



WR 35 FORM COMPLETIONS INFORMATION

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Office of Oil and Gas

JUL 25 2022

WV Department of
Environmental Protection

Well Header

Well Name J Osborn HSOP16 201	API/UWI 4703305949	Lease	Pad Name J Osborn HSOP16	Operator Arsenal Resources	Well Type Development	Well Subtype Multi
Original KB Elevation (ft) 1,190.14	Water Depth (ft)	Well License Date 1/24/2019	Spud Date 12/8/2021	Rig Release Date 12/25/2021		
County Harrison	District Simpson	Division Development	Division Code			
Lat/Long Datum	Latitude (°) 39° 9' 0" N	Longitude (°) 80° 7' 48" 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
2/21/2022	8,350.0	8,512.0	40	Marcellus, Original Hole
2/20/2022	8,550.0	8,712.0	40	Marcellus, Original Hole
2/20/2022	8,750.0	8,912.0	40	Marcellus, Original Hole
2/20/2022	8,950.0	9,112.0	40	Marcellus, Original Hole
2/19/2022	9,150.0	9,312.0	40	Marcellus, Original Hole
2/19/2022	9,350.0	9,512.0	40	Marcellus, Original Hole
2/19/2022	9,550.0	9,712.0	40	Marcellus, Original Hole
2/18/2022	9,750.0	9,912.0	40	Marcellus, Original Hole
2/18/2022	9,950.0	10,112.0	40	Marcellus, Original Hole
2/17/2022	10,150.0	10,312.0	40	Marcellus, Original Hole
2/17/2022	10,352.0	10,512.0	40	Marcellus, Original Hole
2/17/2022	10,550.0	10,712.0	40	Marcellus, Original Hole
2/16/2022	10,750.0	10,912.0	40	Marcellus, Original Hole
2/16/2022	10,950.0	11,112.0	40	Marcellus, Original Hole
2/16/2022	11,150.0	11,312.0	40	Marcellus, Original Hole
2/16/2022	11,350.0	11,512.0	40	Marcellus, Original Hole
2/15/2022	11,550.0	11,712.0	40	Marcellus, Original Hole
2/15/2022	11,750.0	11,912.0	40	Marcellus, Original Hole
2/15/2022	11,950.0	12,112.0	40	Marcellus, Original Hole
2/15/2022	12,150.0	12,312.0	40	Marcellus, Original Hole
2/14/2022	12,350.0	12,512.0	40	Marcellus, Original Hole
2/14/2022	12,550.0	12,712.0	40	Marcellus, Original Hole
2/14/2022	12,750.0	12,912.0	40	Marcellus, Original Hole
2/14/2022	12,950.0	13,112.0	40	Marcellus, Original Hole
2/13/2022	13,150.0	13,312.0	40	Marcellus, Original Hole
2/13/2022	13,350.0	13,512.0	40	Marcellus, Original Hole
2/13/2022	13,550.0	13,712.0	40	Marcellus, Original Hole
2/13/2022	13,750.0	13,912.0	40	Marcellus, Original Hole
2/12/2022	13,950.0	14,112.0	40	Marcellus, Original Hole
2/12/2022	14,150.0	14,312.0	40	Marcellus, Original Hole
2/12/2022	14,350.0	14,512.0	40	Marcellus, Original Hole
2/11/2022	14,550.0	14,712.0	40	Marcellus, Original Hole
2/11/2022	14,750.0	14,912.0	40	Marcellus, Original Hole
2/11/2022	14,950.0	15,112.0	40	Marcellus, Original Hole
2/11/2022	15,150.0	15,312.0	40	Marcellus, Original Hole
2/11/2022	15,350.0	15,512.0	40	Marcellus, Original Hole
2/10/2022	15,550.0	15,712.0	40	Marcellus, Original Hole
2/10/2022	15,750.0	15,912.0	40	Marcellus, Original Hole
2/10/2022	15,950.0	16,109.0	40	Marcellus, Original Hole
2/10/2022	16,150.0	16,312.0	40	Marcellus, Original Hole
2/10/2022	16,350.0	16,512.0	40	Marcellus, Original Hole
2/9/2022	16,550.0	16,712.0	40	Marcellus, Original Hole
2/9/2022	16,750.0	16,912.0	40	Marcellus, Original Hole
2/9/2022	16,950.0	17,112.0	40	Marcellus, Original Hole
2/8/2022	17,150.0	17,312.0	40	Marcellus, Original Hole



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Perforations

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Zone

Date	Top (ftKB)	Btm (ftKB)	Entered Shot Total	Zone
2/8/2022	17,350.0	17,512.0	40	Marcellus, Original Hole
2/8/2022	17,550.0	17,712.0	40	Marcellus, Original Hole
2/2/2022	17,750.0	17,912.0	40	Marcellus, Original Hole
2/2/2022	17,950.0	18,112.0	40	Marcellus, Original Hole
2/1/2022	18,150.0	18,312.0	40	Marcellus, Original Hole
2/1/2022	18,350.0	18,512.0	40	Marcellus, Original Hole
2/1/2022	18,550.0	18,712.0	40	Marcellus, Original Hole
2/1/2022	18,750.0	18,912.0	40	Marcellus, Original Hole
1/31/2022	18,950.0	19,112.0	40	Marcellus, Original Hole
1/31/2022	19,150.0	19,312.0	40	Marcellus, Original Hole
1/31/2022	19,350.0	19,512.0	40	Marcellus, Original Hole
1/30/2022	19,550.0	19,712.0	40	Marcellus, Original Hole
1/30/2022	19,750.0	19,912.0	40	Marcellus, Original Hole
1/29/2022	19,950.0	20,112.0	40	Marcellus, Original Hole
1/29/2022	20,150.0	20,312.0	40	Marcellus, Original Hole
1/29/2022	20,350.0	20,512.0	40	Marcellus, Original Hole
1/28/2022	20,550.0	20,712.0	40	Marcellus, Original Hole
1/28/2022	20,750.0	20,912.0	40	Marcellus, Original Hole
1/28/2022	20,950.0	21,112.0	40	Marcellus, Original Hole
1/27/2022	21,150.0	21,312.0	40	Marcellus, Original Hole
1/27/2022	21,350.0	21,512.0	40	Marcellus, Original Hole
1/27/2022	21,550.0	21,712.0	40	Marcellus, Original Hole
1/27/2022	21,750.0	21,912.0	40	Marcellus, Original Hole
1/26/2022	21,950.0	22,112.0	40	Marcellus, Original Hole
1/26/2022	22,150.0	22,310.0	40	Marcellus, Original Hole
1/26/2022	22,350.0	22,512.0	40	Marcellus, Original Hole
1/26/2022	22,550.0	22,712.0	40	Marcellus, Original Hole
1/25/2022	22,750.0	22,912.0	40	Marcellus, Original Hole
1/24/2022	22,950.0	23,112.0	40	Marcellus, Original Hole
1/24/2022	23,150.0	23,312.0	40	Marcellus, Original Hole
1/23/2022	23,350.0	23,512.0	40	Marcellus, Original Hole
1/23/2022	23,550.0	23,712.0	40	Marcellus, Original Hole
1/23/2022	23,754.0	23,912.0	40	Marcellus, Original Hole
1/21/2022	23,950.0	24,112.0	40	Marcellus, Original Hole
1/21/2022	24,150.0	24,312.0	40	Marcellus, Original Hole
1/21/2022	24,350.0	24,512.0	40	Marcellus, Original Hole
1/21/2022	24,550.0	24,712.0	40	Marcellus, Original Hole
1/20/2022	24,750.0	24,912.0	40	Marcellus, Original Hole
1/20/2022	24,950.0	25,112.0	40	Marcellus, Original Hole
1/19/2022	25,150.0	25,312.0	40	Marcellus, Original Hole
1/19/2022	25,350.0	25,512.0	40	Marcellus, Original Hole
1/19/2022	25,550.0	25,712.0	40	Marcellus, Original Hole
1/18/2022	25,750.0	25,845.0	4	Marcellus, Original Hole

Stimulations Summary

Start Date	Treat Rate Avg (bbl/min)	Treat Pressure Avg (psi)	Proppant Total (lb) 43,240,018.0	Volume Clean Total (bbl) 790,292.00	Frac Gradient Average (psi/ft) 1.16
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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	1/19/2022	80.3	9,357.0	9,999.0	4,442.0	249,900.0	5,789.00
2	1/19/2022	79.4	9,341.0	6,275.0	5,642.0	503,790.0	9,399.00
3	1/19/2022	78.4	10,027.0	6,635.0	4,724.0	395,240.0	9,823.00
4	1/20/2022	80.1	9,620.0	6,701.0	5,471.0	499,180.0	9,424.00
5	1/20/2022	79.7	9,471.0	6,932.0	4,876.0	489,800.0	9,290.00
6	1/20/2022	80.1	9,548.0	6,304.0	4,927.0	499,940.0	9,394.00



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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)
7	1/21/2022	83.4	9,882.0	6,588.0	5,560.0	503,510.0	9,379.00
8	1/21/2022	84.6	9,671.0	6,625.0	5,476.0	498,920.0	9,444.00
9	1/21/2022	79.2	9,356.0	6,780.0	5,231.0	501,338.0	9,360.00
10	1/22/2022	83.2	9,365.0	6,553.0	5,953.0	492,120.0	10,400.00
11	1/23/2022	84.8	9,443.0	5,838.0	6,230.0	500,810.0	9,352.00
12	1/23/2022	84.6	9,531.0	6,751.0	4,693.0	500,300.0	9,291.00
13	1/23/2022	80.2	9,137.0	6,550.0	5,677.0	502,000.0	9,273.00
14	1/24/2022	82.3	9,025.0	5,925.0	5,783.0	498,270.0	9,253.00
15	1/24/2022	79.6	9,044.0	6,349.0	5,860.0	383,280.0	9,798.00
16	1/25/2022	79.8	9,387.0	6,092.0	5,612.0	499,490.0	9,700.00
17	1/26/2022	80.4	9,319.0	6,598.0	5,917.0	500,060.0	9,212.00
18	1/26/2022	82.8	9,387.0	6,394.0	5,790.0	501,580.0	9,286.00
19	1/26/2022	83.9	9,414.0	6,504.0	6,115.0	495,380.0	9,270.00
20	1/26/2022	79.8	9,048.0	6,342.0	6,081.0	499,900.0	9,242.00
21	1/27/2022	80.2	9,188.0	6,141.0	6,575.0	503,780.0	9,324.00
22	1/27/2022	83.2	9,354.0	5,233.0	6,482.0	501,740.0	8,967.00
23	1/27/2022	80.6	9,410.0	6,812.0	6,042.0	498,780.0	8,872.00
24	1/28/2022	83.7	9,817.0	6,323.0	5,546.0	505,550.0	8,976.00
25	1/28/2022	81.7	10,197.0	4,952.0	5,956.0	394,180.0	7,682.00
26	1/28/2022	80.5	9,314.0	7,063.0	6,031.0	501,660.0	8,959.00
27	1/29/2022	80.2	8,734.0	6,612.0	6,015.0	501,880.0	8,925.00
28	1/29/2022	79.1	8,960.0	5,464.0	5,693.0	500,890.0	8,827.00
29	1/29/2022	80.2	8,888.0	6,778.0	5,894.0	500,960.0	8,782.00
30	1/29/2022	79.9	8,938.0	7,332.0	6,153.0	502,670.0	8,858.00
31	1/30/2022	79.7	9,292.0	5,584.0	6,446.0	500,430.0	8,817.00
32	1/31/2022	79.9	8,976.0	6,563.0	6,187.0	500,930.0	8,818.00
33	1/31/2022	69.2	9,835.0	7,498.0	5,632.0	390,890.0	9,611.00
34	1/31/2022	79.6	8,863.0	5,226.0	6,270.0	500,610.0	8,724.00
35	1/31/2022	80.3	9,032.0	7,341.0	6,271.0	501,060.0	8,816.00
36	2/1/2022	79.1	8,577.0	6,955.0	6,282.0	504,160.0	8,825.00
37	2/1/2022	79.3	8,823.0	6,525.0	6,205.0	502,450.0	8,790.00
38	2/1/2022	80.1	9,247.0	5,846.0	5,930.0	502,600.0	8,828.00
39	2/1/2022	80.2	8,603.0	5,669.0	5,837.0	499,110.0	8,795.00
40	2/2/2022	80	8,297.0	5,592.0	6,040.0	499,980.0	9,285.00
41	2/8/2022	79.8	8,612.0	6,945.0	5,855.0	500,340.0	9,393.00
42	2/8/2022	80.1	8,586.0	6,861.0	5,784.0	500,680.0	9,139.00
43	2/8/2022	80.2	8,688.0	6,990.0	6,050.0	500,520.0	9,174.00
44	2/9/2022	81	8,766.0	5,767.0	6,400.0	500,220.0	9,087.00
45	2/9/2022	80.1	8,705.0	7,603.0	5,212.0	500,420.0	9,083.00
46	2/9/2022	80.4	8,486.0	6,951.0	5,780.0	501,720.0	9,115.00
47	2/9/2022	80.5	8,522.0	6,933.0	6,538.0	504,440.0	9,180.00
48	2/10/2022	82.9	8,708.0	5,437.0	5,919.0	504,420.0	9,065.00
49	2/10/2022	83	8,619.0	7,466.0	6,256.0	501,460.0	9,129.00
50	2/10/2022	83.1	8,586.0	7,060.0	5,619.0	500,940.0	9,057.00
51	2/10/2022	79.2	8,414.0	6,797.0	6,380.0	504,130.0	9,735.00
52	2/11/2022	79.9	9,728.0	7,374.0	6,562.0	497,120.0	9,063.00
53	2/11/2022	84.9	8,885.0	6,382.0	5,812.0	501,160.0	9,076.00
54	2/11/2022	88	9,037.0	6,050.0	6,259.0	501,400.0	9,060.00
55	2/11/2022	88	9,008.0	6,223.0	6,545.0	502,710.0	9,433.00
56	2/11/2022	88.6	9,054.0	6,392.0	6,292.0	500,800.0	9,082.00
57	2/12/2022	88.4	9,361.0	7,017.0	6,409.0	494,070.0	9,046.00
58	2/12/2022	87.7	9,000.0	7,149.0	6,462.0	499,330.0	9,008.00
59	2/12/2022	89.2	9,073.0	7,000.0	6,552.0	496,170.0	9,112.00
60	2/12/2022	87.7	8,673.0	6,662.0	6,325.0	503,070.0	9,042.00
61	2/13/2022	88.4	8,812.0	6,891.0	6,427.0	499,150.0	9,004.00



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)
62	2/13/2022	87.7	8,686.0	6,035.0	6,062.0	498,310.0	8,998.00
63	2/13/2022	89.1	8,987.0	6,640.0	5,495.0	505,321.0	9,256.00
64	2/13/2022	88.1	8,568.0	6,623.0	6,019.0	501,500.0	9,023.00
65	2/13/2022	87.8	8,525.0	6,390.0	6,312.0	501,860.0	9,037.00
66	2/14/2022	88.1	8,497.0	6,878.0	6,162.0	499,910.0	8,971.00
67	2/14/2022	88.1	8,479.0	6,848.0	6,216.0	489,879.0	8,486.00
68	2/15/2022	88.5	8,696.0	6,087.0	6,595.0	496,910.0	8,609.00
69	2/15/2022	87.9	8,384.0	6,682.0	6,087.0	499,980.0	8,586.00
70	2/15/2022	88.2	8,481.0	6,814.0	5,696.0	502,060.0	8,668.00
71	2/15/2022	96.3	8,191.0	7,123.0	6,355.0	477,960.0	8,636.00
72	2/16/2022	87.1	8,457.0	7,266.0	6,230.0	505,470.0	8,733.00
73	2/16/2022	88	8,324.0	7,727.0	6,150.0	500,060.0	8,667.00
74	2/16/2022	84	8,407.0	7,265.0	5,880.0	408,000.0	8,163.00
75	2/16/2022	89.3	8,229.0	7,042.0	5,620.0	497,800.0	8,630.00
76	2/17/2022	87.9	8,119.0	7,581.0	6,435.0	498,220.0	8,624.00
77	2/17/2022	88.3	8,181.0	7,321.0	6,360.0	502,460.0	8,565.00
78	2/17/2022	88.2	8,195.0	6,640.0	6,130.0	500,020.0	8,616.00
79	2/18/2022	88.4	8,263.0	6,754.0	6,120.0	501,010.0	8,545.00
80	2/18/2022	87.8	8,123.0	8,432.0	5,950.0	500,200.0	8,575.00
81	2/19/2022	88.2	7,873.0	7,713.0	6,197.0	503,290.0	8,604.00
82	2/19/2022	87.7	7,786.0	7,382.0	6,160.0	500,510.0	8,621.00
83	2/19/2022	88.9	8,037.0	7,407.0	5,938.0	502,740.0	8,678.00
84	2/20/2022	88	7,772.0	7,184.0	6,053.0	497,420.0	8,617.00
85	2/20/2022	87.7	7,098.0	7,098.0	5,950.0	500,300.0	8,664.00
86	2/20/2022	87.6	8,274.0	7,458.0	6,236.0	503,050.0	9,640.00
87	2/20/2022	87.7	7,992.0	7,251.0	6,330.0	502,110.0	8,609.00
88	2/21/2022	87.8	7,859.0	6,466.0	5,420.0	500,280.0	8,528.00