/o Pocahontas Land Corp. P.O. Box 1517</u> ✓
	<u>Bluefield, WV 24701</u>
(c) Name _____	Name _____
Address _____	Address _____
	_____
6) Inspector <u>Jeremy James</u>	(c) Coal Lessee with Declaration
Address <u>P.O. Box 147</u>	Name <u>None of record</u>
<u>Ona, WV 25545</u>	Address _____
Telephone <u>(304) 951-2596</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 Cabot Oil & Gas Corporation  
 By: John Smelko *John J. Smelko*  
 Its: North Region Manager, Environmental and Regulatory Compliance  
 Address Five Penn Center West, Ste. 401  
Pittsburgh, PA 15276  
 Telephone (412) 249-3850

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

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Subscribed and sworn before me this 16th day of July, 2015  
*Constance C. Carden* Notary Public JUL 22 2015  
 My Commission Expires November 16, 2017

WV Department of  
Environmental Protection

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](mailto:depprivacyofficer@wv.gov).

08/21/2015



WW-9  
(9/13)

API Number 47 - 099 - 01933  
Operator's Well No. CNR #4

9901933P

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) West Fork of Twelvepole Creek Quadrangle Wayne

Elevation 871.33' County Wayne District Lincoln

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)

ANY WELL EFFLUENT MUST BE CONTAINED IN TANKS & DISPOSED OF PROPERLY. gmm

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? \_\_\_\_\_

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 John Smelko JUL 22 2015

Company Official (Typed Name) John Smelko

Company Official Title North Region Manager, Environmental and Regulatory Compliance

WV Department of Environmental Protection  
COMMONWEALTH OF PENNSYLVANIA

Subscribed and sworn before me this 16th day of July, 20 15

Constance C. Carden Notary Public

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

My commission expires 11/16/2017

08/21/2015

Form WW-9

Operator's Well No. CNR #4

Cabot Oil & Gas Corporation

Proposed Revegetation Treatment: Acres Disturbed 2.0 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 Tons/acre

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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.

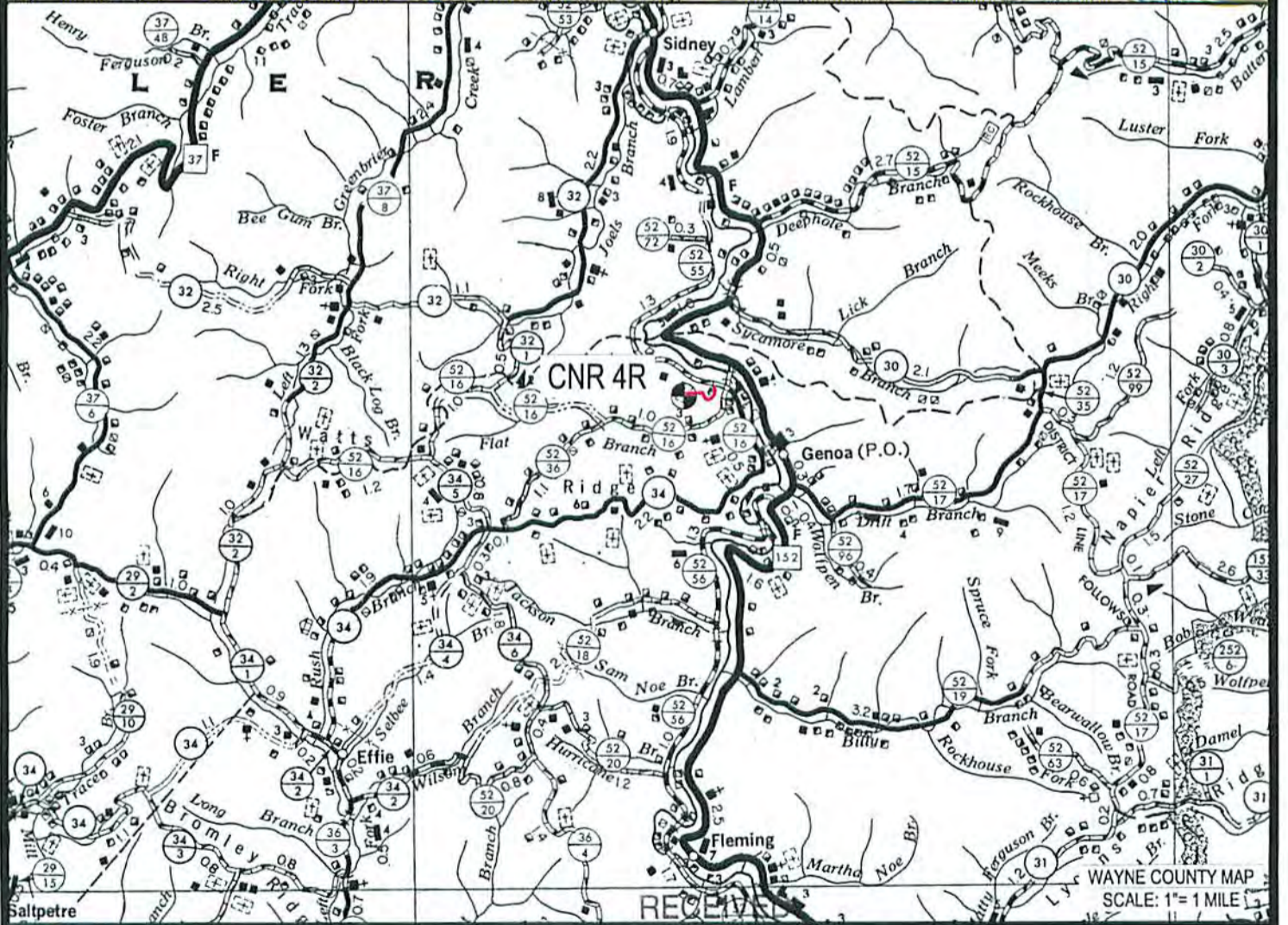
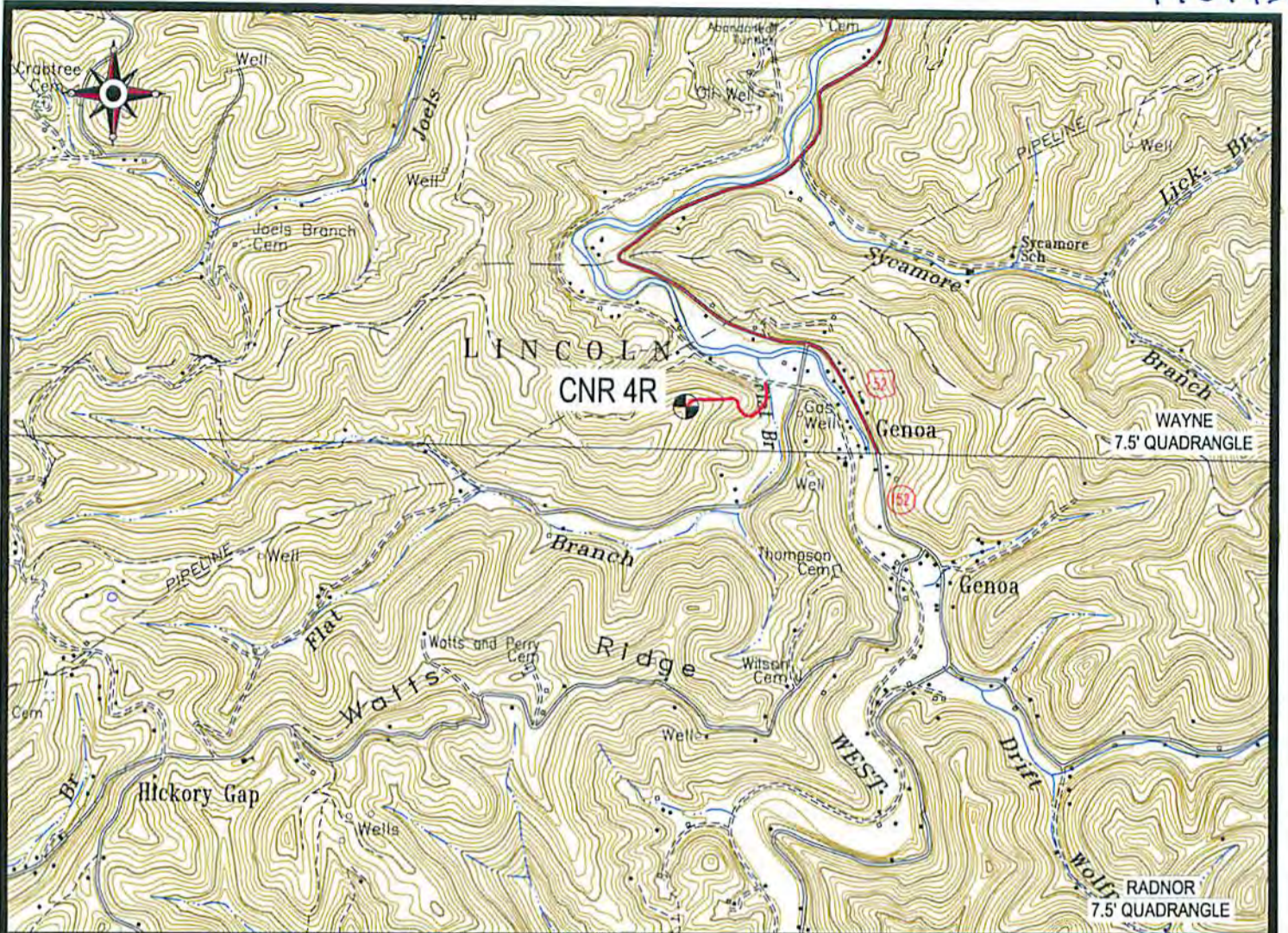
Plan Approved by: 

Comments: tag all plugs & reset if needed

Title: inspector OOG

Date: 8-10-15

Field Reviewed?  Yes  No



 Cabot Oil & Gas Corporation

Office of Oil and Gas **CNR 4R**  
 JUL 22 2015 LOCATION MAP 08/21/2015



**CUNNINGHAM**

LAND SURVEYING & MAPPING SERVICES, LLC  
 5213 STEPHEN WAY  
 CROSS LANES, WEST VIRGINIA 25313  
 VOICE (304) 561-4129 FAX (304) 776-0703  
 E-MAIL ADDRESS DKCUNNINGHAM@SUDDENLINK.NET

LOCATED ON THE WATERS OF THE  
 WEST FORK OF TWELVEPOLE CREEK  
 LINCOLN DISTRICT, WAYNE COUNTY, WV  
 WAYNE 7.5' QUADRANGLE

PROJECT NO. CABOT	DWG. CNR 4R	
DATE: 04/01/14	SCALE: AS NOTED	CHK'D BY: D.K.C.
DRAWN BY: J. JONES	FILE: C:\PROJECT FOLDER\CABOT	

**GENERAL NOTES:**

THIS DRAWING REPRESENTS 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 UNFORESEEN CIRCUMSTANCES, THE AS-BUILT LOCATION OF THESE STRUCTURES MAY VARY SLIGHTLY FROM THE LOCATION SHOWN ON THE ATTACHED DRAWINGS.

ALL ROADS SHOWN THEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH GUIDELINES AND REQUIREMENTS OF WEST VIRGINIA DEPARTMENT OF OIL AND GAS EROSION AND SEDIMENT CONTROL MANUAL.

ALL CULVERTS SHOWN ON THIS DRAWING ARE PROPOSED AND WILL BE A MINIMUM OF 15" IN DIAMETER UNLESS OTHERWISE NOTED.

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.

SUPPLEMENTAL DRAINAGE AND/OR SEDIMENT CONTROL STRUCTURES MEASURES IN ADDITION TO THOSE SHOWN ON THE ATTACHED DRAWINGS WILL BE INSTALLED WHEN AND WHERE DEEMED NECESSARY. SUCH ADDITIONAL MEASURES MAY CONSIST OF EITHER STRAW BALES, SILT FENCES OR OTHER MEASURES OUTLINED IN THE WEST VIRGINIA DEPARTMENT OF OIL AND GAS EROSION AND SEDIMENT CONTROL FIELD MANUAL.

SEDIMENT BASINS (TRAPS) WILL BE CONSTRUCTED AT ALL CULVERTS AND CROSS DRAINS INLETS AS REQUIRED IN THE WEST VIRGINIA DEPARTMENT OF OIL AND 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.

A SEDIMENT BARRIERS OF EITHER BRUSH, STRAW BALES, FILTER FENCE, ETC. WILL BE INSTALLED AND MAINTAINED BELOW THE OUT FALL OF ALL PROPOSED CULVERTS AND AT ALL OTHER STORM WATER DRAINAGE POINTS FROM EITHER THE ROADWAY OR THE LOCATION.

ALL NECESSARY TIMBER OR BRUSH WILL BE REMOVED FROM ROUTE OF THE ROADWAY AND LOCATION BY CLEANING AND GRUBBING ACTIVITIES. ANY SALVAGEABLE TIMBER WILL BE CUT AND STACKED TO THE SIDE OF THE ROADWAY OR REMOVED TO A STOCKPILE AREA. THE REMAINING TIMBER OR BRUSH WILL BE CUTUP AND WIND ROWED BELOW THE OUTSLOPE OF THE CONSTRUCTION AREAS TO BE UTILIZED AS A SEDIMENT BARRIER.

SEPARATE PERMITS WILL BE OBTAINED FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION FOR ALL POINTS OF INGRESS AND EGRESS FROM COUNTY AND STATE ROADS. THESE INGRESS AND EGRESS POINTS WILL BE MAINTAINED IN ACCORDANCE WITH CURRENT WEST VIRGINIA DEPARTMENT OF TRANSPORTATION REGULATIONS. A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF 8" OF CRUSHED STONE WILL BE CONSTRUCTED FOR A MINIMUM DISTANCE OF 50' FROM THE INGRESS AND EGRESS POINTS OF ALL PUBLIC ROADWAYS IN ACCORDANCE WITH CURRENT WEST VIRGINIA DEPARTMENT OF TRANSPORTATION REGULATIONS.

ALL CULVERTS SHOWN ON THE ATTACHED DRAWINGS ARE TO BE CONSIDERED PERMANENT AND WILL REMAIN IN PLACE AFTER COMPLETION OF CONSTRUCTION ACTIVITIES UNLESS NOTED OTHERWISE. A STABILIZED OUTLET CONTROL DEVICE SUCH AS RIP RAP, NATURAL STONE, BRUSH, ETC. WILL BE INSTALLED BELOW THE OUT FALL OF ANY ROADWAY CULVERT(S) WHICH ARE NOT LOCATED IN A STREAM OR CREEK.

PERMANENT CROSS DRAINS OR WATER BARS WILL BE INSTALLED AS AN INTEGRAL PART OF THE RECLAMATION PROCESS AND SHALL BE SPACED IN ACCORDANCE WITH AS-BUILT ROADWAY SLOPES AND TABLE 11-4 OF THE WEST VIRGINIA DEPARTMENT OF OIL AND GAS EROSION AND SEDIMENT CONTROL FIELD MANUAL.

TEMPORARY SEEDING AND MULCHING WILL BE UTILIZED TO PROVIDE A VEGETATIVE COVER ON ALL DISTURBED AREAS I.E. ROADWAYS, LOCATION, ROAD/LOCATION SLOPES AND ANY OTHER AREAS THAT ARE DISTURBED BY CONSTRUCTION ACTIVITIES.

THE LOCATION OF DRILLING PIT(S) MAY BE ADJUSTED TO THE MOST ENVIRONMENTAL SAFE SITE TO MEET THE REQUIREMENTS OF THE WVDEP.

**CONTRACTORS NOTE:**

IT IS THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION AND CONDITION OF ALL UNDERGROUND UTILITIES, SANITARY SEWERS, STORM SEWERS, ETC. PRIOR TO THE COMMENCEMENT OF ANY/OR CONSTRUCTION ACTIVITIES. DIG WITH C.A.R.E. CALL MISS UTILITY 1-800-245-4848.

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

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



1-800-245-4848

**DRAWING LEGEND**

- PROPOSED ROAD -----
- EXISTING ROAD \_\_\_\_\_
- STRAW BALES [Symbol]
- SILT FENCE [Symbol]
- BRUSH BARRIER [Symbol]
- TREE LINE [Symbol]
- ROCK RIP RAP [Symbol]
- CROSS DRAIN [Symbol]
- CULVERT [Symbol]
- DRILLING PIT [Symbol]
- ROAD DITCH [Symbol]
- GAS LINE [Symbol]
- FENCE LINE [Symbol]
- ROCK OUTCROP [Symbol]
- WATER WELL [Symbol]
- HOUSE/STRUCTURE [Symbol]
- UTILITY POLE [Symbol]
- SPRING [Symbol]
- WET SPOT [Symbol]
- PIT WASTE APP. AREA [Symbol]

**DRIVING DIRECTIONS FOR CNR 4R**

- 1.) FROM WAYNE, WV DRIVE SOUTH ON RT. 152 FOR APPROXIMATELY 9.5± MILES TO A BRIDGE LOCATED ON THE RIGHT-HAND SIDE OF RT. 152.
- 2.) TURN RIGHT AND CROSS THE BRIDGE AND TRAVEL TO COUNTY ROAD 52/55. TURN RIGHT ONTO COUNTY ROAD 52/55 AND TRAVEL APPROXIMATELY 400± FEET TO THE ENTRANCE OF THE EXISTING ACCESS ROAD LOCATED ON THE LEFT-HAND SIDE OF THE ROAD.
- 3.) FROM THE AFOREMENTIONED SITE, FOLLOW THE EXISTING ROAD FOR APPROXIMATELY 0.25± MILES TO THE WELL SITE IN THE FIELD AS SHOWN ON THE "CONSTRUCTION AND RECLAMATION PLAN".

RECEIVED  
Office of Oil and Gas 08/21/2015

JUL 22 2015

WV Department of  
Environmental Protection

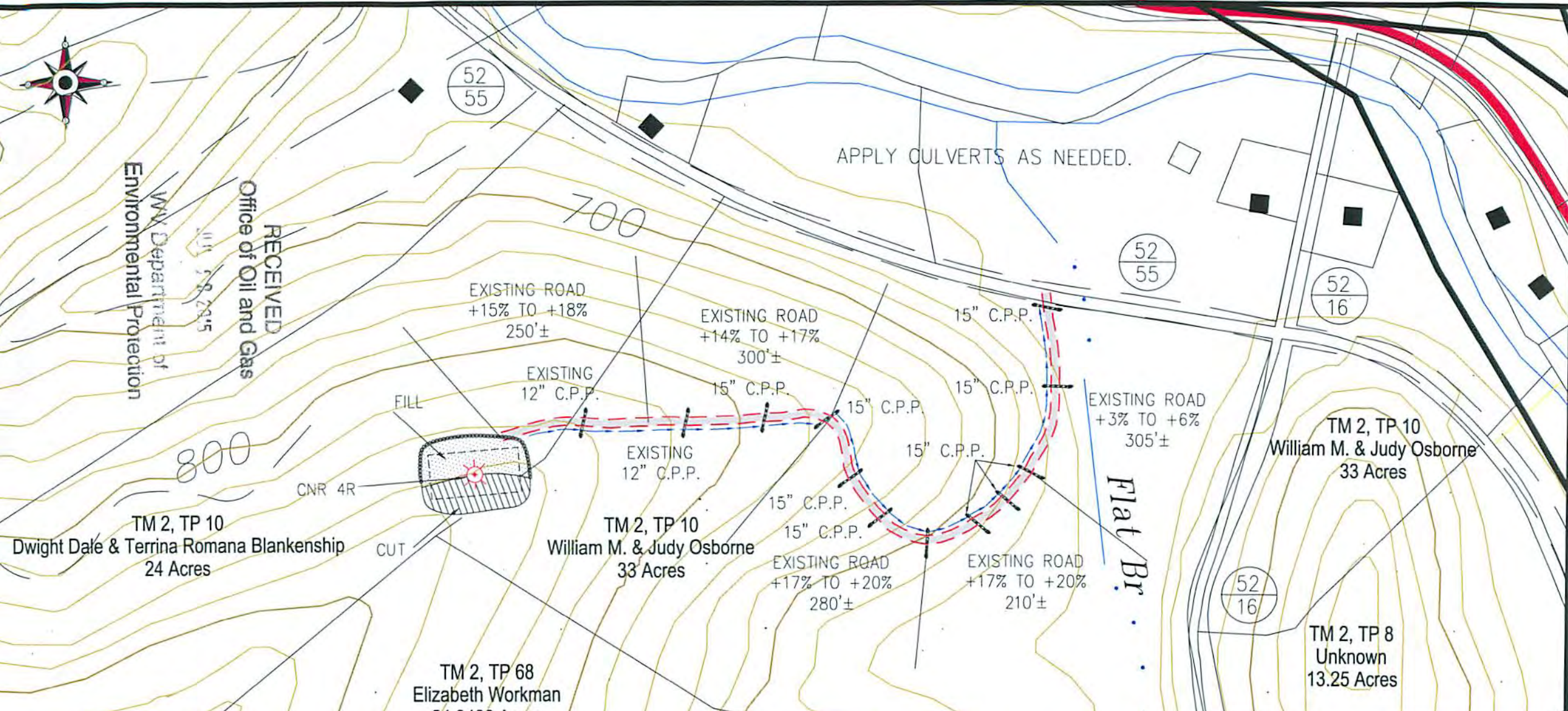


**CNR 4R**  
LINCOLN DISTRICT, WAYNE COUNTY, W.VA  
WAYNE 7.5' QUADRANGLE



RECEIVED  
Office of Oil and Gas  
WV Department of  
Environmental Protection  
11/18/2015

APPLY CULVERTS AS NEEDED.



TM 2, TP 10  
Dwight Dale & Terrina Romana Blankenship  
24 Acres

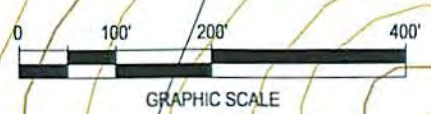
TM 2, TP 10  
William M. & Judy Osborne  
33 Acres

TM 2, TP 10  
William M. & Judy Osborne  
33 Acres

TM 2, TP 68  
Elizabeth Workman  
24.3486 Acres

TM 2, TP 8  
Unknown  
13.25 Acres

DRAWING LEGEND		
PROPOSED ROAD	ROAD DITCH	
EXISTING ROAD	GAS LINE	
STRAW BALES	FENCE LINE	
SILT FENCE	ROCK OUTCROP	
BRUSH BARRIER	WATER WELL	
TREE LINE	HOUSE/STRUCTURE	
ROCK RIP RAP	UTILITY POLE	
CROSS DRAIN	SPRING	
CULVERT	WET SPOT	
DRILLING PIT	PIT WASTE APP. AREA	



Note:  
Tanks will be used instead of drilling pit(s),  
and may be adjusted to the most  
environmental safe site to meet the  
requirements of the WVDEP.

**Cabot Oil & Gas Corporation**

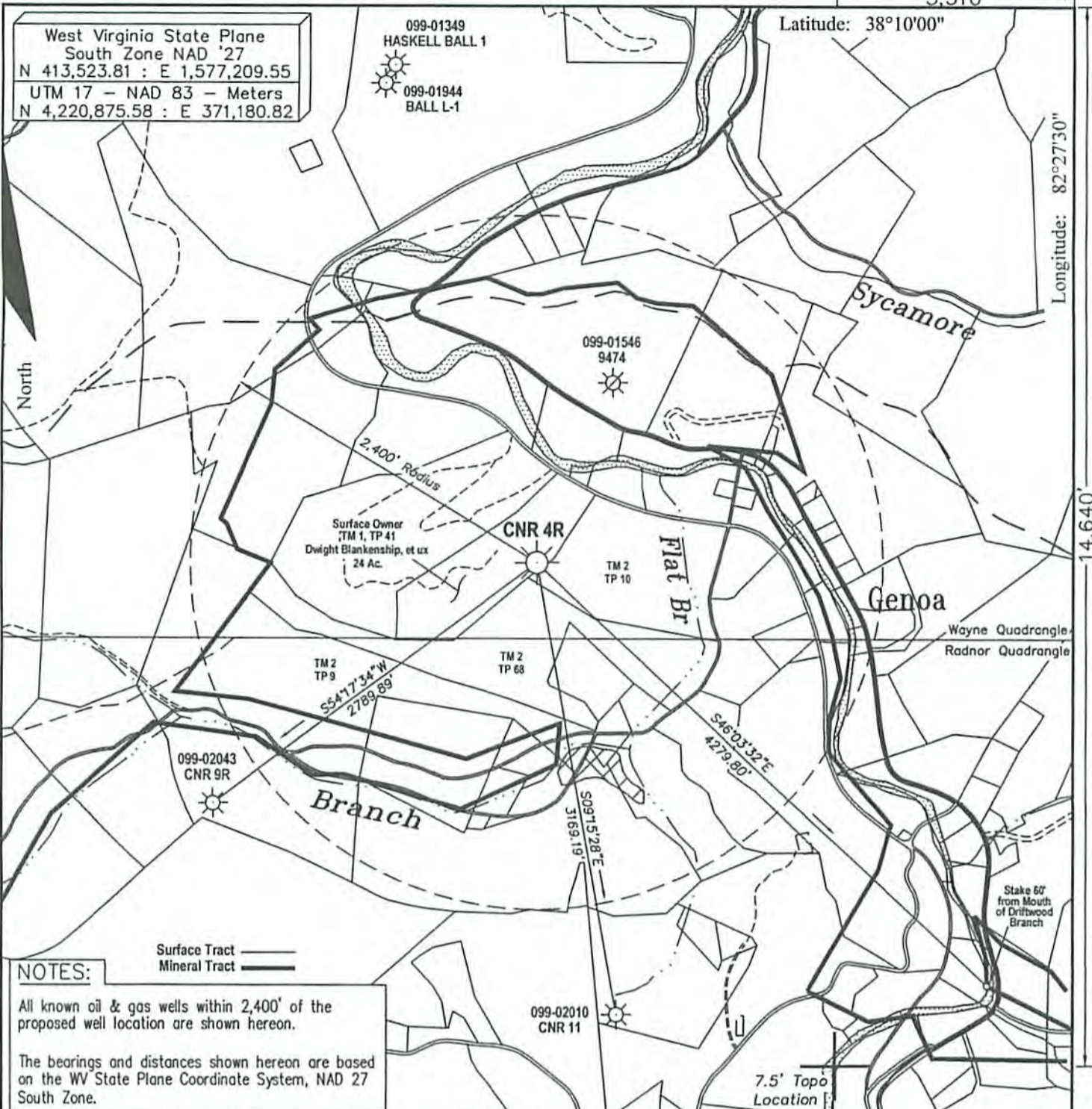
**CNR 4R**  
CONSTRUCTION & RECLAMATION SITE PLAN

SITUATED ON THE WATERS OF THE WEST FORK OF TWELVEPOLE CREEK  
LINCOLN DISTRICT, WAYNE COUNTY, WV  
WAYNE 7.5' QUADRANGLE

SHEET NUMBER 1 OF 1	SCALE: 1"=200'	DRAWN BY: J.M. JONES	DATE: 03/12/14	CHK'D. BY: DKC
------------------------	-------------------	-------------------------	-------------------	-------------------

9901933P

9901933P



FILE #: \_\_\_\_\_  
DRAWING #: cnr 4r  
SCALE: 1" = 1000'  
MINIMUM DEGREE OF ACCURACY: 1 : 12,729  
PROVEN SOURCE OF ELEVATION: Global Positioning System (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 ENVIROMENTAL PROTECTION.

Signed: Don K. Cunningham  
R.P.E.: \_\_\_\_\_ L.L.S.: 701

RECEIVED  
Office of Oil and Gas  
JUL 22 2015

DATE: April 1, 2014  
OPERATOR'S WELL #: CNR 4R  
API WELL #: 47 099 01933 P  
STATE COUNTY PERMIT

PLACE SEAL HERE

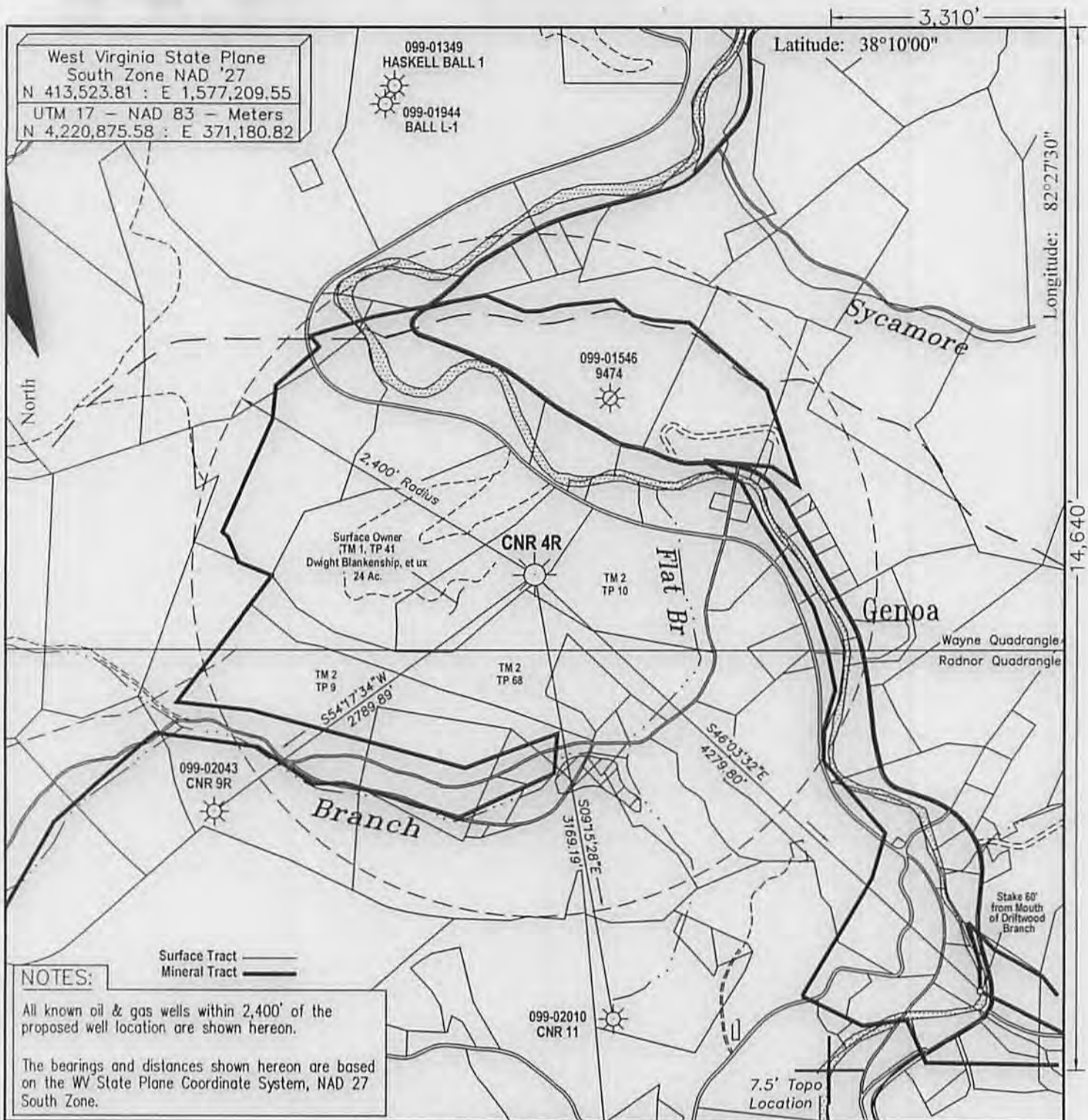
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
WVDEP  
OFFICE OF OIL & GAS  
601 57TH STREET  
CHARLESTON, WV 25304

WV Department of Environmental Protection

Well Type:  Oil  Gas  Liquid Injection  Storage  Deep  Shallow

WATERSHED: West Fork of Twelvepole Creek ELEVATION: 871.33'  
COUNTY/DISTRICT: Wayne / Lincoln QUADRANGLE: Wayne  
SURFACE OWNER: Dwight Blankenship, et ux ACREAGE: 24  
OIL & GAS ROYALTY OWNER: Columbia Natural Resources, Inc. ACREAGE: 1,385  
LEASE #: 47-10411 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: \_\_\_\_\_ ESTIMATED DEPTH: \_\_\_\_\_  
WELL OPERATOR Cabot Oil & Gas Corp. 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

08/21/2015



**NOTES:**

Surface Tract   
 Mineral Tract

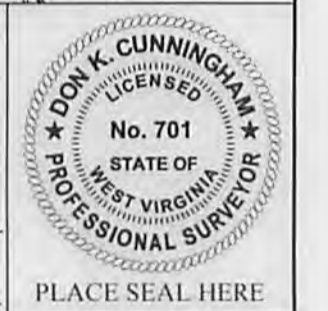
All known oil & gas wells within 2,400' of the proposed well location are shown hereon.

The bearings and distances shown hereon are based on the WV State Plane Coordinate System, NAD 27 South Zone.

FILE #: \_\_\_\_\_  
 DRAWING #: cnr 4r  
 SCALE: 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY: 1 : 12,729  
 PROVEN SOURCE OF ELEVATION: Global Positioning System (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 ENVIROMENTAL PROTECTION.

Signed: Don K. Cunningham  
 R.P.E.: \_\_\_\_\_ L.L.S.: 701



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



DATE: April 1, 2014  
 OPERATOR'S WELL #: CNR 4R  
 API WELL #: 47 099 01933  
 STATE COUNTY PERMIT

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

WATERSHED: West Fork of Twelvepole Creek ELEVATION: 871.33'

COUNTY/DISTRICT: Wayne / Lincoln QUADRANGLE: Wayne

SURFACE OWNER: Dwight Blankenship, et ux ACREAGE: 24

OIL & GAS ROYALTY OWNER: Columbia Natural Resources, Inc. ACREAGE: 1,385

LEASE #: 47-10411 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: \_\_\_\_\_ ESTIMATED DEPTH: \_\_\_\_\_

WELL OPERATOR Cabot Oil & Gas Corp. 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

08/21/2015