

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

API 47-051-02301 County MARSHALL District LIBERTY  
Quad CAMERON Pad Name CHARLES JAMISON MSH PAD Field/Pool Name NORTH VICTORY FIELD WET  
Farm name CHARLES AND JEAN JAMISON Well Number CHARLES JAMISON MSH 10H  
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 4,404,731.918 Easting 533,597.895  
Landing Point of Curve Northing 4,405,212.991 Easting 533,563.367  
Bottom Hole Northing 4,401,149.941 Easting 536,101.603

Elevation (ft) 1335' 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

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Date permit issued 1/29/2020 Date drilling commenced 6/13/2020 Date drilling ceased 6/29/2020  
Date completion activities began 7/19/2020 Date completion activities ceased 9/21/2020  
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 322' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1195' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 1084' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by:  
*Jane Wehler*  
12/18/2020

API 47-051 - 02301

Farm name CHARLES AND JEAN JAMISON Well number CHARLES JAMISON MSH 10H

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	440'	NEW	J-55/54.50#		Y, 29 BBLS
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	2,723'	NEW	J-55/36#		Y, 29 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	23,974'	NEW	HCP-110/20#		Y, 46 BBLS
Tubing		2.375		NEW	P-110/6.5#		N
Packer type and depth set							

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	GROUT TO SURFACE				SURFACE	24
Surface	CLASS A	452	15.60	1.21	546.92	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	CLASS A	1,076	16.00	1.12	1,205.12	SURFACE	8
Intermediate 2	CLASS A						
Intermediate 3							
Production	CLASS A	4,329	15.60	1.19	5,151.51	SURFACE	24
Tubing							

Drillers TD (ft) 23,974' Loggers TD (ft) 23,974'  
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6,555'

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 \_\_\_\_\_

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API 47-051 - 02301 Farm name CHARLES AND JEAN JAMISON Well number CHARLES JAMISON MSH 10H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	SEE	ATTACHMENT	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	2					

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Please insert additional pages as applicable.

API 47- 051 - 02301 Farm name CHARLES AND JEAN JAMISON Well number CHARLES JAMISON MSH 10H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>MARCELLUS</u>	<u>7,124'</u> TVD	<u>8,012'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 2919 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas 35,766 mcfpd Oil 53 bpd NGL \_\_\_\_\_ bpd Water 670 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

<u>LITHOLOGY/ FORMATION</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H<sub>2</sub>S, ETC)</u>
	<u>DEPTH IN FT NAME TVD</u>	<u>DEPTH IN FT TVD</u>	<u>DEPTH IN FT MD</u>	<u>DEPTH IN FT MD</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 BJ SERVICES  
Address 11211 FM 2920 City TOMBALL State TX Zip 77377

Stimulating Company SWN DRILLING COMPANY  
Address PO BOX 12359 City SPRING State TX Zip 77391

Please insert additional pages as applicable.

Completed by BOBBY WILLIS Telephone 832-796-2884  
Signature  Title SENIOR REGULATORY ANALYST Date 11/19/2020

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Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

**CHARLES JAMISON MSH 10H  
ATTACHMENT 1  
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
1	7/12/2020	23,889	23,801	36
2	7/20/2020	23,767	23,590	36
3	7/20/2020	23,555	23,381	36
4	7/21/2020	23,348	23,171	36
5	7/22/2020	23,138	22,961	36
6	7/23/2020	22,928	22,751	36
7	7/24/2020	22,719	22,542	36
8	7/25/2020	22,509	22,332	36
9	7/26/2020	22,299	22,122	36
10	7/27/2020	22,089	21,913	36
11	7/28/2020	21,880	21,703	36
12	7/28/2020	21,670	21,491	36
13	7/29/2020	21,455	21,284	36
14	7/30/2020	21,251	21,074	36
15	7/31/2020	21,041	20,864	36
16	8/1/2020	20,828	20,654	36
17	8/1/2020	20,621	20,445	36
18	8/2/2020	20,412	20,235	36
19	8/4/2020	20,202	20,025	36
20	8/5/2020	19,992	19,816	36
21	8/5/2020	19,783	19,607	36
22	8/6/2020	19,573	19,392	36
23	8/6/2020	19,367	19,187	36
24	8/7/2020	19,154	18,977	36
25	8/7/2020	18,944	18,769	36
26	8/8/2020	18,734	18,557	36
27	8/9/2020	18,522	18,348	36
28	8/9/2020	18,315	18,138	36
29	8/10/2020	18,105	17,928	36
30	8/10/2020	17,892	17,721	36
31	8/11/2020	17,686	17,509	36
32	8/12/2020	17,476	17,299	36
33	8/12/2020	17,266	17,090	36
34	8/13/2020	17,057	16,880	36
35	8/14/2020	16,845	16,670	36
36	8/14/2020	16,637	16,460	36
37	8/15/2020	16,427	16,251	36
38	8/16/2020	16,218	16,041	36
39	8/17/2020	16,011	15,830	36
40	8/17/2020	15,800	15,621	36
41	8/18/2020	15,590	15,412	36
42	8/19/2020	15,378	15,202	36

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PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
43	8/20/2020	15,167	14,993	36
44	8/21/2020	14,960	14,783	36
45	8/21/2020	14,750	14,573	36
46	8/22/2020	14,540	14,363	36
47	8/23/2020	14,330	14,154	36
48	8/24/2020	14,121	13,944	36
49	8/25/2020	13,911	13,734	36
50	8/26/2020	13,701	13,525	36
51	8/26/2020	13,492	13,315	36
52	8/27/2020	13,279	13,105	36
53	8/28/2020	13,072	12,896	36
54	8/29/2020	12,861	12,686	36
55	8/29/2020	12,653	12,476	36
56	8/30/2020	12,443	12,266	36
57	8/30/2020	12,233	12,057	36
58	8/31/2020	12,024	11,851	36
59	8/31/2020	11,814	11,642	36
60	9/1/2020	11,604	11,432	36
61	9/1/2020	11,395	11,222	36
62	9/2/2020	11,185	11,008	36
63	9/3/2020	10,975	10,799	36
64	9/4/2020	10,766	10,585	36
65	9/4/2020	10,556	10,379	36
66	9/4/2020	10,346	10,169	36
67	9/4/2020	10,136	9,957	36
68	9/5/2020	9,927	9,750	36
69	9/5/2020	9,717	9,536	36
70	9/6/2020	9,507	9,334	36
71	9/6/2020	9,298	9,121	36
72	9/6/2020	9,088	8,911	36
73	9/6/2020	8,878	8,702	36
74	9/7/2020	8,669	8,492	36
75	9/7/2020	8,459	8,282	36
76	9/8/2020	8,249	8,072	36

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**CHARLES JAMISON MSH 10H  
ATTACHMENT 2  
STIM REPORT**

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment	Max Breakdown	ISIP (PSI)	Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/othe
1	7/19/2020	61	9,204	7,240	3,857	177,630	6,321	0
2	7/20/2020	64.89	9,064	6,230	3,858	320,280	9,712	0
3	7/21/2020	84.67	9,233	6,146	4,281	302,590	9,812	0
4	7/22/2020	82.25	9,065	6,333	4,950	298,950	8,369	0
5	7/22/2020	87	9,247	6,128	4,568	303,090	8,728	0
6	7/23/2020	87	9,429	6,245	4,832	307,680	9,472	0
7	7/24/2020	91	9,599	5,542	4,431	314,820	9,612	0
8	7/25/2020	88.17	9,675	6,018	4,930	311,000	9,508	0
9	7/26/2020	82.63	9,124	6,452	4,621	285,420	8,326	0
10	7/28/2020	81	8,904	6,992	5,455	236,920	7,858	0
11	7/28/2020	79.86	8,647	5,634	5,478	263,700	8,152	0
12	7/29/2020	85.75	9,063	6,312	4,388	280,970	8,424	0
13	7/30/2020	87.43	9,140	6,711	4,782	296,300	8,642	0
14	7/30/2020	83.75	8,892	6,803	4,988	306,840	9,825	0
15	7/31/2020	83.63	9,121	5,772	4,584	302,690	8,431	0
16	8/1/2020	83.71	9,119	5,895	5,135	264,228	7,593	0
17	8/2/2020	79.71	8,431	6,857	4,491	301,880	8,925	0
18	8/3/2020	88.63	8,778	6,020	5,622	300,670	8,496	0
19	8/4/2020	89.57	8,982	6,286	5,523	269,750	8,136	0
20	8/5/2020	94.25	9,312	6,368	5,061	304,400	8,597	0
21	8/6/2020	87.25	8,657	6,186	4,723	310,890	8,703	0
22	8/6/2020	96.88	9,422	6,007	5,427	306,738	8,888	0
23	8/7/2020	96.5	9,202	5,949	5,252	313,240	8,821	0
24	8/7/2020	96	9,144	6,855	5,216	310,480	8,552	0
25	8/8/2020	99.75	9,117	6,804	5,245	301,350	8,343	0
26	8/8/2020	97.25	9,197	6,826	5,022	313,850	8,626	0
27	8/9/2020	99.13	8,965	6,891	5,227	306,720	8,422	0
28	8/10/2020	100	8,807	6,642	5,853	305,700	8,332	0
29	8/10/2020	96.63	8,417	6,401	5,024	312,380	8,575	0
30	8/11/2020	100.13	8,813	6,654	5,307	305,020	8,845	0
31	8/11/2020	100	8,753	6,632	5,326	306,550	8,169	0
32	8/12/2020	85.78	8,361	5,473	5,250	310,840	8,766	0
33	8/13/2020	99.75	8,919	6,602	5,203	303,980	7,443	0
34	8/13/2020	97.75	8,452	6,573	5,224	307,590	7,418	0
35	8/14/2020	98.75	8,839	6,323	5,153	313,030	7,357	0
36	8/15/2020	99.63	8,718	6,464	5,208	308,100	7,336	0
37	8/16/2020	99.14	9,137	6,766	5,125	271,130	7,186	0
38	8/17/2020	98.5	8,982	5,892	5,268	312,680	7,280	0
39	8/17/2020	93	8,615	6,956	5,589	305,450	8,610	0
40	8/18/2020	100	8,592	6,342	4,921	305,440	7,558	0
41	8/19/2020	92.88	8,533	6,545	5,014	307,490	7,498	0
42	8/20/2020	95.62	8,658	6,504	4,852	304,880	7,463	0
43	8/21/2020	91	8,605	6,040	5,442	306,730	7,336	0
44	8/21/2020	94.87	8,487	6,034	5,116	301,690	7,369	0
45	8/22/2020	93.13	8,404	6,035	5,093	308,540	7,475	0
46	8/23/2020	89	8,551	6,687	5,486	306,350	7,342	0
47	8/24/2020	88.25	8,413	5,688	4,332	264,800	7,447	0
48	8/25/2020	95	8,117	5,703	5,249	306,140	7,444	0
49	8/25/2020	95	8,104	5,548	5,426	300,840	7,343	0
50	8/26/2020	92.88	8,195	5,872	5,065	304,550	7,263	0
51	8/27/2020	98.5	8,327	5,339	5,411	307,920	7,501	0
52	8/28/2020	98.75	8,391	5,291	5,424	306,560	7,476	0
53	8/29/2020	99	8,266	5,650	5,145	309,980	7,466	0

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**CHARLES JAMISON MSH 10H  
ATTACHMENT 2  
STIM REPORT**

STAGE NUM	Stim Date	Ave Pump Rate (BPM)	Ave Treatment	Max Breakdown	ISIP (PSI)	Amount of Proppant (lbs)	Amount of water bbls	Amount of nitrogen/othe
54	8/29/2020	94.25	8,194	5,109	5,042	306,510	7,156	0
55	8/30/2020	99.5	8,055	5,457	5,432	303,880	7,350	0
56	8/30/2020	93.63	8,163	6,075	5,542	309,200	7,371	0
57	8/31/2020	99.63	8,084	5,282	5,191	311,000	7,336	0
58	8/31/2020	100	8,059	5,120	5,452	313,110	7,355	0
59	9/1/2020	92.63	8,268	5,968	5,216	310,470	7,270	0
60	9/1/2020	100	8,201	5,497	5,343	313,870	7,543	0
61	9/2/2020	98.75	7,988	6,351	5,076	318,300	7,435	0
62	9/3/2020	100	7,843	6,137	5,309	304,760	7,396	0
63	9/3/2020	100	7,728	5,831	4,792	310,620	7,305	0
64	9/4/2020	100	7,933	6,160	5,187	311,570	7,613	0
65	9/4/2020	100	7,844	6,548	5,093	315,320	7,215	0
66	9/4/2020	99.38	7,490	5,612	5,329	308,230	7,482	0
67	9/5/2020	100	7,509	5,336	4,973	302,590	7,004	0
68	9/5/2020	100	7,623	6,453	4,723	309,180	7,158	0
69	9/5/2020	100	7,765	6,415	5,056	308,280	7,529	0
70	9/6/2020	100	7,609	6,223	5,095	305,360	7,350	0
71	9/6/2020	100	7,443	5,602	5,244	308,940	7,211	0
72	9/6/2020	100	7,535	6,054	5,052	308,950	7,185	0
73	9/7/2020	100	7,518	6,508	5,162	312,300	7,043	0
74	9/7/2020	100	7,408	6,521	5,310	306,190	7,381	0
75	9/7/2020	100	7,366	6,191	5,465	304,010	7,623	0
76	9/8/2020	100	7,420	6,290	5,493	308,050	7,123	0

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Well Name: Charles Jamison MSH 10H

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LITHOLOGY/FORMATION	TOP DEPTH, MID (FT)	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, MID (FT)	BOTTOM DEPTH, TVD (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	0.00	0.00	322.00	322.00	
Top of Salt Water	1195.00	1195.00	NA	NA	
Pittsburgh Coal	1084.00	1084.00	1194.00	1194.00	
Pottsville (ss)	1194.00	1194.00	1560.00	1560.00	
Raven Cliff (ss)	1560.00	1560.00	2003.00	2003.00	
Maxton (ss)	2003.00	2003.00	2253.00	2218.00	
Big Injun (ss)	2253.00	2218.00	2902.00	2838.00	
Berea (siltstone)	2902.00	2838.00	7029.00	6477.00	
Rhinestreet (shale)	7061.00	6456.00	7525.00	6885.00	
Middlesex (shale)	7525.00	6885.00	7648.00	6973.00	
Burket (shale)	7648.00	6973.00	7684.00	6995.00	
Tully (ls)	7684.00	6995.00	7724.00	7019.00	
Mahantango (shale)	7724.00	7019.00	8012.00	7124.00	
Marcellus (shale)	8012.00	7124.00	NA	NA	GAS

## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/19/2020
Job End Date:	9/8/2020
State:	West Virginia
County:	Marshall
API Number:	47-051-02301-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	CHARLES JAMISON MSH 10
Latitude:	39.79187940
Longitude:	-80.60758557
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,165
Total Base Water Volume (gal):	25,129,482
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
Plexaid 655WG	SWN Well Services	Scale Inhibitor					
				Listed Below			
Tolicide PS 50A	SWN Well Services	Biocide					
				Listed Below			

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Base Water	Operator	Base Fluid					
				Listed Below			
SWN FRW-11LC	SWN Well Services	Friction Reducer					
				Listed Below			
Econo-CI200	SWN Well Services	Corrosion Inhibitor					
				Listed Below			
HCL	SWN Well Services	Solvent					
				Listed Below			
Ecopol-FEAC	SWN Well Services	Iron Control					
				Listed Below			
Sand	SWN Well Services	Proppant					
				Listed Below			
Items above are Trade Names with the exception of Base Water. Items below are the individual ingredients.							
			Water	7732-18-5	100.00000	89.55671	Density = 8.345
			Crystalline Silica, quartz	14808-60-7	100.00000	9.79167	
			Water	7732-18-5	85.00000	0.51106	
			Hydrochloric Acid	7647-01-0	15.00000	0.06498	
			Petroleum Distillates, Hydrotreated	64742-47-8	25.00000	0.04553	
			Tetrakis	55566-30-8	55.00000	0.01501	
			Ammonium Chloride	12125-02-9	2.00000	0.00364	
			Glycerin	56-81-5	50.00000	0.00301	

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			Oleic Acid Diethanolamide	93-83-4	1.50000	0.00273	
			Alcohols, C12-1, ethoxylated	68551-12-2	1.50000	0.00273	
			Acetic Acid	64-19-7	37.50000	0.00087	
			Diethylenetriamine penta	15827-60-8	10.00000	0.00060	
			Methanol	67-56-1	80.00000	0.00053	
			Citric Acid	77-92-9	22.50000	0.00052	
			Acrylic acid terpolymer	397256-50-7	1.00000	0.00027	
			Oxyalkylated fatty acid	68951-67-7	9.67400	0.00006	
			Fatty acids	61790-12-3	5.02700	0.00003	
			Modified thiourea polymer	68527-49-1	4.74600	0.00003	
			Potassium acetate	127-08-2	0.02200	0.00000	
			Formaldehyde	50-00-0	0.00400	0.00000	

\* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

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

\*\*\* If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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)

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# SWN PRODUCTION COMPANY, LLC

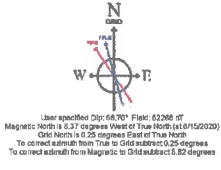
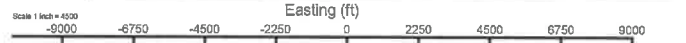
Location: Marshall County, WV  
 Field: Marshall  
 Facility: Charles Jamison MSH Pad  
 Well: Charles Jamison MSH 10H  
 Wellbore: Charles Jamison MSH 10H PWB



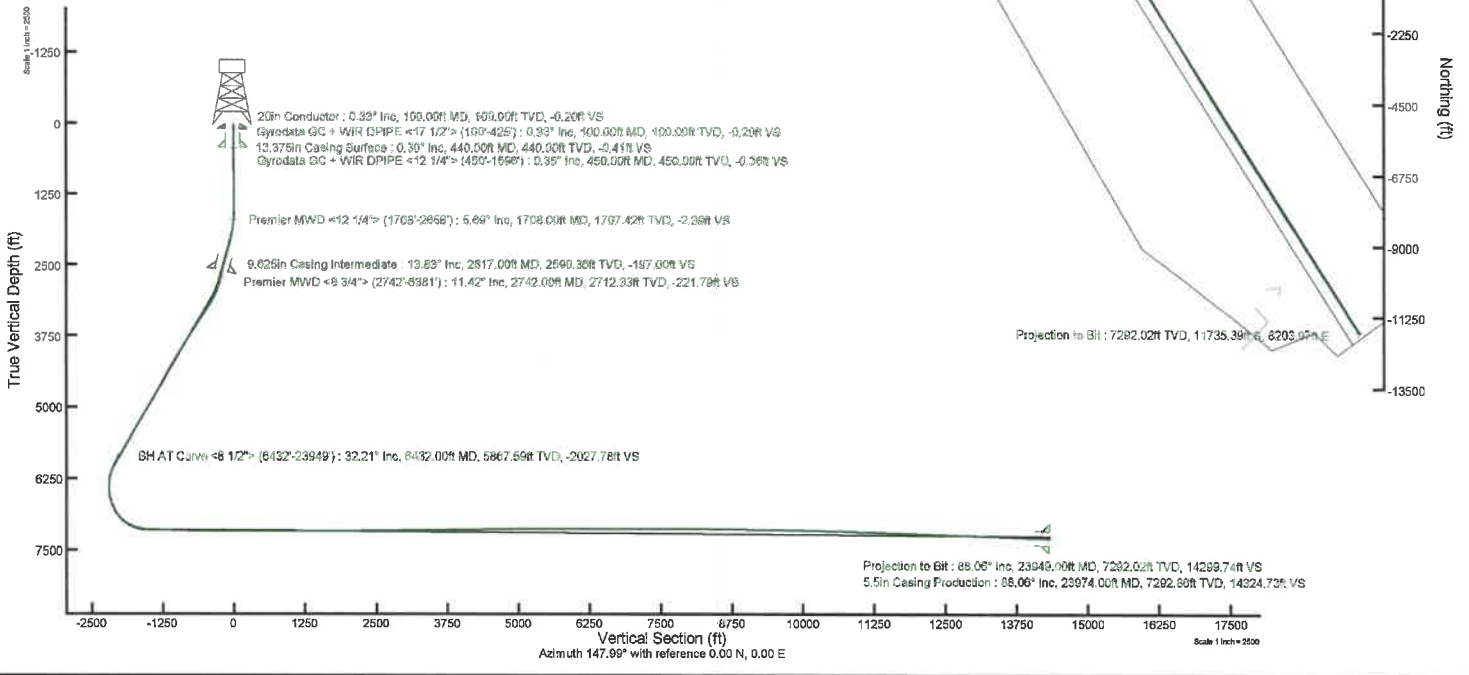
Plot reference well path Charles Jamison MSH 10H PWB Rev A.0	Grid System: NAD83 / UTM Zone 17 No. 19, US feet
True vertical depths are referenced to SDC 46 (KB)	North Reference: Grid north
Reference well path/ measured depths are referenced to SDC 46 (KB)	Scale: True distance
SDC 46 (KB) to Mean Sea Level: 1363.3 feet	Coordinates are in feet referenced to GBT
Mean Sea Level to Mud line (At Slot Slot 10H): -1377.3 feet	Depths are in feet
Offset well path MDs are referenced to each wellbore default MD datum	Created by assignment on 2020-06-29; Database: WA_MPL_EASTERNUS_Data

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Charles Jamison MSH Pad	1750638.500	14451211.924	39°47'30.9700"N	80°35'27.4000"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Longitude
Slot 10H	-20.83	7.26	1750645.760	14451191.300	39°47'30.7668"N 80°35'27.3081"W
SDC 46 (KB) to Mud line (At Slot Slot 10H)					26ft
Mean Sea Level to Mud line (At Slot Slot 10H)					-1337.3ft
SDC 46 (KB) to Mean Sea Level					1363.3ft

API: 47-051-02301-0000  
 BH Job #: 110436711  
 Rig: SDC 46  
 Duration: 06/21/2020 - 06/24/2020



Gyrodatta GC + WIR DPIPE <17 1/2"> (100'-425'): 100.00ft TVD, 0.14ft N, 0.16ft W  
 Gyrodatta GC + WIR DPIPE <12 1/4"> (450'-1590'): 450.00ft TVD, 0.13ft S, 0.88ft W  
 Premier MWD <12 1/4"> (1708'-2658'): 1707.42ft TVD, 6.88ft N, 6.49ft E  
 Premier MWD <8 3/4"> (2742'-6381'): 2712.33ft TVD, 235.27ft N, 42.04ft W  
 BH AT Curve <8 1/2"> (8432'-23949'): 5867.59ft TVD, 2065.97ft N, 520.55ft W



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CIVIL & ENVIRONMENTAL CONSULTANTS, INC.  
 600 MARKETPLACE AVENUE, SUITE 200  
 BRIDGEPORT, WV 26330  
 304-933-3119

WELL BORE TABLE FOR SURFACE OWNERS		
TRACT	SURFACE OWNER	TAX PARCEL
1	CHARLES AND JEAN JAMISON	07-007-0006
2	KENNETH WAYNE STEELE TRUST	07-007-0011
3	GAIL ZWICK - LIFE	07-007-0012
4	GAIL ZWICK - LIFE	07-007-0014
5	GAIL ZWICK - LIFE	07-006-0012.1
6	CO. RT. 23 ROW (CAMERON RIDGE ROAD)	
7	JACK R. BUZZARD, ET UX	07-010-0020
8	GARY R. DOBBS, ET UX	07-010-0021
9	NAOMI WILLIAMS STARKEY	07-010-0025
10	CONSOL MINING COMPANY LLC	07-011-0003
11	SCOTT D. SHALAWAY, ET UX	07-011-0004
12	RUSSELL ALLEN DOTSON JR	07-016-0031
13	CO. RT. 96 ROW	
14	DONALD REX QUIGLEY, ET UX	07-016-0036
15	TERRY A. AND DONNA L. BONAR	07-016-0035
16	JAMES W. DEVER	07-020-0022
17	LILLIAN A. FERBY	07-020-0021

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	ANTHONY M. SKRYPEK	07-007-0010
B	GAIL ZWICK - LIFE	07-006-0008
C	CONSOL MINING COMPANY LLC	07-006-0010
D	CONSOL MINING COMPANY LLC	07-006-0012
E	STEPHEN L. AND PAMELA SCOTT	07-006-0011
F	DONALD W. AND MARTHA J. KENNEDY	07-006-0011.1
G	JACK R. BUZZARD, ET UX	07-011-0001
H	CONSOL MINING COMPANY LLC	07-011-0002
I	CONSOL MINING COMPANY LLC	07-011-0008
J	DOUGLAS AND DEANA MCCOMBS	07-011-0007
K	DONALD REX QUIGLEY, ET UX	07-011-0005
L	DONALD QUIGLEY, ET UX	07-011-0017
M	ANDREW MCCURDY, ET UX	07-016-0036.2
N	DONALD REX AND ELLEN QUIGLEY	07-016-0036.1
O	STEPHANIE L. WHITE	07-016-0036.03
P	HINKLE FAMILY TRUST	07-015-0001
Q	HINKLE FAMILY TRUST	07-015-0019
R	CLAUDE R. STEPHENS EST, ET AL	07-020-0023
S	AMMON A. BURLEY	07-020-0024
T	CONRAD M. BERISFORD, ET UX	07-020-0020
U	CONRAD M. BERISFORD, ET UX	07-020-0019
V	AMMON A. BURLEY	07-020-0018
W	WYATT A. MCCLURE	07-020-0017
X	ROBERT B. MCCLURE	07-020-0013
Y	JOHN E. RIGGS JR, ET UX	07-016-0044
Z	LOUIS S. MCCLELLAND EST	07-016-0037
AA	DAVID L. ELSON	07-016-0034
BB	DAVID L. ELSON, ET UX	07-016-0032
CC	DONALD REX QUIGLEY, ET UX	07-016-0033
DD	RUSSELL ALLEN DOTSON JR, ET UX	07-016-0028
EE	RALPH E. WILLIAMS	07-016-0030
FF	HOWARD E WILLIAMS	07-010-0025.1
GG	DELORSE A. HORNER - LIFE	07-016-0023
HH	GARY RAY DOBBS, ET AL	07-010-0022
II	GARY RAY DOBBS, ET AL	07-010-0018
JJ	CONSOLIDATED COAL COMPANY	07-010-0019
KK	CHARLES AND JEAN JAMISON	07-007-0013
LL	TIMOTHY R. CAIN	07-007-0006.1
MM	TIMOTHY R. CAIN	07-007-0006.2
NN	CONSOLIDATED COAL COMPANY	07-007-0006.3
OO	CONSOLIDATED COAL COMPANY	07-007-0007.1
PP	CONSOLIDATED COAL COMPANY	07-007-0007
QQ	KENNETH WAYNE STEELE TRUST	07-007-0008.1
RR	JEAN JAMISON	07-007-0009.1

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API WELL #: **47** **051** **02301**  
 STATE COUNTY PERMIT

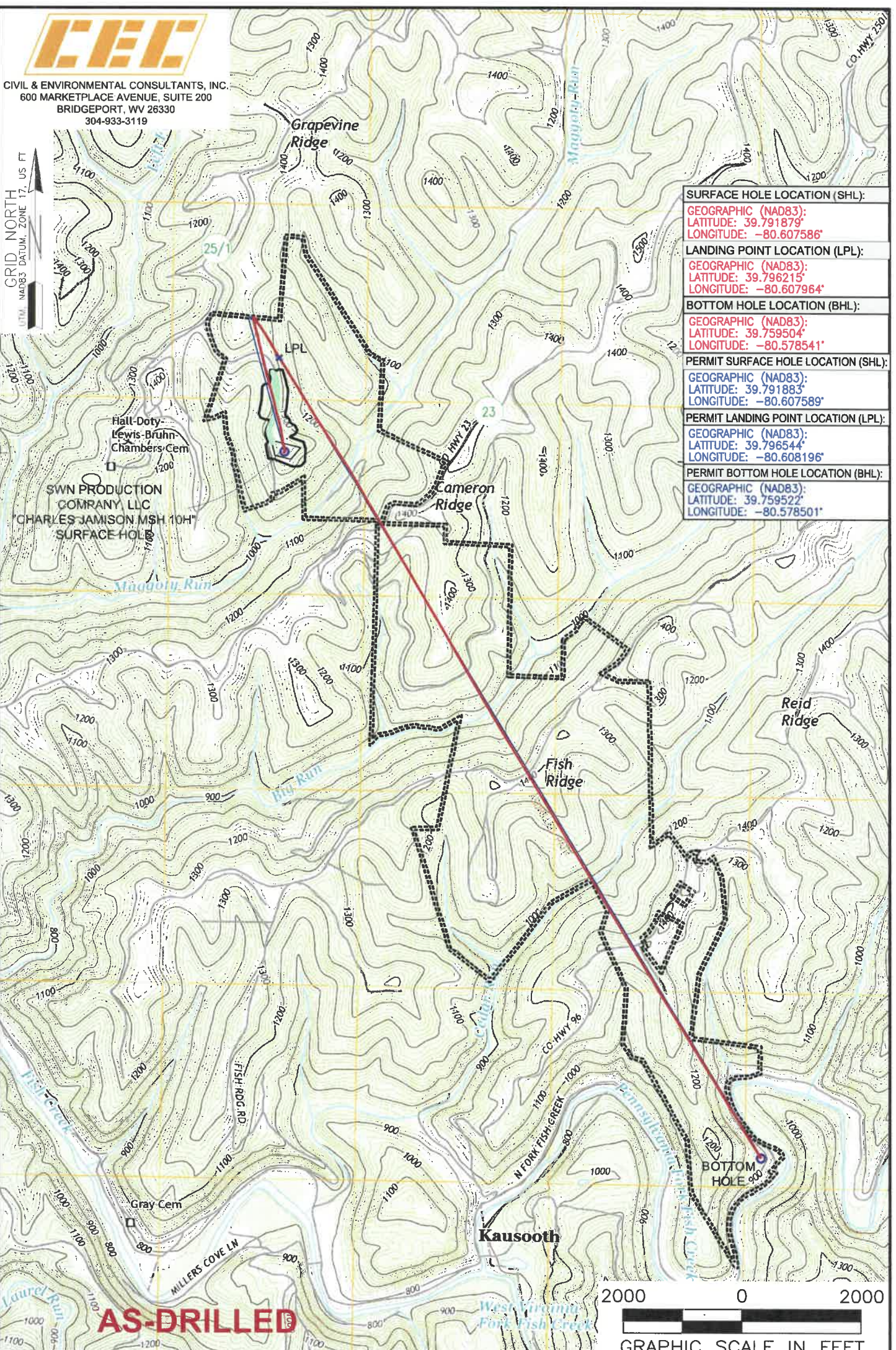
REVISIONS:	COMPANY:			
	OPERATOR'S		CHARLES JAMISON MSH	
	WELL #:		10H	
	DISTRICT:	COUNTY:	STATE:	DATE: 11-16-2020
	LIBERTY DISTRICT	MARSHALL	WV	DRAWN BY: K.E.S.
				SCALE: N/A
				DRAWING NO: 170-426
				WELL LOCATION PLAT 2





CIVIL & ENVIRONMENTAL CONSULTANTS, INC.  
600 MARKETPLACE AVENUE, SUITE 200  
BRIDGEPORT, WV 26330  
304-933-3119

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



<b>SURFACE HOLE LOCATION (SHL):</b>
<b>GEOGRAPHIC (NAD83):</b> LATITUDE: 39.791879° LONGITUDE: -80.607586°
<b>LANDING POINT LOCATION (LPL):</b>
<b>GEOGRAPHIC (NAD83):</b> LATITUDE: 39.796215° LONGITUDE: -80.607964°
<b>BOTTOM HOLE LOCATION (BHL):</b>
<b>GEOGRAPHIC (NAD83):</b> LATITUDE: 39.759504° LONGITUDE: -80.578541°
<b>PERMIT SURFACE HOLE LOCATION (SHL):</b>
<b>GEOGRAPHIC (NAD83):</b> LATITUDE: 39.791883° LONGITUDE: -80.607589°
<b>PERMIT LANDING POINT LOCATION (LPL):</b>
<b>GEOGRAPHIC (NAD83):</b> LATITUDE: 39.796544° LONGITUDE: -80.608196°
<b>PERMIT BOTTOM HOLE LOCATION (BHL):</b>
<b>GEOGRAPHIC (NAD83):</b> LATITUDE: 39.759522° LONGITUDE: -80.578501°

**AS-DRILLED**



**NOTES ON SURVEY**

1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
3. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

**LEGEND:**

PROPOSED SURFACE HOLE / BOTTOM HOLE	ACCESS ROAD
EXISTING / PRODUCING WELLHEAD	PUBLIC ROAD
LPL	ACCESS ROAD TO PREV. SITE
LPL	LEASE BOUNDARY
FLOOD PLAIN	PROPOSED PATH
	ASDRILLED PATH

<b>WELL OPERATOR:</b> SWN PRODUCTION COMPANY, LLC	<b>WELL (FARM) NAME:</b> CHARLES JAMISON MSH	<b>WELL #</b> 10H	<b>SERIAL #</b> XXXX
<b>ADDRESS:</b> 1300 FORT PIERPONT DRIVE, STE 201, MORGANTOWN, WV 26508	<b>COUNTY - CODE</b> MARSHALL - 051	<b>DISTRICT;</b> LIBERTY DISTRICT	
<b>SURFACE OWNER:</b> CHARLES AND JEAN JAMISON	<b>USGS 7 1/2 QUADRANGLE MAP NAME</b> CAMERON, WV		