

Via Federal Express

August 21, 2017

State of West Virginia
Department of Environmental Protection
Office of Oil & Gas
601 57th Street
Charleston, WV 25304

RE: SWN Production Company, LLC
Operator ID: 494512924
Regulatory Filings: WR-34, WR-35 Filing

To Whom It May Concern:

Please find enclosed forms WR-34 No Discharge, WR-35 Well Operator's Report of Well Work for the following wells:

Constance Taylor WTZ 5H (API 47-103-03149)
Constance Taylor WTZ 8H (API 47-103-03150)

If you have any questions or require additional information, please contact me via email at denise_grantham@swn.com or telephone at (832) 796-6139.

Sincerely,

Denise Grantham

Denise Grantham
Regulatory Technician
West Virginia Division

/dg
Encl.

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

NO DISCHARGE

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Discharge Monitoring Report
Oil and Gas General Permit

Company Name: SWN PRODUCTION COMPANY, LLC
API No: 47-103-03149 County: WETZEL
District: PROCTOR Well No: CONSTANCE TAYLOR WTZ 5H
Farm Name: CONSTANCE A. TAYLOR

Discharge Date/s From:(MMDDYY) _____ To: (MMDDYY) _____
Discharge Times. From: _____ To: _____

Total Volume to be Disposed from this facility (gallons): _____

Disposal Option(s) Utilized (write volumes in gallons):

- (1) Land Application: _____ (Include a topographical map of the Area.)
- (2) UIC: _____ Permit No. _____
- (3) Offsite Disposal: _____ Site Location: _____
- (4) Reuse: _____ Alternate Permit Number: _____
- (5) Centralized Facility: _____ Permit No. _____
- (6) Other method: _____ (Include an explanation)

Follow Instructions below to determine your treatment category:

Optional Pretreatment test: _____ Cl- mg/l _____ DO mg/l

1. Do you have permission to use expedited treatment from the Director or his representative?
(Y/N) _____ If yes, who? _____ and place a four (4) on line 7.
If not go to line 2
2. Was Frac Fluid or flowback put into the pit? (Y/N) _____ If yes, go to line 5. If not, go to line 3.
3. Do you have a chloride value pretreatment (see above)? (Y/N) _____ If yes, go to line 4
If not, go to line 5.
4. Is the Chloride level less than 5000 mg/l? (Y/N) _____ If yes, then enter a one (1) on line 7.
5. Do you have a pretreatment value for DO? (See above) (Y/N) _____ If yes, go to line 6
If not, enter a three (3) in line 7.
6. Is the DO level greater than 2.5 mg/l?(Y/N) _____ If yes, enter a two (2) on line 7. If not, enter a three (3) on line 7.
7. _____ is the category of your pit. Use the Appropriate section.
8. Comments on Pit condition: _____

Name of Principal Exec. Officer: _____
Title of Officer: _____
Date Completed: _____

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the 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.

Denise Grantham 8.21.2017
Signature of a Principal Exec. Officer or Authorized agent.

11/01/2024

Category 1
Sampling Results

API No : _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	5	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl	5,000	_____	5,000	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**			Monitor	_____	mg/l
Oil and Grease			Monitor	_____	mg/l
Total Al***			Monitor	_____	mg/l
TSS			Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume			Monitor	_____	Gal
Flow			Monitor	_____	Gal/min
Disposal Area			Monitor	_____	Acres

*** Al is only reported if the pH is above 9.0

Category 2
Sampling Results

API No : _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	10	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**			Monitor	_____	mg/l
Oil and Grease			Monitor	_____	mg/l
Total Al***			Monitor	_____	mg/l
TSS			Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume			Monitor	_____	Gal
Flow			Monitor	_____	Gal/min
Disposal Area			Monitor	_____	Acres

* Can be 25,000 with inspector's approval,

(Inspector's signature): _____

Date: _____

** Include a description of your aeration technique.

Aeration Code: _____

*** Al is only reported if the pH is above 9.0

Category 3
Sampling Results

API No : _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	20	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**			Monitor	_____	mg/l
Oil and Grease			Monitor	_____	mg/l
Total Al***			Monitor	_____	mg/l
TSS			Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume			Monitor	_____	Gal
Flow			Monitor	_____	Gal/min
Disposal Area			Monitor	_____	Acres

* Can be 25,000 with inspector's approval,

(Inspector's signature): _____

Date: _____

** Include a description of your aeration technique.

Aeration Code: _____

*** Al is only reported if the pH is above 9.0.

Category 4
Sampling Results

API No: _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	1	_____	N/A	N/A	Days
Fe	Monitor	_____	Monitor	_____	mg/l
D.O.	Monitor	_____	Monitor	_____	mg/l
Settleable Sol.	Monitor	_____	Monitor	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**			Monitor	_____	mg/l
Oil and Grease			Monitor	_____	mg/l
TSS			Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume			Monitor	_____	Gal
Flow			Monitor	_____	Gal/min
Activated Carbon (0.175)			N/A	N/A	lb/B1
Date Site Reclaimed	N/A	N/A			10 days from dis.
Disposal Area			Monitor	_____	Acres

* Can be 25,000 with inspector's approval,

(Inspector's signature): _____

Date: _____ 11/01/2024

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47-103-03149 County WETZEL District PROCTOR
Quad WILEYVILLE, WV Pad Name CONSTANCE TAYLOR-WTZ-PAD1 Field/Pool Name VICTORY FIELD WET
Farm name CONSTANCE A. TAYLOR Well Number CONSTANCE TAYLOR WTZ 5H
Operator (as registered with the OOG) SWN PRODUCTION COMPANY, LLC
Address PO BOX 12359 City SPRING State TX Zip 77391-2359

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,389,477.083 Easting 527,516.238
Landing Point of Curve Northing 4,389,691.857 Easting 527,479.581
Bottom Hole Northing 4,390,895.707 Easting 526,216.501

Elevation (ft) 1,430.2' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
SOBM

Date permit issued 08/11/2016 Date drilling commenced 12/21/2016 Date drilling ceased 01/27/2017
Date completion activities began 05/09/2017 Date completion activities ceased 05/20/2017
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 367' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1145' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1371' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
11/01/2024

API 47- 103 - 03149 Farm name CONSTANCE A. TAYLOR Well number CONSTANCE TAYLOR WTZ 5H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24	20	126	NEW	J-55/94#		Y
Surface	17.5	13.375	471	NEW	J-55/54.5#		Y; 34 BBLS RETURNED
Coal	SEE INTERMEDIATE						
Intermediate 1	12.25	9.625	2881	NEW	J-55/36#		Y; 65 BBLS RETURNED
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	13576	NEW	HCP-110/20#		Y
Tubing		2.375	7720	NEW	P110-4.7#		N
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	GROUT TO SURFACE				SURFACE	24
Surface	CLASS A	215	15.6	1.20	258	SURFACE	8
Coal	SEE INTERMEDIATE						
Intermediate 1	CLASS A	1124	15.6	1.18	1326.32	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2350	15.6	1.19	279.65	SURFACE	24
Tubing							

Drillers TD (ft) 13,576' Loggers TD (ft) 13,576'
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure _____

Kick off depth (ft) 6,715'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

SURFACE: 7 CENTRALIZERS - EVERY THIRD JOINT OF CASING
 INTERMEDIATE: 24 CENTRALIZERS - EVERY THIRD JOINT OF CASING
 PRODUCTION: 181 CENTRALIZERS - EVERY THIRD JOINT FROM SURFACE TO TOP OF CURVE, THEN EVERY JOINT UNTIL TD

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- 103 - 03149 Farm name CONSTANCE A. TAYLOR Well number CONSTANCE TAYLOR WTZ 5H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	SEE	ATTACHMENT 1	1		

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
		SEE	ATTACHMENT 1	2				

Please insert additional pages as applicable.

API 47- 103 - 03149 Farm name CONSTANCE A. TAYLOR Well number CONSTANCE TAYLOR WTZ 5H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>MARCELLUS</u>	<u>7,416.53'</u> TVD	<u>7,803'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 1,900 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs
 OPEN FLOW Gas 3,557 mcfpd Oil 77 bpd NGL _____ bpd Water 15 bpd GAS MEASURED BY Estimated Orifice Pilot

<u>LITHOLOGY/ FORMATION</u>	<u>TOP DEPTH IN FT NAME TVD</u>	<u>BOTTOM DEPTH IN FT TVD</u>	<u>TOP DEPTH IN FT MD</u>	<u>BOTTOM DEPTH IN FT MD</u>	<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H₂S, ETC)</u>
	<u>0</u>		<u>0</u>		
	<u>SEE</u>	<u>ATTACHMENT</u>	<u>3</u>		

Please insert additional pages as applicable.

Drilling Contractor SWN DRILLING COMPANY
 Address PO BOX 12359 City SPRING State TX Zip 77391-2359

Logging Company BAKER HUGHES
 Address 9110 GROGANS MILL RD City THE WOODLANDS State TX Zip 77380

Cementing Company ALLIED OIL AND GAS
 Address 8711 W C R 127 City MIDLAND State TX Zip 79706

Stimulating Company KEANE
 Address 2121 SAGE ROAD City HOUSTON State TX Zip 77056

Please insert additional pages as applicable.

Completed by DENISE GRANTHAM Telephone 832-796-6139
 Signature *Denise Grantham* Title REGULATORY TECHNICIAN Date 8/21/2017

Well Name:

CONSTANCE TAYLOR Wtz 5H

47103031490000

LITHOLOGY/FORMATION	TOP DEPTH, MD (FT)	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, MD (FT)	BOTTOM DEPTH, TVD (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	N.A.	N.A.	367.00	367.00	
Top of Salt Water	1145.00	1144.99	N.A.	N.A.	
Pittsburgh Coal	1371.00	1370.99	1379.00	1378.99	
Big Injun (ss)	2649.00	2648.86	2827.00	2826.85	
Berea (siltstone)	3186.00	3185.84	6802.76	6781.72	
Rhinstreet (shale)	6802.76	6781.72	7127.26	7078.30	
Cashaqua (shale)	7127.26	7078.30	7283.93	7198.42	
Middlesex (shale)	7283.93	7198.42	7431.47	7288.80	
Burket (shale)	7431.47	7288.80	7475.58	7311.58	
Tully (ls)	7475.58	7311.58	7526.77	7335.73	
Mahantango (shale)	7526.77	7335.73	7803.00	7416.53	
Marcellus (shale)	7803.00	7416.53	N.A.	N.A.	GAS

CONTANCE TAYLOR WTZ 5H
PERF SUMMARY

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	5/9/2017	13,357	13,466	42
2	5/10/2017	13,213	13,323	42
3	5/10/2017	13,070	13,180	42
4	5/10/2017	12,927	13,036	42
5	5/10/2017	12,784	12,893	42
6	5/10/2017	12,641	12,750	42
7	5/10/2017	12,497	12,607	42
8	5/10/2017	12,354	12,464	42
9	5/11/2017	12,211	12,320	42
10	5/11/2017	12,068	12,177	42
11	5/11/2017	11,925	12,034	42
12	5/11/2017	11,781	11,891	42
13	5/11/2017	11,638	11,748	42
14	5/11/2017	11,495	11,604	42
15	5/11/2017	11,352	11,461	42
16	5/12/2017	11,209	11,318	42
17	5/12/2017	11,065	11,175	42
18	5/12/2017	10,922	11,032	42
19	5/12/2017	10,779	10,888	42
20	5/12/2017	10,636	10,745	42
21	5/12/2017	10,493	10,602	42
22	5/12/2017	10,349	10,459	42
23	5/13/2017	10,206	10,316	42
24	5/13/2017	10,063	10,172	42
25	5/13/2017	9,920	10,029	42
26	5/13/2017	9,777	9,886	42
27	5/13/2017	9,633	9,743	42
28	5/13/2017	9,490	9,600	42
29	5/13/2017	9,347	9,456	42
30	5/13/2017	9,204	9,313	42
31	5/14/2017	9,061	9,170	42
32	5/14/2017	8,917	9,027	42
33	5/14/2017	8,774	8,884	42
34	5/14/2017	8,631	8,740	42
35	5/14/2017	8,488	8,597	42
36	5/14/2017	8,345	8,454	42
37	5/14/2017	8,201	8,311	42
38	5/14/2017	8,058	8,168	42
39	5/14/2017	7,915	8,024	42
40	5/15/2017	7,772	7,881	42

CONSTANCE TAYLOR WTZ 5H
FRAC STAGE SUMMARY

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/other
1	5/9/2017	85	8,099	8,430	4,421	275,660	4,829	
2	5/10/2017	91	8,136	8,538	4,238	280,348	4,815	
3	5/10/2017	93	8,301	8,729	4,143	277,520	4,894	
4	5/10/2017	91	8,307	8,651	4,307	277,460	4,914	
5	5/10/2017	92	8,262	8,545	4,399	280,020	4,614	
6	5/10/2017	92	8,005	8,371	4,416	275,640	4,592	
7	5/10/2017	95	8,058	8,434	4,482	274,392	4,588	
8	5/10/2017	94	8,087	8,270	4,385	279,080	4,666	
9	5/11/2017	97	8,111	8,434	4,946	274,540	4,771	
10	5/11/2017	95	8,397	8,749	4,856	280,900	4,784	
11	5/11/2017	95	8,406	8,938	4,967	287,500	4,578	
12	5/11/2017	99	8,342	8,609	4,622	280,240	4,714	
13	5/11/2017	92	8,145	8,327	4,342	275,540	4,539	
14	5/11/2017	90	8,159	8,537	4,870	278,060	4,699	
15	5/11/2017	99	8,169	8,372	4,660	279,640	4,637	
16	5/12/2017	94	8,298	8,587	5,291	280,140	4,602	
17	5/12/2017	98	8,164	8,461	4,500	279,620	4,857	
18	5/12/2017	98	8,305	8,590	4,434	279,860	4,439	
19	5/12/2017	98	8,228	8,491	4,407	277,540	4,514	
20	5/12/2017	98	8,124	8,568	4,251	274,140	4,440	
21	5/12/2017	99	8,229	8,466	4,599	274,600	4,409	
22	5/12/2017	100	8,110	8,377	4,354	275,600	4,392	
23	5/13/2017	96	8,255	8,559	4,085	277,300	4,503	
24	5/13/2017	98	8,274	8,525	4,659	272,740	4,345	
25	5/13/2017	99	8,196	8,512	4,274	274,529	4,476	
26	5/13/2017	99	8,048	8,238	4,846	278,500	4,479	
27	5/13/2017	100	8,237	8,535	4,882	279,240	4,364	
28	5/13/2017	100	7,994	8,209	3,947	283,840	4,502	
29	5/13/2017	98	8,017	8,401	4,537	274,100	4,377	
30	5/13/2017	100	7,786	8,015	4,388	280,520	4,461	
31	5/14/2017	100	7,900	8,192	4,111	280,720	4,256	
32	5/14/2017	99	8,103	8,451	4,528	282,880	4,421	
33	5/14/2017	100	7,792	8,323	4,363	276,820	4,334	
34	5/14/2017	100	8,004	8,465	4,864	277,120	4,182	
35	5/14/2017	101	7,825	8,130	4,296	273,960	4,394	
36	5/14/2017	102	7,473	7,945	4,323	276,540	4,189	
37	5/14/2017	100	7,566	8,823	4,456	274,040	4,243	
38	5/14/2017	101	7,794	8,416	4,599	288,140	4,153	
39	5/14/2017	102	7,497	8,208	4,487	288,500	4,245	
40	5/15/2017	71	7,889	9,102	4,182	287,400	9,755	

11/01/2024

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/10/2017
Job End Date:	5/15/2017
State:	West Virginia
County:	Wetzel
API Number:	47-103-03149-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Constance Taylor 5H
Latitude:	39.65465036
Longitude:	-80.67925400
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,427
Total Base Water Volume (gal):	7,641,728
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	SWN	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	83.33132	None
Sand (Proppant)	Keane	Proppant					
			Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	14.56356	None
Hydrochloric Acid (15%)	Keane	Acidizing					
			Water	7732-18-5	85.00000	1.67374	None
			Hydrochloric Acid	7647-01-0	15.00000	0.29537	None
KFR-17	Keane	Friction Reducer					
			Disillates (petroleum), hydrotreated light ethanediol	64742-47-8	45.00000	0.05595	None
			Fatty alcohols ethoxylated	107-21-1	10.00000	0.01243	None
			Alcohols, C12-16, ethoxylated	68213-24-1	2.00000	0.00249	None
KFEAC-30	Keane	Iron Control					
			acetic acid	64-19-7	60.00000	0.00498	None
			Citric acid	77-92-9	40.00000	0.00332	None
KAI-16	Keane	Acid Inhibitor					
			Isopropanol	67-63-0	60.00000	0.00203	None

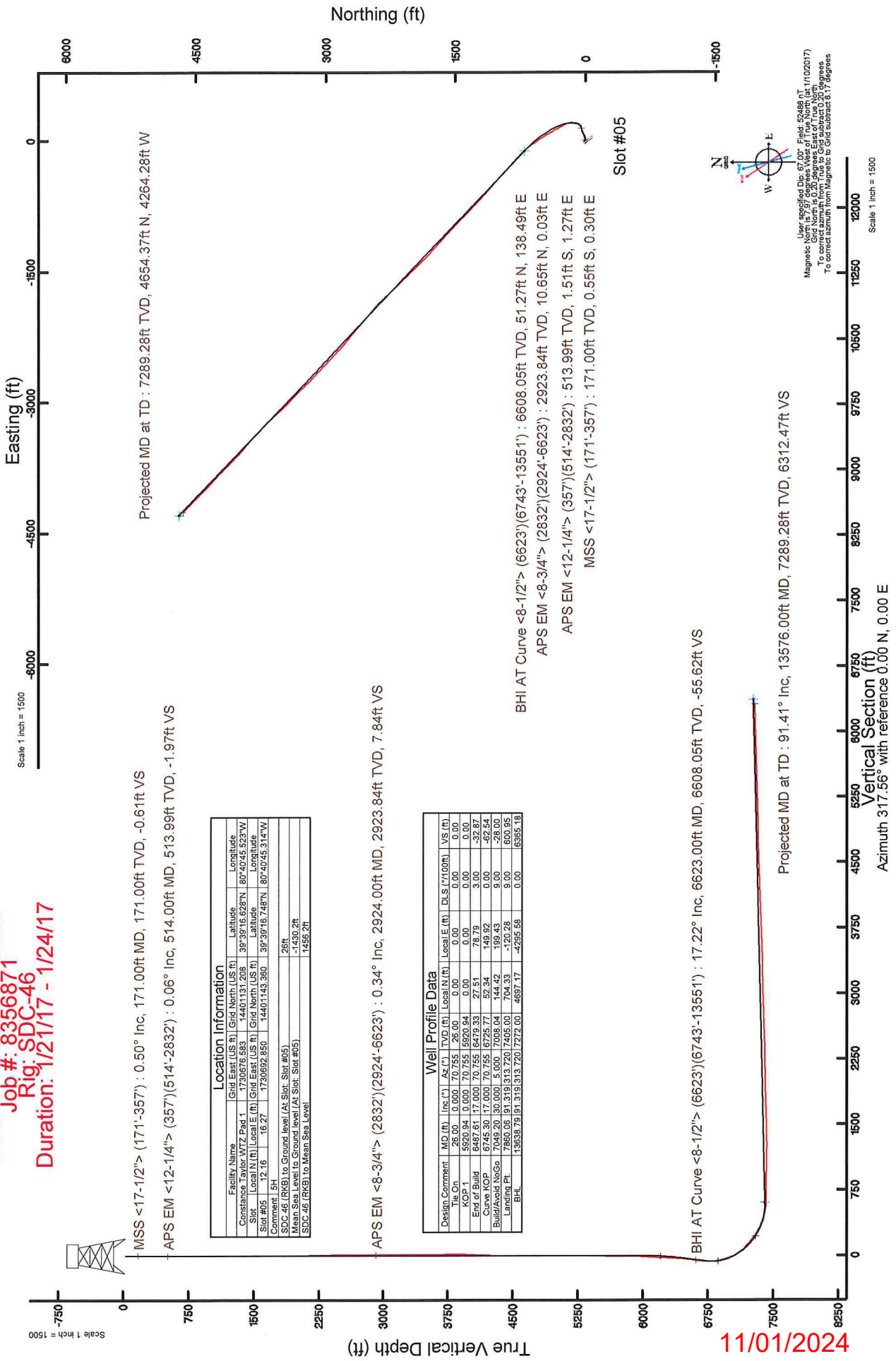
			Ethoxylated Fatty Alcohol	Proprietary	30.00000	0.00101	None
			Aromatic aldehyde	Proprietary	10.00000	0.00034	None
			Ethoxylated Alcohol	Proprietary	10.00000	0.00034	None
			Alkoxylated fatty amine	Proprietary	5.00000	0.00017	None
			Methanol	67-56-1	1.00000	0.00003	None
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Water	7732-18-5	85.00000	1.67374	
			ethanediol	107-21-1	10.00000	0.01243	
			Citric acid	77-92-9	40.00000	0.00332	
			Alcohols, C12-16, ethoxylated	68213-24-1	2.00000	0.00249	
			Fatty alcohols ethoxylated	Proprietary	2.00000	0.00249	
			Ethoxylated Fatty Alcohol	Proprietary	30.00000	0.00101	
			Aromatic aldehyde	Proprietary	10.00000	0.00034	
			Ethoxylated Alcohol	Proprietary	10.00000	0.00034	
			Alkoxylated fatty amine	Proprietary	5.00000	0.00017	
			Methanol	67-56-1	1.00000	0.00003	
			Water	7732-18-5	92.50000		
			ammonium chloride	12125-02-9	5.00000		
			Oxyalkylated alcohol	Proprietary	5.00000		

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided. Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

API: 47-103-03149-0000
Job #: 8356871
Rig: SDC-46
Duration: 1/22/17 - 1/24/17



MSS <17'-1/2"> (171'-357") : 0.50° Inc, 171.00ft MD, 171.00ft TVD, -0.61ft VS
APS EM <12'-1/4"> (357')(514'-2832') : 0.06° Inc, 514.00ft MD, 513.99ft TVD, -1.97ft VS

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude
Constance Taylor WIZ Pad 1	47119.13	10528.71	39°39'10.82"N
Slot #05	14401143.389	14401143.389	39°39'16.748"N
Comment 5H	-16.27	-1730692.850	80°40'45.314"W
SDC 46 (RKB) to Ground level (At Slot: Slot #05)			
Mean Sea Level to Ground level (At Slot: Slot #05)	26ft		
SDC 46 (RKB) to Mean Sea Level	-1430.2ft		
	1456.2ft		

APS EM <8'-3/4"> (2832')(2924'-6623') : 0.34° Inc, 2924.00ft MD, 2923.84ft TVD, 7.84ft VS

Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Asz (°)	TVD (ft)	Local E (ft)	Local N (ft)	VS (ft)
In Op	26.00	0.000	70.755	-26.00	0.00	0.00	0.00
KOP 1	5920.94	0.000	70.755	5920.94	0.00	0.00	0.00
End of Build	6487.61	17.000	70.755	6479.33	27.51	78.79	-32.87
Curve KOP	6745.30	17.000	70.755	6725.77	52.34	148.92	-62.54
Build/Avoid NoGo	7049.20	30.000	5.000	7008.04	144.42	199.43	-28.00
Landing Pt	7850.05	91.319	813.720	7405.00	704.33	-120.28	600.95
BHL	13638.79	91.319	813.720	7272.00	4697.17	-4296.58	6365.18

BHI AT Curve <8'-1/2"> (6623')(6743'-13551') : 6608.05ft TVD, 51.27ft N, 138.49ft E
APS EM <8'-3/4"> (2832')(2924'-6623') : 2923.84ft TVD, 10.65ft N, 0.03ft E
APS EM <12'-1/4"> (357')(514'-2832') : 513.99ft TVD, 1.51ft S, 1.27ft E
MSS <17'-1/2"> (171'-357') : 171.00ft TVD, 0.55ft S, 0.30ft E

BHI AT Curve <8'-1/2"> (6623')(6743'-13551') : 17.22° Inc, 6623.00ft MD, 6608.05ft TVD, -55.62ft VS

Projected MD at TD : 91.41° Inc, 13576.00ft MD, 7289.28ft TVD, 6312.47ft VS

Vertical Section (ft)
Azimuth 317.56° with reference 0.00 N, 0.00 E

11/01/2024

User specified Dip: 67.00° Field: 52488 NT
Magnetic Declination: 11.02017°
Grid North is 0.20 degrees East of True North
To correct azimuth from True to Grid subtract 0.20 degrees
To correct azimuth from Magnetic to Grid subtract 6.17 degrees

Scale 1 inch = 1500

Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Amarcar
Scale	0.999609	Report Generated	1/26/2017 at 9:32:17 AM
Convergence at slot	0.21° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Constance_Taylor_WTZ_5H_AWP_Proj_13576_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	12.16	16.27	1730692.85	14401143.36	39°39'16.748"N	80°40'45.314"W
Facility Reference Pt			1730676.58	14401131.21	39°39'16.628"N	80°40'45.523"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM

Calculation method	Minimum curvature	SDC 46 (RKB) to Facility Vertical Datum	1456.20ft
Horizontal Reference Pt	Slot	SDC 46 (RKB) to Mean Sea Level	1456.20ft
Vertical Reference Pt	SDC 46 (RKB)	SDC 46 (RKB) to Ground Level at Slot (Slot #05)	26.00ft
MD Reference Pt	SDC 46 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	317.56°

Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH DATA (164 stations) † = interpolated/extrapolated station

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	DLS (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)
0.00†	0.000	151.280	0.00	0.00	0.00	0.00	1730692.85	14401143.36	39°39'16.748"N	80°40'45.314"W	0.00	0.00	0.00
26.00	0.000	151.280	26.00	0.00	0.00	0.00	1730692.85	14401143.36	39°39'16.748"N	80°40'45.314"W	0.00	0.00	0.00
171.00	0.500	151.280	171.00	-0.61	-0.55	0.30	1730693.15	14401142.81	39°39'16.742"N	80°40'45.311"W	0.34	0.34	104.33
264.00	0.400	112.180	264.00	-1.30	-1.03	0.80	1730693.65	14401142.33	39°39'16.737"N	80°40'45.304"W	0.34	-0.11	-42.04
357.00	0.200	144.580	356.99	-1.76	-1.29	1.19	1730694.04	14401142.07	39°39'16.735"N	80°40'45.299"W	0.27	-0.22	34.84
514.00	0.060	271.490	513.99	-1.97	-1.51	1.27	1730694.12	14401141.85	39°39'16.733"N	80°40'45.298"W	0.15	-0.09	80.83
607.00	0.120	174.230	606.99	-2.02	-1.60	1.23	1730694.08	14401141.76	39°39'16.732"N	80°40'45.299"W	0.15	0.06	-104.58
699.00	0.100	21.210	698.99	-2.06	-1.63	1.27	1730694.12	14401141.73	39°39'16.731"N	80°40'45.298"W	0.23	-0.02	-166.33
792.00	0.100	114.060	791.99	-2.10	-1.58	1.37	1730694.22	14401141.78	39°39'16.732"N	80°40'45.297"W	0.16	0.00	99.84
885.00	0.030	209.570	884.99	-2.18	-1.64	1.44	1730694.29	14401141.72	39°39'16.731"N	80°40'45.296"W	0.12	-0.08	102.70
977.00	0.090	51.880	976.99	-2.19	-1.61	1.48	1730694.33	14401141.75	39°39'16.732"N	80°40'45.296"W	0.13	0.07	-171.40
1070.00	0.210	60.720	1069.99	-2.23	-1.49	1.69	1730694.54	14401141.88	39°39'16.733"N	80°40'45.293"W	0.13	0.13	9.51
1163.00	0.210	62.790	1162.99	-2.32	-1.32	1.99	1730694.84	14401142.04	39°39'16.734"N	80°40'45.289"W	0.01	0.00	2.23
1256.00	0.000	351.830	1255.99	-2.36	-1.25	2.14	1730694.99	14401142.11	39°39'16.735"N	80°40'45.287"W	0.23	-0.23	-67.52
1348.00	0.150	69.300	1347.99	-2.41	-1.20	2.25	1730695.10	14401142.16	39°39'16.736"N	80°40'45.286"W	0.16	0.16	75.33
1441.00	0.340	60.610	1440.99	-2.52	-1.03	2.61	1730695.46	14401142.34	39°39'16.737"N	80°40'45.281"W	0.21	0.20	-9.34
1534.00	0.380	35.860	1533.99	-2.52	-0.64	3.03	1730695.88	14401142.72	39°39'16.741"N	80°40'45.276"W	0.17	0.04	-26.61
1627.00	0.510	58.270	1626.99	-2.53	-0.17	3.56	1730696.41	14401143.19	39°39'16.746"N	80°40'45.269"W	0.23	0.14	24.10
1719.00	0.800	56.150	1718.98	-2.70	0.40	4.44	1730697.29	14401143.76	39°39'16.751"N	80°40'45.258"W	0.32	0.32	-2.30
1812.00	1.180	36.700	1811.97	-2.60	1.54	5.54	1730698.39	14401144.90	39°39'16.763"N	80°40'45.243"W	0.55	0.41	-21.99
1905.00	0.920	1.520	1904.95	-1.87	3.06	6.12	1730698.97	14401146.42	39°39'16.778"N	80°40'45.236"W	0.72	-0.28	-36.75
1997.00	0.740	342.340	1996.94	-0.80	4.37	5.96	1730698.81	14401147.73	39°39'16.791"N	80°40'45.238"W	0.36	-0.20	-20.85
2090.00	1.090	345.170	2089.93	0.53	5.80	5.55	1730698.40	14401149.15	39°39'16.805"N	80°40'45.243"W	0.38	0.38	3.04
2183.00	1.540	346.390	2182.91	2.41	7.87	5.03	1730697.88	14401151.22	39°39'16.825"N	80°40'45.250"W	0.48	0.48	1.31
2275.00	0.950	337.050	2274.88	4.21	9.77	4.44	1730697.29	14401153.13	39°39'16.844"N	80°40'45.257"W	0.68	-0.64	-10.15
2368.00	1.080	300.630	2367.87	5.78	10.93	3.39	1730696.23	14401154.28	39°39'16.855"N	80°40'45.271"W	0.69	0.14	-39.16
2461.00	0.470	283.870	2460.86	6.93	11.46	2.26	1730695.11	14401154.82	39°39'16.861"N	80°40'45.285"W	0.69	-0.66	-18.02
2554.00	0.030	185.450	2553.86	7.24	11.53	1.89	1730694.74	14401154.89	39°39'16.861"N	80°40'45.290"W	0.51	-0.47	-105.83
2646.00	0.120	85.140	2645.86	7.16	11.52	1.98	1730694.83	14401154.87	39°39'16.861"N	80°40'45.289"W	0.14	0.10	-109.03
2739.00	0.100	160.410	2738.86	7.03	11.45	2.11	1730694.96	14401154.80	39°39'16.861"N	80°40'45.287"W	0.15	-0.02	80.94

Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH DATA (164 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)
2832.00	1.280	257.070	2831.85	7.46	11.14	1.12	1730693.97	14401154.49	39°39'16.858"N	80°40'45.300"W	1.39	1.27	103.94
2924.00	0.340	198.960	2923.84	7.84	10.65	0.03	1730692.88	14401154.01	39°39'16.853"N	80°40'45.314"W	1.24	-1.02	-63.16
3019.00	0.220	345.510	3018.84	7.87	10.56	-0.11	1730692.74	14401153.92	39°39'16.852"N	80°40'45.315"W	0.57	-0.13	154.26
3112.00	0.450	257.890	3111.84	8.21	10.66	-0.51	1730692.34	14401154.01	39°39'16.853"N	80°40'45.320"W	0.53	0.25	-94.22
3205.00	0.100	194.770	3204.84	8.35	10.50	-0.89	1730691.96	14401153.86	39°39'16.851"N	80°40'45.325"W	0.45	-0.38	-67.87
3294.00	0.260	312.050	3293.84	8.51	10.56	-1.06	1730691.79	14401153.92	39°39'16.852"N	80°40'45.327"W	0.36	0.18	131.78
3387.00	0.370	18.870	3386.84	8.86	10.99	-1.12	1730691.74	14401154.34	39°39'16.856"N	80°40'45.328"W	0.39	0.12	71.85
3480.00	0.450	359.790	3479.84	9.28	11.64	-1.02	1730691.83	14401154.99	39°39'16.863"N	80°40'45.327"W	0.17	0.09	-20.52
3572.00	0.420	345.120	3571.83	9.84	12.32	-1.11	1730691.74	14401155.68	39°39'16.869"N	80°40'45.328"W	0.12	-0.03	-15.95
3665.00	0.620	339.280	3664.83	10.61	13.12	-1.37	1730691.48	14401156.48	39°39'16.877"N	80°40'45.331"W	0.22	0.22	-6.28
3758.00	1.070	341.810	3757.82	11.87	14.42	-1.82	1730691.03	14401157.77	39°39'16.890"N	80°40'45.337"W	0.49	0.48	2.72
3851.00	0.770	249.750	3850.81	12.90	15.03	-2.68	1730690.17	14401159.38	39°39'16.896"N	80°40'45.348"W	1.44	-0.32	-98.99
3943.00	2.500	177.310	3942.78	11.59	12.81	-3.17	1730689.69	14401156.16	39°39'16.874"N	80°40'45.354"W	2.59	1.88	-78.74
4036.00	2.740	163.050	4035.68	8.02	8.66	-2.42	1730690.43	14401152.01	39°39'16.833"N	80°40'45.345"W	0.74	0.26	-15.33
4129.00	2.330	171.510	4128.59	4.45	4.66	-1.49	1730691.36	14401149.02	39°39'16.794"N	80°40'45.333"W	0.60	-0.44	9.10
4221.00	1.500	136.160	4220.54	1.69	1.94	-0.38	1730692.47	14401145.30	39°39'16.767"N	80°40'45.319"W	1.53	-0.90	-38.42
4314.00	0.640	119.980	4313.52	-0.02	0.80	0.91	1730693.76	14401144.16	39°39'16.755"N	80°40'45.303"W	0.97	-0.92	-17.40
4407.00	0.530	84.580	4406.52	-0.77	0.59	1.79	1730694.64	14401143.95	39°39'16.753"N	80°40'45.292"W	0.40	-0.12	-38.06
4500.00	0.530	126.770	4499.52	-1.45	0.37	2.56	1730695.41	14401143.73	39°39'16.751"N	80°40'45.282"W	0.41	0.00	45.37
4592.00	0.440	98.890	4591.51	-2.15	0.06	3.25	1730696.10	14401143.42	39°39'16.748"N	80°40'45.273"W	0.27	-0.10	-30.30
4685.00	0.980	59.590	4684.51	-2.59	0.41	4.29	1730697.14	14401143.77	39°39'16.751"N	80°40'45.260"W	0.75	0.58	-42.30
4777.00	1.320	63.840	4776.49	-3.05	1.27	5.92	1730698.76	14401144.63	39°39'16.760"N	80°40'45.239"W	0.38	0.37	4.66
4870.00	1.760	56.430	4869.45	-3.57	2.54	8.07	1730700.92	14401145.89	39°39'16.772"N	80°40'45.211"W	0.52	0.47	-7.97
4963.00	0.500	348.400	4962.44	-3.45	3.72	9.18	1730702.02	14401147.08	39°39'16.784"N	80°40'45.197"W	1.76	-1.35	-73.15
5056.00	0.710	342.000	5055.43	-2.57	4.67	8.92	1730701.76	14401148.03	39°39'16.793"N	80°40'45.200"W	0.24	0.23	-6.88
5151.00	1.120	342.400	5150.42	-1.19	6.11	8.45	1730701.30	14401149.47	39°39'16.808"N	80°40'45.206"W	0.43	0.43	0.42
5244.00	0.100	158.510	5243.41	-0.44	6.90	8.21	1730701.06	14401150.26	39°39'16.816"N	80°40'45.209"W	1.31	-1.10	189.37
5337.00	1.680	153.580	5336.40	-1.83	5.61	8.85	1730701.69	14401148.97	39°39'16.803"N	80°40'45.201"W	1.70	1.70	-5.30
5429.00	2.060	129.210	5428.35	-4.76	3.35	10.73	1730703.57	14401146.71	39°39'16.780"N	80°40'45.177"W	0.95	0.41	-26.49
5522.00	1.470	107.810	5521.31	-7.45	1.93	13.16	1730706.00	14401145.29	39°39'16.766"N	80°40'45.146"W	0.94	-0.63	-23.01

Actual Wellpath Report

Constance Taylor WZ 5H AWP Proj: 13576

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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #05
SOUTHWESTERN ENERGY	Well	Constance Taylor WZ 5H
Area	Wellbore	Constance Taylor WZ 5H AWB
Field		
Facility		

WELLPATH DATA (164 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (°/100ft)
5615.00	0.960	108.230	5614.29	-9.17	1.32	15.03	1730707.88	14401144.68	39°39'16.760"N	80°40'45.122"W	0.55	0.55	0.45
5708.00	0.500	139.440	5707.28	-10.25	0.77	16.04	1730708.88	14401144.13	39°39'16.755"N	80°40'45.109"W	0.64	-0.49	33.56
5800.00	0.280	93.360	5799.28	-10.81	0.45	16.52	1730709.37	14401143.81	39°39'16.751"N	80°40'45.103"W	0.40	-0.24	-50.09
5893.00	0.970	100.520	5892.27	-11.61	0.30	17.52	1730710.37	14401143.66	39°39'16.750"N	80°40'45.090"W	0.75	0.74	7.70
5986.00	4.350	79.920	5985.16	-14.12	0.77	21.77	1730714.61	14401144.13	39°39'16.754"N	80°40'45.036"W	3.72	3.63	-22.15
6079.00	7.780	73.030	6077.62	-18.72	3.23	31.27	1730724.11	14401146.58	39°39'16.778"N	80°40'44.914"W	3.76	3.69	-7.41
6172.00	9.960	66.200	6169.51	-24.00	8.31	44.65	1730737.48	14401151.67	39°39'16.828"N	80°40'44.743"W	2.60	2.34	-7.34
6265.00	10.770	60.100	6260.99	-28.45	15.89	59.54	1730752.37	14401159.24	39°39'16.902"N	80°40'44.552"W	1.47	0.87	-6.56
6359.00	12.340	58.860	6353.09	-32.33	25.46	75.75	1730768.57	14401168.81	39°39'16.997"N	80°40'44.345"W	1.69	1.67	-1.32
6452.00	14.120	63.480	6443.62	-37.39	36.67	94.41	1730787.22	14401179.01	39°39'17.097"N	80°40'44.106"W	2.22	1.91	4.97
6544.00	16.280	71.390	6532.40	-45.68	44.79	116.68	1730809.48	14401188.14	39°39'17.186"N	80°40'43.821"W	3.25	2.35	8.60
6623.00	17.220	75.410	6608.05	-55.62	51.27	138.49	1730831.29	14401194.61	39°39'17.249"N	80°40'43.541"W	1.89	1.19	5.09
6743.00	13.580	62.270	6723.76	-67.50	62.31	168.17	1730860.95	14401205.65	39°39'17.357"N	80°40'43.161"W	4.18	-3.03	-10.95
6789.00	13.790	44.480	6768.47	-68.58	68.74	176.79	1730869.57	14401212.07	39°39'17.421"N	80°40'43.051"W	9.13	0.46	-38.67
6835.00	17.350	36.270	6812.78	-66.94	78.18	184.70	1730877.47	14401221.51	39°39'17.514"N	80°40'42.949"W	9.08	7.74	-17.85
6882.00	19.370	23.390	6857.41	-62.37	90.99	191.94	1730884.71	14401234.32	39°39'17.640"N	80°40'42.856"W	9.62	4.30	-27.40
6928.00	20.440	13.060	6900.67	-54.70	105.82	196.79	1730889.56	14401249.14	39°39'17.786"N	80°40'42.794"W	7.98	2.33	-22.46
6975.00	21.620	8.800	6944.54	-44.63	122.38	199.96	1730892.74	14401265.69	39°39'17.950"N	80°40'42.752"W	4.11	2.51	-9.06
7021.00	26.410	6.250	6986.55	-32.56	140.93	202.38	1730895.15	14401284.24	39°39'18.133"N	80°40'42.720"W	10.65	10.41	-5.54
7070.00	30.280	359.750	7029.68	-16.20	164.13	203.51	1730896.28	14401307.43	39°39'18.362"N	80°40'42.705"W	10.09	7.90	-13.27
7117.00	32.680	348.040	7069.80	3.53	188.42	200.83	1730893.60	14401331.71	39°39'18.603"N	80°40'42.738"W	13.95	5.11	-24.91
7163.00	35.570	338.630	7107.90	26.74	213.05	193.37	1730886.14	14401356.33	39°39'18.846"N	80°40'42.832"W	13.07	6.28	-20.46
7209.00	39.730	333.570	7144.32	53.37	238.69	181.94	1730874.72	14401381.96	39°39'19.100"N	80°40'42.977"W	11.26	9.04	-11.00
7256.00	44.470	331.330	7179.18	83.82	266.61	167.35	1730860.13	14401409.86	39°39'19.376"N	80°40'43.163"W	10.58	10.09	-4.77
7302.00	48.470	331.030	7210.86	116.23	295.82	151.27	1730844.06	14401439.06	39°39'19.666"N	80°40'43.367"W	8.71	8.70	-0.65
7348.00	51.390	330.810	7240.47	150.47	326.58	134.17	1730826.96	14401469.81	39°39'19.970"N	80°40'43.584"W	6.36	6.35	-0.48
7395.00	54.840	330.410	7268.67	187.09	359.33	115.72	1730808.52	14401502.55	39°39'20.295"N	80°40'43.818"W	7.37	7.34	-0.85
7441.00	58.170	330.000	7294.06	224.52	392.61	96.66	1730789.47	14401535.82	39°39'20.624"N	80°40'44.061"W	7.28	7.24	-0.89
7487.00	60.920	329.560	7317.37	263.27	426.87	76.70	1730769.52	14401570.06	39°39'20.964"N	80°40'44.314"W	6.03	5.98	-0.96
7534.00	64.070	328.560	7339.07	304.11	462.62	55.26	1730748.09	14401605.80	39°39'21.318"N	80°40'44.567"W	6.96	6.70	-2.13

Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH DATA (164 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)
7580.00	68.450	327.190	7357.59	345.53	498.26	32.87	1730725.71	14401641.43	39°39'21.67"N	80°40'44.87"W	9.90	9.52	-2.98
7627.00	71.070	326.440	7373.85	389.05	535.17	8.73	1730701.58	14401678.32	39°39'22.036"N	80°40'45.178"W	5.77	5.57	-1.60
7673.00	72.300	325.500	7388.30	432.25	571.35	-15.70	1730677.15	14401714.49	39°39'22.395"N	80°40'45.489"W	3.30	2.67	-2.04
7719.00	75.280	324.420	7401.14	476.05	607.51	-41.06	1730651.80	14401750.63	39°39'22.753"N	80°40'45.812"W	6.86	6.48	-2.35
7766.00	79.820	321.970	7411.27	521.70	644.24	-68.56	1730624.32	14401787.35	39°39'23.117"N	80°40'46.162"W	10.92	9.66	-5.21
7812.00	83.830	319.790	7417.81	567.15	679.56	-97.28	1730595.61	14401822.65	39°39'23.467"N	80°40'46.527"W	9.90	8.72	-4.74
7905.00	91.850	315.320	7421.32	659.98	748.05	-159.94	1730532.97	14401891.12	39°39'24.146"N	80°40'47.325"W	9.87	8.62	-4.81
7951.00	90.120	313.700	7420.53	705.91	780.29	-192.74	1730500.19	14401923.35	39°39'24.466"N	80°40'47.743"W	5.15	-3.76	-3.52
7997.00	89.880	312.560	7420.53	751.77	811.74	-226.31	1730466.63	14401954.78	39°39'24.778"N	80°40'48.171"W	2.53	-0.52	-2.48
8044.00	90.030	311.150	7420.56	798.54	843.10	-261.31	1730431.64	14401986.13	39°39'25.089"N	80°40'48.617"W	3.02	0.32	-3.00
8090.00	89.780	311.220	7420.64	844.25	873.39	-295.93	1730397.03	14402016.41	39°39'25.390"N	80°40'49.058"W	0.56	-0.54	0.15
8136.00	88.980	311.300	7421.14	889.97	903.73	-330.51	1730362.47	14402046.73	39°39'25.691"N	80°40'49.499"W	1.75	-1.74	0.17
8183.00	89.320	313.960	7421.84	936.79	935.55	-365.08	1730327.91	14402078.54	39°39'26.006"N	80°40'49.940"W	5.70	0.72	5.66
8229.00	88.860	312.710	7422.57	982.66	967.11	-398.54	1730294.47	14402110.10	39°39'26.319"N	80°40'50.366"W	2.90	-1.00	-2.72
8275.00	89.050	311.940	7423.41	1028.46	998.08	-432.54	1730260.48	14402141.05	39°39'26.627"N	80°40'50.799"W	1.72	0.41	-1.67
8322.00	88.980	311.820	7424.21	1075.22	1029.45	-467.53	1730225.50	14402172.41	39°39'26.938"N	80°40'51.245"W	0.30	-0.15	-0.26
8368.00	88.950	312.120	7425.04	1120.99	1060.21	-501.72	1730191.32	14402203.15	39°39'27.243"N	80°40'51.681"W	0.66	-0.07	0.65
8461.00	88.890	312.010	7426.80	1213.55	1122.51	-570.75	1730122.32	14402265.43	39°39'27.861"N	80°40'52.561"W	0.13	-0.06	-0.12
8554.00	90.990	313.020	7426.89	1306.18	1185.35	-639.30	1730053.80	14402328.25	39°39'28.485"N	80°40'53.434"W	2.51	2.26	1.09
8647.00	90.860	312.850	7425.39	1398.87	1248.69	-707.38	1729985.75	14402391.56	39°39'29.113"N	80°40'54.302"W	0.23	-0.14	-0.18
8739.00	90.930	313.350	7423.91	1490.58	1311.54	-774.54	1729918.61	14402454.39	39°39'29.737"N	80°40'55.158"W	0.56	0.14	0.54
8832.00	92.030	313.910	7421.46	1583.32	1375.69	-841.83	1729851.35	14402518.51	39°39'30.373"N	80°40'56.015"W	1.27	1.12	0.60
8925.00	91.940	314.260	7418.24	1676.10	1440.35	-908.60	1729784.61	14402583.15	39°39'31.014"N	80°40'56.866"W	0.39	-0.10	0.38
9017.00	92.000	313.530	7415.07	1767.85	1504.10	-974.85	1729718.38	14402646.87	39°39'31.647"N	80°40'57.710"W	0.80	0.07	-0.79
9110.00	91.750	312.320	7412.03	1860.50	1567.40	-1042.91	1729650.35	14402710.15	39°39'32.275"N	80°40'58.578"W	1.33	-0.27	-1.30
9202.00	90.800	312.760	7409.98	1952.12	1629.59	-1110.68	1729582.60	14402772.31	39°39'32.892"N	80°40'59.441"W	1.14	-1.03	0.48
9295.00	90.890	311.010	7408.61	2044.65	1691.67	-1179.91	1729513.40	14402834.37	39°39'33.507"N	80°41'00.324"W	1.88	0.10	-1.88
9388.00	90.950	311.810	7407.12	2137.10	1753.18	-1249.65	1729443.69	14402895.85	39°39'34.118"N	80°41'01.213"W	0.86	0.06	0.86
9481.00	90.950	313.790	7405.58	2229.76	1816.35	-1317.87	1729375.49	14402959.00	39°39'34.745"N	80°41'02.082"W	2.13	0.00	2.13
9573.00	90.950	315.520	7404.05	2321.63	1881.00	-1383.31	1729310.09	14403023.62	39°39'35.386"N	80°41'02.916"W	1.88	0.00	1.88

Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576

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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #05
SOUTHWESTERN ENERGY	Well	Constance Taylor WTZ 5H
Area	Wellbore	Constance Taylor WTZ 5H AWB
Field		
Facility		

WELLPATH DATA (164 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9666.00	90.920	317.310	7402.53	2414.60	1948.36	-1447.41	1729246.01	14403090.95	39°39'36.054"N	80°41'03.733"W	1.92	-0.03	1.92
9759.00	92.280	313.880	7399.94	2507.49	2014.76	-1512.45	1729180.99	14403157.33	39°39'36.712"N	80°41'04.561"W	3.97	1.46	-3.69
9851.00	92.340	315.710	7396.23	2599.30	2079.52	-1577.68	1729115.79	14403222.07	39°39'37.354"N	80°41'05.392"W	1.99	0.07	1.99
9944.00	92.120	317.460	7392.61	2692.22	2147.03	-1641.55	1729051.95	14403289.54	39°39'38.024"N	80°41'06.206"W	1.90	-0.24	1.88
10037.00	92.030	317.810	7389.24	2785.15	2215.69	-1704.17	1728989.35	14403358.18	39°39'38.705"N	80°41'07.004"W	0.39	-0.10	0.38
10130.00	92.150	315.610	7385.85	2878.08	2283.34	-1767.90	1728925.65	14403425.80	39°39'39.375"N	80°41'07.815"W	2.37	0.13	-2.37
10222.00	92.120	315.470	7382.42	2969.96	2348.96	-1832.29	1728861.28	14403491.40	39°39'40.026"N	80°41'08.636"W	0.16	-0.03	-0.15
10315.00	91.480	312.520	7379.50	3062.72	2413.52	-1899.15	1728794.44	14403555.93	39°39'40.666"N	80°41'09.488"W	3.24	-0.69	-3.17
10408.00	91.080	310.900	7377.42	3155.21	2475.38	-1968.56	1728725.06	14403617.76	39°39'41.280"N	80°41'10.373"W	1.79	-0.43	-1.74
10497.00	91.140	311.930	7375.70	3243.68	2534.24	-2035.29	1728658.36	14403676.60	39°39'41.864"N	80°41'11.223"W	1.16	0.07	1.16
10590.00	90.860	311.440	7374.07	3336.18	2596.08	-2104.73	1728588.94	14403738.42	39°39'42.478"N	80°41'12.108"W	0.61	-0.30	-0.53
10683.00	90.860	310.920	7372.68	3428.59	2657.30	-2174.72	1728518.98	14403799.62	39°39'43.085"N	80°41'13.001"W	0.56	0.00	-0.56
10775.00	91.910	309.890	7370.46	3519.84	2716.92	-2244.75	1728448.98	14403859.21	39°39'43.677"N	80°41'13.893"W	1.60	1.14	-1.12
10868.00	91.940	309.940	7367.33	3611.97	2776.56	-2316.04	1728377.71	14403918.83	39°39'44.269"N	80°41'14.802"W	0.06	0.03	0.05
10961.00	92.340	313.680	7363.86	3704.42	2838.50	-2385.30	1728308.48	14403980.75	39°39'44.883"N	80°41'15.685"W	4.04	0.43	4.02
11054.00	91.910	314.300	7360.41	3797.17	2903.05	-2452.17	1728241.65	14404045.27	39°39'45.523"N	80°41'16.537"W	0.81	-0.46	0.67
11146.00	91.850	312.130	7357.39	3888.85	2966.01	-2519.17	1728174.66	14404108.20	39°39'46.148"N	80°41'17.391"W	2.36	-0.07	-2.36
11239.00	92.060	313.620	7354.22	3981.48	3029.25	-2587.29	1728106.58	14404171.42	39°39'46.775"N	80°41'18.259"W	1.62	0.23	1.60
11332.00	92.090	315.710	7350.85	4074.30	3094.58	-2653.38	1728040.51	14404236.72	39°39'47.423"N	80°41'19.102"W	2.25	0.03	2.25
11425.00	92.000	312.780	7347.53	4167.07	3159.42	-2719.96	1727973.96	14404301.54	39°39'48.066"N	80°41'19.950"W	3.15	-0.10	-3.15
11517.00	91.910	316.100	7344.39	4258.87	3223.78	-2785.60	1727908.35	14404366.88	39°39'48.705"N	80°41'20.787"W	3.61	-0.10	3.61
11610.00	92.030	316.390	7341.19	4351.79	3290.92	-2849.87	1727844.09	14404432.99	39°39'49.370"N	80°41'21.606"W	0.34	0.13	0.31
11703.00	91.910	313.580	7338.00	4444.63	3356.62	-2915.61	1727778.39	14404498.66	39°39'50.022"N	80°41'22.443"W	3.02	-0.13	-3.02
11796.00	91.630	314.090	7335.12	4537.39	3421.00	-2982.66	1727711.36	14404563.01	39°39'50.660"N	80°41'23.298"W	0.63	-0.30	0.55
11888.00	91.990	314.290	7332.38	4629.19	3485.10	-3048.40	1727645.45	14404627.09	39°39'51.296"N	80°41'24.138"W	0.28	0.17	0.22
11981.00	91.390	317.090	7329.80	4722.10	3551.61	-3113.53	1727580.54	14404693.58	39°39'51.956"N	80°41'24.965"W	3.04	-0.43	3.01
12073.00	91.450	318.150	7327.52	4814.07	3619.55	-3175.52	1727518.58	14404761.49	39°39'52.629"N	80°41'25.755"W	1.15	0.07	1.15
12166.00	91.450	313.860	7325.16	4906.98	3686.42	-3240.08	1727454.04	14404828.33	39°39'53.292"N	80°41'26.578"W	4.61	0.00	-4.61
12259.00	91.350	312.220	7322.89	4999.66	3749.87	-3308.03	1727386.12	14404891.76	39°39'53.922"N	80°41'27.444"W	1.77	-0.11	-1.76
12351.00	91.540	313.510	7320.57	5091.32	3812.43	-3375.44	1727318.73	14404954.30	39°39'54.542"N	80°41'28.303"W	1.42	0.21	1.40

Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH DATA (164 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12444.00	91.450	311.940	7318.14	5183.96	3875.51	-3443.74	1727250.47	14405017.35	39°39'55.168"N	80°41'29.174"W	1.69	-0.10	-1.69
12537.00	91.420	311.000	7315.82	5276.40	3937.07	-3513.40	1727180.83	14405078.89	39°39'55.779"N	80°41'30.062"W	1.01	-0.03	-1.01
12629.00	91.600	311.540	7313.39	5367.82	3997.74	-3682.52	1727111.74	14405139.53	39°39'56.381"N	80°41'30.943"W	0.62	0.20	0.59
12722.00	91.540	313.960	7310.84	5460.45	4060.84	-3650.78	1727043.50	14405202.60	39°39'57.007"N	80°41'31.813"W	2.60	-0.06	2.60
12815.00	91.480	314.100	7308.39	5553.24	4125.45	-3717.62	1726976.69	14405267.19	39°39'57.647"N	80°41'32.665"W	0.16	-0.06	0.15
12908.00	91.380	314.530	7306.07	5646.06	4190.40	-3784.15	1726910.19	14405332.12	39°39'58.291"N	80°41'33.513"W	0.47	-0.11	0.46
13000.00	91.510	314.170	7303.75	5737.89	4254.69	-3849.91	1726844.45	14405396.38	39°39'58.929"N	80°41'34.351"W	0.42	0.14	-0.39
13093.00	91.450	311.970	7301.35	5830.56	4318.18	-3917.82	1726776.56	14405459.84	39°39'59.559"N	80°41'35.217"W	2.37	-0.06	-2.37
13186.00	91.420	312.680	7299.02	5923.15	4380.78	-3986.56	1726707.86	14405522.42	39°40'00.180"N	80°41'36.093"W	0.76	-0.03	0.76
13279.00	91.420	316.180	7296.71	6015.97	4445.85	-4052.94	1726641.50	14405587.47	39°40'00.825"N	80°41'36.939"W	3.76	0.00	3.76
13372.00	91.540	314.530	7294.31	6108.86	4511.99	-4118.27	1726576.20	14405653.58	39°40'01.481"N	80°41'37.771"W	1.78	0.13	-1.77
13465.00	91.350	314.140	7291.97	6201.69	4576.97	-4184.77	1726509.73	14405718.53	39°40'02.125"N	80°41'38.619"W	0.47	-0.20	-0.42
13551.00	91.410	314.290	7289.90	6287.51	4636.92	-4246.39	1726448.13	14405778.46	39°40'02.720"N	80°41'39.404"W	0.19	0.07	0.17
13576.00	91.410	314.290	7289.28	6312.47	4654.37	-4264.28	1726430.25	14405795.91	39°40'02.893"N	80°41'39.632"W	0.00	0.00	0.00

HOLE & CASING SECTIONS

- Ref Wellbore: Constance Taylor WTZ 5H AWB Ref Wellpath: Constance Taylor WTZ 5H AWP Proj: 13576'

String/Diameter	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start N/S (ft)	Start E/W (ft)	End N/S (ft)	End E/W (ft)
17.5in Open Hole	26.00	485.00	459.00	26.00	484.99	0.00	0.00	-1.50	1.29
13.375in Casing Surface	26.00	470.00	444.00	26.00	469.99	0.00	0.00	-1.49	1.30
12.25in Open Hole	485.00	2901.00	2416.00	484.99	2900.84	-1.50	1.29	10.78	0.13
9.625in Casing Intermediate	26.00	2881.00	2855.00	26.00	2880.84	0.00	0.00	10.89	0.31
8.75in Open Hole	2901.00	6700.00	3799.00	2900.84	6682.07	0.78	0.13	57.88	158.62
8.5in Open Hole	6700.00	13576.00	6876.00	6682.07	7289.28	57.88	158.62	4654.37	-4264.28

Actual Wellpath Report

Constance Taylor WTZ 5H AWP Proj: 13576'

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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #05
SOUTHWESTERN ENERGY	Well	Constance Taylor WTZ 5H
Area	Wellbore	Constance Taylor WTZ 5H AWP
Field		
Facility		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Constance Taylor WTZ 5H BHL Rev-4	7272.00	4697.17	-4295.59	1726398.95	14405838.69	39°40'03.317"N	80°41'40.031"W	point
Constance Taylor WTZ 5H LP Rev-4	7405.00	704.33	-120.28	1730572.62	14401847.41	39°39'23.713"N	80°40'46.820"W	point

WELLPATH COMPOSITION - Ref Wellbore: Constance Taylor WTZ 5H AWP Ref Wellpath: Constance Taylor WTZ 5H AWP Proj: 13576'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
26.00	357.00	TOWSG EMS rev2 + HRGM	01_MSS <17-1/2"> (171'-357')
357.00	2832.00	BHI NaviTrak (Axial)	02_APS EM <12-1/4"> (357')(614'-2832')
2832.00	6623.00	BHI NaviTrak (Axial)	03_APS EM <8-3/4"> (2832')(2924'-6623')
6623.00	13551.00	BHI AutoTrak Curve (Short)	04_BHI AT Curve <8-1/2"> (6623')(6743'-13551')
13551.00	13576.00	Blind Drilling (std)	Projection to bit

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #05
Area	Wetzel County, WV	Well	Constance Taylor WTZ 5H
Field	Wetzel	Wellbore	Constance Taylor WTZ 5H AWB
Facility	Constance Taylor WTZ Pad 1		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
171.00	0.500	151.280	171.00	MSS <17'-1/2"> (171'-357')
514.00	0.060	271.490	513.99	APS EM <12'-1/4"> (357')(514'-2832')
2924.00	0.340	198.960	2923.84	APS EM <8'-3/4"> (2832')(2924'-6623')
6623.00	17.220	75.410	6608.05	BHI AT Curve <8'-1/2"> (6623')(6743'-13551')
13576.00	91.410	314.290	7289.28	Projected MD at TD

COMMENTS

Wellpath general comments
 API: 47-103-03149-0000
 Job #: 8356871
 Rig: SDC-46
 Duration: 1/21/17 - 1/24/17
 MSS <17'-1/2"> (171'-357')
 APS EM <12'-1/4"> (357')(514'-2832')
 APS EM <8'-3/4"> (2832')(2924'-6623')
 BHI AT Curve <8'-1/2"> (6623')(6743'-13551')
 Projection to Bit: 13576' MD.

Latitude: 39°40'00" 3,542'

BHL Latitude: 39°42'30" 7,790'

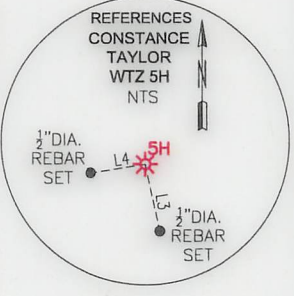
4,375'
14,878'
Longitude: 80°40'00"



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

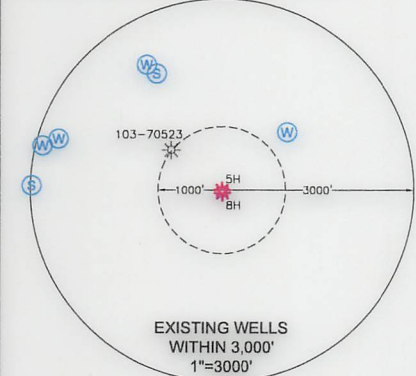
GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	S 37°27'04" E	462.5'	SHL TO LANDMARK	
L2	S 31°41'50" W	1,219.0'	SHL TO LANDMARK	
L3	S 14°22'29" E	309.13'	SHL TO REF. PNT.	1/2"Ø REBAR/CAP
L4	S 75°04'07" W	217.73'	SHL TO REF. PNT.	1/2"Ø REBAR/CAP
L5	N 09°41'09" W	714.8'	SHL TO LP	
L6	N 46°22'31" W	5,724.7'	LP TO BHL	

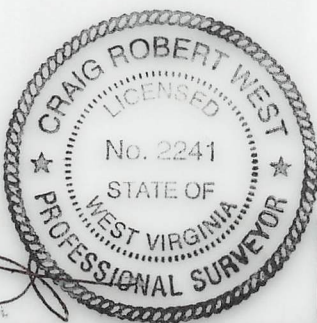
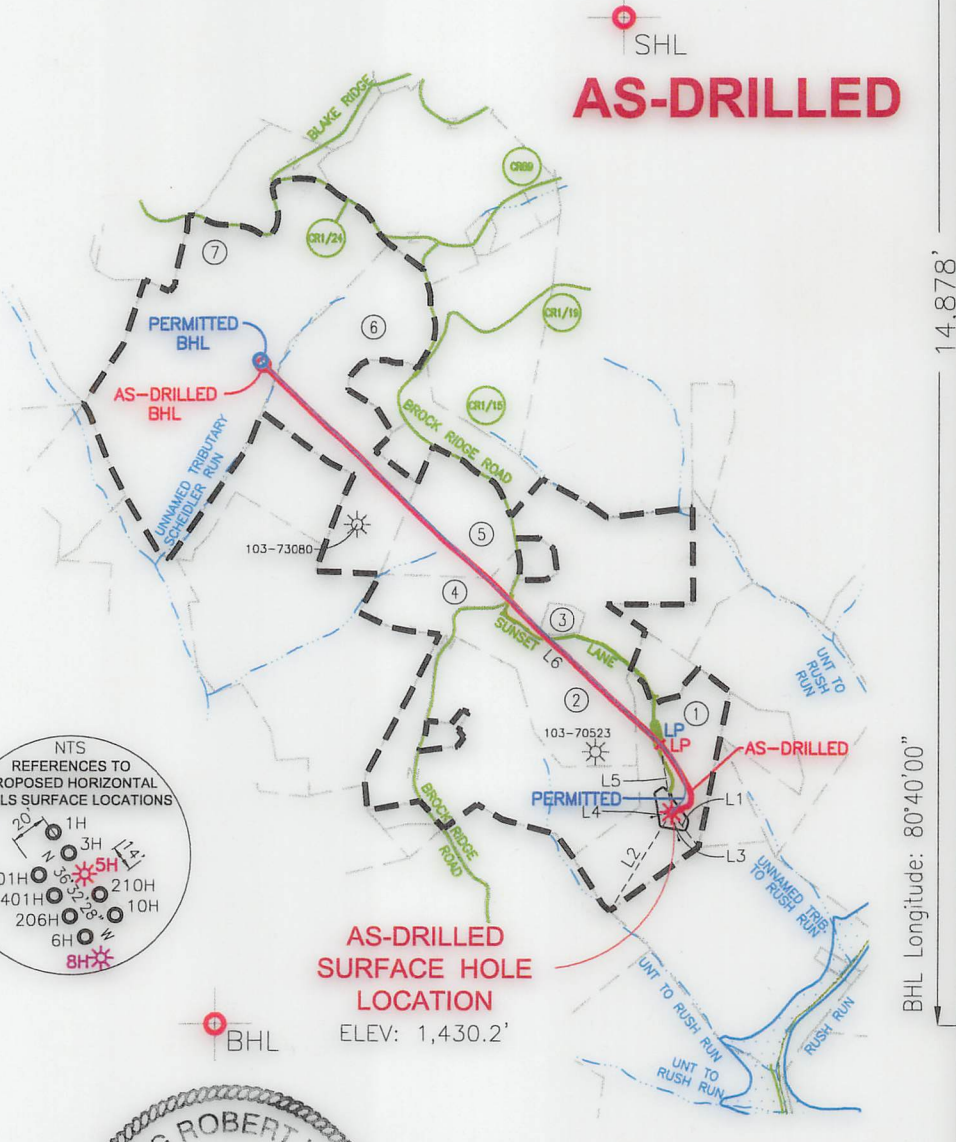
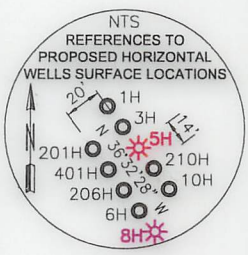


TRACT	SURFACE OWNER	TAX PARCEL	ACRES
1	CONSTANCE A. TAYLOR	12-18-00050000	43.50±
2	BRENT PAUL BLAKE, ET AL	12-14-00320003	85.96±
3	WALTER R. DICKIE, JR	12-14-00320001	2.75±
4	LORRAINE M. CRISP	12-18-00040001	90.07±
5	DARLENE ELLEN WOOD & WALTER R. DICKIE, JR	12-14-00210002	30.00±
6	JAMES H. FOGG	12-14-00210001	66.45±
7	BUSTER & BARBARA A. BLAKE	12-14-00120001	134.46±

SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,389,477.082 EASTING: 527,516.238
LANDING POINT LOCATION (LP): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,389,691.857 EASTING: 527,479.581
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,390,895.707 EASTING: 526,216.501
SURFACE HOLE LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,389,477.272 EASTING: 527,516.236
LANDING POINT LOCATION (LP): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,389,691.852 EASTING: 527,479.574
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4,390,908.415 EASTING: 526,207.452



- NOTES ON SURVEY**
- COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
 - 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.
 - THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
 - NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED OF CENTER OF PAD.
 - NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
 - NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
 - 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.

P.S. 2241



(+) 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)

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

OPERATOR'S WELL #: CONSTANCE TAYLOR WTZ 5H
API WELL #: 47 103 03149
STATE COUNTY PERMIT

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

WATERSHED: LITTLE FISHING CREEK ELEVATION: ±1,430.2 (PAD AS-BUILT)
DISTRICT: PROCTOR 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) **As-Drilled**

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,427' TVD 13,576' TMD

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

LEGEND:	PROPOSED SURFACE HOLE / BOTTOM HOLE EXISTING / PRODUCING WELLHEAD ABANDONED WELL PLUGGED & ABANDONED WELL CUT CONDUCTOR EXISTING SPRING EXISTING WATER WELL TIE LINE LEASE BOUNDARY AS-DRILLED WELL PATH PERMITTED WELL PATH STREAM	REVISIONS: Δ ADDED PERMITTED COORDINATES 08-10-2017 DATE: 02-13-2017 DRAWN BY: W. MCCLEAF SCALE: 1" = 2000' DRAWING NO: 087569006 WELL LOCATION PLAT
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