



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

April 30, 2014

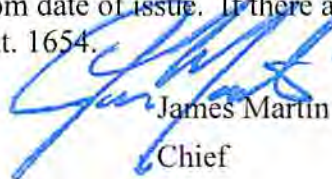
WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-701715, issued to HARPER, HAYDEN ENERGY KA, LLC, 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: 3
Farm Name: SHAVER, ARTHUR
API Well Number: 47-701715
Permit Type: Plugging
Date Issued: 04/30/2014

Promoting a healthy environment.

05/02/2014

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.
4. This well is under a consent order and must be plugged within two years of the date of issuance of this permit.

701715P

WW-4B
Rev. 2/01

1) Date February 20, 2014
2) Operator's Well No. A Shaver #3
3) API Well No. 47-007 - 01718

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 1334' Watershed Shaver Fork
District Otter County Braxton Quadrangle Burnsville 7.5'

6) Well Operator Hayden & Harper KA, LLC 7) Designated Agent Brett McDonough
Address 1001 Moorehead Square Dr. Suite 350 Address 1001 Moorehead Square Dr. Suite 350
Charlotte, NC 28203 Charlotte, NC 28203

8) Oil and Gas Inspector to be notified Name Bryan Harris
Address P.O Box 157
Volga, WV 26238
9) Plugging Contractor Name Patchwork Oil & Gas, LLC
Address 8165 Elizabeth Pike
Elizabeth, WV 26143

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

See attached procedure and diagram on the following page, A. Shaver #3 47-007-01715.

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

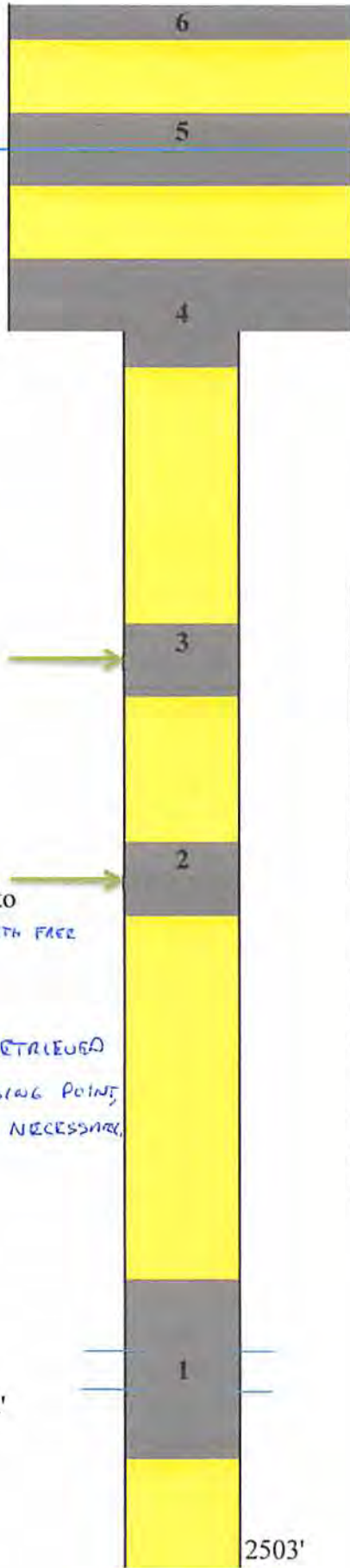
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Work order approved by inspector Bryan O'Hara

MAR 26 2014
Date 3-20-14
WV Department of
Environmental Protection

05/02/2014

Freshwater 296'



Plug not necessary
 B.O.H.
 SEE BELOW

(9) 50lb sacks of 6% gel used
 (96) 100lb sacks of cement

Elevation 1334'

Records show possible cement fill up is at 1713' range, attempt to casing rip at 1715' AND TOOK WITH FACE 4 1/2" CASING.

★ IF 4 1/2" CASING IS RETRIEVED BELOW THE 8 5/8" CASING POINT, THEN PLUG 4 IS NECESSARY.
 gmm

Perforation 2369'-2372'

Grey : Cement
 Yellow : Gel
 Blue line : Bridge Plug (if any)

Plugs	
Plug #6	Surface-100'
Plug #5	246'-346'
Plug #4	490'-590' (8 5/8 plug)
Plug #3	1284'-1384' (elevation plug)
Plug #2	1665'-1755'
Plug #1	2319'-2422'

Cement plugs are at a minimum of 100' Class A Cement with no more than 3% CaCl2 and no other additives.

Gel spacers between all cement plugs must be fresh water with at least 6% Bentonite by weight

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OCT 16 1981

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

Rotary Oil _____
Cable _____ Gas
Recycling _____ Comb. _____
Water Flood _____ Storage _____
Disposal _____ (Kind)

Quadrangle Burnsville 7.5'
Permit No. 47-007-1715

Company <u>Trio Petroleum Corp.</u>	Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu ft. (Sks.)
Address <u>Rt. 76, Box 35-E, Glenville, WV 26351</u>	Size <u>20-16</u>			
Farm <u>Shaver</u> Acres <u>155</u>	Cond. <u>13-10"</u>			
Location (waters) <u>Shaver Fork</u>	<u>9 5/8</u>			
Well No. <u>Three (3)</u> Elev. <u>1334'</u>	<u>8 5/8</u>	<u>540'</u>	<u>540'</u>	<u>150 Sks.</u>
District <u>Otter</u> County <u>Braxton</u>	<u>7</u>			
The surface of tract is owned in fee by <u>Arthur Shaver</u>	<u>5 1/2</u>		<u>2486'</u>	<u>100 Sks.</u>
Address <u>Exchange, WV 26619</u>	<u>4 1/2</u>			
Mineral rights are owned by <u>Arthur Shaver</u>	<u>3</u>		<u>2341'</u>	
Address <u>Exchange, WV 26619</u>	<u>X 1"</u>			
Drilling Commenced <u>September 18, 1981</u>	Lines Used			
Drilling Completed <u>September 21, 1981</u>				
Initial open flow <u>207</u> m cu. ft. <u>0</u> bbls.				
Final production <u>490</u> m cu. ft. per day <u>0</u> bbls.				
Well open <u>6</u> hrs. before test <u>530</u> RP.				

Well treatment details: 9/29/81: Halliburton - 2369'-2372' - 40,000# 20-40 Sand, 510 BGW and 500 GA. Injun Sand

Coal was encountered at -None- Feet _____ Inches _____
Fresh water 296' Feet _____ Salt Water N/R Feet _____
Producing Sand Injun Sand Depth 2366'-2384'

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Sand and Shale			0	2124		
Little Lime			2124	2147		
Pencil Cave			2147	2155		
Sand and Shale			2155	2184		
Big Lime			2184	2279		
Injun Sand			2279	2382		
Sand and Shale			2382	2397		
B/Injun			2397	2382		
Sand and Shale			2382	2503		
TD			2503			



IV-35
(Rev 8-81)

State of West Virginia
Department of Mines
Oil and Gas Division

CORRECTED REPORT
Date March 29, 1982
Operator's
Well No. Three (3)
Farm Shaver
API No. 47 - 007 - 1715

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil / Gas X / Liquid Injection / Waste Disposal /
(If "Gas," Production X / Underground Storage / Deep / Shallow X /)

LOCATION: Elevation: 1334' Watershed Shaver Fork
District: Otter County Braxton Quadrangle Burnsville 7.5'

COMPANY Trio Petroleum Corp.
ADDRESS Rt. 76, Box 35-E, Glenville, WV 26351
DESIGNATED AGENT E. A. Broome
ADDRESS Rt. 76, Box 35-E, Glenville, WV 26351
SURFACE OWNER Arthur Shaver
ADDRESS Exchange, WV 26619
MINERAL RIGHTS OWNER Arthur Shaver
ADDRESS Exchange, WV 26619
OIL AND GAS INSPECTOR FOR THIS WORK Robert Bates
ADDRESS Weston, WV 26452
PERMIT ISSUED September 14, 1981
DRILLING COMMENCED September 18, 1981
DRILLING COMPLETED September 21, 1981
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON

Casing Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"			
9 5/8			
8 5/8	540'	540'	150 Sks.
7			
5 1/2			
4 1/2		2486'	100 Sks.
3			
2x 1 1/2"		2341'	
Liners used			

GEOLOGICAL TARGET FORMATION Injun Sand Depth 2500 feet
Depth of completed well 2503 feet Rotary X / Cable Tools
Water strata depth: Fresh 296' feet; Salt N/A feet
Coal seam depths: -None- Is coal being mined in the area? No

OPEN FLOW DATA
Producing formation Injun Sand Pay zone depth 2366'-2384' feet
Gas: Initial open flow 207 Mcf/d Oil: Initial open flow 0 Bbl/d
Final open flow 490 Mcf/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests N/A hours
Static rock pressure 530 psig (surface measurement) after 6 hours shut in
(If applicable due to multiple completion--)

Second producing formation Pay zone depth feet
Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/d
Final open flow Mcf/d Oil: Final open flow Bbl/d
Time of open flow between initial and final tests hours
Static rock pressure psig (surface measurement) after hours shut in

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APR 26 2014
Department of Environmental Protection
05/02/2014

DETAILS OF PERFORATED INTERVALS, FRACKURING OR STIMULATING, PHYSICAL CHANGE, ETC.

9/29/81: Halliburton, Injun Sand - 2369'-2372' - 40,000# 20-40 Sand, 510 BGM and 500 GA.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Sand			0	140	Fresh water @ 296'
Sand and Shale			140	375	
Sand			375	379	
Sand, Shale and Red Rock			379	470	
Shale			470	690	
Sand			690	730	
Sand, Shale and Red Rock			730	890	
Sand			890	920	
Sand, Shale and Red Rock			920	1180	
Sand			1180	1220	
Sand and Shale			1220	1470	
Sand			1470	1610	
Sand, Shale and Red Rock			1610	2124	
Little Lime			2124	2147	
Pencil Cave			2147	2155	
Sand and Shale			2155	2184	
Big Lime			2184	2279	
Injun Sand			2279	2382	
Sand and Shale			2382	2397	
B/Injun Sand			2397	2382	
Sand and Shale			2382	2503	
TD			2503		

(Attach separate sheets as necessary)

TRIO PETROLEUM CORP.

Well Operator

By: E. A. Broome

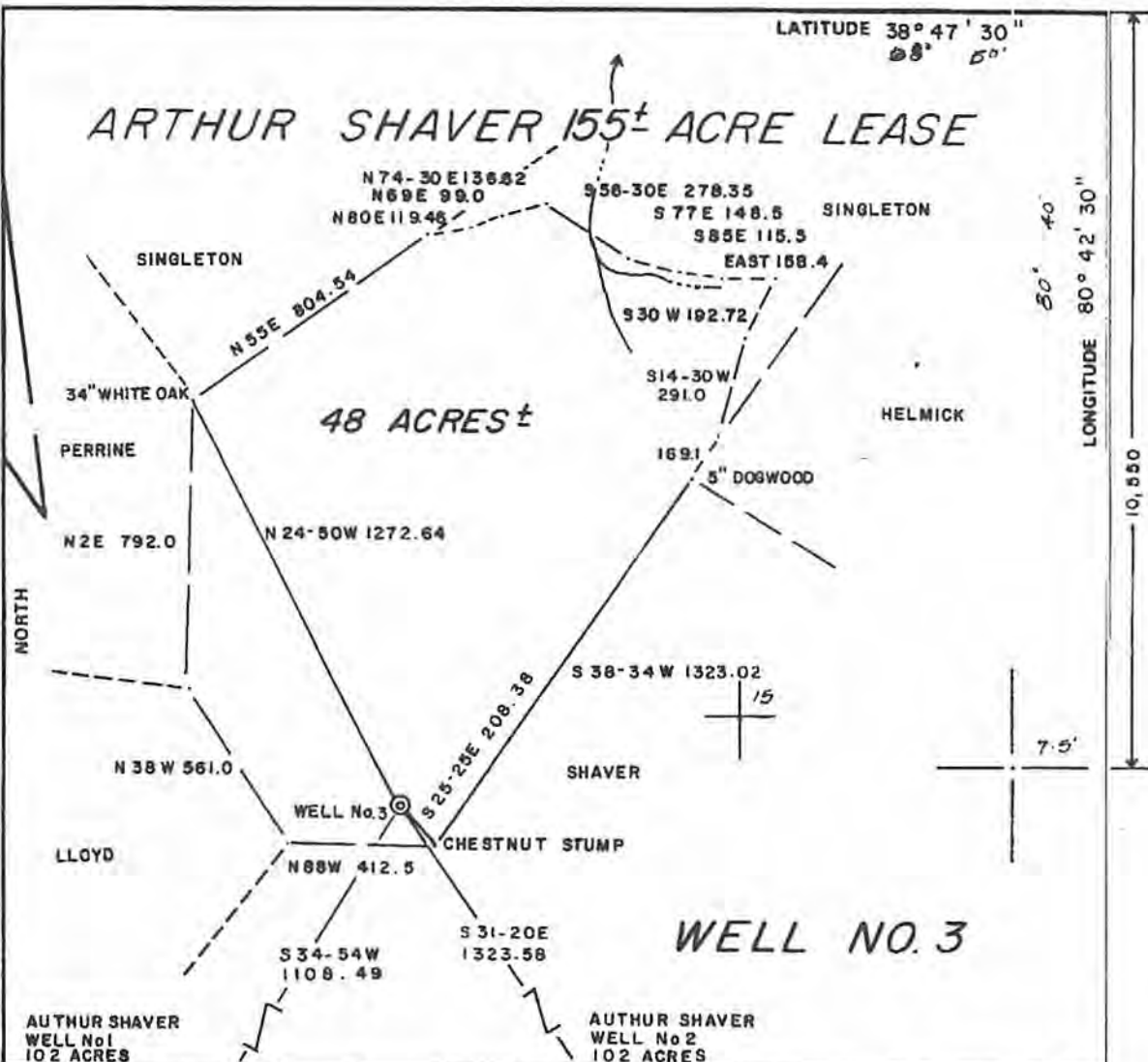
Date: March 29, 1982

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Note: Regulation 2.02(i) provides as follows:
"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including mineral, encountered in the drilling of a well."

WV Department of Environmental Protection
05/02/2014



FILE NO. 4-50
 DRAWING NO. _____
 SCALE 1" = 400'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION ARTHUR SHAVER No 1 927'

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 MINES.

(SIGNED) Gregory A. Smith
 R.P.E. _____ L.L.S. 677

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6 (8-78)



DATE AUGUST 21, 19 81
 OPERATOR'S WELL NO. 3
 API WELL NO. _____
47 - 007 - 1715
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

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

LOCATION ELEVATION 1334' WATER SHED SHAVER FORK
 DISTRICT OTTER COUNTY BRAXTON
 QUADRANGLE BURNSVILLE 7.5'

SURFACE OWNER ARTHUR SHAVER ACREAGE 48.00
 OIL & GAS ROYALTY OWNER ARTHUR SHAVER LEASE ACREAGE 155.00
 LEASE NO. _____

PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION INJUN ESTIMATED DEPTH 2300'
 WELL OPERATOR TRIO PETROLEUM CORP. DESIGNATED AGENT E. A. BROOME
 ADDRESS ROUTE 76 BOX 35E ADDRESS ROUTE 76 BOX 35E
GLENNVILLE WV 26351 GLENNVILLE WV 26351

Office of Oil and Gas
 MAR 26 2014
 WV Department of
 05/02/2014

WW-4A
Revised 6-07

1) Date: February 20, 2014

2) Operator's Well Number
A. Shaver #3

3) API Well No.: 47 - 007 - D1715

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>STEPHEN EARL &/OR MARY KATHERINE CUTLIP</u>	Name _____
Address <u>6343 Exchange Rd.</u>	Address _____
<u>Exchange, WV 26619</u> ✓	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name _____
_____	Address _____
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Bryan Harris</u>	(c) Coal Lessee with Declaration
Address <u>P.O Box 157</u>	Name _____
<u>Volga, WV 26238</u>	Address _____
Telephone <u>304-553-6087 or 304-472-1732</u>	_____

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

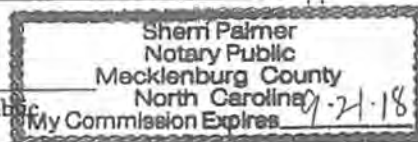
- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverse 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 Hayden & Harper KA, LLC
 By: Brett McDonough MICHAEL FOX [Signature]
 Its: Vice-President CFD
 Address 1001 Moorehead Square Dr. Suite 350
Charlotte, NC 28203
 Telephone 704-343-2447

Subscribed and sworn before me this 20th day of March 2014
[Signature] Notary Public
 My Commission Expires 9-21-18



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.

701715P

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <input checked="" type="checkbox"/> <i>Mary K Cutlip</i> <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) <i>MARY K CUTLIP</i></p> <p>C. Date of Delivery <i>3-10-14</i></p>
<p>1. Article Addressed to:</p> <p><i>Stephen & Mary ✓ Cutlip 6343 Exchange Rd. Exchange, WV 26069</i></p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input checked="" type="checkbox"/> No</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (Transfer from service label)</p>	<p><i>7011 1570 0003 5498 6421</i></p>

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

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WV Department of
Environment & Natural Resources 05/02/2014

CK 63700
100

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 Hayden & Harper KA, LLC OP Code 494495359

Watershed Shaver Fork Quadrangle Burnsville 7.5'

Elevation 1334' County Braxton District Otter

Description of anticipated Pit Waste: fluids used and associated with well plugging activities

Will a synthetic liner be used in the pit? Yes 20ML

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 Solidify with cement and life, bury.)

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 _____

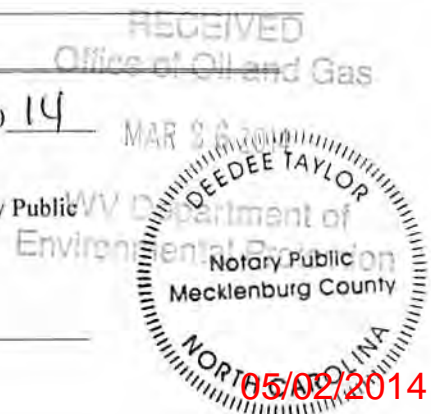
Company Official (Typed Name) Brett McDonough

Company Official Title Vice President

Subscribed and sworn before me this 12th day of March, 2014

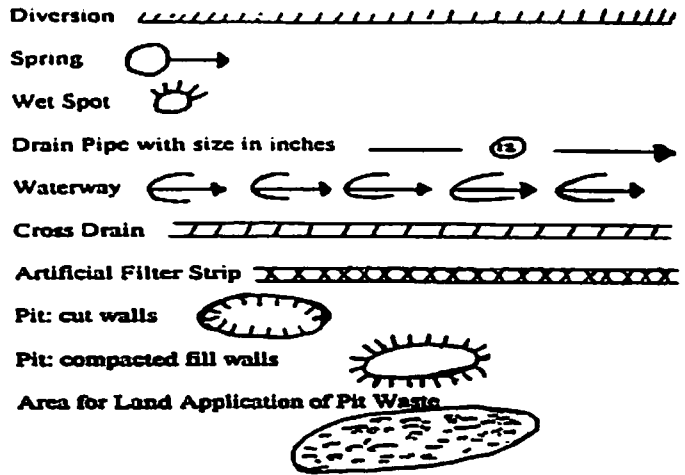
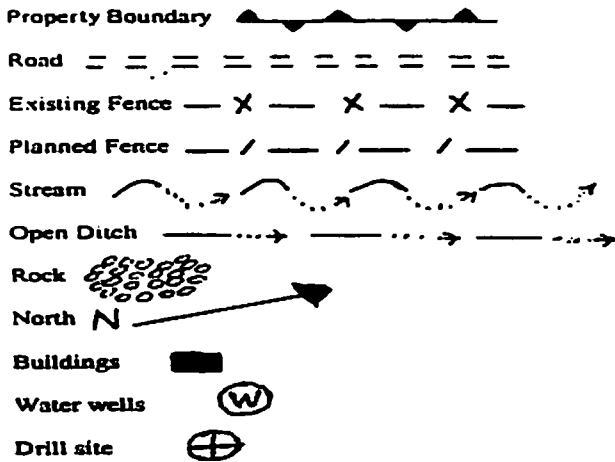
Dee Dee Taylor

Notary Public



My commission expires May 17, 2016

LEGEND



Proposed Revegetation Treatment: Acres Disturbed _____ Prevegetation pH 6.4

Lime 2 Tons/acre or to correct to pH 6.5

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

Mulch pulp fiber at 0.5-0.75 Tons/acre

Seed Mixtures

Seed Type	Area I	lbs/acre
Tall Fescue		40
Ladino Clover		5

Seed Type	Area II	lbs/acre
Tall Fescue		40
Ladino Clover		5

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *Bryan O'Hara*

Comments: _____

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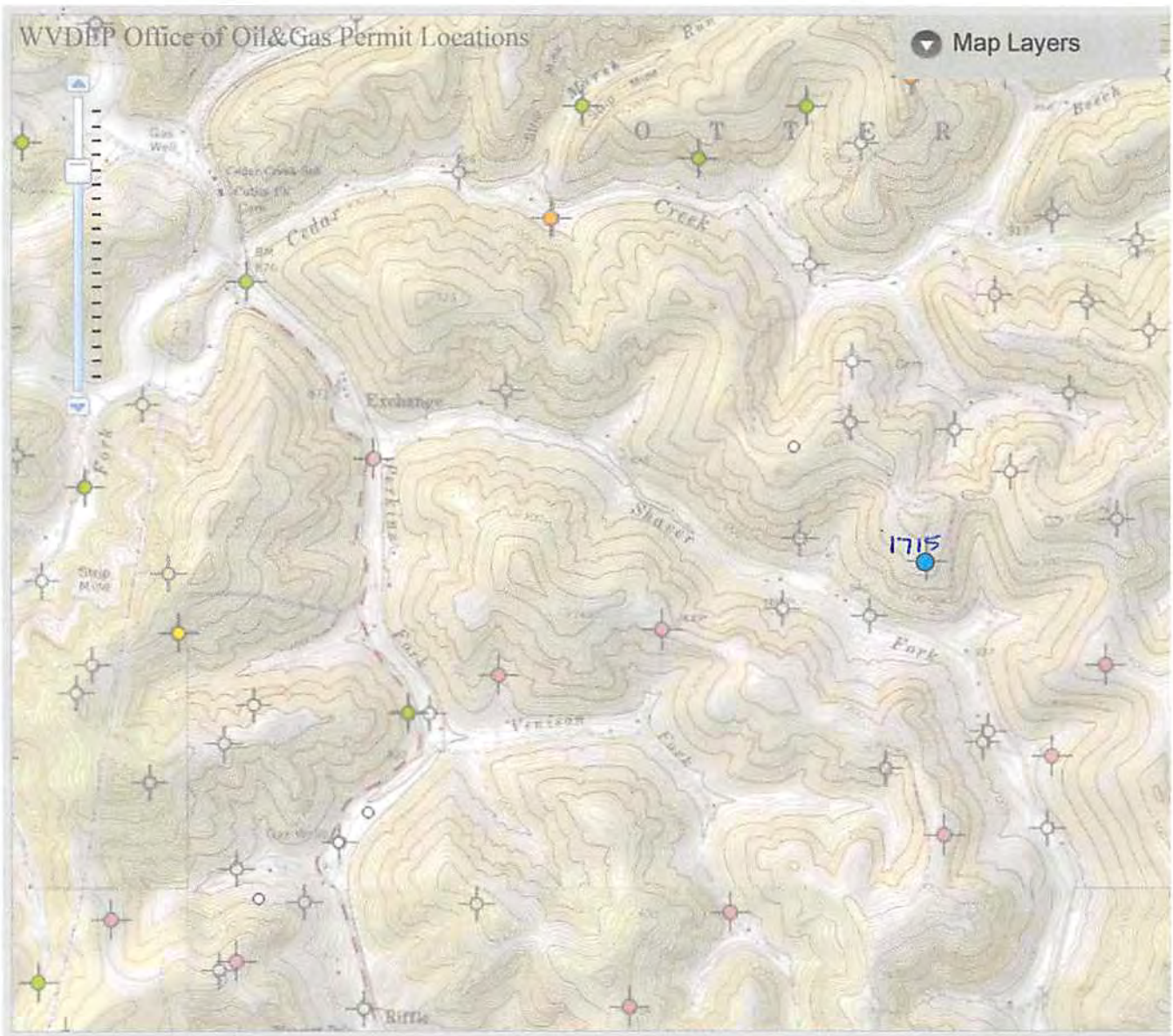
Title: Oil & Gas Inspector

Date: 3-20-14

MAR 26 2014

Field Reviewed? Yes No

WV Department of Environmental Protection
05/02/2014



Topo from State website for 47-007-01715,
shaver # 3

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