

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

API 47-051-02295 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 206H
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 4,404,734.042 Easting 533,588.979
Landing Point of Curve Northing 4,404,739.556 Easting 533,054.079
Bottom Hole Northing 4,401,060.860 Easting 535,381.762

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
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
SOBM

RECEIVED
Office of Oil and Gas
NOV 23 2020
WV Department of
Environmental Protection

Date permit issued 1/29/2020 Date drilling commenced 3/01/2020 Date drilling ceased 3/23/2020
Date completion activities began 7/19/2020 Date completion activities ceased 10/04/2020
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 1085' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
Jan Anderson
12/18/2020

API 47- 051 - 02295 Farm name CHARLES AND JEAN JAMISON Well number CHARLES JAMISON MSH 206H

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	443'	NEW	J-55/54.50#		Y, 20 BBLS
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	2,654'	NEW	J-55/36#		Y, 52 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	23,026'	NEW	HCP-110/20#		Y, 6 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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	GROUT TO SURFACE				SURFACE	24
Surface	CLASS A	450	15.60	1.21	544.5	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	CLASS A	1,091	16.00	1.12	1,221.92	SURFACE	8
Intermediate 2	CLASS A						
Intermediate 3							
Production	CLASS A	4,203	15.60	1.18	4,959.54	SURFACE	24
Tubing							

Drillers TD (ft) 23,035' Loggers TD (ft) 23,035'
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6,820'

RECEIVED
Office of Oil and Gas

NOV 23 2020

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

WV Department of Environmental Protection

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 _____

CHARLES JAMISON MSH 206H
ATTACHMENT 1
PERF REPORT

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
1	7/12/2020	22,980	22,891	36
2	7/20/2020	22,857	22,681	36
3	7/21/2020	22,648	22,471	36
4	7/22/2020	22,438	22,262	36
5	7/23/2020	22,229	22,052	36
6	7/23/2020	22,016	21,843	36
7	7/26/2020	21,810	21,633	36
8	7/26/2020	21,601	21,424	36
9	7/30/2020	21,391	21,215	36
10	8/1/2020	21,182	21,005	36
11	8/1/2020	20,972	20,796	36
12	8/2/2020	20,763	20,586	36
13	8/2/2020	20,554	20,377	36
14	8/3/2020	20,344	20,168	36
15	8/4/2020	20,135	19,956	36
16	8/4/2020	19,929	19,749	36
17	8/5/2020	19,716	19,539	36
18	8/5/2020	19,502	19,330	36
19	8/6/2020	19,297	19,121	36
20	8/7/2020	19,088	18,911	36
21	8/7/2020	18,878	18,702	36
22	8/8/2020	18,669	18,493	36
23	8/8/2020	18,460	18,285	36
24	8/8/2020	18,250	18,075	36
25	8/10/2020	18,041	17,864	36
26	8/10/2020	17,831	17,656	36
27	8/11/2020	17,622	17,442	36
28	8/11/2020	17,413	17,236	36
29	8/12/2020	17,203	17,027	36
30	8/13/2020	16,992	16,817	36
31	8/13/2020	16,784	16,608	36
32	8/14/2020	16,575	16,398	36
33	8/15/2020	16,366	16,189	36
34	8/16/2020	16,156	15,980	36
35	8/16/2020	15,947	15,770	36
36	8/17/2020	15,737	15,561	36
37	8/18/2020	15,528	15,351	36
38	8/19/2020	15,314	15,142	36
39	8/20/2020	15,109	14,933	36
40	8/20/2020	14,900	14,723	36
41	8/21/2020	14,690	14,514	36
42	8/22/2020	14,481	14,304	36

RECEIVED
Office of Oil and Gas
NOV 23 2020
WV Department of
Environmental Protection

**CHARLES JAMISON MSH 206H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
43	8/23/2020	14,272	14,095	36
44	8/24/2020	14,062	13,886	36
45	8/24/2020	13,853	13,676	36
46	8/25/2020	13,643	13,467	36
47	8/26/2020	13,434	13,257	36
48	8/27/2020	13,225	13,048	36
49	8/28/2020	13,015	12,839	36
50	8/29/2020	12,806	12,630	36
51	8/29/2020	12,596	12,420	36
52	8/30/2020	12,387	12,212	36
53	8/30/2020	12,178	12,003	36
54	8/31/2020	11,968	11,789	36
55	8/31/2020	11,759	11,582	36
56	9/1/2020	11,546	11,373	36
57	9/1/2020	11,340	11,163	36
58	9/2/2020	11,131	10,954	36
59	9/3/2020	10,921	10,745	36
60	9/3/2020	10,712	10,535	36
61	9/4/2020	10,502	10,326	36
62	9/4/2020	10,293	10,116	36
63	9/5/2020	10,084	9,907	36
64	9/7/2020	9,874	9,698	36
65	9/8/2020	9,665	9,488	36
66	9/8/2020	9,455	9,279	36
67	9/9/2020	9,246	9,069	36
68	9/9/2020	9,037	8,860	36
69	9/9/2020	8,827	8,651	36
70	9/9/2020	8,618	8,441	36
71	9/9/2020	8,408	8,232	36

RECEIVED
Office of Oil and Gas
NOV 23 2020
WV Department of
Environmental Protection

CHARLES JAMISON MSH 206H

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	60	9,736	8,334	3,978	173,790	5,314	0
2	7/20/2020	63.57	9,246	6,481	4,125	301,880	8,294	0
3	7/22/2020	87.33	9,263	6,538	4,916	301,330	8,204	0
4	7/22/2020	86.25	9,292	6,224	4,945	298,290	8,684	0
5	7/23/2020	83.38	9,183	6,130	5,503	309,810	8,784	0
6	7/23/2020	88.38	9,693	6,696	5,270	304,780	8,951	0
7	7/26/2020	82.25	9,294	7,055	5,321	302,050	10,773	0
8	7/30/2020	84.29	8,983	6,860	4,650	308,530	8,761	0
9	7/31/2020	78.29	8,773	7,586	4,775	306,850	8,858	0
10	8/1/2020	82.63	9,131	7,402	4,940	306,760	8,497	0
11	8/2/2020	77.25	8,593	5,969	5,290	299,080	8,490	0
12	8/2/2020	83.71	8,895	5,970	4,801	303,680	8,648	0
13	8/3/2020	80.57	8,789	6,637	5,263	257,340	7,853	0
14	8/3/2020	86.57	8,850	5,470	5,928	306,640	8,493	0
15	8/4/2020	81.63	8,929	5,430	5,646	304,940	8,488	0
16	8/4/2020	80.71	8,733	5,206	4,972	309,290	8,710	0
17	8/5/2020	93.75	9,259	6,782	4,785	310,760	8,111	0
18	8/6/2020	93.88	9,199	6,598	5,286	307,958	8,943	0
19	8/7/2020	88.25	8,930	6,238	4,861	304,320	8,342	0
20	8/7/2020	94.25	9,310	6,845	4,850	284,200	8,049	0
21	8/8/2020	95.89	9,129	6,957	5,294	314,760	9,031	0
22	8/8/2020	92	9,272	6,915	4,989	302,710	8,714	0
23	8/9/2020	86.5	9,215	6,525	5,665	310,590	11,319	0
24	8/10/2020	98.25	9,162	6,908	5,124	301,800	8,415	0
25	8/10/2020	88.25	9,123	6,999	4,798	308,240	9,049	0
26	8/11/2020	96.25	9,177	5,893	5,140	304,940	8,412	0
27	8/11/2020	98.25	9,216	6,347	5,326	308,160	8,451	0
28	8/12/2020	97.25	8,810	5,928	5,647	311,890	8,701	0
29	8/12/2020	97.5	8,846	7,124	5,762	306,538	7,362	0
30	8/13/2020	89	8,712	6,552	5,420	305,750	7,526	0
31	8/14/2020	93.25	9,139	6,815	5,778	309,190	7,798	0
32	8/15/2020	101	9,018	6,206	5,510	301,290	7,850	0
33	8/16/2020	99.5	9,259	6,658	5,580	301,710	7,684	0
34	8/16/2020	96.86	9,066	6,779	5,322	308,740	7,439	0
35	8/17/2020	96	9,039	6,773	5,623	307,860	7,414	0
36	8/18/2020	97	9,225	7,101	5,033	306,010	7,456	0
37	8/19/2020	98.25	8,894	6,788	4,956	304,770	7,271	0
38	8/20/2020	88.75	8,677	6,740	5,470	305,560	7,472	0
39	8/20/2020	86.13	8,651	6,804	5,289	309,180	7,307	0
40	8/21/2020	87.63	8,799	6,934	5,520	310,540	7,204	0
41	8/22/2020	91	8,791	6,687	4,874	308,100	7,322	0
42	8/23/2020	88.88	8,559	6,635	4,724	306,480	7,171	0
43	8/23/2020	86.63	8,340	5,460	5,553	310,440	7,375	0
44	8/24/2020	86.75	8,325	5,960	5,128	307,350	7,264	0
45	8/25/2020	85.88	8,437	6,554	5,028	310,870	7,783	0
46	8/26/2020	92.88	8,629	6,480	4,955	304,120	7,297	0
47	8/27/2020	95.87	8,626	5,425	4,945	307,980	7,323	0
48	8/27/2020	86.13	8,196	5,515	5,036	308,890	7,232	0
49	8/29/2020	86.25	8,286	5,358	5,242	306,700	7,347	0
50	8/29/2020	95.12	8,555	6,142	5,765	309,690	7,373	0
51	8/30/2020	94.13	8,267	5,451	5,284	307,900	7,412	0
52	8/30/2020	97.5	8,564	5,631	5,347	302,740	7,159	0
53	8/31/2020	86.25	8,406	6,340	5,199	306,870	7,350	0

RECEIVED
Office of Oil and Gas
NOV 23 2020
WV Department of Environmental Protection

CHARLES JAMISON MSH 206H

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	8/31/2020	97.5	8,535	5,932	5,116	307,790	7,218	0
55	8/31/2020	92	8,362	6,345	5,008	310,060	7,363	0
56	9/1/2020	97.5	8,600	6,314	5,432	314,260	7,475	0
57	9/2/2020	93	8,281	5,782	5,619	279,690	7,024	0
58	9/3/2020	95	8,465	6,587	4,823	319,840	7,680	0
59	9/3/2020	99.5	8,373	6,765	5,517	304,900	7,061	0
60	9/3/2020	99.75	8,344	6,770	4,813	310,360	7,572	0
61	9/4/2020	98.75	8,219	6,831	5,324	310,390	7,157	0
62	9/5/2020	99.25	8,117	6,450	5,135	304,100	7,171	0
63	9/7/2020	98.88	8,118	6,585	4,704	307,440	7,155	0
64	9/8/2020	99.75	8,235	7,152	4,368	305,328	7,097	0
65	9/8/2020	100	8,077	6,501	5,899	308,770	7,027	0
66	9/9/2020	100	8,179	6,170	5,545	294,780	7,182	0
67	9/9/2020	97.14	7,935	6,655	4,905	308,170	7,071	0
68	9/9/2020	97	7,999	6,802	4,925	283,090	6,626	0
69	9/9/2020	100	8,026	6,466	5,876	310,890	7,286	0
70	9/9/2020	101	8,036	6,272	5,654	304,040	7,238	0
71	9/10/2020	99.29	8,187	7,232	4,865	309,630	7,469	0

RECEIVED
Office of Oil and Gas
NOV 23 2020
WV Department of
Environmental Protection



Well Name: Charles Jamison MSH 206H 47051022950000

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	0.00	0.00	322.00	322.00	
Top of Salt Water	1195.00	1195.00	NA	NA	
Pittsburgh Coal	1085.00	1085.00	1193.00	1193.00	
Pottsville (ss)	1193.00	1193.00	1542.00	1542.00	
Raven Cliff (ss)	1542.00	1542.00	1995.00	1975.00	
Maxton (ss)	1995.00	1975.00	2244.00	2220.00	
Big Injun (ss)	2244.00	2220.00	2877.00	2833.00	
Berea (siltstone)	2877.00	2833.00	7118.00	6460.00	
Rhinstreet (shale)	7118.00	6460.00	7578.00	6869.00	
Middlesex (shale)	7578.00	6869.00	7709.00	6956.00	
Burket (shale)	7709.00	6956.00	7750.00	6979.00	
Tully (ls)	7750.00	6979.00	7794.00	7002.00	
Mahantango (shale)	7794.00	7002.00	8147.00	7103.00	
Marcellus (shale)	8147.00	7103.00	NA	NA	GAS

RECEIVED
Office of Oil and Gas
NOV 23 2020
WV Department of
Environmental Protection

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/19/2020
Job End Date:	9/10/2020
State:	West Virginia
County:	Marshall
API Number:	47-051-02295-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	CHARLES JAMISON MSH 206
Latitude:	39.79189888
Longitude:	-80.60768961
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,133
Total Base Water Volume (gal):	23,269,552
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
Tolicide PS 50A	SWN Well Services	Biocide					
				Listed Below			
Base Water	Operator	Base Fluid					
				Listed Below			

RECEIVED
Office of Oil and Gas
NOV 23 2020

WV Department of
Environmental Protection

Plexaid 655WG	SWN Well Services	Scale Inhibitor					
				Listed Below			
Econo-CI200	SWN Well Services	Corrosion Inhibitor					
				Listed Below			
Sand	SWN Well Services	Proppant					
				Listed Below			
HCL	SWN Well Services	Solvent					
				Listed Below			
SWN FRW-11LC	SWN Well Services	Friction Reducer					
				Listed Below			
Ecopol-FEAC	SWN Well Services	Iron Control					
				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	89.47044	Density = 8.345
			Crystalline Silica, quartz	14808-60-7	100.00000	9.92186	
			Water	7732-18-5	85.00000	0.47705	
			Hydrochloric Acid	7647-01-0	15.00000	0.06140	
			Petroleum Distillates, Hydrotreated	64742-47-8	25.00000	0.04079	
			Tetrakis	55566-30-8	55.00000	0.01458	
			Ammonium Chloride	12125-02-9	2.00000	0.00326	
			Glycerin	56-81-5	50.00000	0.00293	

RECEIVED
Office of Oil and Gas

NOV 23 2020

WV Department of
Environmental Protection

			Oleic Acid Diethanolamide	93-83-4	1.50000	0.00245	
			Alcohols, C12-1, ethoxylated	68551-12-2	1.50000	0.00245	
			Acetic Acid	64-19-7	37.50000	0.00082	
			Diethylenetriamine penta	15827-60-8	10.00000	0.00059	
			Methanol	67-56-1	80.00000	0.00050	
			Citric Acid	77-92-9	22.50000	0.00049	
			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)

RECEIVED
Office of Oil and Gas

NOV 23 2020

WV Department of
Environmental Protection

SWN PRODUCTION COMPANY, LLC

Location: Marshall County, WV Slot: Slot 206H
 Field: Marshall Well: Charles Jamison MSH 206H
 Facility: Charles Jamison MSH Pad Wellbore: Charles Jamison MSH 206H FWH

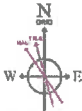


Plot reference well path to Charles Jamison MSH 206H PWP Rev A.C	Old system: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 48 (KB)	North Reference: Grid north
Reference well path measured depths are referenced to SDC 48 (KB)	Scale: True distances
SDC 48 (KB) to Mean Sea Level: 1392.7 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Mud line (At Slot: Slot 206H): -1336.7 feet	Depths are in feet
Offset well path MDs are referenced to each point depth at MD column	Created by: jstanger on: 2020-03-24; Database: WA MPL_EASTERNUS_Dash

Location Information

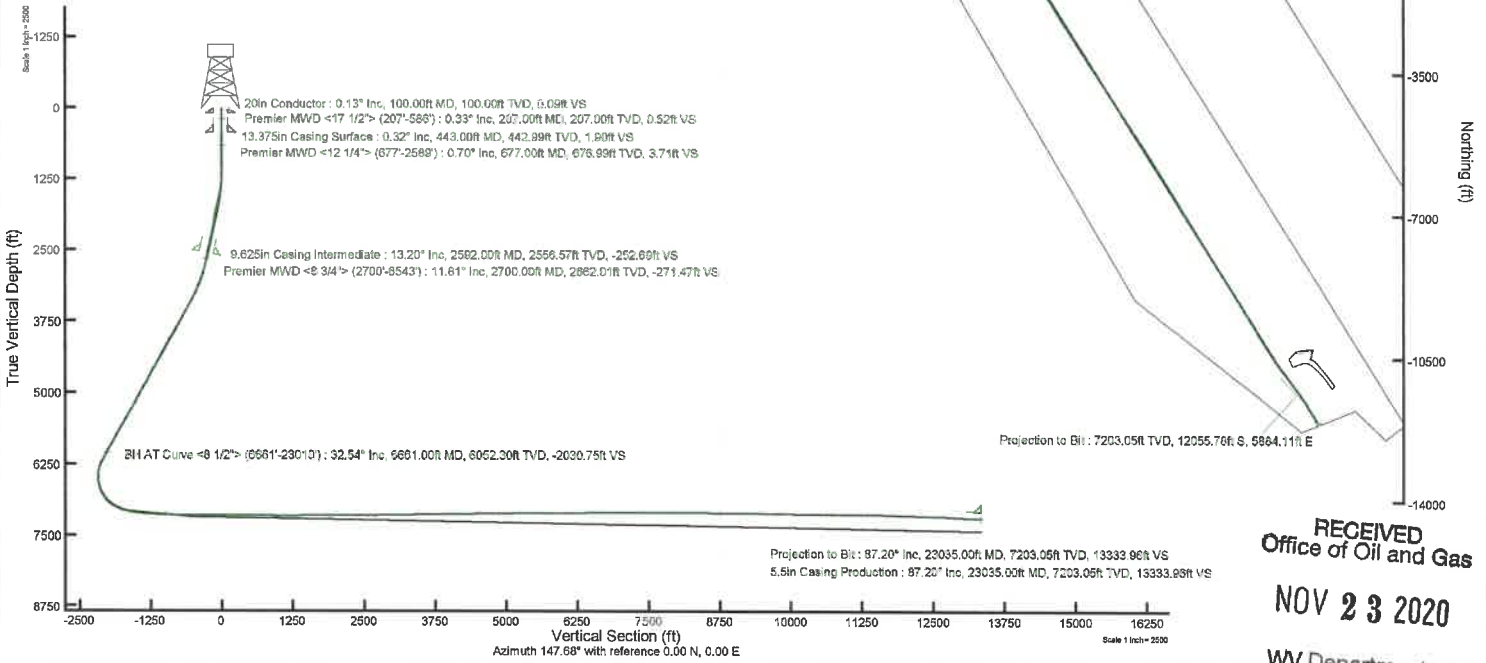
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
Charles Jamison MSH Pad	1750638.500	14451211.924	39°47'30.9700"N	80°36'27.4000"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot 206H	-13.66	-22.00	1750616.610	14451198.270	39°47'30.8360"N	80°36'27.6826"W
SDC 48 (KB) to Mud line (At Slot: Slot 206H)				26ft		
Mean Sea Level to Mud line (At Slot: Slot 206H)				-1336.7ft		
SDC 48 (KB) to Mean Sea Level				1362.7ft		

API: 47-051-02295-0000
 BH Job #: 110308799A
 Rig: SDC 46
 Duration: 03/16/2020 - 03/20/2020



User specified Elor 66.33° Field 92298 of Magnetic North is 8.57 degrees West of True North (1/3/2020)
 Grid North is 0.25 degrees East of True North
 To correct azimuth from True to Grid subtract 0.25 degrees
 To correct azimuth from Magnetic to Grid subtract 8.62 degrees

Premier MWD <17 1/2"> (207°-586°): 207.00ft TVD, 0.48ft S, 0.21ft E
 Premier MWD <12 1/4"> (877°-2589°): 676.98ft TVD, 3.30ft S, 1.72ft E
 Premier MWD <8 3/4"> (2700°-6543°): 2882.01ft TVD, 133.90ft N, 296.12ft W
 BH AT Curve <8 1/2"> (6681°-23010°): 6062.30ft TVD, 1093.91ft N, 2069.24ft W



RECEIVED
 Office of Oil and Gas

NOV 23 2020

WV Department of
 Environmental Protection

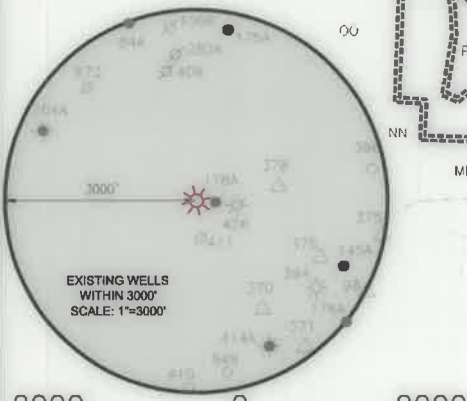
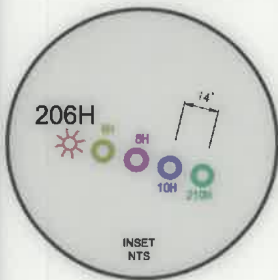
Latitude: 39°50'00" (SHL)

SURFACE HOLE 6845'

Latitude: 39°47'30" (BHL) BOTTOM HOLE 1016'



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



2000 0 2000

GRAPHIC SCALE IN FEET

WELL RESTRICTIONS

- NO OCCUPIED BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
- NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
- WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 625 FEET OF PROPOSED WELL.
- PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 600 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
- NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

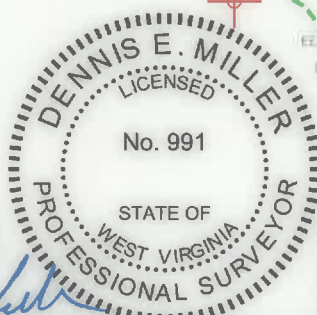
NOTES ON SURVEY

- 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.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

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. 991

AS-DRILLED



COMPANY:

SWN

SWN

Production Company, LLC

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)

CHARLES JAMISON MSH

OPERATOR'S WELL #: 206H

API WELL #: 47 051 02295
STATE COUNTY PERMIT

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

WATERSHED: MAGGOTY RUN ELEVATION: 1335.0'

DISTRICT: LIBERTY DISTRICT COUNTY: MARSHALL QUADRANGLE: CAMERON

SURFACE OWNER: CHARLES AND JEAN JAMISON ACREAGE: 97.2±

OIL & GAS ROYALTY OWNER: CHARLES AND JEAN JAMISON ACREAGE: 97.2±

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

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,203.05 TVD 23,035 TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY

ADDRESS: 1300 FORT PIERPONT DRIVE, STE 201 ADDRESS: 1300 FORT PIERPONT DRIVE, STE 201

CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND: PROPOSED SURFACE HOLE / BOTTOM HOLE SURVEYED BOUNDARY EXISTING / PRODUCING WELLHEAD DRILLING UNIT LPL LANDING POINT LOCATION LEASE BOUNDARY EXISTING WATER WELL EXISTING SPRING ASDRILLED PATH PROPOSED PATH

REVISIONS: DATE: 11-16-2020

DRAWN BY: K.E.S.
SCALE: 1" = 2000'
DRAWING NO: 170-426
WELL LOCATION PLAT

Longitude: 80°35'00" (BHL) SURFACE HOLE 15094'
Longitude: 80°35'00" (SHL)



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	CONSOLIDATED COAL COMPANY, A DELAWARE CORPORATION	07-007-0006.3
3	CONSOL MINING COMPANY LLC	07-007-0005.3
4	TIMOTHY R. CAIN	07-007-0006.2
5	TIMOTHY R. CAIN	07-007-0006.1
6	CO. RT. 23 ROW (CAMERON RIDGE ROAD)	
7	GARY RAY DOBBS, ET AL	07-010-0018
8	GARY RAY DOBBS, ET AL	07-010-0022
9	HAROLD E. AND ANITA RUSH	07-010-0023
10	HOWARD E WILLIAMS	07-010-0025.1
11	ROBERT D. WILLIAMS, SINGLE	07-016-0030
12	RUSSELL ALLEN DOTSON JR	07-016-0031
13	DONALD REX QUIGLEY, ET UX	07-016-0033
14	JEREMIAH N. AND ANDREA J. MAGERS	07-016-0033.1
15	CO. RT. 96 ROW	
16	JOHN MATTHEW BUTLER	07-016-0039
17	JOHN E. RIGGS JR.	07-016-0041
18	JUDITH ANN BURGE, VIRGINIA LEE BAILEY, AND SUELLEN MARLING	07-020-0006

ADJOINING OWNERS TABLE

TRACT	SURFACE OWNER	TAX PARCEL
A	KENNETH WAYNE STEELE TRUST	07-007-0008.1
B	KENNETH WAYNE STEELE TRUST	07-007-0011
C	GALE ZWICK (LIFE ESTATE) AND MITCHELL ZWICK (REMAINDERMAN)	07-007-0012
D	CHARLES AND JEAN JAMISON	07-007-0013
E	JEFFREY A. MURRAY, A MARRIED MAN	07-010-0018.2
F	CONSOLIDATED COAL COMPANY, A DELAWARE CORPORATION	07-010-0019
G	GARY R. DOBBS, ET UX	07-010-0021
H	D. VANE STARKEY	07-010-0025
I	CNX LAND LLC, A DELAWARE LIMITED LIABILITY COMPANY	07-011-0003
J	SCOTT C. MARLING AND JESSICA L. PARRY, AS JOINT TENANTS WITH THE RIGHT OF SURVIVORSHIP	07-011-0004
K	DONALD REX QUIGLEY, ET UX	07-016-0036
L	DAVID L. ELSON, ET UX	07-016-0032
M	DAVID L. ELSON AND DEBBIE L. ELSON, HIS WIFE, AS JOINT TENANTS WITH THE RIGHT OF SURVIVORSHIP	07-016-0034
N	JOHN E. RIGGS JR, ET UX	07-016-0038
O	JOHN E. RIGGS JR, ET UX	07-016-0046
P	LOUIS S. MCCLELLAND EST	07-016-0037
Q	JOHN RIGGS, ET UX	07-016-0045
R	JOHN E. JR AND DALENA RIGGS	07-016-0042
S	JOHN E. RIGGS JR, ET UX	07-016-0044
T	JOHN E. RIGGS JR	07-016-0043
U	ANNIE L. GEHO EST	07-020-0007
V	ANNIE L. GEHO EST	07-020-0009
W	ANNIE L. GEHO EST	07-020-0010
X	ANNIE L. GEHO EST	07-020-0011
Y	AMMON BURLEY, ET UX	07-020-0012
Z	WEST VIRGINIA WILDLIFE RESOURCES	07-024-0001
AA	ALAN UNDERDONK	07-016-0025.1
BB	JUDITH ANN BURGE, VIRGINIA LEE BAILEY, AND SUELLEN MARLING	07-016-0040
CC	GAIL CUMPSTON	07-019-0020
DD	GEORGE R. CUMPSTON AND NANCY K. CUMPSTON, HIS WIFE; GAIL K. PORTER, AS JOINT TENANTS WITH THE RIGHT OF SURVIVORSHIP	07-016-0024
EE	BEN F. ALLMAN, ET UX	07-016-0025
FF	DAVID T. BUTLER - LIFE	07-016-0026
GG	JOHN M. BUTLER	07-016-0026.1
HH	RUSSELL ALLEN DOTSON JR, ET UX	07-016-0028
II	STEPHANIE F. YEATER	07-016-0029.3
JJ	HAROLD E. AND ANITA RUSH	07-010-0023.1
KK	VINCENT E. LEMASTERS	07-010-0024
LL	JAMES M. CLARK	07-010-0009
MM	JAMES M. CLARK	07-010-0010
NN	CHARLES R. CLARK AND MARILYN V. WHIPKEY, AS JOINT TENANTS WITH THE RIGHT OF SURVIVORSHIP	07-010-0011
OO	CHARLES R. CLARK AND MARILYN V. WHIPKEY, AS JOINT TENANTS WITH THE RIGHT OF SURVIVORSHIP	07-010-0012
PP	ERIC SCOTT AND TIFFANY J. DOBBS	07-010-0018.4
QQ	HAZEN B. PYLES	07-010-0018.1
RR	CONSOL MINING COMPANY LLC	07-010-0018.3
SS	PAMELA J. HOWARD	07-010-0015
TT	GARY RAY DOBBS, ET AL	07-010-0016
UU	GARY RAY DOBBS, ET AL	07-010-0017
VV	ERIC SCOTT AND TIFFANY J. DOBBS	07-010-0018.5
WW	GARY R. AND JAN C. DOBBS	07-010-0018.6
XX	GARY R. AND JAN C. DOBBS	07-010-0018.7
YY	WAYNE E. GRAHAM JR, ET UX	07-007-0004
ZZ	WAYNE E. GRAHAM JR	07-007-0005.1
AAA	WAYNE E. GRAHAM	07-007-0005.2
BBB	WAYNE E. GRAHAM, JR. AND GWENDOLYN L. GRAHAM, HUSBAND AND WIFE, AS JOINT TENANTS WITH RIGHTS OF SURVIVORSHIP	07-007-0005
CCC	CNX LAND LLC	07-007-0007.1
DDD	CONSOLIDATION COAL COMPANY, ET AL	07-007-0007

AS-DRILLED

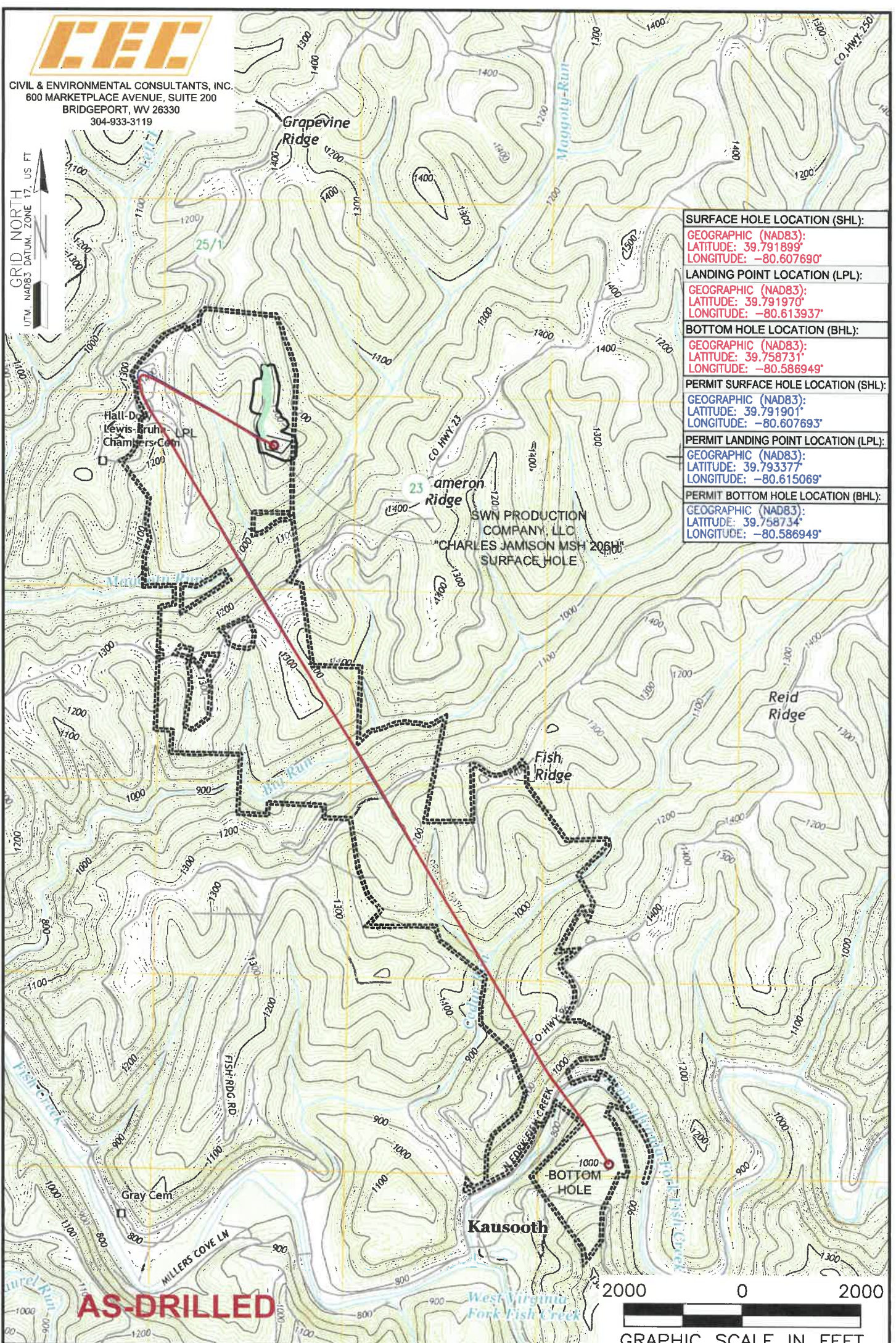
API WELL #: **47** **051** **02295**
STATE COUNTY PERMIT

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



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

GRID NORTH
UTM NAD83 DATUM, ZONE 17, US FT



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83): LATITUDE: 39.791899° LONGITUDE: -80.607690°
LANDING POINT LOCATION (LPL):
GEOGRAPHIC (NAD83): LATITUDE: 39.791970° LONGITUDE: -80.613937°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83): LATITUDE: 39.758731° LONGITUDE: -80.586949°
PERMIT SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83): LATITUDE: 39.791901° LONGITUDE: -80.607693°
PERMIT LANDING POINT LOCATION (LPL):
GEOGRAPHIC (NAD83): LATITUDE: 39.793377° LONGITUDE: -80.615069°
PERMIT BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83): LATITUDE: 39.758734° LONGITUDE: -80.586949°

AS-DRILLED

GRAPHIC SCALE IN FEET

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
- EXISTING / PRODUCING WELLHEAD
- LPL LANDING POINT LOCATION
- FLOOD PLAIN
- ACCESS ROAD
- PUBLIC ROAD
- ACCESS ROAD TO PREV. SITE
- LEASE BOUNDARY
- PROPOSED PATH
- ASDRILLED PATH

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: CHARLES JAMISON MSH	WELL # 206H	SERIAL # XXXX
ADDRESS: 1300 FORT PIERPONT DRIVE, STE 201, MORGANTOWN, WV 26508	COUNTY - CODE MARSHALL - 051	DISTRICT; LIBERTY DISTRICT	
SURFACE OWNER: CHARLES AND JEAN JAMISON	USGS 7 1/2 QUADRANGLE MAP NAME CAMERON, WV		