

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

API 47 - 069 - 00340 County OHIO District TRIADELPHIA
Quad VALLEY GROVE, WV Pad Name OCC A-OHI-PAD1 Field/Pool Name PANHANDLE FIELD WET
Farm name BOARD OF COMMISSIONERS OHIO COUNTY Well Number OCC A OHI 1H ST
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 4,436,649.883 Easting 534,265.927
Landing Point of Curve Northing 4,436,257.853 Easting 534,171.966
Bottom Hole Northing 4,440,744.104 Easting 532,403.849

Elevation (ft) 1095.2' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

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

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Date permit issued 5/16/2022 Date drilling commenced 7/5/2022 Date drilling ceased 8/13/2022
Date completion activities began 11/7/2022 Date completion activities ceased 12/23/2022
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 393' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 586' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 462' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVED

Reviewed by:
5/5/2023
4/17/23

API 47- 069 - 00340 Farm name BOARD OF COMMISSIONERS OHIO COUNTY Well number OCC A OHI 1H ST

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	136	NEW	J-55/94#		Y
Surface	17.5	13.375	531	NEW	J-55/54.5#		Y; 42 BBLS
Coal	SEE SURFACE CASING						
Intermediate 1	12.25	9.625	1,881	NEW	J-55/36#		Y; 18 BBLS
Intermediate 2							
Intermediate 3							
Production	8.75	5.5	22,935	NEW	P-110 HP/20#		Y; 21 BBLS
Tubing		2.875	7,062	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	582	15.60	1.19	692.58	SURFACE	8
Coal							
Intermediate 1	CLASS A	737	15.60	1.19	877.03	SURFACE	8
Intermediate 2	CLASS A PLUG	399	16.00	1.12	446.88		
Intermediate 3	CLASS A PLUG	247	16.00	1.12	276.64		
Production	CLASS A	4,414	14.50	1.29	5,694.06	SURFACE	24
Tubing							

Drillers TD (ft) 24,045' Loggers TD (ft) 24,045'
 Deepest formation penetrated MARCELLUS Plug back to (ft) 22,846'
 Plug back procedure SIDE TRACK PLUGS; 7/28/2022 - 6500'-7200' 247 SACKS AND 7/29/2022 - 1739' - 2800' 399 SACKS

Kick off depth (ft) 5,537' MD

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: 8 CENTRALIZERS - EVERY THIRD JOINT OF CASING
 INTERMEDIATE: 26 CENTRALIZERS - EVERY THIRD JOINT OF CASING
 PRODUCTION: 481 CENTRALIZERS - EVERY THIRD JOINT FROM SURFACE TO TOP OF CURVE, THEN EVERY JOINT UNTIL TD

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS APR 14 2022

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS WV Department of Environmental Protection

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

05/05/2023

API 47- 069 - 00340 Farm name BOARD OF COMMISSIONERS OHIO COUNTY Well number OCC A OHI 1H ST

PRODUCING FORMATION(S)	DEPTHS	
MARCELLUS	6,188'	TVD 6,827' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2,847 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas 8,434 mcfpd Oil 892 bpd NGL _____ bpd Water 1,632 bpd
 GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	0		0		
	SEE	ATTACHMENT	3		

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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 SCHLUMBERGER WELL SERVICES
 Address 110 SCHLUMBERGER DRIVE City SUGAR LAND State TX Zip 77478

Stimulating Company SWN WELL SERVICES
 Address PO BOX 12359 City SPRING State TX Zip 77391-2359

Please insert additional pages as applicable.

Completed by DENISE GRANTHAM Telephone 832-796-6139
 Signature Dennis Grantham Title REGULATORY SPECIALIST Date 4.13.2023



Well Name: OCC A OHI 1H ST01

47069003400100

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	393.00	393.00	
Top of Salt Water	586.00	586.00	NA	NA	
Pittsburgh Coal	462.00	462.00	466.00	466.00	
Pottsville (ss)	608.00	608.00	651.00	651.00	
Raven Cliff (ss)	831.00	829.00	1131.00	1129.00	
Big Injun (ss)	1639.00	1639.00	1796.00	1796.00	
Berea (siltstone)	2234.00	2161.00	2259.00	2183.00	
Rhinestreet (shale)	6033.00	5631.00	6354.00	5915.00	
Cashaqua (shale)	6354.00	5915.00	6406.00	5954.00	
Middlesex (shale)	6406.00	5954.00	6504.00	6025.00	
Burket (shale)	6504.00	6025.00	6543.00	6051.00	
Tully (ls)	6543.00	6051.00	6601.00	6086.00	
Mahantango (shale)	6601.00	6086.00	6827.00	6188.00	
Marcellus (shale)	6827.00	6188.00	NA	NA	GAS

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ATTACHMENT 1
PERF REPORT

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
1	10/13/2022	22,846	22,750	36
2	11/8/2022	22,716	22,538	36
3	11/9/2022	22,505	22,328	36
4	11/9/2022	22,294	22,117	36
5	11/10/2022	22,084	21,906	36
6	11/10/2022	21,873	21,695	36
7	11/11/2022	21,662	21,484	36
8	11/11/2022	21,451	21,274	36
9	11/11/2022	21,240	21,063	36
10	11/12/2022	21,030	20,852	36
11	11/12/2022	20,819	20,641	36
12	11/12/2022	20,608	20,430	36
13	11/14/2022	20,397	20,220	36
14	11/15/2022	20,186	20,009	36
15	11/15/2022	19,976	19,798	72
16	11/16/2022	19,765	19,587	72
17	11/18/2022	19,554	19,376	36
18	11/19/2022	19,343	19,166	36
19	11/20/2022	19,132	18,955	36
20	11/20/2022	18,922	18,744	36
21	11/21/2022	18,711	18,533	36
22	11/21/2022	18,500	18,322	36
23	11/22/2022	18,289	18,112	36
24	11/22/2022	18,078	17,901	36
25	11/22/2022	17,868	17,690	36
26	11/23/2022	17,657	17,479	36
27	11/23/2022	17,446	17,268	36
28	11/24/2022	17,235	17,058	36
29	11/24/2022	17,024	16,847	36
30	11/24/2022	16,814	16,636	36
31	11/25/2022	16,603	16,425	36
32	11/25/2022	16,392	16,214	36
33	11/26/2022	16,181	16,004	36
34	11/26/2022	15,970	15,793	36
35	11/27/2022	15,760	15,582	36
36	11/27/2022	15,549	15,371	36
37	11/27/2022	15,338	15,160	36
38	11/28/2022	15,127	14,950	36
39	11/28/2022	14,916	14,739	36
40	11/29/2022	14,706	14,528	36
41	11/29/2022	14,495	14,317	36
42	11/30/2022	14,284	14,106	36
43	11/30/2022	14,073	13,896	36

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ATTACHMENT 1
PERF REPORT**

STAGE NUM	Perf Date	Perf Bottom MD	Perf Top MD2	# SHOTS PER STG
44	11/30/2022	13,862	13,685	36
45	12/1/2022	13,652	13,474	36
46	12/1/2022	13,441	13,263	36
47	12/1/2022	13,230	13,052	36
48	12/2/2022	13,019	12,842	36
49	12/2/2022	12,808	12,631	36
50	12/3/2022	12,598	12,420	36
51	12/3/2022	12,387	12,209	72
52	12/5/2022	12,176	11,998	36
53	12/5/2022	11,965	11,788	36
54	12/6/2022	11,754	11,577	36
55	12/6/2022	11,544	11,366	36
56	12/6/2022	11,333	11,155	36
57	12/7/2022	11,122	10,944	36
58	12/7/2022	10,911	10,734	36
59	12/7/2022	10,700	10,523	36
60	12/8/2022	10,490	10,312	36
61	12/8/2022	10,279	10,101	36
62	12/8/2022	10,068	9,890	36
63	12/9/2022	9,857	9,680	36
64	12/9/2022	9,646	9,469	36
65	12/9/2022	9,436	9,258	36
66	12/10/2022	9,225	9,047	36
67	12/10/2022	9,014	8,836	36
68	12/11/2022	8,803	8,626	36
69	12/11/2022	8,592	8,415	36
70	12/11/2022	8,382	8,204	36
71	12/12/2022	8,171	7,993	36
72	12/12/2022	7,960	7,782	36
73	12/12/2022	7,749	7,572	36
74	12/12/2022	7,538	7,361	36
75	12/13/2022	7,328	7,150	36
76	12/13/2022	7,117	6,939	36

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ATTACHMENT 2
STIM REPORT

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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	11/8/2022	80.3	8,737	6,760	3,443	199,500	6,269	0
2	11/9/2022	88.7	8,716	5,919	4,256	367,280	9,135	0
3	11/9/2022	87.2	8,596	4,300	4,180	361,880	9,235	0
4	11/10/2022	84.5	8,476	4,725	4,654	365,400	9,592	0
5	11/10/2022	86.7	9,282	5,960	4,525	368,060	9,070	0
6	11/11/2022	88	8,966	5,974	4,685	367,500	8,800	0
7	11/11/2022	85	9,052	6,151	4,290	367,440	8,546	0
8	11/11/2022	92.8	9,385	6,173	4,525	365,960	9,006	0
9	11/12/2022	98.1	9,675	6,150	4,100	367,200	8,773	0
10	11/12/2022	95.3	9,476	6,214	3,890	371,360	8,527	0
11	11/12/2022	97.8	9,737	6,041	4,585	365,440	8,510	0
12	11/13/2022	94.8	9,681	5,890	4,638	237,123	13,390	0
13	11/14/2022	94.2	9,464	5,890	4,352	368,280	9,469	0
14	11/15/2022	96.1	9,794	6,044	4,452	366,080	8,504	0
15	11/15/2022	75.4	8,163	5,780	4,352	365,560	14,531	0
16	11/18/2022	43.3	6,147	6,460	4,875	12,175	6,002	0
17	11/19/2022	96.1	9,038	5,868	4,469	362,700	9,824	0
18	11/19/2022	97.8	9,483	5,923	4,652	366,860	8,320	0
19	11/20/2022	87.3	9,166	6,420	3,950	367,620	8,570	0
20	11/20/2022	96.8	9,477	5,756	4,658	363,740	8,582	0
21	11/21/2022	90.4	8,917	5,775	4,469	365,800	8,143	0
22	11/21/2022	98	9,436	6,416	4,985	366,100	8,294	0
23	11/22/2022	98	9,287	6,297	4,600	361,800	8,309	0
24	11/22/2022	91.9	8,950	6,073	4,200	367,980	7,200	0
25	11/22/2022	97.8	9,199	6,255	4,658	364,700	7,094	0
26	11/23/2022	96.5	8,920	5,876	4,395	325,480	6,475	0
27	11/23/2022	98.1	8,845	6,162	4,825	367,140	7,294	0
28	11/24/2022	98.3	9,033	5,895	4,721	365,740	6,830	0
29	11/24/2022	88.6	8,224	5,662	4,277	363,380	7,736	0
30	11/25/2022	94.1	8,824	6,326	4,542	370,320	7,022	0
31	11/25/2022	97.9	8,875	5,933	4,011	367,820	7,015	0
32	11/26/2022	94.1	8,654	5,656	4,285	364,740	7,031	0
33	11/26/2022	93.6	8,261	6,024	4,512	367,040	7,957	0
34	11/27/2022	93.9	8,707	6,003	3,777	367,240	6,861	0
35	11/27/2022	98	8,722	6,147	4,512	366,180	7,104	0
36	11/27/2022	95.1	8,710	5,912	4,531	368,400	6,986	0
37	11/28/2022	93.7	8,422	5,645	4,301	368,460	6,944	0
38	11/28/2022	91	7,631	6,235	4,698	365,440	7,771	0
39	11/28/2022	95	8,474	6,004	4,236	368,080	6,882	0
40	11/29/2022	98.7	8,503	6,239	4,369	347,440	6,580	0
41	11/29/2022	93.9	8,261	5,956	4,155	356,400	6,623	0
42	11/30/2022	94.6	8,075	5,755	4,532	364,640	6,935	0
43	11/30/2022	95.6	8,292	5,970	4,894	364,100	6,626	0
44	12/1/2022	94.5	8,171	6,190	4,345	366,040	6,605	0
45	12/1/2022	94.6	7,738	6,269	4,528	356,220	6,501	0
46	12/1/2022	94.9	8,058	6,979	4,112	364,520	6,692	0
47	12/2/2022	95.2	8,205	5,510	4,892	329,900	6,375	0
48	12/2/2022	98.7	8,050	6,236	4,329	367,680	6,573	0
49	12/2/2022	95	8,158	5,858	4,812	363,960	8,175	0
50	12/3/2022	99.5	8,300	6,512	4,859	279,820	6,832	0
51	12/4/2022	83.5	7,817	6,324	4,518	365,900	10,418	0
52	12/5/2022	99	8,132	6,201	4,752	367,920	7,837	0
53	12/5/2022	51.1	9,149	6,722	4,456	12,000	4,433	0

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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/other
54	12/6/2022	93.9	7,771	4,303	4,278	318,300	6,692	0
55	12/6/2022	98.6	7,725	6,315	4,659	366,720	6,727	0
56	12/7/2022	92.6	8,439	6,475	4,361	376,700	6,607	0
57	12/7/2022	94.6	7,593	5,596	5,200	374,300	6,958	0
58	12/7/2022	97.5	7,804	6,130	4,595	364,300	6,764	0
59	12/8/2022	94.6	7,714	5,635	4,829	364,700	7,573	0
60	12/8/2022	98	7,585	3,000	4,125	367,640	7,824	0
61	12/8/2022	93.3	7,418	4,645	4,320	363,300	7,735	0
62	12/9/2022	93.9	7,580	6,200	4,454	366,780	7,806	0
63	12/9/2022	94.3	7,197	5,900	4,620	367,700	8,503	0
64	12/9/2022	93.4	7,577	7,100	4,300	367,980	6,432	0
65	12/10/2022	95.2	7,808	6,560	4,863	369,520	6,358	0
66	12/10/2022	97.6	7,455	4,520	4,520	365,660	6,572	0
67	12/11/2022	97.9	7,416	5,952	4,525	366,560	6,526	0
68	12/11/2022	97.8	7,323	6,685	4,620	362,180	6,525	0
69	12/11/2022	95.3	7,265	6,607	4,431	363,200	7,824	0
70	12/12/2022	94.4	7,286	6,552	4,590	363,700	6,257	0
71	12/12/2022	97	7,180	5,210	4,963	364,680	6,519	0
72	12/12/2022	98	7,208	5,200	4,852	362,600	7,785	0
73	12/12/2022	95.4	7,117	6,345	4,566	365,900	7,636	0
74	12/12/2022	95.5	6,948	6,121	4,510	365,540	7,378	0
75	12/13/2022	92.4	7,049	6,102	4,620	366,180	8,290	0
76	12/13/2022	97.2	7,063	4,621	4,632	364,840	7,665	0

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	11/8/2022
Job End Date:	12/13/2022
State:	West Virginia
County:	Ohio
API Number:	47-069-00340-00-00
Operator Name:	Southwestern Energy
Well Name and Number:	OCC A OHI 1
Latitude:	40.07942313
Longitude:	-80.59810791
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,127
Total Base Water Volume (gal):	24,432,438
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
Base Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	88.07465	Density = 8.345
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	45.00000	0.34107	

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			Water	7732-18-5	85.00000	0.34107	
			Water	7732-18-5	100.00000	0.34107	
FSTI-CI-02	SWN Well Services	Corrosion Inhibitor					
				Listed Below			
Ferriplex 80	SWN Well Services	Iron Control					
				Listed Below			
Sand	SWN Well Services	Proppant					
				Listed Below			
Plexaid 655WG	SWN Well Services	Scale Inhibitor					
				Listed Below			
HCL	SWN Well Services	Solvent					
				Listed Below			
Tolicide 4Frac	SWN Well Services	Biocide					
				Listed Below			
PLEXSLICK 930	SWN Well Services	Friction Reducer					
				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	11.48383	
			Hydrochloric Acid	7647-01-0	15.00000	0.04955	

			Tetrakis(Hydroxymethyl) Phosphonium Sulfate	55566-30-8	45.00000	0.00521	
			Sodium Erythorbate	6381-77-7	100.00000	0.00176	
			Quaternary ammonium compounds	68424-85-1	7.50000	0.00087	
			Ethanol	64-17-5	2.50000	0.00029	
			Ethylene glycol	107-21-1	40.00000	0.00020	
			N,N-Dimethylformamide	68-12-2	10.00000	0.00005	
			Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-	9016-45-9	10.00000	0.00005	
			Cinnamaldehyde	104-55-2	10.00000	0.00005	
			2-Butoxyethanol	111-76-2	5.00000	0.00003	
			Triethyl phosphate	78-40-0	5.00000	0.00003	
			1-Octanol	111-87-5	5.00000	0.00003	
			Isopropyl alcohol	67-63-0	5.00000	0.00003	
			1-Decanol	112-30-1	5.00000	0.00003	
			benzyl chloridequaternized	72480-70-7	5.00000	0.00003	

* 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
APR 14 2023
WV Department of
Environmental Protection

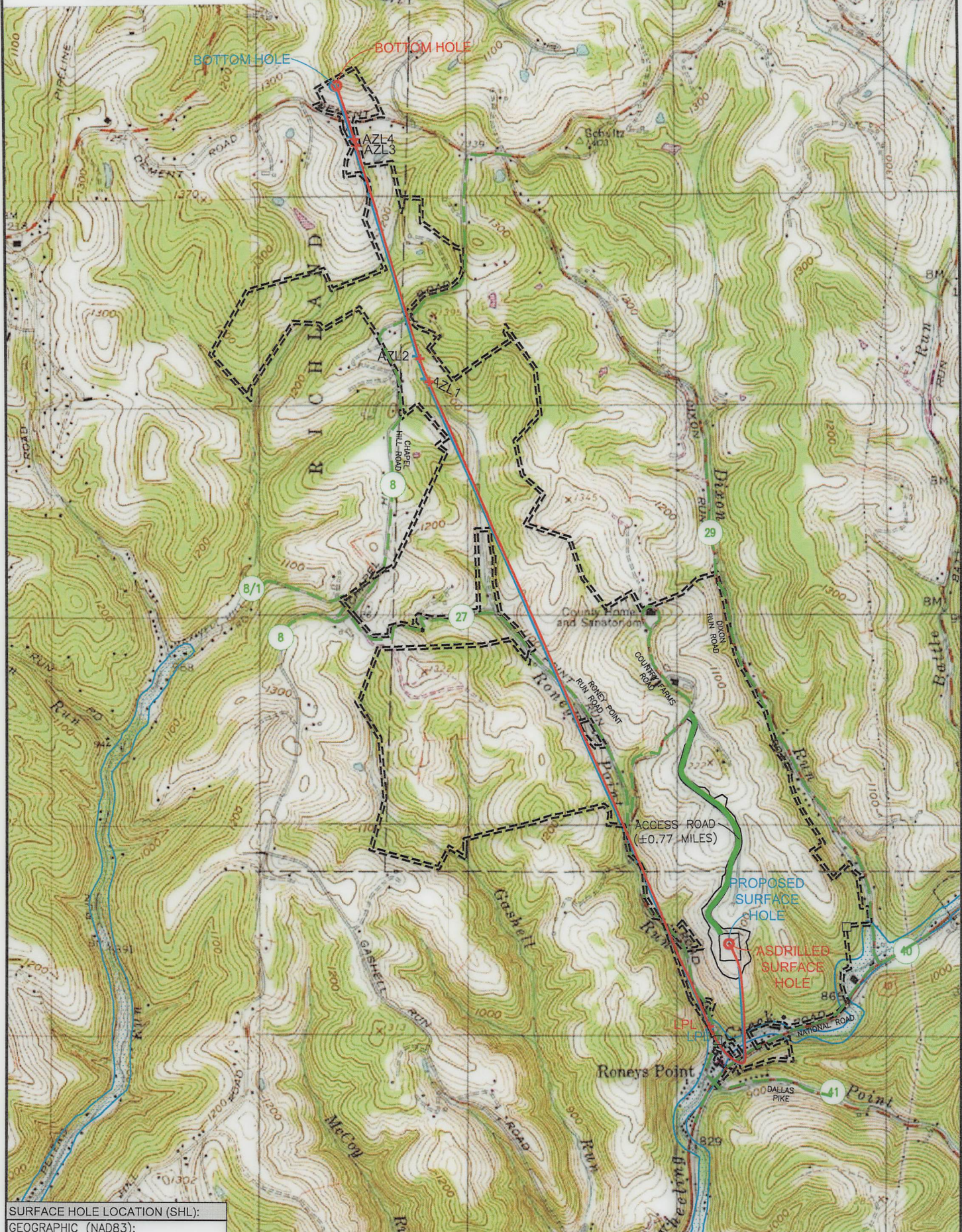
JACKSON SURVEYING

INC.

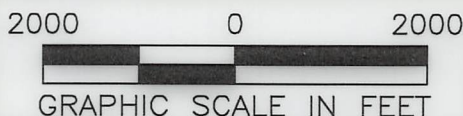
2413 EAST PIKE ST. # 112

Clarksburg, WV 26302

304-623-5851



SURFACE HOLE LOCATION (SHL):
 GEOGRAPHIC (NAD83):
 LATITUDE: 40.079423°
 LONGITUDE: -80.598105°
BOTTOM HOLE LOCATION (BHL):
 GEOGRAPHIC (NAD83):
 LATITUDE: 40.116384°
 LONGITUDE: -80.619739°



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

LEGEND:

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

05/05/2023

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	WELL (FARM) NAME: OCC A OHI	WELL # 1H ST	SERIAL #
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200, MORGANTOWN, WV 26508	COUNTY - CODE OHIO - 069	DISTRICT; TRIADELPHIA	
SURFACE OWNER: BOARD OF COMMISSIONERS OHIO COUNTY	USGS 7 1/2 QUADRANGLE MAP NAME VALLEY GROVE, WV	API # 47-069-00340	

Latitude: 40°05'00"

SURFACE HOLE 4133'

Latitude: 40°07'30" BOTTOM HOLE 10181'

JACKSON SURVEYING INC.

2413 EAST PIKE ST. # 112
Clarksburg, WV 26302
304-623-5851

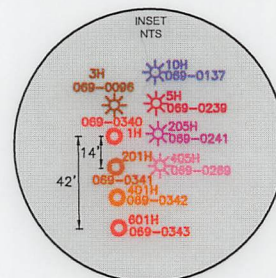
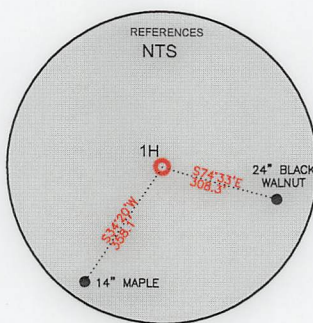
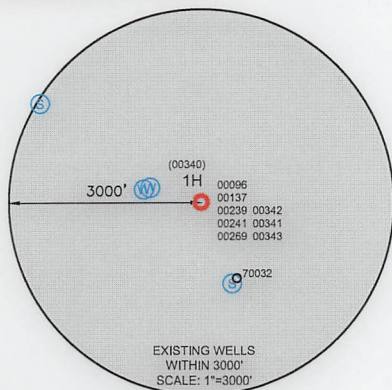
GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT



Table with 5 columns: LINE, BEARING, DISTANCE, DESCRIPTION, MONUMENT. Contains survey data for lines L1 through L4.

Table listing coordinates for various locations: SURFACE HOLE LOCATION (SHL), LANDING POINT LOCATION (LPL), and four AZIMUTH POINT LOCATIONS (AZL1-AZL4), plus BOTTOM HOLE LOCATION (BHL).

Table listing coordinates for various locations: SURFACE HOLE LOCATION (SHL), LANDING POINT LOCATION (LPL), and four AZIMUTH POINT LOCATIONS (AZL1-AZL4), plus BOTTOM HOLE LOCATION (BHL).



WELL RESTRICTIONS

- List of 6 restrictions regarding well placement, including distances from buildings, streams, and public water supply.

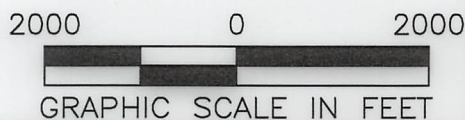
NOTES ON SURVEY

- Notes regarding survey boundaries, client information, and grid north reference.

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. 708

Signature of David L. Jackson



COMPANY: SWN Production Company, LLC

State of West Virginia logo and address: 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)

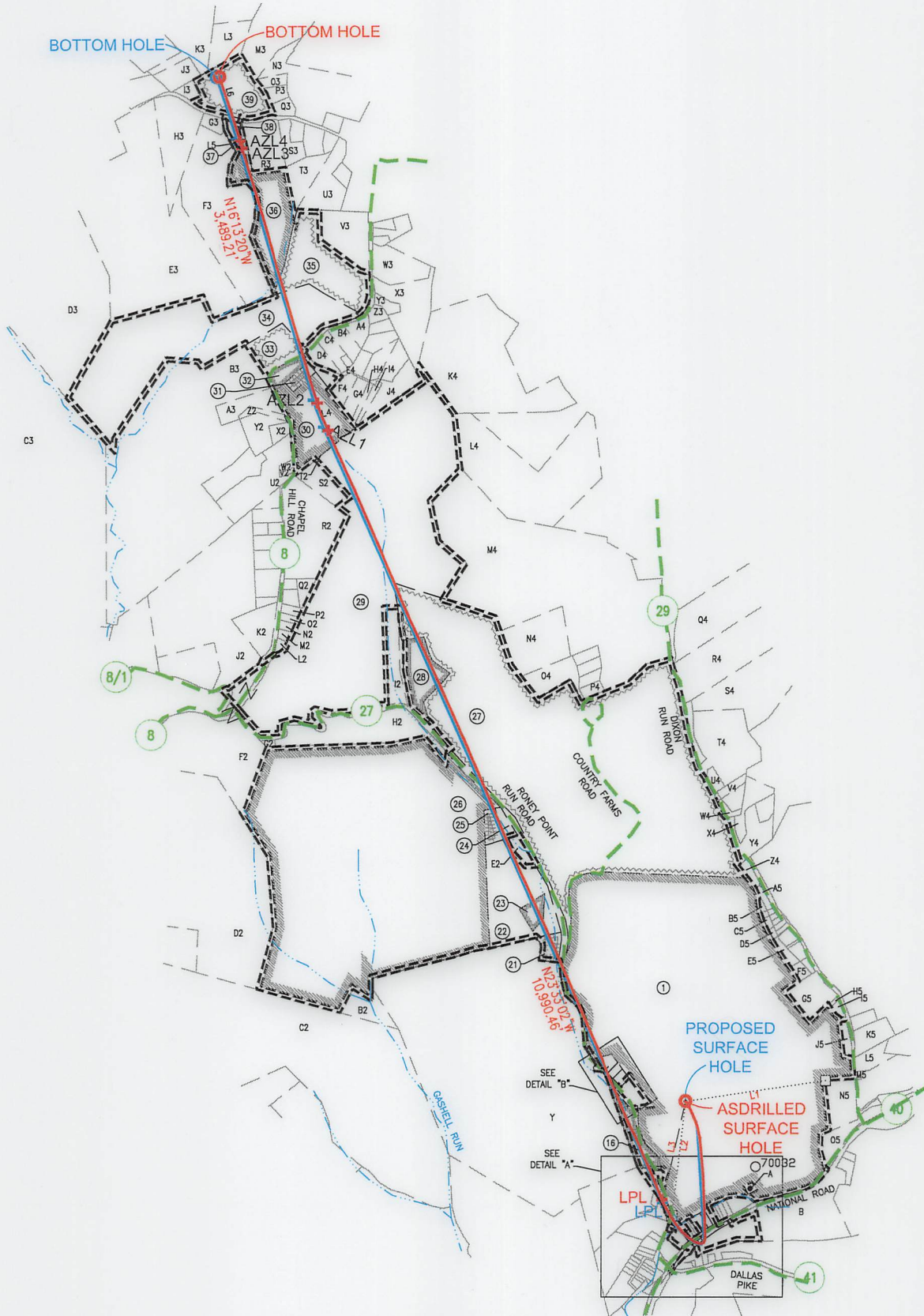
OCC A OHI
OPERATOR'S WELL #: 1H ST
API WELL #: 47 069 00340
STATE COUNTY PERMIT

Well type and details form including: WELL TYPE: OIL, WASTE DISPOSAL, PRODUCTION, DEEP, GAS, LIQUID INJECTION, STORAGE, SHALLOW; WATERSHED: RONEY POINT RUN OF LITTLE WHEELING CREEK OF WHEELING CREEK (HUC-10); DISTRICT: TRIADELPHIA; COUNTY: OHIO; SURFACE OWNER: BOARD OF COMMISSIONERS OHIO COUNTY; OIL & GAS ROYALTY OWNER: BOARD OF COMMISSIONERS OHIO COUNTY; DRILL: DRILL DEEPER, REDRILL, FRACTURE OR STIMULATE, PLUG OFF OLD FORMATION, PERFORATE NEW FORMATION; CONVERT: PLUG & ABANDON, CLEAN OUT & REPLUG, OTHER CHANGE (SPECIFY) ASDRILLED 05/05/2023; TARGET FORMATION: MARCELLUS; ESTIMATED DEPTH: 6,224 TVD 22,956 TMD

WELL OPERATOR: SWN PRODUCTION COMPANY, LLC
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200
CITY: MORGANTOWN STATE: WV ZIP CODE: 26508
DESIGNATED AGENT: BRITTANY WOODY
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200
CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

Legend table with symbols for Proposed Surface Hole, Existing Wellhead, Landing Point Location, Existing Water Well, Existing Spring, Surveyed Boundary, Drilling Unit, Lease Boundary, Asdrilled Path, Proposed Path, Azimuth Point Location, and Revisions/Date.

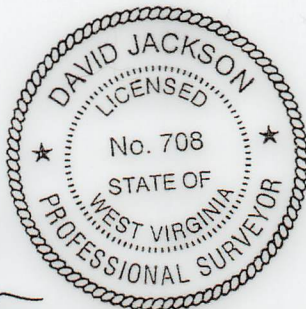
JACKSON SURVEYING
 INC.
 2413 EAST PIKE ST. # 112
 Clarksburg, WV 26302
 304-623-5851



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. 708

David L Jackson



2000 0 2000

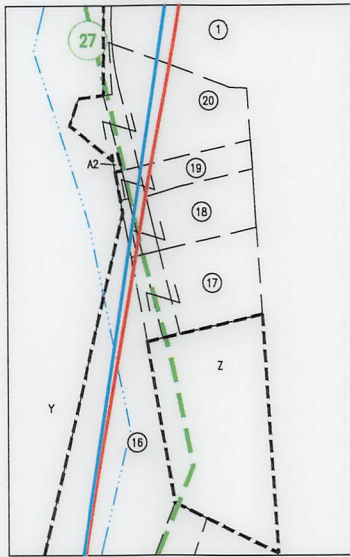
GRAPHIC SCALE IN FEET 05/05/2023

REVISIONS:		COMPANY:		DATE: 03-09-2023	
		OPERATOR'S		API #	
		WELL #:		47-069-00340	
		DISTRICT:		STATE:	
		TRIADELPHIA		WV	
		COUNTY:		DRAWN BY: N. MANO	
		OHIO		SCALE: N/A	
				DRAWING NO:	
				WELL LOCATION PLAT 2	

**JACKSON SURVEYING
INC.**

2413 EAST PIKE ST. # 112
Clarksburg, WV 26302
304-623-5851

DETAIL "B"



DETAIL "A"




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. 708

David L Jackson

05/05/2023


REVISIONS:	COMPANY:		DATE: 03-09-2023	
				
	OPERATOR'S	OCC A OHI		API #
	WELL #:	1H ST		47-069-00340
DISTRICT:	COUNTY:	STATE:	DRAWN BY: N. MANO	
TRIADELPHIA	OHIO	WV	SCALE: N/A	
			DRAWING NO:	
			WELL LOCATION PLAT 3	

JACKSON SURVEYING
INC.

2413 EAST PIKE ST. # 112
Clarksburg, WV 26302
304-623-5851

WELL BORE TRACTS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	BOARD OF COMM OHIO CO (S/R)	3-L13-3
TRACT	SURFACE OWNER (S)	TAX PARCEL
2	PHK LLC (S)	6-T3Q-21
3	HAMMONS TAMMY M (S)	6-T3Q-20
4	MCDANIELS EDDIE L MCDANIELS TRACY L (S)	6-T3Q-19
5	WV DEPARTMENT OF TRANSPORTATION (S)	US RT 40
6	PHK LLC (S)	6-T8-54
7	DUFFY CHARLES E (S)	6-T3-36
8	SAYRE SHIRLEY ANN & RANEE DAWN SAYRE (S)	6-T3Q-17.1
9	MCKENNEN JOSEPH A III (S)	6-T3Q-17
10	VALLEY COIN MACHINE COMPANY LLC (S)	6-T3Q-16
11	BOARD OF COMM OHIO CO (S)	6-T3Q-13
12	WV DEPARTMENT OF TRANSPORTATION (S)	ROUTE 27
13	NELSON KENNETH L (S)	6-T3Q-10
14	HUNTER JOHN A & C M (S)	6-T3Q-11.1
15	HUNTER JOHN A & C M (S)	6-T3Q-11
16	HANNING RANDY & BRENDA (S)	6-T3-5.2
17	SHORES BARBARA A (S)	6-T3-9
18	HUGHES JAMES R & DARLA J (S)	6-T3-8
19	KETRON TRACY E & JOHN P (S)	6-T3-7
20	DERR ALFRED (S)	6-T3-6
21	SHELLER CARL J (S)	3-L13-24
22	MINCH TIMMY B & AMY LYNN (S)	3-L13-2
23	MINCH DENNIS (S)	3-L13-2.4
24	BENNETT JEFFREY R (S)	3-L13-2.2
25	WALTON LISA (S)	3-L13-2.3
26	OGLEBAY FOUNDATION PROPS INC ANNA C MAXWELL REV TRUST (S)	3-L13-1
27	BOARD OF COMM OHIO CO (S)	3-L13-3.1
28	OHIO COUNTY COMMISSION (S)	3-L10-23.3
29	LUCHETTI ROBERT R SR - TOD (S)	3-L10-23
30	WHITE KRISTIAN E & NICOLE R (S)	3-L10-19.3
31	WHITE KRISTIAN E & NICOLE R (S)	3-L10-19.2
32	WHITE KRISTIAN E & NICOLE (S)	3-L10-19.1
33	MARRINER ROBYN LEE (S)	3-L10-51
34	GOMPERS EDWARD D AND LINDA M (S)	4-R15-25.1
35	KOWCHECK DRAKE M & CAITLIN (S)	4-R15-25.6
36	REGAN CHRISTOPHER J & HILARY E (S)	4-R15-23.4
37	REGAN CHRISTOPHER J & HILARY E (S)	4-R15-23.1
38	SUPANIK DEREK & MONICA (S)	4-R15-23.5
39	DECARLO VINCENT G & KRISTEN A (S)	4-R12-45.3

05/05/2023

REVISIONS:	COMPANY:			
	OPERATOR'S	OCC A OHI	API #	DATE: 03-09-2023
	WELL #:	1H ST	47-069-00340	DRAWN BY: N. MANO
	DISTRICT:	COUNTY:	STATE:	SCALE: N/A
	TRIADELPHIA	OHIO	WV	DRAWING NO:
				WELL LOCATION PLAT 4



**JACKSON SURVEYING
INC.**

2413 EAST PIKE ST. # 112
Clarksburg, WV 26302
304-623-5851

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	VILLAGE OF VALLEY GROVE	6-T3Q-27
B	SAFREED ROBERT JR	6-T3-33
C	SUPERIOR INDUSTRIAL LAUNDRIES INC	6-T3Q-26
D	STEPHAN PAULA C AND ORION E	6-T3Q-25
E	FISHER LOGAN J	6-T3Q-24
F	CLARK ROBERT B & EVELYN M	6-T3Q-23
G	SWAIN MARVIN H & K L	6-T3Q-22
H	P-3 EQUITIES LLC	6-T3Q-18.1
I	FLACK HOLLY M	6-T3Q-18
J	KLUG DARLENE A	6-T3-35
K	COOK JAMES WILLIAM & STOWERS AMANDA LORAINÉ	6-T3-34
L	UNITED PRESBYTERIAN CHURCH (TRUSTEES)	6-T8-9
M	MINCH HOWARD L JR & CHRISTINE	6-T8C-9
N	ROBINSON RICK W & C B	6-T8C-8
O	EMERY CHARLES E JR & JILL L	6-T8-17
P	LINDHEIMER KENNETH	6-T8-54.1
Q	KPOYAR JERRY L & CYNTHIA L	6-T8C-7
R	MARQUART GREGORY F & L A ; MARQUART PHILLIP J & K L	6-T3Q-15
S	FISCHER PAMELA	6-T3Q-6
T	FISCHER DONALD R JR	6-T3Q-7.2
U	MULLOOLY JAMES F	6-T3Q-7.1
V	BEHRENS WM D	6-T3Q-9
W	BEABOUT RUSSELL W	6-T3Q-8
X	HUNTER JOHN A & C M	6-T3Q-12
Y	MINCH TIMMY B & AMY LYNN	6-T3-5
Z	BOARD OF COMMISSIONERS	6-T3-10
A2	KETRON S TRACY E & JOHN P	6-T8-7.1
B2	HATCHER EDWARD A	3-L13-1.5
C2	SCOTT PAUL R & JOYCE A	6-T3-3
D2	MILLER FAMILY TRUST	4-R18-11
E2	GORDON NATHAN CHARLES	3-L13-2.1
F2	LUCCHETTI ROBERT R JR & TERESA	4-R18-29
G2	OGLEBAY FOUNDATION PROPS INC MAXWELL ANNA C REV TRUST	3-L13-1.1
H2	MAXWELL JOSEPH E ANNA C MAXWELL REVOCABLE TRUST	3-L13-1.2
I2	WEIR ROBERT AND BRIDGET	3-L10-23.1
J2	LUCCHETTI ROBERT R SR - TOD	4-R15-28
K2	LUCCHETTI ROBERT R SR - TOD	4-R15-28.4
L2	MILLER CALVIN F & B J	4-L10-25.1
M2	MILLER WILSON B	4-L10-25
N2	MILLER CALVIN F & BARBARA J	3-L10-25.5
O2	MATTERN KENNETH MARK MATTERN DANA ANN	3-L10-25.4
P2	CAREY WAYNE L	4-L10-25.3
Q2	WOOD MATHEW J & MARIA M	3-L10-25.7
R2	A D BAKER HOMES INC	3-L10-19.4
S2	LUCCHETTI ROBERT R JR & TERESA	3-L10-19.5
T2	WHITE KRISTIAN E & NICOLE R	3-L10-23.2
U2	A D BAKER HOMES INC	3-L10-19
V2	KOCH MARY C	4-L10-22
W2	KOCH MARY C	4-L10-21
X2	HAMMERQUIST KAREN L	3-L10-52
Y2	PORTER MARK E & BARBARA V	4-R15-25.3
Z2	PORTER MARK E & PORTER BARBARA V	4-R15-25.4
A3	PORTER SANDRA K - TOD	4-R15-25.5
B3	PORTER SANDRA K	4-R15-25
C3	NICHOLS R E 3/8 INT, B L S NAPP 3/8 INT & M C NICHOLS 1/4 INT	4-R15-16
D3	YOUNG TRAVIS & MICHELLE E	4-R15-19
E3	SIXTY FOUR LLC	4-R15-21
F3	TEMPLETON JOHN J DR & LISA J CO-TRUSTEES	4-R15-23.3
G3	TEMPLETON JOHN J DR & LISA J CO-TRUSTEES	4-R15-23.2
H3	WITSBERGER AMY LISBETH	4-R15-22
I3	FLANAGAN JILL E & JOSEPH V JR	4-R12-45.1
J3	FLANAGAN JILL E & JOSEPH V JR	4-R12-45.4
K3	TARR JOHN A IV	4-R12-45
L3	PHILLIPS TINA L & PADDEN EIZABETH A	4-R12-45.8
M3	THROCKMORTON SARA R & DENT DAVID A	4-R12-45.16
N3	ROBINSON JACOB	3-L7-22
O3	BARBE BARRY A & CHRISTY	3-L7-22.6
P3	AMERICAN LEBANESE SYRIAN ASSOCIATED CHARITIES INC	3-L7-22.7

ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
Q3	HIGH PHILIP D	3-L7-22.3
R3	STIFEL EDWARD W III	4-R15-24
S3	FINNERAN LAWRENCE P & KATHLEEN	3-L10-1.5
T3	BIPPUS CARLS	3-L10-1.7
U3	MACLAY LAURA S & RONALD E	3-L10-1.6
V3	BURKE STEPHEN R & RAINA J	3-L10-15
W3	JOSEPH BRIAN E	3-L10-13.3
X3	STINGLE KEVIN W & NICOLE A	3-L10-13.2
Y3	IRWIN WM F & MJ	3-L10-13.1
Z3	KOLISCAP JENNA M JAFRATE CHRISTOPHER A	3-L10-17.8
A4	HARRIS RICHARD D & PATRICIA	3-L10-17.2
B4	VAN DUSEN JOHN M II & VAN DUSEN AMANDA RAE	3-L10-17.1
C4	DERROW STEPHEN J	3-L10-17.4
D4	HERCULES EUGENE & CARMELINDA S	3-L10-18
E4	HUFFNER EARL P	3-L10-17.12
F4	KNUTH JACK C JR & ALUCE M	3-L10-17.11
G4	KNUTH JACK C JR & ALUCE M	3-L10-17.10
H4	MACNEALY JON A & MACNEALY KAREN L	3-L10-17.14
I4	MACNEALY JON A & MACNEALY KAREN L	3-L10-17.13
J4	PALMER LOUIS III	3-L10-17.16
K4	WALTERS GLEN L & R S	3-L10-28
L4	LOUSTAU JEAN P & L P (RESV LF) BYRUM CAROLINE L	3-L10-27
M4	ABRAHAM THOMAS R & S O	3-L10-26
N4	BARTOLOVICH DEBORAH A	3-L10-26.2
O4	BELLANCO CHRISTOPHER	3-L10-26.6
P4	WEICHMAN RANDY J	3-L10-26.1
Q4	BLOWERS DAVID A & FLORENCE D	3-L10-36.6
R4	MILLER LANCE H JR & SHAENAN G	3-L10-36
S4	HOUCHINS RONALD W	3-L10-36.5
T4	HOUCHINS RONALD W	3-L13-4.3
U4	STEELE RICHARD CLARK JR PUSKARICH ALEXANDRA MILENA	3-L13-4
V4	YOUNG ROBERT L; VANDERGRIFT JOANN L/E	3-L13-4.2
W4	YOUNG ROBERT L; VANDERGRIFT JOANN L/E	3-L13-4.1
X4	STEVENSON BARBARA A (1/6 INT & LE) ET AL	3-L13-5
Y4	STEVENSON JAMES ALAN	3-L13-5.4
Z4	STEVENSON KIMBERLY; STEVENSON JAMES; DELGADO BRENDA STEVENSON	3-L13-6.1
A5	LOVERIDGE TYSON L & VANESSA	3-L13-6
B5	LOVERIDGE TYSON L & VANESSA	3-L13-6.4
C5	WHEELER JAMES E III WHEELER CHRISTINE	3-L13-8.2
D5	WHEELER JAMES E JR & B J	3-L13-9
E5	WHEELER JOLLY W SR & SARAH JANE (LE); ET AL	3-L13-12.3
F5	SHEARER STEVEN P	3-L13-12.1
G5	KNIGHT JAMES C & D L	3-L13-13
H5	DEMERSKI GARY L & MARY C	3-L13-14
I5	BARON KEITH E & C J	3-L13-15
J5	HOLMAN HARRY E & CHERYLL	6-T3-11
K5	HOLMAN CHERYLL L & H E	6-T3-13
L5	MOORE GERALD T & A M	6-T3-14
M5	MOORE GERALD T & A M	6-T3-14.1
N5	OHIO COUNTY COMMISSION	6-T3-28
O5	JDS INVESTMENTS LLC	6-T3-16

05/05/2023

REVISIONS:	COMPANY:		 	
	OPERATOR'S WELL #:	OCC A OHI 1H ST	API # 47-069-00340	DATE: 03-09-2023
DISTRICT: TRIADDELPHIA	COUNTY: OHIO	STATE: WV	DRAWN BY: N. MANO	SCALE: N/A
			DRAWING NO:	WELL LOCATION PLAT 5