



west virginia department of environmental protection

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

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

May 08, 2014


WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-1501621, 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: J. B. CASTO #119
Farm Name: TRIAD HUNTER, LLC
API Well Number: 47-1501621
Permit Type: Plugging
Date Issued: 05/08/2014

Promoting a healthy environment.

05/09/2014

1501621A

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.

05/09/2014

1) Date January 30, 20 14
2) Operator's
Well No. J.B. Casto # 119
3) API Well No. 47-015 - 01621

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 1206' GPS Watershed Grannys Creek
District Henry 02 County Clay 15 Quadrangle Newton 512

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 Name Ed Gainer
Address P.O.Box 821
Spencer, W.V. 25276
9) Plugging Contractor Name N/A
Address _____

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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Date FEB 21 2014
2/4/14
WV Department of
Environmental Protection

(2014)

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

Well Name : J.B. Casto # 119

Permit Number: 47-015-01621

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. *BHP (2143' - 1893')*
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. *ELEV. PLUG (1256' - 1156')*
13. Displace cement through casing with gel water.
14. Pull 4 ½" casing to 100 feet below surface. *100 ft plug 20' bottom of surface rig. 430 - 330*
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. 1206



Plug Summary

PERFORATIONS
2074' - 2083'
2090' - 2096'

(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	129.8

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05/09/2014

1501621P

FORM IV-35 (Obverse)

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

Date: 1-10-80

[08-78]

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

Operator's Well No. J. B. Casto 119 API Well No. 47-015-1621 State County Per

WELL TYPE: Oil X / Gas / Liquid Injection / Waste Disposal (If "Gas", Production / Underground storage / Deep / Shallow /) LOCATION: Elevation: 1186' Watershed: Granny's Creek District: Henry County: Clay Quadrangle: Otter 15'

WELL OPERATOR Pennzoil Company Address P. O. Box 1588 Parkersburg, WV 26101 DESIGNATED AGENT James A. Crews Address P. O. Box 1588 Parkersburg, WV 26101

PERMITTED WORK: Drill X / Convert / Drill deeper / Redrill / Fracture or stimulate Plug off old formation / Perforate new formation / Other physical change in well (specify)

PERMIT ISSUED ON 5-29-79, 19 OIL & GAS INSPECTOR FOR THIS WORK: Name Martin Nichols Address P. O. Box 554 Clendenin, WV

GEOLOGICAL TARGET FORMATION: Squaw Depth 2160 feet Depth of completed well, 2175 feet Rotary X / Cable Tools Water strata depth: Fresh, salt, feet. Coal seam depths: Is coal being mined in the area? No Work was commenced 6-5-1979, and completed 6-8-1979

CASING AND TUBING PROGRAM

Table with columns: CASING OR TUBING TYPE, SPECIFICATIONS (Size, Grade, Weight per ft, New, Used), FOOTAGE INTERVALS (For drilling, Left in well), CEMENT FILL-UP OR SACKS (Cubic feet), PACKERS (Kinds, Sizes, Depths set, Perforations: Top, Bottom)

OPEN FLOW DATA

Producing formation: Injun - Squaw Pay zone depth feet Gas: Initial open flow, 14 Mcf/d Oil: Initial open flow, 3 Bbl/d Final open flow, 12 Mcf/d Final open flow, 2 1/2 Bbl/d Time of open flow between initial and final tests, 48 hours Static rock pressure, psig (surface measurement) after hours shut in

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

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

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 & Shale			0	214	
Sand			214	254	
Shale			254	276	
Sand			276	292	
Shale			292	342	
Sand			342	444	
Shale			444	460	
Sandy Shale			460	484	
Shale			484	552	
Sandy Shale			552	574	
Sand			574	706	
Shale			706	750	
Sand			750	778	
Shale			778	792	
Sand			792	826	
Shale			826	832	
Sand			832	934	
Shale			934	962	
Sand			962	970	
Shale			970	978	
Sand			978	992	
Shale			992	998	
Sand			998	1032	
Shale			1032	1086	
Sand			1086	1106	
Shale			1106	1158	
Sand			1158	1200	
Shale			1200	1302	
Sand			1302	1336	
Sandy Shale			1336	1354	
Sand			1354	1370	
Sandy Shale			1370	1394	
Shale			1394	1418	
Sand			1418	1800	
Shale			1800	1860	
Sand			1860	1872	
Shale			1872	1880	

(Attach separate sheets to complete as necessary)

Well Operator _____

By _____

Its _____

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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 coal, encountered in the drilling of a well."

FORM IV-35
(Reverse)

[08-78]

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

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all free and salt water, coal, oil and gas
Little Lime			1880	1956	
Pencil Cave			1956	1966	
Big Lime			1966	1998	
Loyalhanna			1998	2062	
Keener			2062	2068	
Big Injun			2068	2106	
Shale			2106	2134	
Squaw			2134	2150	
Shale			2150	2175	
Total Depth				2175	
PBD				2143	

(Attach separate sheets to complete as necessary)

Pennzoil Company

Well Operator

By

Curtis A. Lucas

Its

Civil Engineering Dept.

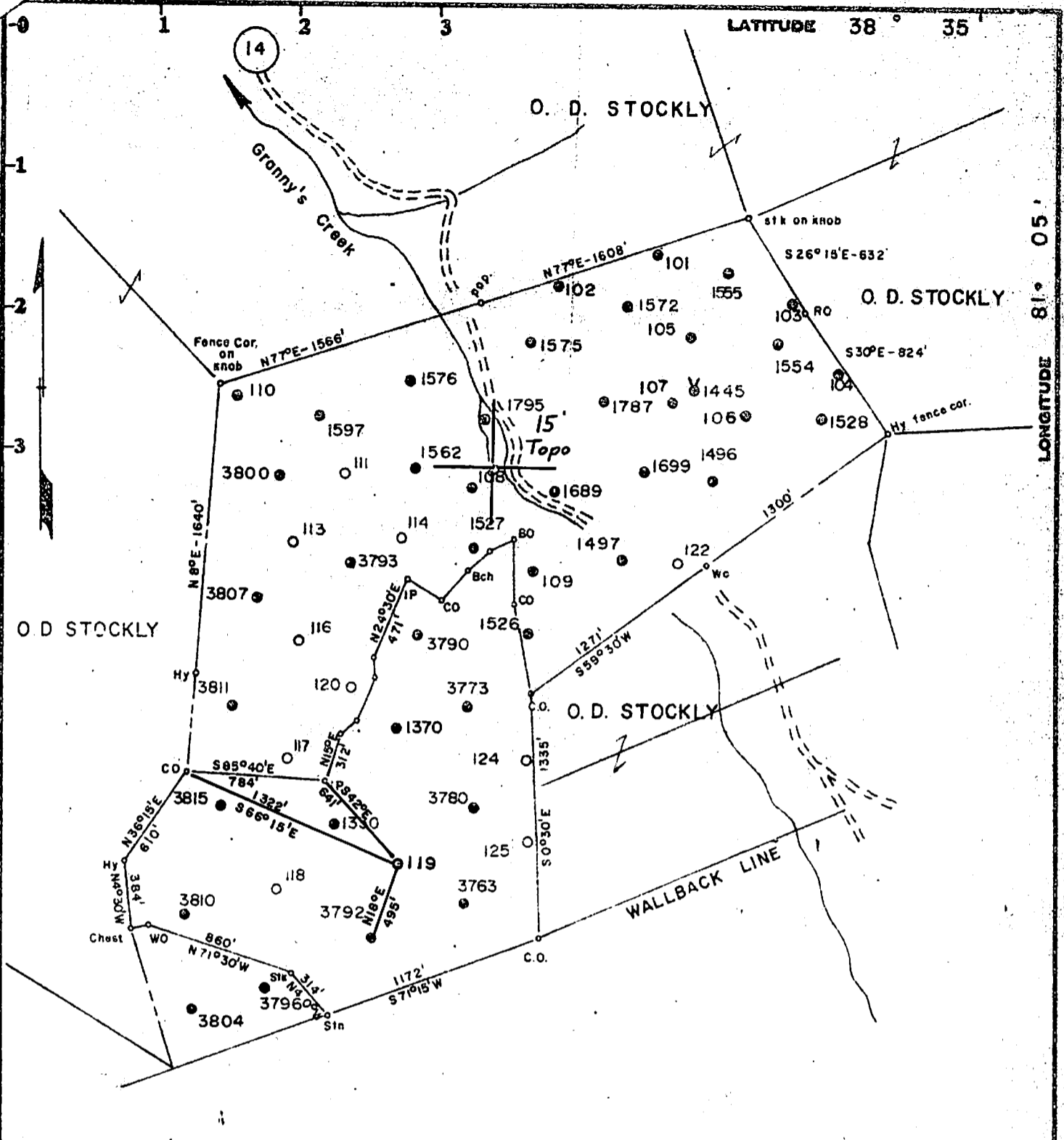
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NOTE: Regulation 5.02(i) provides as follows:

"The term 'log' or 'well log' shall mean a systematic, detailed geological record of all formations, including coal, encountered in the drilling of a well."

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1501621A



SURFACE- PENNZOIL CO.,

Minimum Error of Closure 1 in 200

Source of Elevation J. B. Casto 3792, Elev. 1288.08

Fracture.....

New Location..... 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 260 Lease No. 46485-up
Well (Farm) No.	119 Serial No. _____
Elevation (Spirit Level)	1186.00
Quadrangle	OTTER 15'
County	CLAY District HENRY
Surveyor	CURTIS A. LUCAS
Surveyor's Registration No.	275
File No.	1626 Drawing No. _____
Date	May 24, 1979 Scale 1" = 800'

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

WELL LOCATION MAP

FILE NO. _____ 05/09/2014

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Office of Oil and Gas
+ 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 space on Department of Environmental Protection

BRUNING 44-131 27198

N McCullough

BOND CEMENT AND/OR SONIC SEISMOGRAM LOG
GAMMA RAY

FILING NO.
HBC-GR-SS-98751

PENNZ. CO.
PETROLEUM ENGR. DEPT.
FILE COPY

COMPANY PENNZOIL COMPANY
WELL J.B. CASTO #119
FIELD GRANNY'S CREEK
COUNTY CLAY STATE W. VA.

LOCATION GRANNY'S CREEK
OTHER SERVICES:

SEC. TWP. RGE.

PERMANENT DATUM GL ELEV. 1186'
LOG MEASURED FROM CORRECTED TO OPEN HOLE LOG
DRILLING MEASURED FROM KB
DATE 8-3-79
RUN NO. ONE
TYPE LOG BOND CEMENT-GAMMA RAY-SONIC SEISMOGRAM
DEPTH-DRILLER 2175'
DEPTH-LOGGER 2143'
BOTTOM LOGGED INTERVAL 2139'
TOP LOGGED INTERVAL 1680'
TYPE FLUID IN HOLE WATER
SALINITY PPM CL.
DENSITY LB./GAL.
LEVEL FULL
MAX. REC. TEMP. DEG. F.
OPR. RIG TIME
RECORDED BY MAYFIELD
WITNESSED BY MR. HELDMAN

ELEVATIONS:
KB 1194'
DF 1193'
GL 1186'

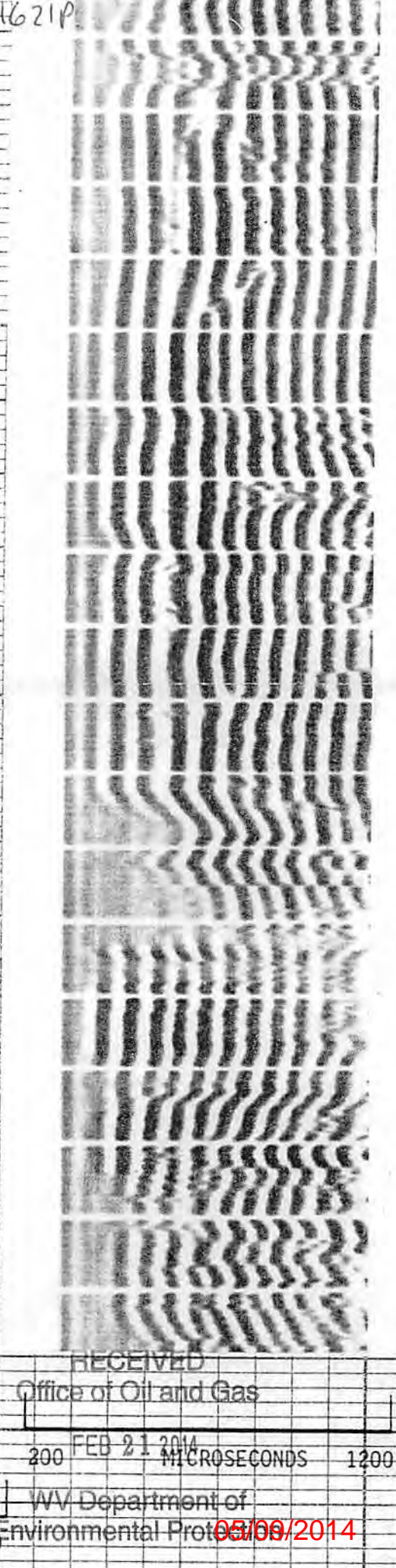
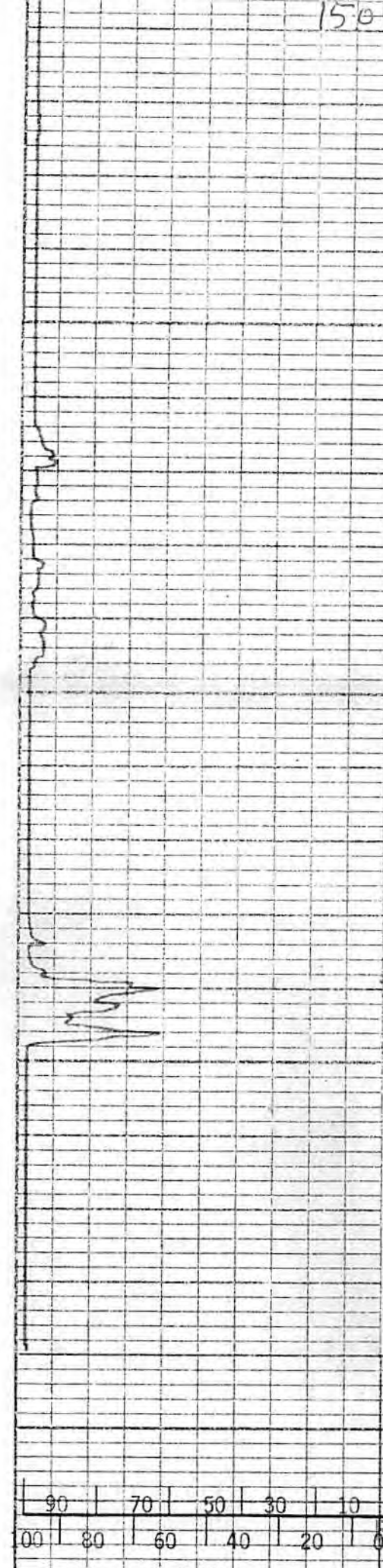
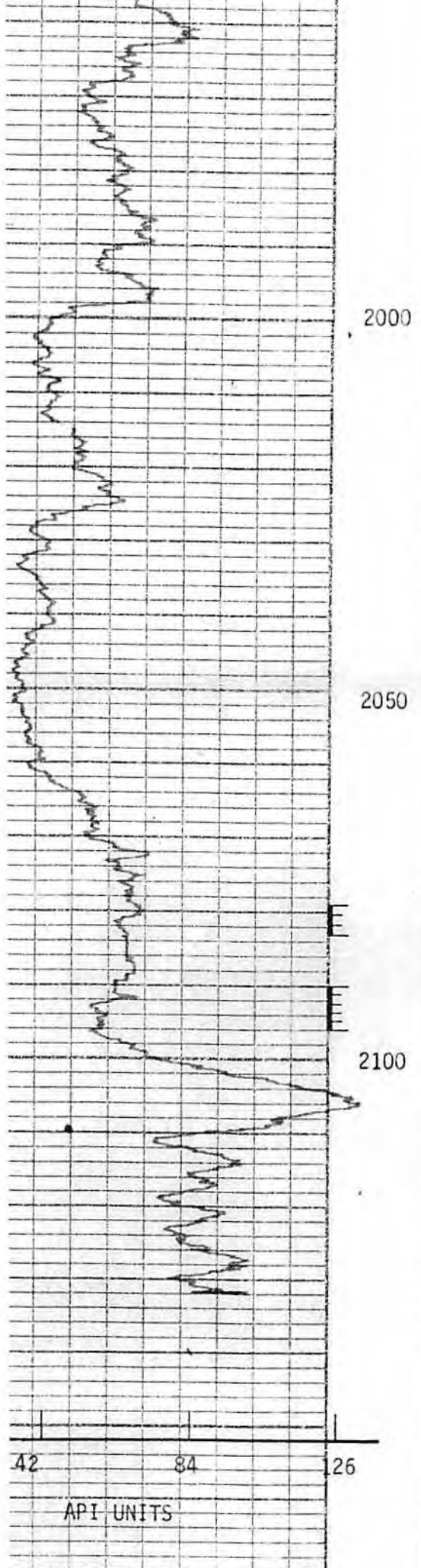
RUN NO.	BORE HOLE RECORD				CASING RECORD			
	BIT	FROM	TO	SIZE	WGT.	FROM	TO	
1	7-7/8"	385'	1450'	3-5/8"		0	385'	
	6-3/4"	1450'	2175'	4-1/2"		0	TD	

THIS HEADING AND LOG CONFORMS TO API RECOMMENDED STANDARD PRACTICE RP 31-74
LOGGING AND EQUIPMENT DATA

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15-01621P



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05/09/2014

1501621P

WW-4A
Revised 6-07

1) Date: January 30, 2014
2) Operator's Well Number
J.B. Casto # 119

3) API Well No.: 47 - 015 - 01621

**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>Triad Hunter, LLC</u>	Name <u>N/A</u>
Address <u>125 Putnam Street</u>	Address _____
<u>Marietta, Ohio 45750</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:

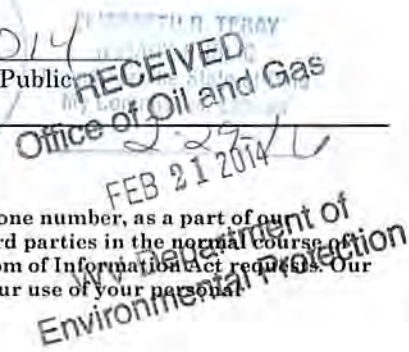
- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

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
 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. [Signature] 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.

05/09/2014

1501621A

WW-9
Rev. 5/08

Page 1 of 2
API Number 47-015-01621
Operator's Well No. J.B. Casto # 119

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 1206' 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 [Signature]

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

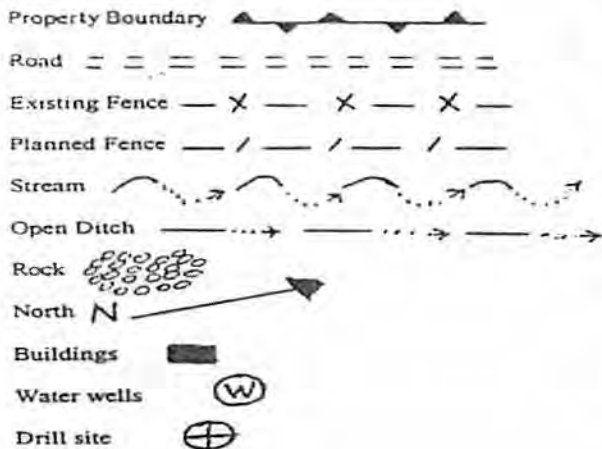
[Signature]



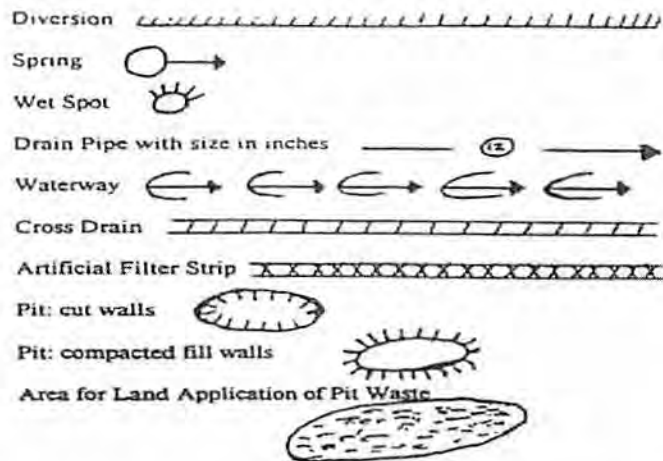
Notary Public **RECEIVED**
Office of Oil and Gas
2-FEB 21 2014

My commission expires 2-29-16

WV Department of Environmental Protection
05/09/2014



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

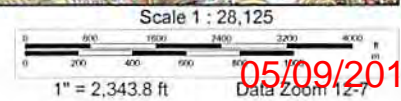
Date: 2/11/14 Office of Oil and Gas

Field Reviewed? () Yes (X) No

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 www.delorme.com



05/09/2014

1501621P

WW-7
8-30-06



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

API: 47-015-01621 WELL NO.: 119
FARM NAME: J.B. Casto
RESPONSIBLE PARTY NAME: Triad Hunter, LLC
COUNTY: Clay DISTRICT: Henry
QUADRANGLE: Newton
SURFACE OWNER: Triad Hunter, LLC
ROYALTY OWNER: Kanawha Banking and Trust Co. et al
UTM GPS NORTHING: 4265252
UTM GPS EASTING: 0486707 GPS ELEVATION: 1206'

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:

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

Survey grade GPS ___ : Post Processed Differential ___
Real-Time Differential ___

Mapping Grade GPS X : Post Processed Differential ___
Real-Time Differential X

- 4. 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.

Ben Smeltzer
Signature

Geologist
Title

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Office of Oil and Gas
1/16/14
Date
FEB 21 2014

1501621 P



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 -81.152521387869	[>>]	x (easting) 0486707
lat 38.535575731743	[<<]	y (northing) 4265252
		zone 17
		hemisphere <input checked="" type="radio"/> N <input type="radio"/> S

J.B. Casto #119

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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05/09/2014
1/10/2014