

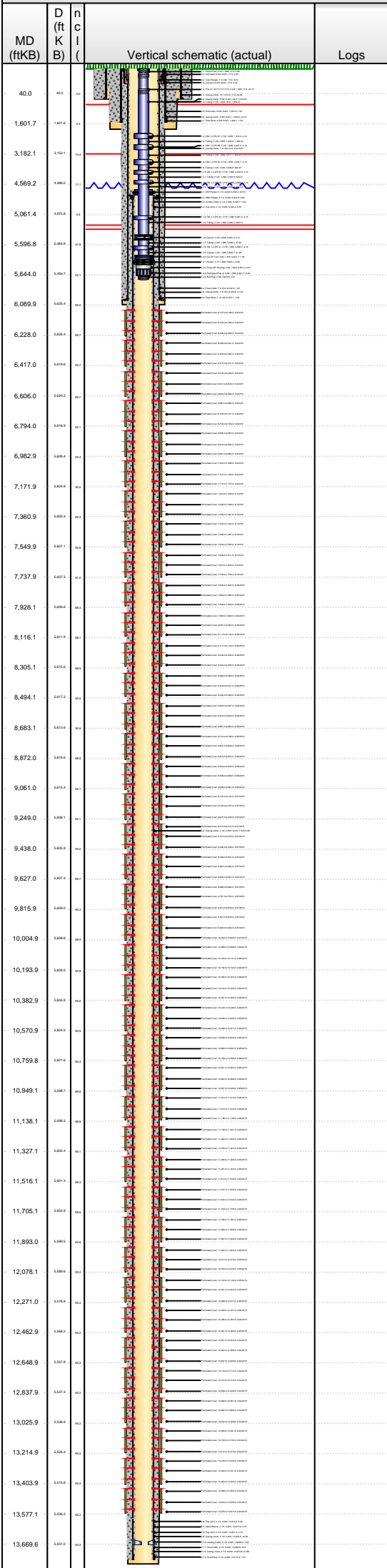


Lease Review All - Frac Summary

Well Name: HORSETAIL 30F-1946

API Number 051233874500		WPC ID 1CO0761013		Well Permit Number		Field Name DJ Horizontal Niobrara			County Weld			State CO			
Well Configuration Type Lateral/Horizontal				Orig KB Elv (ft) 4,800.00		Ground Elevation (ft) 4,783.00		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ft)KB 13,718.0			
Original Spud Date 8/28/2014		Completion Date 3/2/2015		Asset Group Redtail			Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,323.0		N/S Ref FNL	E/W Dist (ft) 2,010.0		E/W Ref FWL
Lot	Quarter 1 SE	Quarter 2 NW	Quarter 3	Quarter 4	Section 30	Section Suffix	Section Type	Township 10	Township N/S Dir N	Range 57	Range E/W Dir W	Meridian			

Lateral/Horizontal - Original Hole, 8/19/2015 10:39:53 AM



Wellbore Sections

Wellbore Name	Start Date	Size (in)	Act Top (ftKB)	Act Btm (ftKB)
Original Hole	4/23/2014	20	17.0	97.0
Original Hole	8/28/2014	13 1/2	97.0	1,615.0
Original Hole	8/30/2014	8 3/4	1,615.0	6,090.0
Original Hole	9/1/2014	6 1/8	6,090.0	13,718.0

Conductor Pipe, 97.0ftKB

OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
16	84.00	K-55	17.0	97.0	80.00	Casing Joints

Surface Csg, 1,601.6ftKB

OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
9 5/8	36.00	J-55	17.0	17.0	0.00	landing joint
9 5/8	36.00	J-55	17.0	19.0	2.00	well head
9 5/8	36.00	J-55	19.0	24.0	5.00	pup joint
9 5/8	36.00	J-55	24.0	1,557.5	1,533.52	Casing Joints
9 5/8	36.00	J-55	1,557.5	1,559.0	1.50	float collar
9 5/8	36.00	J-55	1,559.0	1,600.1	41.07	Casing Joints
9 5/8	36.00	J-55	1,600.1	1,601.6	1.50	Float Shoe

Frac String, 5,003.0ftKB

OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
7			17.0	17.6	0.60	Casing Hanger
4 1/2			17.6	18.6	1.00	BTC x LTC crossover
4 1/2		11.60	18.6	61.7	43.10	4.5# P-110 BTC-TXP 11.6# casing
4 1/2			61.7	63.3	1.55	4.5" BTC-TXP spaceout pup jt
4 1/2		11.60	63.3	4,992.5	4,929.26	4.5# P-110 BTC-TXP 11.6# casing
4 1/2			4,992.5	4,998.6	6.12	4.5" P-110,11.6# handing pup jt
5 1/4			4,998.6	5,003.0	4.37	Baker Hughes seal assembly

Intermediate Csg, 6,076.6ftKB

OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
7	29.00	HCL-80	17.0	17.0	0.00	Landing Joint
7	29.00	HCL-80	17.0	22.0	5.00	Liner Hanger
7	29.00	HCL-80	22.0	6,032.6	6,010.64	Casing Joints
7	29.00	HCL-80	6,032.6	6,033.6	1.00	Float Collar
7	29.00	HCL-80	6,033.6	6,075.1	41.46	Casing Joints
7	29.00	HCL-80	6,075.1	6,076.6	1.50	Float Shoe

Liner, 13,714.0ftKB

OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
4 1/2	11.60	HCL-80	5,003.2	5,024.0	20.79	ZXP Packer
4 1/2	11.60	HCL-80	5,024.0	5,030.7	6.65	HMC Hanger
4 1/2	11.60	HCL-80	5,030.7	5,032.2	1.49	Combo Collar
4 1/2	11.60	HCL-80	5,032.2	5,037.7	5.50	Pup Joint
4 1/2	11.60	HCL-80	5,037.7	13,612.6	8,574.89	Casing Joints
4 1/2	11.60	HCL-80	13,612.6	13,617.6	5.08	Pup Joint
4 1/2	11.60	HCL-80	13,617.6	13,621.4	3.75	Alpha Sleeve
4 1/2	11.60	HCL-80	13,621.4	13,623.5	2.10	Pup Joint
4 1/2	11.60	HCL-80	13,623.5	13,668.0	44.56	Casing Joints
4 1/2	11.60	HCL-80	13,668.0	13,669.6	1.60	Landing Collar
4 1/2	11.60	HCL-80	13,669.6	13,670.6	0.97	Float Collar
4 1/2	11.60	HCL-80	13,670.6	13,712.5	41.86	Casing Joints
4 1/2	11.60	HCL-80	13,712.5	13,714.0	1.53	Float Shoe

Cement Stages

Des	Pump Start Date	Drill Out Date	Top (ftKB)	Btm (ftKB)	Top Meas Meth
Conductor Cement	4/23/2014		17.0	97.0	Returns to Surface
Surface Casing Cement	8/29/2014		17.0	1,601.6	Returns to Surface
Intermediate Casing Cement	9/1/2014		17.0	6,076.6	Returns to Surface
Liner Cement	9/7/2014		5,003.2	13,714.0	Returns to Surface

Perforations

Type of Hole	Date	Top (ftKB)	Btm (ftKB)	Zone
Perforated Liner	3/2/2015	6,107.0	6,109.0	Niobrara, Original Hole
Perforated Liner	3/2/2015	6,163.0	6,165.0	Niobrara, Original Hole
Perforated Liner	3/2/2015	6,226.0	6,228.0	Niobrara, Original Hole
Perforated Liner	3/2/2015	6,289.0	6,291.0	Niobrara, Original Hole
Perforated Liner	3/2/2015	6,350.0	6,352.0	Niobrara, Original Hole
Perforated Liner	3/2/2015	6,415.0	6,417.0	Niobrara, Original Hole
Perforated Liner	3/2/2015	6,478.0	6,480.0	Niobrara, Original Hole
Perforated Liner	3/2/2015	6,541.0	6,543.0	Niobrara, Original Hole
Perforated Liner	3/2/2015	6,604.0	6,606.0	Niobrara, Original Hole



Lease Review All - Frac Summary
Well Name: HORSETAIL 30F-1946

API Number 051233874500		WPC ID 1CO0761013		Well Permit Number		Field Name DJ Horizontal Niobrara			County Weld			State CO			
Well Configuration Type Lateral/Horizontal				Orig KB Elv (ft) 4,800.00		Ground Elevation (ft) 4,783.00		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ft)KB 13,718.0			
Original Spud Date 8/28/2014		Completion Date 3/2/2015		Asset Group Redtail			Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,323.0		N/S Ref FNL	E/W Dist (ft) 2,010.0		E/W Ref FWL
Lot	Quarter 1 SE	Quarter 2 NW	Quarter 3	Quarter 4	Section 30	Section Suffix	Section Type	Township 10	Township N/S Dir N	Range 57	Range E/W Dir W	Meridian			

Lateral/Horizontal - Original Hole, 8/19/2015 10:39:56 AM						Perforations					
MD (ftKB)	D (ft K B)	n (K B)	c (K B)	l (K B)	Vertical schematic (actual)	Logs	Type of Hole	Date	Top (ftKB)	Btm (ftKB)	Zone
							Perforated Liner	3/2/2015	6,667.0	6,669.0	Niobrara, Original Hole
							Perforated Liner	3/2/2015	6,729.0	6,731.0	Niobrara, Original Hole
						Perforated Liner	3/2/2015	6,792.0	6,794.0	Niobrara, Original Hole	
						Perforated Liner	3/2/2015	6,855.0	6,857.0	Niobrara, Original Hole	
40.0	80.0	10				Perforated Liner	3/2/2015	6,918.0	6,920.0	Niobrara, Original Hole	
1,601.7	1,601.6	82				Perforated Liner	3/2/2015	6,981.0	6,983.0	Niobrara, Original Hole	
3,182.1	3,182.1	142				Perforated Liner	3/2/2015	7,044.0	7,046.0	Niobrara, Original Hole	
4,569.2	4,569.2	191				Perforated Liner	3/2/2015	7,107.0	7,109.0	Niobrara, Original Hole	
5,061.4	5,061.4	240				Perforated Liner	3/2/2015	7,170.0	7,172.0	Niobrara, Original Hole	
5,596.8	5,596.8	279				Perforated Liner	3/1/2015	7,233.0	7,235.0	Niobrara, Original Hole	
5,644.0	5,644.0	301				Perforated Liner	3/1/2015	7,296.0	7,298.0	Niobrara, Original Hole	
6,089.9	6,089.9	361				Perforated Liner	3/1/2015	7,359.0	7,361.0	Niobrara, Original Hole	
6,228.0	6,228.0	381				Perforated Liner	3/1/2015	7,422.0	7,424.0	Niobrara, Original Hole	
6,417.0	6,417.0	401				Perforated Liner	3/1/2015	7,485.0	7,487.0	Niobrara, Original Hole	
6,606.0	6,606.0	421				Perforated Liner	3/1/2015	7,548.0	7,550.0	Niobrara, Original Hole	
6,794.0	6,794.0	441				Perforated Liner	3/1/2015	7,609.0	7,611.0	Niobrara, Original Hole	
6,982.9	6,982.9	461				Perforated Liner	3/1/2015	7,674.0	7,676.0	Niobrara, Original Hole	
7,171.9	7,171.9	481				Perforated Liner	3/1/2015	7,736.0	7,738.0	Niobrara, Original Hole	
7,360.9	7,360.9	501				Perforated Liner	2/28/2015	7,800.0	7,802.0	Niobrara, Original Hole	
7,549.9	7,549.9	521				Perforated Liner	2/28/2015	7,863.0	7,865.0	Niobrara, Original Hole	
7,737.9	7,737.9	541				Perforated Liner	2/28/2015	7,926.0	7,928.0	Niobrara, Original Hole	
7,928.1	7,928.1	561				Perforated Liner	2/28/2015	7,988.0	7,990.0	Niobrara, Original Hole	
8,116.1	8,116.1	581				Perforated Liner	2/28/2015	8,051.0	8,053.0	Niobrara, Original Hole	
8,305.1	8,305.1	601				Perforated Liner	2/28/2015	8,114.0	8,116.0	Niobrara, Original Hole	
8,494.1	8,494.1	621				Perforated Liner	2/28/2015	8,177.0	8,179.0	Niobrara, Original Hole	
8,683.1	8,683.1	641				Perforated Liner	2/28/2015	8,240.0	8,242.0	Niobrara, Original Hole	
8,872.0	8,872.0	661				Perforated Liner	2/28/2015	8,303.0	8,305.0	Niobrara, Original Hole	
9,061.0	9,061.0	681				Perforated Liner	2/28/2015	8,366.0	8,368.0	Niobrara, Original Hole	
9,249.0	9,249.0	701				Perforated Liner	2/28/2015	8,429.0	8,431.0	Niobrara, Original Hole	
9,438.0	9,438.0	721				Perforated Liner	2/28/2015	8,492.0	8,494.0	Niobrara, Original Hole	
9,627.0	9,627.0	741				Perforated Liner	2/28/2015	8,555.0	8,557.0	Niobrara, Original Hole	
9,815.9	9,815.9	761				Perforated Liner	2/28/2015	8,618.0	8,620.0	Niobrara, Original Hole	
10,004.9	10,004.9	781				Perforated Liner	2/28/2015	8,681.0	8,683.0	Niobrara, Original Hole	
10,193.9	10,193.9	801				Perforated Liner	2/28/2015	8,744.0	8,746.0	Niobrara, Original Hole	
10,382.9	10,382.9	821				Perforated Liner	2/28/2015	8,807.0	8,809.0	Niobrara, Original Hole	
10,570.9	10,570.9	841				Perforated Liner	2/28/2015	8,870.0	8,872.0	Niobrara, Original Hole	
10,759.8	10,759.8	861				Perforated Liner	2/28/2015	8,933.0	8,935.0	Niobrara, Original Hole	
10,949.1	10,949.1	881				Perforated Liner	2/28/2015	8,996.0	8,998.0	Niobrara, Original Hole	
11,138.1	11,138.1	901				Perforated Liner	2/28/2015	9,059.0	9,061.0	Niobrara, Original Hole	
11,327.1	11,327.1	921				Perforated Liner	2/27/2015	9,122.0	9,124.0	Niobrara, Original Hole	
11,516.1	11,516.1	941				Perforated Liner	2/27/2015	9,185.0	9,187.0	Niobrara, Original Hole	
11,705.1	11,705.1	961				Perforated Liner	2/27/2015	9,247.0	9,249.0	Niobrara, Original Hole	
11,893.0	11,893.0	981				Perforated Liner	2/27/2015	9,310.0	9,312.0	Niobrara, Original Hole	
12,078.1	12,078.1	1001				Perforated Liner	2/27/2015	9,373.0	9,375.0	Niobrara, Original Hole	
12,271.0	12,271.0	1021				Perforated Liner	2/27/2015	9,436.0	9,438.0	Niobrara, Original Hole	
12,462.9	12,462.9	1041				Perforated Liner	2/27/2015	9,499.0	9,501.0	Niobrara, Original Hole	
12,648.9	12,648.9	1061				Perforated Liner	2/27/2015	9,562.0	9,564.0	Niobrara, Original Hole	
12,837.9	12,837.9	1081				Perforated Liner	2/27/2015	9,625.0	9,627.0	Niobrara, Original Hole	
13,025.9	13,025.9	1101				Perforated Liner	2/27/2015	9,688.0	9,690.0	Niobrara, Original Hole	
13,214.9	13,214.9	1121				Perforated Liner	2/27/2015	9,751.0	9,753.0	Niobrara, Original Hole	
13,403.9	13,403.9	1141				Perforated Liner	2/27/2015	9,814.0	9,816.0	Niobrara, Original Hole	
13,577.1	13,577.1	1161				Perforated Liner	2/27/2015	9,877.0	9,879.0	Niobrara, Original Hole	
13,669.6	13,669.6	1181				Perforated Liner	2/27/2015	9,940.0	9,942.0	Niobrara, Original Hole	
		1201				Perforated Liner	2/27/2015	10,003.0	10,005.0	Niobrara, Original Hole	
		1221				Perforated Liner	2/26/2015	10,066.0	10,068.0	Niobrara, Original Hole	
		1241				Perforated Liner	2/26/2015	10,129.0	10,131.0	Niobrara, Original Hole	
		1261				Perforated Liner	2/26/2015	10,192.0	10,194.0	Niobrara, Original Hole	
		1281				Perforated Liner	2/26/2015	10,255.0	10,257.0	Niobrara, Original Hole	
		1301				Perforated Liner	2/26/2015	10,318.0	10,320.0	Niobrara, Original Hole	
		1321				Perforated Liner	2/26/2015	10,381.0	10,383.0	Niobrara, Original Hole	
		1341				Perforated Liner	2/26/2015	10,444.0	10,446.0	Niobrara, Original Hole	
		1361				Perforated Liner	2/26/2015	10,506.0	10,508.0	Niobrara, Original Hole	
		1381				Perforated Liner	2/26/2015	10,569.0	10,571.0	Niobrara, Original Hole	
		1401				Perforated Liner	2/26/2015	10,630.0	10,632.0	Niobrara, Original Hole	
		1421				Perforated Liner	2/26/2015	10,695.0	10,697.0	Niobrara, Original Hole	
		1441				Perforated Liner	2/26/2015	10,758.0	10,760.0	Niobrara, Original Hole	
		1461				Perforated Liner	2/26/2015	10,821.0	10,823.0	Niobrara, Original Hole	
		1481				Perforated Liner	2/26/2015	10,884.0	10,886.0	Niobrara, Original Hole	
		1501				Perforated Liner	2/26/2015	10,947.0	10,949.0	Niobrara, Original Hole	
		1521				Perforated Liner	2/26/2015	11,012.0	11,014.0	Niobrara, Original Hole	



Lease Review All - Frac Summary

Well Name: HORSETAIL 30F-1946

API Number	WPC ID	Well Permit Number	Field Name	County	State
051233874500	1CO0761013		DJ Horizontal Niobrara	Weld	CO
Well Configuration Type	Orig KB Elv (ft)	Ground Elevation (ft)	Casing Flange Elevation (ft)	Tubing Head Elevation (ft)	Total Depth (ftKB)
Lateral/Horizontal	4,800.00	4,783.00			13,718.0
Original Spud Date	Completion Date	Asset Group	Responsible Engineer	N/S Dist (ft)	N/S Ref
8/28/2014	3/2/2015	Redtail	Charles Ohlson	2,323.0	FNL
				E/W Dist (ft)	E/W Ref
				2,010.0	FWL
Lot	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Section
	SE	NW			30
					Section Suffix
					Section Type
					Township
					10 N
					Township N/S Dir
					Range
					57 W
					Range E/W Dir
					Meridian

Lateral/Horizontal - Original Hole, 8/19/2015 10:39:58 AM						Perforations												
MD (ftKB)	D (ft K B)	n (ft K B)	c (ft K B)	l (ft K B)	Vertical schematic (actual)	Logs	Type of Hole		Date	Top (ftKB)	Btm (ftKB)	Zone						
							Perforated Liner	2/26/2015	11,073.0	11,075.0	Niobrara, Original Hole							
						Perforated Liner	2/26/2015	11,136.0	11,138.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,199.0	11,201.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,262.0	11,264.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,325.0	11,327.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,388.0	11,390.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,451.0	11,453.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,514.0	11,516.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,577.0	11,579.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,640.0	11,642.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,703.0	11,705.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,765.0	11,767.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,826.0	11,828.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,891.0	11,893.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	11,952.0	11,954.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	12,017.0	12,019.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	12,076.0	12,078.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	12,143.0	12,145.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	12,201.0	12,203.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	12,269.0	12,271.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	12,329.0	12,331.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	12,395.0	12,397.0	Niobrara, Original Hole								
						Perforated Liner	2/25/2015	12,461.0	12,463.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	12,521.0	12,523.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	12,584.0	12,586.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	12,647.0	12,649.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	12,710.0	12,712.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	12,773.0	12,775.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	12,836.0	12,838.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	12,899.0	12,901.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	12,962.0	12,964.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	13,024.0	13,026.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	13,089.0	13,091.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	13,150.0	13,152.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	13,213.0	13,215.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	13,276.0	13,278.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	13,339.0	13,341.0	Niobrara, Original Hole								
						Perforated Liner	2/24/2015	13,402.0	13,404.0	Niobrara, Original Hole								
						Perforated Liner	2/23/2015	13,465.0	13,467.0	Niobrara, Original Hole								
						Perforated Liner	2/23/2015	13,523.0	13,525.0	Niobrara, Original Hole								
						Perforated Liner	2/23/2015	13,575.0	13,577.0	Niobrara, Original Hole								
Stimulations & Treatments																		
Sand Frac on 2/23/2015 06:00																		
Comment																		
Treatment End Date: 3/2/2015; Number of staged intervals: 40; Min Frac Gradient: 0.83; # of Perfs: 1440; SlickWater: 26806 bbl; pHaserFrac 22 XL Gel: 84858 bbl; 22 Linear Gel: 13383 bbl; 15% HCl: 333bbl; Fresh Water: 7626 bbl																		
Total Clean Volu...		Vol Slurry Tot (bbl)		Proppant Desig...		Proppant Frm (lb)		P Max (psi)		Avg Treat...		Avg Treat...		Max Tre...		Frac Gr...		
133006.82				6,920,000.0		6,887,062.0		6,880.0		4,153.0		50.20		55.50		0.83		
Total Add Amount																		
Proppant Ottawa 20/40 6767671 lb; Proppant Ottawa 40/70 119391 lb																		
Stim/Treat Fluids																		
Fluid Name																		
pHaserFrac 22 XL Gel; 22 Linear Gel; 15% HCl																		
Stim/Treat Stages																		
Interval 1																		
Stg #	Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment							
1	2/23/2015		13,465.0		13,577.0		3790.40				SlickWater:1215 bbl; pHaserFrac 22 XL Gel:1896 bbl; 22 Linear Gel:310 bbl; 15% HCl:24bbl;Fresh Water:345bbl							
Stim/Treat Additives																		
Stg #	Add				Type				Amount		Units		Sand Size					
1	Proppant				Ottawa 20/40				108,843.0		lb		20/40					
1	Proppant				Ottawa 40/70				3,075.0		lb		40/70					
Interval 2																		
Stg #	Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment							
2	2/23/2015		13,276.0		13,404.0		3318.30				SlickWater:776 bbl; pHaserFrac 22 XL Gel:1889 bbl; 22 Linear Gel:297 bbl; 15% HCl:24bbl;Fresh Water:332bbl							
Stim/Treat Additives																		
Stg #	Add				Type				Amount		Units		Sand Size					
2	Proppant				Ottawa 20/40				107,399.0		lb		20/40					
2	Proppant				Ottawa 40/70				3,061.0		lb		40/70					



Lease Review All - Frac Summary

Well Name: HORSETAIL 30F-1946

API Number 051233874500			WPC ID 1CO0761013			Well Permit Number			Field Name DJ Horizontal Niobrara			County Weld			State CO
Well Configuration Type Lateral/Horizontal					Orig KB Elv (ft) 4,800.00		Ground Elevation (ft) 4,783.00		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 13,718.0		
Original Spud Date 8/28/2014		Completion Date 3/2/2015		Asset Group Redtail			Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,323.0		N/S Ref FNL	E/W Dist (ft) 2,010.0		E/W Ref FWL
Lot	Quarter 1 SE	Quarter 2 NW	Quarter 3	Quarter 4	Section 30	Section Suffix	Section Type		Township 10 N	Township N/S Dir	Range 57	Range E/W Dir W		Meridian	

Lateral/Horizontal - Original Hole, 8/19/2015 10:40:00 AM						Stim/Treat Stages						
MD (ftKB)	D (ft K B)	n (K B)	c (K B)	Vertical schematic (actual)	Logs	Interval 3						
						Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment
						3	2/24/2015	13,089.0	13,215.0	3165.80		SlickWater:718 bbl; pHaserFrac 22 XL Gel:1779 bbl; 22 Linear Gel:320 bbl; 15% HCl:24bbl;Fresh Water:325bbl
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
3		Proppant		Ottawa 20/40		109,314.0		lb		20/40		
3		Proppant		Ottawa 40/70		1,901.0		lb		40/70		
Interval 4												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
4	2/24/2015	12,899.0	13,026.0	3756.30		SlickWater:675 bbl; pHaserFrac 22 XL Gel:2154 bbl; 22 Linear Gel:319 bbl; 15% HCl:24bbl;Fresh Water:584bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
4		Proppant		Ottawa 20/40		178,495.0		lb		20/40		
4		Proppant		Ottawa 40/70		2,746.0		lb		40/70		
Interval 5												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
5	2/24/2015	12,710.0	12,838.0	3904.50		SlickWater:647 bbl; pHaserFrac 22 XL Gel:2462 bbl; 22 Linear Gel:357 bbl; 15% HCl:24bbl;Fresh Water:414bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
5		Proppant		Ottawa 20/40		173,598.0		lb		20/40		
5		Proppant		Ottawa 40/70		2,993.0		lb		40/70		
Interval 6												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
6	2/24/2015	12,521.0	12,649.0	3648.30		SlickWater:872 bbl; pHaserFrac 22 XL Gel:2112 bbl; 22 Linear Gel:354 bbl; 15% HCl:24bbl;Fresh Water:287bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
6		Proppant		Ottawa 20/40		177,711.0		lb		20/40		
6		Proppant		Ottawa 40/70		3,081.0		lb		40/70		
Interval 7												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
7	2/24/2015	12,329.0	12,463.0	3497.40		SlickWater:745 bbl; pHaserFrac 22 XL Gel:2092 bbl; 22 Linear Gel:349 bbl; 15% HCl:24bbl;Fresh Water:287bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
7		Proppant		Ottawa 20/40		175,570.0		lb		20/40		
7		Proppant		Ottawa 40/70		3,297.0		lb		40/70		
Interval 8												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
8	2/25/2015	12,143.0	12,271.0	3467.30		SlickWater:689 bbl; pHaserFrac 22 XL Gel:2124 bbl; 22 Linear Gel:351 bbl; 15% HCl:24bbl;Fresh Water:280bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
8		Proppant		Ottawa 20/40		169,930.0		lb		20/40		
8		Proppant		Ottawa 40/70		3,006.0		lb		40/70		
Interval 9												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
9	2/25/2015	11,952.0	12,078.0	3474.00		SlickWater:678 bbl; pHaserFrac 22 XL Gel:2143 bbl; 22 Linear Gel:335 bbl; 15% HCl:24bbl;Fresh Water:295bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
9		Proppant		Ottawa 20/40		182,763.0		lb		20/40		
9		Proppant		Ottawa 40/70		3,778.0		lb		40/70		
Interval 10												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
10	2/25/2015	11,765.0	11,893.0	3460.20		SlickWater:674 bbl; pHaserFrac 22 XL Gel:2151 bbl; 22 Linear Gel:327 bbl; 15% HCl:24bbl;Fresh Water:284bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
10		Proppant		Ottawa 20/40		184,463.0		lb		20/40		
10		Proppant		Ottawa 40/70		2,961.0		lb		40/70		
Interval 11												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
11	2/25/2015	11,577.0	11,705.0	3415.10		SlickWater:673 bbl; pHaserFrac 22 XL Gel:2107 bbl; 22 Linear Gel:333 bbl; 15% HCl:24bbl;Fresh Water:279bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
11		Proppant		Ottawa 20/40		176,473.0		lb		20/40		
11		Proppant		Ottawa 40/70		2,657.0		lb		40/70		

<div><div><div></div><div>WHITING</div></div><div>Lease Review All - Frac Summary</div><div>Well Name: HORSETAIL 30F-1946</div></div>																		
API Number 051233874500			WPC ID 1CO0761013			Well Permit Number			Field Name DJ Horizontal Niobrara			County Weld		State CO				
Well Configuration Type Lateral/Horizontal				Orig KB Elv (ft) 4,800.00			Ground Elevation (ft) 4,783.00		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 13,718.0					
Original Spud Date 8/28/2014			Completion Date 3/2/2015		Asset Group Redtail			Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,323.0		N/S Ref FNL		E/W Dist (ft) 2,010.0		E/W Ref FWL	
Lot		Quarter 1 SE	Quarter 2 NW	Quarter 3	Quarter 4	Section 30	Section Suffix	Section Type		Township 10	Township N/S Dir N	Range 57	Range E/W Dir W		Meridian			
Lateral/Horizontal - Original Hole, 8/19/2015 10:40:03 AM						Stim/Treat Stages												
<div><div>MD (ftKB)</div><div>D (ft K B)</div><div>n (</div></div>	<div><div>Vertical schematic (actual)</div><div></div></div>	<div>Logs</div>	Interval 12															
			Stg # 12	Start Date 2/25/2015	Top (ftKB) 11,388.0	Btm (ftKB) 11,516.0	Vol Clean... 3374.90	Vol Slurry...	Comment SlickWater:677 bbl; pHaserFrac 22 XL Gel:2100 bbl; 22 Linear Gel:329 bbl; 15% HCl:24bbl;Fresh Water:245bbl									
			Stim/Treat Additives															
			Stg #	Add			Type			Amount		Units	Sand Size					
			12	Proppant			Ottawa 20/40			168,337.0		lb	20/40					
			12	Proppant			Ottawa 40/70			3,554.0		lb	40/70					
			Interval 13															
			Stg # 13	Start Date 2/25/2015	Top (ftKB) 11,199.0	Btm (ftKB) 11,327.0	Vol Clean... 3488.40	Vol Slurry...	Comment SlickWater:736 bbl; pHaserFrac 22 XL Gel:2163 bbl; 22 Linear Gel:321 bbl; 15% HCl:24bbl;Fresh Water:244bbl									
			Stim/Treat Additives															
			Stg #	Add			Type			Amount		Units	Sand Size					
			13	Proppant			Ottawa 20/40			173,935.0		lb	20/40					
			13	Proppant			Ottawa 40/70			2,839.0		lb	40/70					
			Interval 14															
			Stg # 14	Start Date 2/26/2015	Top (ftKB) 11,012.0	Btm (ftKB) 11,138.0	Vol Clean... 3373.40	Vol Slurry...	Comment SlickWater:662 bbl; pHaserFrac 22 XL Gel:2116 bbl; 22 Linear Gel:333 bbl; 15% HCl:24bbl;Fresh Water:239bbl									
			Stim/Treat Additives															
			Stg #	Add			Type			Amount		Units	Sand Size					
			14	Proppant			Ottawa 20/40			173,888.0		lb	20/40					
			14	Proppant			Ottawa 40/70			2,900.0		lb	40/70					
			Interval 15															
			Stg # 15	Start Date 2/26/2015	Top (ftKB) 10,821.0	Btm (ftKB) 10,949.0	Vol Clean... 3375.60	Vol Slurry...	Comment SlickWater:687 bbl; pHaserFrac 22 XL Gel:2117 bbl; 22 Linear Gel:373 bbl; 15% HCl:0bbl;Fresh Water:198bbl									
			Stim/Treat Additives															
			Stg #	Add			Type			Amount		Units	Sand Size					
			15	Proppant			Ottawa 20/40			185,485.0		lb	20/40					
			15	Proppant			Ottawa 40/70			3,204.0		lb	40/70					
			Interval 16															
			Stg # 16	Start Date 2/26/2015	Top (ftKB) 10,630.0	Btm (ftKB) 10,760.0	Vol Clean... 3396.40	Vol Slurry...	Comment SlickWater:660 bbl; pHaserFrac 22 XL Gel:2152 bbl; 22 Linear Gel:348 bbl; 15% HCl:0bbl;Fresh Water:237bbl									
			Stim/Treat Additives															
			Stg #	Add			Type			Amount		Units	Sand Size					
			16	Proppant			Ottawa 20/40			179,351.0		lb	20/40					
			16	Proppant			Ottawa 40/70			2,971.0		lb	40/70					
			Interval 17															
			Stg # 17	Start Date 2/26/2015	Top (ftKB) 10,444.0	Btm (ftKB) 10,571.0	Vol Clean... 3350.10	Vol Slurry...	Comment SlickWater:659 bbl; pHaserFrac 22 XL Gel:2121 bbl; 22 Linear Gel:358 bbl; 15% HCl:0bbl;Fresh Water:212bbl									
			Stim/Treat Additives															
			Stg #	Add			Type			Amount		Units	Sand Size					
			17	Proppant			Ottawa 20/40			178,249.0		lb	20/40					
			17	Proppant			Ottawa 40/70			3,246.0		lb	40/70					
			Interval 18															
			Stg # 18	Start Date 2/26/2015	Top (ftKB) 10,255.0	Btm (ftKB) 10,383.0	Vol Clean... 3340.00	Vol Slurry...	Comment SlickWater:652 bbl; pHaserFrac 22 XL Gel:2108 bbl; 22 Linear Gel:358 bbl; 15% HCl:0bbl;Fresh Water:222bbl									
			Stim/Treat Additives															
			Stg #	Add			Type			Amount		Units	Sand Size					
			18	Proppant			Ottawa 20/40			173,499.0		lb	20/40					
			18	Proppant			Ottawa 40/70			3,287.0		lb	40/70					
			Interval 19															
			Stg # 19	Start Date 2/26/2015	Top (ftKB) 10,066.0	Btm (ftKB) 10,194.0	Vol Clean... 3302.30	Vol Slurry...	Comment SlickWater:649 bbl; pHaserFrac 22 XL Gel:2132 bbl; 22 Linear Gel:351 bbl; 15% HCl:0bbl;Fresh Water:170bbl									
			Stim/Treat Additives															
			Stg #	Add			Type			Amount		Units	Sand Size					
			19	Proppant			Ottawa 20/40			174,268.0		lb	20/40					
			19	Proppant			Ottawa 40/70			2,826.0		lb	40/70					
			Interval 20															
			Stg # 20	Start Date 2/26/2015	Top (ftKB) 9,877.0	Btm (ftKB) 10,005.0	Vol Clean... 3279.00	Vol Slurry...	Comment SlickWater:657 bbl; pHaserFrac 22 XL Gel:2112 bbl; 22 Linear Gel:342 bbl; 15% HCl:0bbl;Fresh Water:167bbl									
			Stim/Treat Additives															
			Stg #	Add			Type			Amount		Units	Sand Size					
			20	Proppant			Ottawa 20/40			175,660.0		lb	20/40					
			20	Proppant			Ottawa 40/70			2,898.0		lb	40/70					



Lease Review All - Frac Summary

Well Name: HORSETAIL 30F-1946

API Number 051233874500			WPC ID 1CO0761013			Well Permit Number			Field Name DJ Horizontal Niobrara			County Weld			State CO
Well Configuration Type Lateral/Horizontal				Orig KB Elv (ft) 4,800.00		Ground Elevation (ft) 4,783.00		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 13,718.0			
Original Spud Date 8/28/2014		Completion Date 3/2/2015		Asset Group Redtail			Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,323.0		N/S Ref FNL	E/W Dist (ft) 2,010.0		E/W Ref FWL
Lot	Quarter 1 SE	Quarter 2 NW	Quarter 3	Quarter 4	Section 30	Section Suffix	Section Type	Township 10	Township N/S Dir N	Range 57	Range E/W Dir W	Meridian			

Lateral/Horizontal - Original Hole, 8/19/2015 10:40:05 AM										Stim/Treat Stages					
MD (ftKB)	D (ft K B)	n (K B)	c (K B)	l (K B)	Vertical schematic (actual)	Logs	Interval 21								
							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment		
							21	2/27/2015	9,688.0	9,816.0	3418.40		SlickWater:647 bbl; pHaserFrac 22 XL Gel:2130 bbl; 22 Linear Gel:375 bbl; 15% HCl:0bbl;Fresh Water:267bbl		
Stim/Treat Additives															
Stg #		Add			Type			Amount			Units		Sand Size		
21		Proppant			Ottawa 20/40			175,931.0			lb		20/40		
21		Proppant			Ottawa 40/70			4,271.0			lb		40/70		
Interval 22															
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment									
22	2/27/2015	9,499.0	9,627.0	3274.80		SlickWater:657 bbl; pHaserFrac 22 XL Gel:2107 bbl; 22 Linear Gel:334 bbl; 15% HCl:0bbl;Fresh Water:177bbl									
Stim/Treat Additives															
Stg #		Add			Type			Amount			Units		Sand Size		
22		Proppant			Ottawa 20/40			167,881.0			lb		20/40		
22		Proppant			Ottawa 40/70			2,890.0			lb		40/70		
Interval 23															
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment									
23	2/27/2015	9,310.0	9,438.0	3254.80		SlickWater:635 bbl; pHaserFrac 22 XL Gel:2122 bbl; 22 Linear Gel:346 bbl; 15% HCl:0bbl;Fresh Water:152bbl									
Stim/Treat Additives															
Stg #		Add			Type			Amount			Units		Sand Size		
23		Proppant			Ottawa 20/40			171,192.0			lb		20/40		
23		Proppant			Ottawa 40/70			2,463.0			lb		40/70		
Interval 24															
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment									
24	2/27/2015	9,122.0	9,249.0	3285.70		SlickWater:633 bbl; pHaserFrac 22 XL Gel:2180 bbl; 22 Linear Gel:334 bbl; 15% HCl:0bbl;Fresh Water:139bbl									
Stim/Treat Additives															
Stg #		Add			Type			Amount			Units		Sand Size		
24		Proppant			Ottawa 20/40			185,365.0			lb		20/40		
24		Proppant			Ottawa 40/70			2,774.0			lb		40/70		
Interval 25															
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment									
25	2/27/2015	8,933.0	9,061.0	3200.40		SlickWater:614 bbl; pHaserFrac 22 XL Gel:2135 bbl; 22 Linear Gel:317 bbl; 15% HCl:0bbl;Fresh Water:135bbl									
Stim/Treat Additives															
Stg #		Add			Type			Amount			Units		Sand Size		
25		Proppant			Ottawa 20/40			167,516.0			lb		20/40		
25		Proppant			Ottawa 40/70			2,835.0			lb		40/70		
Interval 26															
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment									
26	2/28/2015	8,744.0	8,872.0	3263.90		SlickWater:671 bbl; pHaserFrac 22 XL Gel:2128 bbl; 22 Linear Gel:342 bbl; 15% HCl:0bbl;Fresh Water:122bbl									
Stim/Treat Additives															
Stg #		Add			Type			Amount			Units		Sand Size		
26		Proppant			Ottawa 20/40			180,859.0			lb		20/40		
26		Proppant			Ottawa 40/70			1,953.0			lb		40/70		
Interval 27															
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment									
27	2/28/2015	8,555.0	8,683.0	3224.00		SlickWater:632 bbl; pHaserFrac 22 XL Gel:2126 bbl; 22 Linear Gel:326 bbl; 15% HCl:0bbl;Fresh Water:140bbl									
Stim/Treat Additives															
Stg #		Add			Type			Amount			Units		Sand Size		
27		Proppant			Ottawa 20/40			180,021.0			lb		20/40		
27		Proppant			Ottawa 40/70			3,609.0			lb		40/70		
Interval 28															
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment									
28	2/28/2015	8,366.0	8,494.0	3195.40		SlickWater:623 bbl; pHaserFrac 22 XL Gel:2123 bbl; 22 Linear Gel:338 bbl; 15% HCl:0bbl;Fresh Water:112bbl									
Stim/Treat Additives															
Stg #		Add			Type			Amount			Units		Sand Size		
28		Proppant			Ottawa 20/40			182,628.0			lb		20/40		
28		Proppant			Ottawa 40/70			3,118.0			lb		40/70		
Interval 29															
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment									
29	2/28/2015	8,177.0	8,305.0	3160.90		SlickWater:619 bbl; pHaserFrac 22 XL Gel:2102 bbl; 22 Linear Gel:334 bbl; 15% HCl:0bbl;Fresh Water:106bbl									
Stim/Treat Additives															
Stg #		Add			Type			Amount			Units		Sand Size		
29		Proppant			Ottawa 20/40			171,085.0			lb		20/40		
29		Proppant			Ottawa 40/70			3,619.0			lb		40/70		



Lease Review All - Frac Summary

Well Name: HORSETAIL 30F-1946

API Number 051233874500		WPC ID 1CO0761013		Well Permit Number		Field Name DJ Horizontal Niobrara			County Weld		State CO			
Well Configuration Type Lateral/Horizontal				Orig KB Elv (ft) 4,800.00		Ground Elevation (ft) 4,783.00		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ft)KB 13,718.0		
Original Spud Date 8/28/2014		Completion Date 3/2/2015		Asset Group Redtail			Responsible Engineer Charles Ohlson		N/S Dist (ft) 2,323.0		N/S Ref FNL	E/W Dist (ft) 2,010.0		E/W Ref FWL
Lot	Quarter 1 SE	Quarter 2 NW	Quarter 3	Quarter 4	Section 30	Section Suffix	Section Type	Township 10	Township N/S Dir N	Range 57	Range E/W Dir W	Meridian		

Lateral/Horizontal - Original Hole, 8/19/2015 10:40:08 AM						Stim/Treat Stages						
MD (ftKB)	D (ft K B)	n (K B)	c (K B)	Vertical schematic (actual)	Logs	Interval 30						
						Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment
						30	2/28/2015	7,988.0	8,116.0	3157.80		SlickWater:617 bbl; pHaserFrac 22 XL Gel:2107 bbl; 22 Linear Gel:326 bbl; 15% HCl:0bbl;Fresh Water:108bbl
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
30		Proppant		Ottawa 20/40		173,197.0		lb		20/40		
30		Proppant		Ottawa 40/70		3,533.0		lb		40/70		
Interval 31												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
31	2/28/2015	7,800.0	7,928.0	3143.00		SlickWater:610 bbl; pHaserFrac 22 XL Gel:2115 bbl; 22 Linear Gel:332 bbl; 15% HCl:0bbl;Fresh Water:86bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
31		Proppant		Ottawa 20/40		189,709.0		lb		20/40		
31		Proppant		Ottawa 40/70		3,843.0		lb		40/70		
Interval 32												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
32	2/28/2015	7,609.0	7,738.0	3133.00		SlickWater:615 bbl; pHaserFrac 22 XL Gel:2118 bbl; 22 Linear Gel:325 bbl; 15% HCl:0bbl;Fresh Water:75bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
32		Proppant		Ottawa 20/40		175,215.0		lb		20/40		
32		Proppant		Ottawa 40/70		3,105.0		lb		40/70		
Interval 33												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
33	3/1/2015	7,422.0	7,550.0	3485.10		SlickWater:651 bbl; pHaserFrac 22 XL Gel:2447 bbl; 22 Linear Gel:323 bbl; 15% HCl:0bbl;Fresh Water:65bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
33		Proppant		Ottawa 20/40		176,950.0		lb		20/40		
33		Proppant		Ottawa 40/70		2,569.0		lb		40/70		
Interval 34												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
34	3/1/2015	7,233.0	7,361.0	3263.02		SlickWater:611 bbl; pHaserFrac 22 XL Gel:2258 bbl; 22 Linear Gel:329 bbl; 15% HCl:0bbl;Fresh Water:65bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
34		Proppant		Ottawa 20/40		172,066.0		lb		20/40		
34		Proppant		Ottawa 40/70		2,215.0		lb		40/70		
Interval 35												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
35	3/1/2015	7,044.0	7,172.0	3061.50		SlickWater:602 bbl; pHaserFrac 22 XL Gel:2068 bbl; 22 Linear Gel:339 bbl; 15% HCl:0bbl;Fresh Water:53bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
35		Proppant		Ottawa 20/40		159,251.0		lb		20/40		
35		Proppant		Ottawa 40/70		1,395.0		lb		40/70		
Interval 36												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
36	3/2/2015	6,855.0	6,983.0	3070.90		SlickWater:599 bbl; pHaserFrac 22 XL Gel:2114 bbl; 22 Linear Gel:312 bbl; 15% HCl:0bbl;Fresh Water:45bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
36		Proppant		Ottawa 20/40		168,724.0		lb		20/40		
36		Proppant		Ottawa 40/70		3,003.0		lb		40/70		
Interval 37												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
37	3/2/2015	6,667.0	6,794.0	3071.60		SlickWater:597 bbl; pHaserFrac 22 XL Gel:2103 bbl; 22 Linear Gel:333 bbl; 15% HCl:0bbl;Fresh Water:38bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
37		Proppant		Ottawa 20/40		164,827.0		lb		20/40		
37		Proppant		Ottawa 40/70		2,670.0		lb		40/70		
Interval 38												
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment						
38	3/2/2015	6,478.0	6,606.0	3048.00		SlickWater:593 bbl; pHaserFrac 22 XL Gel:2099 bbl; 22 Linear Gel:317 bbl; 15% HCl:0bbl;Fresh Water:39bbl						
Stim/Treat Additives												
Stg #		Add		Type		Amount		Units		Sand Size		
38		Proppant		Ottawa 20/40		157,380.0		lb		20/40		
38		Proppant		Ottawa 40/70		2,947.0		lb		40/70		

<div><div><div></div><div>WHITING</div></div><div>Lease Review All - Frac Summary</div><div>Well Name: HORSETAIL 30F-1946</div></div>																	
API Number 051233874500			WPC ID 1CO0761013			Well Permit Number			Field Name DJ Horizontal Niobrara			County Weld		State CO			
Well Configuration Type Lateral/Horizontal				Orig KB Elv (ft) 4,800.00			Ground Elevation (ft) 4,783.00		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 13,718.0				
Original Spud Date 8/28/2014		Completion Date 3/2/2015		Asset Group Redtail			Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,323.0		N/S Ref FNL		E/W Dist (ft) 2,010.0		E/W Ref FWL	
Lot		Quarter 1 SE	Quarter 2 NW	Quarter 3	Quarter 4	Section 30	Section Suffix	Section Type	Township 10	Township N/S Dir N	Range 57	Range E/W Dir W	Meridian				
Lateral/Horizontal - Original Hole, 8/19/2015 10:40:10 AM						Stim/Treat Stages											
MD (ftKB)	D (ft K B)	n (K B)	Vertical schematic (actual)	Logs	Interval 39												
					Stg # 39	Start Date 3/2/2015	Top (ftKB) 6,289.0	Btm (ftKB) 6,417.0	Vol Clean... 3068.60	Vol Slurry...	Comment SlickWater:593 bbl; pHaserFrac 22 XL Gel:2128 bbl; 22 Linear Gel:316 bbl; 15% HCl:0bbl;Fresh Water:32bbl						
Stim/Treat Additives																	
Stg #		Add			Type			Amount			Units		Sand Size				
39		Proppant			Ottawa 20/40			162,849.0			lb		20/40				
39		Proppant			Ottawa 40/70			3,477.0			lb		40/70				
Interval 40																	
Stg # 40		Start Date 3/2/2015		Top (ftKB) 6,107.0	Btm (ftKB) 6,228.0	Vol Clean... 3048.30	Vol Slurry...	Comment SlickWater:586 bbl; pHaserFrac 22 XL Gel:2117 bbl; 22 Linear Gel:320 bbl; 15% HCl:0bbl;Fresh Water:25bbl									
Stim/Treat Additives																	
Stg #		Add			Type			Amount			Units		Sand Size				
40		Proppant			Ottawa 20/40			157,794.0			lb		20/40				
40		Proppant			Ottawa 40/70			2,821.0			lb		40/70				
Tubing - Production set at 5,644.4ftKB on 3/30/2015 06:00																	
Set Depth (ftKB) 5,644.4				Comment								Run Date 3/30/2015		Pull Date			
Item Des					OD (in)		ID (in)		Len (ft)		Top (ftKB)		Btm (ftKB)				
Cross Over					2.441		1.995		0.85		17.0		17.9				
Pup Jt 1.9ft 10.1ft 10.1ft					2 3/8		1.995		22.10		17.9		40.0				
Tubing					2 3/8		1.995		1,879.47		40.0		1,919.4				
CM-1 2.375 #7					3 7/8		1.995		4.10		1,919.4		1,923.5				
Tubing					2 3/8		1.995		1,083.44		1,923.5		3,007.0				
CM-1 2.375 #6					3 7/8		1.995		4.10		3,007.0		3,011.1				
Tubing					2 3/8		1.995		524.63		3,011.1		3,535.7				
CM-1 2.375 #5					3 7/8		1.995		4.10		3,535.7		3,539.8				
Tubing					2 3/8		1.995		494.97		3,539.8		4,034.8				
CM-1 2.375 #4					3 7/8		1.995		4.10		4,034.8		4,038.9				
Tubing					2 3/8		1.995		526.31		4,038.9		4,565.2				
CM-1 2.375 #3					3 7/8		1.995		4.10		4,565.2		4,569.3				
Tubing					2 3/8		1.995		491.94		4,569.3		5,061.2				
CM-1 2.375 #2					3 7/8		1.995		4.10		5,061.2		5,065.3				
Tubing					2 3/8		1.995		495.74		5,065.3		5,561.1				
Sensor					3.783		2.630		4.10		5,561.1		5,565.2				
Tubing					2 3/8		1.995		31.50		5,565.2		5,596.7				
CM-1 2.375 #1					3 7/8		1.995		4.10		5,596.7		5,600.8				
Tubing					2 3/8		1.995		31.00		5,600.8		5,631.8				
On-Off Tool					3.65		1.875		1.35		5,631.8		5,633.1				
Packer					3.771		1.930		8.06		5,633.1		5,641.2				
Pump Off Housing					3.06		1.600		0.51		5,641.2		5,641.7				
Perforated Pup Jt					3.06		1.995		2.26		5,641.7		5,643.9				
Bull Plug					2 3/8				0.51		5,643.9		5,644.4				
Rod Strings																	
<des> on <dtmrun>																	
Rod Description									Run Date				Pull Date				
Item Des					OD (in)		Len (ft)		Top (ftKB)		Btm (ftKB)						
Other Strings																	
Set Depth (ftKB)				Comment								Run Date		Pull Date			
Item Des					OD (in)		Len (ft)			Top (ftKB)		Btm (ftKB)					
Other In Hole																	
Des					OD (in)		Run Date		Pull Date		Top (ftKB)		Btm (ftKB)				
CFP					4		3/2/2015		3/27/2015		6,257.0		6,259.0				
CFP					4		3/2/2015		3/27/2015		6,448.0		6,450.0				
CFP					4		3/2/2015		3/27/2015		6,635.0		6,637.0				
CFP					4		3/2/2015		3/27/2015		6,826.0		6,828.0				
CFP					4		3/2/2015		3/27/2015		7,013.0		7,015.0				
CFP					4		3/1/2015		3/27/2015		7,204.0		7,206.0				
CFP					4		3/1/2015		3/27/2015		7,390.0		7,392.0				
CFP					4		3/1/2015		3/27/2015		7,579.0		7,581.0				
CFP					4		3/1/2015		3/27/2015		7,768.0		7,770.0				
CFP					4		2/28/2015		3/27/2015		7,961.0		7,963.0				
CFP					4		2/28/2015		3/27/2015		8,146.0		8,148.0				
CFP					4		2/28/2015		3/27/2015		8,339.0		8,341.0				
CFP					4		2/28/2015		3/27/2015		8,524.0		8,526.0				
CFP					4		2/28/2015		3/27/2015		8,708.0		8,710.0				
CFP					4		2/28/2015		3/27/2015		8,901.0		8,903.0				
CFP					4		2/28/2015		3/27/2015		9,090.0		9,092.0				
CFP					4		2/27/2015		3/27/2015		9,279.0		9,281.0				



Lease Review All - Frac Summary
Well Name: HORSETAIL 30F-1946

API Number	WPC ID	Well Permit Number	Field Name	County	State
051233874500	1CO0761013		DJ Horizontal Niobrara	Weld	CO
Well Configuration Type	Orig KB Elv (ft)	Ground Elevation (ft)	Casing Flange Elevation (ft)	Tubing Head Elevation (ft)	Total Depth (ftKB)
Lateral/Horizontal	4,800.00	4,783.00			13,718.0
Original Spud Date	Completion Date	Asset Group	Responsible Engineer	N/S Dist (ft)	N/S Ref
8/28/2014	3/2/2015	Redtail	Charles Ohlson	2,323.0	FNL
				E/W Dist (ft)	E/W Ref
				2,010.0	FWL
Lot	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Section
	SE	NW			30
			Section Suffix	Section Type	Township
					10 N
				Township N/S Dir	Range
					57 W
				Range E/W Dir	Meridian

Lateral/Horizontal - Original Hole, 8/19/2015 10:40:12 AM					Other In Hole					
MD (ftKB)	D (ft K B)	n c l (Vertical schematic (actual)	Logs	Des	OD (in)	Run Date	Pull Date	Top (ftKB)	Btm (ftKB)
40.0	40.0	40			CFP	4	2/27/2015	3/27/2015	9,468.0	9,470.0
1,601.7	1,601.6	84		CFP	4	2/27/2015	3/27/2015	9,657.0	9,659.0	
3,182.1	3,180.1	142		CFP	4	2/27/2015	3/27/2015	9,840.0	9,842.0	
4,569.2	4,566.0	211		CFP	4	2/26/2015	3/27/2015	10,034.0	10,036.0	
5,061.4	4,970.6	34		CFP	4	2/26/2015	3/27/2015	10,223.0	10,225.0	
5,596.8	5,488.6	109		CFP	4	2/26/2015	3/27/2015	10,412.0	10,414.0	
5,644.0	5,594.7	541		CFP	4	2/26/2015	3/27/2015	10,601.0	10,603.0	
6,089.9	5,935.4	562		CFP	4	2/26/2015	3/27/2015	10,785.0	10,787.0	
6,228.0	6,038.4	467		CFP	4	2/26/2015	3/27/2015	10,979.0	10,981.0	
6,417.0	6,194.6	367		CFP	4	2/26/2015	3/27/2015	11,160.0	11,162.0	
6,606.0	6,332.2	467		CFP	4	2/25/2015	3/27/2015	11,356.0	11,358.0	
6,794.0	6,478.9	461		CFP	4	2/25/2015	3/27/2015	11,545.0	11,547.0	
6,982.9	6,609.6	363		CFP	4	2/25/2015	3/27/2015	11,734.0	11,736.0	
7,171.9	6,804.9	363		CFP	4	2/25/2015	3/27/2015	11,923.0	11,925.0	
7,360.9	6,956.4	363		CFP	4	2/25/2015	3/27/2015	12,112.0	12,114.0	
7,549.9	7,027.1	362		CFP	4	2/25/2015	3/27/2015	12,301.0	12,303.0	
7,737.9	7,097.9	362		CFP	4	2/25/2015	3/27/2015	12,489.0	12,491.0	
7,928.1	7,168.6	364		CFP	4	2/25/2015	3/27/2015	12,678.0	12,680.0	
8,116.1	7,239.3	361		CFP	4	2/24/2015	3/27/2015	12,859.0	12,861.0	
8,305.1	7,310.6	364		CFP	4	2/24/2015	3/27/2015	12,859.0	12,861.0	
8,494.1	7,381.2	364		CFP	4	2/24/2015	3/27/2015	13,056.0	13,058.0	
8,683.1	7,451.8	364		CFP	4	2/24/2015	3/27/2015	13,245.0	13,247.0	
8,872.0	7,524.6	364		CFP	4	2/24/2015	3/27/2015	13,434.0	13,436.0	
9,061.0	7,595.4	361	CFP	4	2/23/2015	3/27/2015	13,590.0	13,592.0		
9,249.0	7,666.1	361			Bottom Hole Cores					
9,438.0	7,736.9	362			Date	Core #	Top (ftKB)	Btm (ftKB)	Recov (ft)	
9,627.0	7,807.4	361								
9,815.9	7,878.0	361								
10,004.9	7,948.6	364								
10,193.9	8,019.3	364								
10,382.9	8,089.9	364								
10,570.9	8,160.5	364								
10,759.8	8,231.6	364								
10,949.1	8,302.7	364								
11,138.1	8,373.3	362								
11,327.1	8,443.4	361								
11,516.1	8,513.5	363								
11,705.1	8,583.9	364								
11,893.0	8,654.6	364								
12,078.1	8,725.0	362								
12,271.0	8,795.8	362								
12,462.9	8,866.2	362								
12,648.9	8,937.9	362								
12,837.9	9,008.3	364								
13,025.9	9,078.9	362								
13,214.9	9,149.4	362								
13,403.9	9,219.8	362								
13,577.1	9,290.2	362								
13,669.6	9,360.0	362								