

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

API 47 - 033 - 05931 County Harrison District Simpson
Quad Brownton Pad Name J Osborn Field/Pool Name _____
Farm name Judy Osborn Well Number 204
Operator (as registered with the OOG) Arsenal Resources
Address 6031 Wallace Rd Ext, Ste 3000 City Wexford State PA Zip 15090

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4346576.728 Easting 567473.751
Landing Point of Curve Northing 4346383.549 Easting 567575.662
Bottom Hole Northing 4341520.643 Easting 569345.091

Elevation (ft) 1163.3 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)
Synthetic Oil Based

Date permit issued 09/28/2018 Date drilling commenced 05/21/2019 Date drilling ceased 11/05/2021
Date completion activities began 1/10/2022 Date completion activities ceased 5/17/2022
Verbal plugging (Y/N) N Date permission granted NA Granted by NA

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 174, 232, 260, 372, 488, 609, 680 Open mine(s) (Y/N) depths N
Salt water depth(s) ft none reported Void(s) encountered (Y/N) depths N
Coal depth(s) ft 226, 326, 401, 441, 531, 596, 616 (depths based on WVGES - not observed) Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N



Reviewed by: [Signature] 03/17/2023

WR-35
Rev. 8/23/13

API 47-033 - 05931 Farm name Judy Osborn Well number 204

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	30"	24"	100'	New	94	NA	Y
Surface	17 1/2"	13 3/8"	810' GL	New	54.5	NA	Y
Coal	NA	NA	NA	NA	NA	NA	N
Intermediate 1	12 1/4"	9 5/8"	2,548' GL	New	40.0	NA	Y
Intermediate 2	NA	NA	NA	NA	NA	NA	NA
Intermediate 3	NA	NA	NA	NA	NA	NA	NA
Production	8 1/2"	5 1/2"	24,600' GL	New	20.0	NA	Y
Tubing	NA	NA	NA	NA	NA	NA	NA
Packer type and depth set		NA					

Comment Details Cement to surface on Conductor, Surface, Intermediate and Production cement to 1,181'

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	A	214	15.60	1.21	258.94	Surface	8+
Surface	A	711	15.60	1.2	853.2	Surface	8+
Coal	NA	NA	NA	NA	NA	NA	NA
Intermediate 1	A	834	15.60	1.2	1000.8	Surface	8+
Intermediate 2	NA	NA	NA	NA	NA	NA	NA
Intermediate 3	NA	NA	NA	NA	NA	NA	NA
Production	A	733/2996	13.80/15.00	1.33/1.3	974.9/3,894.8	1,181'	8+
Tubing	NA	NA	NA	NA	NA	NA	NA

Drillers TD (ft) 24,600' (GL) 25,600' (GL) Loggers TD (ft) NA
 Deepest formation penetrated Marcellus Plug back to (ft) NA
 Plug back procedure NA

Kick off depth (ft) 6,600' (GL)

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 24"- No centralizers, 13 3/8" & 9-5/8"- one bow spring centralizer on every other joint, 5.5"- one semi rigid centralizer on every joint from TD of casing to end of curve. Then every other joint to KOP. Every third joint from KOP to 2,400'; there will be no centralizers from 2,400' to surface

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 _____

API 47- 033 - 05931 Farm name Judy Osborn Well number 204

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
		See Attached			

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
			See Attached					

Please insert additional pages as applicable.

API 47- 033 - 05931 Farm name Judy Osborn Well number 204

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Marcellus Shale	7523	TVD	24,662 MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 17573 mcfpd Oil 0 bpd NGL 0 bpd Water 950 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)
Sand/Silt	0	200	0	200	Freshwater @ 174', 232', 260', 372', 488', 609', 680' (All water depths interpreted from CBL - no reports while drilling)
Sand/Silt/Coal	200	300	200	300	Coal not observed while drilling: depths based on WVGES Maps: Bakerstown Coal @ 226' TVD
Sand/Silt/Coal	300	450	300	450	Brush Creek Coal @ 326' TVD, Upper Freeport @ 401' TVD, Lower Freeport @ 441' TVD
Sand/Silt/Coal	450	900	450	900	Upper Kittanning @ 531' TVD, Middle Kittanning @ 596' TVD, Lower Kittanning @ 616' TVD
Sand/Silt/Limestone	900	3006	900	3007	Sandstone, Siltstone, Limestone
Balltown	3006	3090	3007	3092	Sandstone
Elk Siltstone	4635	4661	4638	4664	Siltstone
Burkett	6937	6958	6968	6993	Shale
Tully	6958	7011	6993	7064	Limestone
Mahantango	7011	7172	7064	7342	Shale
Marcellus	7172	7219	7342	7474	Shale
Purcell	7219	7221	7474	7480	Limestone
Lower Marcellus	7221	7254*	7480	24662	Shale - Gas shows through lateral
Onondaga	7254*				*Onondaga not penetrated - top estimated based on 4703305933 thickness

Please insert additional pages as applicable.

Drilling Contractor Helmerich & Payne
Address 1437 South Boulder Ave. City Tulsa State OK Zip 74119

Logging Company NA
Address _____ City _____ State _____ Zip _____

Cementing Company Universal Pressure Pumping
Address 6 Desta Drive, Suite 4400 City Midland State TX Zip 79705

Stimulating Company Stingray - Mammoth Energy Services INC
Address 14201 Caliber Drive Suite 300 City Oklahoma City State OK Zip 73134

Please insert additional pages as applicable.

Completed by Arsenal Resources Telephone _____
Signature [Signature] Title Director of Geology & Development Planning Date 7/21/2022



WR 35 FORM COMPLETIONS INFORMATION

Well Header

Well Name J Osborn HSOP16 204	API/UWI 4703305931	Lease	Pad Name J Osborn HSOP16	Operator Arsenal Resources	Well Type Development	Well Subtype Multi
Original KB Elevation (ft) 1,191.00	Water Depth (ft)	Well License Date 5/9/2019	Spud Date 10/19/2021	Rig Release Date 11/5/2021		
County Harrison	District Simpson	Division Development	Division Code			
Lat/Long Datum	Latitude (°) 39° 15' 57.269" N	Longitude (°) 80° 13' 4.271" W	UTM Easting (m)	UTM Northing (m)		

Jobs

Job Category Completion/Workover	Primary Job Type Initial Completion	Start Date 1/10/2022	End Date
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Perforations

Date	Top (ftKB)	Btm (ftKB)	Entered Shot Total	Zone
3/21/2022	7,486.0	7,648.0	40	Marcellus, Original Hole
3/21/2022	7,686.0	7,848.0	40	Marcellus, Original Hole
3/20/2022	7,886.0	8,048.0	40	Marcellus, Original Hole
3/20/2022	8,086.0	8,248.0	40	Marcellus, Original Hole
3/20/2022	8,286.0	8,448.0	40	Marcellus, Original Hole
3/19/2022	8,486.0	8,648.0	40	Marcellus, Original Hole
3/19/2022	8,686.0	8,848.0	40	Marcellus, Original Hole
3/19/2022	8,886.0	9,048.0	40	Marcellus, Original Hole
3/19/2022	9,086.0	9,248.0	40	Marcellus, Original Hole
3/19/2022	9,286.0	9,448.0	40	Marcellus, Original Hole
3/18/2022	9,486.0	9,648.0	40	Marcellus, Original Hole
3/18/2022	9,686.0	9,848.0	40	Marcellus, Original Hole
3/18/2022	9,886.0	10,048.0	40	Marcellus, Original Hole
3/18/2022	10,086.0	10,248.0	40	Marcellus, Original Hole
3/17/2022	10,286.0	10,448.0	40	Marcellus, Original Hole
3/17/2022	10,486.0	10,648.0	40	Marcellus, Original Hole
3/17/2022	10,686.0	10,848.0	40	Marcellus, Original Hole
3/17/2022	10,886.0	11,048.0	40	Marcellus, Original Hole
3/16/2022	11,086.0	11,248.0	40	Marcellus, Original Hole
3/16/2022	11,286.0	11,448.0	40	Marcellus, Original Hole
3/16/2022	11,486.0	11,648.0	40	Marcellus, Original Hole
3/16/2022	11,686.0	11,848.0	40	Marcellus, Original Hole
3/15/2022	11,886.0	12,048.0	40	Marcellus, Original Hole
3/15/2022	12,086.0	12,248.0	40	Marcellus, Original Hole
3/15/2022	12,286.0	12,448.0	40	Marcellus, Original Hole
3/15/2022	12,486.0	12,648.0	40	Marcellus, Original Hole
3/15/2022	12,686.0	12,848.0	40	Marcellus, Original Hole
3/14/2022	12,886.0	13,048.0	40	Marcellus, Original Hole
3/14/2022	13,086.0	13,248.0	40	Marcellus, Original Hole
3/14/2022	13,286.0	13,448.0	40	Marcellus, Original Hole
3/14/2022	13,486.0	13,648.0	40	Marcellus, Original Hole
3/14/2022	13,686.0	13,848.0	40	Marcellus, Original Hole
3/12/2022	13,886.0	14,048.0	40	Marcellus, Original Hole
3/11/2022	14,086.0	14,248.0	40	Marcellus, Original Hole
3/11/2022	14,286.0	14,448.0	40	Marcellus, Original Hole
3/11/2022	14,486.0	14,648.0	40	Marcellus, Original Hole
3/11/2022	14,686.0	14,848.0	40	Marcellus, Original Hole
3/11/2022	14,886.0	15,048.0	40	Marcellus, Original Hole
3/10/2022	15,086.0	15,248.0	40	Marcellus, Original Hole
3/10/2022	15,286.0	15,448.0	40	Marcellus, Original Hole
3/10/2022	15,486.0	15,648.0	40	Marcellus, Original Hole
3/10/2022	15,686.0	15,848.0	40	Marcellus, Original Hole
3/9/2022	15,886.0	16,048.0	40	Marcellus, Original Hole
3/9/2022	16,086.0	16,248.0	40	Marcellus, Original Hole
3/9/2022	16,286.0	16,448.0	40	Marcellus, Original Hole

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WR 35 FORM COMPLETIONS INFORMATION

Perforations

Date	Top (ftKB)	Btm (ftKB)	Entered Shot Total	Zone
3/9/2022	16,486.0	16,648.0	40	Marcellus, Original Hole
3/9/2022	16,686.0	16,848.0	40	Marcellus, Original Hole
3/8/2022	16,886.0	17,048.0	40	Marcellus, Original Hole
3/8/2022	17,086.0	17,248.0	40	Marcellus, Original Hole
3/8/2022	17,286.0	17,448.0	40	Marcellus, Original Hole
3/7/2022	17,486.0	17,648.0	40	Marcellus, Original Hole
3/7/2022	17,686.0	17,848.0	40	Marcellus, Original Hole
3/7/2022	17,886.0	18,048.0	40	Marcellus, Original Hole
3/7/2022	18,086.0	18,248.0	40	Marcellus, Original Hole
3/6/2022	18,286.0	18,448.0	40	Marcellus, Original Hole
3/6/2022	18,486.0	18,648.0	40	Marcellus, Original Hole
3/6/2022	18,686.0	18,848.0	40	Marcellus, Original Hole
3/5/2022	18,886.0	19,048.0	40	Marcellus, Original Hole
3/5/2022	19,086.0	19,248.0	40	Marcellus, Original Hole
3/5/2022	19,286.0	19,448.0	40	Marcellus, Original Hole
3/5/2022	19,486.0	19,648.0	40	Marcellus, Original Hole
3/5/2022	19,686.0	19,848.0	40	Marcellus, Original Hole
3/4/2022	19,886.0	20,048.0	40	Marcellus, Original Hole
3/4/2022	20,086.0	20,248.0	40	Marcellus, Original Hole
3/4/2022	20,286.0	20,448.0	40	Marcellus, Original Hole
3/3/2022	20,486.0	20,648.0	40	Marcellus, Original Hole
3/3/2022	20,686.0	20,848.0	40	Marcellus, Original Hole
3/3/2022	20,886.0	21,048.0	40	Marcellus, Original Hole
3/3/2022	21,086.0	21,248.0	40	Marcellus, Original Hole
3/2/2022	21,286.0	21,448.0	40	Marcellus, Original Hole
3/2/2022	21,486.0	21,648.0	40	Marcellus, Original Hole
3/2/2022	21,689.0	21,848.0	40	Marcellus, Original Hole
3/1/2022	21,886.0	22,048.0	32	Marcellus, Original Hole
3/2/2022	21,966.0	21,968.0	8	Marcellus, Original Hole
3/1/2022	22,086.0	22,248.0	40	Marcellus, Original Hole
3/1/2022	22,286.0	22,448.0	40	Marcellus, Original Hole
3/1/2022	22,486.0	22,648.0	40	Marcellus, Original Hole
2/25/2022	22,686.0	22,848.0	40	Marcellus, Original Hole
2/25/2022	22,886.0	23,048.0	40	Marcellus, Original Hole
2/25/2022	23,086.0	23,248.0	40	Marcellus, Original Hole
2/24/2022	23,286.0	23,448.0	40	Marcellus, Original Hole
2/24/2022	23,489.0	23,648.0	40	Marcellus, Original Hole
2/24/2022	23,686.0	23,848.0	40	Marcellus, Original Hole
2/23/2022	23,886.0	24,048.0	40	Marcellus, Original Hole
2/23/2022	24,086.0	24,248.0	40	Marcellus, Original Hole
2/23/2022	24,286.0	24,448.0	40	Marcellus, Original Hole
1/18/2022	24,577.0	24,489.0	4	Marcellus, Original Hole

Stimulations Summary

Start Date	Treat Rate Avg (bbl/min)	Treat Pressure Avg (psi)	Proppant Total (lb) 42,793,290.0	Volume Clean Total (bbl) 750,994.00	Frac Gradient Average (psi/ft) 1.24
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Stimulation Intervals

Interval Number	Start Date	Slurry Rate Avg (bbl/min)	P Treat Avg (psi)	P Breakdown (psi)	ISIP (psi)	Proppant Total OR (lb)	Vol Clean Total (bbl)
1	2/23/2022	80.5	9,551.0		5,394.0	256,830.0	5,722.00
2	2/23/2022	79.6	9,858.0	6,348.0	4,700.0	500,240.0	9,574.00
3	2/23/2022	80	9,243.0	6,849.0	4,771.0	500,960.0	9,561.00
4	2/23/2022	79.9	9,146.0	6,640.0	4,785.0	500,550.0	9,307.00
5	2/24/2022	80	8,875.0	6,615.0	4,680.0	500,020.0	9,376.00
6	2/24/2022	83.1	9,033.0	6,079.0	4,825.0	498,120.0	9,382.00
7	2/25/2022	83.6	8,980.0	6,466.0	5,419.0	501,000.0	9,288.00

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WR 35 FORM COMPLETIONS INFORMATION

Stimulation Intervals

Interval Number	Start Date	Slurry Rate Avg (bbl/min)	P Treat Avg (psi)	P Breakdown (psi)	ISIP (psi)	Proppant Total OR (lb)	Vol Clean Total (bbl)
8	2/25/2022	79.9	8,664.0	6,141.0	4,900.0	500,420.0	9,294.00
9	2/25/2022	79.8	8,467.0	6,004.0	5,870.0	502,420.0	9,310.00
10	2/28/2022	83.7	8,917.0	5,549.0	5,561.0	499,560.0	9,344.00
11	3/1/2022	84.1	8,963.0	6,407.0	4,390.0	503,630.0	9,246.00
12	3/1/2022	80.7	8,453.0	5,674.0	5,360.0	500,000.0	9,232.00
13	3/1/2022	83.3	8,540.0	5,731.0	6,082.0	500,380.0	9,303.00
14	3/2/2022	84.1	8,728.0	6,268.0	6,651.0	501,920.0	9,254.00
15	3/2/2022	79.7	8,459.0	6,704.0	6,080.0	503,880.0	9,303.00
16	3/2/2022	83.3	8,559.0	6,067.0	6,094.0	498,840.0	9,249.00
17	3/2/2022	83.9	9,222.0	6,677.0	5,744.0	502,580.0	9,224.00
18	3/3/2022	79.2	8,717.0	6,244.0	5,546.0	501,900.0	9,266.00
19	3/3/2022	78.1	9,293.0	6,569.0	6,180.0	499,290.0	10,080.00
20	3/3/2022	79.7	9,233.0	6,504.0	5,033.0	501,200.0	9,147.00
21	3/4/2022	79.6	9,196.0	6,901.0	5,290.0	498,080.0	9,116.00
22	3/4/2022	79.5	9,060.0	7,034.0	5,696.0	501,680.0	8,848.00
23	3/4/2022	83.9	9,126.0	7,397.0	6,963.0	503,090.0	8,825.00
24	3/4/2022	81.9	9,197.0	7,700.0	5,461.0	496,400.0	8,776.00
25	3/5/2022	83.1	9,119.0	7,973.0	6,751.0	498,780.0	8,834.00
26	3/5/2022	88.2	9,268.0	6,353.0	6,118.0	499,710.0	8,779.00
27	3/5/2022	88.7	9,105.0	6,914.0	6,395.0	502,500.0	8,776.00
28	3/5/2022	86.7	8,789.0	8,011.0	6,402.0	500,200.0	8,798.00
29	3/6/2022	86.7	9,050.0	7,382.0	6,212.0	498,940.0	8,705.00
30	3/6/2022	89	8,760.0	7,137.0	6,390.0	498,690.0	8,733.00
31	3/6/2022	89.3	8,692.0	6,797.0	6,105.0	500,840.0	8,821.00
32	3/6/2022	88.4	8,516.0	5,532.0	6,225.0	499,800.0	9,132.00
33	3/7/2022	88.7	8,615.0	9,429.0	5,697.0	502,160.0	8,808.00
34	3/7/2022	88.8	8,775.0	6,628.0	6,442.0	500,190.0	8,766.00
35	3/7/2022	89.4	8,952.0	6,975.0	6,073.0	496,420.0	8,698.00
36	3/8/2022	89.3	9,001.0	7,438.0	5,410.0	501,850.0	8,736.00
37	3/8/2022	89.4	8,853.0	5,582.0	6,005.0	501,610.0	8,916.00
38	3/8/2022	89.5	9,128.0	6,420.0	5,820.0	502,580.0	8,877.00
39	3/8/2022	89.4	8,894.0	10,230.0	6,019.0	502,500.0	8,533.00
40	3/9/2022	89.2	8,751.0	10,134.0	6,786.0	500,780.0	8,621.00
41	3/9/2022	89.2	8,849.0	6,936.0	6,556.0	504,360.0	8,851.00
42	3/9/2022	87.9	9,080.0	6,970.0	6,565.0	499,580.0	8,596.00
43	3/9/2022	85.3	9,320.0	7,258.0	6,530.0	500,420.0	9,482.00
44	3/10/2022	89.1	9,145.0	7,544.0	5,630.0	500,260.0	8,548.00
45	3/10/2022	88.3	9,091.0	7,238.0	6,178.0	499,770.0	8,562.00
46	3/10/2022	89.4	9,680.0	7,384.0	6,353.0	496,120.0	8,625.00
47	3/10/2022	89.3	9,148.0	7,203.0	6,250.0	499,920.0	8,508.00
48	3/11/2022	88.8	8,836.0	7,761.0	6,200.0	500,250.0	8,517.00
49	3/11/2022	88.4	8,740.0	6,659.0	6,380.0	502,440.0	8,573.00
50	3/11/2022	89.5	8,747.0	6,213.0	6,300.0	500,020.0	8,520.00
51	3/11/2022	88.8	8,896.0	7,784.0	6,621.0	502,920.0	8,506.00
52	3/11/2022	89.5	8,631.0	7,807.0	5,850.0	499,980.0	8,552.00
53	3/12/2022	88.9	8,501.0	6,958.0	6,030.0	500,840.0	8,571.00
54	3/12/2022	88.1	8,666.0	7,348.0	5,781.0	505,030.0	8,521.00
55	3/14/2022	89.1	8,684.0	7,348.0	6,115.0	497,750.0	8,492.00
56	3/14/2022	88.8	8,679.0	6,820.0	6,420.0	499,720.0	8,470.00
57	3/14/2022	89.7	8,632.0	6,148.0	5,910.0	500,170.0	8,498.00
58	3/14/2022	89.1	8,390.0	8,291.0	5,380.0	500,140.0	8,470.00
59	3/15/2022	88.4	8,562.0	8,074.0	6,210.0	501,280.0	8,508.00
60	3/15/2022	88.5	8,453.0	5,994.0	5,290.0	500,610.0	8,613.00
61	3/15/2022	88.5	8,545.0	5,225.0	6,336.0	498,920.0	8,654.00
62	3/15/2022	88.7	8,500.0	6,732.0	5,990.0	499,620.0	8,475.00

03/17/2023



WR 35 FORM COMPLETIONS INFORMATION

Stimulation Intervals

Interval Number	Start Date	Slurry Rate Avg (bbl/min)	P Treat Avg (psi)	P Breakdown (psi)	ISIP (psi)	Proppant Total OR (lb)	Vol Clean Total (bbl)
63	3/15/2022	88.6	8,720.0	6,074.0	5,660.0	500,330.0	8,451.00
64	3/16/2022	88.9	8,438.0	6,954.0	5,750.0	500,280.0	8,530.00
65	3/16/2022	86.5	8,415.0	7,321.0	5,919.0	499,160.0	8,399.00
66	3/16/2022	89.4	8,635.0	6,914.0	6,344.0	501,900.0	8,406.00
67	3/16/2022	89.8	8,525.0	7,501.0	6,280.0	500,630.0	8,456.00
68	3/17/2022	88.6	8,251.0	8,332.0	5,130.0	500,260.0	8,459.00
69	3/17/2022	88.9	8,207.0	10,561.0	6,046.0	500,680.0	8,490.00
70	3/17/2022	89.4	8,271.0	6,944.0	6,174.0	499,200.0	8,384.00
71	3/17/2022	89	8,370.0	6,772.0	6,020.0	500,040.0	8,355.00
72	3/17/2022	87.9	8,245.0	7,526.0	6,100.0	500,150.0	9,156.00
73	3/18/2022	89	8,189.0	7,400.0	6,480.0	502,190.0	8,411.00
74	3/18/2022	88.7	8,292.0	6,656.0	6,672.0	501,980.0	8,370.00
75	3/18/2022	89.6	8,168.0	7,344.0	5,450.0	500,030.0	8,439.00
76	3/18/2022	89.4	8,226.0	7,804.0	5,600.0	500,040.0	8,399.00
77	3/19/2022	88.4	7,977.0	7,266.0	6,577.0	502,730.0	8,457.00
78	3/19/2022	89.3	8,136.0	6,247.0	5,860.0	501,500.0	8,360.00
79	3/19/2022	89.5	7,872.0	5,765.0	6,100.0	500,990.0	8,340.00
80	3/19/2022	88.7	7,998.0	6,635.0	4,960.0	500,200.0	8,401.00
81	3/20/2022	89.4	7,876.0	7,482.0	6,073.0	495,690.0	8,291.00
82	3/20/2022	89.6	7,771.0	5,677.0	6,164.0	494,920.0	8,358.00
83	3/20/2022	89	7,986.0	5,999.0	6,100.0	500,190.0	8,402.00
84	3/21/2022	88.2	7,772.0	6,689.0	6,300.0	500,180.0	8,383.00
85	3/21/2022	89	7,967.0	6,667.0	6,300.0	501,180.0	8,351.00
86	3/21/2022	88.7	8,165.0	7,967.0	6,315.0	498,180.0	8,279.00

03/17/2023

Claimant Company	Claimant First Name	Claimant Last Name	Claimant Email	Claimant Phone (mm-nnn-nnnn)
Water				
Sand (100 Mesh Proppant)				
Sand (40/70 Proppant)				
Hydrochloric Acid (28%)				
Plexihb 166				
SlimSTREAM SC-398				
SlimSTREAM S ChemStream	Eric	Fry	eric.fry@chemstream.com	814-706-1426
Clearyl 270				
Clearyl 270				
Clearyl 270				
Clearyl 270				
ChemStream	Eric	Fry	eric.fry@chemstream.com	814-706-1426
Chemstream 9750 Cationic				
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 SHL is located on topo map 9,399 feet south of Latitude: 39° 17' 30"

BHL is located on topo map 8,555 feet west of Longitude: 80° 10' 00"
 SHL is located on topo map 2,754 feet west of Longitude: 80° 12' 30"

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2	CHARLES THOMAS DAVIS, II ET AL	15-330/5.1
3	CHARLES E. REED 1/2 INTEREST GERALD W. BURNER ET AL 1/2 INTEREST	15-330/25
4	SCOT S. & LYNN B. DIERINGER	15-330/26
5	GOBEL G. OSBORN, JR. (LE), BRUCE, MICHAEL & JASON OSBORN	15-350/6
6	R. MARK & DIANA I. HACKETT	15-350/18
7	BRIAN J. & ANDREA L. MILLS	15-350/17.6
8	BRIAN J. & ANDREA L. MILLS	15-350/17.7
9	BRIAN J. & ANDREA L. MILLS	15-350/17.5
10	GARY & MARGARET WHEELER	15-350/17.2
11	LEWIS FRANKLIN & PAMELA MULLEN	15-350/27
12	EIP III WEST VIRGINIA LLC	15-370/14
13	EIP III WEST VIRGINIA LLC	15-371/1
14	EIP III WEST VIRGINIA LLC	15-371/13
15	SHAWN R. NEWBROUGH	15-370/21
16	EIP III WEST VIRGINIA LLC	15-371/7
17	EIP III WEST VIRGINIA LLC	15-371/7.1
18	EIP III WEST VIRGINIA LLC	15-370/29

	LESSOR	DIST-TM/PAR
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G	REBECCA A. COMPTON; JAMES MICHAEL COMPTON & JENNIFER NORA COMPTON	15-350/17.7 15-350/17.5 15-350/17.2
H	LEWIS FRANKLIN MULLEN	15-350/27
J	W. R. JOHNSON ET AL	15-370/14 15-371/1 15-371/7 15-371/7.1
K	N. D. PARKS ET AL W. R. JOHNSON ET AL	15-370/21 15-371/7



AS-DRILLED LOCATIONS UTM 17-NAD83(M)
SURFACE HOLE LOCATION (SHL) N:4346576.728 E:567473.751
APPROX LANDING POINT (LP) N:4346383.549 E:567575.662
BOTTOM HOLE LOCATION (BHL) N:4341520.643 E:569345.091

THRASHER

THE THRASHER GROUP, INC.
 600 WHITE OAKS BLVD.
 BRIDGEPORT, WV 26330
 PHONE 304-624-4108

AS DRILLED PLAT

SEE PAGE 2 FOR PLAT DUE TO LENGTH OF LATERAL

FILE #: J OSBORN HSOP 16 204 AS DRILLED
 DRAWING #: J OSBORN HSOP 16 204 AS DRILLED
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/2500
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

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 THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: *Joseph H. Lowther*
 R.P.E.: _____ L.L.S.: P.S. No. 2346



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304



DATE: JANUARY 20, 2022
 OPERATOR'S WELL #: J OSBORN HSOP 16 204 AS DRILLED
 API WELL #: 47 33 5931
 STATE COUNTY PERMIT

Well Type: Oil Waste Disposal Production Deep
 Gas Liquid Injection Storage Shallow

WATERSHED: SIMPSON CREEK ELEVATION: 1163.30'±
 COUNTY/DISTRICT: HARRISON / SIMPSON QUADRANGLE: ROSEMONT, WV 7.5'
 SURFACE OWNER: JUDY M OSBORN (LE) (JUDY M OSBORN IRREVOCABLE TRUST) ACREAGE: 70.00±
 OIL & GAS ROYALTY OWNER: GOBEL OSBORN, ET AL ACREAGE: 1221.003±

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
 CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): AS DRILLED

TARGET FORMATION: MARCELLUS (LATERAL), HUNTERSVILLE CHERT (PILOT HOLE) ESTIMATED DEPTH: (LATERAL)TVD: 7,504.7'± TMD: 24,662.00'±

WELL OPERATOR ARSENAL RESOURCES DESIGNATED AGENT _____
 Address 6031 WALLACE ROAD EXTENSION, SUITE 300 Address 65 PROFESSIONAL PLACE, SUITE 200
 City WEXFORD State PA Zip Code 15090 City BRIDGEPORT State WV Zip Code 26330

03/17/2023

J OSBORN HSOP 16 204

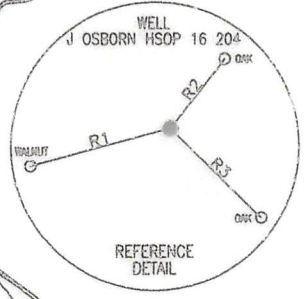
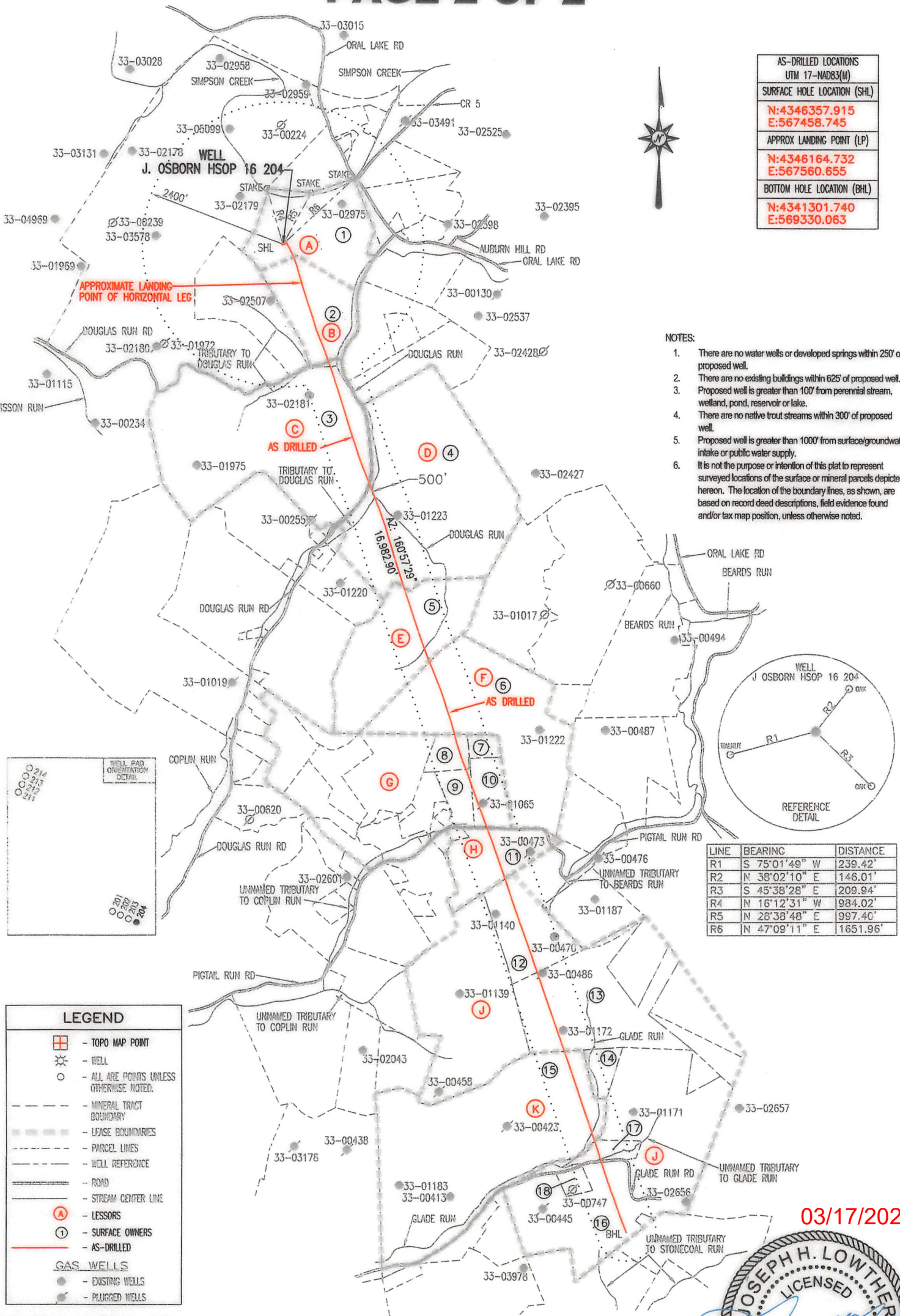
PAGE 2 OF 2

AS-DRILLED LOCATIONS UTM 17-NAD83(M)	
SURFACE HOLE LOCATION (SHL)	N:4346357.915 E:567458.745
APPROX LANDING POINT (LP)	N:4346164.732 E:567560.655
BOTTOM HOLE LOCATION (BHL)	N:4341301.740 E:569330.063

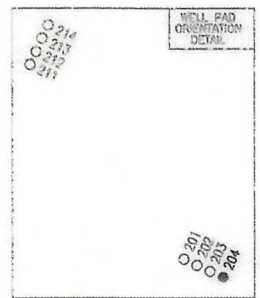


NOTES:

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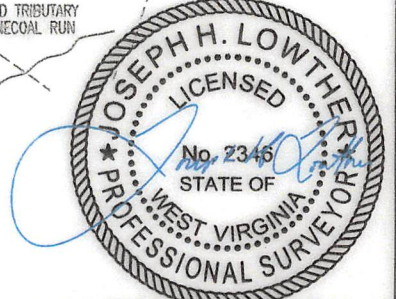
LINE	BEARING	DISTANCE
R1	S 75°01'49" W	239.42'
R2	N 38°02'10" E	146.01'
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LEGEND

- TOPO MAP POINT
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- ALL ARE POINTS UNLESS OTHERWISE NOTED.
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- LEASE BOUNDARIES
- PARCEL LINES
- WELL REFERENCE
- ROAD
- STREAM CENTER LINE
- LESSORS
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- AS-DRILLED
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03/17/2023



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JANUARY 20, 2022

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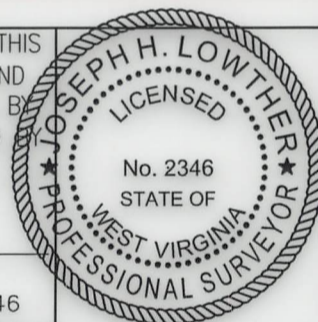
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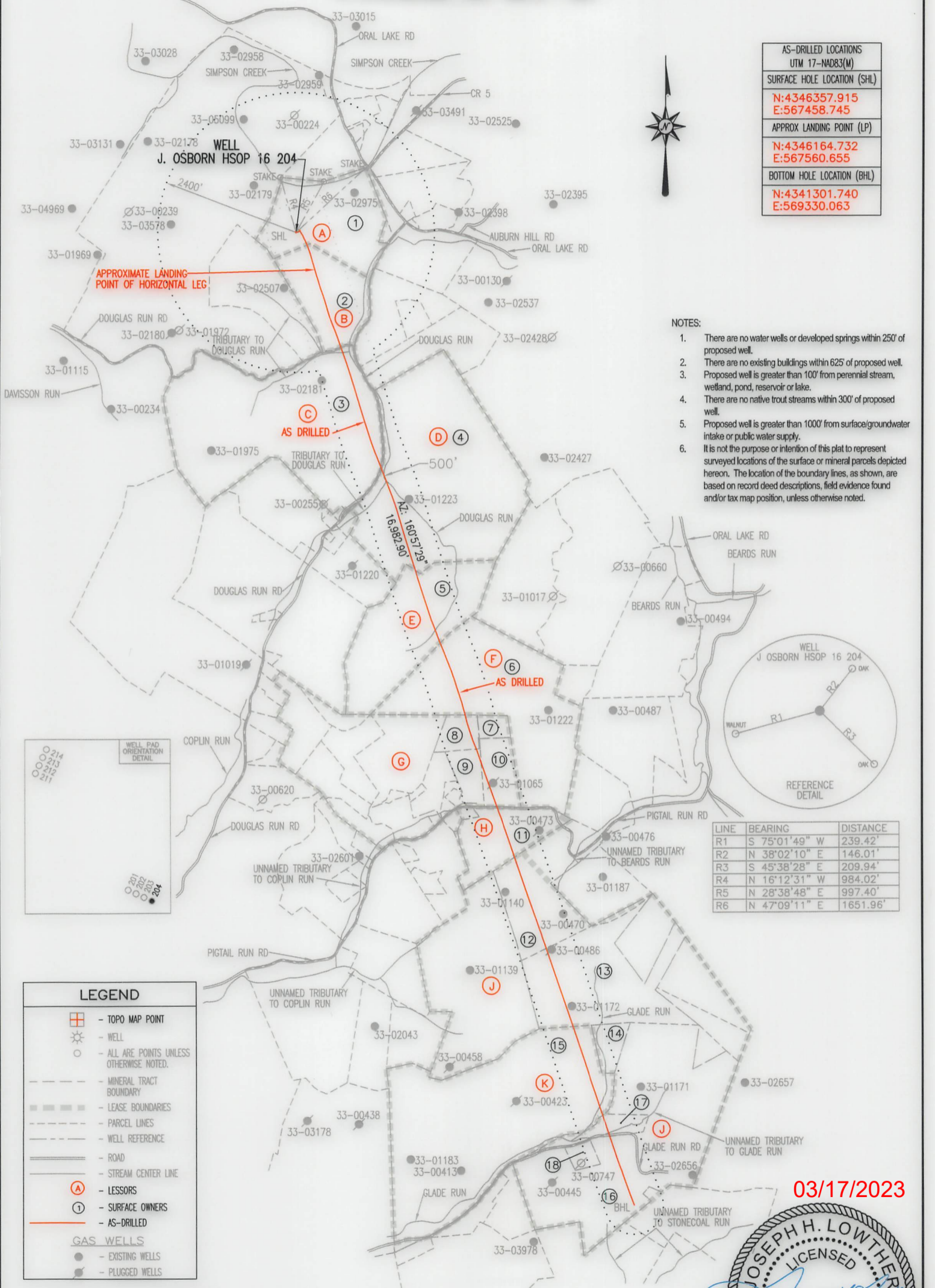
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JANUARY 20, 2022
AS DRILLED PLAT

03/17/2023
 JOSEPH H. LOWTHER
 LICENSED
 No. 2345
 STATE OF
 WEST VIRGINIA
 PROFESSIONAL SURVEYOR