

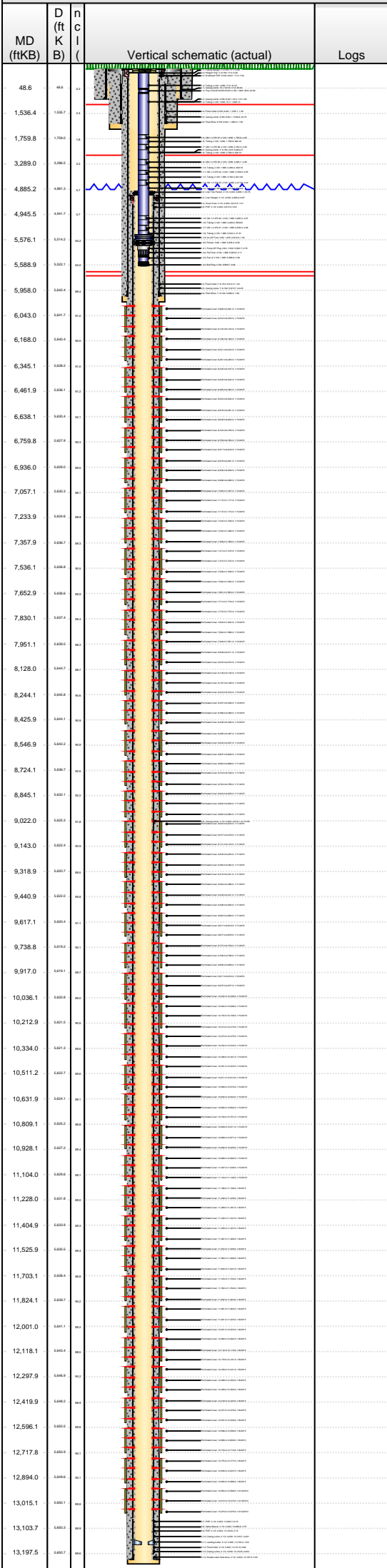


Lease Review All - Frac Summary

Well Name: HORSETAIL 30F-3106

API Number 051233920000			WPC ID 1CO0761037			Well Permit Number			Field Name DJ Horizontal Niobrara			County Weld			State CO
Well Configuration Type Lateral/Horizontal					Orig KB Elv (ft) 4,797.40		Ground Elevation (ft) 4,780.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ft)KB 13,210.0		
Original Spud Date 6/17/2014		Completion Date 1/15/2015		Asset Group Redtail			Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,373.0		N/S Ref FNL	E/W Dist (ft) 2,009.0		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, 7/29/2015 3:32:50 PM



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		6/17/2014	13 1/2	97.0	1,600.0
Original Hole		6/18/2014	8 3/4	1,600.0	5,979.0
Original Hole		6/22/2014	6 1/8	5,979.0	13,210.0

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, 1,581.8ftKB

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	24.0	7.00	Wellhead/ PUP
9 5/8	36.00	J-55	24.0	1,535.1	1,511.08	Casing Joints
9 5/8	36.00	J-55	1,535.1	1,536.6	1.50	Float Collar
9 5/8	36.00	J-55	1,536.6	1,580.3	43.73	Casing Joints
9 5/8	36.00	J-55	1,580.3	1,581.8	1.50	Float Shoe

Frac String, 4,885.1ftKB

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	61.8	43.26	4.5# P-110 BTC-TXP 11.6# casing
4 1/2			61.8	65.4	3.56	4.5" BTC-TXP spaceout pup jt 8.25', 3.55', 1.55
4 1/2		11.60	65.4	4,875.3	4,809.94	4.5# P-110 BTC-TXP 11.6# casing
4 1/2			4,875.3	4,881.5	6.17	Pup Joint
5 1/4			4,881.5	4,885.1	3.56	Baker Hughes seal assembly

Intermediate Csg, 5,959.6ftKB

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	Hanger/ Pup
7	29.00	HCL-80	22.0	5,914.3	5,892.27	Casing Joints
7	29.00	HCL-80	5,914.3	5,915.7	1.40	Float Collar
7	29.00	HCL-80	5,915.7	5,958.0	42.29	Casing Joints
7	29.00	HCL-80	5,958.0	5,959.6	1.60	Float Shoe

Liner, 13,200.0ftKB

OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
4 1/2	11.60	HCL-80	4,885.1	4,885.1	0.00	Casing Joints
4 1/2	11.60	HCL-80	4,885.1	4,905.9	20.79	Liner Top Packer
4 1/2	11.60	HCL-80	4,905.9	4,912.5	6.67	Liner Hanger
4 1/2	11.60	HCL-80	4,912.5	4,913.5	1.01	Cross Over
4 1/2	11.60	HCL-80	4,913.5	4,919.1	5.52	PUP
4 1/2	11.60	HCL-80	4,919.1	13,093.7	8,174.65	Casing Joints
4 1/2	11.60	HCL-80	13,093.7	13,099.8	6.10	PUP
4 1/2	11.60	HCL-80	13,099.8	13,103.6	3.75	Alpha Sleeve
4 1/2	11.60	HCL-80	13,103.6	13,105.7	2.10	PUP
4 1/2	11.60	HCL-80	13,105.7	13,150.3	44.61	Casing Joints
4 1/2	11.60	HCL-80	13,150.3	13,151.9	1.59	Landing Collar
4 1/2	11.60	HCL-80	13,151.9	13,152.8	0.98	Float Collar
4 1/2	11.60	HCL-80	13,152.8	13,197.5	44.63	Casing Joints
4 1/2	11.60	HCL-80	13,197.5	13,200.0	2.53	Double valve 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	6/18/2014		17.0	1,581.8	Returns to Surface
Intermediate Casing Cement	6/21/2014		17.0	5,959.6	Returns to Surface
Liner Cement	6/27/2014		4,885.1	13,200.0	Returns to Surface

Perforations

Type of Hole	Date	Top (ftKB)	Btm (ftKB)	Zone
Perforated Liner	1/14/2015	5,989.0	5,991.0	NIOBRARA, Original Hole
Perforated Liner	1/14/2015	6,043.0	6,045.0	NIOBRARA, Original Hole
Perforated Liner	1/14/2015	6,102.0	6,104.0	NIOBRARA, Original Hole
Perforated Liner	1/14/2015	6,166.0	6,168.0	NIOBRARA, Original Hole
Perforated Liner	1/14/2015	6,221.0	6,223.0	NIOBRARA, Original Hole
Perforated Liner	1/14/2015	6,281.0	6,283.0	NIOBRARA, Original Hole
Perforated Liner	1/14/2015	6,345.0	6,347.0	NIOBRARA, Original Hole
Perforated Liner	1/14/2015	6,400.0	6,402.0	NIOBRARA, Original Hole
Perforated Liner	1/14/2015	6,460.0	6,462.0	NIOBRARA, Original Hole
Perforated Liner	1/13/2015	6,523.0	6,525.0	NIOBRARA, Original Hole



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Well Configuration Type Lateral/Horizontal					Orig KB Elv (ft) 4,797.40		Ground Elevation (ft) 4,780.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ft)KB 13,210.0		
Original Spud Date 6/17/2014		Completion Date 1/15/2015		Asset Group Redtail			Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,373.0		N/S Ref FNL	E/W Dist (ft) 2,009.0		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, 7/29/2015 3:32:53 PM					Perforations				
MD (ftKB)	D (ft K B)	n c l (Vertical schematic (actual)	Logs	Type of Hole	Date	Top (ftKB)	Btm (ftKB)	Zone
					Perforated Liner	1/13/2015	6,579.0	6,581.0	NIOBRARA, Original Hole
					Perforated Liner	1/13/2015	6,638.0	6,640.0	NIOBRARA, Original Hole
				Perforated Liner	1/13/2015	6,703.0	6,705.0	NIOBRARA, Original Hole	
				Perforated Liner	1/13/2015	6,758.0	6,760.0	NIOBRARA, Original Hole	
48.6	48.6	1.0		Perforated Liner	1/13/2015	6,817.0	6,819.0	NIOBRARA, Original Hole	
1,536.4	1,536.7	1.0		Perforated Liner	1/13/2015	6,879.0	6,881.0	NIOBRARA, Original Hole	
1,759.8	1,759.9	1.0		Perforated Liner	1/13/2015	6,936.0	6,938.0	NIOBRARA, Original Hole	
3,289.0	3,289.3	1.0		Perforated Liner	1/13/2015	6,996.0	6,998.0	NIOBRARA, Original Hole	
4,885.2	4,885.3	1.0		Perforated Liner	1/13/2015	7,055.0	7,057.0	NIOBRARA, Original Hole	
4,945.5	4,945.7	1.0		Perforated Liner	1/13/2015	7,115.0	7,117.0	NIOBRARA, Original Hole	
5,576.1	5,576.2	1.0		Perforated Liner	1/13/2015	7,172.0	7,174.0	NIOBRARA, Original Hole	
5,588.9	5,589.1	1.0		Perforated Liner	1/13/2015	7,234.0	7,236.0	NIOBRARA, Original Hole	
5,958.0	5,958.4	1.0		Perforated Liner	1/13/2015	7,294.0	7,296.0	NIOBRARA, Original Hole	
6,043.0	6,043.7	1.0		Perforated Liner	1/13/2015	7,356.0	7,358.0	NIOBRARA, Original Hole	
6,168.0	6,168.4	1.0		Perforated Liner	1/13/2015	7,413.0	7,415.0	NIOBRARA, Original Hole	
6,345.1	6,345.2	1.0		Perforated Liner	1/13/2015	7,472.0	7,474.0	NIOBRARA, Original Hole	
6,461.9	6,461.7	1.0		Perforated Liner	1/13/2015	7,536.0	7,538.0	NIOBRARA, Original Hole	
6,638.1	6,638.4	1.0		Perforated Liner	1/12/2015	7,592.0	7,594.0	NIOBRARA, Original Hole	
6,759.8	6,759.7	1.0		Perforated Liner	1/12/2015	7,651.0	7,653.0	NIOBRARA, Original Hole	
6,936.0	6,936.3	1.0		Perforated Liner	1/12/2015	7,714.0	7,716.0	NIOBRARA, Original Hole	
7,057.1	7,057.3	1.0		Perforated Liner	1/12/2015	7,770.0	7,772.0	NIOBRARA, Original Hole	
7,233.9	7,233.4	1.0		Perforated Liner	1/12/2015	7,830.0	7,832.0	NIOBRARA, Original Hole	
7,357.9	7,357.7	1.0		Perforated Liner	1/12/2015	7,894.0	7,896.0	NIOBRARA, Original Hole	
7,536.1	7,536.4	1.0		Perforated Liner	1/12/2015	7,949.0	7,951.0	NIOBRARA, Original Hole	
7,652.9	7,652.4	1.0		Perforated Liner	1/12/2015	8,009.0	8,011.0	NIOBRARA, Original Hole	
7,830.1	7,830.7	1.0		Perforated Liner	1/12/2015	8,070.0	8,072.0	NIOBRARA, Original Hole	
7,951.1	7,951.4	1.0		Perforated Liner	1/12/2015	8,128.0	8,130.0	NIOBRARA, Original Hole	
8,128.0	8,128.7	1.0		Perforated Liner	1/12/2015	8,187.0	8,189.0	NIOBRARA, Original Hole	
8,244.1	8,244.4	1.0		Perforated Liner	1/12/2015	8,242.0	8,244.0	NIOBRARA, Original Hole	
8,425.9	8,425.7	1.0		Perforated Liner	1/12/2015	8,307.0	8,309.0	NIOBRARA, Original Hole	
8,546.9	8,546.2	1.0		Perforated Liner	1/12/2015	8,366.0	8,368.0	NIOBRARA, Original Hole	
8,724.1	8,724.7	1.0		Perforated Liner	1/12/2015	8,426.0	8,428.0	NIOBRARA, Original Hole	
8,845.1	8,845.2	1.0		Perforated Liner	1/12/2015	8,485.0	8,487.0	NIOBRARA, Original Hole	
9,022.0	9,022.3	1.0		Perforated Liner	1/12/2015	8,545.0	8,547.0	NIOBRARA, Original Hole	
9,143.0	9,143.7	1.0		Perforated Liner	1/12/2015	8,607.0	8,609.0	NIOBRARA, Original Hole	
9,318.9	9,318.7	1.0		Perforated Liner	1/12/2015	8,664.0	8,666.0	NIOBRARA, Original Hole	
9,440.9	9,440.2	1.0		Perforated Liner	1/11/2015	8,724.0	8,726.0	NIOBRARA, Original Hole	
9,617.1	9,617.4	1.0		Perforated Liner	1/11/2015	8,783.0	8,785.0	NIOBRARA, Original Hole	
9,738.8	9,738.7	1.0		Perforated Liner	1/11/2015	8,843.0	8,845.0	NIOBRARA, Original Hole	
9,917.0	9,917.4	1.0		Perforated Liner	1/11/2015	8,902.0	8,904.0	NIOBRARA, Original Hole	
10,036.1	10,036.4	1.0		Perforated Liner	1/11/2015	8,962.0	8,964.0	NIOBRARA, Original Hole	
10,212.9	10,212.4	1.0		Perforated Liner	1/11/2015	9,022.0	9,024.0	NIOBRARA, Original Hole	
10,334.0	10,334.7	1.0		Perforated Liner	1/11/2015	9,077.0	9,079.0	NIOBRARA, Original Hole	
10,511.2	10,511.7	1.0		Perforated Liner	1/11/2015	9,141.0	9,143.0	NIOBRARA, Original Hole	
10,631.9	10,631.7	1.0		Perforated Liner	1/11/2015	9,200.0	9,202.0	NIOBRARA, Original Hole	
10,809.1	10,809.4	1.0		Perforated Liner	1/11/2015	9,260.0	9,262.0	NIOBRARA, Original Hole	
10,928.1	10,928.7	1.0		Perforated Liner	1/11/2015	9,319.0	9,321.0	NIOBRARA, Original Hole	
11,104.0	11,104.4	1.0		Perforated Liner	1/11/2015	9,384.0	9,386.0	NIOBRARA, Original Hole	
11,228.0	11,228.7	1.0		Perforated Liner	1/11/2015	9,439.0	9,441.0	NIOBRARA, Original Hole	
11,404.9	11,404.4	1.0		Perforated Liner	1/11/2015	9,498.0	9,500.0	NIOBRARA, Original Hole	
11,525.9	11,525.4	1.0		Perforated Liner	1/11/2015	9,563.0	9,565.0	NIOBRARA, Original Hole	
11,703.1	11,703.4	1.0		Perforated Liner	1/11/2015	9,617.0	9,619.0	NIOBRARA, Original Hole	
11,824.1	11,824.7	1.0		Perforated Liner	1/11/2015	9,677.0	9,679.0	NIOBRARA, Original Hole	
12,001.0	12,001.7	1.0		Perforated Liner	1/11/2015	9,737.0	9,739.0	NIOBRARA, Original Hole	
12,118.1	12,118.4	1.0		Perforated Liner	1/11/2015	9,796.0	9,798.0	NIOBRARA, Original Hole	
12,297.9	12,297.4	1.0		Perforated Liner	1/11/2015	9,856.0	9,858.0	NIOBRARA, Original Hole	
12,419.9	12,419.4	1.0		Perforated Liner	1/10/2015	9,917.0	9,919.0	NIOBRARA, Original Hole	
12,596.1	12,596.4	1.0		Perforated Liner	1/10/2015	9,975.0	9,977.0	NIOBRARA, Original Hole	
12,717.8	12,717.4	1.0		Perforated Liner	1/10/2015	10,034.0	10,036.0	NIOBRARA, Original Hole	
12,894.0	12,894.7	1.0		Perforated Liner	1/10/2015	10,094.0	10,096.0	NIOBRARA, Original Hole	
13,015.1	13,015.4	1.0		Perforated Liner	1/10/2015	10,154.0	10,156.0	NIOBRARA, Original Hole	
13,103.7	13,103.4	1.0		Perforated Liner	1/10/2015	10,213.0	10,215.0	NIOBRARA, Original Hole	
13,197.5	13,197.7	1.0		Perforated Liner	1/10/2015	10,273.0	10,275.0	NIOBRARA, Original Hole	
						Perforated Liner	1/10/2015	10,332.0	10,334.0
					Perforated Liner	1/10/2015	10,389.0	10,391.0	NIOBRARA, Original Hole
					Perforated Liner	1/10/2015	10,451.0	10,453.0	NIOBRARA, Original Hole
					Perforated Liner	1/10/2015	10,511.0	10,513.0	NIOBRARA, Original Hole
					Perforated Liner	1/10/2015	10,568.0	10,570.0	NIOBRARA, Original Hole
					Perforated Liner	1/10/2015	10,630.0	10,632.0	NIOBRARA, Original Hole
					Perforated Liner	1/10/2015	10,690.0	10,692.0	NIOBRARA, Original Hole

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Original Spud Date 6/17/2014		Completion Date 1/15/2015		Asset Group Redtail			Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,373.0		N/S Ref FNL		E/W Dist (ft) 2,009.0	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, 7/29/2015 3:32:56 PM						Perforations									
MD (ftKB)	D (ft K B)	n (C L)	Vertical schematic (actual)	Logs	Type of Hole		Date		Top (ftKB)		Btm (ftKB)		Zone		
					Perforated Liner		1/10/2015		10,749.0		10,751.0	NIOBRARA, Original Hole			
					Perforated Liner		1/10/2015		10,809.0		10,811.0	NIOBRARA, Original Hole			
48.6	48.6	100			Perforated Liner		1/10/2015		10,869.0		10,871.0	NIOBRARA, Original Hole			
1,536.4	1,536.7	100			Perforated Liner		1/10/2015		10,926.0		10,928.0	NIOBRARA, Original Hole			
1,759.8	1,759.9	100			Perforated Liner		1/10/2015		10,988.0		10,990.0	NIOBRARA, Original Hole			
3,289.0	3,289.3	100			Perforated Liner		1/10/2015		11,047.0		11,049.0	NIOBRARA, Original Hole			
4,885.2	4,885.3	100			Perforated Liner		1/10/2015		11,104.0		11,106.0	NIOBRARA, Original Hole			
4,945.5	4,945.7	100			Perforated Liner		1/9/2015		11,166.0		11,168.0	NIOBRARA, Original Hole			
5,576.1	5,576.2	100			Perforated Liner		1/9/2015		11,226.0		11,228.0	NIOBRARA, Original Hole			
5,588.9	5,589.1	100			Perforated Liner		1/9/2015		11,289.0		11,291.0	NIOBRARA, Original Hole			
5,958.0	5,958.1	100			Perforated Liner		1/9/2015		11,345.0		11,347.0	NIOBRARA, Original Hole			
6,043.0	6,043.1	100			Perforated Liner		1/9/2015		11,405.0		11,407.0	NIOBRARA, Original Hole			
6,168.0	6,168.1	100			Perforated Liner		1/9/2015		11,467.0		11,469.0	NIOBRARA, Original Hole			
6,345.1	6,345.2	100			Perforated Liner		1/9/2015		11,524.0		11,526.0	NIOBRARA, Original Hole			
6,461.9	6,461.9	100			Perforated Liner		1/9/2015		11,584.0		11,586.0	NIOBRARA, Original Hole			
6,638.1	6,638.1	100			Perforated Liner		1/9/2015		11,645.0		11,647.0	NIOBRARA, Original Hole			
6,759.8	6,759.8	100			Perforated Liner		1/9/2015		11,703.0		11,705.0	NIOBRARA, Original Hole			
6,936.0	6,936.0	100			Perforated Liner		1/9/2015		11,762.0		11,764.0	NIOBRARA, Original Hole			
7,057.1	7,057.1	100			Perforated Liner		1/9/2015		11,822.0		11,824.0	NIOBRARA, Original Hole			
7,233.9	7,233.9	100			Perforated Liner		1/9/2015		11,881.0		11,883.0	NIOBRARA, Original Hole			
7,357.9	7,357.9	100			Perforated Liner		1/9/2015		11,941.0		11,943.0	NIOBRARA, Original Hole			
7,536.1	7,536.1	100			Perforated Liner		1/9/2015		11,991.0		11,993.0	NIOBRARA, Original Hole			
7,652.9	7,652.9	100			Perforated Liner		1/9/2015		12,001.0		12,003.0	NIOBRARA, Original Hole			
7,830.1	7,830.1	100			Perforated Liner		1/8/2015		12,060.0		12,062.0	NIOBRARA, Original Hole			
7,951.1	7,951.1	100			Perforated Liner		1/8/2015		12,116.0		12,118.0	NIOBRARA, Original Hole			
8,128.0	8,128.0	100			Perforated Liner		1/8/2015		12,179.0		12,181.0	NIOBRARA, Original Hole			
8,244.1	8,244.1	100			Perforated Liner		1/8/2015		12,239.0		12,241.0	NIOBRARA, Original Hole			
8,425.9	8,425.9	100			Perforated Liner		1/8/2015		12,298.0		12,300.0	NIOBRARA, Original Hole			
8,546.9	8,546.9	100			Perforated Liner		1/8/2015		12,358.0		12,360.0	NIOBRARA, Original Hole			
8,724.1	8,724.1	100			Perforated Liner		1/8/2015		12,418.0		12,420.0	NIOBRARA, Original Hole			
8,845.1	8,845.1	100			Perforated Liner		1/8/2015		12,477.0		12,479.0	NIOBRARA, Original Hole			
9,022.0	9,022.0	100			Perforated Liner		1/8/2015		12,537.0		12,539.0	NIOBRARA, Original Hole			
9,143.0	9,143.0	100			Perforated Liner		1/8/2015		12,596.0		12,598.0	NIOBRARA, Original Hole			
9,318.9	9,318.9	100			Perforated Liner		1/8/2015		12,656.0		12,658.0	NIOBRARA, Original Hole			
9,440.9	9,440.9	100			Perforated Liner		1/8/2015		12,716.0		12,718.0	NIOBRARA, Original Hole			
9,617.1	9,617.1	100			Perforated Liner		1/8/2015		12,775.0		12,777.0	NIOBRARA, Original Hole			
9,738.8	9,738.8	100			Perforated Liner		1/8/2015		12,835.0		12,837.0	NIOBRARA, Original Hole			
9,917.0	9,917.0	100			Perforated Liner		1/8/2015		12,894.0		12,896.0	NIOBRARA, Original Hole			
10,036.1	10,036.1	100			Perforated Liner		12/14/2014		12,954.0		12,956.0	NIOBRARA, Original Hole			
10,212.9	10,212.9	100			Perforated Liner		12/14/2014		13,013.0		13,015.0	NIOBRARA, Original Hole			
10,334.0	10,334.0	100			Perforated Liner		12/14/2014		13,073.0		13,075.0	NIOBRARA, Original Hole			
Stimulations & Treatments															
Sand Frac on 1/7/2015 06:00															
Comment															
Treatment End Date: 1/14/2015 ; Number of staged intervals: 40; Number of sleeves: 0; Min Frac Gradient: 0.66 ; # of Perfs: 1440 ; SlickWater: 32345 bbl; pHaserFrac #22: 73947 bbl; pHaserFrac #20: 10592 bbl;Linear Gel: 11997 bbl;15% HCL: 167 bbl;Clean Volume: 129047 bbl															
Total Clean Volu...		Vol Slurry Tot (bbl)		Proppant Desig...		Proppant Frm (lb)		P Max (psi)		Avg Treat...		Avg Treat...		Max Tre...	
129047.02				6,920,000.0		6,849,316.1		7,052.0		3,954.0		50.10		56.20	
Total Add Amount		Proppant Ottawa 20/40 6733286 lb; Proppant Ottawa 40/70 116030 lb													
Stim/Treat Fluids															
Fluid Name															
pHaserFrac 22 XL Gel; Linear Gel; 15% HCl;															
pHaserFrac 20 XL Gel; Linear Gel															
pHaserFrac 22 XL Gel; Linear Gel															
Stim/Treat Stages															
Interval 1															
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment			
1		1/7/2015		12,954.0		13,075.0		3013.79				SlickWater:939 bbl; pHaserFrac 22 XL Gel:1753 bbl;Linear Gel:298bbl;15% HCL:24bbl			
Stim/Treat Additives															
Stg #		Add			Type			Amount			Units		Sand Size		
1		Proppant			Ottawa 20/40			95,159.0			lb		20/40		
1		Proppant			Ottawa 40/70			3,843.0			lb		40/70		
Interval 2															
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment			
2		1/8/2015		12,775.0		12,896.0		3171.36				SlickWater:1019 bbl; pHaserFrac 22 XL Gel:1731 bbl;Linear Gel:398bbl;15% HCL:24bbl			
Stim/Treat Additives															
Stg #		Add			Type			Amount			Units		Sand Size		
2		Proppant			Ottawa 20/40			105,321.0			lb		20/40		
2		Proppant			Ottawa 40/70			3,200.0			lb		40/70		



Lease Review All - Frac Summary
Well Name: HORSETAIL 30F-3106

API Number	WPC ID	Well Permit Number	Field Name	County	State
051233920000	1CO0761037		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	4,797.40	4,780.40			13,210.0
Original Spud Date	Completion Date	Asset Group	Responsible Engineer	N/S Dist (ft)	N/S Ref
6/17/2014	1/15/2015	Redtail	Charles Ohlson	2,373.0	FNL
E/W Dist (ft)	E/W Ref				
	2,009.0				FWL
Lot	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Section
	SE	NW			30
Section Suffix	Section Type	Township	Township N/S Dir	Range	Range E/W Dir
		10	N	57	W
Meridian					

Lateral/Horizontal - Original Hole, 7/29/2015 3:32:58 PM			Stim/Treat Stages																																																																																																																																																																																							
<table><tr><td>MD (ftKB)</td><td>D (ft K B)</td><td>n c l (</td></tr><tr><td>48.6</td><td>48.6</td><td>12</td></tr><tr><td>1,536.4</td><td>1,536.7</td><td>24</td></tr><tr><td>1,759.8</td><td>1,759.0</td><td>18</td></tr><tr><td>3,289.0</td><td>3,286.5</td><td>12</td></tr><tr><td>4,885.2</td><td>4,881.3</td><td>17</td></tr><tr><td>4,945.5</td><td>4,941.7</td><td>17</td></tr><tr><td>5,576.1</td><td>5,574.2</td><td>82</td></tr><tr><td>5,588.9</td><td>5,587.1</td><td>82</td></tr><tr><td>5,958.0</td><td>5,949.9</td><td>84</td></tr><tr><td>6,043.0</td><td>6,041.7</td><td>84</td></tr><tr><td>6,168.0</td><td>6,164.4</td><td>84</td></tr><tr><td>6,345.1</td><td>6,342.2</td><td>84</td></tr><tr><td>6,461.9</td><td>6,458.1</td><td>84</td></tr><tr><td>6,638.1</td><td>6,634.4</td><td>84</td></tr><tr><td>6,759.8</td><td>6,757.9</td><td>84</td></tr><tr><td>6,936.0</td><td>6,933.0</td><td>84</td></tr><tr><td>7,057.1</td><td>7,053.3</td><td>84</td></tr><tr><td>7,233.9</td><td>7,230.4</td><td>84</td></tr><tr><td>7,357.9</td><td>7,354.7</td><td>84</td></tr><tr><td>7,536.1</td><td>7,532.8</td><td>84</td></tr><tr><td>7,652.9</td><td>7,649.6</td><td>84</td></tr><tr><td>7,830.1</td><td>7,827.4</td><td>84</td></tr><tr><td>7,951.1</td><td>7,948.5</td><td>84</td></tr><tr><td>8,128.0</td><td>8,124.7</td><td>84</td></tr><tr><td>8,244.1</td><td>8,240.8</td><td>84</td></tr><tr><td>8,425.9</td><td>8,421.1</td><td>84</td></tr><tr><td>8,546.9</td><td>8,542.2</td><td>84</td></tr><tr><td>8,724.1</td><td>8,720.7</td><td>84</td></tr><tr><td>8,845.1</td><td>8,842.1</td><td>84</td></tr><tr><td>9,022.0</td><td>9,018.3</td><td>84</td></tr><tr><td>9,143.0</td><td>9,139.4</td><td>84</td></tr><tr><td>9,318.9</td><td>9,315.7</td><td>84</td></tr><tr><td>9,440.9</td><td>9,437.0</td><td>84</td></tr><tr><td>9,617.1</td><td>9,613.4</td><td>84</td></tr><tr><td>9,738.8</td><td>9,735.2</td><td>84</td></tr><tr><td>9,917.0</td><td>9,913.1</td><td>84</td></tr><tr><td>10,036.1</td><td>10,032.8</td><td>84</td></tr><tr><td>10,212.9</td><td>10,209.5</td><td>84</td></tr><tr><td>10,334.0</td><td>10,330.9</td><td>84</td></tr><tr><td>10,511.2</td><td>10,507.7</td><td>84</td></tr><tr><td>10,631.9</td><td>10,628.1</td><td>84</td></tr><tr><td>10,809.1</td><td>10,805.2</td><td>84</td></tr><tr><td>10,928.1</td><td>10,924.2</td><td>84</td></tr><tr><td>11,104.0</td><td>11,100.8</td><td>84</td></tr><tr><td>11,228.0</td><td>11,224.8</td><td>84</td></tr><tr><td>11,404.9</td><td>11,401.9</td><td>84</td></tr><tr><td>11,525.9</td><td>11,521.5</td><td>84</td></tr><tr><td>11,703.1</td><td>11,698.4</td><td>84</td></tr><tr><td>11,824.1</td><td>11,819.7</td><td>84</td></tr><tr><td>12,001.0</td><td>11,996.1</td><td>84</td></tr><tr><td>12,118.1</td><td>12,113.4</td><td>84</td></tr><tr><td>12,297.9</td><td>12,293.9</td><td>84</td></tr><tr><td>12,419.9</td><td>12,415.2</td><td>84</td></tr><tr><td>12,596.1</td><td>12,591.5</td><td>84</td></tr><tr><td>12,717.8</td><td>12,713.9</td><td>84</td></tr><tr><td>12,894.0</td><td>12,889.4</td><td>84</td></tr><tr><td>13,015.1</td><td>13,010.1</td><td>84</td></tr><tr><td>13,103.7</td><td>13,098.3</td><td>84</td></tr><tr><td>13,197.5</td><td>13,193.7</td><td>84</td></tr></table>	MD (ftKB)	D (ft K B)	n c l (48.6	48.6	12	1,536.4	1,536.7	24	1,759.8	1,759.0	18	3,289.0	3,286.5	12	4,885.2	4,881.3	17	4,945.5	4,941.7	17	5,576.1	5,574.2	82	5,588.9	5,587.1	82	5,958.0	5,949.9	84	6,043.0	6,041.7	84	6,168.0	6,164.4	84	6,345.1	6,342.2	84	6,461.9	6,458.1	84	6,638.1	6,634.4	84	6,759.8	6,757.9	84	6,936.0	6,933.0	84	7,057.1	7,053.3	84	7,233.9	7,230.4	84	7,357.9	7,354.7	84	7,536.1	7,532.8	84	7,652.9	7,649.6	84	7,830.1	7,827.4	84	7,951.1	7,948.5	84	8,128.0	8,124.7	84	8,244.1	8,240.8	84	8,425.9	8,421.1	84	8,546.9	8,542.2	84	8,724.1	8,720.7	84	8,845.1	8,842.1	84	9,022.0	9,018.3	84	9,143.0	9,139.4	84	9,318.9	9,315.7	84	9,440.9	9,437.0	84	9,617.1	9,613.4	84	9,738.8	9,735.2	84	9,917.0	9,913.1	84	10,036.1	10,032.8	84	10,212.9	10,209.5	84	10,334.0	10,330.9	84	10,511.2	10,507.7	84	10,631.9	10,628.1	84	10,809.1	10,805.2	84	10,928.1	10,924.2	84	11,104.0	11,100.8	84	11,228.0	11,224.8	84	11,404.9	11,401.9	84	11,525.9	11,521.5	84	11,703.1	11,698.4	84	11,824.1	11,819.7	84	12,001.0	11,996.1	84	12,118.1	12,113.4	84	12,297.9	12,293.9	84	12,419.9	12,415.2	84	12,596.1	12,591.5	84	12,717.8	12,713.9	84	12,894.0	12,889.4	84	13,015.1	13,010.1	84	13,103.7	13,098.3	84	13,197.5	13,193.7	84	Logs	Interval 3				
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Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment																																																																																																																																																																																				
3	1/8/2015	12,596.0	12,718.0	3043.52		SlickWater:972 bbl; pHaserFrac 22 XL Gel:1749 bbl;Linear Gel:298bbl;15% HCL:24bbl																																																																																																																																																																																				
Stim/Treat Additives																																																																																																																																																																																										
Stg #	Add	Type	Amount	Units	Sand Size																																																																																																																																																																																					
3	Proppant	Ottawa 20/40	106,259.0	lb	20/40																																																																																																																																																																																					
3	Proppant	Ottawa 40/70	2,818.0	lb	40/70																																																																																																																																																																																					
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Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment																																																																																																																																																																																				
4	1/8/2015	12,418.0	12,539.0	3429.93		SlickWater:977 bbl; pHaserFrac 22 XL Gel:2132 bbl;Linear Gel:298bbl;15% HCL:24bbl																																																																																																																																																																																				
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Stg #	Add	Type	Amount	Units	Sand Size																																																																																																																																																																																					
4	Proppant	Ottawa 20/40	175,827.0	lb	20/40																																																																																																																																																																																					
4	Proppant	Ottawa 40/70	3,348.0	lb	40/70																																																																																																																																																																																					
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Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment																																																																																																																																																																																				
5	1/8/2015	12,239.0	12,360.0	3470.55		SlickWater:965 bbl; pHaserFrac 22 XL Gel:2184 bbl;Linear Gel:297bbl;15% HCL:24bbl																																																																																																																																																																																				
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5	Proppant	Ottawa 20/40	174,223.0	lb	20/40																																																																																																																																																																																					
5	Proppant	Ottawa 40/70	3,125.0	lb	40/70																																																																																																																																																																																					
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6	1/8/2015	12,060.0	12,181.0	3451.52		SlickWater:1006 bbl; pHaserFrac 22 XL Gel:2124 bbl;Linear Gel:298bbl;15% HCL:24bbl																																																																																																																																																																																				
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6	Proppant	Ottawa 20/40	173,295.0	lb	20/40																																																																																																																																																																																					
6	Proppant	Ottawa 40/70	2,822.0	lb	40/70																																																																																																																																																																																					
Interval 7																																																																																																																																																																																										
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment																																																																																																																																																																																				
7	1/9/2015	11,881.0	12,003.0	3463.26		SlickWater:976 bbl; pHaserFrac 22 XL Gel:2115 bbl;Linear Gel:349bbl;15% HCL:24bbl																																																																																																																																																																																				
Stim/Treat Additives																																																																																																																																																																																										
Stg #	Add	Type	Amount	Units	Sand Size																																																																																																																																																																																					
7	Proppant	Ottawa 20/40	171,218.0	lb	20/40																																																																																																																																																																																					
7	Proppant	Ottawa 40/70	2,465.0	lb	40/70																																																																																																																																																																																					
Interval 8																																																																																																																																																																																										
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment																																																																																																																																																																																				
8	1/9/2015	11,703.0	11,824.0	3365.31		SlickWater:933 bbl; pHaserFrac 22 XL Gel:2116 bbl;Linear Gel:316bbl																																																																																																																																																																																				
Stim/Treat Additives																																																																																																																																																																																										
Stg #	Add	Type	Amount	Units	Sand Size																																																																																																																																																																																					
8	Proppant	Ottawa 20/40	176,199.0	lb	20/40																																																																																																																																																																																					
8	Proppant	Ottawa 40/70	2,542.0	lb	40/70																																																																																																																																																																																					
Interval 9																																																																																																																																																																																										
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment																																																																																																																																																																																				
9	1/9/2015	11,524.0	11,647.0	3364.36		SlickWater:914 bbl; pHaserFrac 22 XL Gel:2152 bbl;Linear Gel:298 bbl																																																																																																																																																																																				
Stim/Treat Additives																																																																																																																																																																																										
Stg #	Add	Type	Amount	Units	Sand Size																																																																																																																																																																																					
9	Proppant	Ottawa 20/40	166,893.0	lb	20/40																																																																																																																																																																																					
9	Proppant	Ottawa 40/70	1,466.0	lb	40/70																																																																																																																																																																																					
Interval 10																																																																																																																																																																																										
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment																																																																																																																																																																																				
10	1/9/2015	11,345.0	11,469.0	3336.79		SlickWater:906 bbl; pHaserFrac 22 XL Gel:2132 bbl; Linear Gel:299bbl																																																																																																																																																																																				
Stim/Treat Additives																																																																																																																																																																																										
Stg #	Add	Type	Amount	Units	Sand Size																																																																																																																																																																																					
10	Proppant	Ottawa 20/40	176,534.0	lb	20/40																																																																																																																																																																																					
10	Proppant	Ottawa 40/70	2,677.0	lb	40/70																																																																																																																																																																																					
Interval 11																																																																																																																																																																																										
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment																																																																																																																																																																																				
11	1/9/2015	11,166.0	11,291.0	3303.33		SlickWater:872 bbl; pHaserFrac 22 XL Gel:2134 bbl; Linear Gel:297bbl																																																																																																																																																																																				
Stim/Treat Additives																																																																																																																																																																																										
Stg #	Add	Type	Amount	Units	Sand Size																																																																																																																																																																																					
11	Proppant	Ottawa 20/40	173,304.0	lb	20/40																																																																																																																																																																																					
11	Proppant	Ottawa 40/70	2,969.0	lb	40/70																																																																																																																																																																																					
Interval 12																																																																																																																																																																																										
Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment																																																																																																																																																																																				
12	1/9/2015	10,988.0	11,106.0	3456.62		SlickWater:895 bbl; pHaserFrac 22 XL Gel:2264 bbl;Linear Gel:298bbl																																																																																																																																																																																				

Lease Review All - Frac Summary																	
Well Name: HORSETAIL 30F-3106																	
API Number 051233920000			WPC ID 1CO0761037			Well Permit Number			Field Name DJ Horizontal Niobrara			County Weld		State CO			
Well Configuration Type Lateral/Horizontal			Orig KB Elv (ft) 4,797.40			Ground Elevation (ft) 4,780.40			Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 13,210.0				
Original Spud Date 6/17/2014		Completion Date 1/15/2015		Asset Group Redtail			Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,373.0		N/S Ref FNL		E/W Dist (ft) 2,009.0		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, 7/29/2015 3:33:01 PM																	
Stim/Treat Additives																	
MD (ftKB)	D (ft K B)	n (K B)	c (K B)	Vertical schematic (actual)	Logs	Stg #		Add		Type		Amount		Units		Sand Size	
						12		Proppant		Ottawa 20/40		175,759.0		lb		20/40	
						12		Proppant		Ottawa 40/70		2,609.0		lb		40/70	
Interval 13																	
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment					
13		1/10/2015		10,809.0		10,928.0		3300.33				SlickWater:870 bbl; pHaserFrac 22 XL Gel:2133 bbl;Linear Gel:298bbl					
Stim/Treat Additives																	
Stg #		Add		Type		Amount		Units		Sand Size							
13		Proppant		Ottawa 20/40		178,095.0		lb		20/40							
13		Proppant		Ottawa 40/70		2,735.0		lb		40/70							
Interval 14																	
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment					
14		1/10/2015		10,630.0		10,751.0		3325.29				SlickWater:903 bbl; pHaserFrac 22 XL Gel:2126 bbl;Linear Gel:297bbl					
Stim/Treat Additives																	
Stg #		Add		Type		Amount		Units		Sand Size							
14		Proppant		Ottawa 20/40		177,161.0		lb		20/40							
14		Proppant		Ottawa 40/70		2,602.0		lb		40/70							
Interval 15																	
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment					
15		1/10/2015		10,451.0		10,570.0		3455.43				SlickWater:847 bbl; pHaserFrac 22 XL Gel:2311 bbl;Linear Gel:298bbl					
Stim/Treat Additives																	
Stg #		Add		Type		Amount		Units		Sand Size							
15		Proppant		Ottawa 20/40		170,112.0		lb		20/40							
15		Proppant		Ottawa 40/70		2,951.0		lb		40/70							
Interval 16																	
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment					
16		1/10/2015		10,273.0		10,391.0		3315.88				SlickWater:841 bbl; pHaserFrac 22 XL Gel:2177 bbl;Linear Gel:298bbl					
Stim/Treat Additives																	
Stg #		Add		Type		Amount		Units		Sand Size							
16		Proppant		Ottawa 20/40		173,125.0		lb		20/40							
16		Proppant		Ottawa 40/70		3,021.0		lb		40/70							
Interval 17																	
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment					
17		1/10/2015		10,094.0		10,215.0		3286.90				SlickWater:841 bbl; pHaserFrac 22 XL Gel:2149 bbl; Linear Gel:298bbl					
Stim/Treat Additives																	
Stg #		Add		Type		Amount		Units		Sand Size							
17		Proppant		Ottawa 20/40		177,247.0		lb		20/40							
17		Proppant		Ottawa 40/70		2,879.0		lb		40/70							
Interval 18																	
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment					
18		1/10/2015		9,917.0		10,036.0		3347.07				SlickWater:890 bbl; pHaserFrac 22 XL Gel:2159 bbl;Linear Gel:298bbl					
Stim/Treat Additives																	
Stg #		Add		Type		Amount		Units		Sand Size							
18		Proppant		Ottawa 20/40		177,214.0		lb		20/40							
18		Proppant		Ottawa 40/70		2,864.0		lb		40/70							
Interval 19																	
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment					
19		1/10/2015		9,737.0		9,858.0		3270.24				SlickWater:821 bbl; pHaserFrac 22 XL Gel:2151 bbl;Linear Gel:298bbl					
Stim/Treat Additives																	
Stg #		Add		Type		Amount		Units		Sand Size							
19		Proppant		Ottawa 20/40		178,130.0		lb		20/40							
19		Proppant		Ottawa 40/70		2,915.0		lb		40/70							
Interval 20																	
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment					
20		1/11/2015		9,563.0		9,679.0		3246.05				SlickWater:795 bbl; pHaserFrac 22 XL Gel:2153 bbl;Linear Gel:297bbl					
Stim/Treat Additives																	
Stg #		Add		Type		Amount		Units		Sand Size							
20		Proppant		Ottawa 20/40		176,050.0		lb		20/40							
20		Proppant		Ottawa 40/70		2,507.0		lb		40/70							
Interval 21																	
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment					
21		1/11/2015		9,384.0		9,500.0		3205.50				SlickWater:789 bbl; pHaserFrac 22 XL Gel:2119 bbl;Linear Gel:298bbl					
Stim/Treat Additives																	
Stg #		Add		Type		Amount		Units		Sand Size							
21		Proppant		Ottawa 20/40		173,211.0		lb		20/40							
21		Proppant		Ottawa 40/70		2,871.0		lb		40/70							
Interval 22																	
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment					
22		1/11/2015		9,200.0		9,321.0		3206.29				SlickWater:786 bbl; pHaserFrac 22 XL Gel:2123 bbl;Linear Gel:298bbl					
Stim/Treat Additives																	
Stg #		Add		Type		Amount		Units		Sand Size							
22		Proppant		Ottawa 20/40		174,212.0		lb		20/40							



Lease Review All - Frac Summary
Well Name: HORSETAIL 30F-3106

API Number 051233920000		WPC ID 1CO0761037		Well Permit Number		Field Name DJ Horizontal Niobrara			County Weld			State CO			
Well Configuration Type Lateral/Horizontal				Orig KB Elv (ft) 4,797.40		Ground Elevation (ft) 4,780.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 13,210.0			
Original Spud Date 6/17/2014		Completion Date 1/15/2015		Asset Group Redtail			Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,373.0		N/S Ref FNL	E/W Dist (ft) 2,009.0		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, 7/29/2015 3:33:03 PM						Stim/Treat Additives								
MD (ftKB)	D (ft K B)	n (K B)	c (K B)	l (K B)	Vertical schematic (actual)	Logs	Stg #	Add		Type	Amount	Units	Sand Size	
							22	Proppant		Ottawa 40/70	3,976.0	lb	40/70	
Interval 23														
	48.6	988	12			23	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment		
	1,536.4	1,580.7	24				1/11/2015	9,022.0	9,143.0	3186.67		SlickWater:778 bbl; pHaserFrac 22 XL Gel:2111 bbl; Linear Gel:298bbl		
Stim/Treat Additives														
	1,759.8	1,788.0	18			Stg #	Add		Type		Amount	Units	Sand Size	
	3,289.0	3,286.5	12			23	Proppant		Ottawa 20/40		175,371.0	lb	20/40	
	4,885.2	4,881.3	12			23	Proppant		Ottawa 40/70		3,162.0	lb	40/70	
Interval 24														
	4,945.5	4,940.7	12			Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment		
	5,576.1	5,574.2	12			24	1/11/2015	8,843.0	8,964.0	3226.14		SlickWater:774 bbl; pHaserFrac 22 XL Gel:2134 bbl; Linear Gel:318bbl		
Stim/Treat Additives														
	5,588.9	5,582.1	12			Stg #	Add		Type		Amount	Units	Sand Size	
	5,958.0	5,942.4	18			24	Proppant		Ottawa 20/40		172,382.0	lb	20/40	
	6,043.0	6,041.7	18			24	Proppant		Ottawa 40/70		2,929.0	lb	40/70	
Interval 25														
	6,168.0	6,164.4	18			Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment		
	6,345.1	6,340.2	18			25	1/11/2015	8,664.0	8,785.0	3212.67		SlickWater:761 bbl; pHaserFrac 22 XL Gel:2152 bbl;Linear Gel:299bbl		
Stim/Treat Additives														
	6,461.9	6,458.1	18			Stg #	Add		Type		Amount	Units	Sand Size	
	6,638.1	6,634.4	18			25	Proppant		Ottawa 20/40		174,868.0	lb	20/40	
	6,759.8	6,757.9	18			25	Proppant		Ottawa 40/70		2,901.0	lb	40/70	
Interval 26														
	6,936.0	6,930.3	18			Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment		
	7,057.1	7,053.3	18			26	1/12/2015	8,485.0	8,609.0	3180.12		SlickWater:742 bbl; pHaserFrac 22 XL Gel:2141 bbl; Linear Gel:298bbl		
Stim/Treat Additives														
	7,233.9	7,230.4	18			Stg #	Add		Type		Amount	Units	Sand Size	
	7,357.9	7,353.7	18			26	Proppant		Ottawa 20/40		173,594.0	lb	20/40	
	7,536.1	7,531.9	18			26	Proppant		Ottawa 40/70		3,203.0	lb	40/70	
Interval 27														
	7,652.9	7,647.9	18			Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment		
	7,830.1	7,827.4	18			27	1/12/2015	8,307.0	8,428.0	3204.71		SlickWater:756 bbl; pHaserFrac 22 XL Gel:2151 bbl; Linear Gel:298bbl		
Stim/Treat Additives														
	7,951.1	7,948.5	18			Stg #	Add		Type		Amount	Units	Sand Size	
	8,128.0	8,124.7	18		27	Proppant		Ottawa 20/40		175,489.0	lb	20/40		
	8,244.1	8,241.8	18		27	Proppant		Ottawa 40/70		3,544.0	lb	40/70		
Interval 28														
	8,425.9	8,421.1	18		Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment			
	8,546.9	8,542.2	18		28	1/12/2015	8,128.0	8,244.0	3150.76		SlickWater:712 bbl; pHaserFrac 22 XL Gel:2141 bbl; Linear Gel:298bbl			
Stim/Treat Additives														
	8,724.1	8,720.7	18		Stg #	Add		Type		Amount	Units	Sand Size		
	8,845.1	8,841.1	18		28	Proppant		Ottawa 20/40		172,982.0	lb	20/40		
	9,022.0	9,018.3	18		28	Proppant		Ottawa 40/70		3,705.0	lb	40/70		
Interval 29														
	9,143.0	9,139.4	18		Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment			
	9,318.9	9,315.2	18		29	1/12/2015	7,949.0	8,072.0	3149.79		SlickWater:725 bbl; pHaserFrac 22 XL Gel:2117 bbl; Linear Gel:308bbl			
Stim/Treat Additives														
	9,440.9	9,437.2	18		Stg #	Add		Type		Amount	Units	Sand Size		
	9,617.1	9,613.4	18		29	Proppant		Ottawa 20/40		174,179.0	lb	20/40		
	9,738.8	9,735.2	18		29	Proppant		Ottawa 40/70		3,027.0	lb	40/70		
Interval 30														
	9,917.0	9,913.1	18		Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment			
	10,036.1	10,032.8	18		30	1/12/2015	7,770.0	7,896.0	3150.83		SlickWater:711 bbl; pHaserFrac 22 XL Gel:2142 bbl; Linear Gel:298bbl			
Stim/Treat Additives														
	10,212.9	10,210.5	18		Stg #	Add		Type		Amount	Units	Sand Size		
	10,334.0	10,331.3	18		30	Proppant		Ottawa 20/40		181,018.0	lb	20/40		
	10,511.2	10,507.7	18		30	Proppant		Ottawa 40/70		2,878.0	lb	40/70		
Interval 31														
	10,631.9	10,628.1	18		Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment			
	10,809.1	10,805.2	18		31	1/12/2015	7,592.0	7,716.0	3180.88		SlickWater:692 bbl; pHaserFrac 22 XL Gel:2186 bbl;Linear Gel:303 bbl			
Stim/Treat Additives														
	10,928.1	10,924.2	18		Stg #	Add		Type		Amount	Units	Sand Size		
	11,104.0	11,100.6	18		31	Proppant		Ottawa 20/40		180,755.0	lb	20/40		
	11,228.0	11,224.8	18		31	Proppant		Ottawa 40/70		2,949.0	lb	40/70		
Interval 32														
	11,404.9	11,401.3	18		Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment			
	11,525.9	11,522.5	18		32	1/13/2015	7,413.0	7,538.0	3138.88		SlickWater:686 bbl; pHaserFrac 22 XL Gel:2156 bbl;Linear Gel:297bbl			
Stim/Treat Additives														
	11,703.1	11,699.4	18		Stg #	Add		Type		Amount	Units	Sand Size		
	11,824.1	11,820.7	18		32	Proppant		Ottawa 20/40		176,853.0	lb	20/40		
	12,001.0	12,001.1	18		32	Proppant		Ottawa 40/70		2,803.0	lb	40/70		



Lease Review All - Frac Summary

Well Name: HORSETAIL 30F-3106

API Number 051233920000		WPC ID 1CO0761037		Well Permit Number		Field Name DJ Horizontal Niobrara		County Weld		State CO				
Well Configuration Type Lateral/Horizontal				Orig KB Elv (ft) 4,797.40		Ground Elevation (ft) 4,780.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 13,210.0		
Original Spud Date 6/17/2014		Completion Date 1/15/2015		Asset Group Redtail		Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,373.0		N/S Ref FNL	E/W Dist (ft) 2,009.0	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, 7/29/2015 3:33:06 PM						Stim/Treat Stages								
MD (ftKB)	D (ft K B)	n (K B)	c (K B)	l (K B)	Vertical schematic (actual)	Logs	Interval 33							
							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							33	1/13/2015	7,234.0	7,358.0	2961.93		SlickWater:667 bbl; pHaserFrac 22 XL Gel:2021 bbl; Linear Gel:274bbl	
Stim/Treat Additives							Stg #	Add	Type	Amount	Units	Sand Size		
							33	Proppant	Ottawa 20/40	141,926.0	lb	20/40		
							33	Proppant	Ottawa 40/70	4,227.0	lb	40/70		
Interval 34							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							34	1/13/2015	7,055.0	7,174.0	3128.21		SlickWater:686 bbl; pHaserFrac 22 XL Gel:2145 bbl;Linear Gel:297bbl	
Stim/Treat Additives							Stg #	Add	Type	Amount	Units	Sand Size		
							34	Proppant	Ottawa 20/40	173,637.0	lb	20/40		
							34	Proppant	Ottawa 40/70	2,345.0	lb	40/70		
Interval 35							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							35	1/13/2015	6,879.0	6,998.0	3121.90		SlickWater:756 bbl; pHaserFrac 22 XL Gel:2166 bbl; Linear Gel:200bbl	
Stim/Treat Additives							Stg #	Add	Type	Amount	Units	Sand Size		
							35	Proppant	Ottawa 20/40	178,795.0	lb	20/40		
							35	Proppant	Ottawa 40/70	2,529.0	lb	40/70		
Interval 36							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							36	1/13/2015	6,703.0	6,819.0	3089.55		SlickWater:647 bbl;pHaserFrac 20 XL Gel:2146 bbl;Linear Gel:296bbl	
Stim/Treat Additives							Stg #	Add	Type	Amount	Units	Sand Size		
							36	Proppant	Ottawa 20/40	179,084.0	lb	20/40		
							36	Proppant	Ottawa 40/70	2,477.0	lb	40/70		
Interval 37							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							37	1/13/2015	6,523.0	6,640.0	2997.60		SlickWater:638 bbl; pHaserFrac 20 XL Gel:2062 bbl;Linear Gel:298bbl	
Stim/Treat Additives							Stg #	Add	Type	Amount	Units	Sand Size		
							37	Proppant	Ottawa 20/40	156,786.0	lb	20/40		
							37	Proppant	Ottawa 40/70	1,822.0	lb	40/70		
Interval 38							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							38	1/13/2015	6,345.0	6,462.0	3051.52		SlickWater:632 bbl; pHaserFrac 20 XL Gel:2122 bbl;Linear Gel:297bbl	
Stim/Treat Additives							Stg #	Add	Type	Amount	Units	Sand Size		
							38	Proppant	Ottawa 20/40	174,000.0	lb	20/40		
							38	Proppant	Ottawa 40/70	2,259.0	lb	40/70		
Interval 39							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							39	1/14/2015	6,166.0	6,283.0	3053.52		SlickWater:622 bbl; pHaserFrac 20 XL Gel:2133 bbl;Linear Gel:298bbl	
Stim/Treat Additives							Stg #	Add	Type	Amount	Units	Sand Size		
							39	Proppant	Ottawa 20/40	175,451.0	lb	20/40		
							39	Proppant	Ottawa 40/70	2,678.0	lb	40/70		
Interval 40							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							40	1/14/2015	5,989.0	6,104.0	3032.02		SlickWater:602 bbl; pHaserFrac 20 XL Gel:2129 bbl;Linear Gel:301bbl	
Stim/Treat Additives							Stg #	Add	Type	Amount	Units	Sand Size		
							40	Proppant	Ottawa 20/40	171,568.0	lb	20/40		
							40	Proppant	Ottawa 40/70	3,387.0	lb	40/70		
Tubing - Production set at 5,589.0ftKB on 4/1/2015 06:00							Set Depth (ftKB) 5,589.0		Comment			Run Date 4/1/2015		Pull Date
		Item Des		OD (in)		ID (in)		Len (ft)		Top (ftKB)		Btm (ftKB)		
		Tubing Hanger		7		2.375		0.50		17.0		17.5		
		Tubing		2 3/8		1.995		31.07		17.5		48.6		
		Pup Jt 8.04ft 8.02ft 8.03ft		2 3/8		1.995		24.09		48.6		72.7		
		Tubing		2 3/8		1.995		1,683.13		72.7		1,755.8		
		CM-1 2.375 #7		2 3/8		1.995		4.05		1,755.8		1,759.9		
		Tubing		2 3/8		1.995		992.44		1,759.9		2,752.3		
		CM-1 2.375 #6		2 3/8		1.995		4.05		2,752.3		2,756.4		
		Tubing		2 3/8		1.995		528.73		2,756.4		3,285.1		
		CM-1 2.375 #5		2 3/8		1.995		4.08		3,285.1		3,289.2		
		Tubing		2 3/8		1.995		499.16		3,289.2		3,788.4		
		CM-1 2.375 #4		2 3/8		1.995		4.05		3,788.4		3,792.4		
		Tubing		2 3/8		1.995		621.06		3,792.4		4,413.5		



Lease Review All - Frac Summary
Well Name: HORSETAIL 30F-3106

API Number 051233920000			WPC ID 1CO0761037			Well Permit Number			Field Name DJ Horizontal Niobrara			County Weld			State CO													
Well Configuration Type Lateral/Horizontal						Orig KB Elv (ft) 4,797.40			Ground Elevation (ft) 4,780.40			Casing Flange Elevation (ft)			Tubing Head Elevation (ft)			Total Depth (ftKB) 13,210.0										
Original Spud Date 6/17/2014			Completion Date 1/15/2015			Asset Group Redtail			Responsible Engineer Charles Ohlson			N/S Dist (ft) 2,373.0			N/S Ref FNL		E/W Dist (ft) 2,009.0		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 W		Range E/W Dir		Meridian				
Lateral/Horizontal - Original Hole, 7/29/2015 3:33:08 PM										Item Des			OD (in)		ID (in)		Len (ft)		Top (ftKB)		Btm (ftKB)							
MD (ftKB)	D (ft K B)	n c l (<div>Vertical schematic (actual)</div>								Logs		CM-1 2.375 #3			2 3/8		1.995		4.04		4,413.5		4,417.5				
													Tubing			2 3/8		1.995		527.94		4,417.5		4,945.4				
													CM-1 2.375 #2			2 3/8		1.995		4.07		4,945.4		4,949.5				
													Tubing			2 3/8		1.995		589.82		4,949.5		5,539.3				
													CM-1 2.375 #1			2 3/8		1.995		4.06		5,539.3		5,543.4				
													Tubing			2 3/8		1.995		31.51		5,543.4		5,574.9				
													On-Off Tool			3.65		1.870		1.35		5,574.9		5,576.3				
													Packer			3.65		1.995		6.50		5,576.3		5,582.8				
													Pump Off Plug			2.622		1.500		0.79		5,582.8		5,583.5				
													Perf Sub			2 3/8		1.995		3.11		5,583.5		5,586.7				
													Pup Jt			2 3/8		1.995		2.09		5,586.7		5,588.7				
													Bull Plug			2 3/8				0.26		5,588.7		5,589.0				
													Rod Strings															
													<des> on <dttrun>															
													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		1/14/2015			3/29/2015			6,132.0		6,134.0		
													CFP			4		1/14/2015			3/29/2015			6,311.0		6,313.0		
CFP			4		1/14/2015			3/29/2015			6,489.0		6,491.0															
CFP			4		1/13/2015			3/29/2015			6,668.0		6,670.0															
CFP			4		1/13/2015			3/29/2015			6,847.0		6,849.0															
CFP			4		1/13/2015			3/29/2015			7,026.0		7,028.0															
CFP			4		1/13/2015			3/29/2015			7,204.0		7,206.0															
CFP			4		1/13/2015			3/29/2015			7,383.0		7,385.0															
CFP			4		1/13/2015			3/29/2015			7,562.0		7,564.0															
CFP			4		1/12/2015			3/29/2015			7,741.0		7,743.0															
CFP			4		1/12/2015			3/29/2015			7,919.0		7,921.0															
CFP			4		1/12/2015			3/29/2015			8,098.0		8,100.0															
CFP			4		1/12/2015			3/30/2015			8,277.0		8,279.0															
CFP			4		1/12/2015			3/30/2015			8,456.0		8,458.0															
CFP			4		1/12/2015			3/30/2015			8,634.0		8,636.0															
CFP			4		1/11/2015			3/30/2015			8,813.0		8,815.0															
CFP			4		1/11/2015			3/30/2015			8,992.0		8,994.0															
CFP			4		1/11/2015			3/30/2015			9,171.0		9,173.0															
CFP			4		1/11/2015			3/30/2015			9,349.0		9,351.0															
CFP			4		1/11/2015			3/30/2015			9,528.0		9,530.0															
CFP			4		1/11/2015			3/30/2015			9,707.0		9,709.0															
CFP			4		1/11/2015			3/30/2015			9,885.0		9,887.0															
CFP			4		1/10/2015			3/30/2015			10,064.0		10,066.0															
CFP			4		1/10/2015			3/30/2015			10,243.0		10,245.0															
CFP			4		1/10/2015			3/30/2015			10,422.0		10,424.0															
CFP			4		1/10/2015			3/30/2015			10,600.0		10,602.0															
CFP			4		1/10/2015			3/30/2015			10,779.0		10,781.0															
CFP			4		1/10/2015			3/30/2015			10,958.0		10,960.0															
CFP			4		1/10/2015			3/30/2015			11,137.0		11,139.0															
CFP			4		1/9/2015			3/30/2015			11,315.0		11,317.0															
CFP			4		1/9/2015			3/30/2015			11,494.0		11,496.0															
CFP			4		1/9/2015			3/30/2015			11,673.0		11,675.0															
CFP			4		1/9/2015			3/30/2015			11,852.0		11,854.0															
CFP			4		1/9/2015			3/30/2015			12,028.0		12,030.0															
CFP			4		1/8/2015			3/30/2015			12,203.0		12,205.0															
CFP			4		1/8/2015			3/30/2015			12,388.0		12,390.0															
CFP			4		1/8/2015			3/30/2015			12,570.0		12,572.0															
CFP			4		1/8/2015			3/30/2015			12,745.0		12,747.0															
CFP			4		1/8/2015			3/30/2015			12,924.0		12,926.0															
Bottom Hole Cores																												
Date				Core #			Top (ftKB)			Btm (ftKB)			Recov (ft)															