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**west virginia** department of environmental protection

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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

July 20, 2015

**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-9700386, issued to SWN PRODUCTION COMPANY, 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: 2-451  
Farm Name: CRITES, STELLA  
**API Well Number: 47-9700386**  
**Permit Type: Plugging**  
Date Issued: 07/20/2015

**Promoting a healthy environment.**

**07/24/2015**

## 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

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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 under the terms of that agreement.

9700386P

WW-4B  
Rev. 2/01

1) Date April 10, 2015  
2) Operator's  
Well No. 650451  
3) API Well No. 47-097 - 00386

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 \_\_\_ or Underground storage \_\_\_) Deep \_\_\_ / Shallow X
- 5) Location: Elevation 1519' Watershed Glady Fork of Stone Coal  
District Buckhannon County Upshur Quadrangle Crawford Adrian
- 6) Well Operator SWN Production Co, LLC 7) Designated Agent Dee Southall  
Address P.O. Box 1300 Address P.O. Box 1300  
Jane Lew, WV 26378 Jane Lew, WV 26378
- 8) Oil and Gas Inspector to be notified Name Bryan Harris  
Address PO Box 157  
Volga, WV 26238
- 9) Plugging Contractor Name R & J Well Service  
Address P.O. Box 37  
Hueysville, KY 41640

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

Contact the WV State Inspector 48 hours prior to operations. Safety is the highest priority. Hold wellsite safety meetings prior to each significant operation. Review critical parameters, plans and objectives as well as emergency act. MIRU construction equipment if necessary to repair road location in order to get workover rig in. Remove any tanks, separators, well lines, meter runs, exc. MIRU service rig & needed equipment. NOTE: Blow down well to pit or tank. Attempt to pull 7" csg. TIH strapping 2 3/8" tbg to 2,298' or TD. Load hole to surface with 6% gelled water or break surface with circulation, +/- 100 BBL. Pump 30 sks of Class A cement for 150' cement plug on top of the CIBP, flush tubing with 10 bbls 6% gelled water. TIH w/ 2 3/8" tubing to 1,650'. Circulate 6% gelled water as needed to load hole to surface. Pump 27 sks of Class A cement for 125' plug, flush tubing with 7 bbls 6% gelled water. (note: if casing is still in place perforate casing between 1,600' and 1,625' prior to this step.) TOOH with 2 3/8" tubing to surface. SD & WOC for 8 hours. RIH w/ sandline tools & tag plug @ 1,525' +/- . Plug must be at 1,550' or higher; Add additional cement if needed. TIH w/ 2 3/8" tubing to 1,240', Circulate 6% gelled water as needed to load hole to surface and Pump 33 sks of Class A cement, flush tubing with 5 bbls 6% gelled water. (note: if casing is still in place perforate casing @ 1,215' and 1,157' prior to this step.) TOOH with 2 3/8" tubing to surface. SD & WOC for 8 hours. RIH w/ sandline tools & tag plug @ 1,090' +/- . Plug must be at 1,105' or higher; Add additional cement if needed. If cuttings are not cleared, continue to pull 7" csg @ 1,015' and pull casing. (Continue working your way up the hole to make a successful cut and pull casing.) TIH w/ 2 3/8" tubing to 50' below where casing cut was made.

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Circulate 6% gelled water as needed to load hole to surface. Pump 28 sks of Class A cement, flush tubing with 5 bbls 6% gelled water. TOOH with 2 3/8" tubing to surface. SD & WOC for 8 hours. Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector Bryan O'Hara Date 5-15-15

07/24/2015

9700386P

WW-4B  
Rev. 2/01

1) Date April 10, 2015  
2) Operator's Well No. 650451  
3) API Well No. 47-097 - 00386

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 \_\_\_ or Underground storage \_\_\_) Deep \_\_\_ / Shallow X

5) Location: Elevation 1519' Watershed Gladly Fork of Stone Coal  
District Buckhannon County Upshur Quadrangle Crawford Adrian

6) Well Operator SWN Production Co, LLC 7) Designated Agent Dee Southall  
Address P.O. Box 1300 Address P.O. Box 1300  
Jane Lew, WV 26378 Jane Lew, WV 26378

8) Oil and Gas Inspector to be notified 9) Plugging Contractor  
Name Bryan Harris Name R & J Well Service  
Address PO Box 157 Address P.O. Box 37  
Volga, WV 26238 Hueysville, KY 41640

10) Work Order: The work order for the manner of plugging this well is as follows:  
RIH w/ sandline tools & tag plug. Plug must be @ 50' higher than where the casing was cut; Add additional cement if needed. Attempt to cut and pull 8 5/8" csg. TIH w/ 2 3/8" tubing to 585'.  
Pump 200 sks, of Class A cement, to surface. TOOH w/ tubing. Top off well with required Class A cement as needed. Install a 36 inch casing monument. Install an Aluminum plat  
monument with ALL required WV dates and API numbers. RDMO all service equipment providers and reclaim location to WV State requirements.

CIBP IN CASING ABOVE GORDON IF NEEDED.

JWM

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

Work order approved by inspector Duza O'Hein Date 5-15-15

07/24/2015

Notes

1. Safety is the top priority.
2. EVERYONE has stop work authority.
3. SWN safety policies and practices will be followed at all times during the job.

Scope of Operation

1. TIH with 2 3/8" tubing to PBTD of +/- 2,298' or tag bottom
2. Pump required cement and gel plugs per WV DEP requirements
3. Plant a well monument with API number and date of plugging

Procedure

1. Contact the WV State Inspector 48 hours prior to operations
2. Safety is the highest priority. Hold wellsite safety meetings prior to each significant operation. Review critical parameters and objectives as well as emergency action plans.
3. MIRU construction equipment if necessary to repair road / location in order to get workover rig in. Remove any tanks, separators, well lines, meter runs, exc.
4. MIRU service rig & needed equipment. **NOTE: Blow down well to pit or tank.**
5. Attempt to pull 7" csg.
6. TIH strapping 2 3/8" tbg to 2,298' or TD.
7. Load hole to surface with 6% gelled water or break surface with circulation +/- 100 BBL.
8. Pump 30 sks of Class A cement for 150' cement plug on top of the CIBP, flush tubing with 10 bbls 6% gelled water.
9. TOOH with 2 3/8" tubing to surface. **SD & WOC for 8 hours.**
10. RIH w/ sandline tools & tag plug@ 2,150' +/- . Plug must be at 2,195' or higher; Add additional cement if needed.
11. TIH w/ 2 3/8" tubing to 1,650'. Circulate 6% gelled water as needed to load hole to surface. Pump 27 sks of Class A cement for 125' plug, flush tubing with 7 bbls 6% gelled

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\* CIBP WILL BE SET ABOVE GORDON (IN CASING) IF NEEDED.

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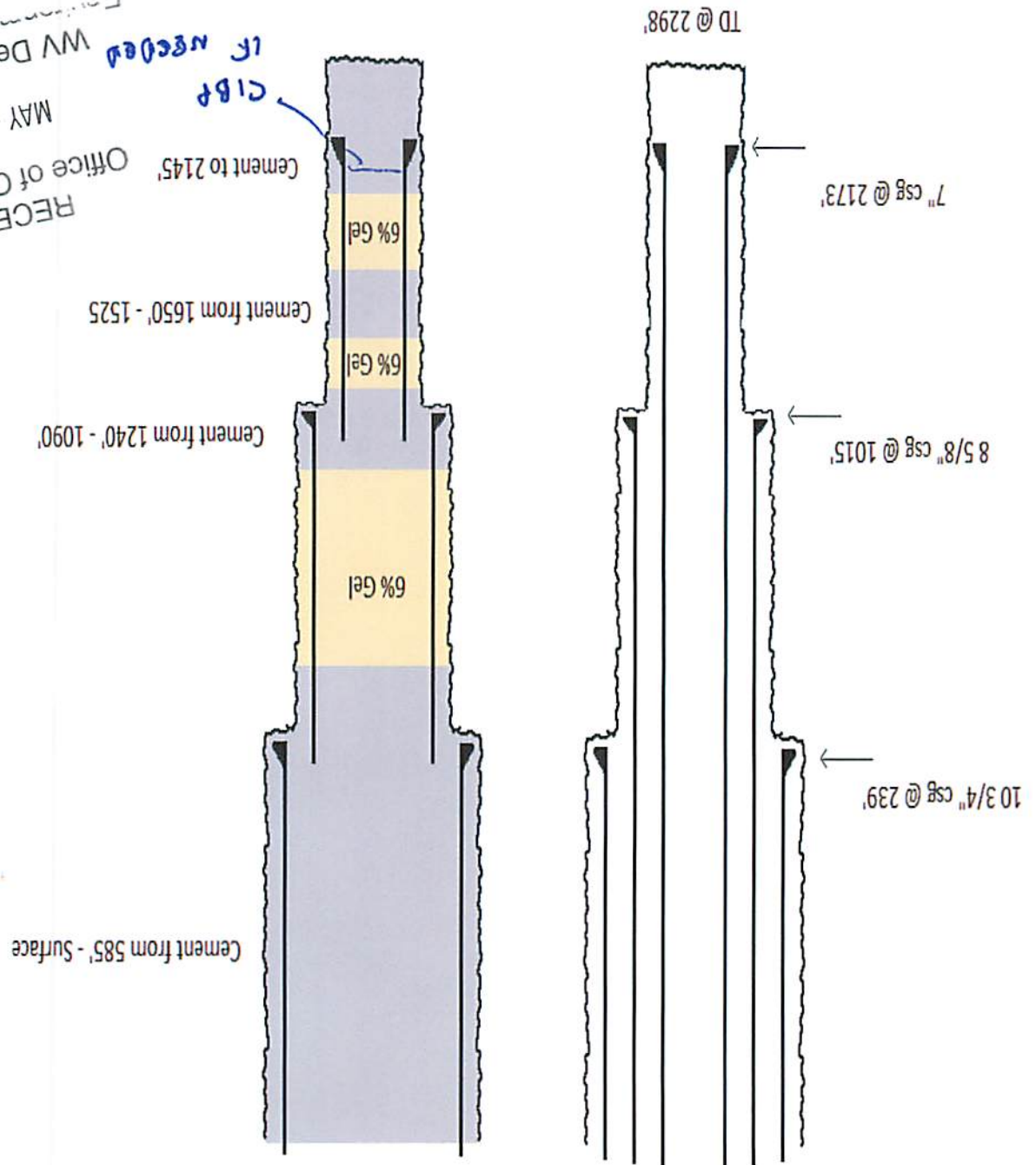
water. (note: if casing is still in place perforate casing between 1,600' and 1,625' prior to this step.)

12. TOOH with 2 3/8" tubing to surface. SD & WOC for 8 hours.
13. RIH w/ sandline tools & tag plug@ 1,525' +/- . Plug must be at 1,550' or higher; Add additional cement if needed.
14. TIH w/ 2 3/8" tubing to 1,240', Circulate 6% gelled water as needed to load hole to surface. and Pump 33 sks of Class A cement, flush tubing with 5 bbls 6% gelled water. (note: if casing is still in place perforate casing @ 1,215' and 1,157' prior to this step.)
15. TOOH with 2 3/8" tubing to surface. SD & WOC for 8 hours.
16. RIH w/ sandline tools & tag plug@ 1,090' +/- . Plug must be at 1,105' or higher; Add additional cement if needed.
17. If 1<sup>st</sup> attempt to pull casing was unsuccessful, cut 7" csg @ 1,015' and pull casing. (Continue working your way up the hole to make a successful cut and pull casing.)
18. TIH w/ 2 3/8" tubing to 50' below where casing cut was made. Circulate 6% gelled water as needed to load hole to surface. Pump 28 sks of Class A cement, flush tubing with 5 bbls 6% gelled water.
19. TOOH with 2 3/8" tubing to surface. SD & WOC for 8 hours.
20. RIH w/ sandline tools & tag plug. Plug must be @ 50' higher than where the casing was cut; Add additional cement if needed.
21. Attempt to cut and pull 8 5/8" csg.
22. TIH w/ 2 3/8" tubing to 585'. Pump 200 sks, of Class A cement, to surface. TOOH w/ tubing.
23. Top off well with required Class A cement as needed.
24. Install a 36 inch casing monument. Install an Aluminum plat monument with ALL required WV dates and API numbers
25. RDMO all service equipment providers and reclaim location to WV State requirements.

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*IF needed  
CIBP*



Well Bore Schematic  
Stella Crites 2

07/24/2015

9700386P

**Well Data**

Surface Location	Lat. 38.94860046, Long. -80.30113060
TD	2,298'

**Casing and Tubular Data**

String	Size	Weight	Depth
Surface	10 3/4"	32.75 lb/ft	239'
Intermediate	8 5/8"	24 lb/ft	1,015'
Production	7"	17 lb/ft	2,173'

**Dimensions & Capacities**

Size	Weight lb/ft	ID	Capacity (cuft/ft)	Capacity (bbl/ft)
10 3/4"	32.75	10.192"	0.5665	0.1009
8 5/8"	24	8.097"	0.3576	0.0637
7"	17	6.538"	0.2331	0.0415
2 3/8"	4.7	1.995"	0.0214	0.0038

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WV Department of  
Environmental Protection



**Personnel/Phone List**

Completions Superintendent	Shawn Jackson	Office : 304 884-1618 Cell: 304 641-3204
Completions Foremen	Aaron Casto	Office : 304 884-1619 Cell: 724 886-2079
Completions Foremen	Alex Worley	Office: 304 884-1620 Cell: 304 406-4292
Production Manager	Chris Flanagan	Office: 304 884-1626 Cell: 304 203-4985
Area Manager	Dave Sweely	Office: 304 884-1663
Land Man	Randy Orsburn	Office: 304 884-1645
WV State Inspector	Bill Hatfield	Cell: 304 767-1828

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Division 4  
Record of well No. 4451 on Rosetta L. Crites Farm 110 Acres  
Weston, W. Va. Field Buckhannon Township District Upshur County W. Va. State  
Rig Commenced Nov. 6 1950 Completed Nov. 10 19 50  
Drilling Commenced Nov. 16 1950 Completed Jan. 12 19 51  
Contractor Guy L. Warner Address Gassaway, W. Va.  
Driller's Name G.H. Crites and H.C. Gawthon  
Tool Dresser Warren McClain & Wayne B. Smith

CASING AND TUBING RECORD

	Conductor	13"	10"	8 1/4"	7"	6 5/8"	5 3/16"	4"	3"		
Used in Drig	-	-	239' 8"	1015' 1"	-	2173' 2"	-	-	-		Thds. On
Left in well	-	-	239' 8"	1015' 1"	-	2173' 2"	-	-	-		" "

PACKER RECORD

SHOOTING RECORD

Size	Depth Set	Type Packer	Date	Type Explosive	Amount	DEPTH		Volume Before Co. Ft.	Volume After Co. Ft.
						Top	Bottom		

VOLUME AND PRESSURE

Date	Reading in Inches	Liquid	Size Orifice	Volume	Sand	PRESSURE IN MIN					24 Hour R. P.	Max. H. P.	Hours
						1	5	10	30	60			
1-24-51	74	Water	1-1/2	151,713	Gordon	1	13	25	76	145	600#		

TOTAL INITIAL OPEN FLOW when turned into line 127,172 CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Soil	0	5	5	
Red Rock	5	30	25	
Lime	30	47	17	
Red Rock	47	67	20	
Sand	67	77	10	
Lime	77	101	24	Water at 80', 3blrs. per hour
Slate	101	130	29	
Red Rock	130	150	20	
Sand	150	213	63	
Slate	213	215	2	
Coal	215	220	5	
Slate	220	256	36	
Lime	256	260	4	
Slate	260	280	20	
Lime	280	300	20	
Slate	300	325	25	
Coal	325	329	4	
Lime	329	495	166	Water at 349, 2blrs. per hour, show
Slate	495	500	5	of gas at 449
Lime	500	527	27	
Coal	527	532	5	Show of gas at 530'
Lime	532	548	16	
Slate	548	553	5	
Sand(Dunkard)	553	567	14	
Lime	567	577	10	
Sand Salt	577	615	38	
Slate & Shells	615	675	60	
Sand Salt	675	737	62	

Examined above information and measurements and found to be correct by  
 Guy L. Warner Contractor  
 Examined and Approved by  
 [Signature] Field Superintendent

NOTE-The above blank must be filled out carefully by the contractor, with a complete and accurate record of the well, and accompany, when presented for payment of the bill for drilling. All formations and known sands must be given by their proper name, with steel line measurements, and under the head of "Remarks" must be recorded in what sand and at what depth oil, gas or water was found, the quantity of same, the quality of the sand, and thickness of pay.

Division 4  
Record of well No. 451 on Rosetta L. Crites Farm 110 Acres  
Waston, W. Va. Field Buckhannon Township District Upshur County W. Va. State  
Rig Commenced Nov. 6 1950, Completed Nov. 10 1950  
Drilling Commenced Nov. 16 1950, Completed Jan. 12 1951  
Contractor Guy L. Warner Address Gassaway, W. Va.  
Driller's Name G.H. Crites and H.O. Cawthon

CASING AND TUBING RECORD

	Conductor	13"	10"	8 1/4"	7"	6 5/8"	5 3/16"	4"	3"	
Used in Drig	-	-	239' 8"	1015' 1"	-	2173' 2"	-	-	-	Tds. On
Left in well	-	-	239' 8"	1015' 1"	-	2173' 2"	-	-	-	" "

PACKER RECORD

SHOOTING RECORD

Size	Depth Set	Type Packer	Date	Type Explosive	Amount	DEPTH		Volume Before Cu. Ft.	Volume After Cu. Ft.
						Top	Bottom		

VOLUME AND PRESSURE

Date	Reading in Inches	Liquid	Size Orifice	Volume	Sand	PRESSURE IN MIN.					24 Hour R. P.	Max. R. P.	Hours
						1	5	10	30	60			
1-12-51	74	Water	1-1/2	151,713	Gordon	1	13	25	76	145	600#	-	-

TOTAL INITIAL OPEN FLOW when turned in line 127,172 Cuft. CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Slate	819	860	41	
Sand Salt	860	987	127	
Lime	987	1055	68	
Slate & Shells	1055	1142	87	
Sand Salt	1142	1274	137	Water at 1157, 1/2 blr. per hour, show of gas at 1215'
Red Rock	1274	1299	25	
Lime	1299	1350	51	
Sand Gas	1350	1390	40	
Red Rock	1390	1395	5	
Lime	1395	1417	22	
Red Rock	1417	1437	20	
Lime	1437	1498	61	
Red Rock & Slate	1498	1517	19	
Big Lime	1517	1600	83	
Big Injun Sand	1600	1626	26	
Red Rock	1626	1631	5	
Gantz Sand	1631	1720	89	
Squaw Sand	1720	1827	107	
Slate	1827	1830	3	
Sand Byard	1830	1980	50	
Slate	1880	1890	10	
Sand (Fifty-foot)	1890	1950	60	
Red Rock	1950	1953	3	
Slate & Shells	1953	1987	34	
Red Rock	1987	1990	3	
Sand (Thirty-foot)	1990	2020	30	
Red Rock & Slate & Shells	2020	2152	132	
Lime	2152	2165	13	

Examined above information and measurements and found to be correct by

Examined and Approved by

*Guy L. Warner* Contractor

*Walter E. ...* Field Superintendent

NOTE - The above blank must be filled out carefully by the contractor, with a complete and accurate record of the well, and accompany, when presented for payment of the bill for drilling. All formations and known sands must be given by their proper name, with steel line measurements, and under the head of "Remarks" must be recorded in what sand and at what depth oil, gas or water was found, the quantity of same, the quality of the sand, and thickness of pay.

Cumberland & Allegheny Gas Company

Division 4  
 Record of well No. 451 on Rosetta L. Crites Farm 110 Acres  
 Weston, W. Va. Field Buokhannon Township District Upshur County W. Va. State  
 Rig Commenced Nov. 6 19 50 Completed Nov. 10 1950  
 Drilling Commenced Nov. 16 19 50 Completed Jan. 12 1951  
 Contractor Guy L. Warner Address Gassaway, W. Va.  
 Driller's Name G.H. Crites and H.O. Cawthon

CASING AND TUBING RECORD									
Conductor	11"	10"	8 1/2"	7"	6 3/4"	5 1/2"	4"	3"	
Used in Pipe									
Set in Well									

PACKER RECORD				SHOOTING RECORD				
Date	Depth Set	Type Packer	Date	Type Explosive	Amount	DEPTH	Volume	
						Top	Bottom	Before Co. Ft.
								After Co. Ft.

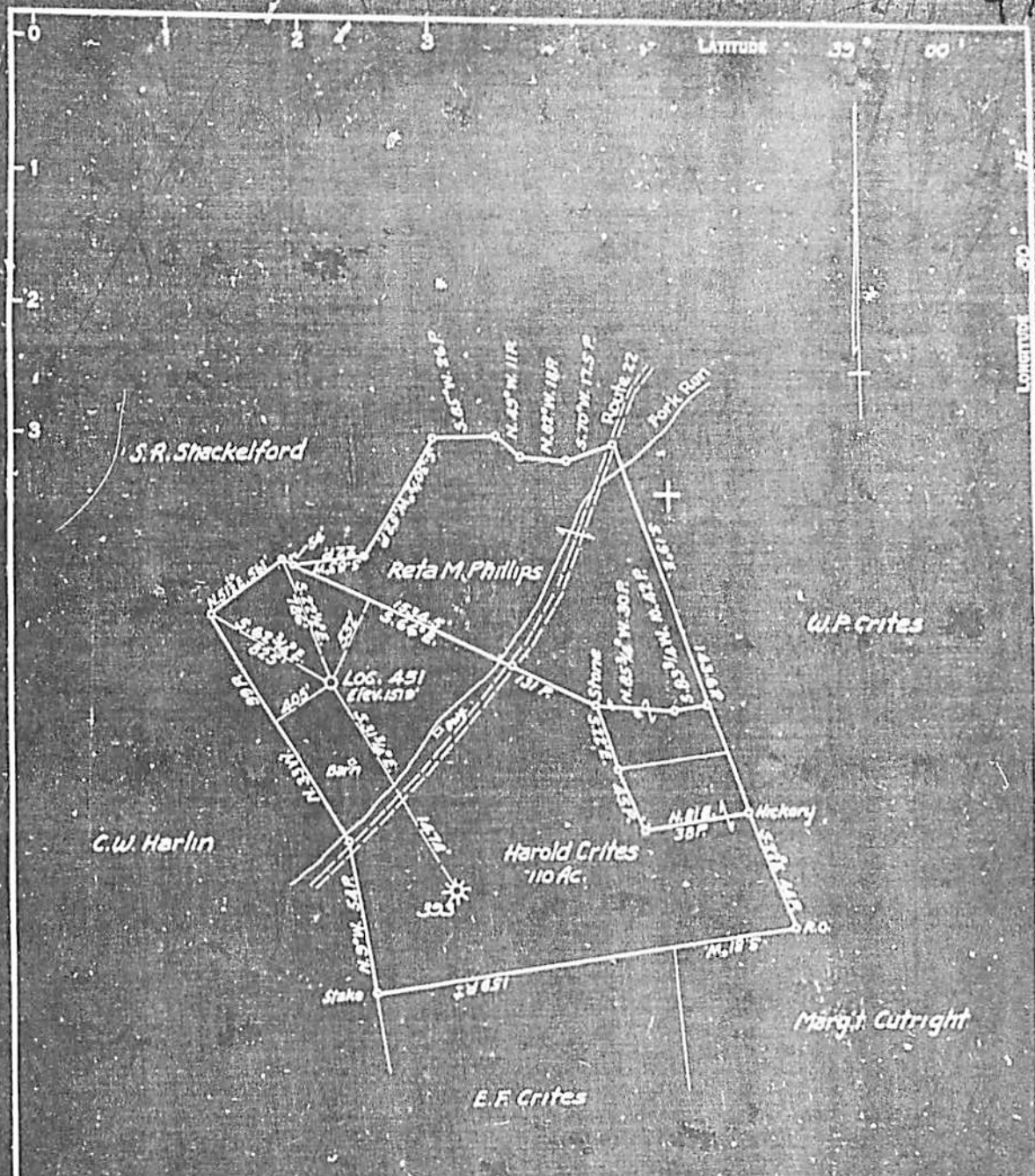
VOLUME AND PRESSURE														
Date	Feeding in Inches	Liquid	Size Orifice	Volume	Head	PRESSURE IN MIN					24 Hour H. P.	Max. R. P.	Hours	
						1	5	15	30	60				

TOTAL INITIAL OPEN FLOW CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
Sand (Stray)	2165	2197	32	
Line	2197	2220	23	
Slate & Shells	2220	2245	25	
Sand (Gordon)	2245	2270	34	Gas at 2250-2266'. When drilled in gas
Line (Gritty)	2270	2298	19	tested 77/10W-1-1/2". Well tested
Total Depth	2293			74/10W-1-1/2" when shut in.

1-18-51  
 Well tested 52/10W-1-1/2" after being turned 3 hours. Well turned into line  
 Line Pressure 48# Pick Ups  
 1Min. 2Min. 3Min. 4Min. 5Min.  
 50# 53# 54# 56# 58#  
 Pick Ups  
 1Min. 2Min. 3Min. 4Min. 5Min. 6Min. 7Min. 8Min. 9Min. 10Min. 11Min. 12Min. 13Min.  
 23# 42# 62# 9 11 13 15 17 19# 21# 24# 26# 28#  
 14Min. 15Min. 16Min. 17Min. 18Min. 19Min. 20Min. 30Min.  
 30# 32# 34# 36# 38# 40# 42#

9700386P



COAL OWNED BY Buckhannon River Coal Co. (99 1/2 Ac.)  
State of West Va. (9.37 Ac.)

NEW LOCATION   
 DRILL DEEPER   
 ABANDONMENT

COMPANY Cumberland & Allegheny Gas  
 ADDRESS 400 Union Trust Bldg, Pittsburgh Pa.  
 FARM Harold Crites  
 TRACT \_\_\_\_\_ ACRES 110 LEASE No. 5134  
 WELL (FARM) No. 2 SERIAL No. 451  
 ELEVATION (SPIRIT LEVEL) 1512'  
 QUADRANGLE Crawford  
 COUNTY Upshur DISTRICT Buckhannon  
 ENGINEER Thos. E. Virgin  
 ENGINEER'S REGISTRATION No. 1503  
 FILE No. \_\_\_\_\_ DRAWING No. X-13-436  
 DATE Aug. 29, 1950 SCALE 1" = 200'

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

**WELL LOCATION MAP**

FILE No. ups-386

+ 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.

WW-4A  
Revised 6-07

1) Date: April 10, 2015  
2) Operator's Well Number  
650451  
3) API Well No.: 47 - 097 - 00386

**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>Steven &amp; Cheryl Neely</u>	Name _____
Address <u>27480 Tower Road</u>	Address _____
<u>Richardsville, VA 22736</u>	
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>Roscco, LLC</u>
	Address <u>Rt 5 Box 29</u>
	<u>Buckhannon, WV 26201</u>
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector <u>Bryan Harris</u>	(c) Coal Lessee with Declaration
Address <u>PO Box 157</u>	Name _____
<u>Volga, WV 26238</u>	Address _____
Telephone <u>304-553-6087</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.

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Well Operator SWN Production Co., LLC  
By: [Signature]  
Its: Regulatory Supervisor  
Address P.O. Box 1300  
Jane Lew, WV 26378  
Telephone 304-884-1614

Subscribed and sworn before me this 23rd day of April 2015  
Brittany R Woody Notary Public  
My Commission Expires 11/27/2022

**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).



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 SWN Production Co., LLC OP Code 494512924

Watershed Glady Fork of Stone Coal Quadrangle Grawford ~~Adrian~~

Elevation 1519' County Upshur District Buckhannon

Description of anticipated Pit Waste: Water from plugging process

Will a synthetic liner be used in the pit? yes 20 ALL.

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number 2D0072539/2D0413175/2D0610306/2D0610317 )
- Reuse (at API Number at next anticipated well, API# will be included on the WR34/&or permit addendum )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain flowback will be put in steel tanks and reused or taken to permitted disposal facility)

Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Other (Explain \_\_\_\_\_)
- Swabbing
- Plugging

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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) Dee Southall

Company Official Title Regulatory Supervisor

Subscribed and sworn before me this 23rd day of April, 2015

Brittany R Woody

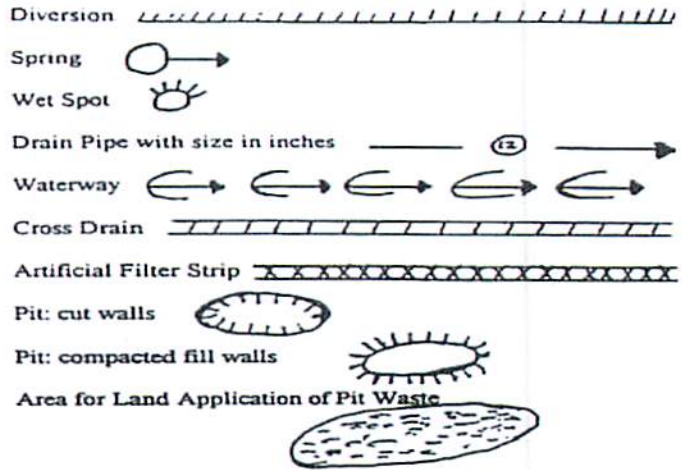
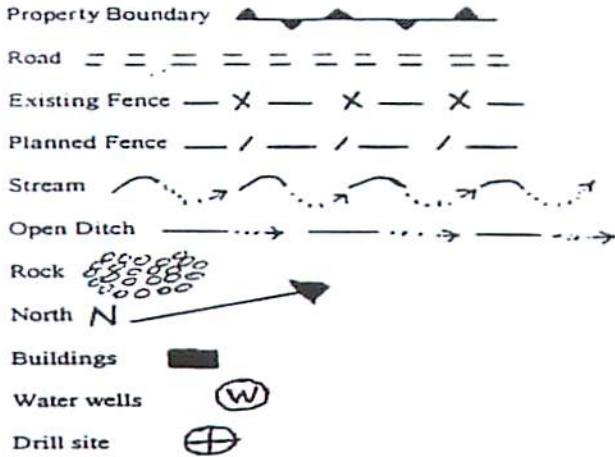
Notary Public

My commission expires 11/27/22





LEGEND



Proposed Revegetation Treatment: Acres Disturbed \_\_\_\_\_ Prevegetation pH \_\_\_\_\_

Lime <sup>as determined by pH test min. 2</sup> \_\_\_\_\_ Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) <sup>500</sup> \_\_\_\_\_ lbs/acre (500 lbs minimum)

Mulch <sup>Hay/Straw</sup> \_\_\_\_\_ Tons/acre

Seed Mixtures

Seed Type	Area I	lbs/acre	Seed Type	Area II	lbs/acre
Orchard Grass	20		Orchard Grass	20	
Red Top	15		Red Top	15	
White Clover	15		White Clover	15	

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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'Hanlon

Comments: \_\_\_\_\_

Title: Oil and Gas Inspector \_\_\_\_\_

Date: 5-15-15

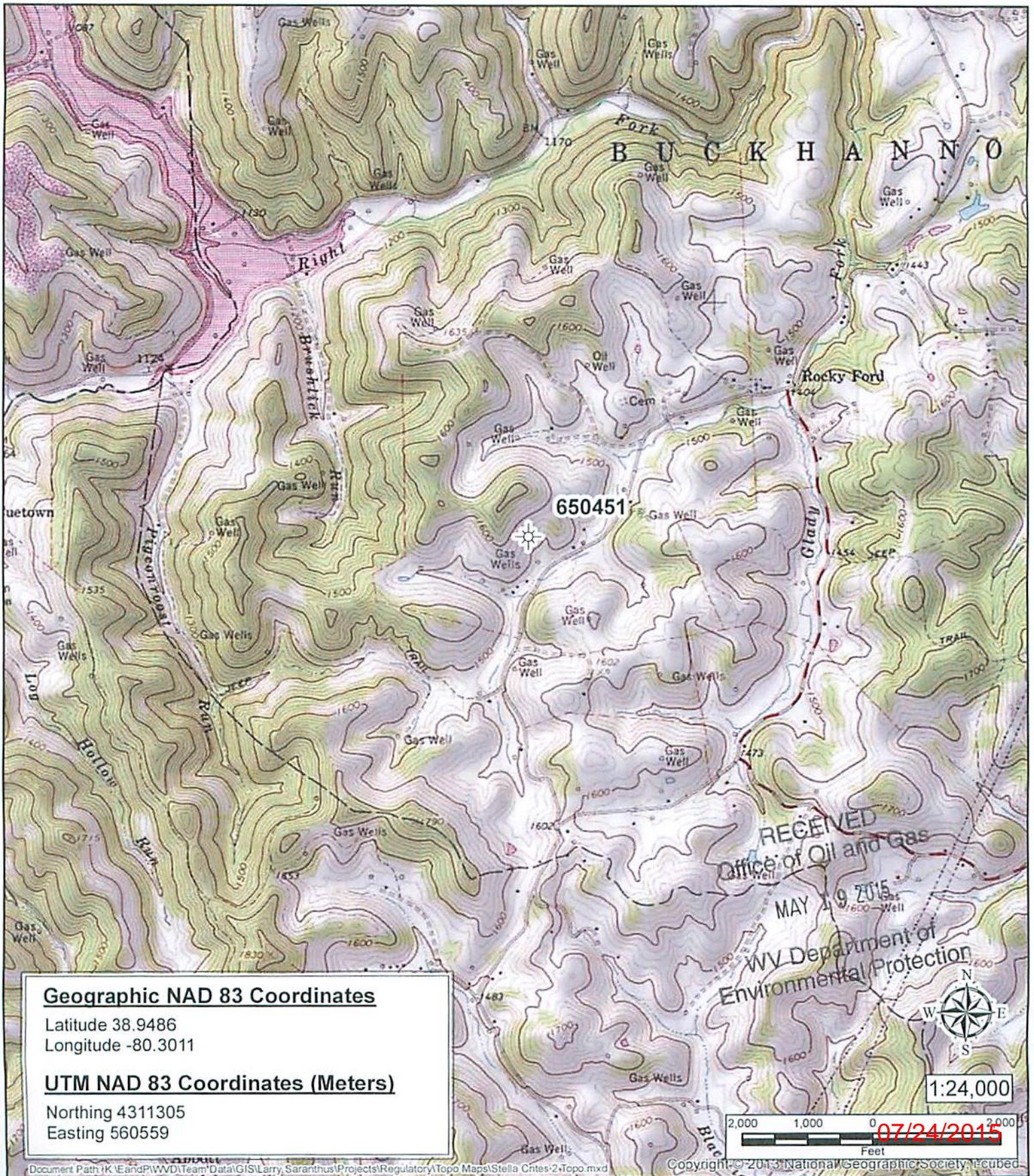
Field Reviewed? ( X ) Yes ( ) No

**Topographical Map of Well 650451 (Stella Crites #2)**

API = 47-097-00386

Field Office - Jane Lew

County - Upshur



**Geographic NAD 83 Coordinates**

Latitude 38.9486  
Longitude -80.3011

**UTM NAD 83 Coordinates (Meters)**

Northing 4311305  
Easting 560559

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1:24,000

2,000 1,000 0 2,000  
Feet  
07/24/2015

WW-7

8-30-06



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

API: 47-097-00386 WELL NO.: 650451

FARM NAME: Crites

RESPONSIBLE PARTY NAME: SWN Production Co., LLC

COUNTY: Upshur DISTRICT: Buckhannon

QUADRANGLE: *Adrian*

SURFACE OWNER: Steven & Cheryl Neely

ROYALTY OWNER: Joanne Lee Crites, Beth Lee, & Jennifer Ann Bennett Herring

UTM GPS NORTHING: 4311305

UTM GPS EASTING: 560559

GPS ELEVATION: 1519'

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 \_\_\_\_: Post Processed Differential \_\_\_\_  
Real-Time Differential \_\_\_\_

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 \_\_\_\_\_  
Date 4/23/15

*Regulatory Supervisor*  
Title \_\_\_\_\_

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