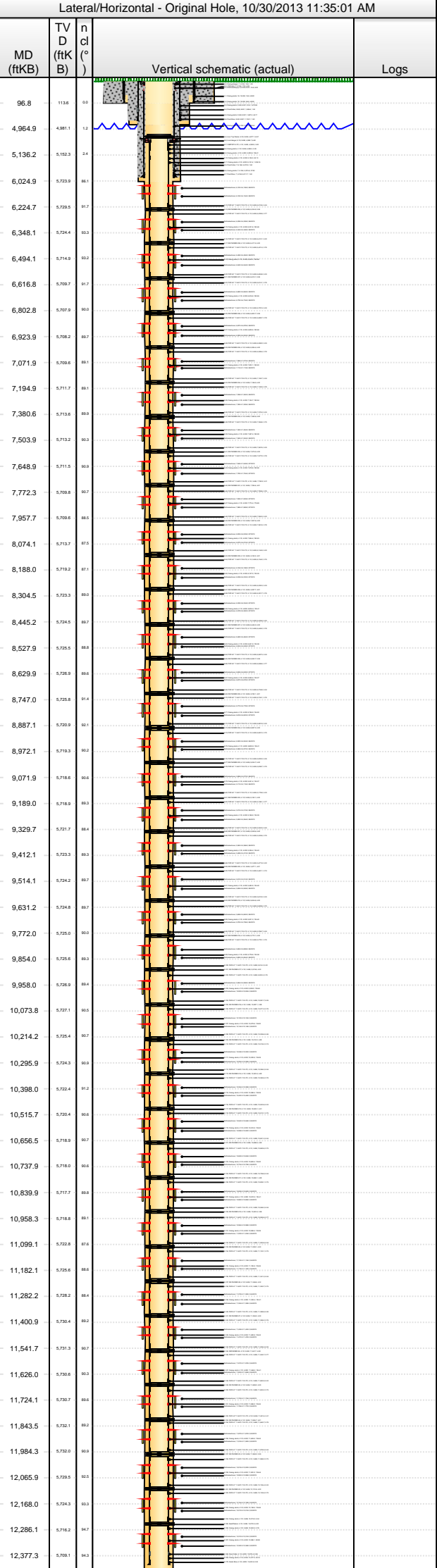




# Lease Review All CR

## Well Name: HORSETAIL 18-0713H

API Number 051233670200		WPC ID 1C0076882		Well Permit Number		Field Name DJ Horizontal Niobrara		County Weld		State CO	
Well Configuration Type Lateral/Horizontal		Orig KB Elv (ft) 4,840.20		Ground Elevation (ft) 4,823.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 12,435.0	
Original Spud Date 7/17/2013		Completion Date 9/10/2013		Asset Group Central Rockies Asset Group		Responsible Engineer Gary Nordlander		N/S Dist (ft) 330.0	N/S Ref FSL	E/W Dist (ft) 660.0	E/W Ref FWL
Lot	Quarter 1 SW	Quarter 2 SW	Quarter 3	Quarter 4	Section 18	Section Suffix	Section Type	Township 10 N	Township N/S Dir	Range 57 W	Meridian 6TH



Wellbore Sections						
Wellbore Name	Start Date	Size (in)	Act Top (ftKB)	Act Btm (ftKB)		
Original Hole	7/10/2013	24	16.8	96.8		
Original Hole	7/17/2013	13 1/2	96.8	1,763.0		
Original Hole	7/18/2013	8 3/4	1,763.0	6,025.0		
Original Hole	7/21/2013	6	6,025.0	12,435.0		
Conductor Pipe, 96.8ftKB						
OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
16	65.00	H-40	16.8	56.8	40.00	Casing Joints
16	65.00	H-40	56.8	96.8	40.00	Casing Joints
Surface Csg, 1,743.6ftKB						
OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
9 5/8	36.00	J-55	16.9	16.9	0.00	Landing Joint
9 5/8	36.00	J-55	16.9	22.9	6.00	Well head & pup Jt
9 5/8	36.00	J-55	22.9	1,696.4	1,673.58	Casing Joints
9 5/8	36.00	J-55	1,696.4	1,697.9	1.50	Float Collar
9 5/8	36.00	J-55	1,697.9	1,742.1	44.17	Casing Joints
9 5/8	36.00	J-55	1,742.1	1,743.6	1.50	Float Shoe
Frac String, 4,965.0ftKB						
OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
			-8.0	-7.4	0.60	Hanger
4 1/2	11.60	P-110	-7.4	27.3	34.69	Casing Joints
4 1/2	11.60	P-110	27.3	35.1	7.78	Casing PUP Joint
4 1/2	11.60	P-110	35.1	41.2	6.11	Casing PUP Joint
4 1/2	11.60	P-110	41.2	47.0	5.78	Casing PUP Joint
4 1/2	11.60	P-110	47.0	50.8	3.77	Casing PUP Joint
4 1/2	11.60	P-110	50.8	54.5	3.73	Casing PUP Joint
4 1/2	11.60	P-110	54.5	56.0	1.53	Casing PUP Joint
4 1/2	11.60	P-110	56.0	4,949.3	4,893.27	Casing Joints
4 1/2	11.60	P-110	4,949.3	4,955.3	6.02	Casing PUP Joint
5 3/4			4,955.3	4,965.0	9.68	Baker Seal Assembly
Intermediate Csg, 6,013.2ftKB						
OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
7	29.00	HCL-80	16.8	16.8	0.00	Landing Joint
7	29.00	HCL-80	16.8	17.8	1.00	Casing Hanger
7	29.00	HCL-80	17.8	21.8	4.00	PUP Joint
7	29.00	HCL-80	21.8	5,972.3	5,950.54	Casing Joints
7	29.00	HCL-80	5,972.3	5,973.8	1.50	Float Collar
7	29.00	HCL-80	5,973.8	6,011.7	37.90	Casing Joints
7	29.00	HCL-80	6,011.7	6,013.2	1.50	Float Shoe
Liner, 12,425.0ftKB						
OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
			4,964.9	4,964.9	0.00	CROSS OVER SUB
			4,964.9	4,964.9	0.00	BUMPER SUB
			4,964.9	4,964.9	0.00	DP STICKUP
			4,964.9	4,977.1	12.21	TIEBACK EXTENSION
6.184	11.60	P-110	4,977.1	4,985.7	8.57	Liner Top Packer
6.184	11.60	P-110	4,985.7	4,992.5	6.80	Liner Hanger
4 1/2	11.60	P-110	4,992.5	4,995.5	3.00	VAMTOP X LTC
4 1/2	11.60	P-110	4,995.5	5,000.8	5.33	Casing Joints
4 1/2	11.60	SeAH-90	5,000.8	5,136.2	135.41	Casing Joints
4 1/2	11.60	SeAH-90	5,136.2	5,181.4	45.13	Casing Joints
4 1/2	11.60	SeAH-90	5,181.4	6,219.5	1,038.16	Casing Joints
4 1/2	11.60	P-110	6,219.5	6,224.9	5.34	PUP 4.5" 11.6# P-110 LTC
4 1/2	11.60	P-110	6,224.9	6,228.9	3.99	RE PACKER #39
4 1/2	11.60	P-110	6,228.9	6,231.6	2.77	PUP 4.5" 11.6# P-110 LTC
4 1/2	11.60	SeAH-90	6,231.6	6,412.1	180.48	Casing Joints
4 1/2	11.60	P-110	6,412.1	6,417.4	5.32	PUP 4.5" 11.6# P-110 LTC
4 1/2	11.60	P-110	6,417.4	6,421.4	4.00	RE PACKER #38
4 1/2	11.60	P-110	6,421.4	6,424.2	2.76	PUP 4.5" 11.6# P-110 LTC
4 1/2	11.60	SeAH-90	6,424.2	6,604.8	180.56	Casing Joints
4 1/2	11.60	P-110	6,604.8	6,610.1	5.33	PUP 4.5" 11.6# P-110 LTC
4 1/2	11.60	P-110	6,610.1	6,614.1	3.99	RE PACKER #37
4 1/2	11.60	P-110	6,614.1	6,616.8	2.76	PUP 4.5" 11.6# P-110 LTC
4 1/2	11.60	SeAH-90	6,616.8	6,797.4	180.55	Casing Joints
4 1/2	11.60	P-110	6,797.4	6,802.7	5.33	PUP 4.5" 11.6# P-110 LTC
4 1/2	11.60	P-110	6,802.7	6,806.7	3.99	RE PACKER #36



## Lease Review All CR

### Well Name: HORSETAIL 18-0713H

API Number 051233670200		WPC ID 1C0076882		Well Permit Number		Field Name DJ Horizontal Niobrara		County Weld		State CO		
Well Configuration Type Lateral/Horizontal		Orig KB Elv (ft) 4,840.20		Ground Elevation (ft) 4,823.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 12,435.0		
Original Spud Date 7/17/2013		Completion Date 9/10/2013		Asset Group Central Rockies Asset Group		Responsible Engineer Gary Nordlander		N/S Dist (ft) 330.0	N/S Ref FSL	E/W Dist (ft) 660.0	E/W Ref FWL	
Lot	Quarter 1 SW	Quarter 2 SW	Quarter 3	Quarter 4	Section 18	Section Suffix	Section Type	Township 10 N	Township N/S Dir	Range 57 W	Range E/W Dir	Meridian 6TH

Lateral/Horizontal - Original Hole, 10/30/2013 11:35:04 AM				OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des	
MD (ftKB)	TV D (ftKB)	n cl (°)	Vertical schematic (actual)	Logs							
					4 1/2	11.60	P-110	6,806.7	6,809.5	2.78	PUP 4.5" 11.6# P-110 LTC
					4 1/2	11.60	SeAH-90	6,809.5	6,990.0	180.56	Casing Joints
					4 1/2	11.60	P-110	6,990.0	6,995.4	5.33	PUP 4.5" 11.6# P-110 LTC
96.8	113.6	10			4 1/2	11.60	P-110	6,995.4	6,999.4	4.00	RE PACKER #35
4,964.9	4,981.1	12			4 1/2	11.60	P-110	6,999.4	7,002.1	2.76	PUP 4.5" 11.6# P-110 LTC
5,136.2	5,152.4	14			4 1/2	11.60	SeAH-90	7,002.1	7,182.7	180.52	Casing Joints
6,024.9	5,723.3	81			4 1/2	11.60	P-110	7,182.7	7,188.0	5.33	PUP 4.5" 11.6# P-110 LTC
6,224.7	5,729.5	81.7			4 1/2	11.60	P-110	7,188.0	7,192.0	4.00	RE PACKER #34
6,348.1	5,724.4	83.3			4 1/2	11.60	P-110	7,192.0	7,194.7	2.76	PUP 4.5" 11.6# P-110 LTC
6,494.1	5,714.9	83.2			4 1/2	11.60	SeAH-90	7,194.7	7,375.3	180.54	Casing Joints
6,616.8	5,703.7	81.7			4 1/2	11.60	P-110	7,375.3	7,380.6	5.33	PUP 4.5" 11.6# P-110 LTC
6,802.8	5,707.9	80.0			4 1/2	11.60	P-110	7,380.6	7,384.6	4.00	RE PACKER #33
6,923.9	5,708.2	80.7			4 1/2	11.60	P-110	7,384.6	7,387.4	2.75	PUP 4.5" 11.6# P-110 LTC
7,071.9	5,700.6	81.1			4 1/2	11.60	SeAH-90	7,387.4	7,567.6	180.28	Casing Joints
7,194.9	5,711.7	81.1			4 1/2	11.60	P-110	7,567.6	7,573.0	5.33	PUP 4.5" 11.6# P-110 LTC
7,380.6	5,713.6	80.9			4 1/2	11.60	P-110	7,573.0	7,577.0	4.00	RE PACKER #32
7,503.9	5,713.2	80.3			4 1/2	11.60	P-110	7,577.0	7,579.8	2.78	PUP 4.5" 11.6# P-110 LTC
7,648.9	5,711.5	80.9			4 1/2	11.60	SeAH-90	7,579.8	7,760.3	180.56	Casing Joints
7,772.3	5,708.4	80.7			4 1/2	11.60	P-110	7,760.3	7,765.6	5.31	PUP 4.5" 11.6# P-110 LTC
7,957.7	5,709.4	80.5			4 1/2	11.60	P-110	7,765.6	7,769.6	4.01	RE PACKER #31
8,074.1	5,713.7	81.2			4 1/2	11.60	P-110	7,769.6	7,772.4	2.76	PUP 4.5" 11.6# P-110 LTC
8,188.0	5,719.2	81.1			4 1/2	11.60	SeAH-90	7,772.4	7,952.3	179.89	Casing Joints
8,304.5	5,723.3	80.0			4 1/2	11.60	P-110	7,952.3	7,957.6	5.32	PUP 4.5" 11.6# P-110 LTC
8,445.2	5,724.5	80.7			4 1/2	11.60	P-110	7,957.6	7,961.6	4.00	RE PACKER #30
8,527.9	5,725.5	80.8			4 1/2	11.60	P-110	7,961.6	7,964.4	2.76	PUP 4.5" 11.6# P-110 LTC
8,629.9	5,726.9	80.6			4 1/2	11.60	SeAH-90	7,964.4	8,144.9	180.53	Casing Joints
8,747.0	5,726.4	81.4			4 1/2	11.60	P-110	8,144.9	8,150.2	5.32	PUP 4.5" 11.6# P-110 LTC
8,887.1	5,720.9	81.1			4 1/2	11.60	P-110	8,150.2	8,154.2	4.01	RE PACKER #29
8,972.1	5,719.3	80.2			4 1/2	11.60	P-110	8,154.2	8,157.0	2.75	PUP 4.5" 11.6# P-110 LTC
9,071.9	5,718.4	80.6			4 1/2	11.60	SeAH-90	8,157.0	8,292.3	135.35	Casing Joints
9,189.0	5,718.9	80.3			4 1/2	11.60	P-110	8,292.3	8,297.7	5.33	PUP 4.5" 11.6# P-110 LTC
9,329.7	5,721.7	80.4			4 1/2	11.60	P-110	8,297.7	8,301.7	4.01	RE PACKER #28
9,412.1	5,723.3	80.3			4 1/2	11.60	P-110	8,301.7	8,304.4	2.76	PUP 4.5" 11.6# P-110 LTC
9,514.1	5,724.2	80.7			4 1/2	11.60	SeAH-90	8,304.4	8,439.8	135.41	Casing Joints
9,631.2	5,724.8	80.7			4 1/2	11.60	P-110	8,439.8	8,445.2	5.32	PUP 4.5" 11.6# P-110 LTC
9,772.0	5,725.0	80.0			4 1/2	11.60	P-110	8,445.2	8,449.2	4.00	RE PACKER #27
9,854.0	5,726.4	80.3			4 1/2	11.60	P-110	8,449.2	8,451.9	2.78	PUP 4.5" 11.6# P-110 LTC
9,958.0	5,726.9	80.4			4 1/2	11.60	SeAH-90	8,451.9	8,587.3	135.38	Casing Joints
10,073.8	5,727.1	80.5			4 1/2	11.60	P-110	8,587.3	8,592.7	5.34	PUP 4.5" 11.6# P-110 LTC
10,214.2	5,725.4	80.7			4 1/2	11.60	P-110	8,592.7	8,596.6	3.99	RE PACKER #26
10,295.9	5,724.3	80.6			4 1/2	11.60	P-110	8,596.6	8,599.4	2.77	PUP 4.5" 11.6# P-110 LTC
10,398.0	5,722.4	81.2			4 1/2	11.60	SeAH-90	8,599.4	8,734.8	135.37	Casing Joints
10,515.7	5,720.4	80.6			4 1/2	11.60	P-110	8,734.8	8,740.1	5.34	PUP 4.5" 11.6# P-110 LTC
10,656.5	5,718.9	80.7			4 1/2	11.60	P-110	8,740.1	8,744.1	4.01	RE PACKER #25
10,737.9	5,718.0	80.6			4 1/2	11.60	P-110	8,744.1	8,746.9	2.76	PUP 4.5" 11.6# P-110 LTC
10,839.9	5,717.7	80.8			4 1/2	11.60	SeAH-90	8,746.9	8,881.8	134.92	Casing Joints
10,958.3	5,718.8	80.1			4 1/2	11.60	P-110	8,881.8	8,887.1	5.33	PUP 4.5" 11.6# P-110 LTC
11,099.1	5,722.8	81.6			4 1/2	11.60	P-110	8,887.1	8,891.1	4.00	RE PACKER #24
11,182.1	5,725.6	80.8			4 1/2	11.60	P-110	8,891.1	8,893.9	2.75	PUP 4.5" 11.6# P-110 LTC
11,282.2	5,728.2	80.4			4 1/2	11.60	SeAH-90	8,893.9	9,029.3	135.41	Casing Joints
11,400.9	5,730.4	80.2			4 1/2	11.60	P-110				
11,541.7	5,731.3	80.7			4 1/2	11.60	P-110				
11,626.0	5,730.6	80.3			4 1/2	11.60	P-110				
11,724.1	5,730.7	80.5			4 1/2	11.60	SeAH-90				
11,843.5	5,732.1	80.2			4 1/2	11.60	P-110				
11,984.3	5,732.0	80.9			4 1/2	11.60	P-110				
12,065.9	5,730.5	80.3			4 1/2	11.60	P-110				
12,168.0	5,724.3	80.3			4 1/2	11.60	SeAH-90				
12,286.1	5,716.2	80.7			4 1/2	11.60	P-110				
12,377.3	5,709.1	80.3			4 1/2	11.60	SeAH-90				



## Lease Review All CR

### Well Name: HORSETAIL 18-0713H

API Number 051233670200		WPC ID 1C0076882		Well Permit Number		Field Name DJ Horizontal Niobrara		County Weld		State CO	
Well Configuration Type Lateral/Horizontal		Orig KB Elv (ft) 4,840.20		Ground Elevation (ft) 4,823.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 12,435.0	
Original Spud Date 7/17/2013		Completion Date 9/10/2013		Asset Group Central Rockies Asset Group		Responsible Engineer Gary Nordlander		N/S Dist (ft) 330.0	N/S Ref FSL	E/W Dist (ft) 660.0	E/W Ref FWL
Lot	Quarter 1 SW	Quarter 2 SW	Quarter 3	Quarter 4	Section 18	Section Suffix	Section Type	Township 10 N	Township N/S Dir	Range 57 W	Meridian 6TH

Lateral/Horizontal - Original Hole, 10/30/2013 11:35:07 AM				OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des	
MD (ftKB)	TV D (ftKB)	n cl (°)	Vertical schematic (actual)	Logs							
					4 1/2	11.60	P-110	9,029.3	9,034.7	5.35	PUP 4.5" 11.6# P-110 LTC
					4 1/2	11.60	P-110	9,034.7	9,038.7	4.00	RE PACKER #23
					4 1/2	11.60	P-110	9,038.7	9,041.4	2.75	PUP 4.5" 11.6# P-110 LTC
96.8	113.6	10			4 1/2	11.60	SeAH-90	9,041.4	9,176.8	135.37	Casing Joints
4,964.9	4,981.1	12			4 1/2	11.60	P-110	9,176.8	9,182.1	5.33	PUP 4.5" 11.6# P-110 LTC
5,136.2	5,152.3	14			4 1/2	11.60	P-110	9,182.1	9,186.1	4.00	RE PACKER #22
6,024.9	5,723.3	30			4 1/2	11.60	P-110	9,186.1	9,188.9	2.77	PUP 4.5" 11.6# P-110 LTC
6,224.7	5,729.5	31.7			4 1/2	11.60	SeAH-90	9,188.9	9,324.3	135.39	Casing Joints
6,348.1	5,724.4	33.3			4 1/2	11.60	P-110	9,324.3	9,329.6	5.34	PUP 4.5" 11.6# P-110 LTC
6,494.1	5,714.9	35.2			4 1/2	11.60	P-110	9,329.6	9,333.6	4.00	RE PACKER #21
6,616.8	5,703.7	37.5			4 1/2	11.60	P-110	9,333.6	9,336.4	2.75	PUP 4.5" 11.6# P-110 LTC
6,802.8	5,707.9	39.0			4 1/2	11.60	SeAH-90	9,336.4	9,471.8	135.43	Casing Joints
6,923.9	5,708.2	39.7			4 1/2	11.60	P-110	9,471.8	9,477.1	5.32	PUP 4.5" 11.6# P-110 LTC
7,071.9	5,700.6	41.1			4 1/2	11.60	P-110	9,477.1	9,481.1	4.01	RE PACKER #20
7,194.9	5,711.7	43.1			4 1/2	11.60	P-110	9,481.1	9,483.9	2.74	PUP 4.5" 11.6# P-110 LTC
7,380.6	5,713.6	44.9			4 1/2	11.60	SeAH-90	9,483.9	9,619.3	135.40	Casing Joints
7,503.9	5,713.2	45.3			4 1/2	11.60	P-110	9,619.3	9,624.6	5.33	PUP 4.5" 11.6# P-110 LTC
7,648.9	5,711.5	45.9			4 1/2	11.60	P-110	9,624.6	9,628.6	4.00	RE PACKER #19
7,772.3	5,708.8	46.7			4 1/2	11.60	P-110	9,628.6	9,631.3	2.75	PUP 4.5" 11.6# P-110 LTC
7,957.7	5,709.6	48.5			4 1/2	11.60	SeAH-90	9,631.3	9,766.7	135.40	Casing Joints
8,074.1	5,713.7	49.5			4 1/2	11.60	P-110	9,766.7	9,772.1	5.33	PUP 4.5" 11.6# P-110 LTC
8,188.0	5,719.2	51.1			4 1/2	11.60	P-110	9,772.1	9,776.1	4.00	RE PACKER #18
8,304.5	5,723.3	53.0			4 1/2	11.60	P-110	9,776.1	9,778.8	2.75	PUP 4.5" 11.6# P-110 LTC
8,445.2	5,724.5	53.7			4 1/2	11.60	SeAH-90	9,778.8	9,914.2	135.38	Casing Joints
8,527.9	5,725.5	54.8			4 1/2	11.60	P-110	9,914.2	9,919.5	5.32	PUP 4.5" 11.6# P-110 LTC
8,629.9	5,726.9	55.6			4 1/2	11.60	P-110	9,919.5	9,923.5	4.00	RE PACKER #17
8,747.0	5,726.8	56.4			4 1/2	11.60	P-110	9,923.5	9,926.3	2.75	PUP 4.5" 11.6# P-110 LTC
8,887.1	5,720.9	57.1			4 1/2	11.60	SeAH-90	9,926.3	10,061.7	135.44	Casing Joints
8,972.1	5,719.3	57.2			4 1/2	11.60	P-110	10,061.7	10,067.1	5.35	PUP 4.5" 11.6# P-110 LTC
9,071.9	5,718.6	57.6			4 1/2	11.60	P-110	10,067.1	10,071.1	3.99	RE PACKER #16
9,189.0	5,718.9	58.3			4 1/2	11.60	P-110	10,071.1	10,073.8	2.76	PUP 4.5" 11.6# P-110 LTC
9,329.7	5,721.7	58.4			4 1/2	11.60	SeAH-90	10,073.8	10,208.8	135.00	Casing Joints
9,412.1	5,723.3	58.3			4 1/2	11.60	P-110	10,208.8	10,214.2	5.36	PUP 4.5" 11.6# P-110 LTC
9,514.1	5,724.2	58.7		4 1/2	11.60	P-110	10,214.2	10,218.2	4.00	RE PACKER #15	
9,631.2	5,724.8	58.7		4 1/2	11.60	P-110	10,218.2	10,220.9	2.74	PUP 4.5" 11.6# P-110 LTC	
9,772.0	5,725.0	59.0		4 1/2	11.60	SeAH-90	10,220.9	10,356.3	135.39	Casing Joints	
9,854.0	5,726.6	59.3		4 1/2	11.60	P-110	10,356.3	10,361.6	5.34	PUP 4.5" 11.6# P-110 LTC	
9,958.0	5,728.9	59.4		4 1/2	11.60	P-110	10,361.6	10,365.6	4.00	RE PACKER #14	
10,073.8	5,727.1	59.5		4 1/2	11.60	P-110	10,365.6	10,368.4	2.76	PUP 4.5" 11.6# P-110 LTC	
10,214.2	5,725.4	59.7		4 1/2	11.60	SeAH-90	10,368.4	10,503.8	135.39	Casing Joints	
10,295.9	5,724.3	59.9		4 1/2	11.60	P-110	10,503.8	10,509.1	5.33	PUP 4.5" 11.6# P-110 LTC	
10,398.0	5,722.4	61.2		4 1/2	11.60	P-110	10,509.1	10,513.1	4.01	RE PACKER #13	
10,515.7	5,720.4	62.6		4 1/2	11.60	P-110	10,513.1	10,515.9	2.75	PUP 4.5" 11.6# P-110 LTC	
10,656.5	5,718.9	63.7		4 1/2	11.60	SeAH-90	10,515.9	10,651.3	135.42	Casing Joints	
10,737.9	5,718.0	63.6		4 1/2	11.60	P-110	10,651.3	10,656.6	5.34	PUP 4.5" 11.6# P-110 LTC	
10,839.9	5,717.7	63.8		4 1/2	11.60	P-110	10,656.6	10,660.6	4.00	RE PACKER #12	
10,958.3	5,718.8	63.1		4 1/2	11.60	P-110	10,660.6	10,663.4	2.75	PUP 4.5" 11.6# P-110 LTC	
11,099.1	5,722.8	67.6		4 1/2	11.60	SeAH-90	10,663.4	10,798.8	135.40	Casing Joints	
11,182.1	5,725.6	68.6		4 1/2	11.60	P-110	10,798.8	10,804.1	5.34	PUP 4.5" 11.6# P-110 LTC	
11,282.2	5,728.2	68.4		4 1/2	11.60	P-110	10,804.1	10,808.1	4.00	RE PACKER #11	
11,400.9	5,730.4	69.2									
11,541.7	5,731.3	69.7									
11,626.0	5,730.6	69.3									
11,724.1	5,730.7	69.5									
11,843.5	5,732.1	69.2									
11,984.3	5,732.0	69.9									
12,065.9	5,730.5	69.3									
12,168.0	5,724.3	69.3									
12,286.1	5,716.2	69.7									
12,377.3	5,709.1	69.3									



## Lease Review All CR

### Well Name: HORSETAIL 18-0713H

API Number 051233670200		WPC ID 1C0076882		Well Permit Number		Field Name DJ Horizontal Niobrara		County Weld		State CO	
Well Configuration Type Lateral/Horizontal		Orig KB Elv (ft) 4,840.20		Ground Elevation (ft) 4,823.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 12,435.0	
Original Spud Date 7/17/2013		Completion Date 9/10/2013		Asset Group Central Rockies Asset Group		Responsible Engineer Gary Nordlander		N/S Dist (ft) 330.0	N/S Ref FSL	E/W Dist (ft) 660.0	E/W Ref FWL
Lot	Quarter 1 SW	Quarter 2 SW	Quarter 3	Quarter 4	Section 18	Section Suffix	Section Type	Township 10 N	Township N/S Dir	Range 57 W	Meridian 6TH

Lateral/Horizontal - Original Hole, 10/30/2013 11:35:10 AM				OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
MD (ftKB)	TV D (ftKB)	n	cl	4 1/2	11.60	P-110	10,808.1	10,810.9	2.75	PUP 4.5" 11.6# P-110 LTC
				4 1/2	11.60	SeAH-90	10,810.9	10,946.3	135.41	Casing Joints
				4 1/2	11.60	P-110	10,946.3	10,951.6	5.34	PUP 4.5" 11.6# P-110 LTC
96.8	113.6	10		4 1/2	11.60	P-110	10,951.6	10,955.6	3.99	RE PACKER #10
4,964.9	4,981.1	12		4 1/2	11.60	P-110	10,955.6	10,958.4	2.77	PUP 4.5" 11.6# P-110 LTC
5,136.2	5,152.3	14		4 1/2	11.60	SeAH-90	10,958.4	11,093.8	135.38	Casing Joints
6,024.9	5,723.9	81		4 1/2	11.60	P-110	11,093.8	11,099.1	5.34	PUP 4.5" 11.6# P-110 LTC
6,224.7	5,729.5	81.7		4 1/2	11.60	P-110	11,099.1	11,103.1	4.00	RE PACKER #9
6,348.1	5,724.4	83.3		4 1/2	11.60	P-110	11,103.1	11,105.9	2.75	PUP 4.5" 11.6# P-110 LTC
6,494.1	5,714.9	83.2		4 1/2	11.60	SeAH-90	11,105.9	11,241.3	135.45	Casing Joints
6,616.8	5,707.7	81.7		4 1/2	11.60	P-110	11,241.3	11,246.7	5.34	PUP 4.5" 11.6# P-110 LTC
6,802.8	5,707.9	80.0		4 1/2	11.60	P-110	11,246.7	11,250.7	4.02	RE PACKER #8
6,923.9	5,708.2	80.7		4 1/2	11.60	P-110	11,250.7	11,253.4	2.75	PUP 4.5" 11.6# P-110 LTC
7,071.9	5,700.6	81.1		4 1/2	11.60	SeAH-90	11,253.4	11,388.8	135.41	Casing Joints
7,194.9	5,711.7	81.1		4 1/2	11.60	P-110	11,388.8	11,394.2	5.36	PUP 4.5" 11.6# P-110 LTC
7,380.6	5,713.6	80.9		4 1/2	11.60	P-110	11,394.2	11,398.2	4.00	RE PACKER #7
7,503.9	5,713.2	80.3		4 1/2	11.60	P-110	11,398.2	11,401.0	2.76	PUP 4.5" 11.6# P-110 LTC
7,648.9	5,711.5	80.9		4 1/2	11.60	SeAH-90	11,401.0	11,536.4	135.43	Casing Joints
7,772.3	5,708.8	80.7		4 1/2	11.60	P-110	11,536.4	11,541.7	5.32	PUP 4.5" 11.6# P-110 LTC
7,957.7	5,709.6	80.5		4 1/2	11.60	P-110	11,541.7	11,545.7	4.00	REPACKER #6
8,074.1	5,713.7	81.5		4 1/2	11.60	P-110	11,545.7	11,548.5	2.77	PUP 4.5" 11.6# P-110 LTC
8,188.0	5,719.2	81.1		4 1/2	11.60	SeAH-90	11,548.5	11,683.9	135.41	Casing Joints
8,304.5	5,723.3	80.0		4 1/2	11.60	P-110	11,683.9	11,689.2	5.33	PUP 4.5" 11.6# P-110 LTC
8,445.2	5,724.5	80.7		4 1/2	11.60	P-110	11,689.2	11,693.2	4.00	RE PACKER #5
8,527.9	5,725.5	80.8		4 1/2	11.60	P-110	11,693.2	11,696.0	2.75	PUP 4.5" 11.6# P-110 LTC
8,629.9	5,726.9	80.6		4 1/2	11.60	SeAH-90	11,696.0	11,831.4	135.45	Casing Joints
8,747.0	5,726.8	81.4		4 1/2	11.60	P-110	11,831.4	11,836.7	5.31	PUP 4.5" 11.6# P-110 LTC
8,887.1	5,720.9	81.1		4 1/2	11.60	P-110	11,836.7	11,840.7	4.01	RE PACKER #4
8,972.1	5,719.3	80.2		4 1/2	11.60	P-110	11,840.7	11,843.5	2.76	PUP 4.5" 11.6# P-110 LTC
9,071.9	5,718.6	80.6		4 1/2	11.60	SeAH-90	11,843.5	11,978.9	135.43	Casing Joints
9,189.0	5,718.9	80.3		4 1/2	11.60	P-110	11,978.9	11,984.3	5.34	PUP 4.5" 11.6# P-110 LTC
9,329.7	5,721.7	80.4		4 1/2	11.60	P-110	11,984.3	11,988.3	3.99	RE PACKER #3
9,412.1	5,723.3	80.3		4 1/2	11.60	P-110	11,988.3	11,991.0	2.75	PUP 4.5" 11.6# P-110 LTC
9,514.1	5,724.2	80.7		4 1/2	11.60	SeAH-90	11,991.0	12,126.4	135.44	Casing Joints
9,631.2	5,724.8	80.7		4 1/2	11.60	P-110	12,126.4	12,131.8	5.33	PUP 4.5" 11.6# P-110 LTC
9,772.0	5,725.0	80.0		4 1/2	11.60	P-110	12,131.8	12,135.8	4.00	RE PACKER #2
9,854.0	5,726.6	80.3		4 1/2	11.60	P-110	12,135.8	12,138.5	2.75	PUP 4.5" 11.6# P-110 LTC
9,958.0	5,728.9	80.6		4 1/2	11.60	SeAH-90	12,138.5	12,274.0	135.46	Casing Joints
10,073.8	5,727.1	80.5		4 1/2	11.60	P-110	12,274.0	12,279.3	5.34	Casing Joints
10,214.2	5,725.4	80.7		4 1/2	11.60	P-110	12,279.3	12,283.3	4.00	Swell Packer
10,295.9	5,724.3	80.6		4 1/2	11.60	P-110	12,283.3	12,286.1	2.76	Casing Joints
10,398.0	5,722.4	81.2		4 1/2	11.60	SeAH-90	12,286.1	12,376.4	90.28	Casing Joints
10,515.7	5,720.4	80.6		4 1/2	11.60	SeAH-90	12,376.4	12,377.3	0.96	Float Collar
10,656.5	5,718.9	80.7		4 1/2	11.60	SeAH-90	12,377.3	12,422.5	45.15	Casing Joints
10,737.9	5,718.0	80.6		4 1/2	11.60	SeAH-90	12,422.5	12,425.0	2.53	Guide Shoe
10,839.9	5,717.7	80.8								
10,958.3	5,718.8	80.1								
11,099.1	5,722.8	81.6								
11,182.1	5,725.6	80.6								
11,282.2	5,728.2	80.4								
11,400.9	5,720.4	80.2								
11,541.7	5,731.3	80.7								
11,626.0	5,730.6	80.3								
11,724.1	5,730.7	80.5								
11,843.5	5,721.1	80.2								
11,984.3	5,720.0	80.9								
12,065.9	5,720.5	80.5								
12,168.0	5,724.3	80.3								
12,286.1	5,716.2	80.7								
12,377.3	5,708.1	80.3								

Cement Stages					
Des	Pump Start Date	Drill Out Date	Top (ftKB)	Btm (ftKB)	Top Meas Meth
Conductor Cement	7/10/2013		16.8	96.8	Returns to Surface
Surface Casing Cement	7/17/2013		16.8	1,743.6	Returns to Surface
Intermediate Casing Cement	7/21/2013		16.8	6,013.2	Returns to Surface

Perforations				
Type of Hole	Date	Top (ftKB)	Btm (ftKB)	Zone
Perforated Liner	9/8/2013	6,102.0	6,106.0	Niobrara, Original Hole



## Lease Review All CR

### Well Name: HORSETAIL 18-0713H

API Number 051233670200		WPC ID 1CO076882		Well Permit Number		Field Name DJ Horizontal Niobrara		County Weld		State CO		
Well Configuration Type Lateral/Horizontal		Orig KB Elv (ft) 4,840.20		Ground Elevation (ft) 4,823.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 12,435.0		
Original Spud Date 7/17/2013		Completion Date 9/10/2013		Asset Group Central Rockies Asset Group		Responsible Engineer Gary Nordlander		N/S Dist (ft) 330.0	N/S Ref FSL	E/W Dist (ft) 660.0	E/W Ref FWL	
Lot	Quarter 1 SW	Quarter 2 SW	Quarter 3	Quarter 4	Section 18	Section Suffix	Section Type	Township 10 N	Township N/S Dir	Range 57 W	Range E/W Dir	Meridian 6TH

Lateral/Horizontal - Original Hole, 10/30/2013 11:35:14 AM				Perforations				
MD (ftKB)	TV D (ftKB)	n cl (°)	Logs	Type of Hole	Date	Top (ftKB)	Btm (ftKB)	Zone
				Perforated Liner	9/8/2013	6,150.0	6,154.0	Niobrara, Original Hole
96.8	113.6	10		Perforated Liner	9/8/2013	6,295.0	6,299.0	Niobrara, Original Hole
4,964.9	4,981.1	12		Perforated Liner	9/8/2013	6,344.0	6,348.0	Niobrara, Original Hole
5,136.2	5,152.3	14		Perforated Liner	9/8/2013	6,490.0	6,494.0	Niobrara, Original Hole
6,024.9	5,723.9	81		Perforated Liner	9/8/2013	6,540.0	6,544.0	Niobrara, Original Hole
6,224.7	5,726.5	81.7		Perforated Liner	9/8/2013	6,680.0	6,684.0	Niobrara, Original Hole
6,348.1	5,724.4	81.3		Perforated Liner	9/8/2013	6,730.0	6,734.0	Niobrara, Original Hole
6,494.1	5,714.9	81.3		Perforated Liner	9/8/2013	6,872.0	6,876.0	Niobrara, Original Hole
6,616.8	5,703.7	81.7		Perforated Liner	9/8/2013	6,920.0	6,924.0	Niobrara, Original Hole
6,802.8	5,707.9	80.0		Perforated Liner	9/8/2013	7,068.0	7,072.0	Niobrara, Original Hole
6,923.9	5,708.2	80.7		Perforated Liner	9/8/2013	7,115.0	7,119.0	Niobrara, Original Hole
7,071.9	5,700.6	80.1		Perforated Liner	9/8/2013	7,258.0	7,262.0	Niobrara, Original Hole
7,194.9	5,711.7	80.1		Perforated Liner	9/8/2013	7,305.0	7,309.0	Niobrara, Original Hole
7,380.6	5,713.6	80.9		Perforated Liner	9/8/2013	7,450.0	7,454.0	Niobrara, Original Hole
7,503.9	5,713.2	80.3		Perforated Liner	9/8/2013	7,500.0	7,504.0	Niobrara, Original Hole
7,648.9	5,711.5	80.9		Perforated Liner	9/8/2013	7,645.0	7,649.0	Niobrara, Original Hole
7,772.3	5,708.8	80.7		Perforated Liner	9/8/2013	7,700.0	7,704.0	Niobrara, Original Hole
7,957.7	5,709.6	80.5		Perforated Liner	9/8/2013	7,835.0	7,839.0	Niobrara, Original Hole
8,074.1	5,713.7	81.5		Perforated Liner	9/8/2013	7,885.0	7,889.0	Niobrara, Original Hole
8,188.0	5,719.2	81.1		Perforated Liner	9/8/2013	8,025.0	8,029.0	Niobrara, Original Hole
8,304.5	5,723.3	80.0		Perforated Liner	9/8/2013	8,070.0	8,074.0	Niobrara, Original Hole
8,445.2	5,724.5	80.7		Perforated Liner	9/7/2013	8,184.0	8,188.0	Niobrara, Original Hole
8,527.9	5,725.5	80.8		Perforated Liner	9/7/2013	8,228.0	8,232.0	Niobrara, Original Hole
8,629.9	5,726.9	80.6		Perforated Liner	9/7/2013	8,330.0	8,334.0	Niobrara, Original Hole
8,747.0	5,726.8	81.4		Perforated Liner	9/7/2013	8,378.0	8,382.0	Niobrara, Original Hole
8,887.1	5,720.9	81.1		Perforated Liner	9/7/2013	8,480.0	8,484.0	Niobrara, Original Hole
8,972.1	5,719.3	80.2		Perforated Liner	9/7/2013	8,524.0	8,528.0	Niobrara, Original Hole
9,071.9	5,718.6	80.6		Perforated Liner	9/7/2013	8,626.0	8,630.0	Niobrara, Original Hole
9,189.0	5,718.9	80.5	Perforated Liner	9/7/2013	8,672.0	8,676.0	Niobrara, Original Hole	
9,329.7	5,721.7	80.4	Perforated Liner	9/7/2013	8,774.0	8,778.0	Niobrara, Original Hole	
9,412.1	5,723.3	80.3	Perforated Liner	9/7/2013	8,818.0	8,822.0	Niobrara, Original Hole	
9,514.1	5,724.2	80.7	Perforated Liner	9/7/2013	8,920.0	8,924.0	Niobrara, Original Hole	
9,631.2	5,724.8	80.7	Perforated Liner	9/7/2013	8,968.0	8,972.0	Niobrara, Original Hole	
9,772.0	5,725.0	80.0	Perforated Liner	9/7/2013	9,068.0	9,072.0	Niobrara, Original Hole	
9,854.0	5,726.6	80.3	Perforated Liner	9/7/2013	9,112.0	9,116.0	Niobrara, Original Hole	
9,958.0	5,728.9	80.4	Perforated Liner	9/7/2013	9,215.0	9,219.0	Niobrara, Original Hole	
10,073.8	5,727.1	80.5	Perforated Liner	9/7/2013	9,260.0	9,264.0	Niobrara, Original Hole	
10,214.2	5,725.4	80.7	Perforated Liner	9/7/2013	9,362.0	9,366.0	Niobrara, Original Hole	
10,295.9	5,724.3	80.6	Perforated Liner	9/7/2013	9,408.0	9,412.0	Niobrara, Original Hole	
10,398.0	5,722.4	81.2	Perforated Liner	9/7/2013				
10,515.7	5,720.4	80.6	Perforated Liner	9/7/2013				
10,656.5	5,718.9	80.7	Perforated Liner	9/7/2013				
10,737.9	5,718.0	80.6	Perforated Liner	9/7/2013				
10,839.9	5,717.7	80.8	Perforated Liner	9/7/2013				
10,958.3	5,718.8	80.1	Perforated Liner	9/7/2013				
11,099.1	5,722.8	81.6	Perforated Liner	9/6/2013				
11,182.1	5,725.6	80.6	Perforated Liner	9/6/2013				
11,282.2	5,728.2	80.4	Perforated Liner	9/6/2013				
11,400.9	5,730.4	80.2	Perforated Liner	9/6/2013				
11,541.7	5,731.3	80.7	Perforated Liner	9/6/2013				
11,626.0	5,730.6	80.3	Perforated Liner	9/6/2013				
11,724.1	5,730.7	80.5	Perforated Liner	9/6/2013				
11,843.5	5,732.1	80.2	Perforated Liner	9/6/2013				
11,984.3	5,732.0	80.9	Perforated Liner	9/6/2013				
12,065.9	5,730.5	80.5	Perforated Liner	9/6/2013				
12,168.0	5,724.3	80.3	Perforated Liner	9/6/2013				
12,286.1	5,716.2	80.7	Perforated Liner	9/6/2013				
12,377.3	5,709.1	80.3	Perforated Liner	9/6/2013				



## Lease Review All CR

### Well Name: HORSETAIL 18-0713H

API Number 051233670200		WPC ID 1CO076882		Well Permit Number		Field Name DJ Horizontal Niobrara		County Weld		State CO		
Well Configuration Type Lateral/Horizontal		Orig KB Elv (ft) 4,840.20		Ground Elevation (ft) 4,823.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 12,435.0		
Original Spud Date 7/17/2013		Completion Date 9/10/2013		Asset Group Central Rockies Asset Group		Responsible Engineer Gary Nordlander		N/S Dist (ft) 330.0	N/S Ref FSL	E/W Dist (ft) 660.0	E/W Ref FWL	
Lot	Quarter 1 SW	Quarter 2 SW	Quarter 3	Quarter 4	Section 18	Section Suffix	Section Type	Township 10 N	Township N/S Dir	Range 57 W	Range E/W Dir	Meridian 6TH

Lateral/Horizontal - Original Hole, 10/30/2013 11:35:17 AM				Perforations				
MD (ftKB)	TV D (ftKB)	n cl (°)	Logs	Type of Hole	Date	Top (ftKB)	Btm (ftKB)	Zone
				Perforated Liner	9/6/2013	9,510.0	9,514.0	Niobrara, Original Hole
				Perforated Liner	9/6/2013	9,555.0	9,559.0	Niobrara, Original Hole
96.8	113.6	10		Perforated Liner	9/6/2013	9,658.0	9,662.0	Niobrara, Original Hole
4,964.9	4,981.1	12		Perforated Liner	9/6/2013	9,702.0	9,706.0	Niobrara, Original Hole
5,136.2	5,152.3	14		Perforated Liner	9/6/2013	9,804.0	9,808.0	Niobrara, Original Hole
6,024.9	5,729.3	61		Perforated Liner	9/6/2013	9,850.0	9,854.0	Niobrara, Original Hole
6,224.7	5,729.5	61.7		Perforated Liner	9/6/2013	9,954.0	9,958.0	Niobrara, Original Hole
6,348.1	5,724.4	63.3		Perforated Liner	9/6/2013	10,000.0	10,004.0	Niobrara, Original Hole
6,494.1	5,714.9	63.2		Perforated Liner	9/6/2013	10,100.0	10,104.0	Niobrara, Original Hole
6,616.8	5,700.7	61.7		Perforated Liner	9/6/2013	10,144.0	10,148.0	Niobrara, Original Hole
6,802.8	5,707.9	60.0		Perforated Liner	9/6/2013	10,248.0	10,252.0	Niobrara, Original Hole
6,923.9	5,708.2	60.7		Perforated Liner	9/6/2013	10,292.0	10,296.0	Niobrara, Original Hole
7,071.9	5,700.6	60.1		Perforated Liner	9/5/2013	10,394.0	10,398.0	Niobrara, Original Hole
7,194.9	5,711.7	60.1		Perforated Liner	9/5/2013	10,442.0	10,446.0	Niobrara, Original Hole
7,380.6	5,713.6	60.9		Perforated Liner	9/5/2013	10,542.0	10,546.0	Niobrara, Original Hole
7,503.9	5,713.2	60.3		Perforated Liner	9/5/2013	10,588.0	10,592.0	Niobrara, Original Hole
7,648.9	5,711.5	60.9		Perforated Liner	9/5/2013	10,690.0	10,694.0	Niobrara, Original Hole
7,772.3	5,708.8	60.7		Perforated Liner	9/5/2013	10,734.0	10,738.0	Niobrara, Original Hole
7,957.7	5,709.6	60.5		Perforated Liner	9/5/2013	10,836.0	10,840.0	Niobrara, Original Hole
8,074.1	5,713.7	61.5		Perforated Liner	9/5/2013	10,880.0	10,884.0	Niobrara, Original Hole
8,188.0	5,719.2	61.1		Perforated Liner	9/5/2013	10,984.0	10,988.0	Niobrara, Original Hole
8,304.5	5,723.3	60.0		Perforated Liner	9/5/2013	11,030.0	11,034.0	Niobrara, Original Hole
8,445.2	5,724.5	60.7		Perforated Liner	9/5/2013	11,130.0	11,134.0	Niobrara, Original Hole
8,527.9	5,725.5	60.8		Perforated Liner	9/5/2013	11,178.0	11,182.0	Niobrara, Original Hole
8,629.9	5,726.9	60.6		Perforated Liner	9/5/2013	11,278.0	11,282.0	Niobrara, Original Hole
8,747.0	5,726.8	61.4		Perforated Liner	9/5/2013	11,324.0	11,328.0	Niobrara, Original Hole
8,887.1	5,720.9	61.1		Perforated Liner	9/5/2013	11,428.0	11,432.0	Niobrara, Original Hole
8,972.1	5,719.3	60.2		Perforated Liner	9/5/2013	11,472.0	11,476.0	Niobrara, Original Hole
9,071.9	5,718.6	60.6	Perforated Liner	9/5/2013	11,572.0	11,576.0	Niobrara, Original Hole	
9,189.0	5,718.9	60.5	Perforated Liner	9/5/2013	11,622.0	11,626.0	Niobrara, Original Hole	
9,329.7	5,721.7	60.4	Perforated Liner	9/5/2013	11,720.0	11,724.0	Niobrara, Original Hole	
9,412.1	5,723.3	60.3	Perforated Liner	9/5/2013	11,766.0	11,770.0	Niobrara, Original Hole	
9,514.1	5,724.2	60.7	Perforated Liner	9/5/2013	11,870.0	11,874.0	Niobrara, Original Hole	
9,631.2	5,724.8	60.7	Perforated Liner	9/4/2013	11,916.0	11,920.0	Niobrara, Original Hole	
9,772.0	5,725.0	60.0	Perforated Liner	9/4/2013	12,016.0	12,020.0	Niobrara, Original Hole	
9,854.0	5,726.6	60.3	Perforated Liner	9/4/2013	12,062.0	12,066.0	Niobrara, Original Hole	
9,958.0	5,728.9	60.6	Perforated Liner	9/4/2013	12,164.0	12,168.0	Niobrara, Original Hole	
10,073.8	5,727.1	60.5	Perforated Liner	9/4/2013	12,210.0	12,214.0	Niobrara, Original Hole	
10,214.2	5,725.4	60.7	Perforated Liner	9/4/2013	12,310.0	12,314.0	Niobrara, Original Hole	
10,295.9	5,724.3	60.6	Perforated Liner	9/4/2013				
10,398.0	5,722.4	61.2	Perforated Liner	9/4/2013				
10,515.7	5,720.4	60.6	Perforated Liner	9/4/2013				
10,656.5	5,718.9	60.7	Perforated Liner	9/4/2013				
10,737.9	5,718.0	60.6	Perforated Liner	9/4/2013				
10,839.9	5,717.7	60.8	Perforated Liner	9/4/2013				
10,958.3	5,718.8	60.1	Perforated Liner	9/4/2013				
11,099.1	5,722.8	61.6	Perforated Liner	9/4/2013				
11,182.1	5,725.6	60.8	Perforated Liner	9/4/2013				
11,282.2	5,728.2	60.4	Perforated Liner	9/3/2013				
11,400.9	5,730.4	60.2	Perforated Liner	9/3/2013				
11,541.7	5,731.3	60.7	Perforated Liner	9/3/2013				
11,626.0	5,730.6	60.3	Perforated Liner	9/3/2013				
11,724.1	5,730.7	60.5	Perforated Liner	9/3/2013				
11,843.5	5,732.1	60.2	Perforated Liner	9/3/2013				
11,984.3	5,732.0	60.9	Perforated Liner	9/3/2013				
12,065.9	5,729.5	60.5	Perforated Liner	9/3/2013				
12,168.0	5,724.3	60.3	Perforated Liner	9/3/2013				
12,286.1	5,716.2	60.7	Perforated Liner	9/3/2013				
12,377.3	5,709.1	60.3	Perforated Liner	9/3/2013				



## Lease Review All CR

### Well Name: HORSETAIL 18-0713H

API Number 051233670200		WPC ID 1C0076882		Well Permit Number		Field Name DJ Horizontal Niobrara		County Weld		State CO	
Well Configuration Type Lateral/Horizontal		Orig KB Elv (ft) 4,840.20		Ground Elevation (ft) 4,823.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 12,435.0	
Original Spud Date 7/17/2013		Completion Date 9/10/2013		Asset Group Central Rockies Asset Group		Responsible Engineer Gary Nordlander		N/S Dist (ft) 330.0	N/S Ref FSL	E/W Dist (ft) 660.0	E/W Ref FWL
Lot	Quarter 1 SW	Quarter 2 SW	Quarter 3	Quarter 4	Section 18	Section Suffix	Section Type	Township 10 N	Township N/S Dir	Range 57 W	Range E/W Dir 6TH

Lateral/Horizontal - Original Hole, 10/30/2013 11:35:20 AM				Perforations					
MD (ftKB)	TV D (ftKB)	n cl (°)	Logs	Type of Hole	Date	Top (ftKB)	Btm (ftKB)	Zone	
				Perforated Liner	9/3/2013	12,342.0	12,346.0	Niobrara, Original Hole	
Vertical schematic (actual)				Stim/Treat Stages					
MD (ftKB)	TV D (ftKB)	n cl (°)	Logs	Stage Type	Start Date	Top (ftKB)	Btm (ftKB)	Stim/Treat Fluid	Vol Clean Pump (bbl)
96.8	113.6	10							
4,964.9	4,981.1	12		Frac	9/8/2013	6,102.0	6,154.0	10080#40/70prem,19380#CR C 20/40,181040#20/40 prem , Gelled Cond	4059.00
5,136.2	5,152.3	14							
6,024.9	5,723.3	81		Frac	9/8/2013	6,295.0	6,348.0	10000#40/70prem,19400#CR C 20/40,181000#20/40 prem , Gelled Cond	3981.00
6,224.7	5,729.5	81.7							
6,348.1	5,724.4	81.3		Frac	9/8/2013	6,490.0	6,544.0	10900#40/70prem,19000#CR C 20/40,165000#20/40 prem , Gelled Cond	3948.00
6,494.1	5,714.9	81.3							
6,616.8	5,703.7	81.7		Frac	9/8/2013	6,680.0	6,734.0	10900#40/70prem,19000#CR C 20/40,165000#20/40 prem , Gelled Cond	3947.00
6,802.8	5,707.9	80.0							
6,923.9	5,708.2	80.7		Frac	9/8/2013	6,872.0	6,924.0	8000#40/70 prem,17000#CRC 20/40,160000#20/40 prem , Gelled Cond	3962.00
7,071.9	5,700.6	80.1							
7,194.9	5,711.7	80.1		Frac	9/8/2013	7,068.0	7,119.0	8000#40/70 prem,17000#CRC 20/40,160000#20/40 prem , Gelled Cond	3956.00
7,380.6	5,713.6	80.9							
7,503.9	5,713.2	80.3		Frac	9/8/2013	7,258.0	7,309.0	9000#40/70 prem,17000#CRC 20/40,165000#20/40 prem , Gelled Cond	4000.00
7,648.9	5,711.5	80.9							
7,772.3	5,708.8	80.7		Frac	9/8/2013	7,450.0	7,504.0	9000#40/70 prem,17000#CRC 20/40,165000#20/40 prem , Gelled Cond	3980.00
7,957.7	5,709.6	80.5							
8,074.1	5,713.7	81.5		Frac	9/8/2013	7,645.0	7,704.0	9000#40/70 prem,17000#CRC 20/40,165000#20/40 prem , Gelled Cond	4000.00
8,188.0	5,719.2	81.1							
8,304.5	5,723.3	80.0		Frac	9/7/2013	7,835.0	7,889.0	9000#40/70 prem,17000#CRC 20/40,165000#20/40 prem , Gelled Cond	4012.00
8,445.2	5,724.5	80.7							
8,527.9	5,725.5	80.8		Frac	9/7/2013	8,025.0	8,074.0	9000#40/70 prem,17000#CRC 20/40,165000#20/40 prem , Gelled Cond	3994.00
8,629.9	5,726.9	80.6							
8,747.0	5,726.4	81.4		Frac	9/7/2013	8,184.0	8,232.0	9000#40/70 prem,17000#CRC 20/40,165000#20/40 prem , Gelled Cond	3995.00
8,887.1	5,720.9	81.1							
8,972.1	5,719.3	81.2		Frac	9/7/2013	8,330.0	8,382.0	9000#40/70 prem,17000#CRC 20/40,163500#20/40 prem , Gelled Cond	4003.00
9,071.9	5,718.4	80.6							
9,189.0	5,718.9	80.5		Frac	9/7/2013	8,480.0	8,528.0	9000#40/70 prem,17000#CRC 20/40,165000#20/40 prem , Gelled Cond	4002.00
9,329.7	5,721.7	80.4							
9,412.1	5,723.3	80.3		Frac	9/7/2013	8,626.0	8,676.0	9000#40/70 prem,17000#CRC 20/40,165000#20/40 prem , Gelled Cond	4026.00
9,514.1	5,724.2	80.7							
9,631.2	5,724.8	80.7		Frac	9/7/2013	8,774.0	8,822.0	9000#40/70 prem,1000#CRC 20/40,165000#20/40 prem , Gelled Cond	3976.00
9,772.0	5,725.0	80.0							
9,854.0	5,726.4	80.3		Frac	9/7/2013	8,920.0	8,972.0	9000#40/70 prem,16000#CRC 20/40,160000#20/40 prem , Gelled Cond	4029.00
9,958.0	5,726.9	80.4							
10,073.8	5,727.1	80.5		Frac	9/6/2013	9,068.0	9,116.0	9500#40/70 prem,16000#CRC 20/40,165000#20/40 prem , Gelled Cond	4049.00
10,214.2	5,725.4	80.7							
10,295.9	5,724.3	80.6		Frac	9/6/2013	9,215.0	9,264.0	9000#40/70 prem,16000#CRC 20/40,165000#20/40 prem , Gelled Cond	4048.00
10,398.0	5,722.4	81.2							
10,515.7	5,720.4	80.6		Frac	9/6/2013	9,362.0	9,412.0	9000#40/70 prem,16000#CRC 20/40,165000#20/40 prem , Gelled Cond	4045.00
10,656.5	5,718.9	80.7							
10,737.9	5,718.0	80.6		Frac	9/6/2013				
10,839.9	5,717.7	80.8							
10,958.3	5,718.8	80.1							
11,099.1	5,722.8	81.6							
11,182.1	5,725.6	80.6							
11,282.2	5,728.2	80.4							
11,400.9	5,720.4	80.2							
11,541.7	5,731.3	80.7							
11,626.0	5,730.6	80.3							
11,724.1	5,730.7	80.5							
11,843.5	5,732.1	80.2							
11,984.3	5,732.0	80.9							
12,065.9	5,729.5	80.5							
12,168.0	5,724.3	80.3							
12,286.1	5,716.2	80.7							
12,377.3	5,709.1	80.3							



## Lease Review All CR

### Well Name: HORSETAIL 18-0713H

API Number 051233670200		WPC ID 1CO076882		Well Permit Number		Field Name DJ Horizontal Niobrara		County Weld		State CO		
Well Configuration Type Lateral/Horizontal		Orig KB Elv (ft) 4,840.20		Ground Elevation (ft) 4,823.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 12,435.0		
Original Spud Date 7/17/2013		Completion Date 9/10/2013		Asset Group Central Rockies Asset Group		Responsible Engineer Gary Nordlander		N/S Dist (ft) 330.0	N/S Ref FSL	E/W Dist (ft) 660.0	E/W Ref FWL	
Lot	Quarter 1 SW	Quarter 2 SW	Quarter 3	Quarter 4	Section 18	Section Suffix	Section Type	Township 10 N	Township N/S Dir	Range 57	Range E/W Dir W	Meridian 6TH

Lateral/Horizontal - Original Hole, 10/30/2013 11:35:23 AM **Stim/Treat Stages**

MD (ftKB)	TV D (ftKB)	n cl (°)	Vertical schematic (actual)	Logs	Stage Type	Start Date	Top (ftKB)	Btm (ftKB)	Stim/Treat Fluid	Vol Clean Pump (bbl)
96.8	113.6	10			Frac	9/6/2013	9,510.0	9,559.0	9000#40/70 prem,16000#CRC 20/40,163000#20/40 prem , Gelled Cond	4068.00
4,964.9	4,981.1	12		Frac	9/6/2013	9,658.0	9,706.0	9000#40/70 prem,16000#CRC 20/40,163000#20/40 prem , Gelled Cond	4077.00	
5,136.2	5,152.3	14		Frac	9/5/2013	9,804.0	9,854.0	9000#40/70 prem,16000#CRC 20/40,162500#20/40 prem , Gelled Cond	4107.00	
6,024.9	5,729.3	81		Frac	9/5/2013	9,954.0	10,004.0	9000#40/70 prem,17000#CRC 20/40,160000#20/40 prem , Gelled Cond	4072.00	
6,224.7	5,729.5	81.7		Frac	9/5/2013	10,100.0	10,148.0	8500#40/70 prem,14800#CRC 20/40,162000#20/40 prem , Gelled Cond	4057.00	
6,348.1	5,724.4	83.3		Frac	9/5/2013	10,248.0	10,296.0	8500#40/70 prem,15000#CRC 20/40,162500#20/40 prem , Gelled Cond	4111.00	
6,494.1	5,714.9	83.2		Frac	9/5/2013	10,394.0	10,446.0	9000#40/70 prem,15000#CRC 20/40,167500#20/40 prem , Gelled Cond	4104.00	
6,616.8	5,709.7	81.7		Frac	9/5/2013	10,542.0	10,592.0	8800#40/70 prem,15200#CRC 20/40,170500#20/40 prem , Gelled Cond	4132.00	
6,802.8	5,707.9	80.0		Frac	9/5/2013	10,690.0	10,738.0	8600#40/70 prem,14000#CRC 20/40,165700#20/40 prem , Gelled Cond	4070.00	
6,923.9	5,708.2	80.7		Frac	9/4/2013	10,836.0	10,884.0	9000#40/70 prem,16000#CRC 20/40,160000#20/40 prem , Gelled Cond	4104.00	
7,071.9	5,700.6	80.1		Frac	9/4/2013	10,984.0	11,034.0	9000#40/70 prem,13000#CRC 20/40,165000#20/40 prem , Gelled Cond	4620.00	
7,194.9	5,711.7	80.1		Frac	9/4/2013	11,130.0	11,182.0	10000#40/70prem,16000#CR C 20/40,165000#20/40 prem , Gelled Cond	4636.00	
7,380.6	5,713.6	80.9		Frac	9/4/2013	11,278.0	11,328.0	10000#40/70prem,15000#CR C 20/40,165000#20/40 prem , Gelled Cond	4684.00	
7,503.9	5,713.2	80.3		Frac	9/4/2013	11,428.0	11,476.0	9100#40/70 prem,15600#CRC 20/40,165500#20/40 prem , Gelled Cond	4140.00	
7,648.9	5,711.5	80.9		Frac	9/4/2013	11,572.0	11,626.0	9400#40/70 prem,16000#CRC 20/40,170360#20/40 prem , Gelled Cond	4149.00	
7,772.3	5,708.8	80.7		Frac	9/3/2013	11,720.0	11,770.0	9400#40/70 prem,16000#CRC 20/40,170000#20/40 prem , Gelled Cond	4121.00	
7,957.7	5,709.6	80.5		Frac	9/3/2013	11,870.0	11,920.0	9000#40/70 prem,16000#CRC 20/40,175000#20/40 prem , Gelled Cond	4140.00	
8,074.1	5,713.7	81.5		Frac	9/3/2013	12,016.0	12,066.0	9000#40/70 prem,16000#CRC 20/40,165000#20/40 prem , Gelled Cond	4160.00	
8,188.0	5,719.2	81.1		Frac	9/3/2013	12,164.0	12,214.0	9000#40/70 prem,16000#CRC 20/40,165000#20/40 prem , Gelled Cond	4194.00	
8,304.5	5,723.3	80.0		Frac	9/3/2013	12,310.0	12,346.0	8600#40/70 prem,16100#CRC 20/40,165000#20/40 prem , Gelled Cond	4502.00	
8,445.2	5,724.5	80.7								
8,527.9	5,725.5	80.8								
8,629.9	5,726.9	80.6								
8,747.0	5,726.4	81.4								
8,887.1	5,720.9	81.1								
8,972.1	5,719.3	80.2								
9,071.9	5,718.4	80.6								
9,189.0	5,718.9	80.3								
9,329.7	5,721.7	80.4								
9,412.1	5,723.3	80.3								
9,514.1	5,724.2	80.7								
9,631.2	5,724.8	80.7								
9,772.0	5,725.0	80.0								
9,854.0	5,726.4	80.3								
9,958.0	5,728.9	80.4								
10,073.8	5,727.1	80.5								
10,214.2	5,725.4	80.7								
10,295.9	5,724.3	80.6								
10,398.0	5,722.4	81.2								
10,515.7	5,720.4	80.6								
10,656.5	5,718.9	80.7								
10,737.9	5,718.0	80.6								
10,839.9	5,717.7	80.8								
10,958.3	5,718.8	80.1								
11,099.1	5,722.8	81.6								
11,182.1	5,725.6	80.6								
11,282.2	5,728.2	80.4								
11,400.9	5,730.4	80.2								
11,541.7	5,731.3	80.7								
11,626.0	5,730.6	80.3								
11,724.1	5,730.7	80.5								
11,843.5	5,732.1	80.2								
11,984.3	5,732.0	80.9								
12,065.9	5,730.5	80.5								
12,168.0	5,724.3	80.3								
12,286.1	5,716.2	80.7								
12,377.3	5,709.1	80.3								

<b>&lt;des&gt; set at &lt;depth&gt;ftKB on &lt;dtmrun&gt;</b>			
Set Depth (ftKB)	Comment	Run Date	Pull Date



## Lease Review All CR

### Well Name: HORSETAIL 18-0713H

API Number 051233670200		WPC ID 1C0076882		Well Permit Number		Field Name DJ Horizontal Niobrara		County Weld		State CO		
Well Configuration Type Lateral/Horizontal			Orig KB Elv (ft) 4,840.20		Ground Elevation (ft) 4,823.40		Casing Flange Elevation (ft)		Tubing Head Elevation (ft)		Total Depth (ftKB) 12,435.0	
Original Spud Date 7/17/2013		Completion Date 9/10/2013		Asset Group Central Rockies Asset Group		Responsible Engineer Gary Nordlander		N/S Dist (ft) 330.0	N/S Ref FSL	E/W Dist (ft) 660.0	E/W Ref FWL	
Lot	Quarter 1 SW	Quarter 2 SW	Quarter 3	Quarter 4	Section 18	Section Suffix	Section Type	Township 10 N	Township N/S Dir N	Range 57 W	Range E/W Dir W	Meridian 6TH

Lateral/Horizontal - Original Hole, 10/30/2013 11:35:26 AM

MD (ftKB)	TV D (ftKB)	n cl (°)	Vertical schematic (actual)	Logs	Item Des	OD (in)	ID (in)	Len (ft)	Top (ftKB)	Btm (ftKB)	
					<b>Rod Strings</b>						
					<des> on <dtmrun>						
					Rod Description		Run Date		Pull Date		
					Item Des		OD (in)	Len (ft)	Top (ftKB)	Btm (ftKB)	
					<b>Other Strings</b>						
					Set Depth (ftKB)		Comment		Run Date	Pull Date	
					Item Des		OD (in)	Len (ft)	Top (ftKB)	Btm (ftKB)	
					<b>Other In Hole</b>						
					Des	OD (in)	Run Date	Pull Date	Top (ftKB)	Btm (ftKB)	
96.8	113.6	10			CFP	4	9/8/2013	9/10/2013	6,200.0	6,202.0	
4,964.9	4,981.1	12		CFP	4	9/8/2013	9/10/2013	6,396.0	6,398.0		
5,136.2	5,152.3	14		CFP	4	9/8/2013	9/10/2013	6,588.0	6,590.0		
6,024.9	5,729.3	81		CFP	4	9/8/2013	9/10/2013	6,780.0	6,782.0		
6,224.7	5,729.5	81.7		CFP	4	9/8/2013	9/10/2013	6,970.0	6,972.0		
6,348.1	5,724.4	83.3		CFP	4	9/8/2013	9/10/2013	7,164.0	7,166.0		
6,494.1	5,714.9	85.2		CFP	4	9/8/2013	9/10/2013	7,358.0	7,360.0		
6,616.8	5,707.7	87.7		CFP	4	9/8/2013	9/10/2013	7,550.0	7,552.0		
6,802.8	5,707.9	88.0		CFP	4	9/7/2013	9/10/2013	7,742.0	7,744.0		
6,923.9	5,708.2	88.7		CFP	4	9/7/2013	9/10/2013	7,934.0	7,936.0		
7,071.9	5,708.6	89.1		CFP	4	9/7/2013	9/10/2013	8,126.0	8,128.0		
7,194.9	5,711.7	89.1		CFP	4	9/7/2013	9/10/2013	8,274.0	8,276.0		
7,380.6	5,713.6	88.9		CFP	4	9/7/2013	9/10/2013	8,422.0	8,424.0		
7,503.9	5,713.2	88.3		CFP	4	9/7/2013	9/10/2013	8,568.0	8,570.0		
7,648.9	5,711.5	88.9		CFP	4	9/7/2013	9/10/2013	8,716.0	8,718.0		
7,772.3	5,708.8	90.7		CFP	4	9/7/2013	9/10/2013	8,864.0	8,866.0		
7,957.7	5,709.6	88.5		CFP	4	9/6/2013	9/10/2013	9,010.0	9,012.0		
8,074.1	5,713.7	87.5		CFP	4	9/6/2013	9/10/2013	9,152.0	9,154.0		
8,188.0	5,719.2	87.1		CFP	4	9/6/2013	9/10/2013	9,305.0	9,307.0		
8,304.5	5,723.3	88.0		CFP	4	9/6/2013	9/10/2013	9,452.0	9,454.0		
8,445.2	5,724.5	88.7		CFP	4	9/6/2013	9/10/2013	9,600.0	9,602.0		
8,527.9	5,725.5	88.8		CFP	4	9/6/2013	9/10/2013	9,750.0	9,752.0		
8,629.9	5,726.9	88.6		CFP	4	9/6/2013	9/10/2013	9,894.0	9,896.0		
8,747.0	5,726.8	91.4		CFP	4	9/5/2013	9/11/2013	10,040.0	10,042.0		
8,887.1	5,729.9	89.1		CFP	4	9/5/2013	9/11/2013	10,190.0	10,192.0		
8,972.1	5,719.3	90.2		CFP	4	9/5/2013	9/11/2013	10,340.0	10,342.0		
9,071.9	5,718.4	90.6		CFP	4	9/5/2013	9/11/2013	10,484.0	10,486.0		
9,189.0	5,718.9	89.5		CFP	4	9/5/2013	9/11/2013	10,630.0	10,632.0		
9,329.7	5,721.7	88.4		CFP	4	9/5/2013	9/11/2013	10,780.0	10,782.0		
9,412.1	5,723.3	88.3		CFP	4	9/5/2013	9/11/2013	10,924.0	10,926.0		
9,514.1	5,724.2	88.7	CFP	4	9/5/2013	9/11/2013	11,070.0	11,072.0			
9,631.2	5,724.8	88.7	CFP	4	9/4/2013	9/11/2013	11,220.0	11,222.0			
9,772.0	5,725.0	88.0	CFP	4	9/4/2013	9/11/2013	11,370.0	11,372.0			
9,854.0	5,726.6	88.3	CFP	4	9/4/2013	9/11/2013	11,520.0	11,522.0			
9,958.0	5,728.9	88.4	CFP	4	9/4/2013	9/11/2013	11,666.0	11,668.0			
10,073.8	5,727.1	90.5	CFP	4	9/4/2013	9/11/2013	11,810.0	11,812.0			
10,214.2	5,725.4	88.7	CFP	4	9/3/2013	9/11/2013	11,960.0	11,962.0			
10,295.9	5,724.3	88.6	CFP	4	9/3/2013	9/11/2013	12,110.0	12,112.0			
10,398.0	5,722.4	91.2	CFP	4	9/3/2013	9/11/2013	12,260.0	12,262.0			
10,515.7	5,720.4	90.6	CFP	4	9/3/2013	9/11/2013	12,362.0	12,364.0			
10,656.5	5,718.9	88.7	CFP	4	9/3/2013	9/11/2013	12,364.0	12,366.0			
10,737.9	5,718.0	88.6									
10,839.9	5,717.7	88.8									
10,958.3	5,718.8	89.1									
11,099.1	5,722.8	87.6									
11,182.1	5,725.6	88.6									
11,282.2	5,728.2	88.4									
11,400.9	5,730.4	88.2									
11,541.7	5,731.3	90.7									
11,626.0	5,730.6	88.3									
11,724.1	5,730.7	88.5									
11,843.5	5,732.1	89.2									
11,984.3	5,732.0	88.9									
12,065.9	5,729.5	88.5									
12,168.0	5,724.3	88.3									
12,286.1	5,716.2	88.7									
12,377.3	5,709.1	88.3									

<b>Bottom Hole Cores</b>				
Date	Core #	Top (ftKB)	Btm (ftKB)	Recov (ft)