

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

API 47-069-00220 County OHIO District TRIADELPHIA
Quad WHEELING Pad Name MELVIN KAHLE OHI PAD 1 Field/Pool Name PANHANDLE
Farm name MELVIN W AND CAROL M KAHLE Well Number MELVIN KAHLE OHI 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 4,435,807.71 Easting 531,954.15
Landing Point of Curve Northing 4,436,129.82 Easting 531,996.88
Bottom Hole Northing 4,438,141.28 Easting 530,913.99

Elevation (ft) 1276.6 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 05/08/2017 Date drilling commenced 12/18/2017 Date drilling ceased 02/03/2018
Date completion activities began 05/03/2018 Date completion activities ceased 05/31/2018
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 369' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 766' Void(s) encountered (Y/N) depths 608' - 617'
Coal depth(s) ft 604' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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Reviewed

C. Will 10-9-18

Reviewed by:

GB 10-9-18

API 47- 069 - 00220 Farm name MELVIN W AND CAROL M KAHLE Well number MELVIN KAHLE OHI 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	677'	NEW	J-55/54.50#	585'; 620'	Y
Coal	SEE SURFACE						
Intermediate 1	12.25	9.625	2,006'	NEW	J-55/36#		Y, 9 bbls
Intermediate 2							
Intermediate 3							
Production	8.75/8.50	5.5	14,325'	NEW	HCP-110/20#		Y
Tubing		2.375	6,795'	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	636	15.60	1.20	763.2	SURFACE	8
Coal	SEE SURFACE						
Intermediate 1	CLASS A	746	15.60	1.19	887.74	SURFACE	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2,578	15.60	1.19	3,067.82	SURFACE	24
Tubing							

Drillers TD (ft) 14,325' Loggers TD (ft) 14,325'
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5,466'

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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**MELVIN KAHLE OHI 5H
ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
1	4/21/2018	14,240	14,141	36
2	5/3/2018	14,106	13,999	42
3	5/3/2018	13,966	13,859	42
4	5/3/2018	13,826	13,719	42
5	5/3/2018	13,686	13,579	42
6	5/4/2018	13,546	13,439	42
7	5/4/2018	13,406	13,299	42
8	5/4/2018	13,266	13,159	42
9	5/4/2018	13,126	13,019	42
10	5/5/2018	12,986	12,879	42
11	5/5/2018	12,846	12,736	42
12	5/5/2018	12,706	12,599	42
13	5/5/2018	12,566	12,459	42
14	5/5/2018	12,426	12,319	42
15	5/6/2018	12,286	12,179	42
16	5/6/2018	12,146	12,039	42
17	5/6/2018	12,006	11,899	42
18	5/7/2018	11,866	11,759	42
19	5/8/2018	11,726	11,619	42
20	5/8/2018	11,586	11,479	42
21	5/8/2018	11,446	11,339	42
22	5/8/2018	11,306	11,199	42
23	5/9/2018	11,166	11,059	42
24	5/9/2018	11,026	10,919	42
25	5/9/2018	10,886	10,779	42
26	5/9/2018	10,746	10,639	42
27	5/9/2018	10,603	10,499	42
28	5/9/2018	10,466	10,359	42
29	5/9/2018	10,326	10,219	42
30	5/9/2018	10,186	10,079	42
31	5/10/2018	10,046	9,939	42
32	5/10/2018	9,906	9,797	42
33	5/10/2018	9,766	9,659	42
34	5/10/2018	9,626	9,519	42
35	5/10/2018	9,486	9,379	42
36	5/10/2018	9,346	9,239	42
37	5/10/2018	9,206	9,099	42
38	5/11/2018	9,066	8,959	42
39	5/11/2018	8,926	8,819	42
40	5/11/2018	8,786	8,684	42
41	5/11/2018	8,646	8,539	43
42	5/11/2018	8,506	8,399	42

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MELVIN KAHLE OHI 5H
ATTACHMENT 1
PERF REPORT

STAGE NUM	Perf Date	Perf Top MD	Perf Bottom MD	# SHOTS PER STG
43	5/11/2018	8,366	8,259	42
44	5/11/2018	8,226	8,119	42
45	5/12/2018	8,086	7,979	42
46	5/12/2018	7,946	7,839	42
47	5/12/2018	7,806	7,699	42
48	5/12/2018	7,666	7,559	42
49	5/12/2018	7,526	7,419	42
50	5/12/2018	7,386	7,279	42
51	5/12/2018	7,246	7,139	42
52	5/12/2018	7,106	6,999	42
53	5/13/2018	6,966	6,859	42
54	5/13/2018	6,826	6,719	42

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MELVIN KAHLE OHI 5H

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/othr
1	5/2/2018	57.3	8,284	7427	3,842	298,220	6,991	0
2	5/3/2018	57.6	8,089	3773	4,324	272,460	6,247	0
3	5/3/2018	64.8	7,252	3924	4,774	270,780	5,996	0
4	5/3/2018	99.3	8,030	4055	4,575	288,230	6,254	0
5	5/4/2018	99.8	8,017	3689	4,375	289,790	5,766	0
6	5/4/2018	92.4	7,719	4,232	4,327	286,880	5,080	0
7	5/4/2018	95.5	7,818	3,884	4,537	284,500	5,416	0
8	5/4/2018	90.1	7,457	4,472	4,340	289,560	5,281	0
9	5/5/2018	95.4	7,880	3,873	4,757	287,600	5,303	0
10	5/5/2018	99.5	8,001	7,939	4,724	275,320	5,324	0
11	5/5/2018	98.4	7,524	5,307	4,518	291,960	4,626	0
12	5/5/2018	94.2	7,725	5,505	4,304	286,120	4,941	0
13	5/5/2018	90.9	7,661	5,410	4,304	289,380	4,885	0
14	5/6/2018	98.4	7,938	5,732	4,703	282,980	5,120	0
15	5/6/2018	97	7,702	5,299	4,218	276,420	4,992	0
16	5/6/2018	100.9	7,612	5,314	3,424	274,940	4,492	0
17	5/7/2018	96.4	7,320	5,624	4,031	274,960	5,149	0
18	5/8/2018	99.2	7,687	5,353	4,349	289,800	4,372	0
19	5/8/2018	99.5	7,312	3,817	3,956	277,620	4,451	0
20	5/8/2018	100.1	7,543	5,075	4,127	288,600	4,766	0
21	5/8/2018	99.3	7,412	5,125	4,227	271,220	7,017	0
22	5/8/2018	99.4	7,636	5,586	4,498	275,320	4,555	0
23	5/9/2018	99.4	7,584	5,121	4,512	287,930	4,701	0
24	5/9/2018	97.2	7,335	5,005	4,333	274,480	4,632	0
25	5/9/2018	96.4	7,281	4,705	4,379	284,090	4,651	0
26	5/9/2018	100.4	7,605	4,481	4,342	271,260	4,477	0
27	5/9/2018	100.2	7,572	4,993	4,348	284,480	4,485	0
28	5/9/2018	99.6	7,511	5,166	4,490	271,220	4,265	0
29	5/9/2018	99.8	7,315	5,171	4,268	279,100	4,373	0
30	5/10/2018	96.8	7,278	5,338	4,539	274,440	4,243	0
31	5/10/2018	94.9	7,096	4,041	4,436	287,380	4,918	0
32	5/10/2018	100.6	7,392	4,457	4,351	287,850	4,545	0
33	5/10/2018	100	7,555	4,114	4,555	282,690	4,598	0
34	5/10/2018	100.2	7,316	4,249	4,410	273,320	4,360	0
35	5/10/2018	100.6	6,929	5,467	4,416	276,820	4,106	0
36	5/10/2018	100.1	7,002	5,244	4,408	288,230	4,323	0
37	5/10/2018	99.8	7,220	5,023	4,393	270,900	4,257	0
38	5/11/2018	99.7	7,187	5,533	4,650	288,570	4,286	0
39	5/11/2018	99.9	7,143	5,173	4,682	271,060	4,156	0
40	5/11/2018	99.2	6,940	5,337	4,487	286,710	4,337	0
41	5/11/2018	100.9	7,325	5,144	4,813	289,390	4,296	0
42	5/11/2018	100.4	7,600	5,141	4,422	275,540	4,313	0
43	5/11/2018	99.8	7,202	5,459	4,603	275,220	4,009	0
44	5/12/2018	99.8	7,440	5,806	4,515	277,900	4,057	0
45	5/12/2018	100	7,278	5,505	4,932	274,693	3,943	0
46	5/12/2018	99.8	7,093	5,056	4,724	287,111	4,005	0
47	5/12/2018	100.7	7,094	5,047	4,562	277,020	3,499	0
48	5/12/2018	100.9	7,116	4,244	4,857	279,240	3,753	0
49	5/12/2018	94.5	7,259	4,798	4,824	272,380	4,105	0
50	5/12/2018	6839	6,839	5,596	4,661	279,060	3,994	0
51	5/12/2018	99.9	6,773	5,610	4,739	279,230	3,988	0
52	5/12/2018	101.2	6,790	5,295	4,729	273,320	3,586	0
53	5/13/2018	99.8	6,859	5,669	4,398	275,620	3,721	0
54	5/13/2018	101.9	6,827	4,360	4,220	280,260	3,640	0

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Well Name: Melvin Kahle OHI 5H 47069002200000

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	369.00	369.00	
Top of Salt Water	766.00	766.00	NA	NA	
Pittsburgh Coal	604.00	604.00	617.00	617.00	
Pottsville (ss)	750.00	750.00	803.00	803.00	
Mauch Chunk (shale)	803.00	803.00	1569.00	1569.00	
Raven Cliff (ss)	1053.00	1053.00	1271.00	1271.00	
Maxton (ss)	1481.00	1481.00	1569.00	1569.00	
Greenbriar (ls)	1569.00	1569.00	1768.00	1768.00	
Big Injun (ss)	1768.00	1763.00	1945.00	1938.00	
Berea (siltstone)	2211.00	2201.00	2220.00	2218.00	
Rhinestreet (shale)	5768.00	5721.00	6092.00	5995.00	
Cashaqua (shale)	6092.00	5996.00	6167.00	6055.00	
Middlesex (shale)	6167.00	6055.00	6270.00	6129.00	
Burket (shale)	6270.00	6129.00	6293.00	6145.00	
Tully (ls)	6294.00	6146.00	6364.00	6189.00	
Mahantango (shale)	6364.00	6189.00	6574.00	6289.00	
Marcellus (shale)	6618.00	6302.00	NA	NA	GAS

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/2/2018
Job End Date:	5/13/2018
State:	West Virginia
County:	Ohio
API Number:	47-069-00220-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	Melvin Kahle 5H
Latitude:	40.07192700
Longitude:	-80.62525800
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,270
Total Base Water Volume (gal):	10,429,420
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
Fresh Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	84.61613	Density = 8.330
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.55763	

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SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
HYDROCHLORI C ACID	Halliburton	Solvent					
				Listed Below			
EXCELERATE LX-1	Halliburton	Friction Reducer					
				Listed Below			
NRB	MultiChem	Biocide					
				Listed Below			
SAND- PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
SCAL16486A	NALCO	Scale Inhibitor					
				Listed Below			
LP-65 MC	Halliburton	Scale Inhibitor					
				Listed Below			
BIOC11218A	NALCO	Biocide					
				Listed Below			

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Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			Crystalline silica, quartz	14808-60-7	100.00000	14.76717	
			Hydrochloric acid	7647-01-0	15.00000	0.07632	
			Polyacrylate	Proprietary	30.00000	0.02393	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02393	
			Fatty acid ester	Proprietary	5.00000	0.00798	
			Ethylene Glycol	107-21-1	30.00000	0.00466	
			Amine Triphosphate	Proprietary	30.00000	0.00466	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Ammonium chloride	12125-02-9	30.00000	0.00446	
			Sodium chloride	7647-14-5	5.00000	0.00399	
			Ethoxylated fatty acid	Proprietary	5.00000	0.00399	
			sodium nitrate	7631-99-4	60.00000	0.00385	
			Methanol	67-56-1	60.00000	0.00273	
			Benzyl-(C12-C16 Alkyl)- Dimethyl-Ammonium Chloride	68424-85-1	30.00000	0.00137	
			Organic phosphonate	Proprietary	60.00000	0.00095	
			Glutaraldehyde	111-30-8	10.00000	0.00046	
			Diammonium phosphate	7783-28-0	5.00000	0.00008	

* 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

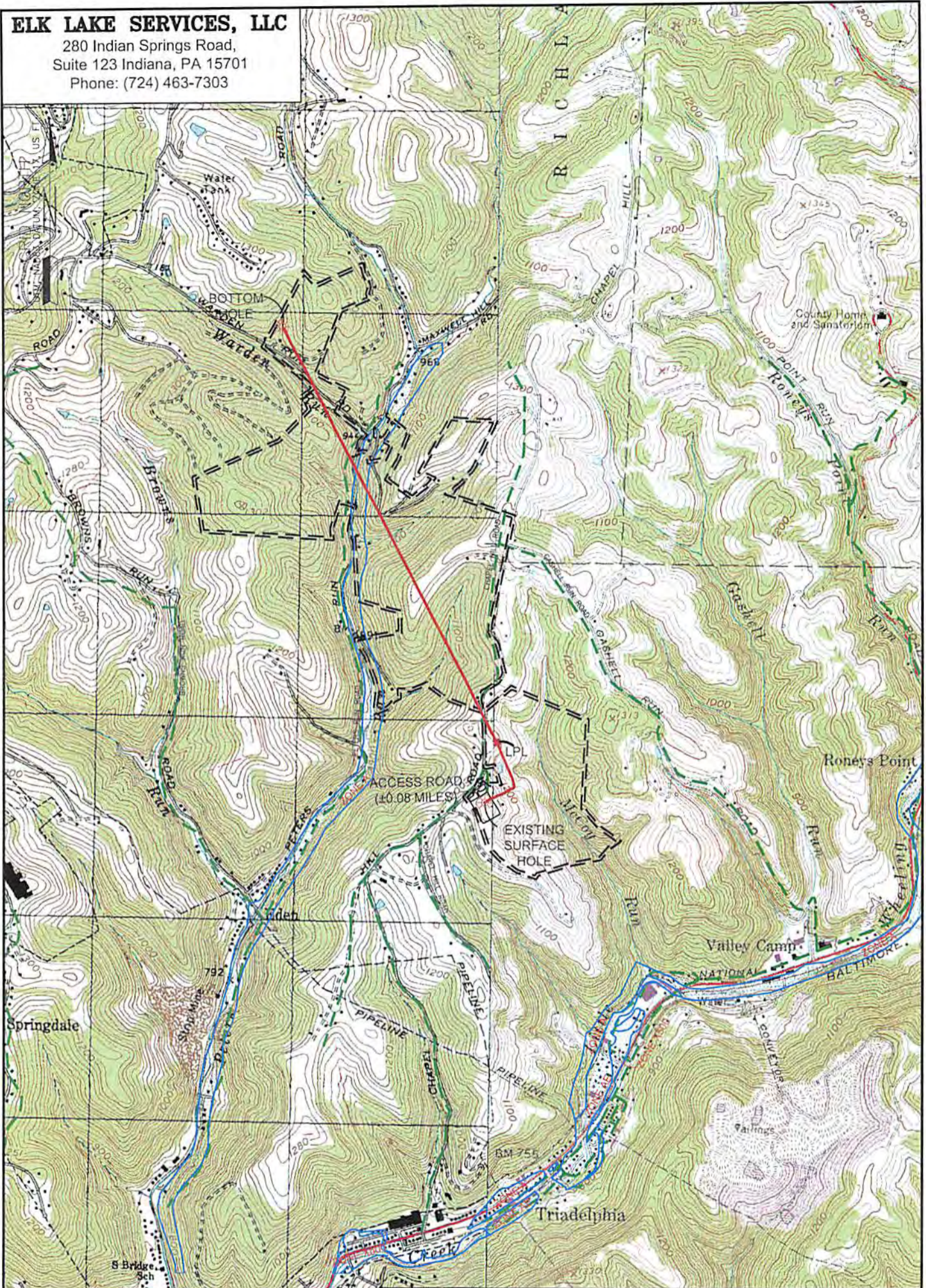
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

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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ELK LAKE SERVICES, LLC

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



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83)
LATITUDE: 40.071926799°
LONGITUDE: -80.625259951°
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83)
LATITUDE: 40.092989898°
LONGITUDE: -80.637346587°



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

WELL OPERATOR:
SWN PRODUCTION COMPANY, LLC

ADDRESS:
P.O. BOX 1300 JANE LEW, WV 26378

SURFACE OWNER:
MELVIN W. AND CAROL M. KAHLE

WELL (FARM) NAME:	WELL #	SERIAL #
MELVIN KAHLE OHI	5H	XXXX
COUNTY	DISTRICT:	
OHIO COUNTY - 69	TRIADELPHIA	
USGS 7 1/2 QUADRANGLE MAP NAME		
WHEELING, WV		

Latitude: 40°05'00" SURFACE HOLE 74'

Latitude: 40°07'30" BOTTOM HOLE | BOTTOM HOLE 3,454'

ELK LAKE SERVICES, LLC

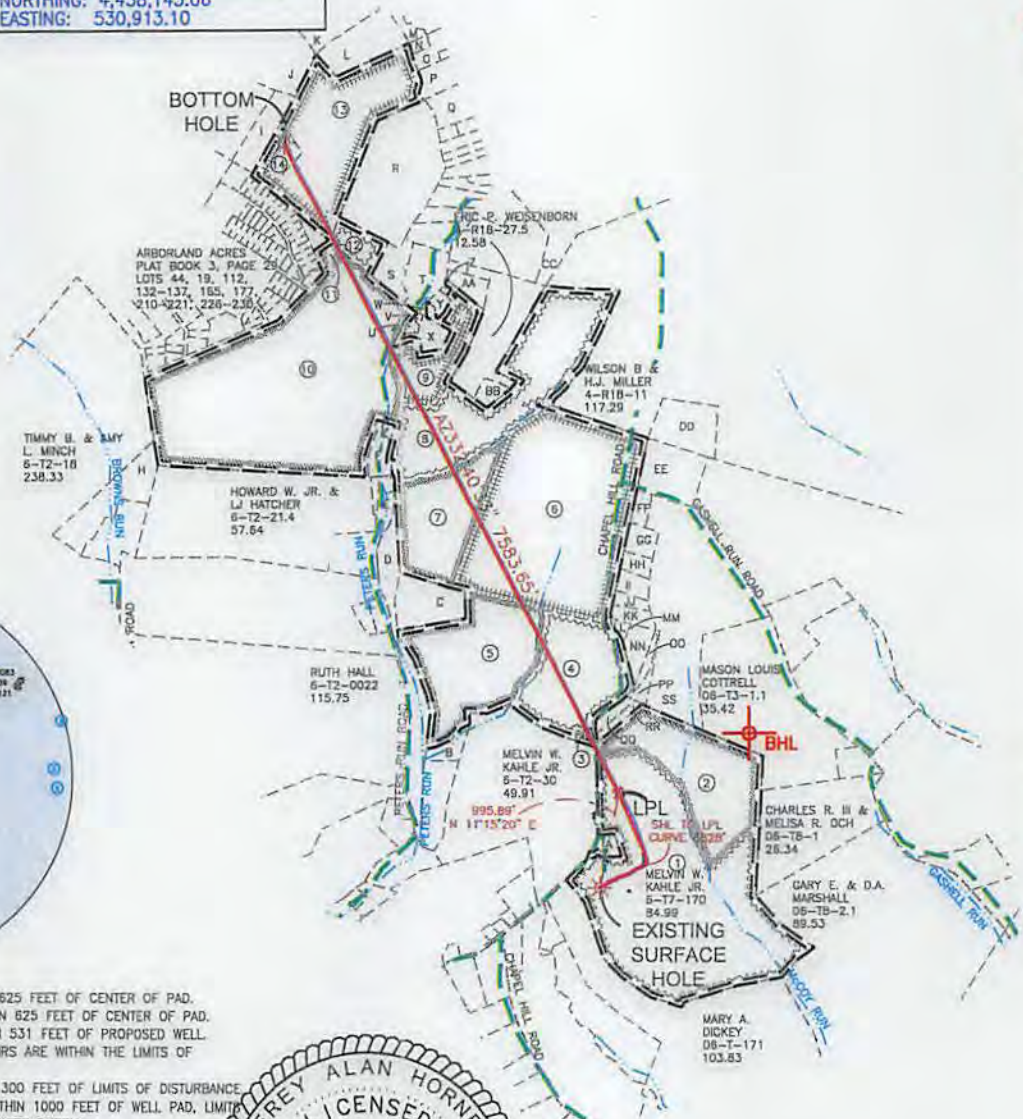
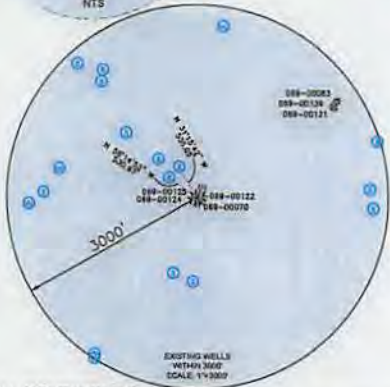
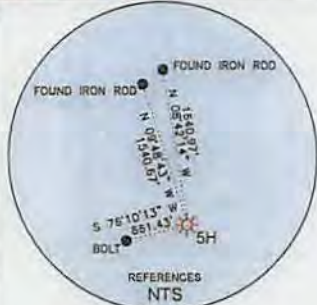
280 Indian Springs Road,
Suite 123 Indiana, PA 15701
Phone: (724) 463-7303

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

Longitude: 80°37'30"
Longitude: 80°37'30"
Longitude: 80°37'30"
SURFACE HOLE 4,156'
BOTTOM HOLE 11,689'

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,435,807.71
EASTING: 531,954.15
LANDING POINT (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,436,129.82
EASTING: 531,996.88
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,438,141.28
EASTING: 530,913.99

SURFACE HOLE LOCATION (SHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,435,807.73
EASTING: 531,954.28
LANDING POINT (LPL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,436,052.95
EASTING: 532,041.03
BOTTOM HOLE LOCATION (BHL):
UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,438,143.06
EASTING: 530,913.10



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 531 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.

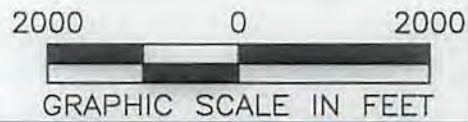
NOTES ON SURVEY

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2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
3. 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. 2164

[Signature]



COMPANY: **SWN** Production Company, LLC

OPERATOR'S WELL #:	MELVIN KAHLER OHI
OPERATOR'S WELL #:	5H
API WELL #:	47 069 00220
	STATE COUNTY PERMIT

(+) 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)

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

WATERSHED: UPPER OHIO SOUTH ELEVATION: 1276.6'

DISTRICT: TRIADDELPHIA COUNTY: OHIO COUNTY QUADRANGLE: WHEELING, WV

SURFACE OWNER: MELVIN W. AND CAROL M. KAHLER ACREAGE: ±84.99

OIL & GAS ROYALTY OWNER: MELVIN W. AND CAROL M. KAHLER ACREAGE: ±84.99

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: 6,320' TVD 14,325' TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC DESIGNATED AGENT: BRITTANY WOODY
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		SURVEYED BOUNDARY
	EXISTING / PRODUCING WELLHEAD		DRILLING UNIT
	LANDING POINT LOCATION		LEASE BOUNDARY
	EXISTING WATER WELL		EXISTING PATH
	EXISTING SPRING		PROPOSED PATH

REVISIONS:

LEASE LINES MADE DARKER AND MORE VISIBLE	DATE: 8/28/2018
SHL & BHL TICK MARKS WERE CORRECTED	FILE NO: 16-51
USING CORRECT TOPO LAT. AND LONG.	DRAWN BY: JMB
	SCALE: 1" = 2000'
	DRAWING NO: 1
	WELL LOCATION PLAT 1

WELL LOCATION PLAT 1		DRAWING NO. 1		SCALE: 1" = 2000'		USING CORRECT TOPO. LAT. AND LONG.		DRAWN BY: JMB		FILE NO: 18-21		DATE: 8/28/2018	
REVISIONS:		CITY: JANE LEW		STATE: WV		ZIP CODE: 26378		ADDRESS: P.O. BOX 1300		DESIGNATED AGENT: BRITANY WOODY		WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	
TARGET FORMATION: MARCELLUS		CONVERT <input type="checkbox"/>		PLUG & ABANDON <input type="checkbox"/>		CLEAN OUT & REPLUG <input type="checkbox"/>		OTHER CHANGE <input checked="" type="checkbox"/> (SPECIFY) AS-DRILLED		PERFORATE NEW FORMATION <input type="checkbox"/>		DRILL DEEPER <input type="checkbox"/>	
OIL & GAS ROYALTY OWNER: MELVIN W. AND CAROL M. KAHL		SURFACE OWNER: MELVIN W. AND CAROL M. KAHL		DISTRICT: TRIADAPLHIA		COUNTY: OHIO COUNTY		WATERSHED: UPPER OHIO SOUTH		WELL TYPE: OIL <input type="checkbox"/>		WASTE DISPOSAL <input type="checkbox"/>	
ELEVATION: (NAD 83, US FT)		SOURCE OF GRADE GPS		PROVEN SURVEY		ACCURACY: 1/500		DEGREE OF		MINIMUM		WELL TYPE: OIL <input type="checkbox"/>	
API WELL #:		STATE:		COUNTY:		PERMIT:		OPERATOR'S WELL #:		OHIO		WELL TYPE: OIL <input type="checkbox"/>	
00250		47		069		00250		MELVIN KAHL OH		SWN		WELL TYPE: OIL <input type="checkbox"/>	
SWN		Production Company, LLC		SWN		Production Company, LLC		SWN		Production Company, LLC		WELL TYPE: OIL <input type="checkbox"/>	

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 ORIENTED NORTH UNLESS OTHERWISE DESIGNATED.

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.

WELL RESTRICTIONS

1. NO OCCUPIED DWELLINGS > 2500 SQ FT WITHIN 825 FEET OF CENTER OF PAD.
2. NO AGRICULTURE BUILDINGS > 2500 SQ FT WITHIN 825 FEET OF CENTER OF PAD.
3. WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 521 FEET OF PROPOSED WELL.
4. PERMANENT STREAMS, LAKES, PONDS, OR RESERVOIRS ARE WITHIN THE LIMITS OF DISTURBANCE.
5. NO NATURALLY PRODUCING TIGHT STREAM WITHIN 200 FEET OF LIMITS OF DISTURBANCE.
6. NO GROUND WATER OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD LIMITS OF DISTURBANCE. E & S CONTROLS OR PUBLIC WATER SUPPLY.

LEGEND:

- PROPOSED SURFACE HOLE \ BOTTOM HOLE
- EXISTING \ PRODUCING WELLS
- LANDING POINT LOCATION
- EXISTING WATER WELL
- EXISTING SPRING
- PROPOSED PATH
- EXISTING PATH
- LEASE BOUNDARY
- DRILLING UNIT
- SURVEYED BOUNDARY



WELL LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4432807.71 EASTING: 531924.15	WELL LOCATION (SHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4432807.71 EASTING: 531924.15
LANDING POINT (L.P.): UTM (NAD83, ZONE 17, METERS): NORTHING: 4438052.95 EASTING: 532041.03	LANDING POINT (L.P.): UTM (NAD83, ZONE 17, METERS): NORTHING: 4438052.95 EASTING: 532041.03
BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4438143.08 EASTING: 530913.10	BOTTOM HOLE LOCATION (BHL): UTM (NAD83, ZONE 17, METERS): NORTHING: 4438143.08 EASTING: 530913.10

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

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4070730
EASTING: 4070200

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4070730
EASTING: 4070200

ELK LAKE SERVICES, LLC

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

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS			
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	MELVIN W. & CAROL M. KAHLE JR. (S)(R)	06-T7-170	84.99
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
2	MELVIN W. KAHLE JR. (S)	6-T2-36	28.99
3	GARY A. & DEBORAH A. YAHN (S)	6-T2-29.1	0.385
4	DONALD WALTER & DIANA WALTER (S)	6-T2-29	24.773
5	SCOTT R. SMITH, BEVERLY J. SMITH, LISA M. SMITH, ROBYN E. HAMMOND, PAMELA K. SMITH, DUANE T. SMITH, SEAN G. SMITH (S)	6-T2-25	39.568
6	ZELDA E. KUTHY, SCOTT KUTHY, STEPHANIE NICOLE KUTHY, MARK KUTHY(S)	6-T2-27	71.57
7	THOMAS M. RICKER & JOYCE RICKER (S)	4-R18-1	23.531
8	BESSIE HOFFMAN, BERNADINE BIERKORTTE, ROBERT LEE HOFFMAN, JR. (S)	4-R18-27	41.700
9	DALE E. HOFFMAN AND SHIRLEY L. HOFFMAN, CO-TRUSTEES OF THE HOFFMAN FAMILY TRUST DATED NOVEMBER 20, 2000 (S)	4-R18-27.1	13.28

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS			
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
10	BERNICE C. HALL TRUSTEE U/A DATED MARCH 14, 1995 BETWEEN BERNICE C. HALL, SETTLOR AND BERNICE C. HALL, TRUSTEE HOMER C. HALL, TRUSTEE U/A DATED MARCH 14, 1995, BETWEEN HOMER C. HALL, SETTLOR, AND HOMER C. HALL TRUSTEE (S)	4-R18-3	94.49
11	RICHARD J. ROBINSON (S)	4-R18A-2	1.181
12	CLARENCE E. HOPKINS III (S)	4-R18-4	4.252
13	WESBANCO TRUST AND INVESTMENT SERVICES, TRUSTEE OF THE GENERATION-SKIPPING TRUST FOR THE BENEFIT OF CASSIE ALICE COX, UNDER THE TRUST AGREEMENT OF ALICE K. MCLAUGHLIN, (S)	4-R18-4	35.2
	WESBANCO TRUST AND INVESTMENT SERVICES, TRUSTEE OF THE GENERATION-SKIPPING TRUST FOR THE BENEFIT OF A. LEE MCLAUGHLIN, JR., UNDER THE TRUST AGREEMENT OF ALICE K. MCLAUGHLIN (S)		
	WESBANCO TRUST AND INVESTMENT SERVICES, TRUSTEE OF THE GENERATION-SKIPPING TRUST FOR THE BENEFIT OF BETH ELLEN VOLTZ, UNDER THE TRUST AGREEMENT OF ALICE K. MCLAUGHLIN (S)		
14	DAVID R. & TAMMY K. RINE (S)	4-R18-4.3	4.00

ADJOINING OWNERS TABLE			
TRACT	SURFACE OWNER	TAX PARCEL	ACRES
A	MELVIN W. & CAROL M. KAHLE JR.	6-T7-170.2	1.14
B	MARY A. & GARY E. LAUDERMILT	6-T2-26.1	4.3
C	ALVIN A. & RUTH J. YODER	6-T2-25.1	9.43
D	ALVIN A. & RUTH J. YODER	6-T2-21.1	4.14
E	COVEY ON THE RISE, LLC	6-T2-21.5	2.0
F	HARRY E. & V M JOHNSON	4-T18-2	1.75
G	KEITH R. CAROYN S. HESS	4-T18-2.1	1.12
H	RONALD J. ROCKL	6-T2-20.1	8.41
I	JUNE A. CHIPLINSKI	4-R14-87	4.77
J	JOHN E. & N.V. GRIFFITY	4-R14-34	8.04
K	CHARLES R. & BRENDA K. WITT	4-R15-15	28.23
L	KIMBERLY S. HARMON	4-R15-13	7.72
M	DAVID L. JR. & KIMBERLY S. HARMON	4-R15-12	0.93
N	RAYMOND & HYDEE D. CLOUSTON	4-R15-9	0.55
O	RAYMOND & HYDEE D. CLOUSTON	4-R15-7	1.76
P	DOUGLAS W. & WILLA W. KNOLLINGER	4-R15-5	2.58
Q	A. LEE & KATHLEEN A. MCLAUGHLIN	4-R15-2	3.04
R	A. LEE JR. & KATHLEEN A. MCLAUGHLIN	4-R18-4	24.1
S	AMY PERKO CRONIN	4-R18-21.4	3.66
T	FRANK A. & M.A. PERKO	4-R18-21	4.96
U	KEITH B. & MARY J. WHIPKEY (PARCEL 2)	4-R18-21.1	0.35
V	KEITH B. & MARY J. WHIPKEY (PARCEL 1)	4-R18-21.1	0.32
W	DALE E. & SHIRLEY L. HOFFMAN	4-R18-21.2	0.07
X	DALE E. SHIRLEY HOFFMAN	4-R18-25	2.06
Y	JOHN J. DR. & USA TEMPLETON	4-R18-27.4	0.74
Z	DALE E. & S.L. HOFFMAN	4-R18-27.3	0.16
AA	TRACI LEE NAPLES	4-R18-27	2.11
BB	ERIC P. WEISENBORN	4-R18-23	1.45
CC	TOMMY J. TYLER JR.	4-R18-12	16.29
DD	GARRETT E. & MELISSA A. SELF	4-R18-11.1	7.31
EE	JANET C.W. & WILLIAM JR. SPARKS	6-T2-31	6.93
FF	RACHAEL D. & VINCENT S. COLEMAN	6-T2-32.5	1.2
GG	LAURA KRINER	6-T2-32.4	1.98
HH	MARY M. REICHENBACH	6-T2-32.3	1.32
II	MARY M. REICHENBACH	6-T2-32.2	1.62
JJ	MARY M. REICHENBACH	6-T2-32.1	1.02
KK	MARY M. REICHENBACH	6-T2-33	1.62
LL	ROBERT A. DRUM	6-T2-34.1	0.53
MM	ROBERT A. DRUM	6-T2-34.2	0.09
NN	DONNA JEAN GROVER	6-T2-34	2.67
OO	DONNA JEAN GROVER	6-T2-34.3	0.89
PP	DONNA JEAN GROVER	6-T2-35.1	1.19
QQ	JOHN P. & BARBARA A. PONKO	6-T2-36	1.04
RR	JOHN P. & BARBARA A. PONKO	6-T2-36.3	1.0
SS	MELVIN W. KAHLE JR.	6-T2-35	15.2

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: MELVIN KAHLE OHI	WELL # 5H	SERIAL # XXXX
ADDRESS: P.O. BOX 1300 JANE LEW. WV 26378	COUNTY OHIO COUNTY - 69	DISTRICT: TRIADPHIA	
SURFACE OWNER: MELVIN W. AND CAROL M. KAHLE	USGS 7 1/2 QUADRANGLE MAP NAME WHEELING, WV		

ELK LAKE SERVICES, LLC

280 Indian Springs Road,
Suite 123 Indiana, PA 15701
Phone: (724) 483-7303

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	MELVIN W. & CAROL M. KAHLE JR. (S)(R)	08-17-170
SURFACE OWNER		
2	MELVIN W. KAHLE JR. (S)	8-12-28
3	GARY A. & DEBORAH A. YAHN (S)	8-12-281
4	DONALD WALTER & DAMA WALTER (S)	8-12-29
5	SCOTT R. SMITH, BEVERLY J. SMITH, LISA M. SMITH, ROBYN E. HAMMOND, PAMELA K. SMITH, DUANE T. SMITH, SEAN G. SMITH (S)	8-12-25
6	ZELDA E. KUTHY, SCOTT KUTHY, STEPHANIE NICOLE KUTHY, MARK KUTHY(S)	8-12-27
7	THOMAS M. RICKER & JOYCE RICKER (S)	4-R18-1
8	BESSIE HOFFMAN, BERNADE BIERKORTT, ROBERT LEE HOFFMAN, JR. (S)	4-R18-27
9	DALE E. HOFFMAN AND SHIRLEY L. HOFFMAN, CO-TRUSTEES OF THE HOFFMAN FAMILY TRUST DATED NOVEMBER 30, 2000 (S)	4-R18-27.1

WELL BORE TABLE FOR SURFACE / ROYALTY OWNERS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
10	BERNICE C. HALL, TRUSTEE U/A DATED MARCH 14, 1992 BETWEEN BERNICE C. HALL, SETTLOR AND BERNICE C. HALL, TRUSTEES U/A DATED MARCH 14, 1992, BETWEEN HOMER C. HALL, SETTLOR, AND HOMER C. HALL, TRUSTEE (S)	4-R18-2
11	RICHARD J. ROBINSON (S)	4-R18A-2
12	CLARENCE E. HOPKINS III (S)	4-R18-4
13	WESBACO TRUST AND INVESTMENT SERVICES, TRUSTEES OF THE GENERATION-SKIPPING TRUST FOR THE BENEFIT OF CASIE ALICE COX, UNDER THE TRUST AGREEMENT OF ALICE K. MC LAUGHLIN, (S)	4-R18-4
	WESBACO TRUST AND INVESTMENT SERVICES, TRUSTEES OF THE GENERATION-SKIPPING TRUST FOR THE BENEFIT OF A LEE MC LAUGHLIN, JR., UNDER THE TRUST AGREEMENT OF ALICE K. MC LAUGHLIN (S)	
	WESBACO TRUST AND INVESTMENT SERVICES, TRUSTEES OF THE GENERATION-SKIPPING TRUST FOR THE BENEFIT OF BETH ELLEN VOLZ, UNDER THE TRUST AGREEMENT OF ALICE K. MC LAUGHLIN (S)	
14	DAVID R. & TAMMY K. RINE (S)	4-R18-4.3

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	MELVIN W. & CAROL M. KAHLE JR.	8-17-170.2
B	MARY A. & GARY E. LAUDERMILT	8-12-28.1
C	ALVIN A. & RUTH J. YODER	8-12-28.1
D	ALVIN A. & RUTH J. YODER	8-12-27.1
E	COVEY ON THE RISE, LLC	8-12-21.2
F	HARRY E. & V. M. JOHNSON	4-118-2
G	KEITH R. CAROYN & HESS	4-118-2.1
H	RONALD J. ROCKI	8-12-20.1
I	JUNE A. CHPLINSKI	4-R14-87
J	JOHN E. & N.V. GRIFTITY	4-R14-24
K	CHARLES R. & BRENDA K. WITT	4-R15-12
L	KIMBERLY S. HARMON	4-R15-12
M	DAVID L. JR. & KIMBERLY S. HARMON	4-R15-12
N	RAYMOND & HYDE D. CLOUSTON	4-R15-8
O	RAYMOND & HYDE D. CLOUSTON	4-R15-7
P	DOUGLAS W. & WILLA W. KROLLINGER	4-R15-2
Q	A. LEE & KATHLEEN A. MC LAUGHLIN	4-R15-2
R	A. LEE JR. & KATHLEEN A. MC LAUGHLIN	4-R18-4
S	AMY PERKO CROWIN	4-R18-27.4
T	FRANK A. & W.A. PERKO	4-R18-27
U	KEITH B. & MARY J. WHIRKEY (PARCEL 2)	4-R18-27.1
V	KEITH B. & MARY J. WHIRKEY (PARCEL 1)	4-R18-27.1
W	DALE E. & SHIRLEY L. HOFFMAN	4-R18-27.2
X	DALE E. SHIRLEY HOFFMAN	4-R18-28
Y	JOHN J. DR. & LISA TEMPLETON	4-R18-27.4
Z	DALE E. & S.L. HOFFMAN	4-R18-27.2
AA	TRACI LEE NAPLES	4-R18-27
BB	ERIC P. WEISENBOHN	4-R18-23
CC	TOMMY J. TYLER JR.	4-R18-12
DD	CARRETT E. & MELISSA A. SELF	4-R18-17.1
EE	JANET C.W. & WILLIAM JR. SPARKS	8-12-24
FF	RACHEL D. & VINCENT S. COLEMAN	8-12-25.2
GG	LAURA KRINER	8-12-25.4
HH	MARY M. REICHENBACH	8-12-25.2
II	MARY M. REICHENBACH	8-12-25.2
JJ	MARY M. REICHENBACH	8-12-25.1
KK	MARY M. REICHENBACH	8-12-23
LL	ROBERT A. DRUM	8-12-24.1
MM	ROBERT A. DRUM	8-12-24.2
NN	DONNA JEAN GROVER	8-12-24
OO	DONNA JEAN GROVER	8-12-24.2
PP	DONNA JEAN GROVER	8-12-25.1
QQ	JOHN P. & BARBARA A. FONKO	8-12-28
RR	JOHN P. & BARBARA A. FONKO	8-12-28.2
SS	MELVIN W. KAHLE JR.	8-12-22

WELL OPERATOR:	WELL (FARM) NAME:
SUN PRODUCTION COMPANY, LLC	MELVIN KAHLE OHI
ADDRESS:	WELL # SERIAL #
P.O. BOX 1300 JANE LEW, WV 26238	5H XXXX
SURFACE OWNER:	COUNTY
MELVIN W. AND CAROL M. KAHLE	OHIO COUNTY - 89
	DISTRICT:
	TRADAPLHIA
	USGS 7 1/2 QUADRANGLE MAP NAME
	WHEELING, WV