

Lease Review All - Frac Summary																		
Well Name: HORSETAIL 30F-3105																		
API Number 051233920200				WPC ID 1CO0761036				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) 13,013.0				
Original Spud Date 6/28/2014				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) 1,979.0		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 1:10:15 PM																		
Wellbore Sections																		
Vertical schematic (actual)																		
Logs																		
Wellbore Name																		
Start Date																		
Size (in)																		
Act Top (ftKB)																		
Act Btm (ftKB)																		
Original Hole																		
Original Hole																		
Original Hole																		
Original Hole																		
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, 1,588.0ftKB																		
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																		
1,541.3																		
1,517.24																		
Casing Joints																		
9 5/8																		
36.00																		
J-55																		
1,541.3																		
1,542.8																		
1.50																		
Float Collar																		
9 5/8																		
36.00																		
J-55																		
1,542.8																		
1,586.5																		
43.72																		
Casing Joints																		
9 5/8																		
36.00																		
J-55																		
1,586.5																		
1,588.0																		
1.50																		
Float Shoe																		
Frac String, 4,891.9ftKB																		
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																		
61.9																		
43.29																		
4.5# P-110 BTC-TXP 11.6# casing																		
4 1/2																		
61.9																		
65.5																		
3.61																		
4.5" BTC-TXP spaceout pup jt																		
4 1/2																		
11.60																		
65.5																		
4,880.9																		
4,815.41																		
4.5# P-110 BTC-TXP 11.6# casing																		
4 1/2																		
4,880.9																		
4,887.1																		
6.17																		
Pup Joint																		
5 1/4																		
4,887.1																		
4,891.9																		
4.81																		
Baker Hughes seal assembly																		
Intermediate Csg, 5,972.1ftKB																		
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																		
5,934.4																		
5,912.40																		
Casing Joints																		
7 3/4																		
29.00																		
P110																		
5,934.4																		
5,935.8																		
1.40																		
Float Collar																		
7																		
29.00																		
HCL-80																		
5,935.8																		
5,970.5																		
34.68																		
Casing Joints																		
7 3/4																		
29.00																		
P110																		
5,970.5																		
5,972.1																		
1.60																		
Float Shoe																		
Liner, 13,001.0ftKB																		
OD (in)																		
Wt (lb/ft)																		
Grade																		
Top (ftKB)																		
Btm (ftKB)																		
Len (ft)																		
Item Des																		
4 1/2																		
11.60																		
L-80																		
4,891.9																		
4,891.9																		
0.00																		
Casing Joints																		
4 1/2																		
11.60																		
L-80																		
4,891.9																		
4,891.9																		
0.00																		
Casing Joints																		
4 1/2																		
11.60																		
L-80																		
4,891.9																		
4,912.7																		
20.79																		
ZXP LINER TOP PACKER																		
4 1/2																		
11.60																		
L-80																		
4,912.7																		
4,919.3																		
6.65																		
HMC LINER HANGER																		
4 1/2																		
11.60																		
L-80																		
4,919.3																		
4,920.8																		
1.49																		
4.5 LTC TO VAM TOP XO																		
4 1/2																		
11.60																		
L-80																		
4,920.8																		
4,926.3																		
5.50																		
4.5 11.6 P110 PUP																		
4 1/2																		
11.60																		
L-80																		
4,926.3																		
12,855.4																		
7,929.07																		
Casing Joints																		
4 1/2																		
11.60																		
L-80																		
12,855.4																		
12,867.3																		
11.95																		
Alpha Sleeve																		
4 1/2																		
11.60																		
L-80																		
12,867.3																		
12,910.7																		
43.34																		
Casing Joints																		
4 1/2																		
11.60																		
L-80																		
12,910.7																		
12,912.3																		
1.59																		
Landing Collar																		
4 1/2																		
11.60																		
L-80																		
12,912.3																		
12,913.3																		
1.06																		
Float Collar																		
4 1/2																		
11.60																		
L-80																		
12,913.3																		
12,998.5																		
85.16																		
Casing Joints																		
4 1/2																		
11.60																		
L-80																		
12,998.5																		
13,001.0																		
2.52																		
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																		
6/28/2014																		
17.0																		
1,588.0																		
Returns to Surface																		
Intermediate Casing Cement																		
7/5/2014																		
17.0																		
5,972.1																		
Returns to Surface																		
Liner Cement																		
7/11/2014																		
4,891.9																		
13,001.0																		
Returns to Surface																		
Perforations																		
Type of Hole																		
Date																		
Top (ftKB)																		
Btm (ftKB)																		
Zone																		
Perforated Liner																		
1/14/2015																		
5,995.0																		
5,997.0																		
NIOBRARA, Original Hole																		
Perforated Liner																		
1/14/2015																		
6,054.0																		
6,056.0																		
NIOBRARA, Original Hole																		
Perforated Liner																		
1/14/2015																		
6,110.0																		
6,112.0																		
NIOBRARA, Original Hole																		
Perforated Liner																		
1/14/2015																		
6,167.0																		
6,169.0																		
NIOBRARA, Original Hole																		
Perforated Liner																		
1/14/2015																		
6,225.0																		
6,227.0																		
NIOBRARA, Original Hole																		
Perforated Liner																		
1/14/2015																		
6,282.0																		
6,284.0																		
NIOBRARA, Original Hole																		
Perforated Liner																		
1/14/2015																		
6,340.0																		
6,342.0																		
NIOBRARA, Original Hole																		
Perforated Liner																		
1/14/2015																		
6,400.0																		
6,402.0																		
NIOBRARA, Original Hole																		
Perforated Liner																		
1/14/2015																		
6,454.0																		
6,456.0																		
NIOBRARA, Original Hole																		
Perforated Liner																		
1/14/2015																		
6,512.0																		
6,514.0																		
NIOBRARA, Original Hole																		
Page 1/8																		
Report Printed: 8/19/2015																		



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Original Spud Date 6/28/2014		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) 1,979.0		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 1:10:18 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	1/14/2015	6,569.0	6,571.0	NIOBRARA, Original Hole	
					Perforated Liner	1/14/2015	6,627.0	6,629.0	NIOBRARA, Original Hole	
48.6	48.6	114			Perforated Liner	1/13/2015	6,684.0	6,686.0	NIOBRARA, Original Hole	
1,542.7	1,542.7	112			Perforated Liner	1/13/2015	6,684.0	6,686.0	NIOBRARA, Original Hole	
1,786.7	1,786.7	114			Perforated Liner	1/13/2015	6,741.0	6,743.0	NIOBRARA, Original Hole	
3,287.1	3,287.1	112			Perforated Liner	1/13/2015	6,856.0	6,858.0	NIOBRARA, Original Hole	
4,891.7	4,891.7	112			Perforated Liner	1/13/2015	6,914.0	6,916.0	NIOBRARA, Original Hole	
4,926.2	4,926.2	112			Perforated Liner	1/13/2015	6,971.0	6,973.0	NIOBRARA, Original Hole	
5,477.0	5,477.0	112			Perforated Liner	1/13/2015	7,029.0	7,031.0	NIOBRARA, Original Hole	
5,493.8	5,493.8	112			Perforated Liner	1/13/2015	7,086.0	7,088.0	NIOBRARA, Original Hole	
5,970.5	5,970.5	112			Perforated Liner	1/13/2015	7,143.0	7,145.0	NIOBRARA, Original Hole	
6,054.1	6,054.1	112			Perforated Liner	1/13/2015	7,201.0	7,203.0	NIOBRARA, Original Hole	
6,169.0	6,169.0	112			Perforated Liner	1/13/2015	7,258.0	7,260.0	NIOBRARA, Original Hole	
6,339.9	6,339.9	112			Perforated Liner	1/13/2015	7,316.0	7,318.0	NIOBRARA, Original Hole	
6,456.0	6,456.0	112			Perforated Liner	1/13/2015	7,370.0	7,372.0	NIOBRARA, Original Hole	
6,627.0	6,627.0	112			Perforated Liner	1/13/2015	7,431.0	7,433.0	NIOBRARA, Original Hole	
6,743.1	6,743.1	112			Perforated Liner	1/13/2015	7,488.0	7,490.0	NIOBRARA, Original Hole	
6,971.1	6,971.1	112			Perforated Liner	1/13/2015	7,545.0	7,547.0	NIOBRARA, Original Hole	
7,087.9	7,087.9	112			Perforated Liner	1/13/2015	7,603.0	7,605.0	NIOBRARA, Original Hole	
7,257.9	7,257.9	112			Perforated Liner	1/13/2015	7,660.0	7,662.0	NIOBRARA, Original Hole	
7,372.0	7,372.0	112			Perforated Liner	1/12/2015	7,720.0	7,722.0	NIOBRARA, Original Hole	
7,544.9	7,544.9	112			Perforated Liner	1/12/2015	7,775.0	7,777.0	NIOBRARA, Original Hole	
7,662.1	7,662.1	112			Perforated Liner	1/12/2015	7,832.0	7,834.0	NIOBRARA, Original Hole	
7,832.0	7,832.0	112			Perforated Liner	1/12/2015	7,890.0	7,892.0	NIOBRARA, Original Hole	
7,949.1	7,949.1	112			Perforated Liner	1/12/2015	7,947.0	7,949.0	NIOBRARA, Original Hole	
8,120.1	8,120.1	112			Perforated Liner	1/12/2015	8,005.0	8,007.0	NIOBRARA, Original Hole	
8,235.9	8,235.9	112			Perforated Liner	1/12/2015	8,062.0	8,064.0	NIOBRARA, Original Hole	
8,407.2	8,407.2	112			Perforated Liner	1/12/2015	8,120.0	8,122.0	NIOBRARA, Original Hole	
8,523.0	8,523.0	112			Perforated Liner	1/12/2015	8,173.0	8,175.0	NIOBRARA, Original Hole	
8,693.9	8,693.9	112			Perforated Liner	1/12/2015	8,234.0	8,236.0	NIOBRARA, Original Hole	
8,811.0	8,811.0	112			Perforated Liner	1/12/2015	8,292.0	8,294.0	NIOBRARA, Original Hole	
8,981.0	8,981.0	112			Perforated Liner	1/12/2015	8,347.0	8,349.0	NIOBRARA, Original Hole	
9,098.1	9,098.1	112			Perforated Liner	1/12/2015	8,407.0	8,409.0	NIOBRARA, Original Hole	
9,325.1	9,325.1	112			Perforated Liner	1/12/2015	8,464.0	8,466.0	NIOBRARA, Original Hole	
9,441.9	9,441.9	112			Perforated Liner	1/12/2015	8,521.0	8,523.0	NIOBRARA, Original Hole	
9,611.9	9,611.9	112			Perforated Liner	1/11/2015	8,579.0	8,581.0	NIOBRARA, Original Hole	
9,729.0	9,729.0	112			Perforated Liner	1/11/2015	8,636.0	8,638.0	NIOBRARA, Original Hole	
9,899.9	9,899.9	112			Perforated Liner	1/11/2015	8,694.0	8,696.0	NIOBRARA, Original Hole	
10,016.1	10,016.1	112			Perforated Liner	1/11/2015	8,751.0	8,753.0	NIOBRARA, Original Hole	
10,187.0	10,187.0	112			Perforated Liner	1/11/2015	8,809.0	8,811.0	NIOBRARA, Original Hole	
10,304.1	10,304.1	112			Perforated Liner	1/11/2015	8,869.0	8,871.0	NIOBRARA, Original Hole	
10,474.1	10,474.1	112			Perforated Liner	1/11/2015	8,923.0	8,925.0	NIOBRARA, Original Hole	
10,592.8	10,592.8	112			Perforated Liner	1/11/2015	8,981.0	8,983.0	NIOBRARA, Original Hole	
10,764.1	10,764.1	112			Perforated Liner	1/11/2015	9,043.0	9,045.0	NIOBRARA, Original Hole	
10,878.0	10,878.0	112			Perforated Liner	1/11/2015	9,096.0	9,098.0	NIOBRARA, Original Hole	
11,047.9	11,047.9	112			Perforated Liner	1/11/2015	9,096.0	9,098.0	NIOBRARA, Original Hole	
11,165.0	11,165.0	112			Perforated Liner	1/11/2015	9,153.0	9,155.0	NIOBRARA, Original Hole	
11,335.0	11,335.0	112			Perforated Liner	1/11/2015	9,268.0	9,270.0	NIOBRARA, Original Hole	
11,452.1	11,452.1	112			Perforated Liner	1/11/2015	9,325.0	9,327.0	NIOBRARA, Original Hole	
11,622.0	11,622.0	112			Perforated Liner	1/11/2015	9,383.0	9,385.0	NIOBRARA, Original Hole	
11,733.9	11,733.9	112			Perforated Liner	1/11/2015	9,440.0	9,442.0	NIOBRARA, Original Hole	
11,914.0	11,914.0	112			Perforated Liner	1/11/2015	9,498.0	9,500.0	NIOBRARA, Original Hole	
12,025.9	12,025.9	112			Perforated Liner	1/11/2015	9,555.0	9,557.0	NIOBRARA, Original Hole	
12,195.9	12,195.9	112			Perforated Liner	1/11/2015	9,612.0	9,614.0	NIOBRARA, Original Hole	
12,313.0	12,313.0	112			Perforated Liner	1/11/2015	9,670.0	9,672.0	NIOBRARA, Original Hole	
12,482.9	12,482.9	112			Perforated Liner	1/11/2015	9,727.0	9,729.0	NIOBRARA, Original Hole	
12,596.1	12,596.1	112			Perforated Liner	1/10/2015	9,785.0	9,787.0	NIOBRARA, Original Hole	
12,766.1	12,766.1	112			Perforated Liner	1/10/2015	9,842.0	9,844.0	NIOBRARA, Original Hole	
12,867.5	12,867.5	112			Perforated Liner	1/10/2015	9,900.0	9,902.0	NIOBRARA, Original Hole	
13,001.0	13,001.0	112			Perforated Liner	1/10/2015	9,957.0	9,959.0	NIOBRARA, Original Hole	
						Perforated Liner	1/10/2015	10,014.0	10,016.0	NIOBRARA, Original Hole
						Perforated Liner	1/10/2015	10,074.0	10,076.0	NIOBRARA, Original Hole
					Perforated Liner	1/10/2015	10,129.0	10,131.0	NIOBRARA, Original Hole	
					Perforated Liner	1/10/2015	10,187.0	10,189.0	NIOBRARA, Original Hole	
					Perforated Liner	1/10/2015	10,246.0	10,248.0	NIOBRARA, Original Hole	
					Perforated Liner	1/10/2015	10,302.0	10,304.0	NIOBRARA, Original Hole	
					Perforated Liner	1/10/2015	10,359.0	10,361.0	NIOBRARA, Original Hole	
					Perforated Liner	1/10/2015	10,419.0	10,421.0	NIOBRARA, Original Hole	
					Perforated Liner	1/10/2015	10,474.0	10,476.0	NIOBRARA, Original Hole	
					Perforated Liner	1/10/2015	10,531.0	10,533.0	NIOBRARA, Original Hole	



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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 1:10:20 PM								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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		



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API Number 051233920200		WPC ID 1CO0761036		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) 13,013.0			
Original Spud Date 6/28/2014		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) 1,979.0		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 1:10:22 PM						Stim/Treat Stages									
<div>MD (ftKB)</div> <div>D (ft K B)</div> <div>n c l (</div> <div>Vertical schematic (actual)</div> <div>Logs</div>						Interval 3									
						Stg # 3	Start Date 1/8/2015	Top (ftKB) 12,369.0	Btm (ftKB) 12,485.0	Vol Clean... 3097.17	Vol Slurry...	Comment SlickWater:1006 bbl; pHaserFrac 22 XL Gel:1770 bbl;Linear Gel:298bbl;15% HCL:24bbl			
						Stim/Treat Additives									
						Stg #	Add			Type		Amount		Units	Sand Size
						3	Proppant			Ottawa 20/40		106,339.0		lb	20/40
						3	Proppant			Ottawa 40/70		2,345.0		lb	40/70
						Interval 4									
						Stg # 4	Start Date 1/8/2015	Top (ftKB) 12,196.0	Btm (ftKB) 12,313.0	Vol Clean... 3424.83	Vol Slurry...	Comment SlickWater:928 bbl; pHaserFrac 22 XL Gel:2175 bbl;Linear Gel:298bbl;15% HCL:24bbl			
						Stim/Treat Additives									
						Stg #	Add			Type		Amount		Units	Sand Size
						4	Proppant			Ottawa 20/40		173,482.0		lb	20/40
						4	Proppant			Ottawa 40/70		2,696.0		lb	40/70
						Interval 5									
						Stg # 5	Start Date 1/8/2015	Top (ftKB) 12,024.0	Btm (ftKB) 12,141.0	Vol Clean... 3454.00	Vol Slurry...	Comment SlickWater:978 bbl; pHaserFrac 22 XL Gel:2154 bbl;Linear Gel:298bbl;15% HCL:24bbl			
						Stim/Treat Additives									
						Stg #	Add			Type		Amount		Units	Sand Size
						5	Proppant			Ottawa 20/40		173,537.0		lb	20/40
						5	Proppant			Ottawa 40/70		2,688.0		lb	40/70
						Interval 6									
						Stg # 6	Start Date 1/8/2015	Top (ftKB) 11,852.0	Btm (ftKB) 11,969.0	Vol Clean... 3434.55	Vol Slurry...	Comment SlickWater:997 bbl; pHaserFrac 22 XL Gel:2116 bbl;Linear Gel:298bbl;15% HCL:24bbl			
						Stim/Treat Additives									
						Stg #	Add			Type		Amount		Units	Sand Size
						6	Proppant			Ottawa 20/40		170,338.0		lb	20/40
						6	Proppant			Ottawa 40/70		2,528.0		lb	40/70
						Interval 7									
						Stg # 7	Start Date 1/9/2015	Top (ftKB) 11,680.0	Btm (ftKB) 11,796.0	Vol Clean... 3323.26	Vol Slurry...	Comment SlickWater:926 bbl; pHaserFrac 22 XL Gel:2099 bbl;Linear Gel:298bb			
						Stim/Treat Additives									
						Stg #	Add			Type		Amount		Units	Sand Size
						7	Proppant			Ottawa 20/40		170,156.0		lb	20/40
						7	Proppant			Ottawa 40/70		2,330.0		lb	40/70
						Interval 8									
						Stg # 8	Start Date 1/9/2015	Top (ftKB) 11,507.0	Btm (ftKB) 11,624.0	Vol Clean... 3348.98	Vol Slurry...	Comment SlickWater:925 bbl; pHaserFrac 22 XL Gel:2127 bbl;Linear Gel:297bbl			
						Stim/Treat Additives									
						Stg #	Add			Type		Amount		Units	Sand Size
						8	Proppant			Ottawa 20/40		170,270.0		lb	20/40
						8	Proppant			Ottawa 40/70		2,015.0		lb	40/70
						Interval 9									
						Stg # 9	Start Date 1/9/2015	Top (ftKB) 11,335.0	Btm (ftKB) 11,452.0	Vol Clean... 3313.43	Vol Slurry...	Comment SlickWater:894 bbl; pHaserFrac 22 XL Gel:2121 bbl;Linear Gel:298bbl			
						Stim/Treat Additives									
						Stg #	Add			Type		Amount		Units	Sand Size
						9	Proppant			Ottawa 20/40		173,562.0		lb	20/40
						9	Proppant			Ottawa 40/70		1,909.0		lb	40/70
						Interval 10									
						Stg # 10	Start Date 1/9/2015	Top (ftKB) 11,163.0	Btm (ftKB) 11,280.0	Vol Clean... 3337.90	Vol Slurry...	Comment SlickWater:887 bbl; pHaserFrac 22 XL Gel:2153 bbl;Linear Gel:298bbl;			
						Stim/Treat Additives									
						Stg #	Add			Type		Amount		Units	Sand Size
						10	Proppant			Ottawa 20/40		177,674.0		lb	20/40
						10	Proppant			Ottawa 40/70		3,474.0		lb	40/70
						Interval 11									
						Stg # 11	Start Date 1/9/2015	Top (ftKB) 10,991.0	Btm (ftKB) 11,107.0	Vol Clean... 3317.24	Vol Slurry...	Comment SlickWater:874 bbl; pHaserFrac 22 XL Gel:2142 bbl;Linear Gel:302bbl			
						Stim/Treat Additives									
						Stg #	Add			Type		Amount		Units	Sand Size
						11	Proppant			Ottawa 20/40		171,226.0		lb	20/40
						11	Proppant			Ottawa 40/70		2,248.0		lb	40/70
						Interval 12									
						Stg # 12	Start Date 1/9/2015	Top (ftKB) 10,818.0	Btm (ftKB) 10,935.0	Vol Clean... 3279.67	Vol Slurry...	Comment SlickWater:866 bbl; pHaserFrac 22 XL Gel:2113 bbl;Linear Gel:300bbl			
						Stim/Treat Additives									
						Stg #	Add			Type		Amount		Units	Sand Size
						12	Proppant			Ottawa 20/40		178,659.0		lb	20/40



Lease Review All - Frac Summary

Well Name: HORSETAIL 30F-3105

API Number 051233920200			WPC ID 1CO0761036			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) 13,013.0			
Original Spud Date 6/28/2014			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) 1,979.0		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		Meridian	
Lateral/Horizontal - Original Hole, 8/19/2015 1:10:25 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	
							12	Proppant		Ottawa 40/70		2,217.0		lb		40/70		
Interval 13																		
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment						
13		1/10/2015		10,646.0		10,766.0		3272.21				SlickWater:865 bbl; pHaserFrac 22 XL Gel:2110 bbl;Linear Gel:297bbl						
Stim/Treat Additives																		
Stg #		Add		Type		Amount		Units		Sand Size								
13		Proppant		Ottawa 20/40		173,392.0		lb		20/40								
13		Proppant		Ottawa 40/70		2,793.0		lb		40/70								
Interval 14																		
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment						
14		1/10/2015		10,474.0		10,593.0		3265.19				SlickWater:855 bbl; pHaserFrac 22 XL Gel:2112 bbl;Linear Gel:298bbl						
Stim/Treat Additives																		
Stg #		Add		Type		Amount		Units		Sand Size								
14		Proppant		Ottawa 20/40		173,443.0		lb		20/40								
14		Proppant		Ottawa 40/70		3,148.0		lb		40/70								
Interval 15																		
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment						
15		1/10/2015		10,302.0		10,421.0		3263.52				SlickWater:841 bbl; pHaserFrac 22 XL Gel:2124 bbl;Linear Gel:298bbl						
Stim/Treat Additives																		
Stg #		Add		Type		Amount		Units		Sand Size								
14		Proppant		Ottawa 20/40		175,542.0		lb		20/40								
14		Proppant		Ottawa 40/70		2,879.0		lb		40/70								
Interval 16																		
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment						
16		1/10/2015		10,129.0		10,248.0		3305.45				SlickWater:842 bbl; pHaserFrac 22 XL Gel:2166 bbl;Linear Gel:298bbl						
Stim/Treat Additives																		
Stg #		Add		Type		Amount		Units		Sand Size								
16		Proppant		Ottawa 20/40		172,954.0		lb		20/40								
16		Proppant		Ottawa 40/70		3,029.0		lb		40/70								
Interval 17																		
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment						
17		1/10/2015		9,957.0		10,076.0		3266.45				SlickWater:826 bbl; pHaserFrac 22 XL Gel:2142 bbl;Linear Gel:299bbl						
Stim/Treat Additives																		
Stg #		Add		Type		Amount		Units		Sand Size								
17		Proppant		Ottawa 20/40		173,263.0		lb		20/40								
17		Proppant		Ottawa 40/70		2,008.0		lb		40/70								
Interval 18																		
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment						
18		1/10/2015		9,785.0		9,902.0		3288.17				SlickWater:848 bbl; pHaserFrac 22 XL Gel:2142 bbl; Linear Gel:298bbl						
Stim/Treat Additives																		
Stg #		Add		Type		Amount		Units		Sand Size								
18		Proppant		Ottawa 20/40		174,933.0		lb		20/40								
18		Proppant		Ottawa 40/70		3,171.0		lb		40/70								
Interval 19																		
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment						
19		1/11/2015		9,612.0		9,729.0		3240.57				SlickWater:818 bbl; pHaserFrac 22 XL Gel:2125 bbl; Linear Gel:298bbl						
Stim/Treat Additives																		
Stg #		Add		Type		Amount		Units		Sand Size								
19		Proppant		Ottawa 20/40		175,269.0		lb		20/40								
19		Proppant		Ottawa 40/70		2,856.0		lb		40/70								
Interval 20																		
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment						
20		1/11/2015		9,440.0		9,557.0		3234.45				SlickWater:798 bbl; pHaserFrac 22 XL Gel:2138 bbl;Linear Gel:298bb						
Stim/Treat Additives																		
Stg #		Add		Type		Amount		Units		Sand Size								
20		Proppant		Ottawa 20/40		178,284.0		lb		20/40								
20		Proppant		Ottawa 40/70		2,839.0		lb		40/70								
Interval 21																		
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment						
21		1/11/2015		9,268.0		9,385.0		3217.05				SlickWater:786 bbl; pHaserFrac 22 XL Gel:2134 bbl;Linear Gel:297bbl						
Stim/Treat Additives																		
Stg #		Add		Type		Amount		Units		Sand Size								
21		Proppant		Ottawa 20/40		174,530.0		lb		20/40								
21		Proppant		Ottawa 40/70		2,718.0		lb		40/70								
Interval 22																		
Stg #		Start Date		Top (ftKB)		Btm (ftKB)		Vol Clean...		Vol Slurry...		Comment						
22		1/11/2015		9,096.0		9,155.0		3192.76				SlickWater:771 bbl; pHaserFrac 22 XL Gel:2124 bbl;Linear Gel:298bb						
Stim/Treat Additives																		
Stg #		Add		Type		Amount		Units		Sand Size								
22		Proppant		Ottawa 20/40		176,410.0		lb		20/40								
22		Proppant		Ottawa 40/70		3,201.0		lb		40/70								



Lease Review All - Frac Summary

Well Name: HORSETAIL 30F-3105

API Number 051233920200		WPC ID 1CO0761036		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) 13,013.0			
Original Spud Date 6/28/2014		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) 1,979.0	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 1:10:27 PM						Stim/Treat Stages								
MD (ftKB)	D (ftK B)	n (ft)	c (ft)	l (ft)	Vertical schematic (actual)	Logs	Interval 23							
							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							23	1/11/2015	8,923.0	9,045.0	3622.60		SlickWater:768 bbl; pHaserFrac 22 XL Gel:2494 bbl;Linear Gel:360bbl	
Stim/Treat Additives							Stg #	Add	Type		Amount		Units	Sand Size
							23	Proppant	Ottawa 20/40		175,387.0		lb	20/40
							23	Proppant	Ottawa 40/70		3,165.0		lb	40/70
Interval 24							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							24	1/11/2015	8,751.0	8,871.0	3280.93		SlickWater:805 bbl; pHaserFrac 22 XL Gel:2177 bbl;Linear Gel:299bbl	
Stim/Treat Additives							Stg #	Add	Type		Amount		Units	Sand Size
							24	Proppant	Ottawa 20/40		178,502.0		lb	20/40
							24	Proppant	Ottawa 40/70		2,815.0		lb	40/70
Interval 25							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							25	1/11/2015	8,579.0	8,696.0	3229.48		SlickWater:804 bbl; pHaserFrac 22 XL Gel:2126 bbl;Linear Gel:300bbl	
Stim/Treat Additives							Stg #	Add	Type		Amount		Units	Sand Size
							25	Proppant	Ottawa 20/40		168,488.0		lb	20/40
							25	Proppant	Ottawa 40/70		2,477.0		lb	40/70
Interval 26							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							26	1/12/2015	8,407.0	8,523.0	3203.17		SlickWater:748 bbl; pHaserFrac 22 XL Gel:2157 bbl;Linear Gel:298bbl	
Stim/Treat Additives							Stg #	Add	Type		Amount		Units	Sand Size
							26	Proppant	Ottawa 20/40		165,772.0		lb	20/40
							26	Proppant	Ottawa 40/70		2,597.0		lb	40/70
Interval 27							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							27	1/12/2015	8,234.0	8,349.0	3162.95		SlickWater:728 bbl; pHaserFrac 22 XL Gel:2137 bbl;Linear Gel:298bbl	
Stim/Treat Additives							Stg #	Add	Type		Amount		Units	Sand Size
							27	Proppant	Ottawa 20/40		173,899.0		lb	20/40
							27	Proppant	Ottawa 40/70		2,944.0		lb	40/70
Interval 28							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							28	1/12/2015	8,062.0	8,175.0	3130.07		SlickWater:710 bbl; pHaserFrac 22 XL Gel:2122 bbl;Linear Gel:298bbl	
Stim/Treat Additives							Stg #	Add	Type		Amount		Units	Sand Size
							28	Proppant	Ottawa 20/40		173,521.0		lb	20/40
							28	Proppant	Ottawa 40/70		3,491.0		lb	40/70
Interval 29							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							29	1/12/2015	7,890.0	8,007.0	3139.69		SlickWater:707 bbl; pHaserFrac 22 XL Gel:2136 bbl;Linear Gel:297bbl	
Stim/Treat Additives							Stg #	Add	Type		Amount		Units	Sand Size
							29	Proppant	Ottawa 20/40		176,769.0		lb	20/40
							29	Proppant	Ottawa 40/70		2,613.0		lb	40/70
Interval 30							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							30	1/12/2015	7,720.0	7,834.0	3145.36		SlickWater:715 bbl; pHaserFrac 22 XL Gel:2133 bbl; Linear Gel:297bbl	
Stim/Treat Additives							Stg #	Add	Type		Amount		Units	Sand Size
							30	Proppant	Ottawa 20/40		174,804.0		lb	20/40
							30	Proppant	Ottawa 40/70		2,856.0		lb	40/70
Interval 31							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							31	1/12/2015	7,545.0	7,662.0	3165.57		SlickWater:706 bbl; pHaserFrac 22 XL Gel:2158 bbl;Linear Gel:301bbl	
Stim/Treat Additives							Stg #	Add	Type		Amount		Units	Sand Size
							31	Proppant	Ottawa 20/40		171,792.0		lb	20/40
							31	Proppant	Ottawa 40/70		2,816.0		lb	40/70
Interval 32							Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
							32	1/13/2015	7,370.0	7,490.0	3120.52		SlickWater:681 bbl; pHaserFrac 22 XL Gel:2142 bbl;Linear Gel:298bbl	
Stim/Treat Additives							Stg #	Add	Type		Amount		Units	Sand Size
							32	Proppant	Ottawa 20/40		175,907.0		lb	20/40
							32	Proppant	Ottawa 40/70		2,384.0		lb	40/70



Lease Review All - Frac Summary
Well Name: HORSETAIL 30F-3105

API Number 051233920200			WPC ID 1CO0761036			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) 13,013.0		
Original Spud Date 6/28/2014		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) 1,979.0		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 1:10:30 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
48.6	888	12				33	1/13/2015	7,201.0	7,318.0	3118.43		SlickWater:687 bbl; pHaserFrac 22 XL Gel:2133 bbl;Linear Gel:298bbl	
1,542.7	1,580.3	12				Stim/Treat Additives							
						Stg #	Add		Type		Amount	Units	Sand Size
1,786.7	1,782.4	12				33	Proppant		Ottawa 20/40		170,625.0	lb	20/40
3,287.1	3,280.7	12				33	Proppant		Ottawa 40/70		3,207.0	lb	40/70
4,891.7	4,886.2	12				Interval 34							
4,926.2	4,918.7	12				Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
5,477.0	5,467.7	12				34	1/13/2015	7,029.0	7,145.0	3099.24		SlickWater:655 bbl; pHaserFrac 22 XL Gel:2146 bbl;Linear Gel:298bbl	
5,493.8	5,483.7	12				Stim/Treat Additives							
5,970.5	5,960.7	12				Stg #	Add		Type		Amount	Units	Sand Size
6,054.1	6,048.1	12				34	Proppant		Ottawa 20/40		172,887.0	lb	20/40
6,169.0	6,160.2	12				34	Proppant		Ottawa 40/70		2,701.0	lb	40/70
6,339.9	6,330.5	12				Interval 35							
6,456.0	6,446.5	12				Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
6,627.0	6,617.5	12				35	1/13/2015	6,856.0	6,973.0	3130.81		SlickWater:665 bbl; pHaserFrac 22 XL Gel:2168 bbl; Linear Gel:298bbl	
6,743.1	6,733.7	12				Stim/Treat Additives							
6,971.1	6,961.5	12				Stg #	Add		Type		Amount	Units	Sand Size
7,087.9	7,078.5	12				35	Proppant		Ottawa 20/40		181,909.0	lb	20/40
7,257.9	7,248.5	12				35	Proppant		Ottawa 40/70		1,596.0	lb	40/70
7,372.0	7,362.5	12				Interval 36							
7,544.9	7,535.5	12				Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
7,662.1	7,652.5	12				36	1/13/2015	6,684.0	6,743.0	3061.81		SlickWater:628 bbl; pHaserFrac 20 XL Gel:2122 bbl;Linear Gel:312bbl	
7,832.0	7,822.4	12				Stim/Treat Additives							
7,949.1	7,939.5	12				Stg #	Add		Type		Amount	Units	Sand Size
8,120.1	8,110.5	12				36	Proppant		Ottawa 20/40		173,788.0	lb	20/40
8,235.9	8,226.5	12				36	Proppant		Ottawa 40/70		1,705.0	lb	40/70
8,407.2	8,397.5	12				Interval 37							
8,523.0	8,513.5	12				Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
8,693.9	8,684.5	12				37	1/13/2015	6,512.0	6,629.0	3124.14		SlickWater:693 bbl; pHaserFrac 20 XL Gel:2134 bbl;Linear Gel:297bbl	
8,811.0	8,801.5	12				Stim/Treat Additives							
8,981.0	8,971.5	12				Stg #	Add		Type		Amount	Units	Sand Size
9,098.1	9,088.5	12				37	Proppant		Ottawa 20/40		176,017.0	lb	20/40
9,325.1	9,315.5	12				37	Proppant		Ottawa 40/70		1,602.0	lb	40/70
9,441.9	9,432.5	12				Interval 38							
9,611.9	9,602.5	12				Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment	
9,729.0	9,719.5	12				38	1/14/2015	6,340.0	6,456.0	3074.50		SlickWater:631 bbl;pHaserFrac 20 XL Gel:2146 bbl;Linear Gel:297bbl	
9,899.9	9,890.5	12				Stim/Treat Additives							
10,016.1	10,006.5	12				Stg #	Add		Type		Amount	Units	Sand Size
10,187.0	10,177.5	12				38	Proppant		Ottawa 20/40		180,356.0	lb	20/40
10,304.1	10,294.5	12				38	Proppant		Ottawa 40/70		1,828.0	lb	40/70
10,474.1	10,464.5	12			Interval 39								
10,592.8	10,583.5	12			Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment		
10,764.1	10,754.5	12			39	1/14/2015	6,167.0	6,284.0	3097.48		SlickWater:659 bbl;pHaserFrac 20 XL Gel:2141 bbl;Linear Gel:297bbl		
10,878.0	10,868.5	12			Stim/Treat Additives								
11,047.9	11,038.5	12			Stg #	Add		Type		Amount	Units	Sand Size	
11,165.0	11,155.5	12			39	Proppant		Ottawa 20/40		175,913.0	lb	20/40	
11,335.0	11,325.5	12			39	Proppant		Ottawa 40/70		1,417.0	lb	40/70	
11,452.1	11,442.5	12			Interval 40								
11,622.0	11,612.5	12			Stg #	Start Date	Top (ftKB)	Btm (ftKB)	Vol Clean...	Vol Slurry...	Comment		
11,733.9	11,724.5	12			40	1/14/2015	5,995.0	6,112.0	3006.05		SlickWater:557 bbl; pHaserFrac 20 XL Gel:2152 bbl;Linear Gel:297bbl		
11,914.0	11,904.5	12			Stim/Treat Additives								
12,025.9	12,016.5	12			Stg #	Add		Type		Amount	Units	Sand Size	
12,195.9	12,186.5	12			40	Proppant		Ottawa 20/40		172,802.0	lb	20/40	
12,313.0	12,303.5	12			40	Proppant		Ottawa 40/70		3,099.0	lb	40/70	
12,482.9	12,473.5	12			Tubing - Production set at 5,493.9ftKB on 4/5/2015 06:00								
12,596.1	12,586.5	12			Set Depth (ftKB)	Comment					Run Date	Pull Date	
12,766.1	12,756.5	12			5,493.9						4/5/2015		
12,867.5	12,857.5	12			Item Des	OD (in)		ID (in)	Len (ft)	Top (ftKB)	Btm (ftKB)		
13,001.0	12,991.5	12			Tubing Hanger	7		1.995	0.50	17.1	17.6		
					Tubing	2 3/8		1.995	31.00	17.6	48.6		
					Pup Jt 8.05ft 6.05ft 6.01ft 4.01ft	2 3/8		1.995	27.16	48.6	75.7		
					Tubing	2 3/8		1.995	1,706.90	75.7	1,782.6		
					Gas Lift Mandrel #7	2 3/8		1.995	4.07	1,782.6	1,786.7		
					Tubing	2 3/8		1.995	963.93	1,786.7	2,750.6		
					Gas Lift Mandrel #6	2 3/8		1.995	4.05	2,750.6	2,754.7		
					Tubing	2 3/8		1.995	528.25	2,754.7	3,282.9		
					Gas Lift Mandrel #5	2 3/8		1.995	4.05	3,282.9	3,287.0		
					Tubing	2 3/8		1.995	497.25	3,287.0	3,784.2		
					Gas Lift Mandrel #4	2 3/8		1.995	4.07	3,784.2	3,788.3		
					Tubing	2 3/8		1.995	621.19	3,788.3	4,409.5		



Lease Review All - Frac Summary
Well Name: HORSETAIL 30F-3105

API Number 051233920200		WPC ID 1CO0761036		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) 13,013.0					
Original Spud Date 6/28/2014		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) 1,979.0	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, 8/19/2015 1:10:32 PM						Item Des		OD (in)	ID (in)	Len (ft)		Top (ftKB)		Btm (ftKB)			
<div>MD (ftKB) 48.6 1,542.7 1,786.7 3,287.1 4,891.7 4,926.2 5,477.0 5,493.8 5,970.5 6,054.1 6,169.0 6,339.9 6,456.0 6,627.0 6,743.1 6,971.1 7,087.9 7,257.9 7,372.0 7,544.9 7,662.1 7,832.0 7,949.1 8,120.1 8,235.9 8,407.2 8,523.0 8,693.9 8,811.0 8,981.0 9,098.1 9,325.1 9,441.9 9,611.9 9,729.0 9,899.9 10,016.1 10,187.0 10,304.1 10,474.1 10,592.8 10,764.1 10,878.0 11,047.9 11,165.0 11,335.0 11,452.1 11,622.0 11,733.9 11,914.0 12,025.9 12,195.9 12,313.0 12,482.9 12,596.1 12,766.1 12,867.5 13,001.0</div>	<div>D (ft KB) 48.6 1,542.7 1,786.7 3,287.1 4,891.7 4,926.2 5,477.0 5,493.8 5,970.5 6,054.1 6,169.0 6,339.9 6,456.0 6,627.0 6,743.1 6,971.1 7,087.9 7,257.9 7,372.0 7,544.9 7,662.1 7,832.0 7,949.1 8,120.1 8,235.9 8,407.2 8,523.0 8,693.9 8,811.0 8,981.0 9,098.1 9,325.1 9,441.9 9,611.9 9,729.0 9,899.9 10,016.1 10,187.0 10,304.1 10,474.1 10,592.8 10,764.1 10,878.0 11,047.9 11,165.0 11,335.0 11,452.1 11,622.0 11,733.9 11,914.0 12,025.9 12,195.9 12,313.0 12,482.9 12,596.1 12,766.1 12,867.5 13,001.0</div>	<div>Vertical schematic (actual)</div>	Logs	Gas Lift Mandrel #3		2 3/8	1.995	4.06		4,409.5		4,413.6					
				Tubing		2 3/8	1.995	527.71		4,413.6		4,941.3					
				Gas Lift Mandrel #2		2 3/8	1.995	4.06		4,941.3		4,945.3					
				Tubing		2 3/8	1.995	496.28		4,945.3		5,441.6					
				Gas Lift Mandrel #1		2 3/8	1.995	4.08		5,441.6		5,445.7					
				Tubing		2 3/8	1.995	31.50		5,445.7		5,477.2					
				On-Off Tool		3 3/4	1.995	1.35		5,477.2		5,478.5					
				AS-1 Packer		3.766	1.922	7.67		5,478.5		5,486.2					
				Pump Off Plug		2.622	1.500	0.80		5,486.2		5,487.0					
				Perforated Pup Jt		2 3/8	1.998	6.22		5,487.0		5,493.2					
				Bull Plug		2 3/8		0.67		5,493.2		5,493.9					
				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		1/14/2015		4/2/2015		6,139.0		6,141.0			
				CFP		4		1/14/2015		4/2/2015		6,301.0		6,303.0			
				CFP		4		1/14/2015		4/2/2015		6,475.0		6,477.0			
				CFP		4		1/14/2015		4/2/2015		6,658.0		6,660.0			
				CFP		4		1/13/2015		4/2/2015		6,828.0		6,830.0			
				CFP		4		1/13/2015		4/2/2015		7,000.0		7,002.0			
				CFP		4		1/13/2015		4/2/2015		7,172.0		7,174.0			
				CFP		4		1/13/2015		4/2/2015		7,344.0		7,346.0			
				CFP		4		1/13/2015		4/2/2015		7,517.0		7,519.0			
				CFP		4		1/13/2015		4/2/2015		7,689.0		7,691.0			
				CFP		4		1/12/2015		4/2/2015		7,861.0		7,863.0			
				CFP		4		1/12/2015		4/2/2015		8,033.0		8,035.0			
				CFP		4		1/12/2015		4/2/2015		8,206.0		8,208.0			
				CFP		4		1/12/2015		4/2/2015		8,378.0		8,380.0			
				CFP		4		1/12/2015		4/2/2015		8,550.0		8,552.0			
				CFP		4		1/12/2015		4/2/2015		8,722.0		8,724.0			
				CFP		4		1/11/2015		4/2/2015		8,895.0		8,897.0			
				CFP		4		1/11/2015		4/2/2015		9,067.0		9,069.0			
				CFP		4		1/11/2015		4/2/2015		9,239.0		9,241.0			
				CFP		4		1/11/2015		4/2/2015		9,408.0		9,410.0			
				CFP		4		1/11/2015		4/2/2015		9,581.0		9,583.0			
				CFP		4		1/11/2015		4/2/2015		9,756.0		9,758.0			
				CFP		4		1/10/2015		4/2/2015		9,926.0		9,928.0			
				CFP		4		1/10/2015		4/2/2015		10,101.0		10,103.0			
				CFP		4		1/10/2015		4/2/2015		10,273.0		10,275.0			
				CFP		4		1/10/2015		4/2/2015		10,445.0		10,447.0			
				CFP		4		1/10/2015		4/2/2015		10,617.0		10,619.0			
				CFP		4		1/10/2015		4/2/2015		10,790.0		10,792.0			
				CFP		4		1/10/2015		4/2/2015		10,962.0		10,964.0			
				CFP		4		1/9/2015		4/2/2015		11,134.0		11,136.0			
				CFP		4		1/9/2015		4/2/2015		11,306.0		11,308.0			
				CFP		4		1/9/2015		4/3/2015		11,477.0		11,479.0			
				CFP		4		1/9/2015		4/3/2015		11,646.0		11,648.0			
				CFP		4		1/9/2015		4/3/2015		11,814.0		11,816.0			
				CFP		4		1/9/2015		4/3/2015		11,986.0		11,988.0			
				CFP		4		1/8/2015		4/3/2015		12,158.0		12,160.0			
				CFP		4		1/8/2015		4/3/2015		12,342.0		12,344.0			
				CFP		4		1/8/2015		4/3/2015		12,506.0		12,508.0			
				CFP		4		1/8/2015		4/3/2015		12,674.0		12,676.0			
				Bottom Hole Cores													
				Date				Core #		Top (ftKB)		Btm (ftKB)		Recov (ft)			