



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

July 18, 2014

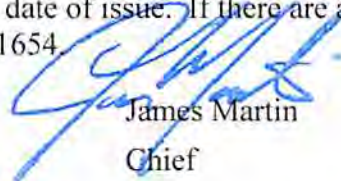
WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-1501377, issued to RAVEN RIDGE ENERGY, 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: 1
Farm Name: STEPHENSON, D. H.
API Well Number: 47-1501377
Permit Type: Plugging
Date Issued: 07/18/2014

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.

15013770

WW-4B
Rev. 2/01

1) Date APRIL 15, 2014
2) Operator's
Well No. D.H. STEPHENSON #1
3) API Well No. 47-011 - 1177

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

5) Location: Elevation 1140.72' Watershed TRIBUTARY OF WADE FORK
District UNION County CLAY Quadrangle ELKHURST 7.5'

6) Well Operator RAVEN RIDGE ENERY, LLC 7) Designated Agent RYAN E. M. CUNNINGHAM
Address 3230 PENNSYLVANIA AVENUE Address 1212 STAUNTION ROAD
CHARLESTON, WV 25302 CHARLESTON, WV 25302

8) Oil and Gas Inspector to be notified Name ED GAINER
Address P.O. BOX 821
SPENCER, WV 25276
9) Plugging Contractor Name CUNNINGHAM ENERGY, LLC
Address 3230 PENNSYLVANIA AVENUE
CHARLESTON, WV 25302

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

*Contact ~~my~~ inspector before any charges
are made to attachment*

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

Work order approved by inspector

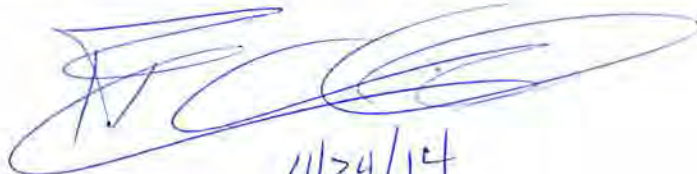


RECEIVED
Office of Oil and Gas
APR 29 2014
Date 4/24/14
WV Department of
Environmental Protection

07/18/2014

D.H. Stephenson #1
API #: 47-0151377

1. With tubing at 2,050' pump 10bb. Of 6% gel; set Cement plug from 2,050' – 1,825' (Approx. 40 sacks); pull all tubing; verify plug holds.
2. Attempt to pull 5 3/16" casing; pull 5 3/16" casing; run tubing to 1,690' pump 10 bbl of 6% gel, set 100' cement plug from 1690' – 1590' (Approx. 20 sacks); pull all tubing. If unable to pull 5 3/16 cut at about 1,690' and pull. Run tubing to 1,825 pump 10 bb. 6% gel. Set 235' cement plug from 1,825' – 1,590' approx. 30 sacks; pull all tubing.
3. Attempt to cut 6 5/8 casing at 1285' – If not free attempt to cut at 1040' if still not free run tubing to 1335'; pump 6bbl of 6% gel; set 345' cement plug from 1335' – 990' (approx. 63 sacks); pull tubing.
4. Attempt to cut 6 5/8 casing at 738' (coal); pull 6 5/8" casing; run tubing to 788' pump 10 bbl. 6% gel; be sure hole is filling up with gel – add more 6% if needed; set a 100' cement plug (25 sacks) from 788'-688' (coal); pull tubing to 377'; mix 6bbl. of 6% gel.
5. Set a 100' cement plug (30 sacks) from 377' – 277'; pull tubing to 195'; set a 195' cement plug to surface (62 sacks); top off as needed.
Note: 6% Gel will be used between each plug.
6. Set monument to state regulations.



4/24/14

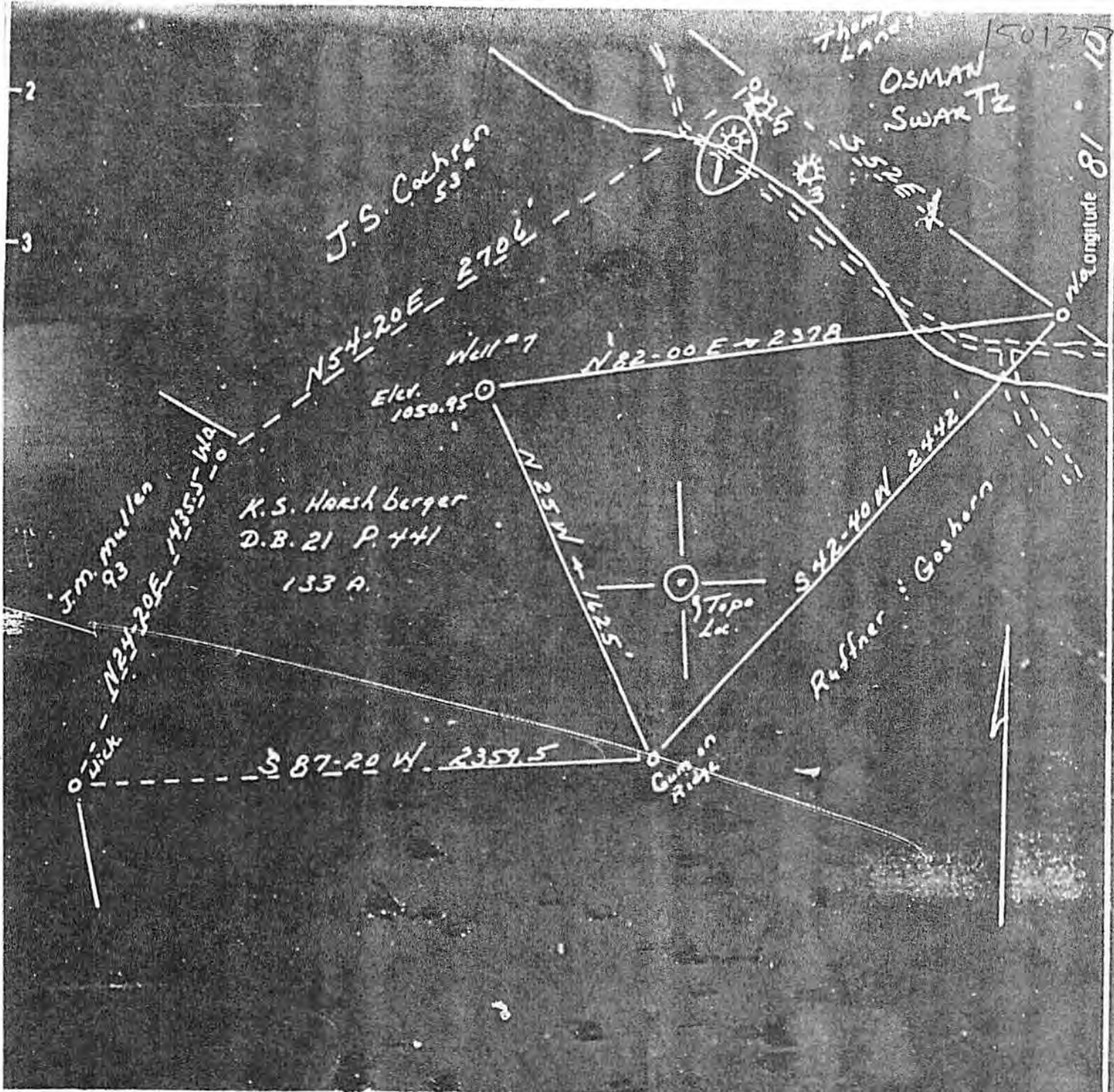
Company Ohio Fuel Oil Company
 Address N/A
 Farm D. H. Stephenson Acres 133
 Location (waters) Little Sycamore
 Well No. 1 Elev. 1140.72
 District Union County Clay
 The surface of tract is owned in fee by D. H. Stephenson
 Address Clendenin, West Virginia
 Mineral rights are owned by Same
 Address _____
 Drilling Commenced March 25, 1913
 Drilling Completed May 9, 1913
 Initial open flow _____ cu. ft. _____ bbls.
 Final production _____ cu. ft. per day _____ bbls.
 Well open _____ hrs. before test _____ RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Slks.)
Size 20-16			
Cond. 10-10"	29'	29'	
9 5/8"			
8 1/2"	505'		
7 5/8"	1640'	1640'	
5 1/2 3/16"	1818'	1818'	
4 1/2"			
3"			
2" Tubing		2050'	
Liners Used			

Well treatment details: Attach copy of cementing record.
9/10ths Merc. thru 2" - 527 MCF - 24 hours.
1/1919 Shot - 60 Qts, - 21 Ft. 2010'-2033'
6/1920 Shot - 100 Qts - 1949'-2024' Bottom Sand 2032'
11/1923 Shot - 80 qts 1948'-2027' Bottom Sand 2032'
6/30/53 Shot - 50 qts. 20 Ft. 2012'-2032'
 AETER SHOT: Rock Pressure 530# - 497 MCF - 24 hours
 Coal was encountered at 142'-145', 325'-327' Feet _____ Inches
735'-738'
 Fresh water 1040' 1220' 1285' Feet _____ Salt Water _____ Feet
 Producing Sand Kesner-Injun Depth 1948'

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Loose Land			00	27		
Sand and Slate			27	125		
Slate			125	142		
Coal			142	145		
Slate			145	147		
Sand			147	325		
Coal			325	327		
Sand			327	390		
Slate & Lime			390	425		
Sand			425	545		
Slate & Lime			545	610		
Sand			610	690		
Slate & Lime			690	735		
Coal			735	738		
Sand			738	775		
Slate & Lime			775	960		
Salt Sand			960	1400		
Slate			1400	1405	Water 1040'	
Sand			1405	1504	" 1220'	
Slate & Lime			1504	1529	" 1285'	
Maxon Sand			1529	1648		
Red Rock			1648	1664		
Lime			1664	1699		
Slate & Lime			1699-1787			

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Little Lime			1787	1807		
Slate & Shells			1807	1819		
Lime			1819	1827		
Pencil Cave			1827	1839		
Big Lime			1839	1948		
Keener & Injun Sand			1948	2020	Gas	Keener, 1974'
Red Rock			2020	2032	Gas	Injun, 2013'
Sand			2032	2046	Oil	Injun, 2019'
Brown Shale			2046	2056		
Total Depth			2056			Perf. 2010'-2015'



New Location Minimum Error of Closure 1 in 200

D. H. Stephenson
Clendenin, W. Va.

NOW
Company Harshbarger Oil & Gas Co.
Address 214 North Boulevard West
Huntington, West Va. 25701
Farm K. S. Harshbarger
Tract 1 Acres 133
Elevation (Spirit Level) ~~1140.72~~ 1140.72
Quadrangle Clay 15'
County Clay District Union
Engineer

STATE OF WEST VIRGINIA
Department of Mines
OIL AND GAS DIVISION
Charleston
WELL LOCATION MAP
FILE NO. CLA-1377
Please note: this information taken
from old handwritten notes on

07/18/2014

CHECK EACH ITEM AS COMPLETE OR NOTE WHAT IS MISSING

LINE NO.

1 FERC-121 Items not completed - Line No. _____

2 IV-1 - Agent Helen V. Stanley

3 IV-2 - Well Permit

4 IV-6 - Well Plat

5 IV-35- Well Record Drilling Deepening

6 IV-36- Gas-Oil Test: Gas Only _____ Was Oil Produced? _____ Ratio _____

7 IV-39- Annual Production 2 years

8 IV-40- 90 day Production 92 Days off Line: _____

9 IV-48- Application for Certification. Complete?

- 17 IV Form #51 - 52 - 53 - 54 - 55 - (56) - 57 - 58. Complete Affidavit Signed

- 28 Other: Survey _____ Logs _____ Geological Charts _____ Structure Map _____

1:4000 Map _____ Well Tabulations _____ Gas Analyses _____

5) Date commenced: 3-25-73
Date Completed: 5-9-73 Deepened _____

5) Production Depth: 1948-2020 ;

5) Production Formation: Keener; Intun;

5) Final OPEN FLOW: 497 mcf/d

5) After ~~Specific~~ R.P. FRAC 530 ⁴

6) Other Gas Test: _____

7) Avg. Daily Gas from Annual Production: $\frac{2045}{365} = 5.6 \text{ mcf/d}$; $\frac{4}{335} = 2 \text{ Bbl}$

8) Avg. Daily Gas from 90-day endir. w/1-120 days $\frac{4M}{92} = 5.3 \text{ mcf}$; 1 Bbl

8) Line Pressure: N/A PSIG from Daily Report

5) Oil Production: 412 From Comp'ation Report 2019

-17) Does lease inventory indicate enhanced recovery being done: NO

-17) Is affidavit signed? Notarized?

Does official well record with the Department confirm the submitted information? Yes

Additional Information _____ Does computer program confirm? _____

Is Determination Objected to? _____ By Whom? _____

1501377A

WW-4A
Revised 6-07

1) Date: APRIL 15, 2014
2) Operator's Well Number
D.H. STEPHENSON #1
3) API Well No.: 47 - 015 - 01377

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 THOMAS RICKMERS	Name _____
Address 1484 SHELTON ROAD	Address _____
BOMONT, WV 25030	
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name _____
	Address _____
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector ED GAINER	(c) Coal Lessee with Declaration
Address P.O. BOX 821	Name _____
SPENCER, WV 25276	Address _____
Telephone 304-389-7582	

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 RAVEN RIDGE ENERGY, LLC
 By: RYAN E. M. CUNNINGHAM
 Its: OFFICER
 Address 3230 PENNSYLVANIA AVENUE
 CHARLESTON, WV 25302
 Telephone 304-344-9291



Subscribed and sworn before me this 17th day of APRIL, 2014
Danielle N. Bays Notary Public
 My Commission Expires FEBRUARY 10, 2015

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Office of Oil and Gas
APR 29 2014

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.

07/18/2014

1501377P

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Total Postage & Fees	\$ 7.40



S-41

Sent To
 Street, Apt. No., or PO Box No. Thomas Rickmers
 City, State, ZIP+4 1484 Shelton Road
 Bomont, WV 25030

PS Form 3800, August 2006 See Reverse for Instructions

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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 7.40



S-43

Sent To
 Street, Apt. No., or PO Box No. Thomas Rickmers
 City, State, ZIP+4 1484 Shelton Road
 Bomont, WV 25030

PS Form 3800, August 2006 See Reverse for Instructions

07/18/2014

1501377P
CK9215
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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name RAVEN RIDGE ENERGY, LLC OP Code 26-0620509

Watershed TRIBUTARY OF WADE FORK Quadrangle ELKHURST 7.5'

Elevation 1140.72' County CLAY District UNION

Description of anticipated Pit Waste: CEMENT & GEL

Will a synthetic liner be used in the pit? YES 20 MIL

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 _____)

Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Other (Explain _____)
- Swabbing
- Plugging

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 [Signature]

Company Official (Typed Name) RYAN E. M. CUNNINGHAM

Company Official Title OFFICER

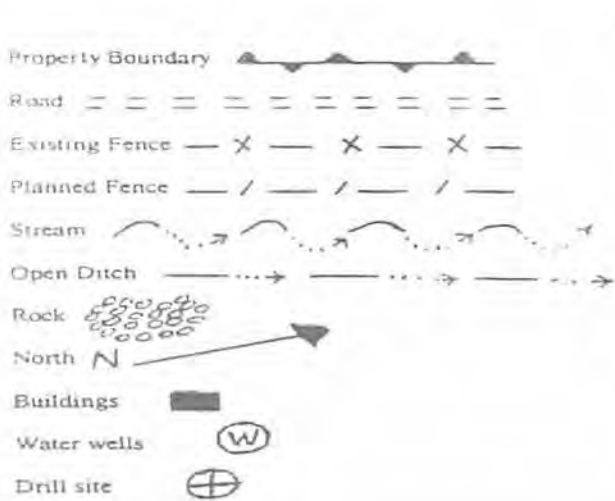
Subscribed and sworn before me this 17th day of APRIL, 20 14

[Signature] Notary Public

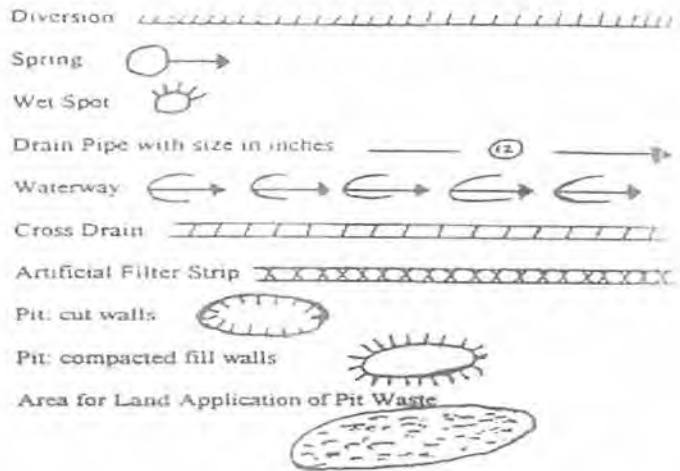
My commission expires FEBRUARY 10, 2015

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WV Department of
Environmental Protection





LEGEND



Proposed Revegetation Treatment: Acres Disturbed 1 Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 1/3 TON lbs/acre (500 lbs minimum)

Mulch HAY - 2 Tons/acre

Seed Mixtures

Seed Type	Area I lbs/acre	Seed Type	Area II lbs/acre
KY - 31	40	ORCHARD GRASS	15
ALSIKE CLOVER	5	ALSIKE CLOVER	5
ANNUAL RYE	15		

Attach:
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by:

Comments: _____

RECEIVED
Office of Oil and Gas

Title: Inspector

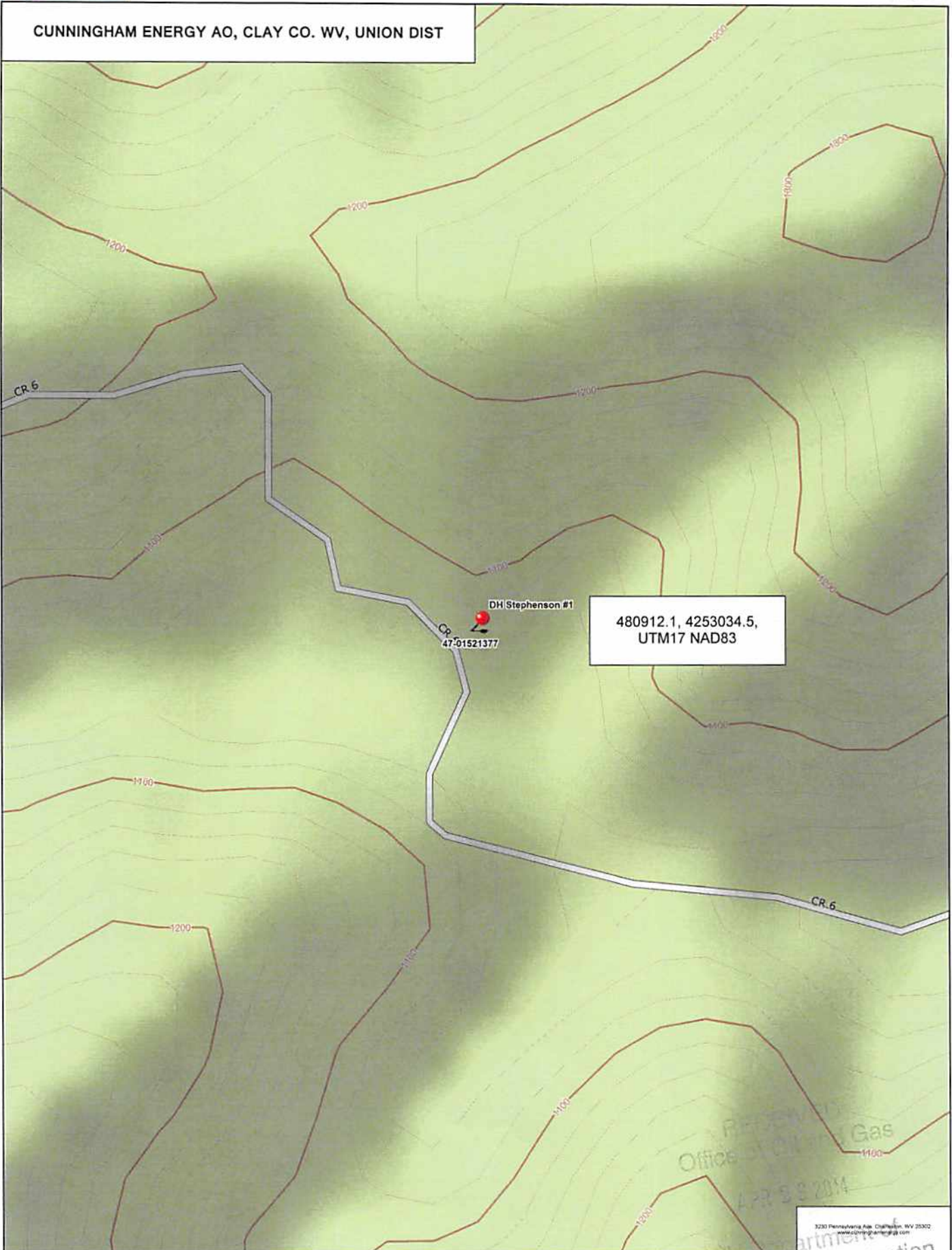
Date: 4/24/14

APR 29 2014

Field Reviewed? () Yes (X) No

WV Department of
Environmental Protection

CUNNINGHAM ENERGY AO, CLAY CO. WV, UNION DIST



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