



Perforation Summary

HOBBS OCD

AUG 21 2017

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Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo P18907
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
6/10/2017	Shaped Charge	9,448.0	9,449.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 49
6/10/2017	Shaped Charge	9,473.0	9,474.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 49
6/10/2017	Shaped Charge	9,498.0	9,499.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 49
6/10/2017	Shaped Charge	9,523.0	9,524.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 49
6/10/2017	Shaped Charge	9,548.0	9,549.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 49
6/10/2017	Shaped Charge	9,573.0	9,574.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 49
6/10/2017	Shaped Charge	9,599.0	9,600.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 49
6/10/2017	Shaped Charge	9,621.0	9,622.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 49
6/9/2017	Shaped Charge	9,648.0	9,649.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 48
6/9/2017	Shaped Charge	9,673.0	9,674.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 48
6/9/2017	Shaped Charge	9,698.0	9,699.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 48
6/9/2017	Shaped Charge	9,723.0	9,724.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 48
6/9/2017	Shaped Charge	9,748.0	9,749.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 48
6/9/2017	Shaped Charge	9,773.0	9,774.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 48
6/9/2017	Shaped Charge	9,798.0	9,799.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 48
6/9/2017	Shaped Charge	9,823.0	9,824.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 48
6/9/2017	Shaped Charge	9,850.0	9,851.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 47
6/9/2017	Shaped Charge	9,873.0	9,874.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 47
6/9/2017	Shaped Charge	9,898.0	9,899.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 47
6/9/2017	Shaped Charge	9,923.0	9,924.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 47
6/9/2017	Shaped Charge	9,948.0	9,949.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 47
6/9/2017	Shaped Charge	9,973.0	9,974.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 47



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
6/9/2017	Shaped Charge	9,998.0	9,999.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 47
6/9/2017	Shaped Charge	10,023.0	10,024.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 47
6/8/2017	Shaped Charge	10,048.0	10,049.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 46
6/8/2017	Shaped Charge	10,073.0	10,074.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 46
6/8/2017	Shaped Charge	10,094.0	10,095.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 46
6/8/2017	Shaped Charge	10,123.0	10,124.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 46
6/8/2017	Shaped Charge	10,148.0	10,149.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 46
6/8/2017	Shaped Charge	10,173.0	10,174.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 46
6/8/2017	Shaped Charge	10,198.0	10,199.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 46
6/8/2017	Shaped Charge	10,216.0	10,217.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 46
6/8/2017	Shaped Charge	10,248.0	10,249.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 45
6/8/2017	Shaped Charge	10,273.0	10,274.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 45
6/8/2017	Shaped Charge	10,298.0	10,299.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 45
6/8/2017	Shaped Charge	10,323.0	10,324.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 45
6/8/2017	Shaped Charge	10,348.0	10,349.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 45
6/8/2017	Shaped Charge	10,373.0	10,374.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 45
6/8/2017	Shaped Charge	10,399.0	10,400.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 45
6/8/2017	Shaped Charge	10,421.0	10,422.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 45
6/7/2017	Shaped Charge	10,448.0	10,449.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 44
6/7/2017	Shaped Charge	10,473.0	10,474.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 44
6/7/2017	Shaped Charge	10,498.0	10,499.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 44
6/7/2017	Shaped Charge	10,523.0	10,524.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 44



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
6/7/2017	Shaped Charge	10,548.0	10,549.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 44
6/7/2017	Shaped Charge	10,573.0	10,574.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 44
6/7/2017	Shaped Charge	10,598.0	10,599.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 44
6/7/2017	Shaped Charge	10,623.0	10,624.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 44
6/7/2017	Shaped Charge	10,649.0	10,650.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 43
6/7/2017	Shaped Charge	10,673.0	10,674.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 43
6/7/2017	Shaped Charge	10,698.0	10,699.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 43
6/7/2017	Shaped Charge	10,723.0	10,724.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 43
6/7/2017	Shaped Charge	10,748.0	10,749.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 43
6/7/2017	Shaped Charge	10,773.0	10,774.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 43
6/7/2017	Shaped Charge	10,798.0	10,799.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 43
6/7/2017	Shaped Charge	10,823.0	10,824.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 43
6/6/2017	Shaped Charge	10,848.0	10,849.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 42
6/6/2017	Shaped Charge	10,873.0	10,874.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 42
6/6/2017	Shaped Charge	10,898.0	10,899.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 42
6/6/2017	Shaped Charge	10,923.0	10,924.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 42
6/6/2017	Shaped Charge	10,948.0	10,949.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 42
6/6/2017	Shaped Charge	10,973.0	10,974.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 42
6/6/2017	Shaped Charge	10,998.0	10,999.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 42
6/6/2017	Shaped Charge	11,023.0	11,024.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 42
6/6/2017	Shaped Charge	11,048.0	11,049.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 41
6/6/2017	Shaped Charge	11,073.0	11,074.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 41



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
6/6/2017	Shaped Charge	11,096.0	11,097.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 41
6/6/2017	Shaped Charge	11,123.0	11,124.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 41
6/6/2017	Shaped Charge	11,148.0	11,149.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 41
6/6/2017	Shaped Charge	11,173.0	11,174.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 41
6/6/2017	Shaped Charge	11,198.0	11,199.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 41
6/6/2017	Shaped Charge	11,223.0	11,224.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 41
6/5/2017	Shaped Charge	11,248.0	11,249.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 40
6/5/2017	Shaped Charge	11,273.0	11,274.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 40
6/5/2017	Shaped Charge	11,297.0	11,298.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 40
6/5/2017	Shaped Charge	11,323.0	11,324.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 40
6/5/2017	Shaped Charge	11,348.0	11,349.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 40
6/5/2017	Shaped Charge	11,373.0	11,374.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 40
6/5/2017	Shaped Charge	11,398.0	11,399.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 40
6/5/2017	Shaped Charge	11,423.0	11,424.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 40
6/5/2017	Shaped Charge	11,448.0	11,449.0	60	3 1/8	22.7	Halliburton Energy Services	Geodynamics	3.0	3	0	Weatherford	Stage 39
6/5/2017	Shaped Charge	11,473.0	11,474.0	60	3 1/8	22.7	Halliburton Energy Services	Geodynamics	4.0	4	0	Weatherford	Stage 39
6/5/2017	Shaped Charge	11,498.0	11,499.0	60	3 1/8	22.7	Halliburton Energy Services	Geodynamics	4.0	4	0	Weatherford	Stage 39
6/5/2017	Shaped Charge	11,523.0	11,524.0	60	3 1/8	22.7	Halliburton Energy Services	Geodynamics	4.0	4	0	Weatherford	Stage 39
6/5/2017	Shaped Charge	11,546.0	11,547.0	60	3 1/8	22.7	Halliburton Energy Services	Geodynamics	4.0	4	0	Weatherford	Stage 39
6/5/2017	Shaped Charge	11,573.0	11,574.0	60	3 1/8	22.7	Halliburton Energy Services	Geodynamics	5.0	5	0	Weatherford	Stage 39
6/5/2017	Shaped Charge	11,598.0	11,599.0	60	3 1/8	22.7	Halliburton Energy Services	Geodynamics	5.0	5	0	Weatherford	Stage 39
6/5/2017	Shaped Charge	11,623.0	11,624.0	60	3 1/8	22.7	Halliburton Energy Services	Geodynamics	6.0	6	0	Weatherford	Stage 39



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
6/5/2017	Shaped Charge	11,648.0	11,649.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 38
6/5/2017	Shaped Charge	11,674.0	11,675.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 38
6/5/2017	Shaped Charge	11,698.0	11,699.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 38
6/5/2017	Shaped Charge	11,723.0	11,724.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 38
6/5/2017	Shaped Charge	11,748.0	11,749.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 38
6/5/2017	Shaped Charge	11,773.0	11,774.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 38
6/5/2017	Shaped Charge	11,798.0	11,799.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 38
6/5/2017	Shaped Charge	11,823.0	11,824.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 38
6/4/2017	Shaped Charge	11,848.0	11,849.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 37
6/4/2017	Shaped Charge	11,871.0	11,872.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 37
6/4/2017	Shaped Charge	11,898.0	11,899.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 37
6/4/2017	Shaped Charge	11,923.0	11,924.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 37
6/4/2017	Shaped Charge	11,948.0	11,949.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 37
6/4/2017	Shaped Charge	11,973.0	11,974.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 37
6/4/2017	Shaped Charge	12,000.0	12,001.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 37
6/4/2017	Shaped Charge	12,020.0	12,021.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 37
6/4/2017	Shaped Charge	12,048.0	12,049.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 36
6/4/2017	Shaped Charge	12,073.0	12,074.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 36
6/4/2017	Shaped Charge	12,098.0	12,099.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 36
6/4/2017	Shaped Charge	12,121.0	12,122.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 36
6/4/2017	Shaped Charge	12,148.0	12,149.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 36
6/4/2017	Shaped Charge	12,173.0	12,174.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 36



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
6/4/2017	Shaped Charge	12,198.0	12,199.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 36
6/4/2017	Shaped Charge	12,223.0	12,224.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 36
6/3/2017	Shaped Charge	12,254.0	12,255.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 35
6/3/2017	Shaped Charge	12,273.0	12,274.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 35
6/3/2017	Shaped Charge	12,298.0	12,299.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 35
6/3/2017	Shaped Charge	12,323.0	12,324.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 35
6/3/2017	Shaped Charge	12,348.0	12,349.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 35
6/3/2017	Shaped Charge	12,373.0	12,374.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 35
6/3/2017	Shaped Charge	12,398.0	12,399.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 35
6/3/2017	Shaped Charge	12,416.0	12,417.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 35
6/3/2017	Shaped Charge	12,448.0	12,449.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 34
6/3/2017	Shaped Charge	12,473.0	12,474.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 34
6/3/2017	Shaped Charge	12,498.0	12,499.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 34
6/3/2017	Shaped Charge	12,523.0	12,524.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 34
6/3/2017	Shaped Charge	12,545.0	12,546.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 34
6/3/2017	Shaped Charge	12,573.0	12,574.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 34
6/3/2017	Shaped Charge	12,598.0	12,599.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 34
6/3/2017	Shaped Charge	12,623.0	12,624.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 34
6/2/2017	Shaped Charge	12,648.0	12,649.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 33
6/2/2017	Shaped Charge	12,674.0	12,675.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 33
6/2/2017	Shaped Charge	12,698.0	12,699.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 33
6/2/2017	Shaped Charge	12,723.0	12,724.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 33



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations													
Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
6/2/2017	Shaped Charge	12,748.0	12,749.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 33
6/2/2017	Shaped Charge	12,773.0	12,774.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 33
6/2/2017	Shaped Charge	12,798.0	12,799.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 33
6/2/2017	Shaped Charge	12,818.0	12,819.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 33
6/1/2017	Shaped Charge	12,848.0	12,849.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 32
6/1/2017	Shaped Charge	12,873.0	12,874.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 32
6/1/2017	Shaped Charge	12,898.0	12,899.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 32
6/1/2017	Shaped Charge	12,923.0	12,924.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 32
6/1/2017	Shaped Charge	12,948.0	12,949.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 32
6/1/2017	Shaped Charge	12,973.0	12,974.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 32
6/1/2017	Shaped Charge	12,998.0	12,999.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 32
6/1/2017	Shaped Charge	13,023.0	13,024.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 32
6/1/2017	Shaped Charge	13,048.0	13,049.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 31
6/1/2017	Shaped Charge	13,073.0	13,074.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 31
6/1/2017	Shaped Charge	13,098.0	13,099.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 31
6/1/2017	Shaped Charge	13,121.0	13,122.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 31
6/1/2017	Shaped Charge	13,148.0	13,149.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 31
6/1/2017	Shaped Charge	13,173.0	13,174.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 31
6/1/2017	Shaped Charge	13,198.0	13,199.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 31
6/1/2017	Shaped Charge	13,223.0	13,224.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 31
5/31/2017	Shaped Charge	13,247.0	13,248.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 30
5/31/2017	Shaped Charge	13,273.0	13,274.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 30



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations													
Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
5/31/2017	Shaped Charge	13,299.0	13,300.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 30
5/31/2017	Shaped Charge	13,323.0	13,324.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 30
5/31/2017	Shaped Charge	13,348.0	13,349.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 30
5/31/2017	Shaped Charge	13,373.0	13,374.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 30
5/31/2017	Shaped Charge	13,398.0	13,399.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 30
5/31/2017	Shaped Charge	13,423.0	13,424.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 30
5/30/2017	Shaped Charge	13,448.0	13,449.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 29
5/30/2017	Shaped Charge	13,473.0	13,474.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 29
5/30/2017	Shaped Charge	13,498.0	13,499.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 29
5/30/2017	Shaped Charge	13,523.0	13,524.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 29
5/30/2017	Shaped Charge	13,548.0	13,549.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 29
5/30/2017	Shaped Charge	13,573.0	13,574.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 29
5/30/2017	Shaped Charge	13,598.0	13,599.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 29
5/30/2017	Shaped Charge	13,623.0	13,624.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 29
5/30/2017	Shaped Charge	13,648.0	13,649.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 28
5/30/2017	Shaped Charge	13,670.0	13,671.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 28
5/30/2017	Shaped Charge	13,698.0	13,699.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 28
5/30/2017	Shaped Charge	13,723.0	13,724.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 28
5/30/2017	Shaped Charge	13,748.0	13,749.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 28
5/30/2017	Shaped Charge	13,773.0	13,774.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 28
5/30/2017	Shaped Charge	13,798.0	13,799.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 28
5/30/2017	Shaped Charge	13,820.0	13,821.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 28



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
5/29/2017	Shaped Charge	13,848.0	13,849.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 27
5/29/2017	Shaped Charge	13,873.0	13,874.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 27
5/29/2017	Shaped Charge	13,898.0	13,899.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 27
5/29/2017	Shaped Charge	13,923.0	13,924.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 27
5/29/2017	Shaped Charge	13,948.0	13,949.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 27
5/29/2017	Shaped Charge	13,973.0	13,974.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 27
5/29/2017	Shaped Charge	13,998.0	13,999.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 27
5/29/2017	Shaped Charge	14,023.0	14,024.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 27
5/27/2017	Shaped Charge	14,048.0	14,049.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 26
5/27/2017	Shaped Charge	14,073.0	14,074.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 26
5/27/2017	Shaped Charge	14,098.0	14,099.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 26
5/27/2017	Shaped Charge	14,123.0	14,124.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 26
5/27/2017	Shaped Charge	14,148.0	14,149.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 26
5/27/2017	Shaped Charge	14,173.0	14,174.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 26
5/27/2017	Shaped Charge	14,198.0	14,199.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 26
5/27/2017	Shaped Charge	14,223.0	14,224.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 26
5/27/2017	Shaped Charge	14,248.0	14,249.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 25
5/27/2017	Shaped Charge	14,273.0	14,274.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 25
5/27/2017	Shaped Charge	14,298.0	14,299.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 25
5/27/2017	Shaped Charge	14,323.0	14,324.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 25
5/27/2017	Shaped Charge	14,348.0	14,349.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 25
5/27/2017	Shaped Charge	14,373.0	14,374.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 25



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
5/27/2017	Shaped Charge	14,398.0	14,399.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 25
5/27/2017	Shaped Charge	14,423.0	14,424.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 25
5/26/2017	Shaped Charge	14,448.0	14,449.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 24
5/26/2017	Shaped Charge	14,473.0	14,474.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 24
5/26/2017	Shaped Charge	14,497.0	14,498.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 24
5/26/2017	Shaped Charge	14,523.0	14,524.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 24
5/26/2017	Shaped Charge	14,548.0	14,549.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 24
5/26/2017	Shaped Charge	14,573.0	14,574.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 24
5/26/2017	Shaped Charge	14,598.0	14,599.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 24
5/26/2017	Shaped Charge	14,623.0	14,624.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 24
5/26/2017	Shaped Charge	14,648.0	14,649.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 23
5/26/2017	Shaped Charge	14,673.0	14,674.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 23
5/26/2017	Shaped Charge	14,698.0	14,699.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 23
5/26/2017	Shaped Charge	14,723.0	14,724.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 23
5/26/2017	Shaped Charge	14,746.0	14,747.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 23
5/26/2017	Shaped Charge	14,773.0	14,774.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 23
5/26/2017	Shaped Charge	14,798.0	14,799.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 23
5/26/2017	Shaped Charge	14,817.0	14,818.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 23
5/25/2017	Shaped Charge	14,848.0	14,849.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 22
5/25/2017	Shaped Charge	14,896.0	14,897.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 22
5/25/2017	Shaped Charge	14,898.0	14,899.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 22
5/25/2017	Shaped Charge	14,923.0	14,924.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 22



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
5/25/2017	Shaped Charge	14,944.0	14,945.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 22
5/25/2017	Shaped Charge	14,973.0	14,974.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 22
5/25/2017	Shaped Charge	14,998.0	14,999.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 22
5/25/2017	Shaped Charge	15,022.0	15,023.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 22
5/25/2017	Shaped Charge	15,048.0	15,049.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 21
5/25/2017	Shaped Charge	15,073.0	15,074.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 21
5/25/2017	Shaped Charge	15,098.0	15,099.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 21
5/25/2017	Shaped Charge	15,123.0	15,124.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 21
5/25/2017	Shaped Charge	15,148.0	15,149.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 21
5/25/2017	Shaped Charge	15,173.0	15,174.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 21
5/25/2017	Shaped Charge	15,198.0	15,199.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 21
5/25/2017	Shaped Charge	15,223.0	15,224.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 21
5/20/2017	Shaped Charge	15,249.0	15,250.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 20
5/20/2017	Shaped Charge	15,273.0	15,274.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 20
5/20/2017	Shaped Charge	15,298.0	15,299.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 20
5/20/2017	Shaped Charge	15,323.0	15,324.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 20
5/20/2017	Shaped Charge	15,348.0	15,349.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 20
5/20/2017	Shaped Charge	15,375.0	15,376.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 20
5/20/2017	Shaped Charge	15,398.0	15,399.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 20
5/20/2017	Shaped Charge	15,423.0	15,424.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 20
5/20/2017	Shaped Charge	15,448.0	15,449.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 19
5/20/2017	Shaped Charge	15,473.0	15,474.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 19



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
5/20/2017	Shaped Charge	15,500.0	15,501.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 19
5/20/2017	Shaped Charge	15,523.0	15,524.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 19
5/20/2017	Shaped Charge	15,548.0	15,549.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 19
5/20/2017	Shaped Charge	15,573.0	15,574.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 19
5/20/2017	Shaped Charge	15,598.0	15,599.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 19
5/20/2017	Shaped Charge	15,623.0	15,624.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 19
5/19/2017	Shaped Charge	15,648.0	15,649.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 18
5/19/2017	Shaped Charge	15,673.0	15,674.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 18
5/19/2017	Shaped Charge	15,698.0	15,699.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 18
5/19/2017	Shaped Charge	15,723.0	15,724.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 18
5/19/2017	Shaped Charge	15,748.0	15,749.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 18
5/19/2017	Shaped Charge	15,773.0	15,774.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 18
5/19/2017	Shaped Charge	15,798.0	15,799.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 18
5/19/2017	Shaped Charge	15,823.0	15,824.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 18
5/19/2017	Shaped Charge	15,848.0	15,849.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 17
5/19/2017	Shaped Charge	15,875.0	15,876.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 17
5/19/2017	Shaped Charge	15,898.0	15,899.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 17
5/19/2017	Shaped Charge	15,923.0	15,924.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 17
5/19/2017	Shaped Charge	15,948.0	15,949.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 17
5/19/2017	Shaped Charge	15,973.0	15,974.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 17
5/19/2017	Shaped Charge	15,998.0	15,999.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 17
5/19/2017	Shaped Charge	16,023.0	16,024.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 17



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
5/18/2017	Shaped Charge	16,048.0	16,049.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 16
5/19/2017	Shaped Charge	16,048.0	16,049.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 16
5/18/2017	Shaped Charge	16,073.0	16,074.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 16
5/19/2017	Shaped Charge	16,073.0	16,074.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 16
5/18/2017	Shaped Charge	16,098.0	16,099.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 16
5/19/2017	Shaped Charge	16,098.0	16,099.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 16
5/18/2017	Shaped Charge	16,123.0	16,124.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 16
5/19/2017	Shaped Charge	16,123.0	16,124.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 16
5/18/2017	Shaped Charge	16,148.0	16,149.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 16
5/19/2017	Shaped Charge	16,148.0	16,149.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 16
5/18/2017	Shaped Charge	16,173.0	16,174.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 16
5/19/2017	Shaped Charge	16,173.0	16,174.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 16
5/18/2017	Shaped Charge	16,198.0	16,199.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 16
5/19/2017	Shaped Charge	16,198.0	16,199.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 16
5/18/2017	Shaped Charge	16,223.0	16,224.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 16
5/19/2017	Shaped Charge	16,223.0	16,224.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 16
5/18/2017	Shaped Charge	16,250.0	16,251.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 15
5/18/2017	Shaped Charge	16,273.0	16,274.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 15
5/18/2017	Shaped Charge	16,298.0	16,299.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 15
5/18/2017	Shaped Charge	16,323.0	16,324.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 15
5/18/2017	Shaped Charge	16,348.0	16,349.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 15
5/18/2017	Shaped Charge	16,373.0	16,374.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 15



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
5/18/2017	Shaped Charge	16,398.0	16,399.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 15
5/18/2017	Shaped Charge	16,423.0	16,424.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 15
5/18/2017	Shaped Charge	16,448.0	16,449.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 14
5/18/2017	Shaped Charge	16,473.0	16,474.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 14
5/18/2017	Shaped Charge	16,498.0	16,499.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 14
5/18/2017	Shaped Charge	16,523.0	16,524.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 14
5/18/2017	Shaped Charge	16,548.0	16,549.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 14
5/18/2017	Shaped Charge	16,573.0	16,574.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 14
5/18/2017	Shaped Charge	16,598.0	16,599.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 14
5/18/2017	Shaped Charge	16,623.0	16,624.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 14
5/18/2017	Shaped Charge	16,648.0	16,649.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 13
5/18/2017	Shaped Charge	16,673.0	16,674.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 13
5/18/2017	Shaped Charge	16,698.0	16,699.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 13
5/18/2017	Shaped Charge	16,723.0	16,724.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 13
5/18/2017	Shaped Charge	16,748.0	16,749.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 13
5/18/2017	Shaped Charge	16,773.0	16,774.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 13
5/18/2017	Shaped Charge	16,798.0	16,799.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 13
5/18/2017	Shaped Charge	16,823.0	16,824.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 13
5/18/2017	Shaped Charge	16,848.0	16,849.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 12
5/18/2017	Shaped Charge	16,873.0	16,874.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 12
5/18/2017	Shaped Charge	16,898.0	16,899.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 12
5/18/2017	Shaped Charge	16,923.0	16,924.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 12



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
5/18/2017	Shaped Charge	16,948.0	16,949.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 12
5/18/2017	Shaped Charge	16,973.0	16,974.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 12
5/18/2017	Shaped Charge	16,998.0	16,999.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 12
5/18/2017	Shaped Charge	17,021.0	17,022.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 12
5/17/2017	Shaped Charge	17,048.0	17,049.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 11
5/17/2017	Shaped Charge	17,073.0	17,074.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 11
5/17/2017	Shaped Charge	17,098.0	17,099.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 11
5/17/2017	Shaped Charge	17,126.0	17,127.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 11
5/17/2017	Shaped Charge	17,148.0	17,149.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 11
5/17/2017	Shaped Charge	17,173.0	17,174.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 11
5/17/2017	Shaped Charge	17,198.0	17,199.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 11
5/17/2017	Shaped Charge	17,223.0	17,224.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 11
5/17/2017	Shaped Charge	17,248.0	17,249.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 10
5/17/2017	Shaped Charge	17,273.0	17,274.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 10
5/17/2017	Shaped Charge	17,298.0	17,299.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 10
5/17/2017	Shaped Charge	17,321.0	17,322.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 10
5/17/2017	Shaped Charge	17,348.0	17,349.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 10
5/17/2017	Shaped Charge	17,373.0	17,374.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 10
5/17/2017	Shaped Charge	17,398.0	17,399.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 10
5/17/2017	Shaped Charge	17,423.0	17,424.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 10
5/17/2017	Shaped Charge	17,473.0	17,474.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 9
5/17/2017	Shaped Charge	17,498.0	17,499.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 9



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations													
Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (")	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
5/17/2017	Shaped Charge	17,523.0	17,524.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 9
5/17/2017	Shaped Charge	17,548.0	17,549.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 9
5/17/2017	Shaped Charge	17,571.0	17,572.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 9
5/17/2017	Shaped Charge	17,598.0	17,599.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 9
5/17/2017	Shaped Charge	17,623.0	17,624.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 9
5/16/2017	Shaped Charge	17,648.0	17,649.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 8
5/16/2017	Shaped Charge	17,673.0	17,674.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 8
5/16/2017	Shaped Charge	17,698.0	17,699.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 8
5/16/2017	Shaped Charge	17,723.0	17,724.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 8
5/16/2017	Shaped Charge	17,748.0	17,749.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 8
5/16/2017	Shaped Charge	17,773.0	17,774.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 8
5/16/2017	Shaped Charge	17,798.0	17,799.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 8
5/16/2017	Shaped Charge	17,823.0	17,824.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 8
5/14/2017	Shaped Charge	17,848.0	17,849.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 7
5/14/2017	Shaped Charge	17,873.0	17,874.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 7
5/14/2017	Shaped Charge	17,898.0	17,899.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 7
5/14/2017	Shaped Charge	17,923.0	17,924.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 7
5/14/2017	Shaped Charge	17,948.0	17,949.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 7
5/14/2017	Shaped Charge	17,973.0	17,974.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 7
5/14/2017	Shaped Charge	17,998.0	17,999.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 7
5/14/2017	Shaped Charge	18,023.0	18,024.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 7
5/14/2017	Shaped Charge	18,048.0	18,049.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 6



Perforation Summary

Well Name SALADO DRAW WE 23 FED P25 003H	Lease NMNM118723	Field Name JENNINGS	Business Unit Mid-Continent	Surface UWI 3002543462	Surface ChevNo PJ8997
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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
5/14/2017	Shaped Charge	18,073.0	18,074.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 6
5/14/2017	Shaped Charge	18,098.0	18,099.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 6
5/14/2017	Shaped Charge	18,123.0	18,124.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 6
5/14/2017	Shaped Charge	18,148.0	18,149.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 6
5/14/2017	Shaped Charge	18,173.0	18,174.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 6
5/14/2017	Shaped Charge	18,200.0	18,201.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 6
5/14/2017	Shaped Charge	18,223.0	18,224.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 6
5/13/2017	Shaped Charge	18,248.0	18,249.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 5
5/13/2017	Shaped Charge	18,273.0	18,274.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 5
5/13/2017	Shaped Charge	18,298.0	18,299.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 5
5/13/2017	Shaped Charge	18,323.0	18,324.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 5
5/13/2017	Shaped Charge	18,348.0	18,349.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 5
5/13/2017	Shaped Charge	18,373.0	18,374.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 5
5/13/2017	Shaped Charge	18,398.0	18,399.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 5
5/13/2017	Shaped Charge	18,423.0	18,424.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 5
5/13/2017	Shaped Charge	18,448.0	18,449.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 4
5/13/2017	Shaped Charge	18,473.0	18,474.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 4
5/13/2017	Shaped Charge	18,498.0	18,499.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 4
5/13/2017	Shaped Charge	18,523.0	18,524.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 4
5/13/2017	Shaped Charge	18,548.0	18,549.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 4
5/13/2017	Shaped Charge	18,573.0	18,574.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 4
5/13/2017	Shaped Charge	18,598.0	18,599.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 4



Perforation Summary

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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
5/13/2017	Shaped Charge	18,623.0	18,624.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 4
5/12/2017	Shaped Charge	18,648.0	18,649.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 3
5/12/2017	Shaped Charge	18,673.0	18,674.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 3
5/12/2017	Shaped Charge	18,700.0	18,701.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 3
5/12/2017	Shaped Charge	18,723.0	18,724.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 3
5/12/2017	Shaped Charge	18,748.0	18,749.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 3
5/12/2017	Shaped Charge	18,773.0	18,774.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 3
5/12/2017	Shaped Charge	18,798.0	18,799.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 3
5/12/2017	Shaped Charge	18,820.0	18,821.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 3
5/12/2017	Shaped Charge	18,848.0	18,849.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 2
5/12/2017	Shaped Charge	18,873.0	18,874.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 2
5/12/2017	Shaped Charge	18,898.0	18,899.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 2
5/12/2017	Shaped Charge	18,923.0	18,924.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 2
5/12/2017	Shaped Charge	18,948.0	18,949.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 2
5/12/2017	Shaped Charge	18,973.0	18,974.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 2
5/12/2017	Shaped Charge	18,998.0	18,999.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 2
5/12/2017	Shaped Charge	19,023.0	19,024.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 2
5/11/2017	Shaped Charge	19,048.0	19,049.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	6.0	6	0	Halliburton	Stage 1
5/11/2017	Shaped Charge	19,073.0	19,074.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 1
5/11/2017	Shaped Charge	19,098.0	19,099.0	60	3 1/8	22.7	Halliburton Energy Services	Halliburton	5.0	5	0	Halliburton	Stage 1
5/11/2017	Shaped Charge	19,123.0	19,124.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 1
5/11/2017	Shaped Charge	19,148.0	19,149.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 1



Perforation Summary

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Perforations

Date	Perforation Type	Top (ftKB)	Btm (ftKB)	Phasing (°)	Gun Size (in)	Chg Sz (g)	Charge Make	Carrier Make	Shot Dens (shots/ft)	Entered Shot Total	# Shots Misfired	Perf Comp	Com
5/11/2017	Shaped Charge	19,173.0	19,174.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 1
5/11/2017	Shaped Charge	19,198.0	19,199.0	90	3 1/8	22.7	Halliburton Energy Services	Halliburton	4.0	4	0	Halliburton	Stage 1
5/11/2017	Shaped Charge	19,223.0	19,224.0	120	3 1/8	22.7	Halliburton Energy Services	Halliburton	3.0	3	0	Halliburton	Stage 1