



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 23, 2014

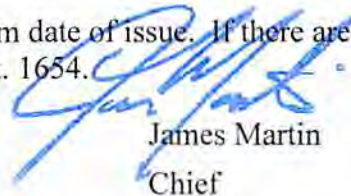
WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-1501185, issued to TRIAD HUNTER, 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: 109
Farm Name: CASTO, J. B.
API Well Number: 47-1501185
Permit Type: Plugging
Date Issued: 04/23/2014

Promoting a healthy environment.

04/25/2014

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.

1501185P

WW-4B
Rev. 2/01

1) Date January 30, 20 14
2) Operator's
Well No. J.B. Casto # 109
3) API Well No. 47-015 - 01185

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

5) Location: Elevation 1200' GPS Watershed Grannys Creek
District Henry County Clay Quadrangle Newton

6) Well Operator Triad Hunter, LLC 7) Designated Agent Kim Arnold
Address 125 Putnam Street Address P.O. Box 154
Marietta, Ohio 45750 Waverly, W.V. 26184

8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Ed Gainer Name N/A
Address P.O.Box 821 Address _____
Spencer, W.V. 25276

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

(SEE ATTACHED SHEET)

See changes!

6% gel between all plugs

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

Work order approved by inspector



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04/25/2014

(2014)

Plugging Procedure Attachment (Wells with 8 5/8" Casing)

Well Name : J.B. Casto # 109

Permit Number: 47-015-01185

District: Henry

County: Clay

MIIRU service rig and flowback tank; blow well down.

1. Pull tubing and rods OOH.
2. Check total depth with sandpump; clean out hole below bottom perforation.
3. Run 2 3/8" tubing below bottom perforation.
4. (Bottom Hole Plug) Mix/Pump 20 sacks Class A cement,(23.6 cu. ft.), ¼ lb.flocele/sk., no CaCl.
5. Displace cement through tubing with gel water.
6. Pull 2 3/8" tubing OOH.
7. RIH with casing cutter tool, check depth of 1st plug and find 4 ½" cement top (free pipe).
8. Cut-off 4 ½" casing just above the cement top, break circulation, and pull one jt. of casing OOH.
9. (Cut Plug) Mix/Pump 30 sacks Class A cement, (35.4 cu. ft.), ¼ lb. flocele/sk.,no CaCl.
10. Displace cement through casing with gel water.
11. Pull 4 ½" casing up to the subsea elevation depth.
12. (Elevation Plug) Mix/Pump 30 sacks of Class A cement,(35.4 cu. ft.), ¼ lb. flocele/sk., no CaCl.
13. Displace cement through casing with gel water.
14. Pull 4 ½" casing to 100 feet below surface.
15. (Surface Plug) Mix/Pump 30 sacks of Class A cement,(35.4 cu. ft.), ¼ lb. flocele/sk., no CaCl.
16. Circulate cement to surface.
17. Pull remaining joints of 4 ½" casing OOH. Top load annulus with Class A cement to surface.
18. Weld a three foot monument pipe on to the existing casing. Fill monument pipe with cement and attach identification plate to monument pipe.
19. RDMO service rig and supporting equipment.
20. Reclaim well site and lease road.

Elev. 1200'
→ 100'

(Elev. Plug)
1250' - 1150'

Plug Summary

(Plug Name)	(Thickness)	(Cement Type)	(Sacks)	(Cubic Feet)
1. Bottom Hole	250 ft.	Class A	20	23.6
2. Cut Plug	100 ft.	Class A	30	35.4
3. Elevation Plug	100 ft.	Class A	30	35.4
4. Surface Plug	100 ft.	Class A	30	35.4
5. Totals:			110 sacks	129.8 cu. ft.

→

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PERFORMANCES: 2078' - 2088' (20)

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STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
Oil and Gas Division
WELL RECORD

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

Quadrangle Otter
Permit No. Cl-1185

Company <u>PENNZOIL COMPANY</u>	Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Address <u>P. O. Box 1588, Parkersburg, W. Va.</u>				
Farm <u>J. B. Casto</u> Acres <u>260</u>				
Location (waters) <u>Grannys Creek</u>				
Well No. <u>109</u> Elev. <u>1160,97'</u>	Size <u>20-16</u>			
District <u>Henry</u> County <u>Clay</u>	Cond. <u>13-10"</u>			
The surface of tract is owned in fee by <u>Mr. Ray E. King</u>	<u>9 5/8</u>			
Address <u>Ovapa, W. Va. 25150</u>	<u>8 5/8</u>	<u>314</u>	<u>314</u>	<u>190 sks.</u>
Mineral rights are owned by <u>Kanawha Banking & Trust</u>	<u>7</u>			
Agt. for <u>Roane Land Co. et al</u> Address <u>P.O. Box 393, Charleston, W. Va.</u>	<u>5 1/2</u>			
Drilling Commenced <u>Sept. 24, 1976</u>	<u>4 1/2</u>	<u>2137</u>	<u>2137</u>	<u>50 sks.</u>
Drilling Completed <u>Sept. 29, 1976</u>	<u>3</u>			
Initial open flow _____ cu. ft. _____ bbls.	<u>2</u>			
Final production _____ cu. ft. per day _____ bbls.	Liners Used			
Well open _____ hrs. before test _____ RP.				

Well treatment details:

Attach copy of cementing record.

Water Injection Well

Coal was encountered at _____ Feet _____ Inches
Fresh water _____ Feet _____ Salt Water _____ Feet _____
Producing Sand Big Injun & Squaw Depth _____

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Sand & Silt			0	229		
Sand			229	268		
Sand & Silt			268	360		
Sand			360	494		
Shale			494	514		
Sand			514	536		
Shale			536	550		
Sand			550	698		
Shale & Silt			698	764		
Sand			764	930		
Shale			930	1009		
Silty Sand			1009	1030		
Shale			1030	1152		
Sand			1152	1182		
Shale			1182	1272		
Silt & Sand			1272	1429		
Salt Sand			1429	1647		
Shale & Silt			1647	1682		
Sand			1682	1802		
Shale			1802	1853		
Sand			1853	1864		
Shale			1864	1880		
Little Lime			1880	1908		
Blue Monday			1908	1954		

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(over)

* Indicates Electric Log tops in the remarks section.

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Big Lime			1954	1994		
Loyalhanna			1994	2062		
Big Injun			2062	2096		
Shale			2096	2106		
Silt			2106	2130		
Squaw			2130	2143		
Shale			2143	2147		
Total Depth				2147		

04/25/2014

Date Nov. 12

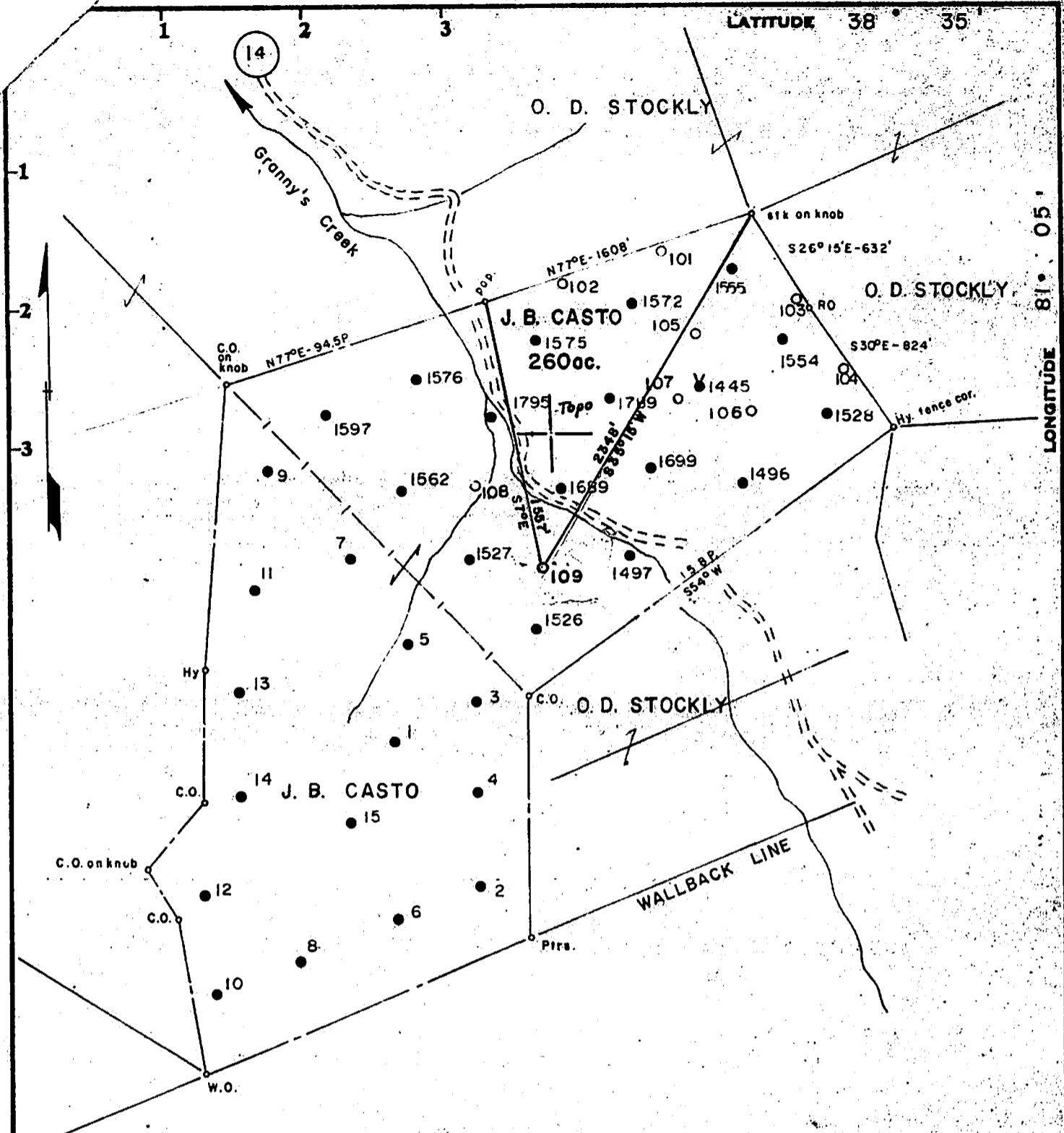
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APPROVED Pennzoil Office of Oil and Gas

By Curtis A. [Signature] FEB 2 8 2014

(Title) Eng. Dept.
 WV Department of
 Environmental Protection

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SURFACE-- AARON SHORT
OVAPA, W. VA.

Minimum Error of Closure 1 in 200

Source of Elevation O. D. STOCKLY 19, Elev. 1072.00

Fracture.....

New Location..... Water Injection

Drill Deeper.....

Abandonment.....

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

Signed: *Curtis A. Lucas*

Map No. 83 Squares: N S 62 E W 31, 32

Company	PENNZOIL COMPANY		
Address	P. O. Box 1588, Parkersburg, W. Va. 26101		
Farm	J. B. CASTO		
Tract	Acres <u>260</u>	Lease No.	<u>46485-up</u>
Well (Farm) No.	<u>109</u>	Serial No.	
Elevation (Spirit Level)	<u>1160.97</u>		
Quadrangle	<u>OTTER 15'</u>		
County	<u>CLAY</u>	District	<u>HENRY</u>
Surveyor	<u>CURTIS A. LUCAS</u>		
Surveyor's Registration No.	<u>275</u>		
File No.	<u>1626</u>	Drawing No.	
Date	<u>Aug. 2, 1976</u>	Scale	<u>1" = 800'</u>

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION
CHARLESTON

WELL LOCATION MAP

FILE NO. 04/25/2014

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+ Denotes location of well on United States Topographic Maps, scale 1" to 62,500', latitude and longitude lines being represented by border lines as shown.

- Denotes one inch spaces on border line of original tracing.

WV Department of Environmental Protection

BRUNING 44-131 27198

15 01185A

FE. ENG CAPS

OFF by P.M.M.



Basin Surveys, Inc.

COMPENSATED
FORMATION DENSITY LOG

FILING NO.
CLA-1185

PENNZOIL CO.
PETROLEUM ENGR. DEPT.
FREE COPY

COMPANY Pennzoil Company

WELL J. B. CASTO #109

FIELD Henry District

COUNTY CLAY STATE W-VIR

LOCATION:
GRANDY CO.
OTTER 15' QUAD

SEC. _____ TWP. _____ RGE. _____

OTHER LOGS:

PERMANENT DATUM 6.2m ELEV. 1160.77

LOG MEASURED FROM K.B. 19-6-2

DRILLING MEASURED FROM K.B.

ELEVATIONS:
KB. 1160.77
DF. 1160.77
GL. 1160.77

DATE	<u>7-29-76</u>
RUN NO.	<u>1</u>
TYPE LOG	<u>GRS. LOG</u>
DEPTH - DRILLER	<u>2147</u>
DEPTH - LOGGER	<u>2150</u>
BOTTOM LOGGED INTERVAL	<u>2150</u>
TOP LOGGED INTERVAL	<u>650</u>
TYPE FLUID IN HOLE	<u>M40-G</u>
SALINITY PPM CL.	
DENSITY LB./GAL.	
LEVEL	<u>FULL</u>
MAX. REC. TEMP. - DEG. F	
OPR. RIG TIME	<u>2 HRS</u>
RECORDED BY	<u>T.G. ENDICOTT</u>
WITNESSED BY	<u>S. Hobbs</u>

RUN NO.	BORE HOLE RECORD			CASING RECORD			
	BIT	FROM	TO	SIZE	WGT.	FROM	TO
1	7 7/8	314	1720	8 5/8		54RF	314
	6 3/4	1720	2147				

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THIS HEADING AND LOG CONFORM TO API STANDARD PRACTICE RP-33 FEB 20 2014

WV Department of
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04/25/2014

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WW-4A
Revised 6-07

1) Date: January 30, 2014
2) Operator's Well Number
J.B. Casto # 109

3) API Well No.: 47 - 015 - 01185

**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>Brad Proctor</u>	Name <u>N/A</u>
Address <u>4307 Ovapa Road</u>	Address _____
<u>Prociuous, W.V. 25164</u>	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>N/A</u>
_____	Address _____
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Ed Gainer</u>	(c) Coal Lessee with Declaration
Address <u>P.O. Box 821</u>	Name <u>N/A</u>
<u>Spencer, W.V. 25276</u>	Address _____
Telephone <u>(304) 389-7582</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 Triad Hunter, LLC
 By: Rocky Roberts *Rocky Roberts*
 Its: Senior V.P. Appalachian Operations
 Address 125 Putnam Street
Marietta, Ohio 45750
 Telephone (740) 374-2940

Subscribed and sworn before me this 30th day of January 2014
Elizabeth R. Selby Notary Public
 My Commission Expires 2-29-16



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.

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USPS

Brad Proctor
 4307 Ovapa Rd
 Procious, WV 25164

Instructions

①

J.B. Casto # 109

47-015-1185

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MAR 14 2014

USPS

Brad Proctor
 4307 Ovapa Rd
 Procious, WV 25164

Instructions

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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 Triad Hunter, LLC OP Code _____

Watershed Grannys Creek Quadrangle Newton

Elevation 1200' GPS County Clay District Henry

Description of anticipated Pit Waste: No Pit; fluids will be separated at Ovapa Facility; oil stored and salt water re-injected.

Will a synthetic liner be used in the pit? "No Pit"

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 Swabbing
- Workover Plugging
- Other (Explain _____)

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 *Rocky Roberts*

Company Official (Typed Name) Rocky Roberts

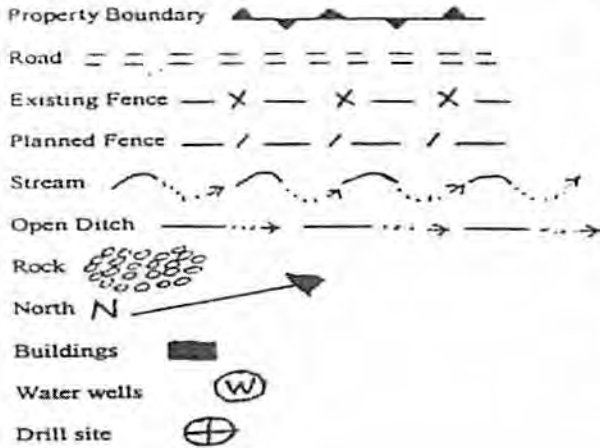
Company Official Title Senior V.P. Appalachian Operations

Subscribed and sworn before me this 30th day of January, 2014

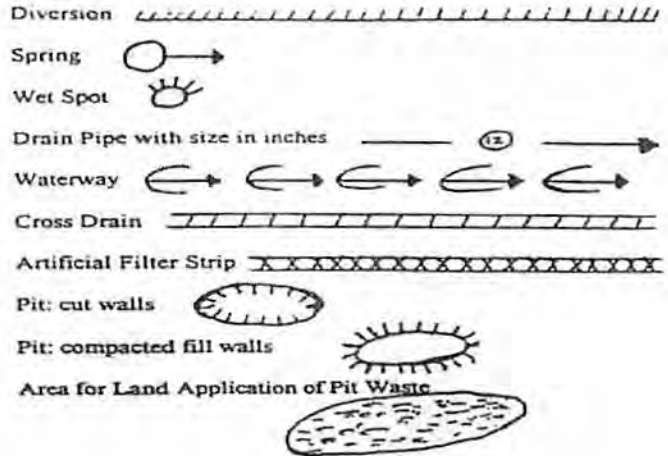
Elizabeth R. Seby



My commission expires 2-29-16



LEGEND



Proposed Revegetation Treatment: Acres Disturbed One (1) Prevegetation pH 5.5

Lime Two (2) Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 600 lbs/acre (500 lbs minimum)

Mulch 90 - 100 bales/acre Tons/acre

Seed Mixtures

Seed Type	Area I	lbs/acre	Seed Type	Area II	lbs/acre
Orchard Grass		30%			
Rye (Annual & BT)		35%			
Timothy (Climax)		25%			
Clover Med. Red)		10%			

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: _____

Title: Inspector

Date: 2/4/14

Field Reviewed? () Yes (X) No

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04/25/2014

1501185A



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www.delorme.com



Scale 1" = 2,000.0 ft

Environmental Protection

04/25/2014

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas
WELL LOCATION FORM: GPS

API: 47-015-01185 WELL NO.: 109

FARM NAME: J.B. Casto

RESPONSIBLE PARTY NAME: Triad Hunter, LLC

COUNTY: Clay 15 DISTRICT: Henry 2

QUADRANGLE: Newton 512

SURFACE OWNER: Brad Proctor

ROYALTY OWNER: Kanawha Banking and Trust Co. et al

UTM GPS NORTHING: 4265755

UTM GPS EASTING: 0486909 GPS ELEVATION: 1200'

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

- Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
- Accuracy to Datum – 3.05 meters
- Data Collection Method:

Survey grade GPS ; Post Processed Differential

Real-Time Differential

Mapping Grade GPS ; Post Processed Differential

Real-Time Differential

- Letter size copy of the topography map showing the well location.

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.

Ann Smith
Signature

Geologist
Title

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1/16/14
FEB 20 2014
Date

WV Department of
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04/25/2014

1501185P



Chuck Taylor Toolbox

Geographic/UTM Coordinate Converter

You can convert between geographic coordinates and Universal Transverse Mercator (UTM) coordinates using this form.

Note: This is a JavaScript-powered form. If you have difficulties using this form, check your browser's settings to make sure you have enabled JavaScript.

Programmers: The JavaScript source code in this document may be copied and reused without restriction.

If you have a Java 1.1-compliant browser, and especially if you need to use an ellipsoid model other than WGS84, you may want to try the [Coordinate and Datum Transformations tool](#).

Geographic (degrees decimal)	To/From	UTM
lon <input type="text" value="-81.150213112146"/>	<input type="button" value=">>"/>	x (easting) <input type="text" value="0486909"/>
lat <input type="text" value="38.540111784383"/>	<input type="button" value="<<"/>	y (northing) <input type="text" value="4265755"/>
		zone <input type="text" value="17"/>
		hemisphere <input checked="" type="radio"/> N <input type="radio"/> S

J.B. Casto #109

Geographic coordinates are entered and displayed in decimal degrees. Negative numbers indicate West longitudes and South latitudes. UTM coordinates are entered and displayed in meters. The ellipsoid model used for computations is WGS84.

Chuck Taylor -- ([Copyright](#)) -- ([Contact](#))

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