



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: 47-1501593, 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 #116
Farm Name: TRIAD HUNTER, LLC
API Well Number: 47-1501593
Permit Type: Plugging
Date Issued: 05/08/2014

Promoting a healthy environment.

05/09/2014

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.

1501593P

WW-4B
Rev. 2/01

1) Date January 30, 2014
2) Operator's
Well No. J.B. Casto # 116
3) API Well No. 47-015 - 01593

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 1190' GPS Watershed Grannys Creek
District Henry 2 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 9) Plugging Contractor 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 1/2 gal gel Between all plugs

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WV Department of
Environmental Protection
2/19/14

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

Work order approved by inspector [Signature] Date 2/19/14

05/09/2014

(2014)

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

Well Name : J.B. Casto # 116

Permit Number: 47-015-01593

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 - (2142' - 1892')*
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 (1240' - 1140')*
13. Displace cement through casing with gel water.
14. Pull 4 ½" casing to 100 feet below surface. *100 ft. bottom of surface pipe 395 - 295*
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.

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.

ELEV 1190'



INSUR 2046' - 2072'

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1501593A

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

DATE 1-9-80, 19

FORM IV-35
(Obverse)

Operator's
Well No. J. B. Casto 116
API Well No. 47 - 015-1593-1
State County Per

[08-78]

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

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

LOCATION: Elevation: 1157.64 Watershed: Granny's Creek
District: Henry County: Clay Quadrangle: Newton 7.5'

WELL OPERATOR Pennzoil Company DESIGNATED AGENT James A. Crews
Address P. O. Box 1588 Address P. O. Box 1588
Parkersburg, WV 26101 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 3-19, 1979 OIL & GAS INSPECTOR FOR THIS WORK:
(IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED) Name Martin Nichols
Address Clendenin, WV

GEOLOGICAL TARGET FORMATION: Big Injun Depth 2110 feet
Depth of completed well, 2142 feet Rotary X / Cable Tools ___
Water strata depth: Fresh, ___ feet; salt, ___ feet.
Coal seam depths: ___ Is coal being mined in the area? No
Work was commenced 5-11, 1979, and completed 5-15, 1979

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft	New	Used	For drilling		
Conductor								Kinds
Fresh water								
Coal	8-5/8					323	323	205 sks. Sizes
Intermediate								
Production	4-1/2					2133	2133	50 sks Depths set
Tubing								
Liners								Perforations:
								Top Bottom

OPEN FLOW DATA

Producing formation Injun Pay zone depth _____ feet

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 measurement) after _____ hours

[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 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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FORM IV-35
(Reverse)

[08-78]

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

Fractured 11-20-79 w/250 gals. 15% HCL, 150 BW, 1000# 20/40 sd.

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	96	
Sand			96	114	
Shale			114	148	
Sand			148	160	
Shale			160	224	
Sand			224	246	
Shale			246	338	
Sand			338	460	
Shale			460	492	
Sand			492	504	
Shale			504	546	
Sand			546	682	
Shale			682	742	
Sand			742	776	
Shale			776	792	
Sand			792	842	
Shaley Sand			842	870	
Sand			870	888	
Shale			888	898	
Sand			898	938	
Shale			938	994	
Sand			994	1008	
Shale			1008	1076	
Sand			1076	1084	
Shale			1084	1134	
Sand			1134	1188	
Shale			1188	1296	
Sand			1296	1322	
Shale			1322	1396	
Sand			1396	1554	
Shale			1554	1558	
Sand			1558	1562	
Shale			1562	1568	
Sand			1568	1602	
Shale			1602	1610	
Sand			1610	1642	
Sandy Shale			1642	1654	

(Attach separate sheets to complete as necessary)

Well Operator _____

By _____

Its _____

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."

Noted 4-15-87

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FORM IV-35
(Reverse)

[08-78]

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

Fractured 11-20-79 w/250 gals. 15% HCL, 150 BW, 1000# 20/40 sd.

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all free and salt water, coal, oil and gas
Sand			1654	1774	
Shale			1774	1846	
Sand			1846	1850	
Little Lime			1850	1916	
Pencil Cave			1916	1928	
Big Lime			1928	1970	
Loyalhanna			1970	2032	
Keener			2032	2046	
Big Injun			2046	2072	
Shale			2072	2102	
Squaw			2102	2118	
Shale			2118	2142	
Total Depth				2142	
PBD				2120	

(Attach separate sheets to complete as necessary.)

Pennzoil Company
Well Operator

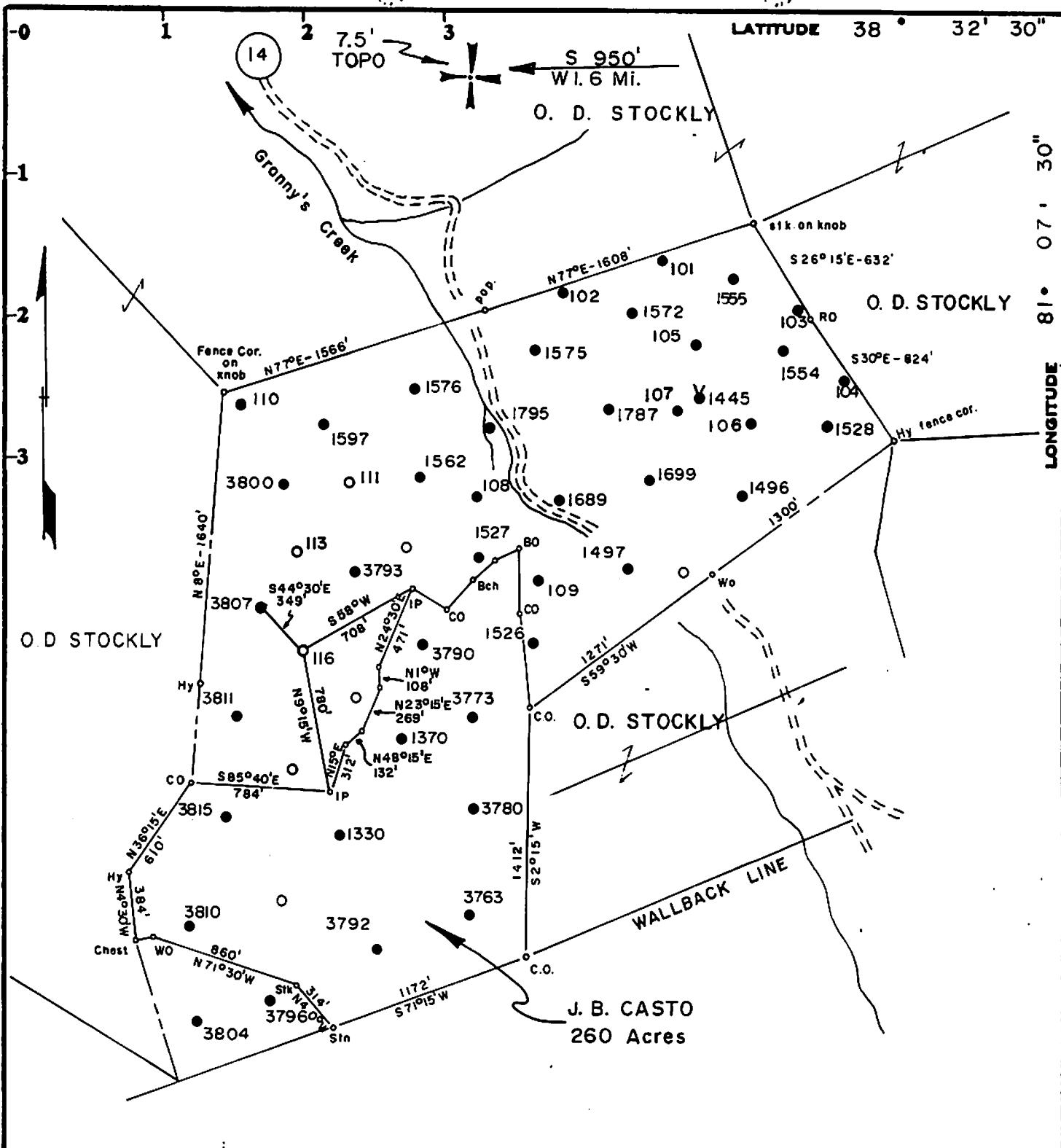
By Curtis A. Ryan
Its Civil Engineering Dept.

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Noted 4-15-8
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NOTE: Regulation 3.02(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."



SURFACE - Charles Tucker
Ovapa, WV

Minimum Error of Closure 1 in 200
Source of Elevation O. D. STOCKLY #22, elev. 1238.35

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 260 Lease No. 46485-up
Well (Farm) No. 116 Serial No.
Elevation (Spirit Level) 1157.64
Quadrangle NEWTON 7.5
County CLAY District HENRY
Surveyor CURTIS A. LUCAS
Surveyor's Registration No. 275
File No. 1626 Drawing No.
Date 3/12/79 Scale 1" = 800'

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

WELL LOCATION MAP
FILE NO. 05/09/2014

+ Denotes location of well on United States Topographic Maps, scale 1:50,000, and longitude lines being represented by border lines as shown.
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- Denotes one inch spaces on border line of original tracing.
WV Department of Environmental Protection

1501593 P

N McCullough

BOND CEMENT AND/OR SONIC SEISMOGRAM LOG
 GAMMA RAY

FILING NO.
 HBC-GR-SS-98775

COMPANY PENNZOIL COMPANY
 WELL J.B. CASTO #116
 FIELD HENRY DISTRICT
 COUNTY CLAY STATE WEST VIRGINIA

PENNZOIL CO.
 PETROLEUM ENGR. DEPT.
 FILE COPY

LOCATION GRANNY'S CREEK
 NEWTON 7-1/2 QUAD.

OTHER SERVICES:

	SEC.	TWP.	RGE.	ELEVATIONS
PERMANENT DATUM	GL			KB 1165.64'
LOG MEASURED FROM	KB		ELEV. 1157.64'	DF 1164.64'
DRILLING MEASURED FROM	KB			GL 1157.64'
DATE	8-7-79			
RUN NO.	ONE			
TYPE LOG	BOND CEMENT-GAMMA RAY-SONIC SEISMOGRAM			
DEPTH - DRILLER	2145'			
DEPTH - LOGGER	2114'			
BOTTOM LOGGED INTERVAL	2110'			
TOP LOGGED INTERVAL	1650'			
TYPE FLUID IN HOLE	WATER			
SALINITY PPM CL.				
DENSITY LB./GAL.				
LEVEL	FULL			
MAX. REC. TEMP. DEG. F.				
OPR. RIG TIME	1-1/2 HOURS			
RECORDED BY	MAYFIELD			
WITNESSED BY	MR. HELDMAN			

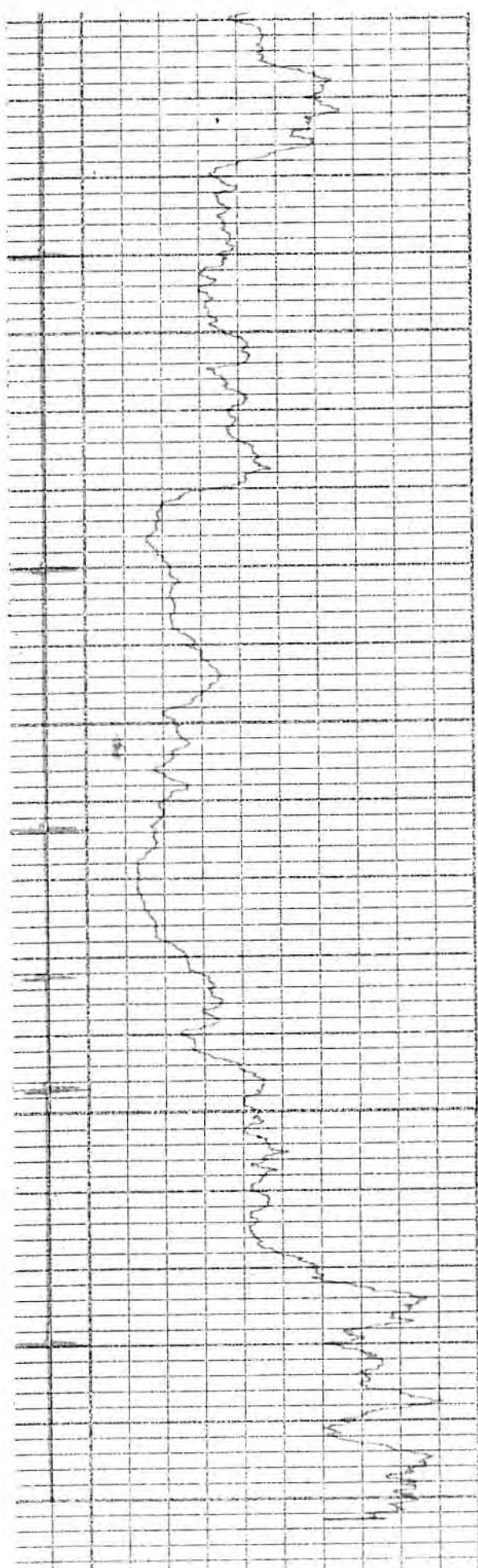
RUN NO.	BORE HOLE RECORD				CASING RECORD		
	BIT	FROM	TO	SIZE	WGT.	FROM	TO
1	7-7/8"	334'	1415'	8-5/8"		0	322'
	6-3/4"	1415'	TD	4-1/2"		0	

THIS HEADING AND LOG CONFORMS TO API RECOMMENDED STANDARD PRACTICE RP-33 (REV. 11-77) LOGGING AND EQUIPMENT DATA (BOND CEMENT LOG)

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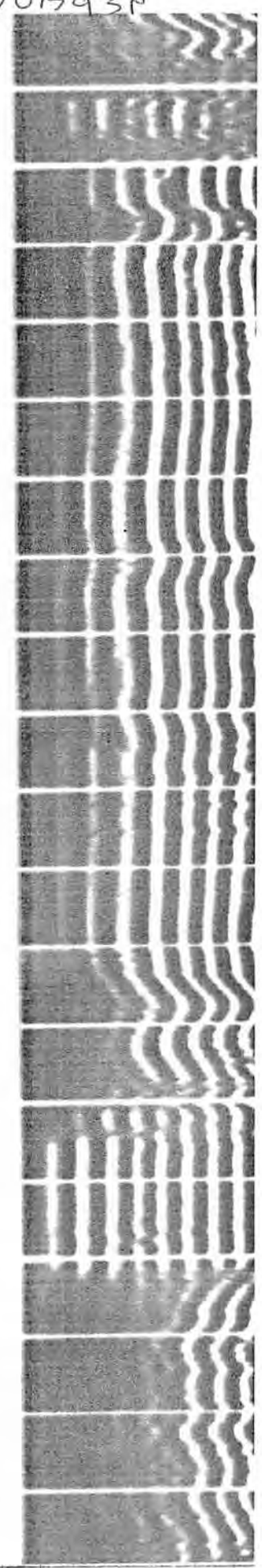
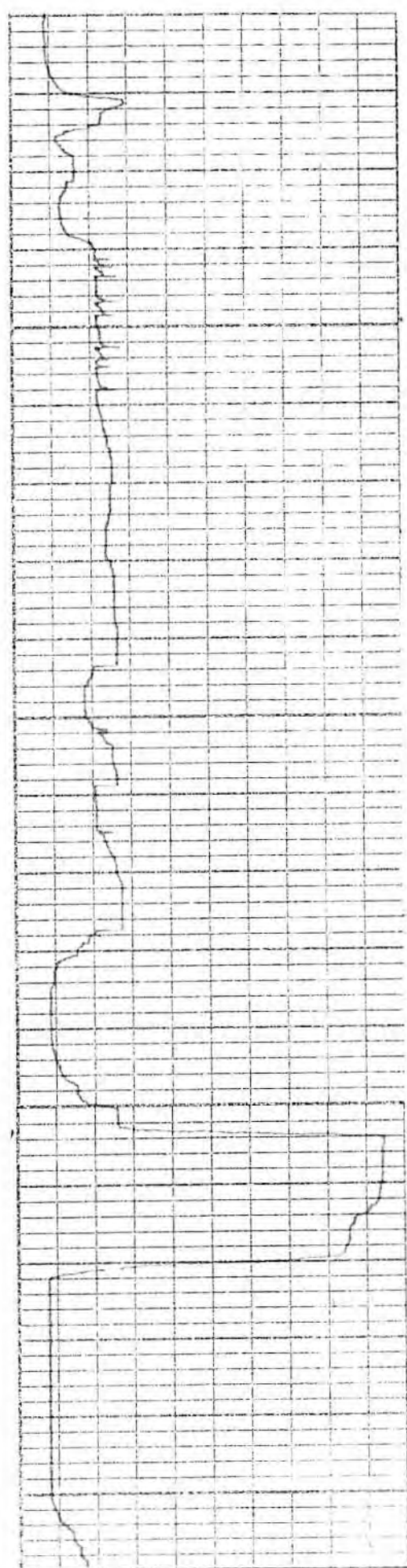
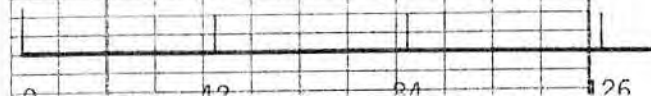


1950

2000

2050

2100



05/09/2014
200 MICROSECO

1501593P

WW-4A
Revised 6-07

1) Date: January 30, 2014
2) Operator's Well Number
J.B. Casto # 116

3) API Well No.: 47 - 015 - 01593

**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:

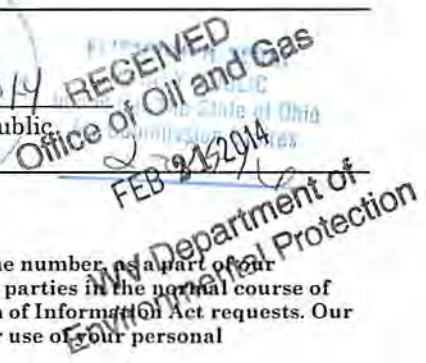
- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

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. Kelly 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

1501593A

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 1190' 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

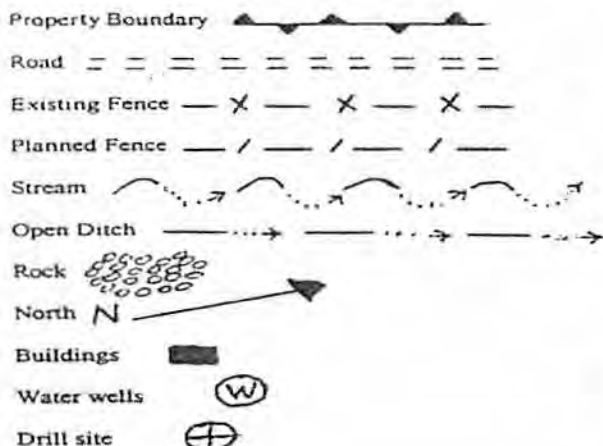
Subscribed and sworn before me this 30th day of January, 20 14

Elizabeth R. Suby Notary Public

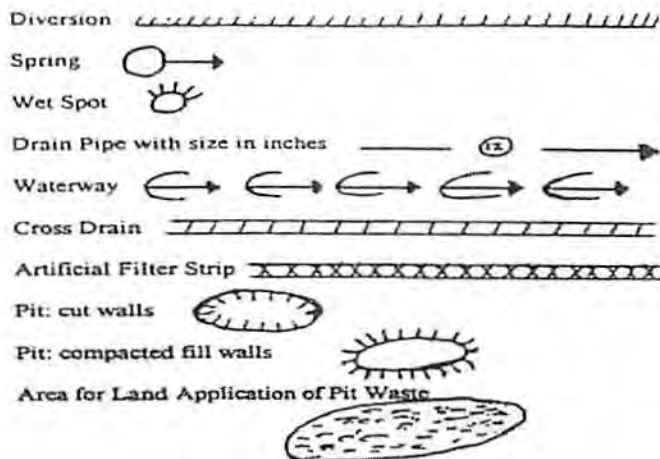
My commission expires 2-29-16



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: 

Comments: _____

Title: Inspector

Date: 2/4/14

Field Reviewed? () Yes (X) No

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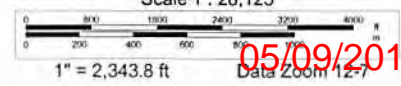
Data use subject to license.

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Scale 1 : 28,125



05/09/2014

WW-7
8-30-06



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

API: 47-015-01593 WELL NO.: 116

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: 4265625

UTM GPS EASTING: 0486515 GPS ELEVATION: 1190'

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.

[Signature]
Signature

Geologist
Title

1/16/14
Date

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WV Department of Environmental Protection



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 -81.154731553184	[>>]	x (easting) 0486515
lat 38.538934332262	[<<]	y (northing) 4265625
		zone 17
		hemisphere <input checked="" type="radio"/> N <input type="radio"/> S

J. B. CASTO #116

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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