

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

API 47-009-00224 County BROOKE District BUFFALO
Quad BETHANY Pad Name WORTHLEY BRK PAD Field/Pool Name PANHANDLE FIELD WET
Farm name KIMBERLY CARMAN WORTHLEY Well Number WORTHLEY BRK 1H
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 4,451,762.43 Easting 537,844.27
Landing Point of Curve Northing 4,451,789.02 Easting 537,568.47
Bottom Hole Northing 4,453,344.22 Easting 537,022.03

Elevation (ft) 1156.51 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 10/11/2017 Date drilling commenced 05/14/2018 Date drilling ceased 06/12/2018
Date completion activities began 08/27/2018 Date completion activities ceased 10/17/2018
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 183 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 800 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 329 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed
C. [Signature] 1.17.19

Reviewed by:
[Signature] 1.17.19

API 47- 009 - 00224 Farm name KIMBERLY CARMAN WORTHLEY Well number WORTHLEY BRK 1H

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	36	30	126	NEW	PLS2/234.29#		Y
Surface	26	20	418	NEW	J-55/94#	288.8', 247.1'	Y, 37 BBLs
Coal	SEE SURFACE						
Intermediate 1	17.50	13.375	596	NEW	J-55/54.50#		Y, 25 BBLs
Intermediate 2	12.25	9.625	1738	NEW	J-55/36#		Y, 30 BBLs
Intermediate 3							
Production	8.75/8.50	5.5	12040	NEW	HCP-110/20#		Y, 75 BBLs
Tubing		2.375	6338	NEW	P-110/4.7#		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	792	15.60	1.19	942.48	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	CLASS A	705	15.60	1.20	846	SURFACE	8
Intermediate 2	CLASS A	705	15.60	1.19	838.95	SURFACE	8
Intermediate 3							
Production	CLASS A	2,815	15.60	1.19	3,349.85	SURFACE	24
Tubing							

Drillers TD (ft) 12040 Loggers TD (ft) 12040
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5.264

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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Hydraulic Fracturing Fluid Product Component Information Disclosure



Job Start Date:	8/27/2018
Job End Date:	9/18/2018
State:	West Virginia
County:	Brooke
API Number:	47-009-00224-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	WORTHLEY BRK 1H
Latitude:	40.21542353
Longitude:	-80.55525129
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	5,984
Total Base Water Volume (gal):	8,115,392
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	Southwestern Energy	Carrier/Base Fluid	Water	7732-18-5	100.00000	84.97495	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	13.55784	
HCL Acid (12.6%-17.5%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.40000	1.10897	
			Hydrogen Chloride	7647-01-0	17.50000	0.25783	
WFRA-2000	U.S. Well Services, LLC	Friction Reducer	Water	7732-18-5	60.00000	0.04165	
			2-Propenoic acid, polymer with 2 propenamide	9003-06-9	30.00000	0.02083	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01708	
BIOC11139A	Nalco Champion	Anti-Bacterial Agent	Benzyl-(C12-C16 Alkyl)-Dimethyl-Ammonium Chloride	68424-85-1	30.00000	0.00712	
			Glutaraldehyde	111-30-8	10.00000	0.00237	
			Ethanol	64-17-5	5.00000	0.00093	

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FSTI-IC-001	FSTI	Iron Control Additive					
			Acetic acid	64-19-7	60.00000	0.00310	
			Citric Acid	77-92-9	40.00000	0.00236	
SCAL16486A	Nalco Champion	Scale Inhibitor					
			Ethylene Glycol	107-21-1	30.00000	0.00178	
			Amine Triphosphate	Proprietary	30.00000	0.00160	
Econo-CI200	Economy Polymers & Chemicals	Acid Corrosion Inhibitors					
			Methanol	67-56-1	80.00000	0.00126	
			Fatty acid	Proprietary	10.00000	0.00021	
LT FLUSH SYSTEM I	J.S. Well Services, LLC	Other					
			Mineral oil, petroleum distillates, hrdotreated light naphthenic	64742-53-6	100.00000	0.00014	

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.

* 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)

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**WORTHLEY BRK 1H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	8/26/2018	11,952	11,851	36
2	8/27/2018	11,816	11,709	42
3	8/28/2018	11,676	11,569	42
4	8/28/2018	11,536	11,429	42
5	8/29/2018	11,396	11,289	42
6	8/31/2018	11,256	11,149	42
7	8/31/2018	11,116	11,009	42
8	9/1/2018	10,976	10,869	42
9	9/2/2018	10,836	10,729	42
10	9/2/2018	10,696	10,589	42
11	9/2/2018	10,556	10,449	42
12	9/3/2018	10,416	10,309	42
13	9/3/2018	10,276	10,169	42
14	9/4/2018	10,136	10,029	42
15	9/4/2018	9,996	9,889	42
16	9/5/2018	9,856	9,749	42
17	9/6/2018	9,716	9,609	42
18	9/7/2018	9,576	9,469	42
19	9/8/2018	9,436	9,329	42
20	9/8/2018	9,296	9,189	42
21	9/9/2018	9,156	9,049	42
22	9/9/2018	9,016	8,909	42
23	9/10/2018	8,876	8,769	42
24	9/10/2018	8,736	8,629	42
25	9/11/2018	8,596	8,489	42
26	9/11/2018	8,456	8,349	42
27	9/12/2018	8,316	8,209	42
28	9/12/2018	8,176	8,069	42
29	9/12/2018	8,036	7,929	42
30	9/13/2018	7,896	7,789	42
31	9/13/2018	7,761	7,649	42
32	9/14/2018	7,616	7,509	42
33	9/14/2018	7,476	7,369	42
34	9/15/2018	7,336	7,229	42
35	9/16/2018	7,196	7,089	42
36	9/16/2018	7,056	6,949	42
37	9/17/2018	6,916	6,809	42
38	9/17/2018	6,776	6,669	42
39	9/17/2018	6,636	6,529	42
40	9/18/2018	6,496	6,389	42

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WORTHLEY BRK 1H

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	8/27/2018	89	6,897	8,404	3,839	258,440	5,891	0
2	8/28/2018	90	7,184	6,764	4,286	280,430	5,309	0
3	8/28/2018	89	6,829	5,586	4,271	274,560	6,385	0
4	8/28/2018	90	6,897	6,331	4,085	279,730	5,073	0
5	8/31/2018	90	6,952	6,625	9,683	286,770	6,448	0
6	8/31/2018	90	7,327	5,503	4,438	281,400	5,262	0
7	9/1/2018	90	7,100	5,922	4,698	281,380	5,018	0
8	9/1/2018	90	7,396	5,251	4,241	278,480	5,162	0
9	9/2/2018	91	6,744	6,130	4,371	277,220	4,786	0
10	9/2/2018	90	7,057	4,452	4,222	278,760	5,577	0
11	9/2/2018	90	7,526	5,900	4,507	279,340	4,867	0
12	9/3/2018	90	6,886	5,786	4,321	276,020	5,179	0
13	9/4/2018	86	7,215	5,130	4,329	280,710	5,172	0
14	9/4/2018	90	7,206	5,654	4,202	278,360	4,819	0
15	9/5/2018	51	8,194	5,400	4,051	281,640	8,944	0
16	9/6/2018	90	7,329	5,404	4,080	275,530	4,477	0
17	9/7/2018	90	7,168	5,207	4,229	283,940	4,471	0
18	9/8/2018	91	6,925	6,062	4,359	280,920	4,464	0
19	9/8/2018	90	7,435	5,891	4,549	291,180	4,525	0
20	9/9/2018	89	7,196	5,993	4,663	277,980	4,699	0
21	9/9/2018	90	7,488	6,019	4,306	277,800	4,444	0
22	9/10/2018	87	7,609	5,840	4,743	273,680	4,131	0
23	9/10/2018	88	6,932	5,839	4,539	283,800	6,393	0
24	9/11/2018	84	7,260	5,959	4,344	270,880	4,510	0
25	9/11/2018	85	6,925	5,940	4,332	286,300	4,441	0
26	9/11/2018	85	7,519	4,678	4,353	282,200	4,969	0
27	9/12/2018	85	7,301	5,909	4,684	276,080	4,451	0
28	9/12/2018	64	7,260	5,697	4,090	203,480	5,712	0
29	9/13/2018	89	6,751	5,886	4,480	278,100	4,441	0
30	9/13/2018	90	7,095	5,886	4,733	268,080	4,484	0
31	9/14/2018	88	6,959	5,770	4,121	280,240	4,144	0
32	9/14/2018	91	6,707	4,762	4,056	278,560	4,284	0
33	9/14/2018	88	6,676	5,597	4,556	279,420	4,239	0
34	9/15/2018	89	6,676	5,272	4,773	277,180	4,028	0
35	9/16/2018	89	6,482	5,633	4,846	255,240	4,220	0
36	9/17/2018	87	6,621	5,559	4,233	287,500	4,195	0
37	9/17/2018	89	6,580	5,850	4,502	281,300	4,140	0
38	9/17/2018	89	6,768	5,779	4,160	276,200	4,038	0
39	9/17/2018	89	6,795	5,854	4,148	276,320	4,227	0
40	9/18/2018	49	7,573	4,802	4,215	23,640	3,288	0

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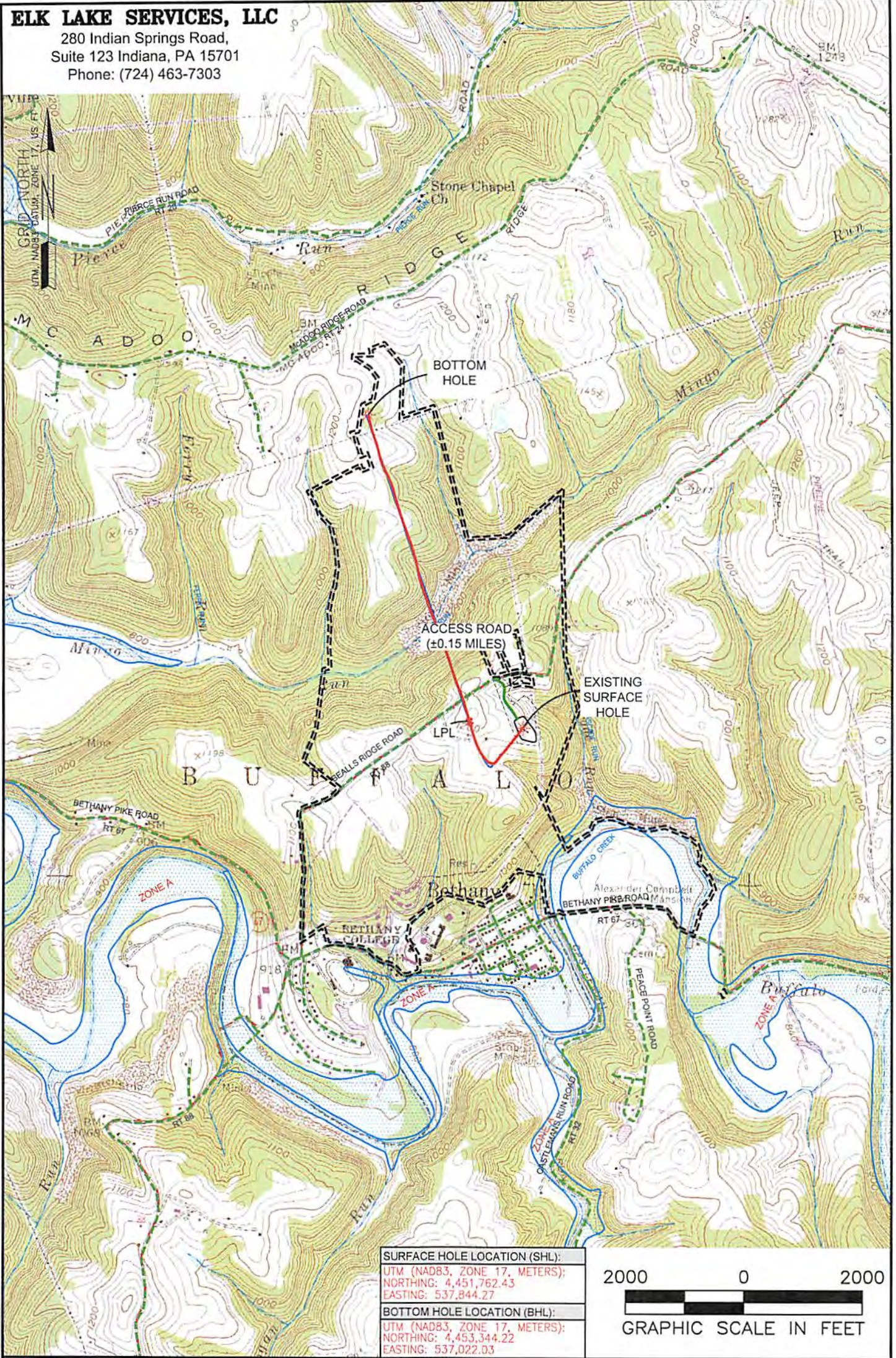
Well Name: Worthley BRK 1H

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	183.00	183.00	
Top of Salt Water	800.00	800.00	NA	NA	
Pittsburgh Coal	329.00	329.00	482.00	482.00	
Pottsville (ss)	482.00	482.00	784.00	784.00	
Raven Cliff (ss)	784.00	784.00	1182.00	1182.00	
Maxton (ss)	1182.00	1182.00	1510.00	1510.00	
Big Injun (ss)	1510.00	1510.00	5431.00	5430.00	
Rhinstreet (shale)	5431.00	5430.00	5698.00	5682.00	
Cashaqua (shale)	5698.00	5682.00	5762.00	5737.00	
Middlesex (shale)	5762.00	5737.00	5967.00	5808.00	
Burket (shale)	5967.00	5808.00	5986.00	5822.00	
Tully (ls)	5986.00	5822.00	6063.00	5874.00	
Mahantango (shale)	6063.00	5874.00	6354.00	5995.00	
Marcellus (shale)	6354.00	5995.00	NA	NA	Gas

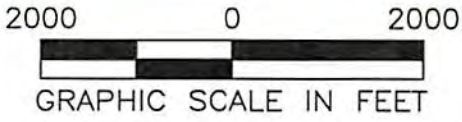
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ELK LAKE SERVICES, LLC

280 Indian Springs Road,
Suite 123 Indiana, PA 15701
Phone: (724) 463-7303



SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS);
NORTHING: 4,451,762.43
EASTING: 537,844.27
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS);
NORTHING: 4,453,344.22
EASTING: 537,022.03



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	ACCESS ROAD TO PREV. SITE
LPL LANDING POINT LOCATION	LEASE BOUNDARY	EXISTING PATH
FLOOD PLAIN	PROPOSED PATH	

WELL OPERATOR:
SWN PRODUCTION COMPANY, LLC
ADDRESS:
1300 FORT PIERPONT DR STE 201, MORGANTOWN, WV 26508
SURFACE OWNER:
KIMBERLY CARMAN WORTHLEY

WELL (FARM) NAME:	WELL #	SERIAL #
WORTHLEY BRK	1H	XXXX
COUNTY	DISTRICT:	
BROOKE COUNTY - 9	BUFFALO	
USGS 7 1/2 QUADRANGLE MAP NAME		
BETHANY, WV		

ELK LAKE SERVICES, LLC

280 Indian Springs Road,
Suite 123 Indiana, PA 15701
Phone: (724) 463-7303

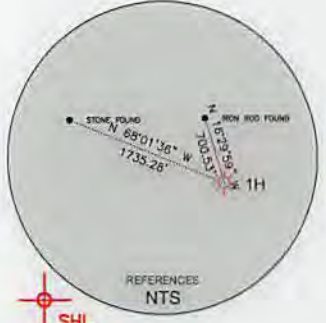
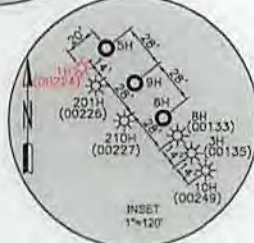
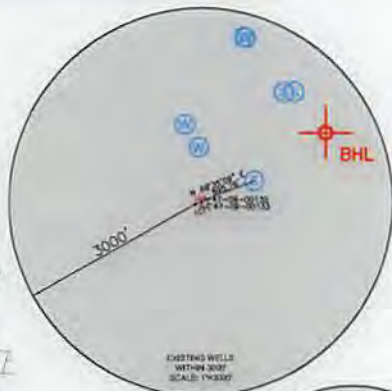
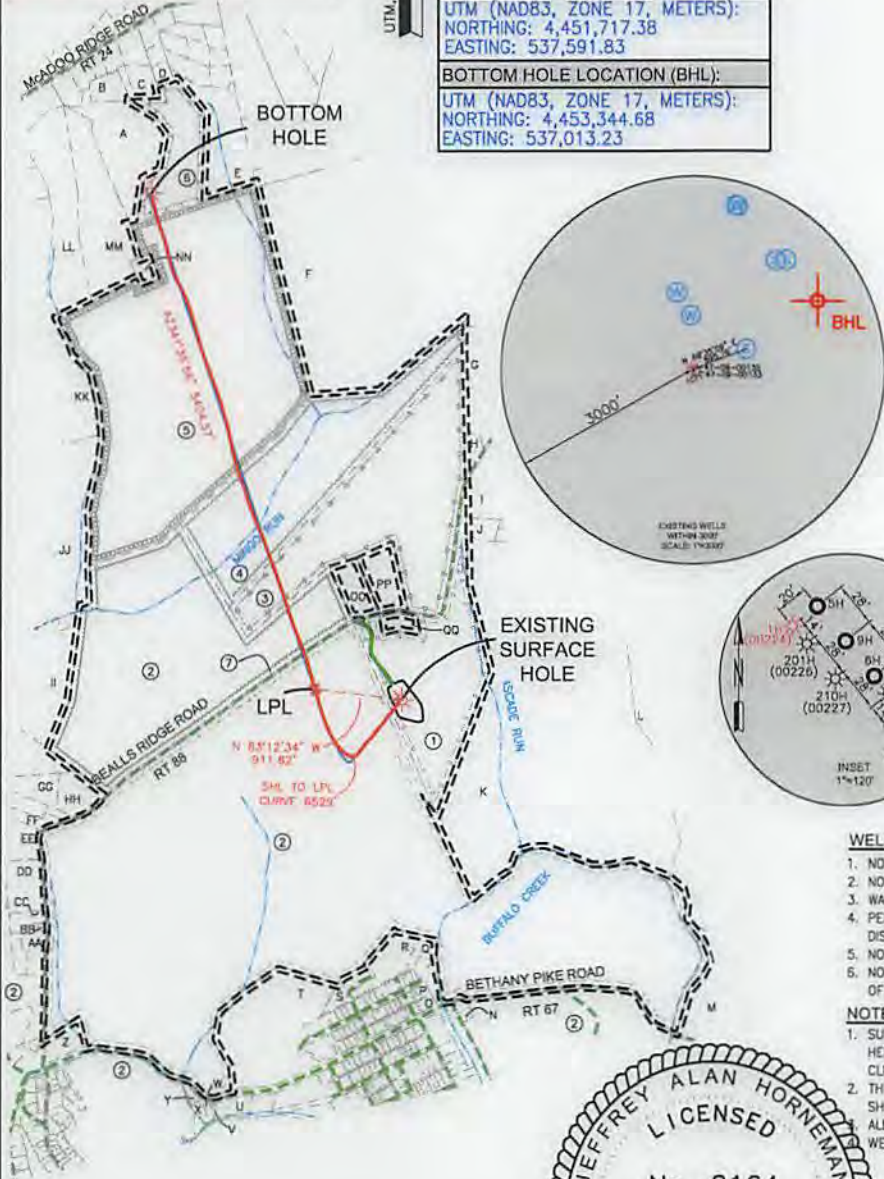
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LANDING POINT (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,451,789.02 EASTING: 537,568.47
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,453,344.22 EASTING: 537,022.03

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

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	KIMBERLY CARMAN WORTHLEY (S) COLONIAL CORP, A NEVADA CORP, & KIMBERLY J. CARMAN AKA KIMBERLY J. WORTHLEY, A MARRIED WOMAN DEALING IN HER SASP (R)	3-838-27	40.00
2	BETHANY COLLEGE	3-838-31	822.25
3	JEFFREY W. HENSHER	3-838-27.1	82.44
4	JEFFREY W. HENSHER	3-838-28	53.10
5	MARK A. & GEORGIA M. FEDAK	3-838-14	147.57
6	MARK A. & GEORGIA M. FEDAK	3-833-77.2	14.18
7	WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS	BEALLS RIDGE ROAD	3.39

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,451,762.41 EASTING: 537,844.11
LANDING POINT (LPL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,451,717.38 EASTING: 537,591.83
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS): NORTHING: 4,453,344.68 EASTING: 537,013.23

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	MARK A. & GEORGIA M. FEDAK	3-833-77	12.7500
B	GEORGIA M. & MARK A. FEDAK	3-833-77.1	2.5400
C	WILLIAM B. & CECILIA A. DIMAS	3-833-89	2.0000
D	PHILIP B. MAZZELLA	3-833-88	1.1300
E	DALE C. JR. & DELVIBIA HUSKILL	3-833-85	12.8100
F	SPORTSMANS FARMERS ASSN	3-838-17	161.0000
G	MARK OWEN WEAVER & VIRGINIA BEALL KREUTZ	3-838-19	249.0000
H	KEVIN SCOTT & LISA KAY STEWART	3-838-20	1.0600
I	MARK WEAVER OWEN & VIRGINIA BEALL KREUTZ	3-838-19	249.0000
J	LANCE M. ELSON	3-838-21	1.8180
K	KIMBERLY CARMAN WORTHLEY	3-838-25	136.0000
L	MARK WEAVER OWEN & VIRGINIA BEALL KREUTZ	3-838-24	188.0000
M	TRUST OF GENE CHARLES VALENTINE	3-843-28	478.4400
N	RICHARD FRANCIS GORRY	3-843-27	0.8600
O	JAMES & KATHLEEN KEIRAN	2-843C-37	0.5000
P	BARBARA I. CHAMBERS	2-843C-36	0.3700
Q	BETHANY COLLEGE	2-843C-3	0.7300
R	BETHANY COLLEGE	2-843C-2	4.5000
S	BETHANY COLLEGE	2-843C-1	2.1000
T	BETHANY COLLEGE	1-843B-26	29.4590
U	TRAVIS C. & GREGORY B. STRAUB	2-843F-84	1.8600
V	GEORGE JR. SONNEWALD	2-843F-82	0.2300
W	GEORGE JR. SONNEWALD	2-843F-81	0.2200
X	WILLIAM MITCHELL HEIRS	2-843B-22	1.1250
Y	MITCHELL DONALD STEVEN	2-843F-83	0.1900
Z	JOHN HUFF HEIRS	2-843B-4	3.0000
AA	DANNY M. & SANDRA L. HOLLADAY	3-843-3	2.8413
BB	DENNIS A. DERRELLE RUSCHELL	3-843-2	0.1740
CC	DENNIS & DERRELLE RUSCHELL	3-843-1	0.6170
DD	RUTH GERMON & JEFFREY WOY & SUE MOORE & PATRICIA WEST & SARA WOY	3-838-37	5.2780
EE	ALLEN JOHNSON & CHARLES WARREN ETAL	3-838-36	84.0000
FF	DAVID G. OWENS & LINDA WALTERS	3-838-35	1.9900
GG	DAVID G. OWENS & LINDA WALTERS	3-838-33	7.5200
HH	DAVID G. OWENS & LINDA WALTERS	3-838-32	3.3700
II	MELVIN E. PELLICHETTE	3-837-63	109.3920
JJ	STARVAGGI INDUSTRIES INC	3-837-53	215.8000
KK	JOHN H. JR. & STEPHANIE PROELLOCHS & KEVIN RAY	3-838-7	103.9830
LL	JOHN H. JR. & STEPHANIE PROELLOCHS & KEVIN & JODY RAY	3-838-12	20.2800
MM	MARK A. & GEORGIA M. FEDAK	3-838-13	18.7400
NN	MARK ALBERT & ASHLEY L. FEDAK	3-838-14.1	1.7400
OO	CHARLES F. & DONNA BROWN	3-838-30	4.1800
PP	JEFFREY WILLIAM HENSHER	3-838-23	5.3300
QQ	CARRINGTON MORTGAGE SERVICES, LLC	3-838-26	1.9500



WELL RESTRICTIONS

1. NO OCCUPIED DWELLINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
2. NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
3. WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 896 FEET OF PROPOSED WELL.
4. PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS ARE WITHIN THE LIMITS OF DISTURBANCE.
5. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
6. NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

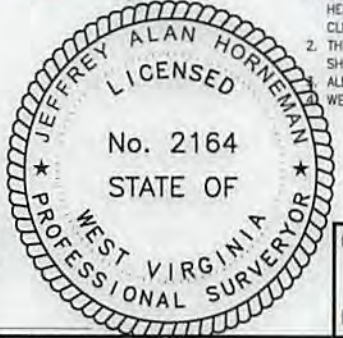
NOTES ON SURVEY

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.
- ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.
WELLBORE PARCELS ARE DESIGNATED WITH UNIQUE LINE TYPES.



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. 2164



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

COMPANY: **SWN** Production Company, LLC

WORTHLEY BRK
OPERATOR'S WELL #: 1H
API WELL #: 47 009 00224
STATE COUNTY PERMIT

WELL TYPE: OIL WASTE DISPOSAL PRODUCTION DEEP GAS LIQUID INJECTION STORAGE SHALLOW
WATERSHED: UPPER OHIO SOUTH
DISTRICT: BUFFALO COUNTY: BROOKE COUNTY
SURFACE OWNER: KIMBERLY CARMAN WORTHLEY
OIL & GAS ROYALTY OWNER: COLONIAL CORP, A NEVADA CORP, & KIMBERLY J. CARMAN AKA KIMBERLY J. WORTHLEY, A MARRIED WOMAN DEALING IN HER SASP
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: 6,015' TVD 12,040' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC
ADDRESS: 1300 FORT PIERPONT DR STE 201
CITY: MORGANTOWN STATE: WV ZIP CODE: 26508
DESIGNATED AGENT: BRITTANY WOODY
ADDRESS: 1300 FORT PIERPONT DR STE 201
CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

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

REVISIONS:	DATE: 01-09-2019
	FILE NO: 17-02
	DRAWN BY: JMB
	SCALE: 1" = 2000'
	DRAWING NO: 1
	WELL LOCATION PLAT 1

BOTTOM HOLE 7392'
SURFACE HOLE 12597'
Longitude: 80°32'30"

