west virginia department of environmental protection

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

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

Monday, August 15, 2016
WELL WORK PERMIT
Horizontal 6A / Horizontal 6A Well - 1

SWN PRODUCTION COMPANY, LLC
POST OFFICE BOX 12359

SPRING, TX 773914954

Re: Permit approval for CONSTANCE TAYLOR WTZ 8H
47-103-03150-00-00

This well work permit 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 any additional specific 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.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin
Chief

Operator's Well Number: CONSTANCE TAYLOR WTZ 8H
Farm Name: TAYLOR, CONSTANCE A.
U.S. WELL NUMBER: 47-103-03150-00-00
Horizontal 6A / Horizontal 6A Well - 1
Date Issued: 8/15/2016

API Number: 103-03150

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) 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. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.

2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.

3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.

4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.

5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations,* 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.

6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.

7. In the event of an explosion, fire or other accident on or near a well or well work location, the well operator or its contractor shall give notice, stating the particulars of the event to the oil and gas inspector and the Chief, within 24 hours of said accident.

8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

9. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

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Chief

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Farm Name: TAYLOR, CONSTANCE A.
U.S. WELL NUMBER: 47-103-03150-00-00
Horizontal 6A / Horizontal 6A Well - 1
Date Issued: 8/15/2016

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WW-6B
(10/14)

API NO. 47- 103 - 03150
OPERATOR WELL NO. Constance Taylor WTZ 8H
Well Pad Name: Constance Taylor Pad

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: SWN Production Co., LLC	494512924	103-Wetzel	7-Proctor	681-Wileyville
	Operator ID	County	District	Quadrangle

2) Operator's Well Number: Constance Taylor WTZ 8H Well Pad Name: Constance Taylor Pad

3) Farm Name/Surface Owner: Constance A. Taylor Public Road Access: Brock Ridge Road

4) Elevation, current ground: 1426' Elevation, proposed post-construction: 1426'

5) Well Type (a) Gas X Oil _____ Underground Storage _____
Other _____
(b)If Gas Shallow X Deep _____
Horizontal X

DMH 8/3/16

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Target Formation- Marcellus, Target Top TVD-7360', Target Base TVD-7407', Anticipated Thickness- 47', Associated Pressure- 4500#

8) Proposed Total Vertical Depth: 7390'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 14,300'

11) Proposed Horizontal Leg Length: 6,910'

12) Approximate Fresh Water Strata Depths: 363'

13) Method to Determine Fresh Water Depths: Offset wells in the close proximity.

14) Approximate Saltwater Depths: 1282'

15) Approximate Coal Seam Depths: 1366'

16) Approximate Depth to Possible Void (coal mine, karst, other): None that we are aware of.

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No X

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

WW-6B
(10/14)

API NO. 47- 103 - 03150
OPERATOR WELL NO. Constance Taylor WTZ 6H
Well Pad Name: Constance Taylor Pad

18) CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	J-55	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	H-40	48#	463'	463'	430 sx/CTS
Coal	9 5/8"	New	J-55	40#	2872'	2872'	1107 sx/CTS
Intermediate	7"	New	P-110	20#	If Needed	If Needed	If Needed/As Needed
Production	5 1/2"	New	HCP-110	20#	14,300'	14,300'	Lead 1500 and 1340 and/or bulk as needed
Tubing	2 3/8"	New	P-110	4.7#	Approx. 7390'	Approx. 7390'	
Liners							

DMH 8/3/16

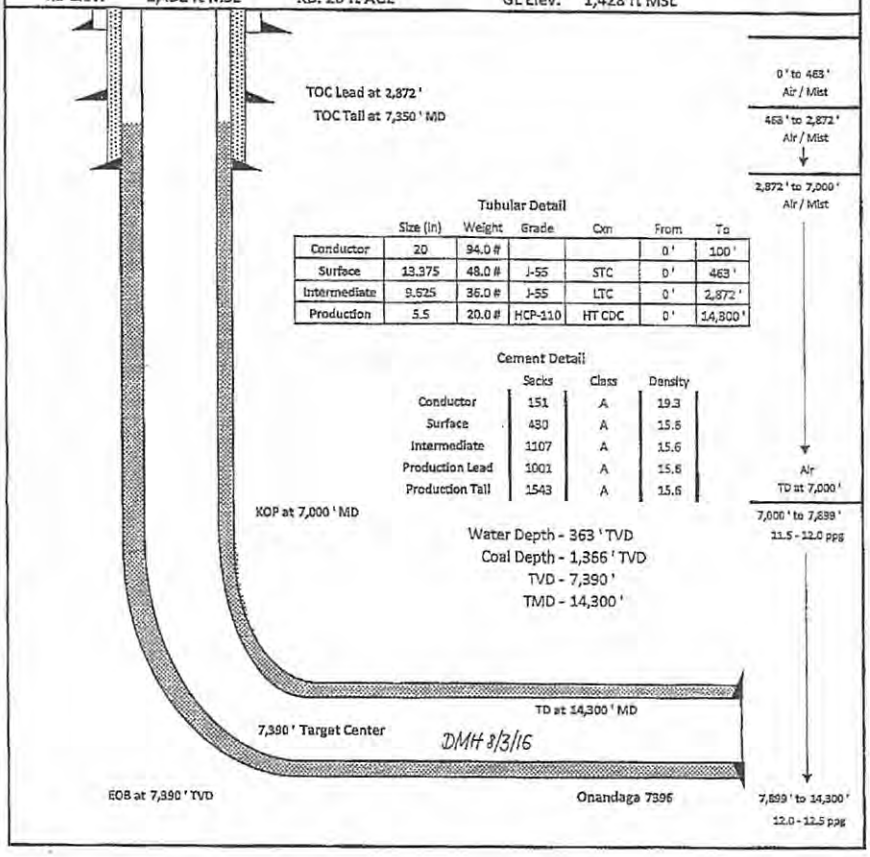
TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Max. Associated Surface Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	30"	0.25	2120	81	Class A	1.19/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	633	Class A	1.19/50% Excess
Coal	9 5/8"	12 1/4"	0.395	3950	1768	Class A	1.19/50% Excess
Intermediate	7"	8 3/4"	0.317	4360	3250	Class A	1.20/15% Excess
Production	5 1/2"	8 3/4"	0.361	12360	9500	Class A	1.20/15% Excess
Tubing	2 3/8"	4.778"	0.190				
Liners							

PACKERS

Kind:	10K Arrowset AS1-X			
Sizes:	5 1/2"			
Depths Set:				

103-03150

Southwestern Energy Company					Proposed Drilling Program	
Well:	CONSTANCE TAYLOR WTZ 8				Re-entry Rig:	SDC 46
Field:	VICTORY FIELD				Prospect:	VICTORY
County:	WETZEL				State:	WV
SHL:	39.6545	Latitude	-80.6792	Longitude		
BHL:	39.6400	Latitude	-80.6631	Longitude		
KB Elev:	1,452 ft MSL		KB: 26 ft AGL		GL Elev:	1,428 ft MSL



Tubular Detail

	Size (in)	Weight	Grade	Cxn	From	To
Conductor	20	94.0 #			0 '	100 '
Surface	13.375	48.0 #	J-55	STC	0 '	463 '
Intermediate	9.625	36.0 #	J-55	LTC	0 '	2,872 '
Production	5.5	20.0 #	HCP-110	HT CDC	0 '	14,300 '

Cement Detail

	Sacks	Class	Density
Conductor	151	A	19.3
Surface	480	A	15.6
Intermediate	1107	A	15.6
Production Lead	1001	A	15.6
Production Tail	1543	A	15.6

103-03150

Schlumberger Cement Additives

	Product Name	Product Use	Chemical Name	CAS Number
Surface	S001	accelerator	calcium chloride	10043-52-4
Intermediate	S001	accelerator	calcium chloride	10043-52-4
Kick Off Plug	D080	dispersant	sodium polynaphthalene sulfonate	9008-63-3
	D801	retarder	aromatic polymer derivative	propriatary
	D047	antifoam	polypropylene glycol	25322-69-4
Production-Lead	D167	fluid loss	aliphatic amide polymer	propriatary
	D154	extender	non-crystalline silica	7631-86-9
	D400	gas migration	boric acid	10043-35-3
	D046	antifoam	polypropylene glycol	25322-69-4
			fullers earth (attapulgite)	8031-18-3
	D201	retarder	chrystalline silica	14808-60-7
			metal oxide	propriatary
	D202	dispersant	sulphonated synthetic polymer	propriatary
			formaldehyde (impurity)	propriatary
Production-Tail	D046	antifoam	polypropylene glycol	25322-69-4
			fullers earth (attapulgite)	8031-18-3
	D167	fluid loss	aliphatic amide polymer	propriatary
	D065	dispersant	sodium polynaphthalene sulfonate	9008-63-3
			sodium sulfate	7757-82-6
	D201	retarder	chrystalline silica	14808-60-7
			metal oxide	propriatary
	D153	anti-settling	chrystalline silica	14808-60-7

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12-17-15

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JAN 27 2016
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WW-9
(9/13)

API Number 47 - 103 - 03150
Operator's Well No. Constance Taylor WTZ 8H

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name SWN Production Co., LLC OP Code 49447757

Watershed (HUC 10) Little Fishing Creek Quadrangle 681-Wileyville

Elevation 1426' County 103-Wetzel District 7-Proctor

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes ☑ No ☐

Will a pit be used? Yes ☐ No ☑

If so, please describe anticipated pit waste: closed loop system in place at this time- cuttings will be taken to a permitted landfill.

Will a synthetic liner be used in the pit? Yes ☐ No ☑ If so, what ml.?

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12-17-15

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 with the WR-34/DDMR &/or permit addendum.)
- ☐ Off Site Disposal (Supply form WW-9 for disposal location)
- ■ Other (Explain flow back fluids will be put in steel tanks and reused or taken to a permitted disposal facility.

Will closed loop system be used? If so, describe: Yes

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air and salt saturate mud

-If oil based, what type? Synthetic, petroleum, etc. Synthetic Oil Base

Additives to be used in drilling medium? see attached sheets

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. landfill

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust)

-Landfill or offsite name/permit number? meadow SWF- 1032, SS Grading SWF- 4902, Northwestern SWF- 1025, Short Creek 1034/WV0109517/CID28726, Carbon Limestone 28726/CID28726
Arden Landfill 10072, American 02-12954, Country Wide 38390/CID38390, Pine Grove 13688

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.

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Environmental Protection

Company Official Signature

Company Official (Typed Name) Dee Southall

Company Official Title Regulatory Supervisor

Subscribed and sworn before me this 2nd day of December, 20 15

Brittany R Woody Notary Public

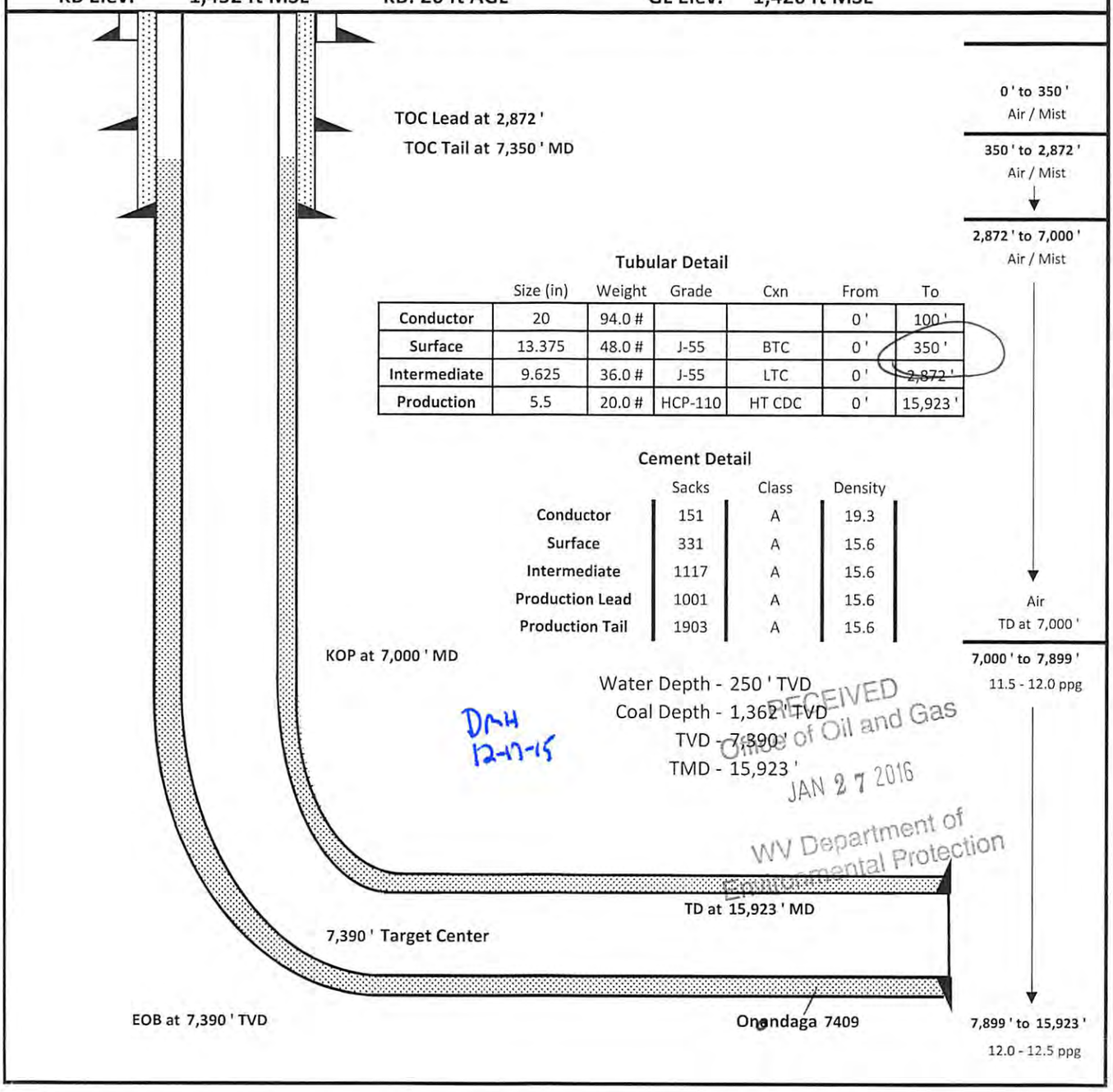
My commission expires 11/27/22

OFFICIAL SEAL
Notary Public, State of West
BRITTANY R WO
3302 Old Elkins Ro
Buckhannon, WV 26
My commission expires Novem

103-03150

Southwestern Energy Company	Proposed Drilling Program

Well:	CONSTANCE TAYLOR WTZ 8			Re-entry Rig:	0
Field:	VICTORY FIELD			Prospect:	VICTORY
County:	WETZEL			State:	WV
SHL:	39.6545	Latitude	-80.6792	Longitude	
BHL:	39.6370	Latitude	-80.6585	Longitude	
KB Elev:	1,452 ft MSL		KB: 26 ft AGL	GL Elev:	1,426 ft MSL



Tubular Detail

	Size (in)	Weight	Grade	Cxn	From	To
Conductor	20	94.0 #			0 '	100 '
Surface	13.375	48.0 #	J-55	BTC	0 '	350 '
Intermediate	9.625	36.0 #	J-55	LTC	0 '	2,872 '
Production	5.5	20.0 #	HCP-110	HT CDC	0 '	15,923 '

Cement Detail

	Sacks	Class	Density
Conductor	151	A	19.3
Surface	331	A	15.6
Intermediate	1117	A	15.6
Production Lead	1001	A	15.6
Production Tail	1903	A	15.6

Water Depth - 250 ' TVD
Coal Depth - 1,362 ' TVD
TVD - 7,390 '
TMD - 15,923 '

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Form WW-9

Operator's Well No. Constance Taylor WTZ 8H

SWN Production Co., LLC

Proposed Revegetation Treatment: Acres Disturbed 18.7 Prevegetation pH _____

Lime _____ (as determined by pH test min. 2) Tons/acre or to correct to pH _____

Fertilizer type 10-20-20

Fertilizer amount 600 lbs/acre

Mulch Hay/Straw 2.5 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
White Grove	15	White Grove	15
Red Top	15	Red Top	15
Orchard Grass	20	Orchard Grass	20

Attach:
Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [signature]

Comments: _____

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Title: Oil and Gas Inspector Date: 12-17-15

Field Reviewed? (X) Yes ( ) No

Marcellus Well Drilling Procedures
And Site Safety Plan

SWN Production Co., LLC

47 - 103 - 03150
Well name: Constance Taylor WTZ 8H
Wileyville, Quad
Proctor, District
Wetzel County, West Virginia

Submitted by:

Danielle Southall Date: 12-2-2015

Title Regulatory Supervisor SWN Production Co., LLC

Approved by:

Date: 12-17-15

Title: Oil + Gas Inspector

Approved by:

Date:

Title:

SWN Production Co., LLC – Confidential

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103-03150

1. Contacts, Schedules, and Meetings

A. SWN Production Company, LLC. 24 Hour Hotline: **1-877-879-0376**

B(a). Emergency Telephone Numbers:

Agency Type	Name	Phone Number	Cell
County Police	Wetzel County	911 or 304-234-3811	
State Police	Wetzel County	304-238-1100	
Ambulance Service	Wetzel County	911 or 304-227-4357	
Hospital	Wetzel County	304-234-0123	
Fire Department	Wetzel County	911 or 304-234-3651	
Wetzel County OEM	Wetzel County	304-455-6960	
Dicky Hall	Drilling Engineer Manager	832-796-7139	501-654-4161
Bill Igou	Drilling Superintendent	570-996-4272	501-269-2946
Danny Brooks	Drilling Superintendent	570-996-4298	
Peter Cain	HSE Field Specialist	281-217-4552	
Derek Cutright	Operations General Manager	281-618-7473	
Chris Flanagan	Production Field Manager	832-796-1626	
Michelle McCracken	Manager HSE	281-618-6284	304-522-1179
Derek Haught	WV Oil and Gas Inspector		304-806-7613
Joe McCourt	Inspector Supervisor		206-
James Martin	Chief	304-926-0499 x 1654	
OEM			
WV DEP	**Emergency Pollution and Spills**	**1-800-642-3074**	
Contractor's	**Company**	**Phone**	
Well Control Co's	Boots & Coots	1-800-256-9688	
	Halliburton	1-800-409-6479	
Earthwork/Equipment	Triple J Contractors	304-472-3962	
Remediation/Cleanup	Weaverton Environmental	724-746-4850	
Remediation/Cleanup	Ryan Environmental	304-842-5578	
Remediation/Cleanup	Central Environmental Services	304-863-8867	
Heavy Equipment	Kanawha Stone	304-755-8271	
Heavy Equipment/Rouster	Arvilla Pipeline	304-665-2652	
Heavy Equipment	Hoy Contracting	724-627-0272	
Cleanup Supplies	McJunkin Supply	304-472-3565	

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B(b). All Schools and Public Facilities within 1 Mile Radius:

Name:	Address:	Phone:
Higgins Chapel (Historical)	**Wiley Fork- Long Drain Road Pine Grove, WV 26419**	**Weztel Historical Society 1-800-416-3497**
Williams Valley School (Historical)	**1925 Rush Run Road New Martinsville, WV 26155**	**Weztel Historical Society 1-800-416-3497**

C. A formal pre-spud meeting will be held prior to this well being drilled. Discussions between the drilling rig toolpusher and SWN representatives will be held weekly regarding general safety and environmental issues.

Drilling Superintendents: Charlie Amato 501-358-1583
Danny Brooks 501-269-2946
Rick Harless 304-644-9129
Bill Igou 501-654-4161

1. Inspector: Derek Haught

2. Personnel in attendance for pre-spud meeting:

   Drilling
   Land
   Regulatory
   Coal
   Geology
   Field

D. HSE meetings will be conducted once per tour and will include all personnel working on location. HSE meetings will cover upcoming operations, JSAs for critical operations, recent HSE incidents, and requirements for safe and healthy operations during current weather conditions. Corporate HSE alerts and rig fleet corrective actions in response to recent HSE incidents will also be discussed when applicable.

1. The highest ranking drilling contractor representative present shall keep an accurate count of all drilling personnel on the drilling location at all times. All non-drilling (i.e., non-SWN and non-drilling contractor) personnel will be required to sign the attached ACCESS CONTROL REPORT (see attachment #1). All non-essential persons will be kept off the drilling location at all times, and such access will be enforced by the highest ranking drilling contractor representative present.

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Attachment #2

ACCESS CONTROL REPORT
Well Name: Constance Taylor WTZ 8H

DATE	NAME	TIME IN	TIME OUT

2. Maps and Diagrams

A. Plan View Map--See Attachment #3

B. 1 Mile Map-- See Attachment #4

C. Evacuation Plan--See Attachment #5

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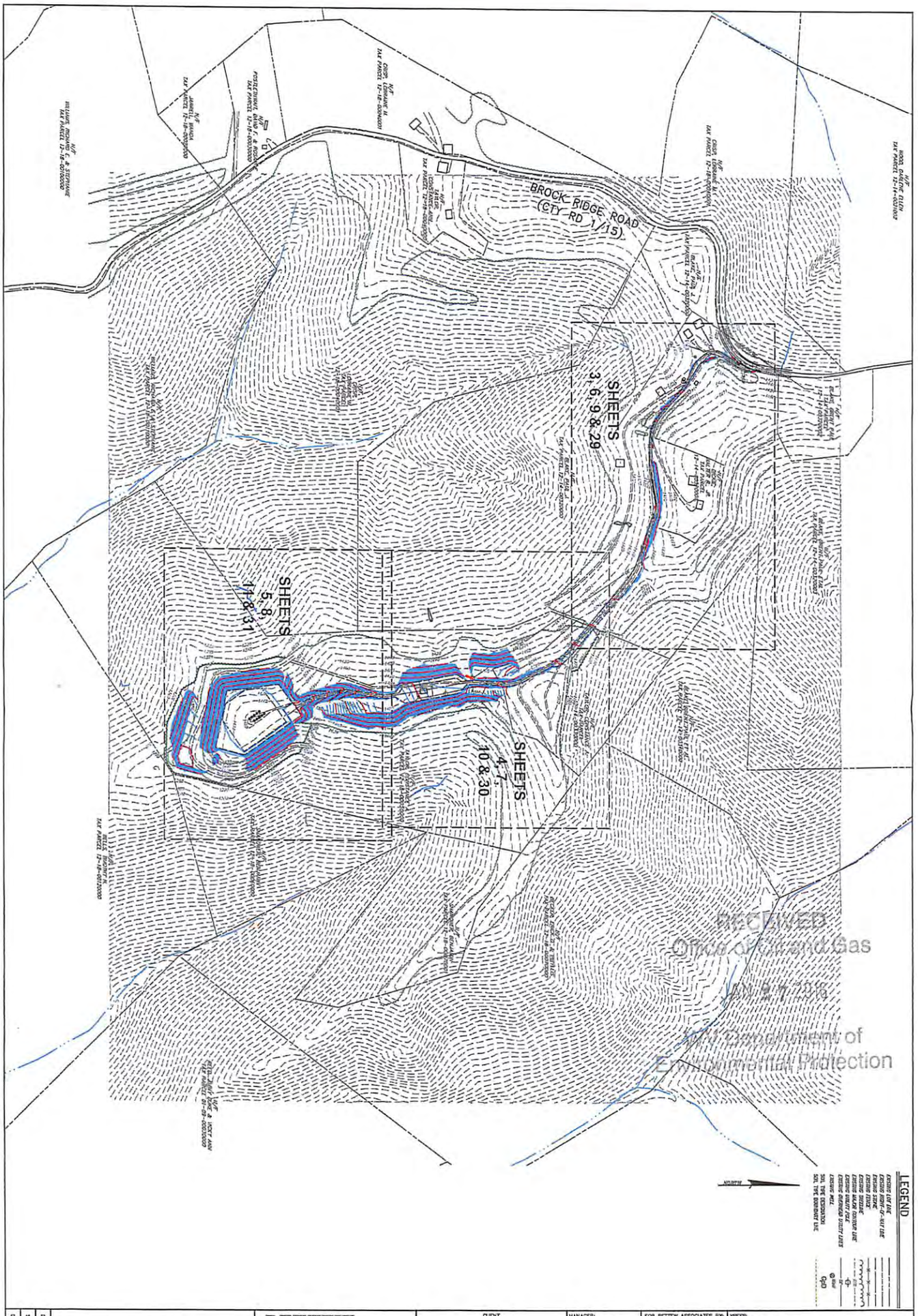
3. Well Work

A. Well Work and Procedures

103-03150

Attachment #3



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WV Department of
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OVERALL SITE PLAN
FOR
CONSTANCE TAYLOR
WTZ PAD

PROCTOR DISTRICT WETZEL COUNTY, WV

DATE: 12/16/2015
SHEET NO. 2 OF 36
DWG. NO. 087569006

RETTEW

RETTEW Associates, Inc.
One Robinson Plaza, 6600 Steubenville Pike, Suite 200
Pittsburgh, PA 15205
Phone (412) 446-1728 • Fax (412) 446-1733
Email: rettew@rettew.com
Website: www.rettew.com
Engineers • Planners • Surveyors • Landscape Architects
Environmental Consultants

CLIENT
SWN PRODUCTION CO., LLC
PO BOX 1300
JANE LEW, WV 26378
(832) 796-1610

SCALE
1"=200'
0' 100' 200' 400' 600'

MANAGER: PGD
DESIGN BY: MEB
CHKD BY: PGD
DRAWN BY: MEB
CHKD BY: PGD
SURV. CHIEF:
FIELDBOOK NO.
DATA COLLECTION

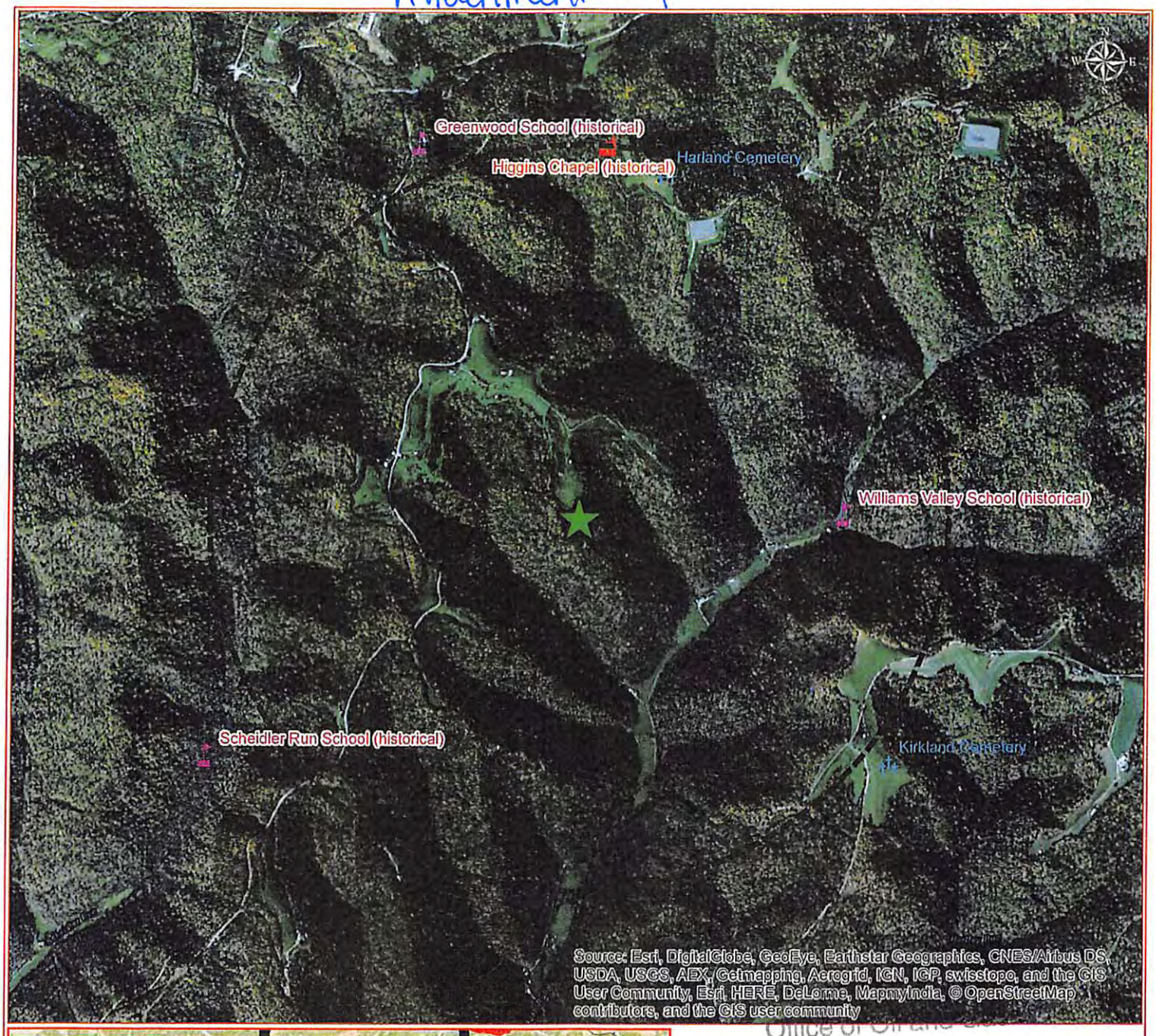
FOR RETTEW ASSOCIATES BY:

XREFS:
087569006_30-22x34
087569006_PM-Legend
087569006_SV-BASE
087569006_LD-BASE
087569006_TD
087569006_TD-Access
087569006_TD-22x34-Grid-Exhibit

NO.	DATE	REVISION

Attachment #4

103-03150



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JAN 27 2016
WV Department of Environmental Protection

Legend

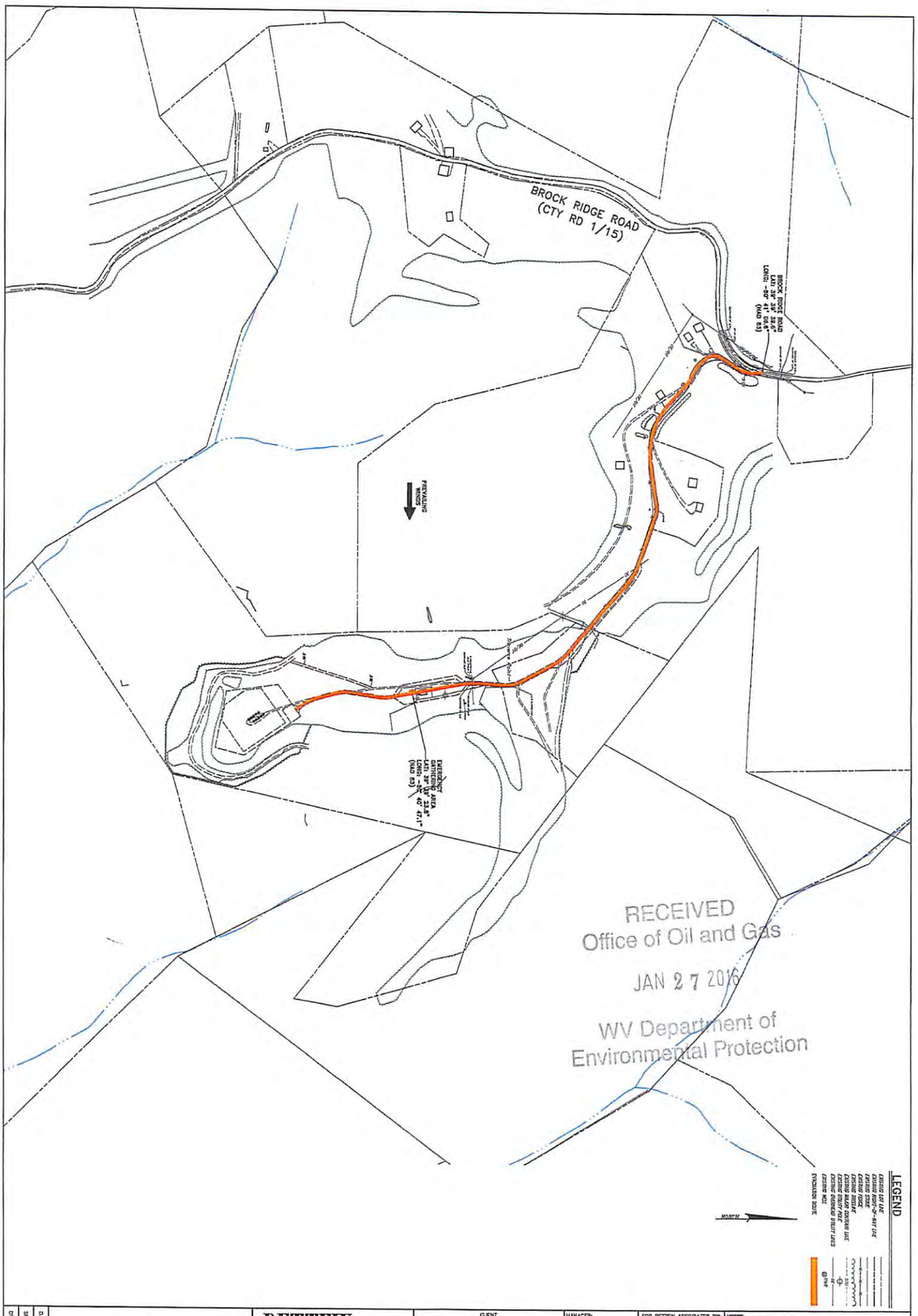
- Constance_Taylor_Pad
- Taylor_Pad_1_Mile_Buffer
- sde.GISPUB.bmp_Cemeteries
- sde.GISPUB.bmp_Churches
- sde.GISPUB.bmp_Schools

Constance Taylor -1 Mile
Wetzel County, West Virginia

Coordinate System: NAD 1983 StatePlane West Virginia North FIPS 4701 Feet

103-03150

Attachment #5



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EVACUATION ROUTE PLAN
FOR
CONSTANCE TAYLOR
WTZ PAD

PROCTOR DISTRICT WETZEL COUNTY, WV

DATE: 12/16/2015
SHEET NO. 32 OF 36
DWG. NO. 087569006

RETTEW

RETTEW Associates, Inc.
One Robinson Plaza, 6600 Steubenville Pike, Suite 200
Pittsburgh, PA 15205
Phone (412) 446-1728 • Fax (412) 446-1733
Email: rettew@rettew.com
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Engineers • Planners • Surveyors • Landscape Architects
Environmental Consultants

CLIENT
SWN PRODUCTION CO., LLC
PO BOX 1300
JANE LEW, WV 26378
(832) 796-1610

SCALE
1"=200'
0' 100' 200' 400' 600'

MANAGER: PGD
DESIGN BY: MEB
CHKD BY: PGD
DRAWN BY: MEB
CHKD BY: PGD
SURV. CHIEF:
FIELDBOOK NO.
DATA COLLECTOR

FOR RETTEW ASSOCIATES BY:

NO. DATE REVISION

1. -Well Work Detail: Drill and stimulate the Marcellus formation. If we should encounter a void, place a basket above and below the void area – balance cement to bottom of void and grout from basket to surface. Run casing not less than 50' below void nor more than 100' below void. If freshwater is encountered deeper than anticipated it must be protected, set casing at least 50' below but not more than 100' below freshwater and cts.

2. -All casing cemented will not be disturbed for at least 8 hours after cementing operations.

3. -Surface, Coal, and Intermediate strings will be pressure tested at a pressure 20% greater than what is expected to be exerted on each string throughout the remainder of the well operations.

4. -No oil or gas production or pressure should exist on the surface or coal protection strings.

5. -A Formation Integrity Test (FIT) will be performed immediately following the drill out of intermediate casing.

6. -Centralizers will be used in the well. However, the placement of the centralizers will be contingent on the final well log and directional data.

7. -Production casing will be pressure tested at a pressure 20% greater than what is expected to be exerted upon it during fracturing operations. Upon completion of fracturing operations the production casing will be pressure tested at a pressure 20% greater than expected shut in pressure.

8. -Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This will be performed in stages with the plug and perf method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. The well is produced through surface facilities consisting of high pressure production units, vertical separation units, water and oil storage tanks.

9. See Attachment #1

B. A copy of the Site Safety Plan will be provided to the local county emergency office at least 7 days before dirt work or well work commences

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4. Chemical Inventory & MSDS

A. MSDS- please refer to CD

B. MSDS sheets will be available in the tool- pusher's office.
C. Please see below:

Schlumberger Cement Additives

	Product Name	Product Use	Chemical Name	CAS Number
Surface	S001	accelerator	calcium chloride	10043-52-4
Intermediate	S001	accelerator	calcium chloride	10043-52-4
Kick Off Plug	D080	dispersant	sodium polynaphthalene sulfonate	9008-63-3
	D801	retarder	aromatic polymer derivative	propriatary
	D047	antifoam	polypropylene glycol	25322-69-4
Production-Lead	D167	fluid loss	aliphatic amide polymer	propriatary
	D154	extender	non-crystalline silica	7631-86-9
	D400	gas migration	boric acid	10043-35-3
	D046	antifoam	polypropylene glycol	25322-69-4
			fullers earth (attapulgite)	8031-18-3
	D201	retarder	chrystalline silica	14808-60-7
			metal oxide	propriatary
	D202	dispersant	sulphonated synthetic polymer	propriatary
			formaldehyde (impurity)	propriatary
Production-Tail	D046	antifoam	polypropylene glycol	25322-69-4
			fullers earth (attapulgite)	8031-18-3
	D167	fluid loss	aliphatic amide polymer	propriatary
	D065	dispersant	sodium polynaphthalene sulfonate	9008-63-3
			sodium sulfate	7757-82-6
	D201	retarder	chrystalline silica	14808-60-7
			metal oxide	propriatary
	D153	anti-settling	chrystalline silica	14808-60-7

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5. BOP and Well Control

A. The following is a list of the blow-out prevention equipment that will be utilized at various times during the drilling of the well:

13-3/8" Casing String

13- 5/8" Annular 13-5/8"
10,000 psi BOP Stack

B. The BOP stack will be pressure upon installation and every 21 days. The BOP stack will be function tested upon installation, weekly, and after every bit trip. All pressure tests shall be performed for thirty (30) minutes. Annular preventers should be tested to seventy percent (70%) of the rated capacity and ram preventers should be tested to eighty percent (80%) of the rated capacity.

C. BOP equipment:

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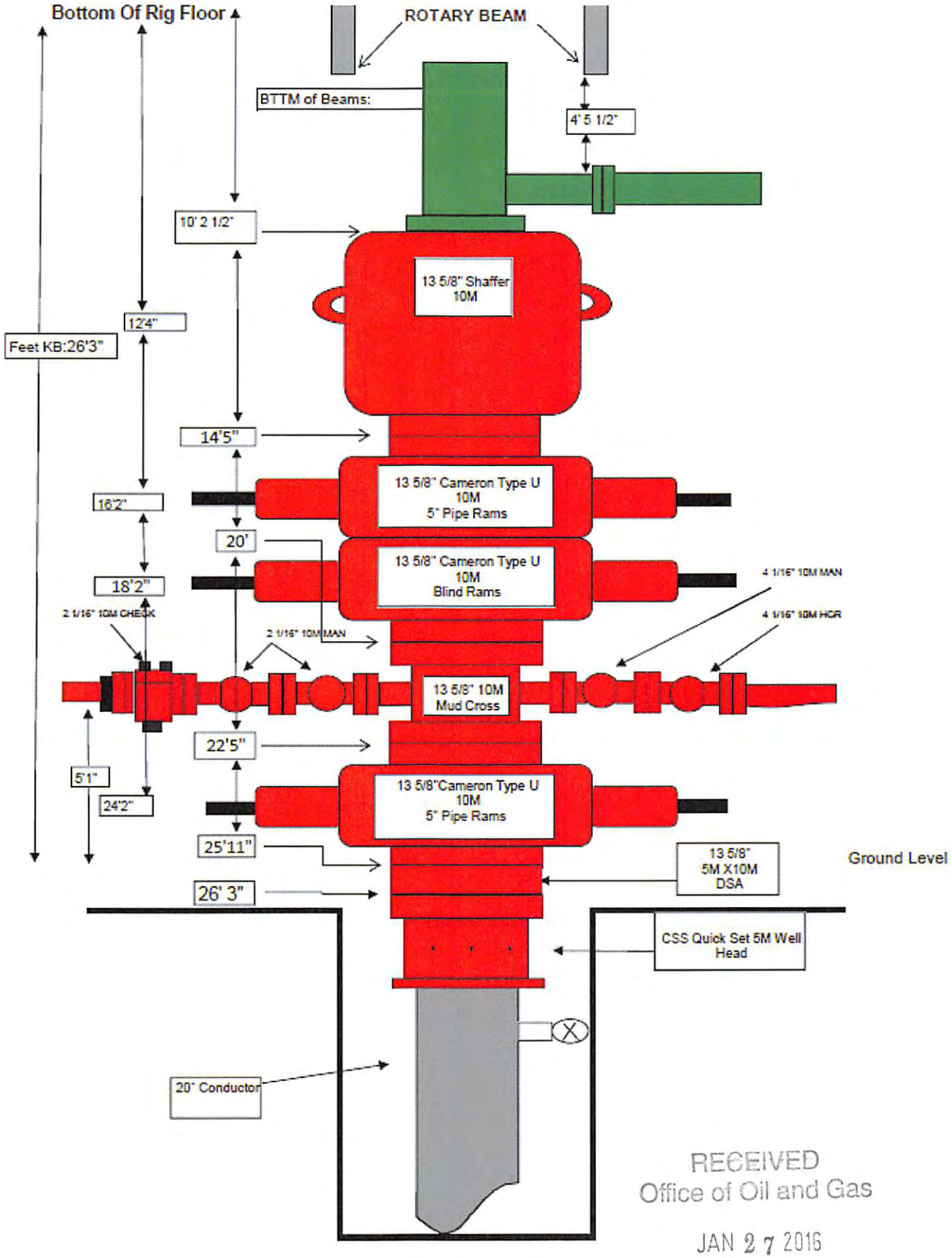

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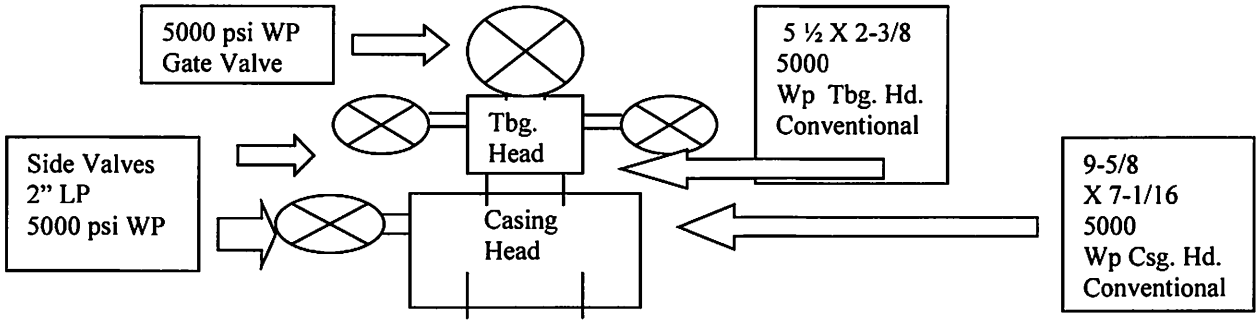
103-03150

D. The following persons that will be involved in the drilling operations are BOP certified:

Rig Toolpusher
Rig Morning Tour Driller
Rig Evening Tour Driller

E-G. See diagram below:



H. Well Killing Operations Method and Type

1. Barite and saturated brine will be available if necessary to weight up beyond the proposed compositions.

2. Once it is confirmed that a significant gas flow has occurred, the appropriate kill procedure will be employed. The mud weight required to kill the well will be calculated and the surface mud system density will be increased to the required weight. A pumping schedule to circulate the kick out of the well will be calculated and followed once the surface mud system is of proper density.

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6. Hydrogen Sulfide (H2S)

When the risk of exposure to H2S exists based on offset wells drilled in the same formation, H2S monitoring equipment will be installed at the rig floor, shakers, cellar, and pits. If an alarm is presented from any of the sensors, drill operations will cease and all personnel will gather at the appropriate muster area. Properly trained and equipped personnel will determine the validity of the alarm. If the presence of H2S is confirmed, Southwestern Energy's H2S Contingency plan will be activated. A copy of this plan is available upon request and details the equipment, training, and procedures required for operation in an H2S environment.

After the contingency plan is activated the following procedures will be implemented:

A. In addition to the H2S monitoring equipment mentioned above, two safety area signs, one H2S condition sign and two wind socks will be mobilized to location.

B. Training programs covering the topics below will be initiated:

1. Basic awareness training (either video or booklet review) will occur on-site and may require two trips in order to train all rig crew members.
2. Each crew member will be given certification test to verify his competence to respond in an H2S situation.
3. Physically show members how to properly don a mask and perform a qualitative fit test (banana oil) if utilizing a tight fitting mask as an escape unit.
4. Identify and discuss the location of escape units, SCBA's and location of H2S monitors and sensors.

C. In the unlikely event that hydrogen sulfide would be present, all affected residents and agencies would be notified by telephone or in person by a SWN Production Company, LLC representative, and access would be controlled by a sign, color coded flags and a sign-in sheet. The Oil and Gas Inspector of the appropriate county will be contacted by phone.

D. In case of an emergency on the drilling site, all persons on location will exit via the access road and meet at the evacuation meeting area designated on the attached EVACUATION PLAN. The highest ranking drilling contractor representative will be responsible for comparing the persons that were present on location to those persons gathered at the designated evacuation meeting area. Protection Zones will be established while drilling that will be located at the predetermined muster points furthest upwind of the location of the H2S.

E. PPE Available

1. (10) 5 – minute escape packs will be installed on the rig floor for a quick escape.
2. (1) 10 – minute escape pack will be installed on the board.
3. (4) 30 – minutes SCBA's will be on-site. Two SCBA's will be placed at the entrance to the location (Muster Point #1) and the other two placed at Muster Point #2 on the other side of the location. This will allow either equipment to be in area that is upwind.

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7. Flaring

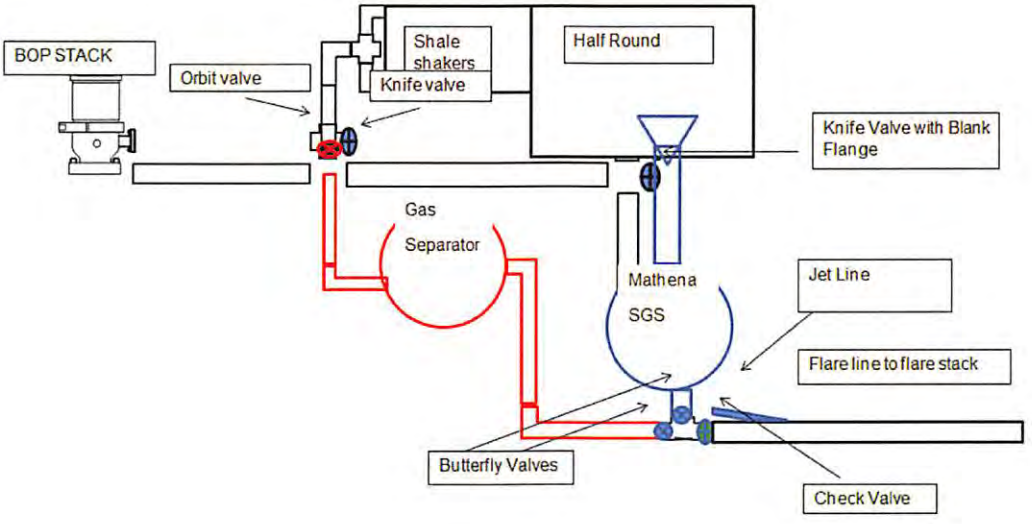
A. Well Flaring

1. If a significant show is encountered the gas would be flared through the 10" flanged flowline to a flare stack.

2. The fire department will be notified immediately prior to flaring if possible.

3. The duration of flaring typically should not last more than 10 days.

6. Schematic:



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8. Collision Avoidance

Wellbore Anti-Collision and Directional Surveying

1. Survey Requirements

a. All wells shall be surveyed from the wellhead to a total depth using the guidelines specified in this document.

b. Survey tool selection shall be based on the anti-collision requirements, survey tool accuracy, target size, and depth.

c. SWN preferred method of survey calculations shall be the Minimum Radius of Curvature method.

d. All survey data shall be required to have azimuths pre-corrected to Grid North. The values for convergence and declinations and depth datum details used shall be reported on all definitive surveys. Additionally, survey tool accuracy should be specified on all surveys presented to SWN.

e. During collision scans all offset well surveys will be evaluated for accuracy.

1.1 General Requirements

In all development wells, regularly spaced MWD or Magnetic Single Shot Surveys shall be taken at a frequency not to exceed 300'. Additional surveys may be taken at the discretion of the directional driller, Drilling Representative, Drilling Superintendent, or Drilling Engineer to ensure accuracy and minimize the potential for collision.

1.2 Survey Quality Control and Reporting

1.2.1 Deviation calculations shall be performed on the rig by the directional driller and independently verified by Southwestern's 24-hour operations support center. The calculations shall be performed using a company approved program. The directional drilling contractor is responsible for the accurate reporting of all wellbore positioning data. The directional drilling contractor will present the definitive surveys utilizing data from any of SWN's surveying contractors.

1.2.2 The SWN representative will check tie-in data before drilling out of each hole section. Projected surveys will never be used to tie-in subsequent surveys.

1.2.3 The Drilling Engineer and directional drilling contractor will ensure all directional drilling proposals include the

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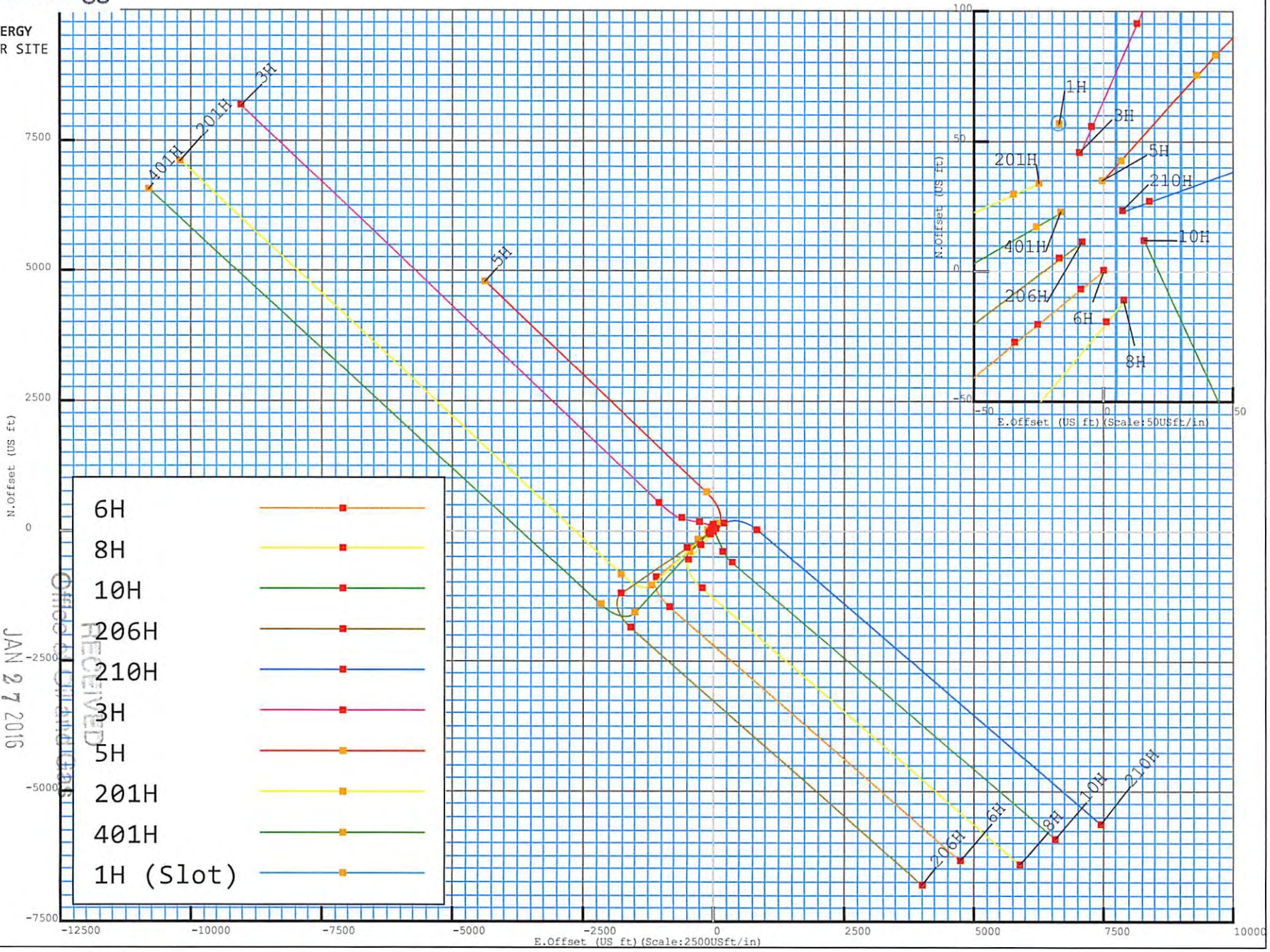
swn
Southwestern Energy®

Weatherford®

SOUTHWESTERN ENERGY
CONSTANCE TAYLOR SITE
WETZEL CO, WV
SPIDER PLOT



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correct tie-in data and clearly identify the projection to which the plan is tied. This projection will be replaced with a survey once drilling commences.

2. Well Planning Requirements

2.1.1 No two wellbores should be designed to be closer than 10' once drilling commences. In the event that two surface locations are closer than 10' apart then directional equipment will be required below conductor and greater than 10' of separation shall be achieved as soon as possible.

2.1.2 During the well planning process a clearance scan will be performed and validated. The Directional Drilling Contractor and the Drilling Engineer shall calculate a Separation Factor for all potential collision risk wells identified in the clearance scan.

2.1.3 All wells planned with a S.F. of less than 1.5 or at any point closer than 10' planned center to center separation will be reviewed with the Drilling Engineering Manager prior to pre-spud meetings.

2.1.4 After completion of location and prior to setting the conductor the land survey company will resurvey the stakes for each surface location and drive a steel stake in the ground identifying each individual well. An as-built will be created and circulated to the Drilling Engineer and Drilling Superintendent identifying each well and the appropriate X and Y locations.

3. Well Execution Requirements

3.1 General Requirements

The Drilling Representative shall have overall responsibility for the maintenance of safe operations when drilling in close proximity to other wells. The lead directional driller is responsible for the accurate reporting of the wellbore positioning and projection and calculation of bit position and uncertainty at the bit.

3.2 Drilling and Survey Procedure Guidelines

The following guidelines and procedures detail the typical responses to be enacted in the event of drilling with close proximity to existing wells.

Latitude: 39°40'00" ← 3,518' →

BHL Latitude 39°40'00"

10,677'

RETTEW

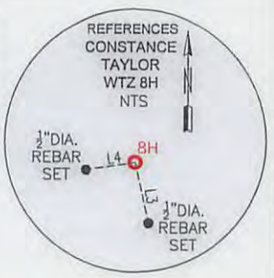
RETTEW Associates, Inc.
27 Travato Street, Suite 101
Bridgeport, WV 26330
Phone (800) 738-8395
Email: rettew@rettew.com
Website: www.rettew.com

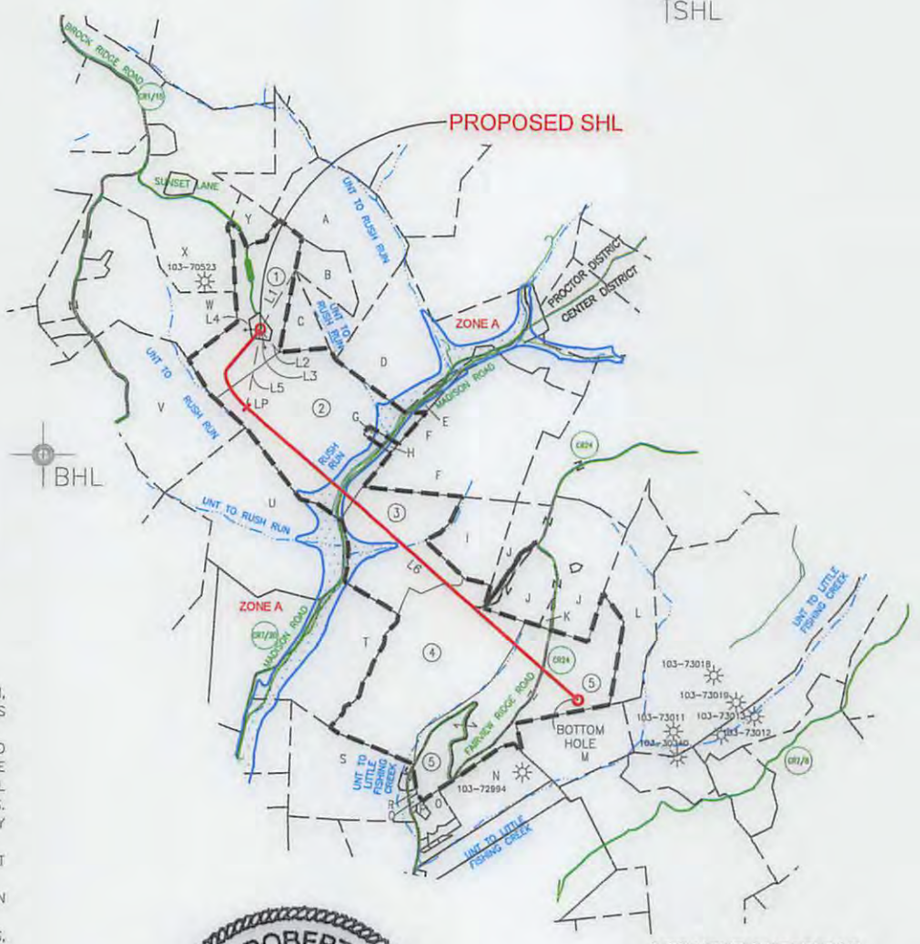
GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,389,463.294 EASTING: 527,518.940
LANDING POINT LOCATION (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,389,125.691 EASTING: 527,457.702
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,387,860.830 EASTING: 528,910.727

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 31°07'24" E	973.31'	SHL TO LANDMARK	1/2"ø REBAR/CAP
L2	S 37°16'22" E	439.43'	SHL TO LANDMARK	
L3	S 14°58'11" E	263.12'	SHL TO REF. PNT.	1/2"ø REBAR/CAP
L4	S 87°09'51" W	219.51'	SHL TO REF. PNT.	1/2"ø REBAR/CAP
L5	S 10°16'52" W	1125.69'	SHL TO LP	
L6	S 48°57'37" E	6320.32'	LP TO BHL	

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
1	CONSTANCE A. TAYLOR	12-18-00050000	43.50±
2	TIMOTHY N. WELLS	12-18-00120000	78.09±
3	JIMMY DUKE REED	12-18-00190000	60.00±
4	PATRICK L. MORRIS	01-13-00070000	88.50±
5	PATRICK L. MORRIS	01-13-00080000	70.00±





9,737'

BHL Longitude: 80°37'30"

4,433'

Longitude: 80°40'00"

SEE NEXT SHEET FOR
ADJOINING OWNER INFORMATION

2500 0 2500

GRAPHIC SCALE IN FEET

NOTES ON SURVEY

1. COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
2. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND FIELD LOCATIONS.
3. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
4. NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED OF CENTER OF PAD.
5. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
6. NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
7. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Craig R West 2241

CRAIG ROBERT WEST
LICENSED
No. 2241
STATE OF
WEST VIRGINIA
PROFESSIONAL SURVEYOR

COMPANY:
SWN Production Company, LLC
SWN Production Company™

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)

CONSTANCE TAYLOR WTZ

OPERATOR'S WELL #: 8H

API WELL #: 47 (STATE) 103 (COUNTY) 03150 (PERMIT) HGA

WELL TYPE: OIL ☐ WASTE DISPOSAL ☐ PRODUCTION ☐ DEEP ☐ GAS ☒ LIQUID INJECTION ☐ STORAGE ☐ SHALLOW ☒

WATERSHED: LITTLE FISHING CREEK ELEVATION: ±1,428.3 (DESIGN)

DISTRICT: PROCTOR DISTRICT COUNTY: WETZEL QUADRANGLE: WILEYVILLE, WV

SURFACE OWNER: CONSTANCE A. TAYLOR ACREAGE: ±43.50

OIL & GAS ROYALTY OWNER: CONSTANCE A. TAYLOR ACREAGE: ±43.50

DRILL ☒ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☒ PLUG OFF OLD FORMATION ☐ PERFORATE NEW FORMATION ☐

CONVERT ☐ PLUG & ABANDON ☐ CLEAN OUT & REPLUG ☐ OTHER CHANGE ☐ (SPECIFY)

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,390' TVD 14,219' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC
ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378

DESIGNATED AGENT: DEE SOUTHALL
ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378

LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- ABANDONED WELL
- PLUGGED & ABANDONED WELL
- CUT CONDUCTOR
- (S) EXISTING SPRING
- (W) EXISTING WATER WELL
- TIE LINE
- LEASE BOUNDARY
- MARCELLUS DHP
- ABANDONED PATH

REVISIONS:	DATE: 03-23-2016
03-21-16 : LATERAL SHORTEN – BHL MOVED	
	DRAWN BY: B. HERMAN
	SCALE: 1" = 2500'
	DRAWING NO:087569006
	WELL LOCATION PLAT

C:_RETTEWVAULTWIP\087569006-SWN CONSTANCE TAYLOR WTZ PAD\SHEETS\SV\PLAT\087569006-8H WELL PLAT.DWG
WEDNESDAY MARCH 23 2016 11:49AM

PROPERTY NUMBER 2501161754
PAD ID 3001161675

103-03150 H6A

RETTEW Associates, Inc.
27 Travato Street, Suite 101
Bridgeport, WV 26330
Phone (800) 738-8395
Email: rettew@rettew.com
Website: www.rettew.com

ADJOINING OWNERS

TRACT	SURFACE OWNERS	TAX PARCEL	ACRES
A	BENJAMIN SHANOWER	12-18-00070001	10.37±
B	ERICK D. & PHYLLIS BECKER	12-18-00070000	57.13
C	BENJAMIN SHANOWER	12-18-00060000	10.00±
D	JIMMY DUKE & VICKY ANN REED	01-09-00030000	46.70±
E	MILLARD R. RIGGS SR & A. R. HRS. F. BERRY SR	01-09-00080000	5.00±
F	KEVIN GOFF & MILLARD F. RIGGS SR	01-09-00090000	78.2±
G	STEVE & ROBERT TORMAN	12-18-00120001	1.11±
H	PENNY LYNN DAY	12-18-00120002	0.80±
I	BOBBY J. & DEBORAH G. DORTON	12-18-00200000	14.37±
J	BOBBY J. & DEBORAH G. DORTON	01-13-00010000	63.50±
K	BESSIE ADAMS & CALVERT OSGAY	01-13-00020000	0.89±
L	PATRICK L. MORRIS	01-13-00040000	32.00±
M	WILLIAM N. & LUCY L. PHILLIPS	01-13-00140001	30.00±
N	PHILLIP JAY MORRIS	01-13-00130000	22.61±
O	TERRY A. & CATHLENE L. PHILLIPS	01-13-00220000	2.96±
P	WILLIAM N. PHILLIPS,	01-13-00220001	0.83±
Q	WM. & LUCY L. PHILLIPS	01-13-00120001	0.94±
R	LLOYD W. & HELEN M. WILSON	01-13-00120002	0.61±
S	STANLEY D. & HILDA G. SMITH	01-13-00120000	49.05±
T	FLOYD D. MELOTT	01-13-00060000	90.50±
U	TIMOTHY N. WELLS	12-18-00180000	85.00±
V	RICHARD E. & STEPHANIE WILLIAMS	12-18-00110000	64.00±
W	LORRAINE M. CRISP	12-18-00040001	90.07±
X	PAUL BRENT BLAKE, ETAL	12-14-00320003	85.96±
Y	CONSTANCE A. TAYLOR	12-14-00330000	6.25±

REVISIONS:
03-21-16 : LATERAL SHORTEN - BHL MOVED

COMPANY: SWN Production Company, LLC / SWN Production Company™

OPERATOR'S WELL #: CONSTANCE TAYLOR WTZ 8H

LOCATION: PROCTOR DISTRICT, WETZEL COUNTY, WEST VIRGINIA

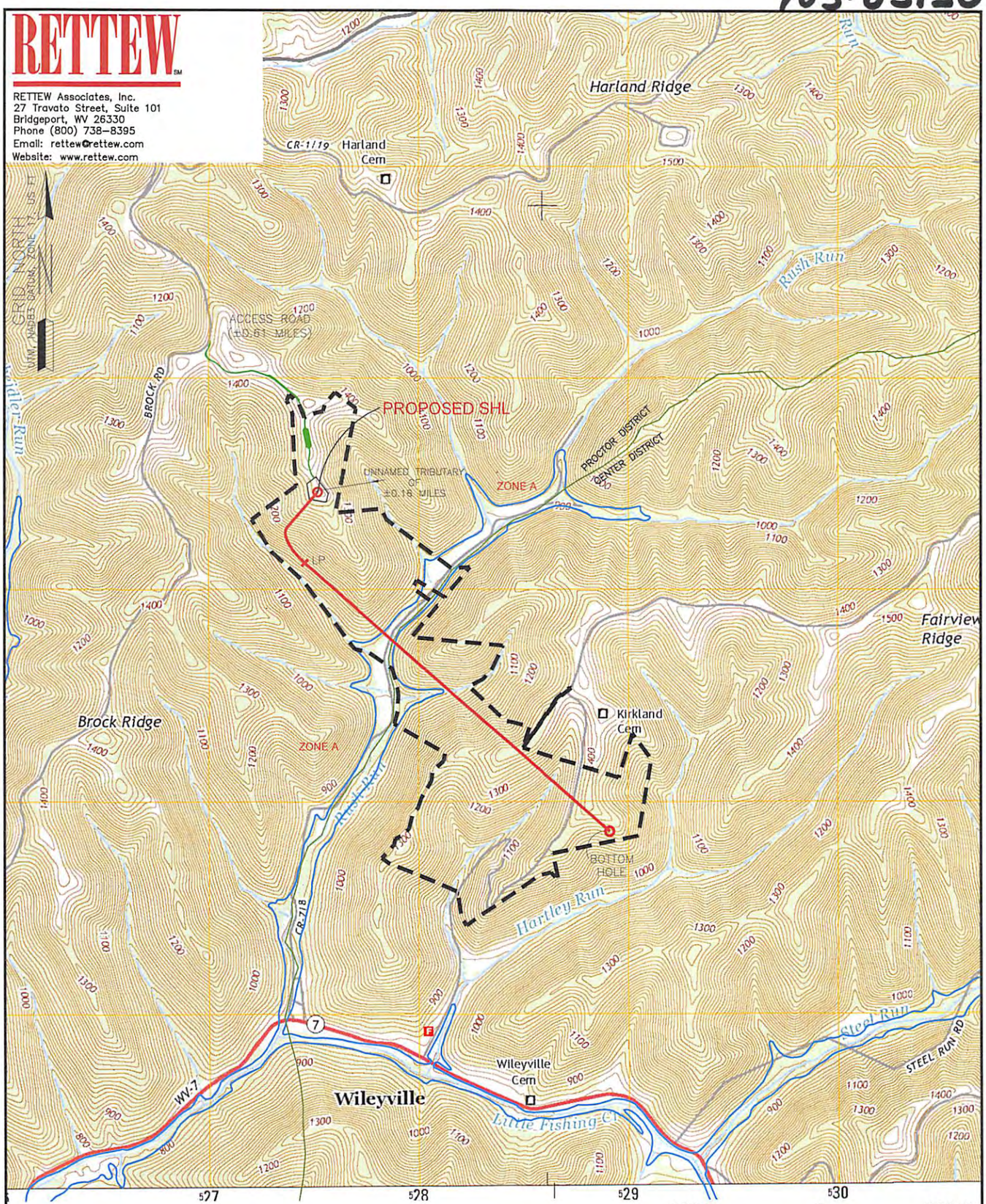
DATE: 03-23-2016
DRAWN BY: B. HERMAN
SCALE: N/A
DRAWING NO:087569006
ADJOINING OWNERS

C:_RETTEW\VAULTWIP\087569006-SWN CONSTANCE TAYLOR WTZ PAD\SHEETS\SV\PLAT\087569006-8H WELL PLAT.DWG
WEDNESDAY MARCH 23 2016 12:02PM

PROPERTY NUMBER 2501161754
PAD ID 3001161675

103-03150

RETTEW
RETTEW Associates, Inc.
27 Travato Street, Suite 101
Bridgeport, WV 26330
Phone (800) 738-8395
Email: rettew@rettew.com
Website: www.rettew.com



WELL: CONSTANCE TAYLOR WTZ, 8H
QUAD: WILEYVILLE, WV

NAME AND DISTANCE TO THE NEAREST STREAM:	STREAM CROSSING COORDINATES (NAD 83):
UN-NAMED TRIBUTARY TO RUSH RUN IS LOCATED ±0.16 MILES EAST OF THE CENTER OF THE DRILL PAD.	NO NEW CROSSINGS.

WELL RESTRICTIONS:

WELL PAD, LOD, & E & S CONTROL FEATURES TO PERENNIAL STREAM, LAKE, POND, RESERVOIR OR WETLAND: >100 FEET
WELL PAD, LOD, & E & S CONTROL FEATURES TO NATURALLY PRODUCING TROUT STREAM: >300 FEET
WELL PAD, LOD, & E & S CONTROL FEATURES TO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY: >1000 FEET
WELL SHL TO EXISTING WATER WELL OR DEVELOPED SPRING: >250 FEET
CENTER OF PAD TO OCCUPIED DWELLING STRUCTURE: >625 FEET
CENTER OF PAD TO AGRICULTURAL BUILDINGS LAGER THAN 2500 SQ FT: >625 FEET

FEMA FLOOD INFORMATION:

BY GRAPHIC PLOTTING ONLY FEMA FIRM INCORPORATED AREA OF WETZEL COUNTY, WEST VIRGINIA; MAP NUMBER 54103C0075C; EFFECTIVE DATE: SEPTEMBER 25, 2009.

FLOOD ZONE A IS SITUATED WITHIN THE UNIT.

COMPANY: SWN Production Company, LLC — SWN Production Company™

OPERATOR'S WELL #: CONSTANCE TAYLOR WTZ 8H

LOCATION: PROCTOR DISTRICT, WETZEL COUNTY, WEST VIRGINIA

Received
Office of Oil & Gas
MAR 24 2016

SURFACE HOLE LOCATION:

GEOGRAPHIC (NAD83):
LATITUDE: 39.654526°
LONGITUDE: -80.679223°

BOTTOM HOLE LOCATION:

GEOGRAPHIC (NAD83):
LATITUDE: 39.6400416°
LONGITUDE: -80.6630699°

LEGEND:

- PROPOSED SURFACE HOLE / BOTTOM HOLE
- EXISTING / PRODUCING WELLHEAD
- ABANDONED WELL
- PLUGGED & ABANDONED WELL
- CUT CONDUCTOR
- ACCESS ROAD
- MARCELLUS DHP
- HIGHWAY/INTERSTATE
- COUNTY ROAD

REVISIONS:	DATE: 03-22-2016
03-21-16 : LATERAL SHORTEN - BHL MOVED	
	DRAWN BY: B. HERMAN
	SCALE: 1" = 2000'
	DRAWING NO:087569006
	TOPOGRAPHIC MAP

C:_RETTEWVAULTWIP\087569006-SWN CONSTANCE TAYLOR WTZ PAD\SHEETS\SV\PLAT\087569006-8H WELL PLAT.DWG
TUESDAY MARCH 22 2016 02:01PM

PROPERTY NUMBER 2501161754
PAD ID 3001161675

WW-6A1
(5/13)

Operator's Well No. Custenca Taylor MSH 8H

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

(1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;

(2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page

See Attached

Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

WV Department of
Environmental Protection

Well Operator: SWN Production Co., LLC
By: Travis Hill - TRAVIS HILL
Its: SENIOR LANDMAN

EXHIBIT "A"

Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator

Constance Taylor South 8H

Wetzel County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG
1	01-0013-0005-0000	Pending	Lewis N. Wykert and Diann Wykert, husband and wife	Drilling Appalachian Corporation	N/A	142A/535
2	01-0013-0005-0000	Pending	James E. Wykert and Linda Wykert, husband and wife	Drilling Appalachian Corporation	N/A	142A/537
3	01-0013-0005-0000	N/A	Shiben Estates, Inc. Grendier Energy Partners, LLC	Grendier Energy Partners, LLC Statoil USA Onshore Properties, Inc.	N/A	123A/796 153A/695
4	01-0013-0007-0000	1-344236-001	Janice E. Cowan, a single woman Chesapeake Appalachia, LLC	Chesapeake Appalachia, LLC SWN Production Company, LLC	17.00%	121A/859 157A/540
5	01-0013-0007-0000	1-344236-002	Jon A. Cowan, aka John A. Cowan, a single man Chesapeake Appalachia, LLC	Chesapeake Appalachia, LLC SWN Production Company, LLC	17.00%	121A/903 157A/540
6	01-0013-0008-0000	WV0000152-001	Geneva Rawe, a widow; Eileen C. Smittle; Madelyn C. Harman, widow Haddad and Brooks, Inc. Chesapeake Appalachia, LLC	Haddad and Brooks, Inc. Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	80A/72 104A/230 157A/540
7	01-0013-0014-0000	1-284667-001	Gene F. Hartwig, a widower Chesapeake Appalachia, LLC	Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	102A/819 157A/540
8	01-0013-0014-0000	1-284667-002	Roma Darlene Norris, a married woman dealing in her sole and separate property Chesapeake Appalachia, LLC	Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	102A/822 157A/540

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Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
Constance Taylor South 8H
Wetzel County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG
9	01-0013-0014-0000	1-284667-003	Katherine Rae Haaf, aka Katherine R. Hartwig-Haaf, aka Katherine Rae Hartwig, widow	Chesapeake Appalachia, LLC	12.50%	103A/587
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
10	01-0013-0014-0000	1-284667-004	Ramona Carlene Lemasters, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	12.50%	103A/666
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
11	01-0013-0014-0000	1-284667-005	John William Barksdale, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	15.00%	109A/735
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
12	01-0013-0014-0000	Pending	Rock Camp Oil Co. and Telluric Company	Drilling Appalachian Corporation	N/A	126A/155
13	01-0013-0014-0001	WV0000174-001	Ms. Sharon Shaw	Haddad and Brooks, Inc.	12.50%	80A/74
			Haddad and Brooks, Inc.	Chesapeake Appalachia, LLC		104A/230
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
14	01-0013-0014-0001	Pending	Scott Andrew Miller and Mary Lou Miller, husband and wife	Drilling Appalachian Corporation	N/A	155A/425
15	01-0013-0014-0001	Pending	Craig Tschappat and Jodie Tschappat, husband and wife	Drilling Appalachian Corporation	N/A	155A/427
16	01-0013-0014-0001	Pending	William L. Bonar and Mavoureen D. Bonar, husband and wife	Drilling Appalachian Corporation	N/A	155A/436

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Constance Taylor South 8H

Wetzel County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG
17	01-0013-0014-0001	Pending	Paul Hedden and Janice Hedden, husband and wife	Drilling Appalachian Corporation	N/A	156A/711
18	01-0013-0014-0001	Pending	John Sambuco and Elaine Sambuco, husband and wife	Drilling Appalachian Corporation	N/A	156A/713
19	01-0013-0014-0001	Pending	Dale Tschappat	Drilling Appalachian Corporation	N/A	156A/715
20	01-0013-0014-0001	Pending	Curtis Tschappat and Cindy Tschappat, husband and wife	Drilling Appalachian Corporation	N/A	157A/380
21	01-0013-0014-0001	Pending	Garnet Snider	Drilling Appalachian Corporation	N/A	159A/369
22	01-0013-0014-0001	Pendng	Garnet Snider	Drilling Appalachian Corporation	N/A	160A/537
23	01-0013-0014-0001	Pending	Harold E. Lemasters and Betty L. Lemasters, as Trustees of the Lemasters Keystone Trust Agreement dated April 5, 2012	Drilling Appalachian Corporation	N/A	160A/559
24	12-0018-0005-0000	WV0000155-001	Harold H. Blake and Donna M. Blake, husband and wife Haddad and Brooks, Inc. Chesapeake Appalachia, LLC	Haddad and Brooks, Inc. Chesapeake Appalachia, LLC SWN Production Company, LLC	12.50%	79A/452 104A/230 157A/540
25	12-0018-0005-0000	1-292576-001	BRC Appalachian Minerals I LLC BRC Working Interest Company LLC Chesapeake Appalachia, LLC	BRC Working Interest Company LLC Chesapeake Appalachia, LLC SWN Production Company, LLC	12.88%	102A/505 103A/470 157A/540

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Constance Taylor South 8H

Wetzel County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG
26	12-0018-0005-0000	1-348380-001	Tammy Kemnetz, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	130A/706
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
27	12-0018-0005-0000	1-348380-002	Leonard Dunham, a/k/a Leonard Sidney Dunham, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	17.00%	130A/951
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
28	12-0018-0005-0000	1-348380-003	Debra Keesee, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	132A/456
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
29	12-0018-0005-0000	47-0000842-001	Joan Sauro, a/k/a Joany Sauro, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	153A/480
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
30	12-0018-0005-0000	N/A	Audrey Dunham	SWN Production Company, LLC	16.00%	168A/619
31	12-0018-0012-0000	1-301381-001	Mary Ballouz Davis aka Mary B. Davis, a single woman	Chesapeake Appalachia, LLC	17.00%	111A/632
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
32	12-0018-0012-0000	1-301381-002	Rosalyn A. Metzger, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	121A/499
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540

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Constance Taylor South 8H

Wetzel County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG
33	12-0018-0012-0000	1-301381-003	Deborah Rein, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	121A/495
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
34	12-0018-0012-0000	1-301381-004	The Siegler Family Trust, by Rosalyn A. Metzger and Deborah Rein, acting as Trustees	Chesapeake Appalachia, LLC	17.00%	121A/700
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
35	12-0018-0012-0000	1-292576-001	BRC Minerals LP and BRC Appalachian Minerals I LLC	BRC Working Interest Company LLC	12.88%	103A/320
			BRC Working Interest Company LLC	Chesapeake Appalachia, LLC		103A/470
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
36	12-0018-0012-0000	N/A	Chesapeake Appalachia, LLC	SWN Production Company, LLC	N/A	157A/646
37	12-0018-0019-0000	1-301381-001	Mary Ballouz Davis aka Mary B. Davis, a single woman	Chesapeake Appalachia, LLC	17.00%	111A/632
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
38	12-0018-0019-0000	1-301381-002	Rosalyn A. Metzger, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	121A/499
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
39	12-0018-0019-0000	1-301381-003	Deborah Rein, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	121A/495
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540

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Constance Taylor South 8H

Wetzel County, West Virginia

Tract #	Tax Parcel	Lease Number	Lessor	Lessee	Royalty	BK/PG
40	12-0018-0019-0000	1-301381-004	The Siegler Family Trust, by Rosalyn A. Metzger and Deborah Rein, acting as Trustees	Chesapeake Appalachia, LLC	17.00%	121A/700
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
41	12-0018-0019-0000	1-292576-001	BRC Minerals LP and BRC Appalachian Minerals I LLC	BRC Working Interest Company LLC	12.88%	103A/320
			BRC Working Interest Company LLC	Chesapeake Appalachia, LLC		103A/470
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540
42	12-0018-0019-0000	N/A	Chesapeake Appalachia, LLC	SWN Production Company, LLC	N/A	157A/646
43	12-0018-0019-0000	N/A	Richard C. Davis	Haddad and Brooks, Inc.	12.50%	79A/456
			Haddad and Brooks, Inc.	Chesapeake Appalachia, LLC		104A/230
			Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540

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Constance Taylor South 8H

Wetzel County, West Virginia

Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
James E. Wykert, Lewis N. Wykert and Dianne L. Wykert	342/687	135.000000	135.000000
James E. Wykert, Lewis N. Wykert and Dianne L. Wykert	342/687	135.000000	135.000000
James E. Wykert, Lewis N. Wykert and Dianne L. Wykert	342/687	135.000000	135.000000
Patrick L. Morris	393/35	88.500000	88.500000
Patrick L. Morris	393/35	88.500000	88.500000
Patrick L. Morris	371/140	70.000000	102.000000
Rayne E. Berger	420/22	17.180000	17.180000
Rayne E. Berger	420/22	17.180000	17.180000

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Constance Taylor South 8H

Wetzel County, West Virginia

Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
Rayne E. Berger	420/22	17.180000	17.180000
Rayne E. Berger	420/22	17.180000	17.180000
Rayne E. Berger	420/22	17.180000	17.180000
Rayne E. Berger	420/22	17.180000	1147.390000
William N. and Lucy L. Phillips	336/412	30.000000	30.000000
William N. and Lucy L. Phillips	336/412	30.000000	30.000000
William N. and Lucy L. Phillips	336/412	30.000000	30.000000
William N. and Lucy L. Phillips	336/412	30.000000	30.000000

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Constance Taylor South 8H

Wetzel County, West Virginia

Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
William N. and Lucy L. Phillips	336/412	30.000000	30.000000
William N. and Lucy L. Phillips	336/412	30.000000	30.000000
William N. and Lucy L. Phillips	336/412	30.000000	30.000000
William N. and Lucy L. Phillips	336/412	30.000000	30.000000
William N. and Lucy L. Phillips	336/412	30.000000	30.000000
William N. and Lucy L. Phillips	336/412	30.000000	30.000000
William N. and Lucy L. Phillips	336/412	30.000000	30.000000
Constance A. Taylor	357/480	43.087500	78.000000
Constance A. Taylor	357/480	43.087500	N/A

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Constance Taylor South 8H

Wetzel County, West Virginia

Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
Constance A. Taylor	357/480	43.087500	43.500000
Constance A. Taylor	357/480	43.087500	43.500000
Constance A. Taylor	357/480	43.087500	43.500000
Constance A. Taylor	357/480	43.087500	43.500000
Constance A. Taylor	357/480	43.087500	N/A
Timothy N. Wells	427/577	78.090000	239.372000
Timothy N. Wells	427/577	78.090000	239.372000

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Constance Taylor South 8H

Wetzel County, West Virginia

Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
Timothy N. Wells	427/577	78.090000	239.372000
Timothy N. Wells	427/577	78.090000	239.372000
Timothy N. Wells	427/577	78.090000	N/A
Timothy N. Wells	427/577	78.090000	N/A
Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	239.372000
Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	239.372000
Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	239.372000

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Constance Taylor South 8H

Wetzel County, West Virginia

Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	239.372000
Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	N/A
Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	N/A
Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	240.000000

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Constance Taylor South 8H

Wetzel County, West Virginia

Tract #	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
1	1-344236-001	Janice E. Cowan, a single woman	Chesapeake Appalachia, LLC	17.00%	121A/859	Patrick L. Morris	393/35	88.500000	88.500000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
1	1-344236-002	Jon A. Cowan, aka John A. Cowan, a single man	Chesapeake Appalachia, LLC	17.00%	121A/903	Patrick L. Morris	393/35	88.500000	88.500000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
2	WV0000152-001	Geneva Rawe, a widow; Eileen C. Smittle; Madelyn C. Harman, widow	Haddad and Brooks, Inc.	12.50%	80A/72	Patrick L. Morris	371/140	70.000000	102.000000
		Haddad and Brooks, Inc.	Chesapeake Appalachia, LLC		104A/230				
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
3	WV0000155-001	Harold H. Blake and Donna M. Blake, husband and wife	Haddad and Brooks, Inc.	12.50%	79A/452	Constance A. Taylor	357/480	43.087500	78.000000
		Haddad and Brooks, Inc.	Chesapeake Appalachia, LLC		104A/230				
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
3	1-292576-001	BRC Appalachian Minerals I LLC	BRC Working Interest Company LLC	12.88%	102A/505	Constance A. Taylor	357/480	43.087500	N/A
		BRC Working Interest Company LLC	Chesapeake Appalachia, LLC		103A/470				
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
3	1-348380-001	Tammy Kemnetz, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	130A/706	Constance A. Taylor	357/480	43.087500	43.500000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
3	1-348380-002	Leonard Dunham, a/k/a Leonard Sidney Dunham, a married man dealing in his sole and separate property	Chesapeake Appalachia, LLC	17.00%	130A/951	Constance A. Taylor	357/480	43.087500	43.500000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
3	1-348380-003	Debra Keesee, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	132A/456	Constance A. Taylor	357/480	43.087500	43.500000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
3	47-0000842-001	Joan Sauro, a/k/a Joany Sauro, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	153A/480	Constance A. Taylor	357/480	43.087500	43.500000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
3	N/A	Audrey Dunham	SWN Production Company, LLC	16.00%	168A/619	Constance A. Taylor	357/480	43.087500	N/A
4	1-301381-001	Mary Ballouz Davis aka Mary B. Davis, a single woman	Chesapeake Appalachia, LLC	17.00%	111A/632	Timothy N. Wells	427/577	78.090000	239.372000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				

Received
Office of Oil & Gas
MAR 24 2016

EXHIBIT "A"
Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
Constance Taylor South 8H
Wetzel County, West Virginia

Tract #	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
4	1-301381-002	Rosalyn A. Metzger, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	121A/499	Timothy N. Wells	427/577	78.090000	239.372000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
4	1-301381-003	Deborah Rein, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	121A/495	Timothy N. Wells	427/577	78.090000	239.372000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
4	1-301381-004	The Siegler Family Trust, by Rosalyn A. Metzger and Deborah Rein, acting as Trustees	Chesapeake Appalachia, LLC	17.00%	121A/700	Timothy N. Wells	427/577	78.090000	239.372000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
4	1-292576-001	BRC Minerals LP and BRC Appalachian Minerals I LLC	BRC Working Interest Company LLC	12.88%	103A/320	Timothy N. Wells	427/577	78.090000	N/A
		BRC Working Interest Company LLC	Chesapeake Appalachia, LLC		103A/470				
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
4	722916-001	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/646	Timothy N. Wells	427/577	78.090000	N/A
5	1-301381-001	Mary Ballouz Davis aka Mary B. Davis, a single woman	Chesapeake Appalachia, LLC	17.00%	111A/632	Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	239.372000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
5	1-301381-002	Rosalyn A. Metzger, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	121A/499	Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	239.372000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
5	1-301381-003	Deborah Rein, a married woman dealing in her sole and separate property	Chesapeake Appalachia, LLC	17.00%	121A/495	Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	239.372000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
5	1-301381-004	The Siegler Family Trust, by Rosalyn A. Metzger and Deborah Rein, acting as Trustees	Chesapeake Appalachia, LLC	17.00%	121A/700	Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	239.372000
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
5	1-292576-001	BRC Minerals LP and BRC Appalachian Minerals I LLC	BRC Working Interest Company LLC	12.88%	103A/320	Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	N/A
		BRC Working Interest Company LLC	Chesapeake Appalachia, LLC		103A/470				
		Chesapeake Appalachia, LLC	SWN Production Company, LLC		157A/540				
5	722916-001	Chesapeake Appalachia, LLC	SWN Production Company, LLC	12.50%	157A/646	Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	N/A
5	N/A	Richard C. Davis	Haddad and Brooks, Inc.	12.50%	79A/456	Jimmy Duke Reed and Thomas E. Miller	367/683	60.000000	240.000000

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Office of Oil & Gas
MAR 24 2016

EXHIBIT "A"
Attached to and made a part of the State of West Virginia Oil and Gas Permit Form, WW-6A1, by SWN Production Company, L.L.C., Operator
Constance Taylor South 8H
Wetzel County, West Virginia

Tract #	Lease Number	Lessor	Lessee	Royalty	BK/PG	Surface Owner	Book/Page Must describe The Parcel	Deeded Acreage	Leased
		Haddad and Brooks, Inc. Chesapeake Appalachia, LLC	Chesapeake Appalachia, LLC SWN Production Company, LLC		104A/230 157A/540				

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Office of Oil & Gas
MAR 24 2016

Southwestern Energy®
PO Box 1300
Jane Lew, WV 26378
PHONE: (304) 884-1610

March 23, 2016

Laura Adkins
Office of Oil & Gas
601 57th Street
Charleston, WV 25304

RE: Proposed New Well Constance Taylor WTZ 8H & Constance Taylor WTZ 5H

Dear Ms. Adkins:

Enclosed please find a revised WW6A-1 removing tracts and an updated plat for the Constance Taylor WTZ 8H. As well as numbered WW6A-1 for both showing correlation to the plats. These wells are situated on the Kestner property, in Liberty district, Ohio County, West Virginia.

If you have any questions or require additional information, please contact me at 304-884-1614

Thank you.

Sincerely,

Dee Southall
Regulatory Supervisor
Southwestern Energy Production Company, LLC
PO Box 1300
Jane Lew, WV 26378

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Office of Oil & Gas
MAR 24 2016

$\frac{R^2}{A} \rightarrow V+^{®}$

The Right People doing the Right Things, wisely Investing the cash flow from our underlying Assets, will create Value+

47-103-03150 H6A

Southwestern Energy®
PO Box 1300
Jane Lew, WV 26378
PHONE: (832) 796-1610

January 14, 2015

Ms. Laura Cooper
WV DEP Office of Oil & Gas
601 57th St., SE
Charleston, WV 25304

RE: SWN's proposed Constance Taylor WTZ 3H in Wetzel County, West Virginia, Drilling under Wheston Road, Blake Ridge, Brock Ridge Road, & Sunset Lane.

Dear Ms. Cooper:

SWN Production Company, LLC ("SWN") is applying for a drilling permit for the above referenced well. The State of West Virginia has raised some concern as to SWN's right to drill under Wheston Road, Blake Ridge, Brock Ridge Road, & Sunset Lane.. Please be advised that SWN has leased all mineral owners under said route as it relates to the above-referenced well and unit.

Thank you.

Sincerely,

Terry Hill – SENIOR LANDMAN

SWN Production Company, LLC
PO Box 1300
Jane Lew, WV 26378

$\frac{R^2}{A} \rightarrow V+$

The Right People doing the Right Things, wisely Investing the cash flow from our underlying Assets, will create Value+

WW-6AC
(1/12)

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE CERTIFICATION

Date of Notice Certification: 1/26/16

API No. 47- 103 - 03150
Operator's Well No. Constance Taylor WTZ 8H
Well Pad Name: Constance Taylor Pad

Notice has been given:
Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State:	WV	UTM NAD 83 Easting:	527518.940
County:	103-Wetzel	Northing:	4389463.294
District:	7-Proctor	Public Road Access:	Brock Ridge Road
Quadrangle:	681-Wileyville	Generally used farm name:	Constance Taylor
Watershed:	Little Fishing Creek		

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY	OOG OFFICE USE ONLY
☐ 1. NOTICE OF SEISMIC ACTIVITY or ☑ NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	☐ RECEIVED/ NOT REQUIRED
☒ 2. NOTICE OF ENTRY FOR PLAT SURVEY or [NO PLAT SURVEY WAS CONDUCTED	☐ RECEIVED
☑ 3. NOTICE OF INTENT TO DRILL or ☐ NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or ☐ WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)	☐ RECEIVED/ NOT REQUIRED
☑ 4. NOTICE OF PLANNED OPERATION	☐ RECEIVED
☑ 5. PUBLIC NOTICE	☐ RECEIVED
☑ 6. NOTICE OF APPLICATION	☐ RECEIVED

Required Attachments:
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

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Office of Oil and Gas
JAN 27 2016
WV Department of
Environmental Protection

WW-6AC
(1/12)

103-03150

Certification of Notice is hereby given:

THEREFORE, I _____, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, 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 and imprisonment.

Well Operator:	SWN Production Co., LLC	Address:	P.O. Box 1300
By:	Dee Southall		Jane Lew, WV 26378
Its:	Regulatory Supervisor	Facsimile:	
Telephone:	832-796-1614	Email:	Dee_Southall@swn.com

NOTARY SEAL
Notary Public, State of West Virginia
BRITTANY R WOODY
3302 Old Elkins Road
Buckhannon, WV 26201
My commission expires November 27, 2022

Subscribed and sworn before me this 2nd day of December 2015

Brittany R Woody Notary Public

My Commission Expires 11/27/22

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

WW-6A
(9-13)

API NO. 47- 103 - 03150
OPERATOR WELL NO. Constance Taylor WTZ 8H
Well Pad Name: Constance Taylor Pad

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 1/26/16 **Date Permit Application Filed:** 1/26/16

Notice of:

☑ PERMIT FOR ANY WELL WORK ☐ CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

☐ PERSONAL SERVICE ☑ REGISTERED MAIL ☐ METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

☑ Application Notice ☑ WSSP Notice ☑ E&S Plan Notice ☑ Well Plat Notice is hereby provided to:

☑ SURFACE OWNER(s)
Name: Constance Taylor
Address: 807 Johnson St
New Martinsville, WV 26155
Name:
Address:

☐ SURFACE OWNER(s) (Road and/or Other Disturbance)
Name:
Address:
Name:
Address:

☐ SURFACE OWNER(s) (Impoundments or Pits)
Name:
Address:

☑ COAL OWNER OR LESSEE
Name: Consolidated Coal Company
Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

☐ COAL OPERATOR
Name:
Address:

☑ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: See Attachment #1
Address:

☑ OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name:
Address:

*Please attach additional forms if necessary

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WV Department of
Environmental Protection

Attachment #1

103-03150

Constance Taylor WTZ Pad - Water Purveyors w/in 1500'

Landowner	Address
Erick & Phyllis Becker	647 Sunset Lane New Martinsville, WV 26155

RECEIVED
Office of Oil and Gas

JAN 27 2016

WV Department of
Environmental Protection

WW-6A
(8-13)

API NO. 47- 103 - 03150
OPERATOR WELL NO. Constance Taylor WTZ 8H
Well Pad Name: Constance Taylor Pad

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

This Notice Shall Include:
Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Location Restrictions
Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

Water Well Testing:
Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

Water Testing Laboratories:
Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

Written Comment:
Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

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Office of Oil and Gas
JAN 27 2016
WV Department of
Environmental Protection

WW-6A
(8-13)

API NO. 47- 103 - 03150
OPERATOR WELL NO. Constance Taylor WTZ 8H
Well Pad Name: Constance Taylor Pad

Time Limits and Methods for Filing Comments.

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

Comment Requirements

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

Permit Denial or Condition

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

(1) The proposed well work will constitute a hazard to the safety of persons;
(2) The plan for soil erosion and sediment control is not adequate or effective;
(3) Damage would occur to publicly owned lands or resources; or
(4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

WW-6A
(8-13)

API NO. 47- 103 - 03150
OPERATOR WELL NO. Constance Taylor WTZ 8H
Well Pad Name: Constance Taylor Pad

Notice is hereby given by:

Well Operator: SWN Production Co., LLC
Telephone: 304-884-1613
Email: Dee_Southall@swn.com

Address: P.O. Box 1300
Jane Lew, WV 26378
Facsimile:

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

OFFICIAL SEAL
Notary Public, State of West Virginia
BRITTANY R WOODY
3302 Old Elkins Road
Buckhannon, WV 26201
My commission expires November 27, 2022

Subscribed and sworn before me this 2nd day of December 2015

Brittany R Woody Notary Public

My Commission Expires 11/27/22

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Office of Oil and Gas
JAN 27 2016
WV Department of
Environmental Protection

WW-6A4
(1/12)

Operator Well No. 103-03150 Constance Taylor WTZ 8H

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least **TEN (10)** days prior to filing a permit application.
Date of Notice: 12/08/2015 **Date Permit Application Filed:** 1/26/16

Delivery method pursuant to West Virginia Code § 22-6A-16(b)

☐ HAND DELIVERY ☒ CERTIFIED MAIL RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided,* That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however,* That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):

Name: Constance A. Taylor ✓
Address: 807 Johnson St.
New Martinsville, WV 26155

Name:
Address:

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: West Virginia
County: Wetzel
District: Proctor
Quadrangle: Wileyville
Watershed: Little Fishing Creek

UTM NAD 83 Easting: 527,518.94
Northing: 4,389,463.29
Public Road Access: Brock Ridge Road
Generally used farm name: Constance Taylor

This Notice Shall Include:
Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: SWN Production Company, LLC
Address: PO Box 1300, 179 Innovation Drive
Jane Lew, WV 26378
Telephone: 304-884-1611
Email: Micah_Feather@swn.com
Facsimile:

Authorized Representative: Micah Feather
Address: PO Box 1300, 179 Innovation Drive
Jane Lew, WV 26378
Telephone: 304-884-1611
Email: Micah_Feather@swn.com
Facsimile:

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JAN 27 2016
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Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

103-03150

WW-6A5
(1/12)

Operator Well No. Constance Taylor WTZ 8H

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**
Date of Notice: 12/08/2015 **Date Permit Application Filed:** 1/26/16

Delivery method pursuant to West Virginia Code § 22-6A-16(c)

☒ CERTIFIED MAIL RETURN RECEIPT REQUESTED ☐ HAND DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)
(at the address listed in the records of the sheriff at the time of notice):

Name: Constance A. Taylor
Address: 807 Johnson St.
New Martisnville, WV 26155

Name:
Address:

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: West Virginia
County: Wetzel
District: Proctor
Quadrangle: Willeyville
Watershed: Little Fishing Creek

UTM NAD 83 Easting: 527,518.94
Northing: 4,389,463.29
Public Road Access: Brock Ridge Road
Generally used farm name: Constance Taylor

This Notice Shall Include:
Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1)A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator: SWN Production Company, LLC
Telephone: 304-884-1611
Email: Micah_Feather@swn.com

Address: PO Box 1300, 179 Innovation Drive
Jane Lew, WV 26378
Facsimile:

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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WV Department of
Environmental Protection

103-03150

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin
Governor

Paul A. Mattox, Jr., P. E.
Secretary of Transportation/
Commissioner of Highways

January 25, 2016

James A. Martin, Chief
Office of Oil and Gas
Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

Subject: DOH Permit for the Constance Taylor Pad, Wetzel County

Constance Taylor WTZ 8H

Dear Mr. Martin,

The West Virginia Division of Highways has received an application for Permit for the subject site from Southwestern Energy for access to the State Road for the well site located off of Wetzel County Route 15/1 SLS.

The operator has signed an OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton

Gary K. Clayton, P.E.
Regional Maintenance Engineer
Central Office Oil &Gas Coordinator

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JAN 27 2016
WV Department of
Environmental Protection

Cc: Brittany Woody
Southwestern Energy
CH, OM, D-6
File

103-03150

Supplier Name	Product Name	Product Use	Chemical Name	CAS Number
NALCO ONESOURCE	EC6110A	Biocide	Ethanol	000064-17-5
			Glutaraldehyde (Pentanediol)	000111-30-8
			Quaternary Ammonium Compounds	N/A-063
	EC6629A	Biocide	No Hazardous Components	NONE
WEATHERFORD	WBK-133 OXIDIZER	Breaker	Ammonium Persulfate	007727-54-0
	WBK-134	Breaker	Ammonium Persulfate	007727-54-0
			Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7
	WCS-631LC	Clay Stabilizer	Proprietary Non Hazardous Salt	N/A-229
			Water	007732-18-5
	WFR-55LA	Friction Reducer	No Hazardous Components	NONE
	WGA-15L	Gel	Petroleum Distillate Hydrotreated Light	064742-47-8
	WPB-584-L	Buffer	Potassium Carbonate	000584-08-7
			Potassium Hydroxide	001310-58-3
	WXL-101LE	Corsslinker	No Hazardous Components	NONE
	WXL-101LM	Crosslinker	Petroleum Distillate Hydrotreated Light	064742-47-8
	WXL-105L	Crosslinker	Water	007732-18-5
			Ethylene Glycol	000107-21-1
			Boric Acid	010043-35-3
			Ethanolamine	000141-43-5
SCHLUMBERGER	B244 Green-Cide 25G	Biocide	Glutaraldehyde	111-30-8
	L071 Temporary Clay Stabilizer	Clay Stabilizer	Cholinium Chloride	67-48-1
	Breaker J218	Breaker	Diammonium Peroxidisulphate	7727-54-0
	EB-Clean* J475 Breaker		Diammonium Peroxidisulphate	7727-54-0
	Friction Reducer B315	Friction Reducer	Distillates (petroleum), Hydrotreated light Aliphatic Alcohol Glycol Ether	64742-47-8 Proprietary
	Friction Reducer J609		Ammonium Sulfate	7783-20-2

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WV Department of
Environmental Protection

103-03150

Supplier Name	Product Name	Product Use	Chemical Name	CAS Number
SCHLUMBERGER	Water Gelling Agent J580	Gel	Carbohydrate Polymer	Proprietary
	Scale Inhibitor B317	Scale Inhibitor	Trisodium ortho phosphate Ethane-1, 2-diol	7601-54-9 107-21-1
	Borate Crosslinker J532	Crosslinker	Aliphatic polyol Sodium tetraborate decahydrate	Proprietary 1303-96-4
	Crosslinker J610		Aliphatic polyol Potassium hydroxide	Proprietary 1310-58-3

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WV Department of
Environmental Protection

103-03150

Supplier Name	Product Name	Product Use	Chemical Name	CAS Number
BAKER HUGHES	ALPHA 1427	Biocide	Didecyl Dimethyl Ammonium Chloride	007173-51-1
			Ethanol	000064-17-5
			Glutaraldehyde (Pentanediol)	000111-30-8
			Quaternary Ammonium Compound	068424-85-1
			Water	007732-18-5
	BF-7L	Buffer	Potassium Carbonate	000584-08-7
	ClayCare	Clay Stabilizer	Choline Chloride	000067-48-1
			Water	007732-18-5
	Enzyme G-I	Breaker	No Hazardous Components	NONE
	ENZYME G-NE	Breaker	No Hazardous Components	NONE
	FRW-18	Friction Reducer	Petroleum Distillate Hydrotreated Light	064742-47-8
	GW-3LDF	Gel	Petroleum Distillate Blend	N/A-014
			Polysaccharide Blend	N/A-021
	SCALETROL 720	Scale Inhibitor	Diethylene Glycol	000111-46-6
			Ethylene Glycol	000107-21-1
	XLW-32	Crosslinker	Boric Acid	010043-35-3
			Methanol (Methyl Alcohol)	000067-56-1
FRAC TECH SERVICES	APB01 (AMMONIUM PERSUFATE BREAKER)	Breaker	Ammonium Persulfate	007727-54-0
	B05 (LOW PH BUFFER)	Buffer	Acetic acid	000064-19-7
	BXL03 Borate XL Delayed High Temp	Crosslinker	No Hazardous Components	NONE
	FRW-200	Friction Reducer	No Hazardous Components	NONE
	HVG01 (TURQUOISE-1 BULK)	Gelling Agent	Petroleum Distillate Hydrotreated Light	064742-47-8
	KCLS-4	Clay Stabilizer	No Hazardous Components	NONE
	LTB-1	Breaker	Ammonium Persulfate	N/A

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JAN 27 2016
WV Department of
Environmental Protection

APPROVED
WVDEP OOG
8/5/2016

EROSION AND SEDIMENT CONTROL PLAN
FOR
CONSTANCE TAYLOR WTZ PAD
PROCTOR DISTRICT, WETZEL COUNTY, WEST VIRGINIA

GENERAL NOTES

1. THE BOUNDARY AND TOPOGRAPHIC SURVEY FOR THE PROJECT AREA WERE PERFORMED BY RETTEW ASSOCIATES IN JULY 2011, UPDATED SEPTEMBER 2013 AND NOVEMBER 2015.
2. PROPERTY BOUNDARIES, LANDOWNER INFORMATION AND ROAD NETWORKS SHOWN ON THIS PLAN ARE BASED ON AVAILABLE COUNTY GIS DATA.
3. EXISTING STRUCTURES, TREE LINES AND ROADWAYS HAVE BEEN LOCATED PER AVAILABLE ONLINE AERIAL PHOTOGRAPHY.
4. THE HORIZONTAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN DATUM 1983 (NAD 83), NORTH ZONE.
5. THE VERTICAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88) WHICH ORIGINATES FROM FIELD RUN TOPOGRAPHIC SURVEY.
6. A WETLANDS SURVEY WAS PERFORMED BY RETTEW ASSOCIATES IN JULY 2011, OCTOBER 2011 AND SEPTEMBER 2013 AND NO WETLANDS OR SENSITIVE RESOURCES WERE FOUND WITHIN THE PROJECT AREA.
7. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING PRIOR TO CONSTRUCTION ALL NECESSARY CONSTRUCTION PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL GOVERNMENT AGENCIES.
8. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS, INCLUDING ALL SAFETY REQUIREMENTS.
9. SWN PRODUCTION CO., LLC RESERVES THE RIGHT TO ACCEPT OR REJECT ANY AND ALL BIDS AT ITS DISCRETION. ALL WORK WILL BE PERFORMED UPON AND SUBJECT TO THE TERMS AND CONDITIONS OF SWN PRODUCTION CO., LLC'S MASTER SERVICE AGREEMENT EXECUTED BETWEEN THE COMPANIES. THIS IS A LUMP SUM BID. SHOULD CONTRACTOR UNDERESTIMATE, CONTRACTOR SHALL PROVIDED ADDITIONAL LABOR AND MATERIALS TO COMPLETE THE WORK AT NO COST TO SWN PRODUCTION CO., LLC. ALL MEASUREMENTS ARE ESTIMATES GIVEN FOR PLANNING PURPOSES. CONTRACTOR IS RESPONSIBLE TO BID ON THE BASIS OF THE SITE PLAN DRAWINGS PROVIDED.
10. THE CONSTRUCTION START DEADLINE IS BEING PROVIDED AS THE DATE SWN PRODUCTION CO., LLC MAY LOSE ITS RIGHTS TO COMMENCE WORK UNDER THIS BID AND DRILL THE PROPOSED WELL, IF THE WORK PROVIDED FOR UNDER THIS BID IS NOT TIMELY COMMENCED. BY SUBMITTING THIS BID, CONTRACTOR IS AGREEING TO COMMENCE THE WORK PRIOR TO THE DEADLINE PROVIDED HEREIN. FAILURE TO TIMELY COMMENCE THE WORK PROVIDED FOR HEREIN MAY CAUSE DAMAGES TO SWN PRODUCTION CO., LLC FOR WHICH CONTRACTOR SHALL BE HELD RESPONSIBLE.
11. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL PROJECT BONDING REQUIREMENTS WHEN CONSTRUCTING PUBLIC INFRASTRUCTURE. ALL PRIVATE CONSTRUCTION FOR SWN PRODUCTION CO., LLC SHALL INCLUDE A MINIMUM 1-YEAR WARRANTY OF PERFORMANCE.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PREVENT ANY DAMAGE TO PRIVATE PROPERTY, PROVIDE ACCESS TO ALL DRIVES DURING CONSTRUCTION, NOTIFY UTILITY COMPANIES AND VERIFY LOCATION OF ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION, AND PROTECT ALL UTILITIES TO REMAIN IN SERVICE.
13. BARRICADING AND TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). TRAFFIC FLOW AND ACCESS SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC SAFETY MEASURES FOR WORK ON THE PROJECT.
14. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS GOVERNING EXCAVATION. THE CONTRACTOR SHALL PROVIDE DETAILED PLANS AND SPECIFICATIONS FOR TRENCH SAFETY SYSTEMS THAT COMPLY WITH APPLICABLE LAWS GOVERNING EXCAVATION WHEN APPLICABLE TO THE PROJECT. THESE PLANS SHALL BE SEALED BY AN ENGINEER EXPERIENCED IN THE DESIGN OF TRENCH SAFETY SYSTEMS AND LICENSED BY THE STATE IN WHICH THE WORK IS OCCURRING. CONTRACTOR SHALL SUBMIT THE PLAN TO SWN PRODUCTION CO., LLC PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS FOR WORK RELATED TO EXCAVATION.
15. ANY DAMAGES THAT MAY OCCUR TO PROPERTY OR EXISTING IMPROVEMENTS SHALL BE RESTORED BY THE CONTRACTOR TO AT LEAST THE SAME CONDITION THAT THE PROPERTY OR IMPROVEMENTS WERE IN PRIOR TO THE DAMAGES. IN THE EVENT OF SUCH DAMAGE, CONTRACTOR SHALL NOTIFY SWN PRODUCTION CO., LLC IMMEDIATELY PRIOR TO THE RESTORATION. THIS RESTORATION SHALL BE SUBJECT TO THE OWNER'S APPROVAL; MOREOVER, THIS RESTORATION SHALL NOT BE A BASIS FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR.
16. THE MAXIMUM ALLOWABLE SLOPE FOR EARTHEN AREAS IS 3-TO-1 HORIZONTAL TO VERTICAL, UNLESS SPECIFIED OTHERWISE IN A SITE-SPECIFIC GEOTECHNICAL REPORT.
17. PRIOR TO FILL PLACEMENT, EXISTING SUBGRADE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6", MOISTURE ADJUSTED TO OPTIMUM, AND RE-COMPACTED TO THE SAME DENSITY AND MOISTURE CONTENT AS THE PROPOSED FILL.
18. IMPORTED SELECT FILL IS DEFINED AS UNIFORMLY BLENDED SANDY CLAY TO CLAYEY SAND WITH A LIQUID LIMIT (LL) OF LESS THEN 35 PERCENT AND A PLASTICITY INDEX (PI) OF BETWEEN 8 AND 15. FILL MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING EIGHT (8) INCHES IN LOOSE THICKNESS.
19. FILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D 698) IN CONJUNCTION WITH THE COMPACTING OPERATION, FILL MATERIAL SHALL BE BROUGHT TO OPTIMUM MOISTURE CONTENT.
20. THE FILL MATERIAL SHALL BE CLEAN MINERAL SOIL, FREE OF ROOTS, WOODY VEGETATION, STUMPS, SOD, LARGE ROCKS GREATER THAN 6" IN ANY DIRECTION, OR OTHER OBJECTIONABLE MATERIAL.
21. ROCK FILL LIFTS SHALL BE NO GREATER THAN 36 INCHES.
22. STORM DRAINAGE PIPING SHALL BE CONSTRUCTED OF A MINIMUM OF CLASS III REINFORCED CONCRETE PIPE (RCP), CORRUGATED METAL PIPE (CMP), OR HIGH-DENSITY POLYETHLENE (HDPE) PIPE. A MINIMUM OF 1.0' OR 1/20 OF COVER SHALL BE MAINTAINED WHEN USING CMP OR HDPE PIPE. MINIMUM CMP WALL THICKNESS SHALL BE 0.064" OR 16 GAUGE.
23. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE CONSTRUCTION SITE CLEAR OF ALL TRASH AND DEBRIS.
24. PRIOR TO ANY EARTHWORK EXCAVATION OR TOPSOIL REMOVAL, ADEQUATE EROSION CONTROL MEASURES SHALL BE PROPERLY INSTALLED.
25. THE CONTRACTOR SHALL INSPECT STABILIZATION AND EROSION CONTROL MEASURES AT A MINIMUM OF ONCE EVERY 7 DAYS OR WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES DURING CONSTRUCTION.
26. SILT FENCE AND SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL RE-VEGETATION HAS BEEN COMPLETELY ESTABLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS UNTIL PROJECT COMPLETION.
27. DISTURBED AREAS THAT ARE SEEDED OR SODDED SHALL BE CHECKED PERIODICALLY TO SEE THAT GRASS COVERAGE IS PROPERLY MAINTAINED UNTIL THE CONTRACTOR IS RELEASED FROM THE JOB SITE. DISTURBED AREAS SHALL BE WATERED, FERTILIZED, AND RESEEDED OR RE-SODDED, IF NECESSARY.
28. FOR DESIGN PURPOSES, THE PAD CROSS SECTION AND ROAD SECTION WAS ASSUMED TO BE 14". THIS IS DUE TO SETTLEMENT OF THE CRUSHER RUN INTO THE R-3 ROCK.
29. ANY ROCK EXCAVATED FROM THE PAD AREA CAN BE PROCESSED AND UTILIZED FOR TOE BENCHES, BENCH DRAINS, GALLERY DRAINS, ETC.
30. ACCESS ROAD TOE BENCHES TO BE DETERMINED DURING CONSTRUCTION BY ON-SITE INVESTIGATION WITH SWN, ENGINEER AND CONTRACTOR.
31. ANY SPRINGS ENCOUNTERED IN PROPOSED FILL CONDITIONS SHALL BE DRAINED IN ACCORDANCE WITH DETAILS ON SHEET 35 TO ENSURE PROPOSED SLOPES REMAIN STABLE AND DO NOT FAIL.
32. SILT FENCE MAY BE SUBSTITUTED WITH COMPOST FILTER SOCK – SEE PLAN SHEET 34.
33. STONE PAVING FOR STATION 13+00 THROUGH 32+00 AND PAD MAY BE SUBSTITUTED WITH ALTERNATE PAVING SECTION – SEE PLAN SHEET 36.

STAKING FLAG LEGEND

- TOP OF CUTS (YELLOW)
- GRADE AT TOP OF PAD/POND/PIT (YELLOW & ORANGE)
- TOES OF FILL (ORANGE)
- TOP HOLE LOCATION (PINK)
- VERTICAL CUT & FILL AT PAD/POND/PIT CORNER OR EDGE (PINK & BLACK STRIPE)
- LIMITS OF DISTURBANCE (WHITE)
- VERTICAL CUT & FILL AT CENTERLINE OR EDGE OF ACCESS DRIVE (ORANGE & BLACK STRIPE)
- EROSION & SEDIMENT CONTROL STRUCTURES (PINK & WHITE STRIPE)
- TOPSOIL STOCKPILE LOCATIONS (ORANGE & WHITE STRIPE)
- CENTERLINE OF DITCH & BOTTOM OF SEDIMENT TRAPS (BLUE)
- EROSION & SEDIMENT WETLANDS (PINK & WHITE)
- CENTERLINE LEASE ROAD (LIME GREEN & ORANGE)
- CULVERT CROSSING (GREEN)

7.5 MIN. QUADRANGLE MAP: WILEYVILLE, WV

LOCATION MAP

SCALE – 1"=2000'

OPERATOR

swn Southwestern Energy®

SWN PRODUCTION CO., LLC
PO BOX 1300
JANE LEW, WV 26378
(832) 796-1610

LIMITS OF DISTURBANCE

PAD	8.1 ACRES
ROAD	10.6 ACRES
TOTAL	18.7 ACRES

PER LAND OWNER	ACRES
BLAKE, PAUL J.	0.1
BLAKE, BRENT PAUL, ETAL	2.5
DICKIE, WALTER R., JR.	0.5
TAYLOR, CONSTANCE A.	15.6
TOTAL	18.7

SOILS CLASSIFICATION

GpD: GILPIN PEABODY COMPLEX, 15 TO 25% SLOPES

GpF: GILPIN PEABODY COMPLEX, 35 TO 70% SLOPES

CUT & FILL

	PAD SITE	DRIVE	SITE
CUT (SOIL)	+44,107 CY	+ 9,438 CY	+53,545 CY
10% COMPACTION (SOIL)	– 4,411 CY	– 944 CY	– 5,355 CY
CUT (ROCK)	+ 7,687 CY	+ 5 CY	+ 7,702 CY
15% SWELL (ROCK)	+ 1,155 CY	+ 1 CY	+ 1,156 CY
FILL	–34,815 CY	–12,138 CY	–46,953 CY
NET	+13,733 CY	– 3,638 CY	+ 10,095 CY
STONE	+ 4,150 CY	+ 2,934 CY	+ 7,084 CY
TOPSOIL	+ 2,390 CY	+ 1,703 CY	+ 4,093 CY

NOTES:
1. THE TOPSOIL DEPTH FOR THE ACCESS DRIVE IS 0.5" (STA. 0+00 TO 21+00) AND 6" (21+00 TO 32+00). THE TOPSOIL DEPTH FOR THE PAD IS 3.3"
2. THE CUT & FILL SUMMARY CALCULATIONS PRESENTED ON THIS PLAN ARE FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY EXISTING GRADES AND VERIFY EARTHWORK VOLUMES, METHODS AND PROCEDURES. ANY ISSUES ARE TO BE BROUGHT TO THE ENGINEER'S AND OWNER'S ATTENTION PRIOR TO COMMENCEMENT OF WORK.

WEST VIRGINIA 811

CALL BEFORE YOU DIG! Dial 811 or 800.245.4848

(EXCLUDING WEEKENDS AND HOLIDAYS), PRIOR TO TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THESE ACTIVITIES SHALL CONTACT MISS UTILITY OF WEST VIRGINIA AT 811 OR 1-800-245-4848.

DATE: 03/04/2015 TICKET # 1506308695

LIST OF DRAWINGS

1 OF 37 ...... COVER SHEET & GENERAL NOTES
2 OF 37 ...... OVERALL SITE PLAN
3 OF 37 ...... ENLARGED LAYOUT PLAN
4 OF 37 ...... ENLARGED LAYOUT PLAN
5 OF 37 ...... ENLARGED LAYOUT PLAN
6 OF 37 ...... EROSION & SEDIMENT CONTROL PLAN
7 OF 37 ...... EROSION & SEDIMENT CONTROL PLAN
8 OF 37 ...... EROSION & SEDIMENT CONTROL PLAN
9 OF 37 ...... WV DEP E&S PLAN
10 OF 37 ...... WV DEP E&S PLAN
11 OF 37 ...... WV DEP E&S PLAN
12 OF 37 ...... ACCESS DRIVE PROFILE
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37 OF 37 ...... DETAILS

ENGINEER'S ESTIMATE OF QUANTITIES

DESCRIPTION	ESTIMATED QUANTITY	UNITS
WELL SITE PAD DATA		
WELL PAD CUT (EXCLUDES TOPSOIL)	44,107	CY
TOE KEY EXCAVATION	11,030	CY
WELL PAD FILL (EXCLUDES TOPSOIL)	34,815	CY
WELL PAD TOPSOIL STRIPPING	2,390	CY
WELL PAD FINISH GRADING	15,521	SY
PLACEMENT TOPSOIL	1,889	CY
GEOTEXTILE	10,547	SY
BASE ROCK: R3S 12" (ROCK PROVIDED BY QUARRY) PLACEMENT COST	4,218	TON
FINISH GRADE CRUSHER RUN 4" (ROCK PROVIDED BY QUARRY) PLACEMENT COST	2,344	TON
24" BERMS	1,361	LF
ACCESS ROAD DATA		
ACCESS ROAD CUT (EXCLUDES TOPSOIL)	9,438	CY
ACCESS ROAD FILL (EXCLUDES TOPSOIL)	12,138	CY
TOE KEY EXCAVATION	6,970	CY
ACCESS ROAD TOPSOIL STRIPPING	1,703	CY
ACCESS ROAD FINISH GRADING	13,914	SY
PLACEMENT OF TOPSOIL	1,546	CY
GEOTEXTILE	6,801	SY
BASE ROCK: R3S 12" (ROCK PROVIDED BY QUARRY) PLACEMENT COST	2,688	TON
FINISH GRADE CRUSHER RUN 4" (ROCK PROVIDED BY QUARRY) PLACEMENT COST	1,493	TON
BASE ROCK AASHTO #57 4" (ROCK PROVIDED BY QUARRY)PLACEMENT COST	894	TON
FINISH GRADE CRUSHER RUN 1.5" (ROCK PROVIDED BY QUARRY) PLACEMENT COST	560	TON
BASE ROCK: R-3'S 8" (ROCK PROVIDED BY QUARRY) PLACEMENT COST	555	TON
SUPERPAVE HMA BASE 4.5" TYPE 25	520	TON
SUPERPAVE HMA BASE 1.5" TYPE 9.5	173	TON
AIR BRIDGE	1	EA
BASE ROCK: R-5'S (ACCESS DRIVE STONE TRENCH)	99	TON
12" DIAMETER CROSS PIPE	57	LF
15" DIAMETER CROSS PIPE	54	LF
18" DIAMETER CROSS PIPE	35	LF
ROADSIDE UNDERDRAIN	370	LF
CULVERT OUTLET/ROCK APRON SUMP	4	EA
CULVERT OUTLET/ROCK APRON SUMP ROCK: R-5S	5	TON
CULVERT OUTLET/ROCK APRON SUMP ROCK GEOTEXTILE	16	SY
ROADSIDE CHANNEL	1,101	LF
ROADSIDE CHANNEL ROCK: R-5S	–	TON
EROSION & SEDIMENT CONTROL ITEMS		
36" SUPER SILT FENCE	5,592	LF
FILTER SOCK (12")	3,517	LF
FILTER SOCK (18")	526	LF
FILTER SOCK (24")	490	LF
FILTER SOCK (32")	1,059	LF
CHANNEL MATTING (NAG P300)	489	SY
CHANNEL MATTING (NAG SC250)	792	SY
ROCK FILTER DAM	3	EA
LEVEL SPREADER	3	EA
ADDITIONAL ITEMS		
TRAFFIC CONTROL	1	LS
CONSTRUCTION ENTRANCE	1	LS
CONSTRUCTION FENCE	105	LF
MOBILIZATION	1	LS
TRENCH SAFETY PLAN & PROTECTION	1	LS
SEEDING/MULCHING ITEMS		
SEEDING, LIME, & FERTILIZER	8.5	ACRES
FLEXTERRA (ONLY 2:1 SLOPE, NO MATTING)	6.4	ACRES
SEED AND MULCHING -> HYDROSEEDING	–	ACRES
UNDERDRAIN ITEMS		
HYDROBLOX PLANKS	1089	LF
HYDROPLANK TRANSITION BOX	2	EA
SOLID SCHEDULE 40 PLASTIC PIPE	80	LF
4" STEEL GATE VALVE	2	EA
2'X2' RUBBER ANTI-SEEP COLLAR	4	EA
CLEARING AND GRUBBING ITEMS		
CLEARING AND GRUBBING	3.8	AC
TIMBER REMOVAL	3.8	AC

NO.	DATE	REVISION
5	8/4/2016	PER WV DEP COMMENTS
4	7/27/2016	PER SWN COMMENTS
3	7/20/2016	PER SWN COMMENTS
2	5/6/2016	PER WV DEP COMMENTS
1	4/6/2016	PER WV DEP COMMENTS

XREFS:

FOR RETTEW ASSOCIATES BY:

BRIAN N. D'SPRAY REGISTERED 20993 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

MANAGER: PGD | DESIGN BY: MEB | CHKD BY: PGD | DRAWN BY: MEB | CHKD BY: PGD | SURV. CHIEF: | FIELDBOOK NO. DATA COLLECTOR

CLIENT: SWN PRODUCTION CO., LLC
PO BOX 1300
JANE LEW, WV 26378
(832) 796-1610

SCALE

RETTEW.
RETTEW Associates, Inc.
One Robinson Plaza, 6800 Steubenville Pike, Suite 200
Pittsburgh, PA 15205
Phone (412) 446-1728 • Fax (412) 446-1733
Email: rettew@rettew.com
Website: www.rettew.com
Engineers • Planners • Surveyors • Landscape Architects • Environmental Consultants

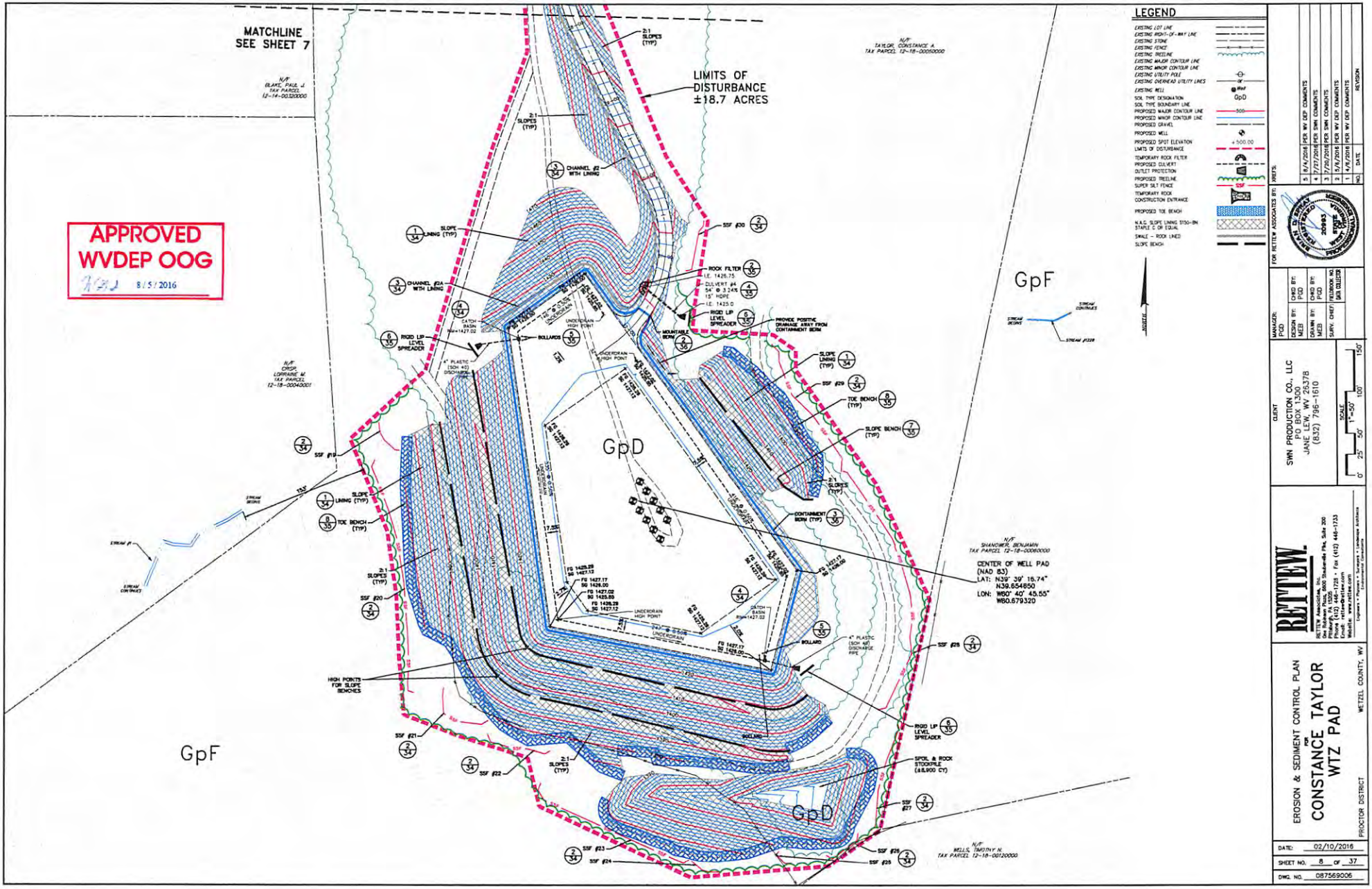
COVER SHEET & GENERAL NOTES
FOR
CONSTANCE TAYLOR WTZ PAD

PROCTOR DISTRICT WETZEL COUNTY, WV

DATE: 02/10/2016

SHEET NO. 1 OF 37

DWG. NO. 087569006



APPROVED
WVDEP OOG
8/5/2016
MATCHLINE
SEE SHEET 7
LIMITS OF
DISTURBANCE
±18.7 ACRES
LEGEND
GpD
GpF
GpD
GpF
GpD
CENTER OF WELL PAD
(NAD 83)
LAT: N39° 39' 16.74"
N39.654650
LON: W80° 40' 45.55"
W80.679320
HIGH POINTS FOR SLOPE BENCHES
SPOIL & ROCK STOCKPILE (±8,900 CY)
CHANNEL #2 WITH LINING
CHANNEL #2A WITH LINING
ROCK FILTER
RIGID LIP LEVEL SPREADER
PROVIDE POSITIVE DRAINAGE AWAY FROM CONTAINMENT BERM
MOUNTABLE BERM
CONTAINMENT BERM
BOLLARDS
SLOPE LINING (TYP)
TOE BENCH (TYP)
SLOPE BENCH (TYP)
SSF #19
SSF #20
SSF #21
SSF #22
SSF #23
SSF #24
SSF #25
SSF #26
SSF #27
SSF #28
SSF #29
SSF #30
N/F BLAKE, PAUL J. TAX PARCEL 12-14-00320000
N/F TAYLOR, CONSTANCE A. TAX PARCEL 12-18-00050000
N/F CRISP, LORRAINE M. TAX PARCEL 12-18-00040001
N/F SHANOWER, BENJAMIN TAX PARCEL 12-18-00060000
N/F WELLS, TIMOTHY N. TAX PARCEL 12-18-00120000
NORTH
FOR RETTEW ASSOCIATES BY:
BRIAN D. SPRAY
20993
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
MANAGER: PGD
DESIGN BY: MEB
DRAWN BY: MEB
SURV. CHIEF:
CHKD BY: PGD
CHKD BY: PGD
FIELDBOOK NO.
DATA COLLECTOR
CLIENT
SWN PRODUCTION CO., LLC
PO BOX 1300
JANE LEW, WV 26378
(832) 796-1610
SCALE
1"=50'
0' 25' 50' 100' 150'
RETTEW
RETTEW Associates, Inc.
Oak Robinson Plaza, 5600 Steubenville Pike, Suite 200
Pittsburgh, PA 15205
Phone (412) 446-1728 • Fax (412) 446-1733
Email: rettew@rettew.com
Website: www.rettew.com
Engineers • Planners • Surveyors • Landscape Architects
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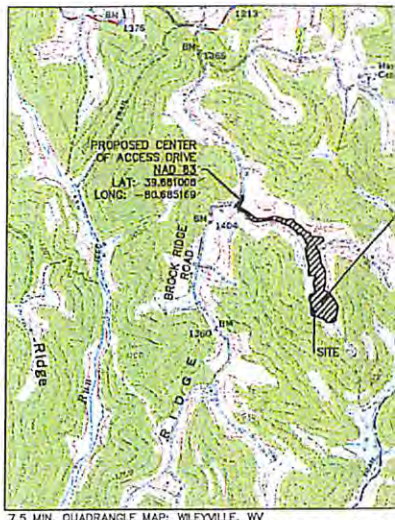
EROSION & SEDIMENT CONTROL PLAN
FOR
CONSTANCE TAYLOR
WTZ PAD
PROCTOR DISTRICT
WETZEL COUNTY, WV
DATE: 02/10/2016
SHEET NO. 8 OF 37
DWG. NO. 087569006

EROSION AND SEDIMEN
FOR
CONSTANCE TAY
PROCTOR DISTRICT, WETZEL C

GENERAL NOTES

1. THE BOUNDARY AND TOPOGRAPHIC SURVEY FOR THE PROJECT AREA WERE PERFORMED BY RETTEW ASSOCIATES IN JULY 2011, UPDATED SEPTEMBER 2013 AND NOVEMBER 2015.
2. PROPERTY BOUNDARIES, LANDOWNER INFORMATION AND ROAD NETWORKS SHOWN ON THIS PLAN ARE BASED ON AVAILABLE COUNTY GIS DATA.
3. EXISTING STRUCTURES, TREE LINES AND ROADWAYS HAVE BEEN LOCATED PER AVAILABLE ONLINE AERIAL PHOTOGRAPHY.
4. THE HORIZONTAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN DATUM 1983 (NAD 83), NORTH ZONE.
5. THE VERTICAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88) WHICH ORIGINATES FROM FIELD RUN TOPOGRAPHIC SURVEY.
6. A WETLANDS SURVEY WAS PERFORMED BY RETTEW ASSOCIATES IN JULY 2011, OCTOBER 2011 AND SEPTEMBER 2013 AND NO WETLANDS OR SENSITIVE RESOURCES WERE FOUND WITHIN THE PROJECT AREA.
7. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING PRIOR TO CONSTRUCTION ALL NECESSARY CONSTRUCTION PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL GOVERNMENT AGENCIES.
8. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS, INCLUDING ALL SAFETY REQUIREMENTS.
9. SWN PRODUCTION CO., LLC RESERVES THE RIGHT TO ACCEPT OR REJECT ANY AND ALL BIDS AT ITS DISCRETION. ALL WORK WILL BE PERFORMED UPON AND SUBJECT TO THE TERMS AND CONDITIONS OF SWN PRODUCTION CO., LLC'S MASTER SERVICE AGREEMENT EXECUTED BETWEEN THE COMPANIES. THIS IS A LUMP SUM BID. SHOULD CONTRACTOR UNDERESTIMATE, CONTRACTOR SHALL PROVIDED ADDITIONAL LABOR AND MATERIALS TO COMPLETE THE WORK AT NO COST TO SWN PRODUCTION CO., LLC. ALL MEASUREMENTS ARE ESTIMATES GIVEN FOR PLANNING PURPOSES. CONTRACTOR IS RESPONSIBLE TO BID ON THE BASIS OF THE SITE PLAN DRAWINGS PROVIDED.
10. THE CONSTRUCTION START DEADLINE IS BEING PROVIDED AS THE DATE SWN PRODUCTION CO., LLC MAY LOSE ITS RIGHTS TO COMMENCE WORK UNDER THIS BID AND DRILL THE PROPOSED WELL, IF THE WORK PROVIDED FOR UNDER THIS BID IS NOT TIMELY COMMENCED. BY SUBMITTING THIS BID, CONTRACTOR IS AGREEING TO COMMENCE THE WORK PRIOR TO THE DEADLINE PROVIDED HEREIN. FAILURE TO TIMELY COMMENCE THE WORK PROVIDED FOR HEREIN MAY CAUSE DAMAGES TO SWN PRODUCTION CO., LLC FOR WHICH CONTRACTOR SHALL BE HELD RESPONSIBLE.
11. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL PROJECT BONDING REQUIREMENTS WHEN CONSTRUCTING PUBLIC INFRASTRUCTURE. ALL PRIVATE CONSTRUCTION FOR SWN PRODUCTION CO., LLC SHALL INCLUDE A MINIMUM 1-YEAR WARRANTY OF PERFORMANCE.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PREVENT ANY DAMAGE TO PRIVATE PROPERTY, PROVIDE ACCESS TO ALL DRIVES DURING CONSTRUCTION, NOTIFY UTILITY COMPANIES AND VERIFY LOCATION OF ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION, AND PROTECT ALL UTILITIES TO REMAIN IN SERVICE.
13. BARRICADING AND TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). TRAFFIC FLOW AND ACCESS SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC SAFETY MEASURES FOR WORK ON THE PROJECT.
14. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS GOVERNING EXCAVATION. THE CONTRACTOR SHALL PROVIDE DETAILED PLANS AND SPECIFICATIONS FOR TRENCH SAFETY SYSTEMS THAT COMPLY WITH APPLICABLE LAWS GOVERNING EXCAVATION WHEN APPLICABLE TO THE PROJECT. THESE PLANS SHALL BE SEALED BY AN ENGINEER EXPERIENCED IN THE DESIGN OF TRENCH SAFETY SYSTEMS AND LICENSED BY THE STATE IN WHICH THE WORK IS OCCURRING. CONTRACTOR SHALL SUBMIT THE PLAN TO SWN PRODUCTION CO., LLC PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS FOR WORK RELATED TO EXCAVATION.
15. ANY DAMAGES THAT MAY OCCUR TO PROPERTY OR EXISTING IMPROVEMENTS SHALL BE RESTORED BY THE CONTRACTOR TO AT LEAST THE SAME CONDITION THAT THE PROPERTY OR IMPROVEMENTS WERE IN PRIOR TO THE DAMAGES. IN THE EVENT OF SUCH DAMAGE, CONTRACTOR SHALL NOTIFY SWN PRODUCTION CO., LLC IMMEDIATELY PRIOR TO THE RESTORATION. THIS RESTORATION SHALL BE SUBJECT TO THE OWNER'S APPROVAL; MOREOVER, THIS RESTORATION SHALL NOT BE A BASIS FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR.
16. THE MAXIMUM ALLOWABLE SLOPE FOR EARTHEN AREAS IS 3-TO-1 HORIZONTAL-TO-VERTICAL, UNLESS SPECIFIED OTHERWISE IN A SITE-SPECIFIC GEOTECHNICAL REPORT.
17. PRIOR TO FILL PLACEMENT, EXISTING SUBGRADE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6", MOISTURE ADJUSTED TO OPTIMUM, AND RE-COMPACTED TO THE SAME DENSITY AND MOISTURE CONTENT AS THE PROPOSED FILL.
18. IMPORTED SELECT FILL IS DEFINED AS UNIFORMLY BLENDED SANDY CLAY TO CLAYEY SAND WITH A LIQUID LIMIT (LL) OF LESS THEN 35 PERCENT AND A PLASTICITY INDEX (PI) OF BETWEEN 6 AND 15. FILL MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING EIGHT (8) INCHES IN LOOSE THICKNESS.
19. FILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D 698). IN CONJUNCTION WITH THE COMPACTING OPERATION, FILL MATERIAL SHALL BE BROUGHT TO OPTIMUM MOISTURE CONTENT.
20. STORM DRAINAGE PIPING SHALL BE CONSTRUCTED OF A MINIMUM OF CLASS III REINFORCED CONCRETE PIPE (RCP), CORRUGATED METAL PIPE (CMP), OR HIGH-DENSITY POLYETHLENE (HDPE) PIPE. A MINIMUM OF 1.0' OR 1/2D OF COVER SHALL BE MAINTAINED WHEN USING CMP OR HDPE PIPE. MINIMUM CMP WALL THICKNESS SHALL BE 0.064" OR 16 GAUGE.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE CONSTRUCTION SITE CLEAR OF ALL TRASH AND DEBRIS.
22. PRIOR TO ANY EARTHWORK EXCAVATION OR TOPSOIL REMOVAL, ADEQUATE EROSION CONTROL MEASURES SHALL BE PROPERLY INSTALLED.
23. THE CONTRACTOR SHALL INSPECT STABILIZATION AND EROSION CONTROL MEASURES AT A MINIMUM OF ONCE EVERY 7 DAYS OR WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES DURING CONSTRUCTION.
24. SILT FENCE AND SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL RE-VEGETATION HAS BEEN COMPLETELY ESTABLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS UNTIL PROJECT COMPLETION.
25. DISTURBED AREAS THAT ARE SEEDED OR SODDED SHALL BE CHECKED PERIODICALLY TO SEE THAT GRASS COVERAGE IS PROPERLY MAINTAINED UNTIL THE CONTRACTOR IS RELEASED FROM THE JOB SITE. DISTURBED AREAS SHALL BE WATERED, FERTILIZED, AND RESEEDED OR RE-SODDED, IF NECESSARY.
26. FOR DESIGN PURPOSES, THE PAD CROSS SECTION AND ROAD SECTION WAS ASSUMED TO BE 14". THIS IS DUE TO SETTLEMENT OF THE CRUSHER RUN INTO THE R-3 ROCK.
27. ANY ROCK EXCAVATED FROM THE PAD AREA CAN BE PROCCESSED AND UTILIZED FOR TOE BENCHES, BENCH DRAINS, GALLERY DRAINS, ETC.
28. ACCESS ROAD TOE BENCHES TO BE DETERMINED DURING CONSTRUCTION BY ON-SITE INVESTIGATION WITH SWN, ENGINEER AND CONTRACTOR.
29. ANY SPRINGS ENCOUNTERED IN PROPOSED FILL CONDITIONS SHALL BE DRAINED IN ACCORDANCE WITH DETAILS ON SHEET 35 TO ENSURE PROPOSED SLOPES REMAIN STABLE AND DO NOT FAIL.



7.5 MIN. QUADRANGLE MAP: WILEYVILLE, WV

LOCATION MAP
SCALE – 1"=2000'

STAKING FLAG LEGEND

- TOP OF CUTS (YELLOW)
- GRADE AT TOP OF PAD/POND/PIT (YELLOW & ORANGE)
- TOES OF FILL (ORANGE)
- TOP HOLE LOCATION (PINK)
- VERTICAL CUT & FILL AT PAD/POND/PIT CORNER OR EDGE (PINK & BLACK STRIPE)
- LIMITS OF DISTURBANCE (BLUE & WHITE STRIPE)
- VERTICAL CUT & FILL AT CENTERLINE OR EDGE OF ACCESS DRIVE (ORANGE & BLACK STRIPE)
- EROSION & SEDIMENT CONTROL STRUCTURES (PINK & WHITE STRIPE)
- TOPSOIL STOCKPILE LOCATIONS (ORANGE & WHITE STRIPE)
- CENTERLINE OF DITCH & BOTTOM OF SEDIMENT TRAPS (BLUE)

swn Southwestern Energy

OPE
SWN PROD
PO BOX 1
JANE LEW,
(832) 796-

LIMITS OF DISTURB

PAD	7.2 ACRES
ROAD	11.5 ACRES
TOTAL	18.7 ACRES

IT CONTROL PLAN

LOR WTZ PAD

COUNTY, WEST VIRGINIA

RATOR

CTION CO., LLC
O
WV 26378
1610

ANCE

SOILS CLASSIFICATION

GpD: GILPIN PEABODY COMPLEX, 15 TO 25% SLOPES

GpF: GILPIN PEABODY COMPLEX, 35 TO 70% SLOPES

CUT & FILL

	PAD SITE	DRIVE	SITE
CUT (SOIL)	+37,548 CY	+11,372 CY	+48,920 CY
10% COMPACTION (SOIL)	- 3,755 CY	- 1,137 CY	- 4,892 CY
CUT (ROCK)	+ 7,786 CY	+ 0 CY	+ 7,786 CY
15% SWELL (ROCK)	+ 1,168 CY	+ 0 CY	+ 1,168 CY
FILL	-19,677 CY	-10,177 CY	-29,854 CY
NET	+23,070 CY	+ 58 CY	= 23,128 CY
STONE	+ 4,183 CY	+ 3,602 CY	= 7,785 CY
TOPSOIL	+ 1,802 CY	+ 2,095 CY	= 3,897 CY

NOTES:
1. THE TOPSOIL DEPTH FOR THE ACCESS DRIVE IS 0.5" (STA. 0+00 TO 21+00) AND 6" (21+00 TO 32+00). THE TOPSOIL DEPTH FOR THE PAD IS 3.3".
2. THE CUT & FILL SUMMARY CALCULATIONS PRESENTED ON THIS PLAN ARE FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY EXISTING GRADES AND VERIFY EARTHWORK VOLUMES, METHODS AND PROCEDURES. ANY ISSUES ARE TO BE BROUGHT TO THE ENGINEER'S AND OWNER'S ATTENTION PRIOR TO COMMENCEMENT OF WORK.

LIST OF DRAWINGS

1 OF 36. . . . . COVER SHEET & GENERAL NOTES
2 OF 36. . . . . OVERALL SITE PLAN
3 OF 36. . . . . ENLARGED LAYOUT PLAN
4 OF 36. . . . . ENLARGED LAYOUT PLAN
5 OF 36. . . . . ENLARGED LAYOUT PLAN
6 OF 36. . . . . EROSION & SEDIMENT CONTROL PLAN
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36 OF 36. . . . . DETAILS

WEST VIRGINIA 811

CALL BEFORE YOU DIG! Dial 811 or 800.245.4848 Miss Utility of West Virginia

AT LEAST 48 HOURS, BUT NOT MORE THAN 10 WORKING DAYS (EXCLUDING WEEKENDS AND HOLIDAYS), PRIOR TO TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THESE ACTIVITIES SHALL CONTACT MISS UTILITY OF WEST VIRGINIA AT 811 OR 1-800-245-4848.

DATE: 03/04/2015 TICKET #: 1506308695

DMH 12-17-15

XREFS: 087569006_TB-2324, 087569006_SW-USGS

NO.	DATE	REVISION

FOR RETTEW ASSOCIATES BY:

MANAGER: PGD | DESIGN BY: MEB | CHKD BY: PGD | DRAWN BY: MEB | CHKD BY: PGD | SURV. CHIEF: | FIELDBOOK NO. DATA COLLECTOR

CLIENT
SWN PRODUCTION CO., LLC
PO BOX 1300
JANE LEW, WV 26378
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SCALE

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One Robinson Plaza, 6600 Steubenville Pike, Suite 200
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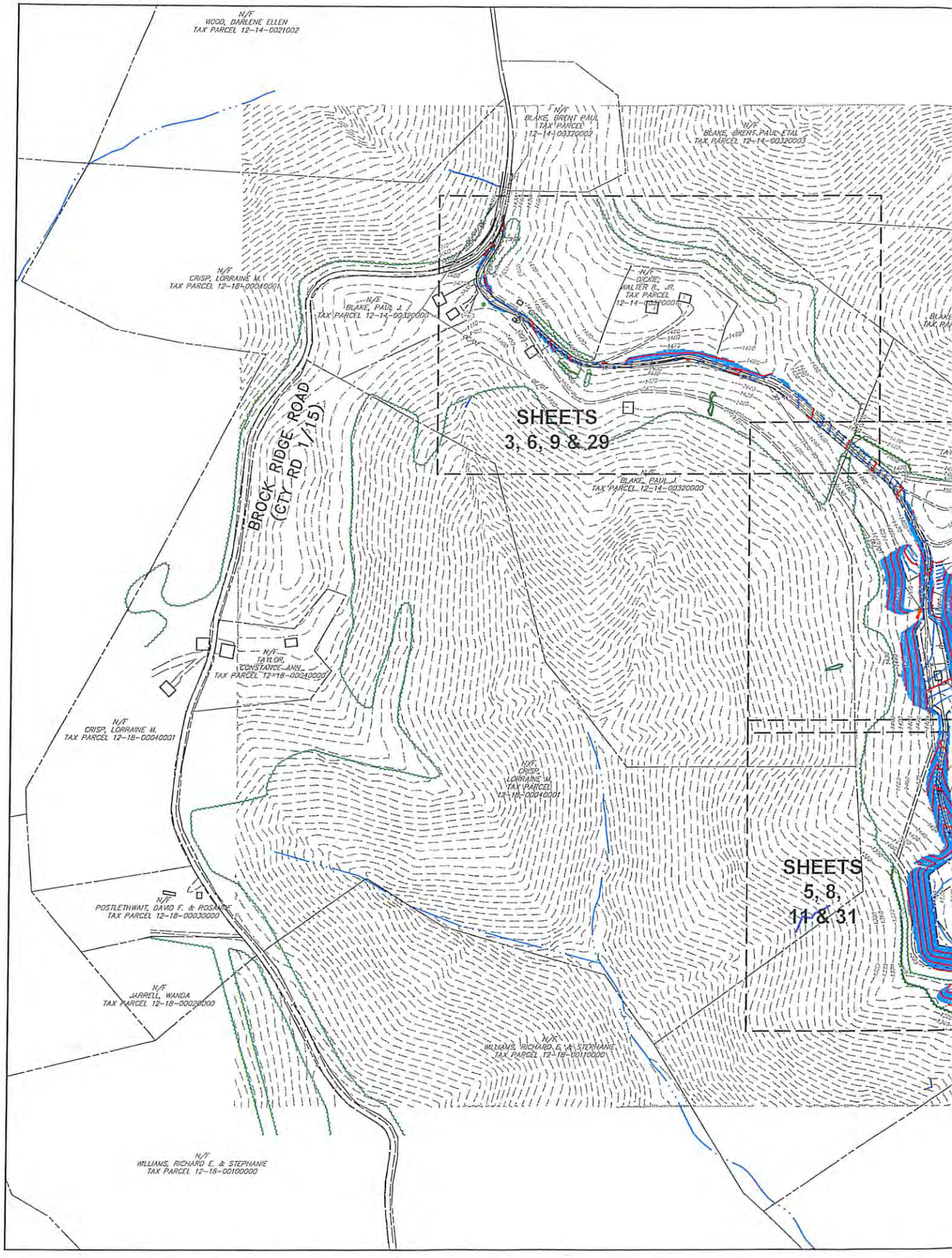
Phone (412) 446-1728 • Fax (412) 446-1733
Email: rettew@rettew.com
Website: www.rettew.com
Engineers • Planners • Surveyors • Landscape Architects
Environmental Consultants

COVER SHEET & GENERAL NOTES
FOR
CONSTANCE TAYLOR
WTZ PAD

PROCTOR DISTRICT WETZEL COUNTY, WV

DATE: 12/16/2015
SHEET NO. 1 OF 36
DWG. NO. 087569006

C:_Rettew\Projects\087569006-SWN Constance Taylor WTZ Pad\Sheets\LDP\CAD\087569006_01-Cover.dwg


N/F
WOOD, DARLENE ELLEN
TAX PARCEL 12-14-0021002
N/F
BLAKE, BRENT PAUL
TAX PARCEL
12-14-00320002
N/F
BLAKE, BRENT PAUL ETAL
TAX PARCEL 12-14-00320003
N/F
CRISP, LORRAINE M.
TAX PARCEL 12-18-00040001
N/F
BLAKE, PAUL J.
TAX PARCEL 12-14-00320000
N/F
DICKIE,
WALTER R., JR.
TAX PARCEL
12-14-00320001
BROCK RIDGE ROAD
(CTY RD 1/15)
SHEETS
3, 6, 9 & 29
N/F
BLAKE, PAUL J.
TAX PARCEL 12-14-00320000
N/F
TAYLOR,
CONSTANCE ANN
TAX PARCEL 12-18-00040000
N/F
CRISP, LORRAINE M.
TAX PARCEL 12-18-00040001
N/F
CRISP,
LORRAINE M.
TAX PARCEL
12-18-00040001
SHEETS
5, 8,
11 & 31
N/F
POSTLETHWAIT, DAVID F. & ROSANNE
TAX PARCEL 12-18-00030000
N/F
JARRELL, WANDA
TAX PARCEL 12-18-00028000
N/F
WILLIAMS, RICHARD E. & STEPHANIE
TAX PARCEL 12-18-00100000
N/F
WILLIAMS, RICHARD E. & STEPHANIE
TAX PARCEL 12-18-00100000

OVERALL SITE PLAN
FOR
CONSTANCE TAYLOR WTZ PAD

PROCTOR DISTRICT — WETZEL COUNTY, WV

DATE: 12/16/2015
SHEET NO. 2 OF 36
DWG. NO. 087569006

RETTEW
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Email: rettew@rettew.com
Website: www.rettew.com
Engineers • Planners • Surveyors • Landscape Architects
Environmental Consultants

CLIENT
SWN PRODUCTION CO., LLC
PO BOX 1300
JANE LEW, WV 26378
(832) 796-1610

SCALE
1"=200'
0' 100' 200' 400' 600'

MANAGER: PGD	
DESIGN BY: MEB	CHKD BY: PGD
DRAWN BY: MEB	CHKD BY: PGD
SURV. CHIEF:	FIELDBOOK NO. DATA COLLECTOR

FOR RETTEW ASSOCIATES BY:

XREFS:
087569006_TB-22x34
087569006_PB-Legend
087569006_SV-BASE
087569006_LD-BASE
087569006_TB
087569006_TB-Access
087569006_TB-22x34-Driv-Grad-Exhibit

NO.	DATE	REVISION

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