



**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

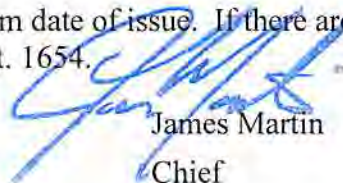
**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-1501184, 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: 108  
Farm Name: CASTO, J. B.  
**API Well Number: 47-1501184**  
**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.

1) Date January 30, 20 14  
2) Operator's  
Well No. J.B. Casto # 108  
3) API Well No. 47-015 - 01184

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 987' 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 \_\_\_\_\_



RECEIVED  
Office of Oil and Gas  
Date FEB 12 2014  
WV Department of  
Environmental Protection  
**04/25/2014**

1501184F

( 2014 )

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

Well Name : J.B. Casto # 108

Permit Number: 47-015-01184

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 1<sup>st</sup> 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.

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:	170 ft.		110 sacks	129.8

RECEIVED  
 Office of Oil and Gas  
 FEB 20 2014  
 WV Department of  
 Environmental Protection  
 04/25/2014



1501184P

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

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

Quadrangle Otter

Permit No. Cl-1184

Company PENNZOIL COMPANY  
Address P. O. Box 1588, Parkersburg, W. Va.  
Farm J. B. Casto Acres 260  
Location (waters) Grannys Creek  
Well No. 108 Elev. 976.96'  
District Henry County Clay  
The surface of tract is owned in fee by \_\_\_\_\_  
Mr. Ray E. King  
Address Ovapa, W. Va.  
Mineral rights are owned by Kanawha Banking & Trust  
Co., et al Address P. O. Box 393, Charleston, W. Va.  
Drilling Commenced October 4, 1976  
Drilling Completed October 11, 1976  
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. (Sks.)
Size 20-16			
Cond. 13-10"			
9 5/8			
8 5/8	120	120	70 sks.
7			
5 1/2			
4 1/2	1965	1965	50 sks.
3			
2			
Liners Used			

Well treatment details:

Water Injection Well

Attach copy of cementing record.

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
Silt & Sand			0	138		
Sand			138	310		
Shale			310	322		
Sand			322	506		
Silt & Shale			506	565		
Sand			565	736		
Silt & Sand			736	826		
Silt & Shale			826	896		
Sand			896	915		
Silt			915	968		
Sand			968	1019		
Silt & Shale			1019	1110		
Silt			1110	1173		
Shale			1173	1236		
Salt Sand			1236	1391		
Sand			1391	1405		
Shale			1405	1496		
Salt Sand			1496	1591		
Silt & Shale			1591	1657		
Sand			1657	1672		
Shale			1672	1688		
Little Lime			1688	1719		
Blue Monday			1719	1736		
Shale			1736	1753		

04/25/2014

RECEIVED  
Office of Oil and Gas

FEB 20 2014

(over)

\* Indicates Electric Log tops in the remarks section.

1501184P.

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Big Lime			1753	1796		
Loyalhanna			1796	1860		
Keener			1860	1874		
Big Injun			1874	1898		
Shale & Silt			1898	1930		
Squaw			1930	1955		
Shale			1955	1973		
<b>Total Depth</b>				<b>1973</b>		
<b>P. B. Depth</b>				<b>1948</b>		

04/25/2014

Date Nov. 12 1976

APPROVED Pennzoil Co. Owner

By Arvid A. Lujan  
(Title) Eng. Dept.



1501184P

MARKED BY 55H  
**Schlumberger**

# COMPENSATED FORMATION DENSITY LOG

Gamma-Gamma

PENNZOIL CO.  
PETROLEUM ENGR. DEPT.  
FILE COPY  
COUNTY FIELD or LOCATION WELL COMPANY

COMPANY PENNZOIL CO  
WELL J.B. CASTO # 108  
FIELD GRANNY'S CREEK  
COUNTY CLAY STATE WEST VIRGINIA

Location: Permit No. CLA-1184  
HENRY DISTRICT  
OTTER QUAD.  
Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ Rge. \_\_\_\_\_

Other Services:  
DIL

Permanent Datum: GROUND LEVEL; Elev. 976.96  
g Measured From KB, 8 Ft. Above Perm. Datum  
illing Measured From KB

Elev.: K.B. 984.96  
D.F. \_\_\_\_\_  
G.I. 976.96

ite	<u>1100T76</u>				
n No.	<u>ONE</u>				
pth-Driller	<u>1964-1070</u>				
pth-Logger	<u>1973</u>				
m. Log Interval	<u>1971</u>				
Top Log Interval	<u>129</u>				
Casing-Driller	<u>85/8@128</u>	@	@	@	@
Casing-Logger	<u>129</u>				
Bit Size	<u>6 3/4</u>				
Type Fluid in Hole	<u>FRESH 35L</u>				
Fluid Level	<u>FULL</u>				
Dens.	<u>8.8</u>	<u>62</u>			
pH	<u>11</u>	<u>4</u>	ml	ml	ml
Source of Sample	<u>NA</u>				
R <sub>m</sub> @ Meas. Temp.	<u>- @ -</u>	@	@	@	@
R <sub>mf</sub> @ Meas. Temp.	<u>- @ -</u>	@	@	@	@
R <sub>mc</sub> @ Meas. Temp.	<u>- @ -</u>	@	@	@	@
Source: R <sub>mf</sub>   R <sub>mc</sub>	<u>-   -</u>				
R <sub>m</sub> @ BHT	<u>- @ -</u>	@	@	@	@
Time Since Circ.	<u>6 hrs</u>				
Max. Rec. Temp.	<u>80</u>	°F	°F	°F	°F
Equip.   Location	<u>7699 PAINT</u>				
Recorded By	<u>EATON</u>				
Witnessed By	<u>Mr HOLSCLOW</u>				

The well name, location and borehole reference data were furnished by the customer.

RECEIVED  
Office of Oil and Gas

002-1513-E

FEB 20 2014

WV Department of Environmental Protection

04/25/2014



1800

J.B. CASTO #1108

1860

REENTER

STRAPPED PIPE

616  
RUN

1298

1900

Gamma Ray

COMPENSATION

1730

5000

STRAPPED PIPE

SHALE

Caliper Curve

FR

108

BULK DENSITY

Pick-Up Indicator

φ CIA SW

GRAIN DENSITY = 2.71

10 40 33

GRAIN DENSITY = 2.68

11	55	26
11.5	30	26.5
13.5	15	29
14	10	28.5
20	10	32
20.5	10	31
20	10	32
20	10	32
18	9	37
18	9	37
18.5	9	36
17.5	9.5	37
16	8	43
17	10.5	58

505

φ CIA SW

15	70	19
20.5	68	12
20	70	12
14	80	16
12.5	86	18
11	87	20.5
10	80	23
7	85	29
16.5	75	13.5
14	65	14
16	70	15
17	70	14
12	65	21

POROSITY

04/25/2014

GRAIN DENSITY = 2.68

1501184 P

WW-4A  
Revised 6-07

1) Date: January 30, 2014  
2) Operator's Well Number  
J.B. Casto # 108

3) API Well No.: 47 - 015 - 01184

**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>Travis Deems</u>	Name <u>N/A</u>
Address <u>4487 Ovapa Road</u> ✓	Address _____
<u>Ovapa, 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 30<sup>th</sup> day of January, 2014

Elizabeth R. Teray 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](mailto:depprivacyofficer@wv.gov).

ELIZABETH R. TERAY  
NOTARY PUBLIC  
IN and for the State of West Virginia

RECEIVED 1/30/14  
Office of Oil and Gas  
FEB 20 2014

WV Department of Environmental Protection  
04/25/2014

1501184A

U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
*(Domestic Mail Only; No Insurance Coverage Provided)*

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		

Travis Deems  
 4487 Ovapa Rd  
 Ovapa, WV 25164

See Reverse for Instructions

7011 1570 0001 5396 3593

①

J. B. CASTO # 108

47-015-1184

U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
*(Domestic Mail Only; No Insurance Coverage Provided)*

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		

Travis Deems  
 4487 Ovapa Rd  
 Ovapa, WV 25164

See Reverse for Instructions

7011 1570 0001 5396 3593

RECEIVED  
 Office of Oil and Gas  
 FEB 20 2014  
 WV Department of  
 Environmental Protection  
 04/25/2014

1501184P

WW-9  
Rev. 5/08

Page 1 of 2  
API Number 47 - 015 - 01184  
Operator's Well No. J.B. Casto # 108

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 987' 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

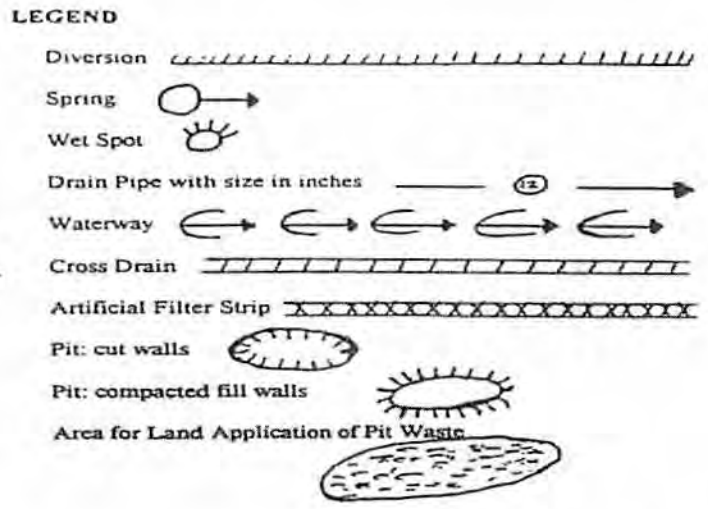
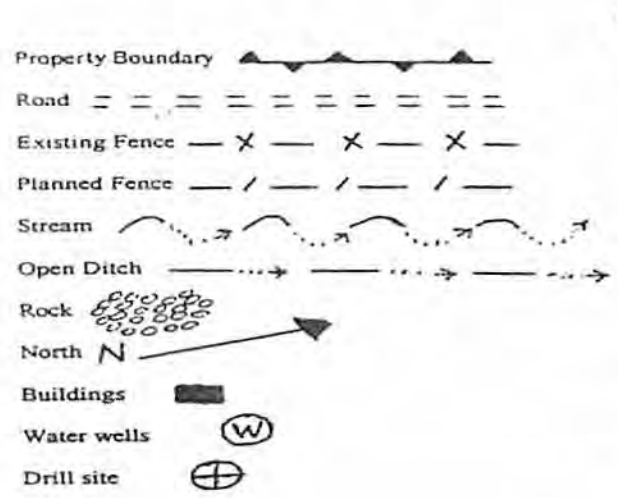
Subscribed and sworn before me this 30th day of January, 2014

RECEIVED  
Office of Oil and Gas  
Notary Public

FEB 20 2014

My commission expires \_\_\_\_\_

WV Department of  
Environmental Protection  
04/25/2014



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

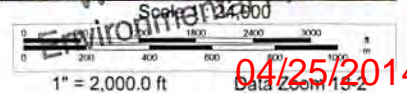
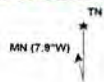
Field Reviewed? ( ) Yes (  ) No



Data use subject to license.

© DeLorme. XMap® 7.

www.delorme.com



04/25/2014



1501184A



# 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	J.B. Casto #108
lon -81.151372036249	<input type="button" value="&gt;&gt;"/>	x (easting) 0486808	
lat 38.540110291815	<input type="button" value="&lt;&lt;"/>	y (northing) 4265755	
		zone 17	
		hemisphere <input checked="" type="radio"/> N <input type="radio"/> S	

*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](#))

RECEIVED  
Office of Oil and Gas  
FEB 20 2014  
WV Department of  
Environmental Protection  
04/23/2014