



END OF WELL REPORT

Prepared For:

**Kerr-McGee Oil & Gas Onshore LP
HEDGE 1-22HZ PAD
HEDGE 16C-22HZ
WELD COUNTY, COLORADO**

*Prepared By
Shawn DeVerse, Denver Well Planner
Scientific Drilling
Rocky Mountain Region*

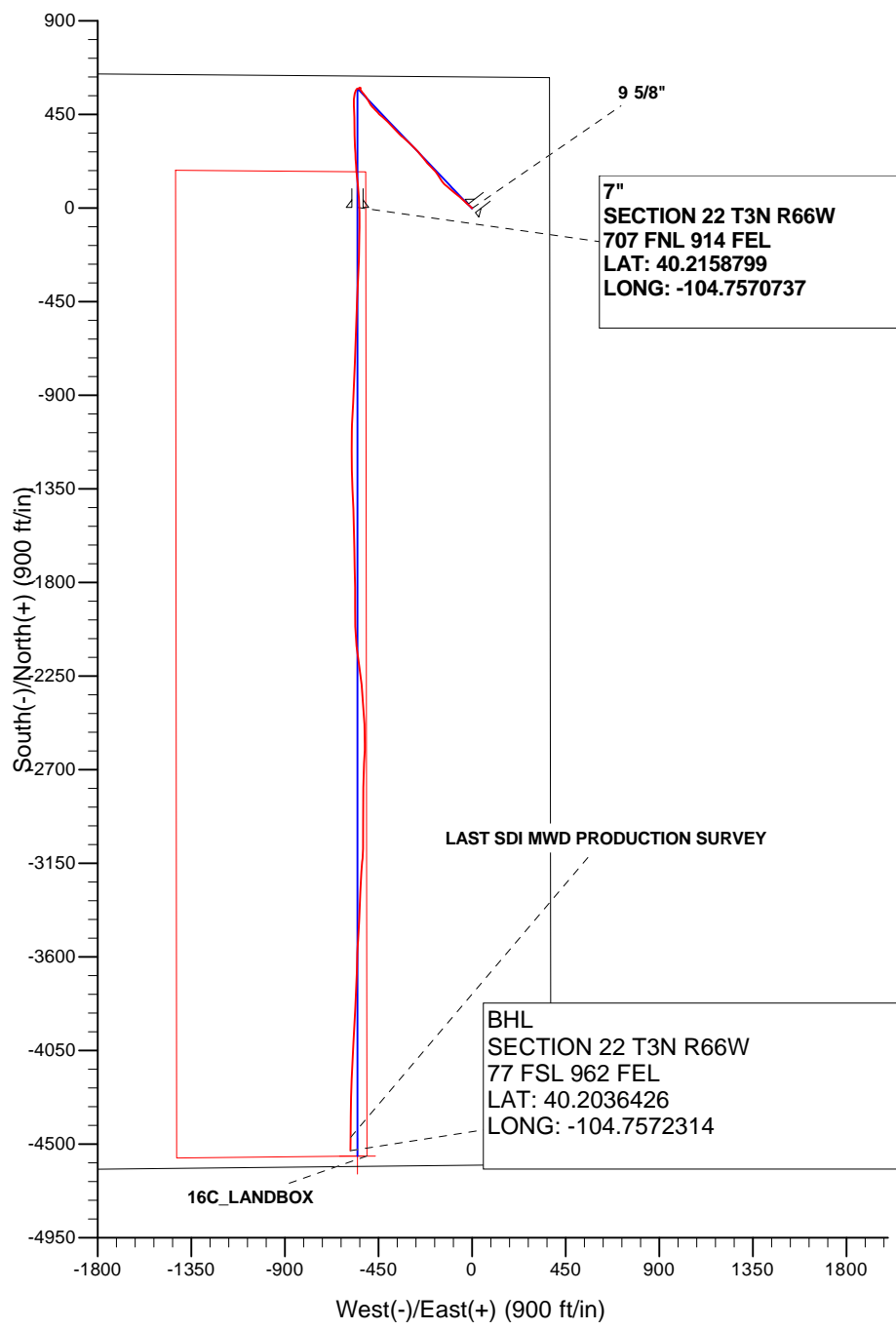
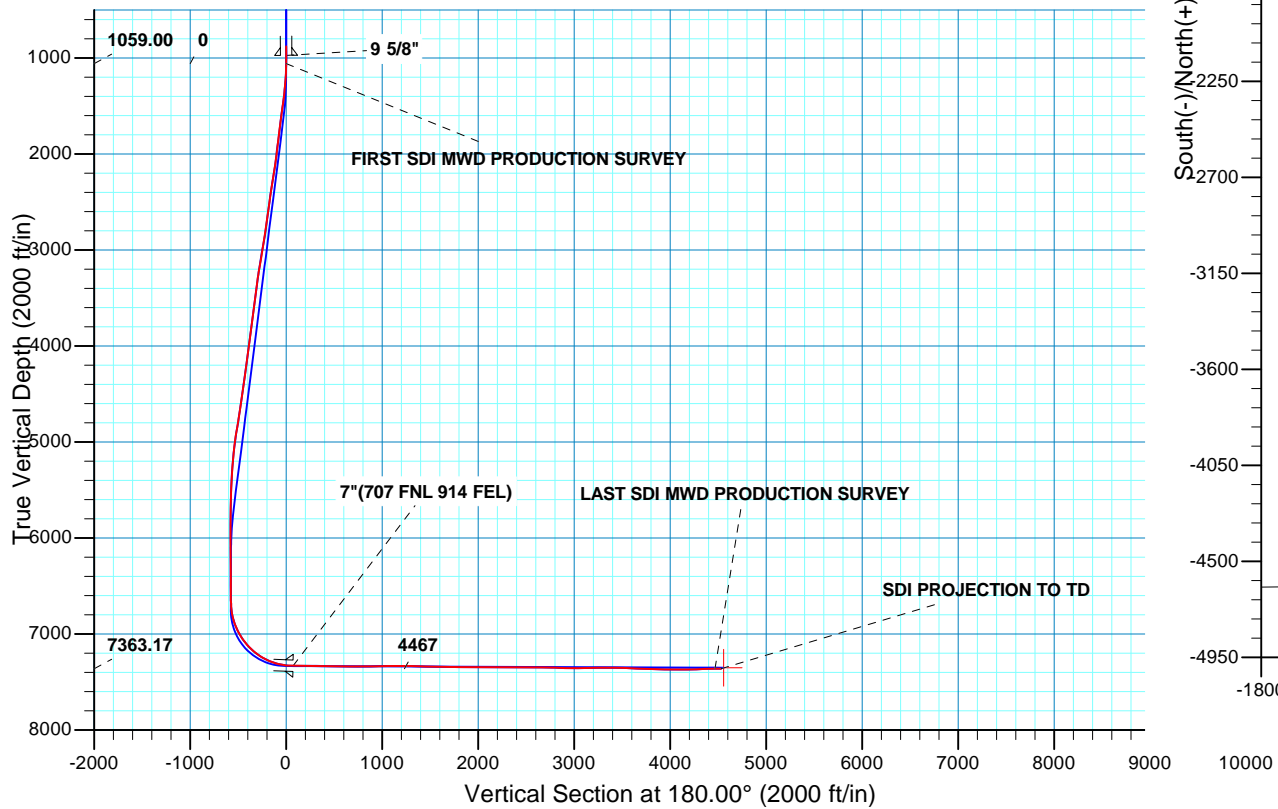
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WELL DETAILS: HEDGE 16C-22HZ					
GL 4905 & KB 25 @ 4930.00ft (HP 311)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1322434.12	3208011.57	40.2160809	-104.7551400





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

HEDGE 1-22HZ PAD

HEDGE 16C-22HZ

OH

Design: OH

Standard Survey Report

23 August, 2013

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 16C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Well:	HEDGE 16C-22HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	HEDGE 1-22HZ PAD, NENE SECTION 22 T3N R66W				
Site Position:		Northing:	1,322,434.03 usft	Latitude:	40.2160800
From:	Lat/Long	Easting:	3,208,041.18 usft	Longitude:	-104.7550340
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.48 °

Well	HEDGE 16C-22HZ					
Well Position	+N/-S	0.00 ft	Northing:	1,322,434.13 usft	Latitude:	40.2160810
	+E/-W	0.00 ft	Easting:	3,208,011.57 usft	Longitude:	-104.7551400
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,906.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	7/29/2013	8.59	66.82	52,743

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	180.00	

Survey Program	Date	8/23/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
25.00	880.00	Survey #1 MS GYRO (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
1,059.00	12,238.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	
125.00	0.24	33.36	125.00	0.17	0.12	-0.17	0.24	0.24	0.00	
225.00	0.05	216.03	225.00	0.31	0.20	-0.31	0.29	-0.19	-177.33	
325.00	0.14	200.50	325.00	0.16	0.14	-0.16	0.09	0.09	-15.53	
425.00	0.19	120.63	425.00	-0.03	0.24	0.03	0.22	0.05	-79.87	
525.00	0.16	132.49	525.00	-0.21	0.48	0.21	0.05	-0.03	11.86	
625.00	0.08	280.89	625.00	-0.29	0.52	0.29	0.23	-0.08	148.40	
725.00	0.18	108.97	725.00	-0.33	0.60	0.33	0.26	0.10	-171.92	
825.00	0.21	306.01	825.00	-0.28	0.60	0.28	0.39	0.03	-162.96	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 16C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Well:	HEDGE 16C-22HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
880.00	0.13	232.44	880.00	-0.25	0.47	0.25	0.39	-0.15	-133.76	
976.00	0.07	90.74	976.00	-0.32	0.44	0.32	0.20	-0.06	-147.60	
9 5/8"										
1,059.00	0.23	73.11	1,059.00	-0.27	0.65	0.27	0.20	0.19	-21.24	
FIRST SDI MWD PRODUCTION SURVEY										
1,150.00	3.61	316.45	1,149.94	1.86	-1.15	-1.86	4.09	3.71	-128.20	
1,242.00	6.51	313.75	1,241.57	7.56	-6.92	-7.56	3.16	3.15	-2.93	
1,332.00	8.30	307.94	1,330.82	15.09	-15.73	-15.09	2.15	1.99	-6.46	
1,423.00	10.23	311.22	1,420.63	24.45	-26.98	-24.45	2.20	2.12	3.60	
1,515.00	12.26	312.53	1,510.86	36.44	-40.33	-36.44	2.22	2.21	1.42	
1,605.00	12.73	315.21	1,598.72	49.94	-54.36	-49.94	0.83	0.52	2.98	
1,696.00	10.21	305.56	1,687.91	61.74	-67.99	-61.74	3.47	-2.77	-10.60	
1,787.00	10.51	307.87	1,777.43	71.53	-81.10	-71.53	0.56	0.33	2.54	
1,879.00	11.49	314.65	1,867.74	83.12	-94.24	-83.12	1.76	1.07	7.37	
1,970.00	10.18	307.07	1,957.12	94.34	-107.11	-94.34	2.12	-1.44	-8.33	
2,061.00	11.51	309.69	2,046.49	104.98	-120.51	-104.98	1.56	1.46	2.88	
2,152.00	10.48	314.39	2,135.82	116.57	-133.41	-116.57	1.50	-1.13	5.16	
2,245.00	12.23	326.00	2,227.01	130.66	-144.97	-130.66	3.09	1.88	12.48	
2,337.00	11.78	327.50	2,317.00	146.66	-155.46	-146.66	0.60	-0.49	1.63	
2,520.00	8.51	323.22	2,497.11	173.27	-173.61	-173.27	1.83	-1.79	-2.34	
2,611.00	9.75	318.65	2,586.96	184.44	-182.73	-184.44	1.58	1.36	-5.02	
2,704.00	11.41	309.80	2,678.38	196.24	-195.00	-196.24	2.49	1.78	-9.52	
2,795.00	11.81	320.89	2,767.53	209.23	-207.80	-209.23	2.49	0.44	12.19	
2,889.00	10.97	319.10	2,859.68	223.46	-219.72	-223.46	0.97	-0.89	-1.90	
2,984.00	13.60	321.85	2,952.50	239.08	-232.54	-239.08	2.84	2.77	2.89	
3,173.00	11.39	317.25	3,137.01	270.26	-258.94	-270.26	1.28	-1.17	-2.43	
3,267.00	12.74	317.16	3,228.94	284.68	-272.29	-284.68	1.44	1.44	-0.10	
3,361.00	10.28	315.67	3,321.04	298.28	-285.20	-298.28	2.64	-2.62	-1.59	
3,455.00	10.58	313.71	3,413.49	310.24	-297.30	-310.24	0.49	0.32	-2.09	
3,550.00	11.17	310.92	3,506.78	322.30	-310.55	-322.30	0.83	0.62	-2.94	
3,644.00	11.83	311.40	3,598.89	334.63	-324.66	-334.63	0.71	0.70	0.51	
3,738.00	9.69	310.10	3,691.23	346.10	-337.94	-346.10	2.29	-2.28	-1.38	
3,927.00	10.17	318.29	3,877.41	368.80	-361.21	-368.80	0.79	0.25	4.33	
4,021.00	11.91	317.82	3,969.67	382.19	-373.25	-382.19	1.85	1.85	-0.50	
4,116.00	12.20	316.46	4,062.57	396.73	-386.75	-396.73	0.43	0.31	-1.43	
4,210.00	11.35	313.74	4,154.60	410.32	-400.27	-410.32	1.08	-0.90	-2.89	
4,492.00	10.22	311.39	4,431.61	446.05	-439.09	-446.05	0.43	-0.40	-0.83	
4,587.00	12.22	317.62	4,524.79	459.05	-452.19	-459.05	2.46	2.11	6.56	
4,681.00	11.58	317.01	4,616.77	473.30	-465.33	-473.30	0.69	-0.68	-0.65	
4,776.00	10.67	312.59	4,709.99	486.23	-478.31	-486.23	1.31	-0.96	-4.65	
4,870.00	12.72	330.70	4,802.06	501.15	-489.78	-501.15	4.45	2.18	19.27	
4,965.00	10.75	330.40	4,895.07	517.98	-499.28	-517.98	2.07	-2.07	-0.32	
5,059.00	9.19	325.57	4,987.65	531.79	-507.85	-531.79	1.88	-1.66	-5.14	

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,154.00	8.12	322.37	5,081.57	543.36	-516.24	-543.36	1.23	-1.13	-3.37	
5,248.00	6.52	320.42	5,174.80	552.73	-523.69	-552.73	1.72	-1.70	-2.07	
5,342.00	4.85	322.65	5,268.34	560.01	-529.51	-560.01	1.79	-1.78	2.37	
5,437.00	3.91	327.22	5,363.06	565.92	-533.70	-565.92	1.05	-0.99	4.81	
5,531.00	2.76	320.77	5,456.90	570.37	-536.86	-570.37	1.28	-1.22	-6.86	
5,626.00	1.80	334.85	5,551.82	573.49	-538.94	-573.49	1.16	-1.01	14.82	
5,720.00	1.18	351.83	5,645.79	575.79	-539.71	-575.79	0.80	-0.66	18.06	
5,814.00	1.13	44.61	5,739.77	577.40	-539.19	-577.40	1.09	-0.05	56.15	
5,909.00	1.00	73.73	5,834.76	578.30	-537.74	-578.30	0.58	-0.14	30.65	
6,003.00	0.33	99.31	5,928.75	578.49	-536.69	-578.49	0.76	-0.71	27.21	
6,097.00	0.38	342.61	6,022.75	578.74	-536.51	-578.74	0.64	0.05	-124.15	
6,192.00	0.72	187.03	6,117.75	578.45	-536.68	-578.45	1.13	0.36	-163.77	
6,286.00	1.03	170.57	6,211.74	577.03	-536.61	-577.03	0.42	0.33	-17.51	
6,381.00	1.15	199.98	6,306.72	575.29	-536.80	-575.29	0.60	0.13	30.96	
6,475.00	2.78	294.72	6,400.68	575.36	-539.19	-575.36	3.29	1.73	100.79	
6,570.00	2.32	271.75	6,495.59	576.38	-543.21	-576.38	1.17	-0.48	-24.18	
6,664.00	2.76	251.00	6,589.50	575.70	-547.25	-575.70	1.08	0.47	-22.07	
6,727.00	3.57	241.97	6,652.40	574.29	-550.41	-574.29	1.51	1.29	-14.33	
6,759.00	3.45	241.42	6,684.34	573.36	-552.14	-573.36	0.39	-0.38	-1.72	
6,790.00	4.63	225.94	6,715.26	572.04	-553.86	-572.04	5.15	3.81	-49.94	
6,821.00	6.90	214.45	6,746.11	569.64	-555.81	-569.64	8.18	7.32	-37.06	
6,853.00	9.82	204.28	6,777.76	565.56	-558.02	-565.56	10.19	9.13	-31.78	
6,885.00	12.60	199.60	6,809.15	559.79	-560.31	-559.79	9.13	8.69	-14.63	
6,916.00	15.69	198.41	6,839.21	552.62	-562.77	-552.62	10.01	9.97	-3.84	
6,947.00	17.45	192.18	6,868.92	544.10	-565.08	-544.10	8.06	5.68	-20.10	
6,979.00	20.78	187.64	6,899.15	533.78	-566.84	-533.78	11.39	10.41	-14.19	
7,010.00	23.86	182.42	6,927.83	522.06	-567.84	-522.06	11.81	9.94	-16.84	
7,042.00	26.21	178.25	6,956.82	508.53	-567.90	-508.53	9.18	7.34	-13.03	
7,073.00	28.15	177.76	6,984.40	494.38	-567.40	-494.38	6.30	6.26	-1.58	
7,105.00	30.50	177.44	7,012.30	478.72	-566.75	-478.72	7.36	7.34	-1.00	
7,136.00	32.86	178.17	7,038.68	462.45	-566.13	-462.45	7.71	7.61	2.35	
7,168.00	35.52	178.56	7,065.14	444.48	-565.61	-444.48	8.34	8.31	1.22	
7,199.00	38.58	179.69	7,089.88	425.81	-565.34	-425.81	10.11	9.87	3.65	
7,231.00	41.50	179.77	7,114.38	405.22	-565.24	-405.22	9.13	9.13	0.25	
7,262.00	44.53	178.76	7,137.04	384.08	-564.96	-384.08	10.02	9.77	-3.26	
7,293.00	46.16	178.47	7,158.83	362.04	-564.43	-362.04	5.30	5.26	-0.94	
7,325.00	48.32	177.92	7,180.55	338.56	-563.69	-338.56	6.87	6.75	-1.72	
7,356.00	52.18	177.78	7,200.37	314.74	-562.79	-314.74	12.46	12.45	-0.45	
7,387.00	55.06	177.39	7,218.76	289.81	-561.74	-289.81	9.35	9.29	-1.26	
7,419.00	57.91	177.15	7,236.43	263.16	-560.47	-263.16	8.93	8.91	-0.75	
7,450.00	61.14	177.06	7,252.15	236.48	-559.12	-236.48	10.42	10.42	-0.29	
7,482.00	64.01	176.64	7,266.88	208.13	-557.56	-208.13	9.04	8.97	-1.31	
7,513.00	66.83	176.16	7,279.78	179.99	-555.79	-179.99	9.21	9.10	-1.55	
7,545.00	69.30	174.93	7,291.73	150.40	-553.48	-150.40	8.50	7.72	-3.84	

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7,576.00	72.95	173.30	7,301.76	121.23	-550.47	-121.23	12.78	11.77	-5.26
7,608.00	75.65	174.05	7,310.42	90.62	-547.07	-90.62	8.73	8.44	2.34
7,639.00	78.41	176.12	7,317.37	60.52	-544.49	-60.52	11.03	8.90	6.68
7,670.00	80.05	176.82	7,323.17	30.13	-542.61	-30.13	5.74	5.29	2.26
7,702.00	82.49	177.88	7,328.02	-1.47	-541.15	1.47	8.30	7.63	3.31
7,732.00	86.37	179.00	7,330.94	-31.31	-540.34	31.31	13.46	12.93	3.73
7,774.00	88.19	180.17	7,332.93	-73.26	-540.04	73.26	5.16	4.34	2.78
7"(707 FNL 914 FEL)									
7,828.00	90.54	181.67	7,333.52	-127.24	-540.90	127.24	5.16	4.34	2.78
7,922.00	90.17	180.91	7,332.94	-221.21	-543.02	221.21	0.90	-0.39	-0.81
8,016.00	89.36	183.12	7,333.33	-315.15	-546.33	315.15	2.50	-0.86	2.35
8,111.00	87.86	182.48	7,335.63	-410.00	-550.96	410.00	1.72	-1.58	-0.67
8,205.00	90.47	181.57	7,337.00	-503.93	-554.29	503.93	2.94	2.78	-0.97
8,300.00	89.12	182.22	7,337.34	-598.87	-557.43	598.87	1.58	-1.42	0.68
8,394.00	88.29	182.04	7,339.47	-692.78	-560.92	692.78	0.90	-0.88	-0.19
8,488.00	90.27	182.09	7,340.65	-786.71	-564.31	786.71	2.11	2.11	0.05
8,582.00	92.16	182.86	7,338.65	-880.59	-568.36	880.59	2.17	2.01	0.82
8,677.00	91.21	183.38	7,335.86	-975.41	-573.53	975.41	1.14	-1.00	0.55
8,771.00	89.77	180.99	7,335.06	-1,069.33	-577.12	1,069.33	2.97	-1.53	-2.54
8,865.00	90.71	180.22	7,334.66	-1,163.32	-578.11	1,163.32	1.29	1.00	-0.82
8,959.00	89.87	179.13	7,334.19	-1,257.32	-577.57	1,257.32	1.46	-0.89	-1.16
9,053.00	86.44	176.96	7,337.21	-1,351.19	-574.37	1,351.19	4.32	-3.65	-2.31
9,148.00	88.93	178.02	7,341.05	-1,446.02	-570.22	1,446.02	2.85	2.62	1.12
9,242.00	88.38	178.36	7,343.26	-1,539.94	-567.25	1,539.94	0.69	-0.59	0.36
9,336.00	91.41	179.74	7,343.43	-1,633.92	-565.69	1,633.92	3.54	3.22	1.47
9,430.00	87.88	178.42	7,344.01	-1,727.89	-564.18	1,727.89	4.01	-3.76	-1.40
9,525.00	89.66	179.25	7,346.05	-1,822.84	-562.25	1,822.84	2.07	1.87	0.87
9,619.00	90.00	180.65	7,346.33	-1,916.84	-562.17	1,916.84	1.53	0.36	1.49
9,713.00	90.30	178.55	7,346.08	-2,010.83	-561.51	2,010.83	2.26	0.32	-2.23
9,807.00	89.49	173.41	7,346.25	-2,104.57	-554.92	2,104.57	5.54	-0.86	-5.47
9,902.00	89.26	171.80	7,347.29	-2,198.77	-542.70	2,198.77	1.71	-0.24	-1.69
9,996.00	89.56	173.88	7,348.26	-2,292.02	-530.98	2,292.02	2.24	0.32	2.21
10,091.00	91.18	176.39	7,347.65	-2,386.67	-522.93	2,386.67	3.14	1.71	2.64
10,185.00	89.26	176.68	7,347.28	-2,480.49	-517.25	2,480.49	2.07	-2.04	0.31
10,280.00	89.36	180.49	7,348.43	-2,575.44	-514.90	2,575.44	4.01	0.11	4.01
10,374.00	89.36	182.77	7,349.48	-2,669.39	-517.57	2,669.39	2.43	0.00	2.43
10,468.00	88.86	182.21	7,350.94	-2,763.29	-521.66	2,763.29	0.80	-0.53	-0.60
10,563.00	87.68	179.62	7,353.81	-2,858.22	-523.17	2,858.22	2.99	-1.24	-2.73
10,658.00	88.69	179.58	7,356.82	-2,953.17	-522.51	2,953.17	1.06	1.06	-0.04
10,752.00	90.30	180.60	7,357.65	-3,047.16	-522.66	3,047.16	2.03	1.71	1.09
10,847.00	93.15	185.26	7,354.78	-3,141.96	-527.51	3,141.96	5.75	3.00	4.91
10,941.00	89.46	183.28	7,352.64	-3,235.65	-534.50	3,235.65	4.45	-3.93	-2.11
11,036.00	90.54	181.61	7,352.64	-3,330.56	-538.56	3,330.56	2.09	1.14	-1.76

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 16C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Well:	HEDGE 16C-22HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
11,130.00	89.23	183.32	7,352.83	-3,424.47	-542.60	3,424.47	2.29	-1.39	1.82	
11,225.00	88.49	183.24	7,354.72	-3,519.29	-548.03	3,519.29	0.78	-0.78	-0.08	
11,319.00	86.60	181.89	7,358.75	-3,613.11	-552.24	3,613.11	2.47	-2.01	-1.44	
11,413.00	88.12	181.09	7,363.08	-3,706.97	-554.68	3,706.97	1.83	1.62	-0.85	
11,508.00	87.79	183.13	7,366.47	-3,801.84	-558.17	3,801.84	2.17	-0.35	2.15	
11,602.00	89.63	183.78	7,368.59	-3,895.64	-563.84	3,895.64	2.08	1.96	0.69	
11,697.00	88.83	182.50	7,369.86	-3,990.49	-569.04	3,990.49	1.59	-0.84	-1.35	
11,791.00	90.40	182.44	7,370.49	-4,084.40	-573.09	4,084.40	1.67	1.67	-0.06	
11,885.00	90.20	182.56	7,370.00	-4,178.31	-577.19	4,178.31	0.25	-0.21	0.13	
11,980.00	91.92	181.85	7,368.24	-4,273.22	-580.84	4,273.22	1.96	1.81	-0.75	
12,075.00	91.68	180.46	7,365.26	-4,368.15	-582.76	4,368.15	1.48	-0.25	-1.46	
12,174.00	90.74	180.51	7,363.17	-4,467.12	-583.60	4,467.12	0.95	-0.95	0.05	
LAST SDI MWD PRODUCTION SURVEY										
12,238.00	90.74	180.51	7,362.34	-4,531.11	-584.17	4,531.11	0.00	0.00	0.00	
SDI PROJECTION TO BH										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
976.00	976.00	9 5/8"	9.625	12.250	
7,774.00	7,332.93	7"(707 FNL 914 FEL)	7.000	7.500	

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,059.00	1,059.00	-0.27	0.65	FIRST SDI MWD PRODUCTION SURVEY	
12,174.00	7,363.17	-4,467.12	-583.60	LAST SDI MWD PRODUCTION SURVEY	
12,238.00	7,362.34	-4,531.11	-584.17	SDI PROJECTION TO BH	

Checked By: _____ Approved By: _____ Date: _____



Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

HEDGE 1-22HZ PAD

HEDGE 16C-22HZ

OH

Design: OH

Survey Report - Geographic

23 August, 2013

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 16C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Well:	HEDGE 16C-22HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	HEDGE 1-22HZ PAD, NENE SECTION 22 T3N R66W				
Site Position:		Northing:	1,322,434.03 usft	Latitude:	40.2160800
From:	Lat/Long	Easting:	3,208,041.18 usft	Longitude:	-104.7550340
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.48 °

Well	HEDGE 16C-22HZ					
Well Position	+N/-S	0.00 ft	Northing:	1,322,434.13 usft	Latitude:	40.2160810
	+E/-W	0.00 ft	Easting:	3,208,011.57 usft	Longitude:	-104.7551400
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,906.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	7/29/2013	8.59	66.82	52,743

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	180.00	

Survey Program	Date	8/23/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
25.00	880.00	Survey #1 MS GYRO (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
1,059.00	12,238.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	1,322,434.13	3,208,011.57	40.2160810	-104.7551400	
25.00	0.00	0.00	25.00	0.00	0.00	1,322,434.13	3,208,011.57	40.2160810	-104.7551400	
125.00	0.24	33.36	125.00	0.17	0.12	1,322,434.30	3,208,011.69	40.2160814	-104.7551396	
225.00	0.05	216.03	225.00	0.31	0.20	1,322,434.44	3,208,011.77	40.2160818	-104.7551392	
325.00	0.14	200.50	325.00	0.16	0.14	1,322,434.29	3,208,011.71	40.2160814	-104.7551395	
425.00	0.19	120.63	425.00	-0.03	0.24	1,322,434.10	3,208,011.81	40.2160809	-104.7551391	
525.00	0.16	132.49	525.00	-0.21	0.48	1,322,433.92	3,208,012.06	40.2160804	-104.7551383	
625.00	0.08	280.89	625.00	-0.29	0.52	1,322,433.84	3,208,012.09	40.2160802	-104.7551381	
725.00	0.18	108.97	725.00	-0.33	0.60	1,322,433.80	3,208,012.17	40.2160801	-104.7551378	
825.00	0.21	306.01	825.00	-0.28	0.60	1,322,433.86	3,208,012.17	40.2160802	-104.7551378	
880.00	0.13	232.44	880.00	-0.25	0.47	1,322,433.88	3,208,012.04	40.2160803	-104.7551383	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 16C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Well:	HEDGE 16C-22HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
976.00	0.07	90.74	976.00	-0.32	0.44	1,322,433.81	3,208,012.01	40.2160801	-104.7551384	
9 5/8"										
1,059.00	0.23	73.11	1,059.00	-0.27	0.65	1,322,433.86	3,208,012.22	40.2160802	-104.7551377	
FIRST SDI MWD PRODUCTION SURVEY										
1,150.00	3.61	316.45	1,149.94	1.86	-1.15	1,322,435.98	3,208,010.41	40.2160861	-104.7551441	
1,242.00	6.51	313.75	1,241.57	7.56	-6.92	1,322,441.63	3,208,004.59	40.2161017	-104.7551647	
1,332.00	8.30	307.94	1,330.82	15.09	-15.73	1,322,449.08	3,207,995.72	40.2161224	-104.7551963	
1,423.00	10.23	311.22	1,420.63	24.45	-26.98	1,322,458.35	3,207,984.38	40.2161481	-104.7552366	
1,515.00	12.26	312.53	1,510.86	36.44	-40.33	1,322,470.23	3,207,970.94	40.2161810	-104.7552844	
1,605.00	12.73	315.21	1,598.72	49.94	-54.36	1,322,483.60	3,207,956.80	40.2162180	-104.7553346	
1,696.00	10.21	305.56	1,687.91	61.74	-67.99	1,322,495.30	3,207,943.07	40.2162505	-104.7553834	
1,787.00	10.51	307.87	1,777.43	71.53	-81.10	1,322,504.97	3,207,929.88	40.2162773	-104.7554304	
1,879.00	11.49	314.65	1,867.74	83.12	-94.24	1,322,516.45	3,207,916.64	40.2163091	-104.7554774	
1,970.00	10.18	307.07	1,957.12	94.34	-107.11	1,322,527.56	3,207,903.68	40.2163399	-104.7555235	
2,061.00	11.51	309.69	2,046.49	104.98	-120.51	1,322,538.10	3,207,890.18	40.2163692	-104.7555715	
2,152.00	10.48	314.39	2,135.82	116.57	-133.41	1,322,549.58	3,207,877.19	40.2164010	-104.7556177	
2,245.00	12.23	326.00	2,227.01	130.66	-144.97	1,322,563.56	3,207,865.51	40.2164396	-104.7556591	
2,337.00	11.78	327.50	2,317.00	146.66	-155.46	1,322,579.47	3,207,854.89	40.2164836	-104.7556967	
2,520.00	8.51	323.22	2,497.11	173.27	-173.61	1,322,605.93	3,207,836.51	40.2165566	-104.7557616	
2,611.00	9.75	318.65	2,586.96	184.44	-182.73	1,322,617.03	3,207,827.30	40.2165873	-104.7557943	
2,704.00	11.41	309.80	2,678.38	196.24	-195.00	1,322,628.73	3,207,814.93	40.2166197	-104.7558383	
2,795.00	11.81	320.89	2,767.53	209.23	-207.80	1,322,641.61	3,207,802.03	40.2166553	-104.7558841	
2,889.00	10.97	319.10	2,859.68	223.46	-219.72	1,322,655.73	3,207,789.98	40.2166944	-104.7559268	
2,984.00	13.60	321.85	2,952.50	239.08	-232.54	1,322,671.24	3,207,777.03	40.2167372	-104.7559727	
3,173.00	11.39	317.25	3,137.01	270.26	-258.94	1,322,702.20	3,207,750.37	40.2168229	-104.7560672	
3,267.00	12.74	317.16	3,228.94	284.68	-272.29	1,322,716.51	3,207,736.90	40.2168624	-104.7561150	
3,361.00	10.28	315.67	3,321.04	298.28	-285.20	1,322,730.00	3,207,723.88	40.2168998	-104.7561612	
3,455.00	10.58	313.71	3,413.49	310.24	-297.30	1,322,741.86	3,207,711.68	40.2169326	-104.7562046	
3,550.00	11.17	310.92	3,506.78	322.30	-310.55	1,322,753.80	3,207,698.32	40.2169657	-104.7562520	
3,644.00	11.83	311.40	3,598.89	334.63	-324.66	1,322,766.02	3,207,684.11	40.2169996	-104.7563025	
3,738.00	9.69	310.10	3,691.23	346.10	-337.94	1,322,777.38	3,207,670.73	40.2170310	-104.7563501	
3,927.00	10.17	318.29	3,877.41	368.80	-361.21	1,322,799.88	3,207,647.27	40.2170934	-104.7564334	
4,021.00	11.91	317.82	3,969.67	382.19	-373.25	1,322,813.17	3,207,635.13	40.2171301	-104.7564765	
4,116.00	12.20	316.46	4,062.57	396.73	-386.75	1,322,827.59	3,207,621.51	40.2171700	-104.7565249	
4,210.00	11.35	313.74	4,154.60	410.32	-400.27	1,322,841.07	3,207,607.87	40.2172073	-104.7565733	
4,492.00	10.22	311.39	4,431.61	446.05	-439.09	1,322,876.47	3,207,568.75	40.2173054	-104.7567123	
4,587.00	12.22	317.62	4,524.79	459.05	-452.19	1,322,889.37	3,207,555.54	40.2173411	-104.7567592	
4,681.00	11.58	317.01	4,616.77	473.30	-465.33	1,322,903.50	3,207,542.28	40.2173802	-104.7568063	
4,776.00	10.67	312.59	4,709.99	486.23	-478.31	1,322,916.32	3,207,529.20	40.2174157	-104.7568527	
4,870.00	12.72	330.70	4,802.06	501.15	-489.78	1,322,931.15	3,207,517.60	40.2174567	-104.7568938	
4,965.00	10.75	330.40	4,895.07	517.98	-499.28	1,322,947.89	3,207,507.96	40.2175028	-104.7569278	
5,059.00	9.19	325.57	4,987.65	531.79	-507.85	1,322,961.63	3,207,499.27	40.2175408	-104.7569585	
5,154.00	8.12	322.37	5,081.57	543.36	-516.24	1,322,973.13	3,207,490.79	40.2175725	-104.7569886	
5,248.00	6.52	320.42	5,174.80	552.73	-523.69	1,322,982.44	3,207,483.26	40.2175983	-104.7570153	
5,342.00	4.85	322.65	5,268.34	560.01	-529.51	1,322,989.67	3,207,477.38	40.2176182	-104.7570361	
5,437.00	3.91	327.22	5,363.06	565.92	-533.70	1,322,995.55	3,207,473.14	40.2176345	-104.7570511	
5,531.00	2.76	320.77	5,456.90	570.37	-536.86	1,322,999.97	3,207,469.94	40.2176467	-104.7570624	
5,626.00	1.80	334.85	5,551.82	573.49	-538.94	1,323,003.07	3,207,467.83	40.2176552	-104.7570699	
5,720.00	1.18	351.83	5,645.79	575.79	-539.71	1,323,005.36	3,207,467.05	40.2176615	-104.7570726	
5,814.00	1.13	44.61	5,739.77	577.40	-539.19	1,323,006.98	3,207,467.55	40.2176660	-104.7570708	
5,909.00	1.00	73.73	5,834.76	578.30	-537.74	1,323,007.89	3,207,468.99	40.2176685	-104.7570656	
6,003.00	0.33	99.31	5,928.75	578.49	-536.69	1,323,008.09	3,207,470.05	40.2176690	-104.7570618	
6,097.00	0.38	342.61	6,022.75	578.74	-536.51	1,323,008.34	3,207,470.22	40.2176697	-104.7570612	
6,192.00	0.72	187.03	6,117.75	578.45	-536.68	1,323,008.05	3,207,470.05	40.2176689	-104.7570618	
6,286.00	1.03	170.57	6,211.74	577.03	-536.61	1,323,006.63	3,207,470.13	40.2176650	-104.7570615	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 16C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Well:	HEDGE 16C-22HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
6,381.00	1.15	199.98	6,306.72	575.29	-536.80	1,323,004.89	3,207,469.96	40.2176602	-104.7570622	
6,475.00	2.78	294.72	6,400.68	575.36	-539.19	1,323,004.94	3,207,467.57	40.2176604	-104.7570708	
6,570.00	2.32	271.75	6,495.59	576.38	-543.21	1,323,005.93	3,207,463.54	40.2176632	-104.7570851	
6,664.00	2.76	251.00	6,589.50	575.70	-547.25	1,323,005.21	3,207,459.51	40.2176613	-104.7570996	
6,727.00	3.57	241.97	6,652.40	574.29	-550.41	1,323,003.77	3,207,456.35	40.2176574	-104.7571110	
6,759.00	3.45	241.42	6,684.34	573.36	-552.14	1,323,002.83	3,207,454.64	40.2176549	-104.7571171	
6,790.00	4.63	225.94	6,715.26	572.04	-553.86	1,323,001.50	3,207,452.93	40.2176513	-104.7571233	
6,821.00	6.90	214.45	6,746.11	569.64	-555.81	1,322,999.08	3,207,451.00	40.2176447	-104.7571303	
6,853.00	9.82	204.28	6,777.76	565.56	-558.02	1,322,994.98	3,207,448.82	40.2176335	-104.7571382	
6,885.00	12.60	199.60	6,809.15	559.79	-560.31	1,322,989.19	3,207,446.58	40.2176176	-104.7571464	
6,916.00	15.69	198.41	6,839.21	552.62	-562.77	1,322,982.00	3,207,444.18	40.2175980	-104.7571552	
6,947.00	17.45	192.18	6,868.92	544.10	-565.08	1,322,973.46	3,207,441.95	40.2175746	-104.7571635	
6,979.00	20.78	187.64	6,899.15	533.78	-566.84	1,322,963.13	3,207,440.27	40.2175462	-104.7571698	
7,010.00	23.86	182.42	6,927.83	522.06	-567.84	1,322,951.40	3,207,439.37	40.2175141	-104.7571733	
7,042.00	26.21	178.25	6,956.82	508.53	-567.90	1,322,937.87	3,207,439.42	40.2174769	-104.7571736	
7,073.00	28.15	177.76	6,984.40	494.38	-567.40	1,322,923.72	3,207,440.04	40.2174381	-104.7571718	
7,105.00	30.50	177.44	7,012.30	478.72	-566.75	1,322,908.07	3,207,440.83	40.2173951	-104.7571694	
7,136.00	32.86	178.17	7,038.68	462.45	-566.13	1,322,891.81	3,207,441.58	40.2173504	-104.7571672	
7,168.00	35.52	178.56	7,065.14	444.48	-565.61	1,322,873.84	3,207,442.25	40.2173011	-104.7571654	
7,199.00	38.58	179.69	7,089.88	425.81	-565.34	1,322,855.17	3,207,442.68	40.2172498	-104.7571644	
7,231.00	41.50	179.77	7,114.38	405.22	-565.24	1,322,834.59	3,207,442.95	40.2171933	-104.7571640	
7,262.00	44.53	178.76	7,137.04	384.08	-564.96	1,322,813.45	3,207,443.40	40.2171353	-104.7571630	
7,293.00	46.16	178.47	7,158.83	362.04	-564.43	1,322,791.41	3,207,444.12	40.2170748	-104.7571611	
7,325.00	48.32	177.92	7,180.55	338.56	-563.69	1,322,767.94	3,207,445.06	40.2170103	-104.7571585	
7,356.00	52.18	177.78	7,200.37	314.74	-562.79	1,322,744.13	3,207,446.16	40.2169449	-104.7571553	
7,387.00	55.06	177.39	7,218.76	289.81	-561.74	1,322,719.21	3,207,447.42	40.2168765	-104.7571515	
7,419.00	57.91	177.15	7,236.43	263.16	-560.47	1,322,692.57	3,207,448.91	40.2168034	-104.7571469	
7,450.00	61.14	177.06	7,252.15	236.48	-559.12	1,322,665.91	3,207,450.49	40.2167301	-104.7571421	
7,482.00	64.01	176.64	7,266.88	208.13	-557.56	1,322,637.56	3,207,452.29	40.2166523	-104.7571365	
7,513.00	66.83	176.16	7,279.78	179.99	-555.79	1,322,609.45	3,207,454.30	40.2165750	-104.7571302	
7,545.00	69.30	174.93	7,291.73	150.40	-553.48	1,322,579.88	3,207,456.85	40.2164938	-104.7571219	
7,576.00	72.95	173.30	7,301.76	121.23	-550.47	1,322,550.73	3,207,460.11	40.2164137	-104.7571111	
7,608.00	75.65	174.05	7,310.42	90.62	-547.07	1,322,520.15	3,207,463.76	40.2163297	-104.7570989	
7,639.00	78.41	176.12	7,317.37	60.52	-544.49	1,322,490.07	3,207,466.60	40.2162471	-104.7570897	
7,670.00	80.05	176.82	7,323.17	30.13	-542.61	1,322,459.70	3,207,468.73	40.2161636	-104.7570830	
7,702.00	82.49	177.88	7,328.02	-1.47	-541.15	1,322,428.12	3,207,470.45	40.2160769	-104.7570777	
7,732.00	86.37	179.00	7,330.94	-31.31	-540.34	1,322,398.28	3,207,471.51	40.2159950	-104.7570748	
7,774.00	88.19	180.17	7,332.93	-73.26	-540.04	1,322,356.34	3,207,472.17	40.2158799	-104.7570737	
7"(707 FNL 914 FEL)										
7,828.00	90.54	181.67	7,333.52	-127.24	-540.90	1,322,302.35	3,207,471.76	40.2157317	-104.7570768	
7,922.00	90.17	180.91	7,332.94	-221.21	-543.02	1,322,208.36	3,207,470.43	40.2154737	-104.7570844	
8,016.00	89.36	183.12	7,333.33	-315.15	-546.33	1,322,114.40	3,207,467.92	40.2152158	-104.7570962	
8,111.00	87.86	182.48	7,335.63	-410.00	-550.96	1,322,019.51	3,207,464.07	40.2149554	-104.7571128	
8,205.00	90.47	181.57	7,337.00	-503.93	-554.29	1,321,925.57	3,207,461.54	40.2146976	-104.7571247	
8,300.00	89.12	182.22	7,337.34	-598.87	-557.43	1,321,830.60	3,207,459.20	40.2144370	-104.7571360	
8,394.00	88.29	182.04	7,339.47	-692.78	-560.92	1,321,736.66	3,207,456.49	40.2141792	-104.7571485	
8,488.00	90.27	182.09	7,340.65	-786.71	-564.31	1,321,642.71	3,207,453.90	40.2139213	-104.7571606	
8,582.00	92.16	182.86	7,338.65	-880.59	-568.36	1,321,548.79	3,207,450.63	40.2136636	-104.7571751	
8,677.00	91.21	183.38	7,335.86	-975.41	-573.53	1,321,453.94	3,207,446.25	40.2134033	-104.7571936	
8,771.00	89.77	180.99	7,335.06	-1,069.33	-577.12	1,321,359.99	3,207,443.46	40.2131455	-104.7572064	
8,865.00	90.71	180.22	7,334.66	-1,163.32	-578.11	1,321,265.99	3,207,443.26	40.2128875	-104.7572100	
8,959.00	89.87	179.13	7,334.19	-1,257.32	-577.57	1,321,172.01	3,207,444.58	40.2126295	-104.7572081	
9,053.00	86.44	176.96	7,337.21	-1,351.19	-574.37	1,321,078.16	3,207,448.57	40.2123718	-104.7571966	
9,148.00	88.93	178.02	7,341.05	-1,446.02	-570.22	1,320,983.38	3,207,453.52	40.2121115	-104.7571817	
9,242.00	88.38	178.36	7,343.26	-1,539.94	-567.25	1,320,889.48	3,207,457.28	40.2118536	-104.7571711	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 16C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Well:	HEDGE 16C-22HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,336.00	91.41	179.74	7,343.43	-1,633.92	-565.69	1,320,795.52	3,207,459.63	40.2115957	-104.7571655	
9,430.00	87.88	178.42	7,344.01	-1,727.89	-564.18	1,320,701.57	3,207,461.93	40.2113377	-104.7571601	
9,525.00	89.66	179.25	7,346.05	-1,822.84	-562.25	1,320,606.63	3,207,464.65	40.2110771	-104.7571531	
9,619.00	90.00	180.65	7,346.33	-1,916.84	-562.17	1,320,512.64	3,207,465.53	40.2108190	-104.7571528	
9,713.00	90.30	178.55	7,346.08	-2,010.83	-561.51	1,320,418.66	3,207,466.97	40.2105610	-104.7571505	
9,807.00	89.49	173.41	7,346.25	-2,104.57	-554.92	1,320,324.98	3,207,474.35	40.2103037	-104.7571269	
9,902.00	89.26	171.80	7,347.29	-2,198.77	-542.70	1,320,230.89	3,207,487.36	40.2100451	-104.7570831	
9,996.00	89.56	173.88	7,348.26	-2,292.02	-530.98	1,320,137.73	3,207,499.86	40.2097891	-104.7570411	
10,091.00	91.18	176.39	7,347.65	-2,386.67	-522.93	1,320,043.16	3,207,508.71	40.2095293	-104.7570123	
10,185.00	89.26	176.68	7,347.28	-2,480.49	-517.25	1,319,949.38	3,207,515.18	40.2092717	-104.7569920	
10,280.00	89.36	180.49	7,348.43	-2,575.44	-514.90	1,319,854.46	3,207,518.32	40.2090111	-104.7569835	
10,374.00	89.36	182.77	7,349.48	-2,669.39	-517.57	1,319,760.49	3,207,516.44	40.2087532	-104.7569931	
10,468.00	88.86	182.21	7,350.94	-2,763.29	-521.66	1,319,666.56	3,207,513.14	40.2084954	-104.7570077	
10,563.00	87.68	179.62	7,353.81	-2,858.22	-523.17	1,319,571.62	3,207,512.43	40.2082348	-104.7570131	
10,658.00	88.69	179.58	7,356.82	-2,953.17	-522.51	1,319,476.68	3,207,513.89	40.2079742	-104.7570108	
10,752.00	90.30	180.60	7,357.65	-3,047.16	-522.66	1,319,382.69	3,207,514.53	40.2077162	-104.7570113	
10,847.00	93.15	185.26	7,354.78	-3,141.96	-527.51	1,319,287.85	3,207,510.48	40.2074559	-104.7570286	
10,941.00	89.46	183.28	7,352.64	-3,235.65	-534.50	1,319,194.11	3,207,504.27	40.2071987	-104.7570537	
11,036.00	90.54	181.61	7,352.64	-3,330.56	-538.56	1,319,099.17	3,207,501.01	40.2069382	-104.7570682	
11,130.00	89.23	183.32	7,352.83	-3,424.47	-542.60	1,319,005.23	3,207,497.76	40.2066804	-104.7570826	
11,225.00	88.49	183.24	7,354.72	-3,519.29	-548.03	1,318,910.36	3,207,493.12	40.2064201	-104.7571021	
11,319.00	86.60	181.89	7,358.75	-3,613.11	-552.24	1,318,816.52	3,207,489.71	40.2061626	-104.7571171	
11,413.00	88.12	181.09	7,363.08	-3,706.97	-554.68	1,318,722.63	3,207,488.05	40.2059049	-104.7571259	
11,508.00	87.79	183.13	7,366.47	-3,801.84	-558.17	1,318,627.74	3,207,485.36	40.2056445	-104.7571384	
11,602.00	89.63	183.78	7,368.59	-3,895.64	-563.84	1,318,533.89	3,207,480.48	40.2053870	-104.7571586	
11,697.00	88.83	182.50	7,369.86	-3,990.49	-569.04	1,318,439.01	3,207,476.07	40.2051266	-104.7571773	
11,791.00	90.40	182.44	7,370.49	-4,084.40	-573.09	1,318,345.07	3,207,472.81	40.2048688	-104.7571918	
11,885.00	90.20	182.56	7,370.00	-4,178.31	-577.19	1,318,251.13	3,207,469.50	40.2046110	-104.7572064	
11,980.00	91.92	181.85	7,368.24	-4,273.22	-580.84	1,318,156.19	3,207,466.64	40.2043505	-104.7572195	
12,075.00	91.68	180.46	7,365.26	-4,368.15	-582.76	1,318,061.25	3,207,465.53	40.2040899	-104.7572264	
12,174.00	90.74	180.51	7,363.17	-4,467.12	-583.60	1,317,962.27	3,207,465.52	40.2038182	-104.7572293	
LAST SDI MWD PRODUCTION SURVEY										
12,238.00	90.74	180.51	7,362.34	-4,531.11	-584.17	1,317,898.28	3,207,465.49	40.2036426	-104.7572314	
SDI PROJECTION TO BH										

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name			Casing Diameter (in)	Hole Diameter (in)
976.00	976.00	9 5/8"			9.625	12.250
7,774.00	7,332.93	7"(707 FNL 914 FEL)			7.000	7.500

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,059.00	1,059.00	-0.27	0.65	FIRST SDI MWD PRODUCTION SURVEY	
12,174.00	7,363.17	-4,467.12	-583.60	LAST SDI MWD PRODUCTION SURVEY	
12,238.00	7,362.34	-4,531.11	-584.17	SDI PROJECTION TO BH	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well HEDGE 16C-22HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Site:	HEDGE 1-22HZ PAD	MD Reference:	GL 4906 & KB 25 @ 4931.00ft (HP 311)
Well:	HEDGE 16C-22HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Denver Sales Office

Checked By: _____ Approved By: _____ Date: _____



JOB NO.:	410813HMP45120	Report Time:	2400	1 of 8
COMPANY:	Kerr McGee Oil & Gas Onshore LP	API JOB #	0512336447	
LOCATION:	HEDGE 1-22HZ Pad	WORK ORDER#	166432	
RIG NAME:	H&P 311	FIELD:	WATTENBURG	
STATE:	COLORADO	Township:	T3N	
COUNTY:	WELD	SECT/RANGE:	22	R66W
WELL NAME:	Hedge 16C-22HZ			

From Wednesday, August 14, 2013 at 0000 to Wednesday, August 14, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters						
Start Depth	987.00	Rotary Hours	1.02	WOB	28	Pick UP	0	Slack Off	0	SPM
End Depth	1390.00	Circulating Hours	0.00	RAB	0	SPP	2200	FlowRate	0 - 600	156
Total Drilled:	403.00	Avg. Total ROP:	355.59	Mud Data						
Total Rotary Drilled:	370.00	Avg. Rotary ROP:	363.93	Type		PV	0	SOLID	0	
Total Drilled Sliding:	33.00	Avg. Slide ROP:	282.86	Weight	0	GAS	0	YP	0	BHT °
Slide Hours:	0.12	Percent Rotary:	91.81	Viscosity	0	SAND	0	PH	0	Flow T °
Below Rotary Hrs.	5.00	Percent Slide:	8.19	Chlorides	0	WL	0	Oil %	0	

PERSONNEL				cASING			BHA				
Lead Directional :	John Noakes (3089)			Size	Lb/ft	Set Depth	BHA # 1:8 3/4" Smith SDI611 3x16's & 3x14's, SDI 6.5" Mud Motor, NMPC 6.5", NMDC 6.5" , NM 6.5" Pulser Sub, NMDC 6.5" , Filter Sub 6.5", Steel 6.5" 4.5XHP/4XT39B, Spiral HWDP,				
Second Directional :	John Buckley (2788)			Signature:							
MWD Operator1	Josh Denning (10463)										
MWD Operator2	Mohamed Sharker (10817)										
Directional Company:	Scientific Drilling International										
Geologist:											
Company Man:	Doug Blair / David Wells			Incl. In:	0	Azm. In:	0	Incl. Out:	6.51	Azm. Out:	313.75

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
14-Aug-13	00:00	19:00	19.00	987	987	Standby	Standby - Prep to PU BHA #1
14-Aug-13	19:00	20:30	1.50	987	987	Change BHA	Change BHA - PU BHA #1
14-Aug-13	20:30	22:00	1.50	987	987	TIH	TIH
14-Aug-13	22:00	22:27	0.45	987	987	Other	Drilling Cement/Float - (WOB:5;GPM:400;RPM:40)
14-Aug-13	22:27	23:07	0.67	987	1117	Drilling	Drilling - (WOB:15;GPM:600;RPM:65)
14-Aug-13	23:07	23:16	0.15	1117	1117	Survey & Conn.	Survey & Conn.@1059' Inc 0.23° Azm 73.11°
14-Aug-13	23:16	23:19	0.05	1117	1133	Sliding	Sliding - (WOB:15;GPM :600;TFO:315)
14-Aug-13	23:19	23:26	0.12	1133	1208	Drilling	Drilling - (WOB:28;GPM :600;RPM:40)
14-Aug-13	23:26	23:34	0.13	1208	1208	Survey & Conn.	Survey & Conn.@1150' Inc 3.61° Azm 316.45°
14-Aug-13	23:34	23:36	0.03	1208	1218	Sliding	Sliding - (WOB:15;GPM :600;TFO:0)
14-Aug-13	23:36	23:43	0.12	1218	1300	Drilling	Drilling - (WOB:28;GPM :600;RPM:40)
14-Aug-13	23:43	23:51	0.13	1300	1300	Survey & Conn.	Survey & Conn.@1242' Inc 6.51° Azm 313.75°
14-Aug-13	23:51	23:53	0.03	1300	1307	Sliding	Sliding - (WOB:15;GPM :600;TFO:0)
14-Aug-13	23:53	24:00	0.12	1307	1390	Drilling	Drilling - (WOB:28;GPM :600;RPM:40)



JOB NO.:	410813HMP45120	Report Time:	2400	2 of 8
COMPANY:	Kerr McGee Oil & Gas Onshore LP	API JOB #	0512336447	
LOCATION:	HEDGE 1-22HZ Pad	WORK ORDER#	166432	
RIG NAME:	H&P 311	FIELD:	WATTENBURG	
STATE:	COLORADO	Township:	T3N	
COUNTY:	WELD	SECT/RANGE:	22	R66W
WELL NAME:	Hedge 16C-22HZ			

From Thursday, August 15, 2013 at 0000 to Thursday, August 15, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	1390.00	Rotary Hours	13.20	WOB	50	Pick UP	125	Slack Off	85	SPM	
End Depth	7005.00	Circulating Hours	0.55	RAB	70	SPP	4200	FlowRate	556 - 600	156	
Total Drilled:	5615.00	Avg. Total ROP:	334.56	Mud Data							
Total Rotary Drilled:	5210.00	Avg. Rotary ROP:	394.70	Type		PV	0	SOLID	0		
Total Drilled Sliding:	405.00	Avg. Slide ROP:	113.02	Weight	0	GAS	0	YP	0	BHT °	0
Slide Hours:	3.58	Percent Rotary:	92.79	Viscosity	0	SAND	0	PH	0	Flow T °	0
Below Rotary Hrs.	24.00	Percent Slide:	7.21	Chlorides	0	WL	0	Oil %	0		

PERSONNEL				cASING			BHA				
Lead Directional :	John Noakes (3089)			Size	Lb/ft	Set Depth	BHA # 1:8 3/4" Smith SDI611 3x16's & 3x14's, SDI 6.5" Mud Motor, NMPC 6.5", NMDC 6.5" , NM 6.5" Pulser Sub, NMDC 6.5" , Filter Sub 6.5", Steel 6.5" 4.5XHP/4XT39B, Spiral HWDP,				
Second Directional :	John Buckley (2788)			Signature:							
MWD Operator1	Josh Denning (10463)										
MWD Operator2	Mohamed Sharker (10817)										
Directional Company:	Scientific Drilling International										
Geologist:											
Company Man:	Doug Blair / David Wells			Incl. In:	6.51	Azm. In:	313.75	Incl. Out:	12.6	Azm. Out:	199.6

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Aug-13	00:00	00:09	0.15	1390	1390	Survey & Conn.	Survey & Conn.@1332' Inc 8.3° Azm 307.94°
15-Aug-13	00:09	00:11	0.03	1390	1400	Sliding	Sliding - (WOB:15;GPM :600;TFO:15)
15-Aug-13	00:11	00:18	0.12	1400	1481	Drilling	Drilling - (WOB:28;GPM :600;RPM:40)
15-Aug-13	00:18	00:26	0.13	1481	1481	Survey & Conn.	Survey & Conn.@1423' Inc 10.23° Azm 311.22°
15-Aug-13	00:26	00:29	0.05	1481	1491	Sliding	Sliding - (WOB:15;GPM :600;TFO:15)
15-Aug-13	00:29	00:36	0.12	1491	1573	Drilling	Drilling - (WOB:37;GPM :600;RPM:55)
15-Aug-13	00:36	00:44	0.13	1573	1573	Survey & Conn.	Survey & Conn.@1515' Inc 12.26° Azm 312.53°
15-Aug-13	00:44	00:47	0.05	1573	1580	Sliding	Sliding - (WOB:15;GPM :600;TFO:15)
15-Aug-13	00:47	00:57	0.17	1580	1663	Drilling	Drilling - (WOB:37;GPM :600;RPM:55)
15-Aug-13	00:57	01:02	0.08	1663	1663	Survey & Conn.	Survey & Conn.@1605' Inc 12.73° Azm 315.21°
15-Aug-13	01:02	01:12	0.17	1663	1754	Drilling	Drilling - (WOB:37;GPM :600;RPM:55)
15-Aug-13	01:12	01:18	0.10	1754	1754	Survey & Conn.	Survey & Conn.@1696' Inc 10.21° Azm 305.56°
15-Aug-13	01:18	01:21	0.05	1754	1766	Sliding	Sliding - (WOB:15;GPM :600;TFO:30)
15-Aug-13	01:21	01:28	0.12	1766	1845	Drilling	Drilling - (WOB:37;GPM :600;RPM:55)
15-Aug-13	01:28	01:37	0.15	1845	1845	Survey & Conn.	Survey & Conn.@1787' Inc 10.51° Azm 307.87°
15-Aug-13	01:37	01:39	0.03	1845	1855	Sliding	Sliding - (WOB:15;GPM :600;TFO:30)
15-Aug-13	01:39	01:46	0.12	1855	1937	Drilling	Drilling - (WOB:37;GPM :600;RPM:55)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Aug-13	01:46	01:50	0.07	1937	1937	Survey & Conn.	Survey & Conn.@1879' Inc 11.49° Azm 314.65°
15-Aug-13	01:50	02:01	0.18	1937	2028	Drilling	Drilling - (WOB:37;GPM :600;RPM:55)
15-Aug-13	02:01	02:08	0.12	2028	2028	Survey & Conn.	Survey & Conn.@1970' Inc 10.18° Azm 307.07°
15-Aug-13	02:08	02:15	0.12	2028	2042	Sliding	Sliding - (WOB:15;GPM :600;TFO:30)
15-Aug-13	02:15	02:20	0.08	2042	2119	Drilling	Drilling - (WOB:37;GPM :600;RPM:55)
15-Aug-13	02:20	02:32	0.20	2119	2119	Survey & Conn.	Survey & Conn.@2061' Inc 11.51° Azm 309.69°
15-Aug-13	02:32	02:40	0.13	2119	2210	Drilling	Drilling - (WOB:39;GPM :600;RPM:55)
15-Aug-13	02:40	02:45	0.08	2210	2210	Survey & Conn.	Survey & Conn.@2152' Inc 10.48° Azm 314.39°
15-Aug-13	02:45	02:49	0.07	2210	2225	Sliding	Sliding - (WOB:15;GPM :600;TFO:30)
15-Aug-13	02:49	03:00	0.18	2225	2303	Drilling	Drilling - (WOB:39;GPM :600;RPM:55)
15-Aug-13	03:00	03:05	0.08	2303	2303	Survey & Conn.	Survey & Conn.@2245' Inc 12.23° Azm 326°
15-Aug-13	03:05	03:14	0.15	2303	2395	Drilling	Drilling - (WOB:39;GPM :600;RPM:55)
15-Aug-13	03:14	03:19	0.08	2395	2395	Survey & Conn.	Survey & Conn.@2337' Inc 11.78° Azm 327.5°
15-Aug-13	03:19	03:38	0.32	2395	2486	Drilling	Drilling - (WOB:39;GPM :600;RPM:55)
15-Aug-13	03:38	03:41	0.05	2486	2486	Survey & Conn.	Survey & Conn.@2520' Inc 8.51° Azm 323.22°
15-Aug-13	03:41	03:52	0.18	2486	2578	Drilling	Drilling - (WOB:39;GPM :600;RPM:55)
15-Aug-13	03:52	03:59	0.12	2578	2578	Survey & Conn.	Survey & Conn.@2520' Inc 8.51° Azm 323.22°
15-Aug-13	03:59	04:05	0.10	2578	2591	Sliding	Sliding - (WOB:15;GPM :600;TFO:0)
15-Aug-13	04:05	04:15	0.17	2591	2669	Drilling	Drilling - (WOB:39;GPM :600;RPM:55)
15-Aug-13	04:15	04:21	0.10	2669	2669	Survey & Conn.	Survey & Conn.@2611' Inc 9.75° Azm 318.65°
15-Aug-13	04:21	04:25	0.07	2669	2682	Sliding	Sliding - (WOB:15;GPM :600;TFO:0)
15-Aug-13	04:25	04:38	0.22	2682	2762	Drilling	Drilling - (WOB:39;GPM :600;RPM:55)
15-Aug-13	04:38	04:47	0.15	2762	2762	Survey & Conn.	Survey & Conn.@2704' Inc 11.41° Azm 309.8°
15-Aug-13	04:47	04:50	0.05	2762	2772	Sliding	Sliding - (WOB:17;GPM :600;TFO:0)
15-Aug-13	04:50	05:03	0.22	2772	2853	Drilling	Drilling - (WOB:39;GPM :600;RPM:55)
15-Aug-13	05:03	05:10	0.12	2853	2853	Survey & Conn.	Survey & Conn.@2795' Inc 11.81° Azm 320.89°
15-Aug-13	05:10	05:26	0.27	2853	2947	Drilling	Drilling - (WOB:40;GPM :600;RPM:55)
15-Aug-13	05:26	05:32	0.10	2947	2947	Survey & Conn.	Survey & Conn.@2889' Inc 10.97° Azm 319.1°
15-Aug-13	05:32	05:37	0.08	2947	2957	Sliding	Sliding - (WOB:17;GPM :600;TFO:0)
15-Aug-13	05:37	05:48	0.18	2957	3042	Drilling	Drilling - (WOB:40;GPM :600;RPM:55)
15-Aug-13	05:48	05:55	0.12	3042	3042	Survey & Conn.	Survey & Conn.@2984' Inc 13.6° Azm 321.85°
15-Aug-13	05:55	06:05	0.17	3042	3136	Drilling	Drilling - (WOB:40;GPM :600;RPM:55)
15-Aug-13	06:05	06:10	0.08	3136	3136	Survey & Conn.	Survey & Conn.@3173' Inc 11.39° Azm 317.25°
15-Aug-13	06:10	06:25	0.25	3136	3231	Drilling	Drilling - (WOB:40;GPM :600;RPM:55)
15-Aug-13	06:25	06:34	0.15	3231	3231	Survey & Conn.	Survey & Conn.@3173' Inc 11.39° Azm 317.25°
15-Aug-13	06:34	06:37	0.05	3231	3242	Sliding	Sliding - (WOB:17;GPM :600;TFO:0)
15-Aug-13	06:37	06:50	0.22	3242	3325	Drilling	Drilling - (WOB:40;GPM :600;RPM:55)
15-Aug-13	06:50	06:53	0.05	3325	3325	Survey & Conn.	Survey & Conn.@3267' Inc 12.74° Azm 317.16°
15-Aug-13	06:53	07:05	0.20	3325	3419	Drilling	Drilling - (WOB:40;GPM :600;RPM:55)
15-Aug-13	07:05	07:12	0.12	3419	3419	Survey & Conn.	Survey & Conn.@3361' Inc 10.28° Azm 315.67°
15-Aug-13	07:12	07:17	0.08	3419	3431	Sliding	Sliding - (WOB:17;GPM :600;TFO:15)
15-Aug-13	07:17	07:28	0.18	3431	3513	Drilling	Drilling - (WOB:40;GPM :600;RPM:55)
15-Aug-13	07:28	07:33	0.08	3513	3513	Survey & Conn.	Survey & Conn.@3455' Inc 10.58° Azm 313.71°
15-Aug-13	07:33	07:37	0.07	3513	3537	Drilling	Drilling - (WOB:40;GPM :600;RPM:55)
15-Aug-13	07:37	07:45	0.13	3537	3549	Sliding	Sliding - (WOB:17;GPM :600;TFO:30)
15-Aug-13	07:45	07:53	0.13	3549	3644	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	07:53	08:03	0.17	3644	3644	Survey & Conn.	Survey & Conn.@3550' Inc 11.17° Azm 310.92°
15-Aug-13	08:03	08:10	0.12	3644	3660	Sliding	Sliding - (WOB:17;GPM :600;TFO:30)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Aug-13	08:10	08:20	0.17	3660	3702	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	08:20	08:25	0.08	3702	3702	Survey & Conn.	Survey & Conn.@3644' Inc 11.83° Azm 311.4°
15-Aug-13	08:25	08:36	0.18	3702	3796	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	08:36	08:46	0.17	3796	3796	Survey & Conn.	Survey & Conn.@3738' Inc 9.69° Azm 310.1°
15-Aug-13	08:46	08:57	0.18	3796	3812	Sliding	Sliding - (WOB:17;GPM :600;TFO:30)
15-Aug-13	08:57	09:22	0.42	3812	3985	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	09:22	09:31	0.15	3985	3985	Survey & Conn.	Survey & Conn.@3927' Inc 10.17° Azm 318.29°
15-Aug-13	09:31	09:37	0.10	3985	4013	Sliding	Sliding - (WOB:17;GPM :600;TFO:10)
15-Aug-13	09:37	09:47	0.17	4013	4079	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	09:47	09:52	0.08	4079	4079	Survey & Conn.	Survey & Conn.@4021' Inc 11.91° Azm 317.82°
15-Aug-13	09:52	10:06	0.23	4079	4174	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	10:06	10:14	0.13	4174	4174	Survey & Conn.	Survey & Conn.@4116' Inc 12.2° Azm 316.46°
15-Aug-13	10:14	10:28	0.23	4174	4268	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	10:28	10:32	0.07	4268	4268	Survey & Conn.	Survey & Conn.@4210' Inc 11.35° Azm 313.74°
15-Aug-13	10:32	10:47	0.25	4268	4362	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	10:47	10:51	0.07	4362	4362	Survey & Conn.	Survey & Conn.@4210' Inc 11.35° Azm 313.74°
15-Aug-13	10:51	10:55	0.07	4362	4377	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	10:55	11:03	0.13	4377	4397	Sliding	Sliding - (WOB:20;GPM :600;TFO:30)
15-Aug-13	11:03	11:12	0.15	4397	4456	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	11:12	11:17	0.08	4456	4456	Survey & Conn.	Survey & Conn.@4492' Inc 10.22° Azm 311.39°
15-Aug-13	11:17	11:39	0.37	4456	4571	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	11:39	11:53	0.23	4571	4591	Sliding	Sliding - (WOB:20;GPM :600;TFO:30)
15-Aug-13	11:53	12:00	0.12	4591	4645	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	12:00	12:04	0.07	4645	4645	Survey & Conn.	Survey & Conn.@4587' Inc 12.22° Azm 317.62°
15-Aug-13	12:04	12:17	0.22	4645	4739	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	12:17	12:20	0.05	4739	4739	Survey & Conn.	Survey & Conn.@4681' Inc 11.58° Azm 317.01°
15-Aug-13	12:20	12:35	0.25	4739	4834	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	12:35	12:39	0.07	4834	4834	Survey & Conn.	Survey & Conn.@4776' Inc 10.67° Azm 312.59°
15-Aug-13	12:39	12:45	0.10	4834	4842	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	12:45	12:54	0.15	4842	4862	Sliding	Sliding - (WOB:20;GPM :600;TFO:45)
15-Aug-13	12:54	13:02	0.13	4862	4928	Drilling	Drilling - (WOB:50;GPM :556;RPM:45)
15-Aug-13	13:02	13:06	0.07	4928	4928	Survey & Conn.	Survey & Conn.@4870' Inc 12.72° Azm 330.7°
15-Aug-13	13:06	13:20	0.23	4928	5023	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	13:20	13:25	0.08	5023	5023	Survey & Conn.	Survey & Conn.@4965' Inc 10.75° Azm 330.4°
15-Aug-13	13:25	13:39	0.23	5023	5117	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	13:39	13:47	0.13	5117	5117	Circulating	Circulating - Circ. out sweep
15-Aug-13	13:47	13:51	0.07	5117	5117	Survey & Conn.	Survey & Conn.@5059' Inc 9.19° Azm 325.57°
15-Aug-13	13:51	14:06	0.25	5117	5212	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	14:06	14:12	0.10	5212	5212	Survey & Conn.	Survey & Conn.@5154' Inc 8.12° Azm 322.37°
15-Aug-13	14:12	14:25	0.22	5212	5306	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	14:25	14:30	0.08	5306	5306	Survey & Conn.	Survey & Conn.@5248' Inc 6.52° Azm 320.42°
15-Aug-13	14:30	14:43	0.22	5306	5400	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	14:43	14:48	0.08	5400	5400	Survey & Conn.	Survey & Conn.@5342' Inc 4.85° Azm 322.65°
15-Aug-13	14:48	15:02	0.23	5400	5495	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	15:02	15:06	0.07	5495	5495	Survey & Conn.	Survey & Conn.@5437' Inc 3.91° Azm 327.22°
15-Aug-13	15:06	15:26	0.33	5495	5589	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	15:26	15:32	0.10	5589	5589	Survey & Conn.	Survey & Conn.@5531' Inc 2.76° Azm 320.77°
15-Aug-13	15:32	15:46	0.23	5589	5684	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Aug-13	15:46	15:51	0.08	5684	5684	Survey & Conn.	Survey & Conn.@5626' Inc 1.8° Azm 334.85°
15-Aug-13	15:51	16:04	0.22	5684	5778	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	16:04	16:08	0.07	5778	5778	Survey & Conn.	Survey & Conn.@5720' Inc 1.18° Azm 351.83°
15-Aug-13	16:08	16:23	0.25	5778	5872	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	16:23	16:28	0.08	5872	5872	Survey & Conn.	Survey & Conn.@5814' Inc 1.13° Azm 44.61°
15-Aug-13	16:28	16:42	0.23	5872	5967	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	16:42	16:48	0.10	5967	5967	Survey & Conn.	Survey & Conn.@5909' Inc 1° Azm 73.73°
15-Aug-13	16:48	17:01	0.22	5967	6061	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	17:01	17:08	0.12	6061	6061	Survey & Conn.	Survey & Conn.@6003' Inc 0.33° Azm 99.31°
15-Aug-13	17:08	17:23	0.25	6061	6155	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	17:23	17:48	0.42	6155	6155	Rig Service-Inhole	Rig Service-Inhole
15-Aug-13	17:48	17:56	0.13	6155	6155	Survey & Conn.	Survey & Conn.@6097' Inc 0.38° Azm 342.61°
15-Aug-13	17:56	18:10	0.23	6155	6250	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	18:10	18:14	0.07	6250	6250	Survey & Conn.	Survey & Conn.@6192' Inc 0.72° Azm 187.03°
15-Aug-13	18:14	18:34	0.33	6250	6344	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	18:34	18:38	0.07	6344	6344	Survey & Conn.	Survey & Conn.@6286' Inc 1.03° Azm 170.57°
15-Aug-13	18:38	19:05	0.45	6344	6439	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	19:05	19:13	0.13	6439	6439	Survey & Conn.	Survey & Conn.@6381' Inc 1.15° Azm 199.98°
15-Aug-13	19:13	19:20	0.12	6439	6456	Sliding	Sliding - (WOB:20;GPM :600;TFO:300)
15-Aug-13	19:20	19:40	0.33	6456	6533	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	19:40	19:47	0.12	6533	6533	Survey & Conn.	Survey & Conn.@6475' Inc 2.78° Azm 294.72°
15-Aug-13	19:47	20:00	0.22	6533	6628	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	20:00	20:08	0.13	6628	6628	Survey & Conn.	Survey & Conn.@6570' Inc 2.32° Azm 271.75°
15-Aug-13	20:08	20:28	0.33	6628	6727	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	20:28	20:34	0.10	6727	6727	Survey & Conn.	Survey & Conn.@6664' Inc 2.76° Azm 251°
15-Aug-13	20:34	20:49	0.25	6727	6786	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	20:49	20:55	0.10	6786	6786	Survey & Conn.	Survey & Conn.@6727' Inc 3.57° Azm 241.97°
15-Aug-13	20:55	21:06	0.18	6786	6803	Sliding	Sliding - (WOB:20;GPM :600;TFO:300)
15-Aug-13	21:06	21:10	0.07	6803	6817	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	21:10	21:20	0.17	6817	6817	Survey & Conn.	Survey & Conn.@6759' Inc 3.45° Azm 241.42°
15-Aug-13	21:20	21:49	0.48	6817	6831	Sliding	Sliding - (WOB:20;GPM :600;TFO:300)
15-Aug-13	21:49	21:55	0.10	6831	6848	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	21:55	22:06	0.18	6848	6848	Survey & Conn.	Survey & Conn.@6790' Inc 4.63° Azm 225.94°
15-Aug-13	22:06	22:16	0.17	6848	6864	Sliding	Sliding - (WOB:20;GPM :600;TFO:300)
15-Aug-13	22:16	22:23	0.12	6864	6879	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	22:23	22:32	0.15	6879	6879	Survey & Conn.	Survey & Conn.@6821' Inc 6.9° Azm 214.45°
15-Aug-13	22:32	22:42	0.17	6879	6895	Sliding	Sliding - (WOB:20;GPM :600;TFO:300)
15-Aug-13	22:42	22:47	0.08	6895	6911	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	22:47	22:55	0.13	6911	6911	Survey & Conn.	Survey & Conn.@6853' Inc 9.82° Azm 204.28°
15-Aug-13	22:55	23:03	0.13	6911	6924	Sliding	Sliding - (WOB:20;GPM :600;TFO:300)
15-Aug-13	23:03	23:09	0.10	6924	6943	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	23:09	23:27	0.30	6943	6960	Sliding	Sliding - (WOB:20;GPM :600;TFO:300)
15-Aug-13	23:27	23:31	0.07	6960	6974	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	23:31	23:40	0.15	6974	6974	Survey & Conn.	Survey & Conn.@6916' Inc 15.69° Azm 198.41°
15-Aug-13	23:40	23:49	0.15	6974	6990	Sliding	Sliding - (WOB:20;GPM :600;TFO:300)
15-Aug-13	23:49	23:52	0.05	6990	7005	Drilling	Drilling - (WOB:50;GPM :600;RPM:65)
15-Aug-13	23:52	24:00	0.13	7005	7005	Survey & Conn.	Survey & Conn.@6947' Inc 17.45° Azm 192.18°



JOB NO.:	410813HMP45120	Report Time:	2400	3 of 8
COMPANY:	Kerr McGee Oil & Gas Onshore LP	API JOB #	0512336447	
LOCATION:	HEDGE 1-22HZ Pad	WORK ORDER#	166432	
RIG NAME:	H&P 311	FIELD:	WATTENBURG	
STATE:	COLORADO	Township:	T3N	
COUNTY:	WELD	SECT/RANGE:	22	R66W
WELL NAME:	Hedge 16C-22HZ			

From Friday, August 16, 2013 at 0000 to Friday, August 16, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	7005.00	Rotary Hours	4.13	WOB	0	Pick UP	200	Slack Off	115	SPM	
End Depth	7790.00	Circulating Hours	0.08	RAB	105	SPP	4200	FlowRate	600 - 600	156	
Total Drilled:	785.00	Avg. Total ROP:	71.80	Mud Data							
Total Rotary Drilled:	463.00	Avg. Rotary ROP:	112.02	Type		PV	0	SOLID	0		
Total Drilled Sliding:	322.00	Avg. Slide ROP:	47.35	Weight	0	GAS	0	YP	0	BHT °	0
Slide Hours:	6.80	Percent Rotary:	58.98	Viscosity	0	SAND	0	PH	0	Flow T °	0
Below Rotary Hrs.	22.72	Percent Slide:	41.02	Chlorides	0	WL	0		Oil %	0	

PERSONNEL				cASING			BHA				
Lead Directional :	John Noakes (3089)			Size	Lb/ft	Set Depth	BHA # 1:8 3/4" Smith SDI611 3x16's & 3x14's, SDI 6.5" Mud Motor, NMPC 6.5", NMDC 6.5" , NM 6.5" Pulser Sub, NMDC 6.5" , Filter Sub 6.5", Steel 6.5" 4.5XHP/4XT39B, Spiral HWDP,				
Second Directional :	Ian Ensell (10871)			Signature:							
MWD Operator1	Josh Denning (10463)										
MWD Operator2	Mohamed Sharker (10817)										
Directional Company:	Scientific Drilling International										
Geologist:											
Company Man:	Doug Blair / David Wells			Incl. In:	12.6	Azm. In:	199.6	Incl. Out:	86.37	Azm. Out:	179

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Aug-13	00:00	00:14	0.23	7005	7019	Sliding	Sliding - (WOB:28;GPM :600;TFO:-30)
16-Aug-13	00:14	00:20	0.10	7019	7037	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	00:20	00:29	0.15	7037	7037	Survey & Conn.	Survey & Conn.@6979' Inc 20.78° Azm 187.64°
16-Aug-13	00:29	00:36	0.12	7037	7050	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	00:36	00:42	0.10	7050	7068	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	00:42	00:50	0.13	7068	7068	Survey & Conn.	Survey & Conn.@7010' Inc 23.86° Azm 182.42°
16-Aug-13	00:50	00:57	0.12	7068	7079	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	00:57	01:02	0.08	7079	7100	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	01:02	01:13	0.18	7100	7100	Survey & Conn.	Survey & Conn.@7042' Inc 26.21° Azm 178.25°
16-Aug-13	01:13	01:20	0.12	7100	7113	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	01:20	01:27	0.12	7113	7144	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	01:27	01:38	0.18	7144	7144	Survey & Conn.	Survey & Conn.@7073' Inc 28.15° Azm 177.76°
16-Aug-13	01:38	01:44	0.10	7144	7163	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	02:01	02:11	0.17	7163	7163	Survey & Conn.	Survey & Conn.@7105' Inc 30.5° Azm 177.44°
16-Aug-13	02:11	02:21	0.17	7163	7175	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	02:21	02:30	0.15	7175	7194	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	02:30	02:40	0.17	7194	7194	Survey & Conn.	Survey & Conn.@7136' Inc 32.86° Azm 178.17°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Aug-13	02:40	02:51	0.18	7194	7208	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	02:51	02:58	0.12	7208	7231	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	02:58	03:07	0.15	7231	7231	Survey & Conn.	Survey & Conn.@7168' Inc 35.52° Azm 178.56°
16-Aug-13	03:07	03:30	0.38	7231	7249	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	03:30	03:36	0.10	7249	7257	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	03:36	03:47	0.18	7257	7257	Survey & Conn.	Survey & Conn.@7199' Inc 38.58° Azm 179.69°
16-Aug-13	03:47	03:55	0.13	7257	7266	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	03:55	04:03	0.13	7266	7289	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	04:03	04:14	0.18	7289	7289	Survey & Conn.	Survey & Conn.@7231' Inc 41.5° Azm 179.77°
16-Aug-13	04:14	04:20	0.10	7289	7296	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	04:20	04:30	0.17	7296	7320	Drilling	Drilling - (WOB:45;GPM :600;RPM:0)
16-Aug-13	04:30	04:42	0.20	7320	7320	Survey & Conn.	Survey & Conn.@7262' Inc 44.53° Azm 178.76°
16-Aug-13	04:42	05:00	0.30	7320	7338	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	05:00	05:06	0.10	7338	7351	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	05:06	05:14	0.13	7351	7351	Survey & Conn.	Survey & Conn.@7293' Inc 46.16° Azm 178.47°
16-Aug-13	05:14	05:27	0.22	7351	7364	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	05:27	05:34	0.12	7364	7383	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	05:34	05:44	0.17	7383	7383	Survey & Conn.	Survey & Conn.@7325' Inc 48.32° Azm 177.92°
16-Aug-13	05:44	05:52	0.13	7383	7392	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	05:52	06:05	0.22	7392	7414	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	06:05	06:15	0.17	7414	7414	Survey & Conn.	Survey & Conn.@7356' Inc 52.18° Azm 177.78°
16-Aug-13	06:15	06:28	0.22	7414	7427	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	06:28	06:37	0.15	7427	7445	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	06:37	06:48	0.18	7445	7445	Survey & Conn.	Survey & Conn.@7387' Inc 55.06° Azm 177.39°
16-Aug-13	06:48	07:06	0.30	7445	7456	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	07:06	07:16	0.17	7456	7477	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	07:16	07:28	0.20	7477	7477	Survey & Conn.	Survey & Conn.@7419' Inc 57.91° Azm 177.15°
16-Aug-13	07:28	07:40	0.20	7477	7490	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	07:40	07:51	0.18	7490	7508	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	07:51	08:03	0.20	7508	7508	Survey & Conn.	Survey & Conn.@7450' Inc 61.14° Azm 177.06°
16-Aug-13	08:03	08:17	0.23	7508	7522	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	08:17	08:27	0.17	7522	7540	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	08:27	08:41	0.23	7540	7540	Survey & Conn.	Survey & Conn.@7482' Inc 64.01° Azm 176.64°
16-Aug-13	08:41	09:00	0.32	7540	7553	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	09:00	09:06	0.10	7553	7571	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	09:06	09:20	0.23	7571	7571	Survey & Conn.	Survey & Conn.@7513' Inc 66.83° Azm 176.16°
16-Aug-13	09:20	09:33	0.22	7571	7584	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	09:33	09:47	0.23	7584	7603	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	09:47	09:57	0.17	7603	7603	Survey & Conn.	Survey & Conn.@7545' Inc 69.3° Azm 174.93°
16-Aug-13	09:57	10:46	0.82	7603	7622	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	10:46	10:51	0.08	7622	7634	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	10:51	11:00	0.15	7634	7634	Survey & Conn.	Survey & Conn.@7576' Inc 72.95° Azm 173.3°
16-Aug-13	11:00	11:35	0.58	7634	7644	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	11:35	11:52	0.28	7644	7666	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	11:52	12:06	0.23	7666	7666	Survey & Conn.	Survey & Conn.@7608' Inc 75.65° Azm 174.05°
16-Aug-13	12:06	12:42	0.60	7666	7671	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	12:42	13:08	0.43	7671	7697	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	13:08	13:23	0.25	7697	7697	Survey & Conn.	Survey & Conn.@7639' Inc 78.41° Azm 176.12°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Aug-13	13:23	13:50	0.45	7697	7714	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	13:50	14:04	0.23	7714	7728	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	14:04	14:17	0.22	7728	7728	Survey & Conn.	Survey & Conn.@7670' Inc 80.05° Azm 176.82°
16-Aug-13	14:17	14:31	0.23	7728	7741	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	14:31	14:50	0.32	7741	7760	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	14:50	15:10	0.33	7760	7760	Survey & Conn.	Survey & Conn.@7702' Inc 82.49° Azm 177.88°
16-Aug-13	15:10	15:30	0.33	7760	7771	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
16-Aug-13	15:30	15:47	0.28	7771	7790	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
16-Aug-13	15:47	15:52	0.08	7790	7790	MWD Survey	MWD Survey@7732' Inc 86.37° Azm 179°
16-Aug-13	15:52	22:00	6.13	7790	7790	POOH	POOH
16-Aug-13	22:00	23:00	1.00	7790	7790	Change BHA	Change BHA - LD BHA #1
16-Aug-13	23:00	24:00	1.00	7790	7790	Standby	Standby



JOB NO.:	410813HMP45120	Report Time:	2400	4 of 8
COMPANY:	Kerr McGee Oil & Gas Onshore LP	API JOB #	0512336447	
LOCATION:	HEDGE 1-22HZ Pad	WORK ORDER#	166432	
RIG NAME:	H&P 311	FIELD:	WATTENBURG	
STATE:	COLORADO	Township:	T3N	
COUNTY:	WELD	SECT RANGE:	22	R66W
WELL NAME:	Hedge 16C-22HZ			

From Saturday, August 17, 2013 at 0000 to Saturday, August 17, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	0.00	Rotary Hours	0.00	WOB	0	Pick UP	0	Slack Off	0	SPM	
End Depth	0.00	Circulating Hours	0.00	RAB	0	SPP	0	FlowRate	0-0		0
Total Drilled:	0.00	Avg. Total ROP:	NA	Mud Data							
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type		PV	0	SOLID		0	
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	0	GAS	0	YP	0	BHT°	0
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	0	SAND	0	PH	0	Flow T°	0
Below Rotary Hrs.	2.50	Percent Slide:	NA	Chlorides	0	WL	0			Oil %	0

PERSONNEL				cASING			BHA
Lead Directional :	John Noakes (3089)			Size	Lb/ft	Set Depth	BHA # 2:6 1/8" MMD54, Wenzel 4.75" Mud Motor, I-Blade Stab 5 7/8, Flex NMPC 4.75", PRT Cleated Flex Collar, NMDC 4.75", I-Blade Stab 5.625", Filter Sub 4.75", Steel 4.75" XO, 1 Stand (3 Jnts.) 4" DP, 6" Ghost Reamer, 19 Stands (57 Jnts.) 4" DP, Agitator, 31 Stands (93 Jnts.) 4 DP, 30 Stands (90 Jnts.) 4" HWDP,
Second Directional :	Ian Ensell (10871)			Signature:			
MWD Operator1	Josh Denning (10463)						
MWD Operator2	Mohamed Sharker (10817)						
Directional Company:	Scientific Drilling International						
Geologist:							
Company Man:	Doug Blair / David Wells						
Incl. In:	86.37	Azm. In:	179	Incl. Out:	86.37	Azm. Out:	179

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
17-Aug-13	00:00	21:30	21.50	0	0	Standby	Standby
17-Aug-13	21:30	23:30	2.00	0	0	Change BHA	Change BHA - PU Lateral BHA
17-Aug-13	23:30	24:00	0.50	7790	7790	TIH	TIH



JOB NO.:	410813HMP45120	Report Time:	2400	5 of 8
COMPANY:	Kerr McGee Oil & Gas Onshore LP	API JOB #	0512336447	
LOCATION:	HEDGE 1-22HZ Pad	WORK ORDER#	166432	
RIG NAME:	H&P 311	FIELD:	WATTENBURG	
STATE:	COLORADO	Township:	T3N	
COUNTY:	WELD	SECT/RANGE:	22	R66W
WELL NAME:	Hedge 16C-22HZ			

From Sunday, August 18, 2013 at 0000 to Sunday, August 18, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	7790.00	Rotary Hours	9.15	WOB	28	Pick UP	201	Slack Off	122	SPM	
End Depth	10169.00	Circulating Hours	0.53	RAB	145	SPP	3000	FlowRate	0 - 276	72	
Total Drilled:	2379.00	Avg. Total ROP:	198.25	Mud Data							
Total Rotary Drilled:	2187.00	Avg. Rotary ROP:	239.02	Type		PV	0	SOLID	0		
Total Drilled Sliding:	192.00	Avg. Slide ROP:	67.37	Weight	0	GAS	0	YP	0	BHT°	0
Slide Hours:	2.85	Percent Rotary:	91.93	Viscosity	0	SAND	0	PH	0	Flow T°	0
Below Rotary Hrs.	24.00	Percent Slide:	8.07	Chlorides	0	WL	0	Oil %	0		

PERSONNEL				cASING			BHA				
Lead Directional :	John Noakes (3089)			Size	Lb/ft	Set Depth	BHA # 2:6 1/8" MMD54, Wenzel 4.75" Mud Motor, I-Blade Stab 5 7/8, Flex NMPC 4.75", PRT Cleated Flex Collar, NMDC 4.75", I-Blade Stab 5.625", Filter Sub 4.75", Steel 4.75" XO, 1 Stand (3 Jnts.) 4" DP, 6" Ghost Reamer, 19 Stands (57 Jnts.) 4" DP, Agitator, 31 Stands (93 Jnts.) 4 DP, 30 Stands (90 Jnts.) 4" HWDP,				
Second Directional :	Ian Ensell (10871)			Signature:							
MWD Operator1	Josh Denning (10463)										
MWD Operator2	Mohamed Sharker (10817)										
Directional Company:	Scientific Drilling International										
Geologist:											
Company Man:	Doug Blair / David Wells			Incl. In:	86.37	Azm. In:	179	Incl. Out:	91.18	Azm. Out:	176.39

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
18-Aug-13	00:00	05:00	5.00	7790	7790	TIH	TIH
18-Aug-13	05:00	06:20	1.33	7790	7790	Other	Other - Drill Cement, float and shoe
18-Aug-13	06:20	06:26	0.10	7790	7797	Drilling	Drilling - (WOB:45;GPM :600;RPM:25)
18-Aug-13	06:26	06:36	0.17	7797	7797	Survey & Conn.	Survey & Conn.@7732' Inc 86.37° Azm 179°
18-Aug-13	06:36	06:50	0.23	7797	7832	Drilling	Drilling - (WOB:15;GPM :230;RPM:50)
18-Aug-13	06:50	07:00	0.17	7832	7832	MWD Survey	MWD Survey@7732' Inc 86.37° Azm 179°
18-Aug-13	07:00	07:18	0.30	7832	7892	Drilling	Drilling - (WOB:15;GPM :230;RPM:50)
18-Aug-13	07:18	07:29	0.18	7892	7892	Survey & Conn.	Survey & Conn.@7828' Inc 90.54° Azm 181.67°
18-Aug-13	07:29	07:48	0.32	7892	7986	Drilling	Drilling - (WOB:15;GPM :230;RPM:50)
18-Aug-13	07:48	08:10	0.37	7986	7986	Survey & Conn.	Survey & Conn.@7922' Inc 90.17° Azm 180.91°
18-Aug-13	08:10	08:12	0.03	7986	8000	Sliding	Sliding - (WOB:28;GPM :600;TFO:105)
18-Aug-13	08:12	08:43	0.52	8000	8080	Drilling	Drilling - (WOB:15;GPM :230;RPM:65)
18-Aug-13	08:43	08:52	0.15	8080	8080	Survey & Conn.	Survey & Conn.@8016' Inc 89.36° Azm 183.12°
18-Aug-13	08:52	09:14	0.37	8080	8175	Drilling	Drilling - (WOB:15;GPM :230;RPM:65)
18-Aug-13	09:14	09:27	0.22	8175	8175	Survey & Conn.	Survey & Conn.@8111' Inc 87.86° Azm 182.48°
18-Aug-13	09:27	09:34	0.12	8175	8187	Sliding	Sliding - (WOB:28;GPM :600;TFO:15)
18-Aug-13	09:34	09:55	0.35	8187	8269	Drilling	Drilling - (WOB:15;GPM :230;RPM:55)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
18-Aug-13	09:55	10:04	0.15	8269	8269	Survey & Conn.	Survey & Conn.@8205' Inc 90.47° Azm 181.57°
18-Aug-13	10:04	10:28	0.40	8269	8364	Drilling	Drilling - (WOB:15;GPM :230;RPM:55)
18-Aug-13	10:28	10:38	0.17	8364	8364	Survey & Conn.	Survey & Conn.@8300' Inc 89.12° Azm 182.22°
18-Aug-13	10:38	11:04	0.43	8364	8458	Drilling	Drilling - (WOB:15;GPM :230;RPM:55)
18-Aug-13	11:04	11:17	0.22	8458	8458	Survey & Conn.	Survey & Conn.@8394' Inc 88.29° Azm 182.04°
18-Aug-13	11:17	11:23	0.10	8458	8470	Sliding	Sliding - (WOB:28;GPM :600;TFO:0)
18-Aug-13	11:23	11:43	0.33	8470	8552	Drilling	Drilling - (WOB:15;GPM :230;RPM:55)
18-Aug-13	11:43	11:55	0.20	8552	8552	Survey & Conn.	Survey & Conn.@8488' Inc 90.27° Azm 182.09°
18-Aug-13	11:55	12:18	0.38	8552	8646	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	12:18	12:35	0.28	8646	8646	Survey & Conn.	Survey & Conn.@8582' Inc 92.16° Azm 182.86°
18-Aug-13	12:35	12:44	0.15	8646	8654	Sliding	Sliding - (WOB:28;GPM :276;TFO:180)
18-Aug-13	12:44	13:07	0.38	8654	8741	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	13:07	13:20	0.22	8741	8741	Survey & Conn.	Survey & Conn.@8677' Inc 91.21° Azm 183.38°
18-Aug-13	13:20	13:36	0.27	8741	8751	Sliding	Sliding - (WOB:28;GPM :276;TFO:180)
18-Aug-13	13:36	13:51	0.25	8751	8835	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	13:51	14:03	0.20	8835	8835	Survey & Conn.	Survey & Conn.@8771' Inc 89.77° Azm 180.99°
18-Aug-13	14:03	14:25	0.37	8835	8929	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	14:25	14:36	0.18	8929	8929	Survey & Conn.	Survey & Conn.@8865' Inc 90.71° Azm 180.22°
18-Aug-13	14:36	14:52	0.27	8929	8943	Sliding	Sliding - (WOB:28;GPM :276;TFO:0)
18-Aug-13	14:52	15:09	0.28	8943	9023	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	15:09	15:20	0.18	9023	9023	Survey & Conn.	Survey & Conn.@8959' Inc 89.87° Azm 179.13°
18-Aug-13	15:20	15:44	0.40	9023	9039	Sliding	Sliding - (WOB:28;GPM :276;TFO:180)
18-Aug-13	15:44	16:02	0.30	9039	9117	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	16:02	16:17	0.25	9117	9117	Survey & Conn.	Survey & Conn.@9053' Inc 86.44° Azm 176.96°
18-Aug-13	16:17	16:28	0.18	9117	9133	Sliding	Sliding - (WOB:28;GPM :276;TFO:30)
18-Aug-13	16:28	16:48	0.33	9133	9212	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	16:48	17:10	0.37	9212	9212	Rig Service-Inhole	Rig Service-Inhole
18-Aug-13	17:10	17:20	0.17	9212	9212	Survey & Conn.	Survey & Conn.@9148' Inc 88.93° Azm 178.02°
18-Aug-13	17:20	17:43	0.38	9212	9306	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	17:43	18:01	0.30	9306	9306	Survey & Conn.	Survey & Conn.@9242' Inc 88.38° Azm 178.36°
18-Aug-13	18:01	18:11	0.17	9306	9323	Sliding	Sliding - (WOB:28;GPM :276;TFO:15)
18-Aug-13	18:11	18:29	0.30	9323	9400	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	18:29	18:39	0.17	9400	9400	Survey & Conn.	Survey & Conn.@9336' Inc 91.41° Azm 179.74°
18-Aug-13	18:39	18:52	0.22	9400	9410	Sliding	Sliding - (WOB:28;GPM :276;TFO:15)
18-Aug-13	18:52	19:11	0.32	9410	9494	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	19:11	19:21	0.17	9494	9494	Survey & Conn.	Survey & Conn.@9430' Inc 87.88° Azm 178.42°
18-Aug-13	19:21	19:26	0.08	9494	9501	Sliding	Sliding - (WOB:28;GPM :276;TFO:15)
18-Aug-13	19:26	19:45	0.32	9501	9589	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	19:45	19:56	0.18	9589	9589	Survey & Conn.	Survey & Conn.@9525' Inc 89.66° Azm 179.25°
18-Aug-13	19:56	20:19	0.38	9589	9683	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	20:19	20:29	0.17	9683	9683	Survey & Conn.	Survey & Conn.@9619' Inc 90° Azm 180.65°
18-Aug-13	20:29	20:34	0.08	9683	9692	Sliding	Sliding - (WOB:28;GPM :276;TFO:5)
18-Aug-13	20:34	20:55	0.35	9692	9777	Drilling	Drilling - (WOB:15;GPM :276;RPM:55)
18-Aug-13	20:55	21:05	0.17	9777	9777	Survey & Conn.	Survey & Conn.@9713' Inc 90.3° Azm 178.55°
18-Aug-13	21:05	21:28	0.38	9777	9871	Drilling	Drilling - (WOB:15;GPM :276;RPM:70)
18-Aug-13	21:28	21:41	0.22	9871	9871	Survey & Conn.	Survey & Conn.@9807' Inc 89.49° Azm 173.41°
18-Aug-13	21:41	21:55	0.23	9871	9880	Sliding	Sliding - (WOB:28;GPM :276;TFO:270)
18-Aug-13	21:55	22:14	0.32	9880	9966	Drilling	Drilling - (WOB:15;GPM :276;RPM:70)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
18-Aug-13	22:14	22:24	0.17	9966	9966	Survey & Conn.	Survey & Conn.@9902' Inc 89.26° Azm 171.8°
18-Aug-13	22:24	22:30	0.10	9966	9978	Sliding	Sliding - (WOB:28;GPM :276;TFO:90)
18-Aug-13	22:30	22:54	0.40	9978	10060	Drilling	Drilling - (WOB:15;GPM :276;RPM:70)
18-Aug-13	22:54	23:02	0.13	10060	10060	Survey & Conn.	Survey & Conn.@9996' Inc 89.56° Azm 173.88°
18-Aug-13	23:02	23:21	0.32	10060	10072	Sliding	Sliding - (WOB:28;GPM :276;TFO:90)
18-Aug-13	23:21	23:42	0.35	10072	10155	Drilling	Drilling - (WOB:15;GPM :276;RPM:70)
18-Aug-13	23:42	23:52	0.17	10155	10155	Survey & Conn.	Survey & Conn.@10091' Inc 91.18° Azm 176.39°
18-Aug-13	23:52	24:00	0.13	10155	10169	Sliding	Sliding - (WOB:28;GPM :276;TFO:90)



JOB NO.:	410813HMP45120	Report Time:	2400	6 of 8
COMPANY:	Kerr McGee Oil & Gas Onshore LP	API JOB #	0512336447	
LOCATION:	HEDGE 1-22HZ Pad	WORK ORDER#	166432	
RIG NAME:	H&P 311	FIELD:	WATTENBURG	
STATE:	COLORADO	Township:	T3N	
COUNTY:	WELD	SECT/RANGE:	22	R66W
WELL NAME:	Hedge 16C-22HZ			

From Monday, August 19, 2013 at 0000 to Monday, August 19, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters						
Start Depth	10169.00	Rotary Hours	8.95	WOB	0	Pick UP	201	Slack Off	122	SPM
End Depth	12238.00	Circulating Hours	2.67	RAB	145	SPP	0	FlowRate	0 - 276	0
Total Drilled:	2069.00	Avg. Total ROP:	182.56	Mud Data						
Total Rotary Drilled:	1947.00	Avg. Rotary ROP:	217.54	Type		PV	0	SOLID	0	
Total Drilled Sliding:	122.00	Avg. Slide ROP:	51.19	Weight	0	GAS	0	YP	0	BHT°
Slide Hours:	2.38	Percent Rotary:	94.10	Viscosity	0	SAND	0	PH	0	Flow T°
Below Rotary Hrs.	24.00	Percent Slide:	5.90	Chlorides	0	WL	0	Oil %	0	

PERSONNEL				cASING			BHA				
Lead Directional :	John Noakes (3089)			Size	Lb/ft	Set Depth	BHA # 2:6 1/8" MMD54, Wenzel 4.75" Mud Motor, I-Blade Stab 5 7/8, Flex NMPC 4.75", PRT Cleated Flex Collar, NMDC 4.75", I-Blade Stab 5.625", Filter Sub 4.75", Steel 4.75" XO, 1 Stand (3 Jnts.) 4" DP, 6" Ghost Reamer, 19 Stands (57 Jnts.) 4" DP, Agitator, 31 Stands (93 Jnts.) 4 DP, 30 Stands (90 Jnts.) 4" HWDP.				
Second Directional :	Ian Ensell (10871)			Signature:							
MWD Operator1	Josh Denning (10463)										
MWD Operator2	Mohamed Sharker (10817)										
Directional Company:	Scientific Drilling International										
Geologist:											
Company Man:	Doug Blair / David Wells			Incl. In:	91.18	Azm. In:	176.39	Incl. Out:	90.74	Azm. Out:	180.51

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
19-Aug-13	00:00	00:26	0.43	10169	10249	Drilling	Drilling - (WOB:15;GPM :276;RPM:70)
19-Aug-13	00:26	00:36	0.17	10249	10249	Survey & Conn.	Survey & Conn.@10185' Inc 89.26° Azm 176.68°
19-Aug-13	00:36	00:53	0.28	10249	10262	Sliding	Sliding - (WOB:28;GPM :276;TFO:90)
19-Aug-13	00:53	01:13	0.33	10262	10344	Drilling	Drilling - (WOB:15;GPM :276;RPM:70)
19-Aug-13	01:13	01:22	0.15	10344	10344	Survey & Conn.	Survey & Conn.@10280' Inc 89.36° Azm 180.49°
19-Aug-13	01:22	01:29	0.12	10344	10352	Sliding	Sliding - (WOB:28;GPM :276;TFO:100)
19-Aug-13	01:29	01:48	0.32	10352	10438	Drilling	Drilling - (WOB:15;GPM :276;RPM:70)
19-Aug-13	01:48	01:57	0.15	10438	10438	Survey & Conn.	Survey & Conn.@10374' Inc 89.36° Azm 182.77°
19-Aug-13	01:57	02:18	0.35	10438	10532	Drilling	Drilling - (WOB:15;GPM :276;RPM:70)
19-Aug-13	02:18	02:26	0.13	10532	10532	Survey & Conn.	Survey & Conn.@10468' Inc 88.86° Azm 182.21°
19-Aug-13	02:26	02:52	0.43	10532	10627	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	02:52	02:59	0.12	10627	10627	Survey & Conn.	Survey & Conn.@10563' Inc 87.68° Azm 179.62°
19-Aug-13	02:59	03:15	0.27	10627	10636	Sliding	Sliding - (WOB:28;GPM :276;TFO:100)
19-Aug-13	03:15	03:38	0.38	10636	10722	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	03:38	03:47	0.15	10722	10722	Survey & Conn.	Survey & Conn.@10658' Inc 88.69° Azm 179.58°
19-Aug-13	03:47	03:54	0.12	10722	10730	Sliding	Sliding - (WOB:28;GPM :276;TFO:60)
19-Aug-13	03:54	04:20	0.43	10730	10816	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
19-Aug-13	04:20	04:28	0.13	10816	10816	Survey & Conn.	Survey & Conn.@10752' Inc 90.3° Azm 180.6°
19-Aug-13	04:28	04:36	0.13	10816	10825	Sliding	Sliding - (WOB:28;GPM :276;TFO:60)
19-Aug-13	04:36	04:57	0.35	10825	10911	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	04:57	05:14	0.28	10911	10911	Survey & Conn.	Survey & Conn.@10847' Inc 93.15° Azm 185.26°
19-Aug-13	05:14	05:23	0.15	10911	10919	Sliding	Sliding - (WOB:28;GPM :276;TFO:60)
19-Aug-13	05:23	05:47	0.40	10919	11005	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	05:47	06:24	0.62	11005	11100	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	06:24	06:40	0.27	11100	11100	Survey & Conn.	Survey & Conn.@11036' Inc 90.54° Azm 181.61°
19-Aug-13	06:40	06:51	0.18	11100	11110	Sliding	Sliding - (WOB:28;GPM :276;TFO:120)
19-Aug-13	06:51	07:14	0.38	11110	11194	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	07:14	07:36	0.37	11194	11194	Survey & Conn.	Survey & Conn.@11130' Inc 89.23° Azm 183.32°
19-Aug-13	07:36	08:02	0.43	11194	11289	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	08:02	08:16	0.23	11289	11289	Survey & Conn.	Survey & Conn.@11225' Inc 88.49° Azm 183.24°
19-Aug-13	08:16	08:33	0.28	11289	11383	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	08:33	08:42	0.15	11383	11383	Survey & Conn.	Survey & Conn.@11319' Inc 86.6° Azm 181.89°
19-Aug-13	08:42	08:56	0.23	11383	11397	Sliding	Sliding - (WOB:28;GPM :276;TFO:40)
19-Aug-13	08:56	09:15	0.32	11397	11477	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	09:15	09:26	0.18	11477	11477	Survey & Conn.	Survey & Conn.@11413' Inc 88.12° Azm 181.09°
19-Aug-13	09:26	09:31	0.08	11477	11487	Sliding	Sliding - (WOB:28;GPM :276;TFO:70)
19-Aug-13	09:31	09:53	0.37	11487	11572	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	09:53	10:08	0.25	11572	11572	Survey & Conn.	Survey & Conn.@11508' Inc 87.79° Azm 183.13°
19-Aug-13	10:08	10:20	0.20	11572	11585	Sliding	Sliding - (WOB:28;GPM :276;TFO:20)
19-Aug-13	10:20	10:41	0.35	11585	11666	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	10:41	10:51	0.17	11666	11666	Survey & Conn.	Survey & Conn.@11602' Inc 89.63° Azm 183.78°
19-Aug-13	10:51	11:11	0.33	11666	11761	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	11:11	11:21	0.17	11761	11761	Survey & Conn.	Survey & Conn.@11697' Inc 88.83° Azm 182.5°
19-Aug-13	11:21	11:41	0.33	11761	11775	Sliding	Sliding - (WOB:28;GPM :276;TFO:20)
19-Aug-13	11:41	12:17	0.60	11775	11855	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	12:17	12:31	0.23	11855	11855	Survey & Conn.	Survey & Conn.@11791' Inc 90.4° Azm 182.44°
19-Aug-13	12:31	13:14	0.72	11855	11949	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	13:14	13:39	0.42	11949	11949	Survey & Conn.	Survey & Conn.@11885' Inc 90.2° Azm 182.56°
19-Aug-13	13:39	13:56	0.28	11949	11955	Sliding	Sliding - (WOB:28;GPM :276;TFO:340)
19-Aug-13	13:56	14:16	0.33	11955	12044	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	14:16	14:31	0.25	12044	12044	Survey & Conn.	Survey & Conn.@11980' Inc 91.92° Azm 181.85°
19-Aug-13	14:31	14:52	0.35	12044	12139	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	14:52	15:06	0.23	12139	12139	Survey & Conn.	Survey & Conn.@12075' Inc 91.68° Azm 180.46°
19-Aug-13	15:06	15:30	0.40	12139	12233	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	15:30	15:38	0.13	12233	12233	Survey & Conn.	Survey & Conn.@12174' Inc 90.74° Azm 180.51°
19-Aug-13	15:38	15:40	0.03	12233	12238	Drilling	Drilling - (WOB:23;GPM :276;RPM:70)
19-Aug-13	15:40	15:45	0.08	12238	12238	MWD Survey	MWD Survey@12174' Inc 90.74° Azm 180.51°
19-Aug-13	15:45	18:20	2.58	12238	12238	Circulating	Circulating
19-Aug-13	18:20	24:00	5.67	12238	12238	POOH	POOH



JOB NO.:	410813HMP45120	Report Time:	2400	7 of 8
COMPANY:	Kerr McGee Oil & Gas Onshore LP	API JOB #	0512336447	
LOCATION:	HEDGE 1-22HZ Pad	WORK ORDER#	166432	
RIG NAME:	H&P 311	FIELD:	WATTENBURG	
STATE:	COLORADO	Township:	T3N	
COUNTY:	WELD	SECT RANGE:	22	R66W
WELL NAME:	Hedge 16C-22HZ			

From Tuesday, August 20, 2013 at 0000 to Tuesday, August 20, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters						
Start Depth	0.00	Rotary Hours	0.00	WOB	0	Pick UP	201	Slack Off	122	SPM
End Depth	0.00	Circulating Hours	0.00	RAB	145	SPP	0	FlowRate	0-0	0
Total Drilled:	0.00	Avg. Total ROP:	NA	Mud Data						
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type		PV	0	SOLID	0	
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	0	GAS	0	YP	0	BHT°
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	0	SAND	0	PH	0	Flow T°
Below Rotary Hrs.	24.00	Percent Slide:	NA	Chlorides	0	WL	0	Oil %	0	

PERSONNEL				cASING			BHA				
Lead Directional :	John Noakes (3089)			Size	Lb/ft	Set Depth	BHA # 2:6 1/8" MMD54, Wenzel 4.75" Mud Motor, I-Blade Stab 5 7/8, Flex NMPC 4.75", PRT Cleared Flex Collar, NMDC 4.75", I-Blade Stab 5.625", Filter Sub 4.75", Steel 4.75" XO, 1 Stand (3 Jnts.) 4" DP, 6" Ghost Reamer, 19 Stands (57 Jnts.) 4" DP, Agitator, 31 Stands (93 Jnts.) 4 DP, 30 Stands (90 Jnts.) 4" HWDP,				
Second Directional :	Ian Ensell (10871)			Signature:							
MWD Operator1	Josh Denning (10463)										
MWD Operator2	Mohamed Sharker (10817)										
Directional Company:	Scientific Drilling International										
Geologist:											
Company Man:	Doug Blair / David Wells			Incl. In:	90.74	Azm. In:	180.51	Incl. Out:	90.74	Azm. Out:	180.51

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
20-Aug-13	00:00	01:10	1.17	12238	12238	POOH	POOH
20-Aug-13	01:10	02:15	1.08	12238	12238	Change BHA	Change BHA - LD BHA
20-Aug-13	02:15	24:00	21.75	12238	12238	Other	Do reamer run, run liner, and cement



JOB NO.:	410813HMP45120	Report Time:	2400	8 of 8
COMPANY:	Kerr McGee Oil & Gas Onshore LP	API JOB #	0512336447	
LOCATION:	HEDGE 1-22HZ Pad	WORK ORDER#	166432	
RIG NAME:	H&P 311	FIELD:	WATTENBURG	
STATE:	COLORADO	Township:	T3N	
COUNTY:	WELD	SECT RANGE:	22	R66W
WELL NAME:	Hedge 16C-22HZ			

From Wednesday, August 21, 2013 at 0000 to Wednesday, August 21, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters									
Start Depth	0.00	Rotary Hours	0.00	WOB	0	Pick UP	201	Slack Off	122	SPM			
End Depth	0.00	Circulating Hours	0.00	RAB	145	SPP	0	FlowRate	0-0				
Total Drilled:	0.00	Avg. Total ROP:	NA	Mud Data									
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type		PV	0	SOLID					
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	0	GAS	0	YP	0	BHT°			0
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	0	SAND	0	PH	0	Flow T°			0
Below Rotary Hrs.	0.00	Percent Slide:	NA	Chlorides	0	WL	0			Oil %			0

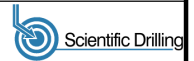
PERSONNEL				cASING			BHA	
Lead Directional :	John Noakes (3089)			Size	Lb/ft	Set Depth	N/A	
Second Directional :	Ian Ensell (10871)			Signature:				
MWD Operator1	Josh Denning (10463)							
MWD Operator2	Mohamed Sharker (10817)							
Directional Company:	Scientific Drilling International							
Geologist:								
Company Man:	Doug Blair / David Wells							
Incl. In:	90.74	Azm. In:	180.51	Incl. Out:	90.74	Azm. Out:	180.51	

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
21-Aug-13	00:00	24:00	24.00	12238	12238	Standby	Standby - Run packers, POOH, skid rig, and prep for next hole

BHA # 1

PDT



JOB NO.: 410813HMP45120 **Work Order:** 166432
COMPANY: Kerr McGee Oil & Gas Onshore LP
LOCATION: HEDGE 1-22HZ Pad
RIG NAME: H&P 311
STATE: COLORADO
COUNTY: WELD
WELL NAME: Hedge 16C-22HZ

FIELD: WATTENBURG
Township: T3N
SECT. RANGE: 22 R66W
Lead DD: John Noakes (3089)
Co. Man: Doug Blair / David Wells
BHA TYPE: Steerable Assembly
BHA WT: 203149 **Wt @ Jars:** N/A

Time and Depths	MOTOR DATA	Drilling Parameters
Date In: 14-Aug-13 @ 20:30	SDI 6.5 Motor - 7:8 5.0stg.	SO/PU: 0 - 115 / 0-200
Date Out: 16-Aug-13 @ 23:00	MFG.: SDI	Rot Strg Wt: 0-105
Hrs In Hole: 50.22	Pad OD: 7.5	WOB: 15 - 50
Start Depth: 987.00	NB Stab: 0	TORQ: 4 - 13
End Depth: 7790.00	Bit to Bend: 1.73	SPP: 1000 - 4200
Total Drilled: 6803.00	Bent Hsg/Sub°: 1.95 /	Motor RPM: 168
Avg. Total ROP: 235.81	Lobe/Stage: 7:8 / 5	Rotary RPM: 25 - 65
Circ Hrs: Tot/Only 29.48 / .63	Rev/GAL: 0.28	Flow Rate: 556 - 600
Percent Slide: 11.17	Rotor Jet: 0	Avg Diff: 900
Percent Hrs: 36.40	Prop BUR:	Stall Pres.:
Slide Hours: 10.50	Act BUR:	Off Bot Pres.:
Total Sliding: 760.00	Mud Data	
Avg. Slide ROP: 72.38	Bit Record	
Percent Rotary: 88.83	Security / 8 3/4" Smith SDI611 3x16's &	
Percent Hrs: 63.60	WT: 0 GAS: 0	Run #: 1
Rotary Hours: 18.35	Vis: 0 PV: 0	Type Bit: PDC
Total Rotary: 6043.00	WL: 0 PH: 0	IADC#: TFA: 1.04
Avg. Rotary ROP: 329.32	SOL: 0 SAND: 0	JETS: 3-14,3-16
Reason POOH:	Oil %: 0 T °: 0	Bit Drop: 0 PSI @ 600 GPM
	Chlor: 0 YP: 0	Cond.: New

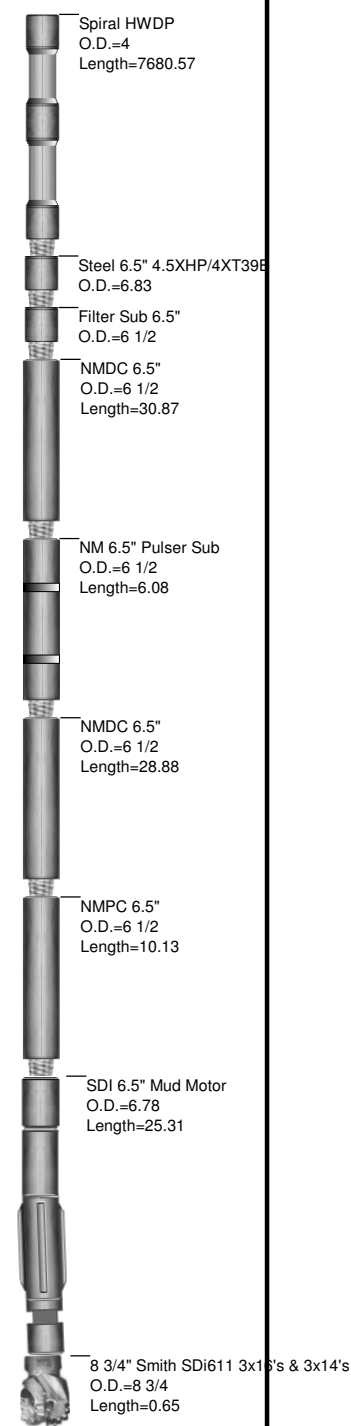
MWD Spacing	Gamma: 47.23	Restiv: 0	Sensor: 56.48	Last Casing n n .
	GYRO: 0	DNCS: 987	Sonic: 0	Shoe @: Hanger @:

INC IN: .0 **INC OUT:** .0 **AZM IN:** .00 **AZM OUT:** .00

SDI 6.5" HR Mud Motor 7/8 5.0stg 1.95 FBH
 Speed Ratio: 0.28 RPG
 TFO: 112.28

Bit to Sensor - 56.48'
 Bit to Survey - 58'
 Bit to Gamma - 47.23'

BHA Detail							
Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
8 3/4" Smith SDI611 3x16's & 3x14's	JH1593		8 3/4	0.65	0.65	4 1/2 REGP	
SDI 6.5" Mud Motor	650-05-412		6.78	25.31	25.96	4 1/2 XHB	
NMPC 6.5"	SD51070	3 1/4	6 1/2	10.13	36.09	4 1/2 XHB	
NMDC 6.5"	SD39733	3 1/4	6 1/2	28.88	64.97	4 1/2 XHB	
NM 6.5" Pulser Sub	129-053	3 1/4	6 1/2	6.08	71.05	4 1/2 XHB	
NMDC 6.5"	SD49116	3 1/4	6 1/2	30.87	101.92	4 1/2 XHB	
Filter Sub 6.5"	mst65031	3 1/4	6 1/2	4.47	106.39	4 1/2 XHB	
Steel 6.5" 4.5XHP/4XT39B	SD112991	2 3/4	6.83	3.04	109.43	XT 39B	
Spiral HWDP	H&P311	2.563	4	7,680.57	7790.00	XT 39B	





JOB NO.: 410813HMP45120
COMPANY: Kerr McGee Oil & Gas Onshore LP
LOCATION: HEDGE 1-22HZ Pad
RIG NAME: H&P 311
STATE: COLORADO
COUNTY: Country
WELL NAME: Hedge 16C-22HZ

FIELD: WATTENBURG
Township: T3N
Range: R66W

MOTOR INFORMATION	
Desc: SDI 6.5 Motor - 7:8 5.0stg. 1.95FBH	
Bent Hsg/Sub: 1.95/ 0	Bit to Bend: 1.73
Pad OD: 7.5	NB Stab:

Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	14-Aug	Drilling	22:27	23:07	0.67	987	1117	130	15	195.0	40	4	600	1000		2.26	188.00	4.09	
1	14-Aug	Sliding	23:16	23:19	0.05	1117	1133	16	15	320.0	65	4	600	2200		2.92	189.00	4.09	
1	14-Aug	Drilling	23:19	23:26	0.12	1133	1208	75	28	642.9	40	5	600	2200		5.44	318.00	3.16	
1	14-Aug	Sliding	23:34	23:36	0.03	1208	1218	10	15	300.0		5	600	2200		5.75	319.00	3.16	
1	14-Aug	Drilling	23:36	23:43	0.12	1218	1300	82	28	702.9	40	5	600	2200		7.66	318.00	2.15	
1	14-Aug	Sliding	23:51	23:53	0.03	1300	1307	7	15	210.0		5	600	2200		7.80	318.00	2.15	
1	14-Aug	Drilling	23:53	24:00	0.12	1307	1390	83	28	711.4	40	5	600	2200		9.53	310.00	2.20	
1	15-Aug	Sliding	00:09	00:11	0.03	1390	1400	10	15	300.0		5	600	2750	15	9.74	311.00	2.20	
1	15-Aug	Drilling	00:11	00:18	0.12	1400	1481	81	28	694.3	40	5	600	2750		11.51	312.00	2.22	
1	15-Aug	Sliding	00:26	00:29	0.05	1481	1491	10	15	200.0	40	5	600	2750	15	11.73	312.00	2.22	
1	15-Aug	Drilling	00:29	00:36	0.12	1491	1573	82	37	702.9	55	5	600	2750		12.56	314.00	0.83	
1	15-Aug	Sliding	00:44	00:47	0.05	1573	1580	7	15	140.0		6	600	2750	15	12.60	314.00	0.83	
1	15-Aug	Drilling	00:47	00:57	0.17	1580	1663	83	37	498.0	55	7	600	2750		11.09	321.00	3.47	
1	15-Aug	Drilling	01:02	01:12	0.17	1663	1754	91	37	546.0	55	7	600	2900		10.40	307.00	0.56	
1	15-Aug	Sliding	01:18	01:21	0.05	1754	1766	12	15	240.0		7	600	3000	30	10.44	307.00	0.56	
1	15-Aug	Drilling	01:21	01:28	0.12	1766	1845	79	37	677.1	55	8	600	3000		11.11	312.00	1.76	
1	15-Aug	Sliding	01:37	01:39	0.03	1845	1855	10	15	300.0		8	600	3000	30	11.22	313.00	1.76	
1	15-Aug	Drilling	01:39	01:46	0.12	1855	1937	82	37	702.9	55	8	600	3000		10.63	319.00	2.12	
1	15-Aug	Drilling	01:50	02:01	0.18	1937	2028	91	37	496.4	55	8	600	3000		11.03	309.00	1.56	
1	15-Aug	Sliding	02:08	02:15	0.12	2028	2042	14	15	120.0		8	600	3000	30	11.23	309.00	1.56	
1	15-Aug	Drilling	02:15	02:20	0.08	2042	2119	77	39	924.0	55	8	600	3000		10.85	313.00	1.50	
1	15-Aug	Drilling	02:32	02:40	0.13	2119	2210	91	39	682.5	55	8	600	3000		11.52	322.00	3.09	
1	15-Aug	Sliding	02:45	02:49	0.07	2210	2225	15	15	225.0		8	600	3000	30	11.82	324.00	3.09	
1	15-Aug	Drilling	02:49	03:00	0.18	2225	2303	78	39	425.5	55	8	600	3000		11.95	327.00	0.60	
1	15-Aug	Drilling	03:05	03:14	0.15	2303	2395	92	39	613.3	55	8	600	3200		10.74	329.00	1.83	
1	15-Aug	Drilling	03:19	03:38	0.32	2395	2486	91	39	287.4	55	8	600	3200		9.11	331.00	1.83	

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#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	15-Aug	Drilling	03:41	03:52	0.18	2486	2578	92	39	501.8	55	8	600	3200		9.29	326.00	1.58	
1	15-Aug	Sliding	03:59	04:05	0.10	2578	2591	13	15	130.0		8	600	3200		9.47	327.00	1.58	
1	15-Aug	Drilling	04:05	04:15	0.17	2591	2669	78	39	468.0	55	8	600	3200		10.76	324.00	2.49	
1	15-Aug	Sliding	04:21	04:25	0.07	2669	2682	13	15	195.0		8	600	3200		11.00	326.00	2.49	
1	15-Aug	Drilling	04:25	04:38	0.22	2682	2762	80	39	369.2	55	8	600	3200		11.62	317.00	2.49	
1	15-Aug	Sliding	04:47	04:50	0.05	2762	2772	10	17	200.0		8	600	3200		11.67	318.00	2.49	
1	15-Aug	Drilling	04:50	05:03	0.22	2772	2853	81	39	373.8	55	8	600	3200		11.29	322.00	0.97	
1	15-Aug	Drilling	05:10	05:26	0.27	2853	2947	94	40	352.5	55	8	600	3200		12.57	321.00	2.84	
1	15-Aug	Sliding	05:32	05:37	0.08	2947	2957	10	17	120.0		8	600	3200		12.85	321.00	2.84	
1	15-Aug	Drilling	05:37	05:48	0.18	2957	3042	85	40	463.6	55	8	600	3200		12.91	323.00	1.28	
1	15-Aug	Drilling	05:55	06:05	0.17	3042	3136	94	40	564.0	55	8	600	3400		11.82	325.00	1.28	
1	15-Aug	Drilling	06:10	06:25	0.25	3136	3231	95	40	380.0	55	8	600	3400		12.22	317.00	1.44	
1	15-Aug	Sliding	06:34	06:37	0.05	3231	3242	11	17	220.0		8	600	3400		12.38	317.00	1.44	
1	15-Aug	Drilling	06:37	06:50	0.22	3242	3325	83	40	383.1	55	8	600	3400		11.22	318.00	2.64	
1	15-Aug	Drilling	06:53	07:05	0.20	3325	3419	94	40	470.0	55	8	600	3500		10.46	317.00	0.49	
1	15-Aug	Sliding	07:12	07:17	0.08	3419	3431	12	17	144.0		8	600	3500	15	10.50	317.00	0.49	
1	15-Aug	Drilling	07:17	07:28	0.18	3431	3513	82	40	447.3	55	8	600	3500		10.94	315.00	0.83	
1	15-Aug	Drilling	07:33	07:37	0.07	3513	3537	24	40	360.0	55	8	600	3500		11.09	316.00	0.83	
1	15-Aug	Sliding	07:37	07:45	0.13	3537	3549	12	17	90.0		8	600	3550	30	11.16	316.00	0.83	
1	15-Aug	Drilling	07:45	07:53	0.13	3549	3644	95	50	712.5	45	8	556	3700		11.83	311.00	0.71	
1	15-Aug	Sliding	08:03	08:10	0.12	3644	3660	16	17	137.1	45	8	600	3700	30	11.47	312.00	2.29	
1	15-Aug	Drilling	08:10	08:20	0.17	3660	3702	42	50	252.0	45	8	556	3700		10.51	312.00	2.29	
1	15-Aug	Drilling	08:25	08:36	0.18	3702	3796	94	50	512.7	45	8	556	3700		9.82	313.00	0.79	
1	15-Aug	Sliding	08:46	08:57	0.18	3796	3812	16	17	87.3		8	600	3700	30	9.85	313.00	0.79	
1	15-Aug	Drilling	08:57	09:22	0.42	3812	3985	173	50	415.2	45	8	556	3700		11.24	319.00	1.85	
1	15-Aug	Sliding	09:31	09:37	0.10	3985	4013	28	17	280.0		8	600	3700	10	11.76	319.00	1.85	
1	15-Aug	Drilling	09:37	09:47	0.17	4013	4079	66	50	396.0	45	8	556	3700		12.09	319.00	0.43	
1	15-Aug	Drilling	09:52	10:06	0.23	4079	4174	95	50	407.1	45	8	556	3700		11.67	318.00	1.08	
1	15-Aug	Drilling	10:14	10:28	0.23	4174	4268	94	50	402.9	45	8	556	3700		11.12	314.00	0.43	
1	15-Aug	Drilling	10:32	10:47	0.25	4268	4362	94	50	376.0	45	8	556	3700		10.74	315.00	0.43	
1	15-Aug	Drilling	10:51	10:55	0.07	4362	4377	15	50	225.0	45	8	556	3700		10.68	315.00	0.43	
1	15-Aug	Sliding	10:55	11:03	0.13	4377	4397	20	20	150.0		8	600	3700	30	10.60	315.00	0.43	
1	15-Aug	Drilling	11:03	11:12	0.15	4397	4456	59	50	393.3	45	8	556	3700		10.36	316.00	0.43	
1	15-Aug	Drilling	11:17	11:39	0.37	4456	4571	115	50	313.6	45	8	556	3700		11.87	317.00	2.46	
1	15-Aug	Sliding	11:39	11:53	0.23	4571	4591	20	20	85.7		8	600	3700	45	12.19	318.00	0.69	

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#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	15-Aug	Drilling	11:53	12:00	0.12	4591	4645	54	50	462.9	45	8	556	3700		11.82	318.00	0.69	
1	15-Aug	Drilling	12:04	12:17	0.22	4645	4739	94	50	433.8	45	8	556	3700		11.02	320.00	1.31	
1	15-Aug	Drilling	12:20	12:35	0.25	4739	4834	95	50	380.0	45	8	556	3700		11.80	325.00	4.45	
1	15-Aug	Drilling	12:39	12:45	0.10	4834	4842	8	50	80.0	45	8	556	3700		12.00	326.00	4.45	
1	15-Aug	Sliding	12:45	12:54	0.15	4842	4862	20	20	133.3		8	600	3700	45	12.50	329.00	4.45	
1	15-Aug	Drilling	12:54	13:02	0.13	4862	4928	66	50	495.0	45	8	556	3700		11.52	331.00	2.07	
1	15-Aug	Drilling	13:06	13:20	0.23	4928	5023	95	50	407.1	65	8	600	4200		9.78	333.00	1.88	
1	15-Aug	Drilling	13:25	13:39	0.23	5023	5117	94	50	402.9	65	8	600	4200		8.53	327.00	1.23	
1	15-Aug	Drilling	13:51	14:06	0.25	5117	5212	95	50	380.0	65	8	600	4200		7.13	323.00	1.72	
1	15-Aug	Drilling	14:12	14:25	0.22	5212	5306	94	50	433.8	65	8	600	4200		5.49	322.00	1.79	
1	15-Aug	Drilling	14:30	14:43	0.22	5306	5400	94	50	433.8	65	8	600	4200		4.27	325.00	1.05	
1	15-Aug	Drilling	14:48	15:02	0.23	5400	5495	95	50	407.1	65	8	600	4200		3.20	331.00	1.28	
1	15-Aug	Drilling	15:06	15:26	0.33	5495	5589	94	50	282.0	65	8	600	4200		2.16	328.00	1.16	
1	15-Aug	Drilling	15:32	15:46	0.23	5589	5684	95	50	407.1	65	8	600	4200		1.40	344.00	0.80	
1	15-Aug	Drilling	15:51	16:04	0.22	5684	5778	94	50	433.8	65	8	600	4200		1.04	24.00	1.09	
1	15-Aug	Drilling	16:08	16:23	0.25	5778	5872	94	50	376.0	65	8	600	4200		1.02	62.00	0.58	
1	15-Aug	Drilling	16:28	16:42	0.23	5872	5967	95	50	407.1	65	8	600	4200		0.57	83.00	0.76	
1	15-Aug	Drilling	16:48	17:01	0.22	5967	6061	94	50	433.8	65	8	600	4200		0.21	184.00	0.64	
1	15-Aug	Drilling	17:08	17:23	0.25	6061	6155	94	50	376.0	65	8	600	4200		0.31	127.00	1.13	
1	15-Aug	Drilling	17:56	18:10	0.23	6155	6250	95	50	407.1	65	8	600	4200		0.90	199.00	0.42	
1	15-Aug	Drilling	18:14	18:34	0.33	6250	6344	94	50	282.0	65	8	600	4200		1.07	189.00	0.60	
1	15-Aug	Drilling	18:38	19:05	0.45	6344	6439	95	50	211.1	65	8	600	4200		1.74	280.00	3.29	
1	15-Aug	Sliding	19:13	19:20	0.12	6439	6456	17	20	145.7		8	600	4200	300	2.21	289.00	3.29	
1	15-Aug	Drilling	19:20	19:40	0.33	6456	6533	77	50	231.0	65	8	600	4200		2.45	308.00	1.17	
1	15-Aug	Drilling	19:47	20:00	0.22	6533	6628	95	50	438.5	65	8	600	4200		2.55	285.00	1.08	
1	15-Aug	Drilling	20:08	20:28	0.33	6628	6727	99	50	297.0	65	8	600	4200		3.57	260.00	1.51	
1	15-Aug	Drilling	20:34	20:49	0.25	6727	6786	59	50	236.0	65	8	600	4200		4.46	255.00	5.15	
1	15-Aug	Sliding	20:55	21:06	0.18	6786	6803	17	20	92.7		8	600	4200	300	5.55	232.00	8.18	
1	15-Aug	Drilling	21:06	21:10	0.07	6803	6817	14	50	210.0	65	8	600	4200		6.60	236.00	8.18	
1	15-Aug	Sliding	21:20	21:49	0.48	6817	6831	14	20	29.0		8	600	4200	300	7.78	218.00	10.19	
1	15-Aug	Drilling	21:49	21:55	0.10	6831	6848	17	50	170.0	65	8	600	4200		9.35	223.00	10.19	
1	15-Aug	Sliding	22:06	22:16	0.17	6848	6864	16	20	96.0		8	600	4200	300	10.77	206.00	9.13	
1	15-Aug	Drilling	22:16	22:23	0.12	6864	6879	15	50	128.6	65	8	600	4200		12.07	208.00	9.13	
1	15-Aug	Sliding	22:32	22:42	0.17	6879	6895	16	20	96.0		8	600	4200	300	13.60	200.00	10.01	
1	15-Aug	Drilling	22:42	22:47	0.08	6895	6911	16	50	192.0	65	8	600	4200		15.19	201.00	10.01	

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#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	15-Aug	Sliding	22:55	23:03	0.13	6911	6924	13	20	97.5		8	600	4200	300	16.13	200.00	8.06	
1	15-Aug	Drilling	23:03	23:09	0.10	6924	6943	19	50	190.0	65	8	600	4200		17.21	204.00	8.06	
1	15-Aug	Sliding	23:09	23:27	0.30	6943	6960	17	20	56.7		8	600	4200	300	18.79	194.00	11.39	
1	15-Aug	Drilling	23:27	23:31	0.07	6960	6974	14	50	210.0	65	8	600	4200		20.25	196.00	11.39	
1	15-Aug	Sliding	23:40	23:49	0.15	6974	6990	16	20	106.7		8	600	4200	300	21.85	190.00	11.81	
1	15-Aug	Drilling	23:49	23:52	0.05	6990	7005	15	50	300.0	65	8	600	4200		23.35	192.00	11.81	
1	16-Aug	Sliding	00:00	00:14	0.23	7005	7019	14	28	60.0		8	600	4200	-30	24.51	184.00	9.18	
1	16-Aug	Drilling	00:14	00:20	0.10	7019	7037	18	45	180.0	25	10	600	4200		25.84	186.00	9.18	
1	16-Aug	Sliding	00:29	00:36	0.12	7037	7050	13	28	111.4		10	600	4200		26.71	178.00	6.30	
1	16-Aug	Drilling	00:36	00:42	0.10	7050	7068	18	45	180.0	25	10	600	4200		27.84	179.00	6.30	
1	16-Aug	Sliding	00:50	00:57	0.12	7068	7079	11	28	94.3		10	600	4200		28.59	178.00	7.36	
1	16-Aug	Drilling	00:57	01:02	0.08	7079	7100	21	45	252.0	25	10	600	4200		30.13	178.00	7.36	
1	16-Aug	Sliding	01:13	01:20	0.12	7100	7113	13	28	111.4		10	600	4200		31.11	178.00	7.71	
1	16-Aug	Drilling	01:20	01:27	0.12	7113	7144	31	45	265.7	25	10	600	4200		33.52	178.00	8.34	
1	16-Aug	Sliding	01:38	01:44	0.10	7144	7163	19	28	190.0		10	600	4200		35.10	179.00	8.34	
1	16-Aug	Sliding	02:11	02:21	0.17	7163	7175	12	28	72.0		10	600	4200		36.21	179.00	10.11	
1	16-Aug	Drilling	02:21	02:30	0.15	7175	7194	19	45	126.7	25	10	600	4200		38.09	180.00	10.11	
1	16-Aug	Sliding	02:40	02:51	0.18	7194	7208	14	28	76.4		10	600	4200		39.40	180.00	9.13	
1	16-Aug	Drilling	02:51	02:58	0.12	7208	7231	23	45	197.1	25	10	600	4200		41.50	180.00	9.13	
1	16-Aug	Sliding	03:07	03:30	0.38	7231	7249	18	28	47.0		10	600	4200		43.26	180.00	10.02	
1	16-Aug	Drilling	03:30	03:36	0.10	7249	7257	8	45	80.0	25	10	600	4200		44.04	181.00	10.02	
1	16-Aug	Sliding	03:47	03:55	0.13	7257	7266	9	28	67.5		11	600	4200		44.74	179.00	5.30	
1	16-Aug	Drilling	03:55	04:03	0.13	7266	7289	23	45	172.5	25	11	600	4200		45.95	179.00	5.30	
1	16-Aug	Sliding	04:14	04:20	0.10	7289	7296	7	28	70.0		11	600	4200		46.36	179.00	6.87	
1	16-Aug	Drilling	04:20	04:30	0.17	7296	7320	24	45	144.0	25	11	600	4200		47.98	179.00	6.87	
1	16-Aug	Sliding	04:42	05:00	0.30	7320	7338	18	28	60.0		11	600	4200		49.94	178.00	12.46	
1	16-Aug	Drilling	05:00	05:06	0.10	7338	7351	13	45	130.0	25	11	600	4200		51.56	178.00	12.46	
1	16-Aug	Sliding	05:14	05:27	0.22	7351	7364	13	28	60.0		12	600	4200		52.92	178.00	9.35	
1	16-Aug	Drilling	05:27	05:34	0.12	7364	7383	19	45	162.9	25	12	600	4200		54.69	178.00	9.35	
1	16-Aug	Sliding	05:44	05:52	0.13	7383	7392	9	28	67.5		12	600	4200		55.51	177.00	8.93	
1	16-Aug	Drilling	05:52	06:05	0.22	7392	7414	22	45	101.5	25	12	600	4200		57.46	178.00	8.93	
1	16-Aug	Sliding	06:15	06:28	0.22	7414	7427	13	28	60.0		13	600	4200		58.74	177.00	10.42	
1	16-Aug	Drilling	06:28	06:37	0.15	7427	7445	18	45	120.0	25	13	600	4200		60.62	177.00	10.42	
1	16-Aug	Sliding	06:48	07:06	0.30	7445	7456	11	28	36.7		13	600	4200		61.68	177.00	9.04	
1	16-Aug	Drilling	07:06	07:16	0.17	7456	7477	21	45	126.0	25	13	600	4200		63.56	177.00	9.04	

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1	16-Aug	Sliding	07:28	07:40	0.20	7477	7490	13	28	65.0		13	600	4200		64.74	177.00	9.21	
1	16-Aug	Drilling	07:40	07:51	0.18	7490	7508	18	45	98.2	25	13	600	4200		66.38	177.00	9.21	
1	16-Aug	Sliding	08:03	08:17	0.23	7508	7522	14	28	60.0		13	600	4200		67.52	177.00	8.50	
1	16-Aug	Drilling	08:17	08:27	0.17	7522	7540	18	45	108.0	25	13	600	4200		68.91	177.00	8.50	
1	16-Aug	Sliding	08:41	09:00	0.32	7540	7553	13	28	41.1		13	600	4200	15	70.24	175.00	12.78	
1	16-Aug	Drilling	09:00	09:06	0.10	7553	7571	18	45	180.0	25	13	600	4200		72.36	176.00	12.78	
1	16-Aug	Sliding	09:20	09:33	0.22	7571	7584	13	28	60.0		13	600	4200	15	73.62	173.00	8.73	
1	16-Aug	Drilling	09:33	09:47	0.23	7584	7603	19	45	81.4	25	13	600	4200		75.23	174.00	8.73	
1	16-Aug	Sliding	09:57	10:46	0.82	7603	7622	19	28	23.3		13	600	4200	50	76.89	175.00	11.03	
1	16-Aug	Drilling	10:46	10:51	0.08	7622	7634	12	45	144.0	25	13	600	4200		77.96	176.00	11.03	
1	16-Aug	Sliding	11:00	11:35	0.58	7634	7644	10	28	17.1		13	600	4200	30	78.67	176.00	5.74	
1	16-Aug	Drilling	11:35	11:52	0.28	7644	7666	22	45	77.6	25	13	600	4200		79.84	177.00	5.74	
1	16-Aug	Sliding	12:06	12:42	0.60	7666	7671	5	28	8.3		13	600	4200	15	80.13	177.00	8.30	
1	16-Aug	Drilling	12:42	13:08	0.43	7671	7697	26	45	60.0	25	13	600	4200		82.11	178.00	8.30	
1	16-Aug	Sliding	13:23	13:50	0.45	7697	7714	17	28	37.8		13	600	4200	30	84.04	178.00	13.46	
1	16-Aug	Drilling	13:50	14:04	0.23	7714	7728	14	45	60.0	25	13	600	4200		85.85	179.00	13.46	
1	16-Aug	Sliding	14:17	14:31	0.23	7728	7741	13	28	55.7		13	600	4200	30	86.76	179.00	5.16	
1	16-Aug	Drilling	14:31	14:50	0.32	7741	7760	19	45	60.0	25	13	600	4200		87.59	180.00	5.16	
1	16-Aug	Sliding	15:10	15:30	0.33	7760	7771	11	28	33.0		13	600	4200	45	88.06	180.00	5.16	
1	16-Aug	Drilling	15:30	15:47	0.28	7771	7790	19	45	67.1	25	13	600	4200		88.89	181.00	5.16	

Total Drilled:	6803	Avg. Total ROP:	235.81	DEPTH% - TIME %
Total Rotary Drilled:	6043	Avg. Rotary ROP:	329.32	Percent Rotary: 88.83 - 63.60
Total Drilled Sliding:	760	Avg. Slide ROP:	72.38	Percent Slide: 11.17 - 36.40

BHA # 2

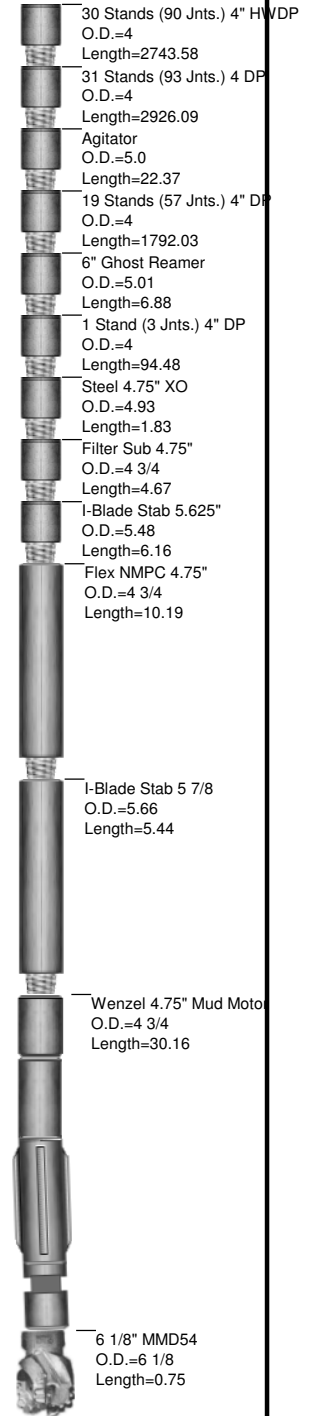
PDT



JOB NO.: 410813HMP45120 **Work Order:** 166432
COMPANY: Kerr McGee Oil & Gas Onshore LP
LOCATION: HEDGE 1-22HZ Pad
RIG NAME: H&P 311
STATE: COLORADO
COUNTY: WELD
WELL NAME: Hedge 16C-22HZ

FIELD: WATTENBURG
Township: T3N
SECT. RANGE: 22 R66W
Lead DD: John Noakes (3089)
Co. Man: Doug Blair / David Wells
BHA TYPE: Steerable Assembly
BHA WT: 163947 **Wt @ Jars:** N/A

Time and Depths	MOTOR DATA	Drilling Parameters
Date In: 17-Aug-13 @ 23:30	Wenzel 4.75 5/6 8.3stg 1.50FBH	SO/PU: 122 - 122 / 201-201
Date Out: 20-Aug-13 @ 01:10	MFG.: Wenzel	Rot Strg Wt: 145-145
Hrs In Hole: 49.67	Pad OD: 5.24	WOB: 0 - 28
Start Depth: 7790.00	NB Stab: 5.5	TORQ: 0 - 0
End Depth: 12238.00	Bit to Bend: 4.28	SPP: 2000 - 3790
Total Drilled: 4448.00	Bent Hsg/Sub°: 1.5 /	Motor RPM: 287
Avg. Total ROP: 190.63	Lobe/Stage: 5/6 / 8.3	Rotary RPM: 50 - 70
Circ Hrs: Tot/Only 26.53 / 3.20	Rev/GAL: 1.04	Flow Rate: 230 - 276
Percent Slide: 7.06	Rotor Jet: 0	Avg Diff:
Percent Hrs: 22.43	Prop BUR:	Stall Pres.:
Slide Hours: 5.23	Act BUR:	Off Bot Pres.:
Total Sliding: 314.00	Mud Data	
Avg. Slide ROP: 60.00	Bit Record	
Percent Rotary: 92.94	Security / 6 1/8" MMD54	
Percent Hrs: 77.57	WT: 0 GAS: 0	Run #: 2
Rotary Hours: 18.10	Vis: 0 PV: 0	Type Bit: PDC
Total Rotary: 4134.00	WL: 0 PH: 0	IADC#: TFA: 0.889
Avg. Rotary ROP: 228.40	SOL: 0 SAND: 0	JETS: 2-14,3-16
Reason POOH:	Oil %: 0 T °: 0	Bit Drop: 0 PSI @ 276 GPM
	Chlor: 0 YP: 0	Cond.: New



MWD Spacing	Gamma: 48.67	Restiv: 52.17	Sensor: 63.42	Last Casing on .
	GYRO: 0	DNCS: 7621	Sonic: 0	Shoe @: Hanger @:

INC IN: .0 **INC OUT:** .0 **AZM IN:** .00 **AZM OUT:** .00

Wenzel 4.75" 5/6 8.3stg 1.50FBH
 Speed Ratio is 1.04rev/gal
 TFO: 283.68

Bit to Sensor - 61.98'
 Bit to Survey - 64'
 Bit to Gamma - 42.23'
 Bit to Resistivity - 50.73'

BHA Detail

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
6 1/8" MMD54	12262947		6 1/8	0.75	0.75	3 1/2 REGP	
Wenzel 4.75" Mud Motor	475-M5-036		4 3/4	30.16	30.91	3 1/2 IFB	
I-Blade Stab 5 7/8	SD600097	2 11/16	5.66	5.44	36.35	3 1/2 IFB	
Flex NMPC 4.75"	17-255F	2 3/4	4 3/4	10.19	46.54	3 1/2 IFB	
PRT Cleated Flex Collar	173-008F	2 3/4	4 3/4	30.21	76.75	3 1/2 IFB	
NMDC 4.75"	SD45995	2 5/8	4 3/4	28.83	105.58	3 1/2 IFB	
I-Blade Stab 5.625"	SD600686	2 1/4	5.48	6.16	111.74	3 1/2 IFB	
Filter Sub 4.75"	mst434139	2 1/4	4 3/4	4.67	116.41	3 1/2 IFB	
Steel 4.75" XO	SD111682	2 1/4	4.93	1.83	118.24	XT 39B	
1 Stand (3 Jnts.) 4" DP	RIG123	2 5/8	4	94.48	212.72	XT 39B	
6" Ghost Reamer	SD802574	2 11/16	5.01	6.88	219.60	XT 39B	
19 Stands (57 Jnts.) 4" DP	RIG456	2 5/8	4	1,792.03	2011.63	XT 39B	
Agitator	961536-5	2.0	5.0	22.37	2034.00	XT 39B	
31 Stands (93 Jnts.) 4 DP	Rig	2 5/8	4	2,926.09	4960.09	XT 39	
30 Stands (90 Jnts.) 4" HWDP	Rig 1	3 1/4	4	2,743.58	7703.67	XT 39	



JOB NO.: 410813HMP45120
COMPANY: Kerr McGee Oil & Gas Onshore LP
LOCATION: HEDGE 1-22HZ Pad
RIG NAME: H&P 311
STATE: COLORADO
COUNTY: Country
WELL NAME: Hedge 16C-22HZ

FIELD: WATTENBURG
Township: T3N
Range: R66W

MOTOR INFORMATION	
Desc: Wenzel 4.75 5/6 8.3stg 1.50FBH	
Bent Hsg/Sub: 1.5 / 0	Bit to Bend: 4.28
Pad OD: 5.24	NB Stab:

Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	18-Aug	Drilling	06:20	06:26	0.10	7790	7797	7	15	70.0	50	0	230	2000		89.19	181.00	5.16	
2	18-Aug	Drilling	06:36	06:50	0.23	7797	7832	35	15	150.0	50	0	230	2000		90.52	182.00	0.90	
2	18-Aug	Drilling	07:00	07:18	0.30	7832	7892	60	15	200.0	50	0	230	2000		90.29	182.00	0.90	
2	18-Aug	Drilling	07:29	07:48	0.32	7892	7986	94	15	296.8	50	0	276	3000		89.62	182.00	2.50	
2	18-Aug	Sliding	08:10	08:12	0.03	7986	8000	14	28	420.0	0	0	276	3000	105	89.50	183.00	2.50	
2	18-Aug	Drilling	08:12	08:43	0.52	8000	8080	80	15	154.8	65	0	276	3000		88.35	184.00	1.72	
2	18-Aug	Drilling	08:52	09:14	0.37	8080	8175	95	15	259.1	65	0	276	3000		89.64	183.00	2.94	
2	18-Aug	Sliding	09:27	09:34	0.12	8175	8187	12	28	102.9	0	0	276	3000	15	89.97	183.00	2.94	
2	18-Aug	Drilling	09:34	09:55	0.35	8187	8269	82	15	234.3	55	0	276	3000		89.56	182.00	1.58	
2	18-Aug	Drilling	10:04	10:28	0.40	8269	8364	95	15	237.5	55	0	276	3000		88.55	182.00	0.90	
2	18-Aug	Drilling	10:38	11:04	0.43	8364	8458	94	15	216.9	55	0	276	3000		89.64	182.00	2.11	
2	18-Aug	Sliding	11:17	11:23	0.10	8458	8470	12	28	120.0	0	0	276	3000		89.89	182.00	2.11	
2	18-Aug	Drilling	11:23	11:43	0.33	8470	8552	82	15	246.0	55	0	276	3000		91.56	183.00	2.17	
2	18-Aug	Drilling	11:55	12:18	0.38	8552	8646	94	15	245.2	55	0	276	3000		91.52	183.00	1.14	
2	18-Aug	Sliding	12:35	12:44	0.15	8646	8654	8	28	53.3	0	0	276	3000	180	91.44	183.00	1.14	
2	18-Aug	Drilling	12:44	13:07	0.38	8654	8741	87	15	227.0	55	0	276	3000		90.23	185.00	2.97	
2	18-Aug	Sliding	13:20	13:36	0.27	8741	8751	10	28	37.5	0	0	276	3000	180	90.08	185.00	2.97	
2	18-Aug	Drilling	13:36	13:51	0.25	8751	8835	84	15	336.0	55	0	276	3000		90.41	182.00	1.29	
2	18-Aug	Drilling	14:03	14:25	0.37	8835	8929	94	15	256.4	55	0	276	3000		90.14	181.00	1.46	
2	18-Aug	Sliding	14:36	14:52	0.27	8929	8943	14	28	52.5	0	0	276	3000		90.01	181.00	1.46	
2	18-Aug	Drilling	14:52	15:09	0.28	8943	9023	80	15	282.4	55	0	276	3000		87.53	181.00	4.32	
2	18-Aug	Sliding	15:20	15:44	0.40	9023	9039	16	28	40.0	0	0	276	3000	180	86.95	181.00	4.32	
2	18-Aug	Drilling	15:44	16:02	0.30	9039	9117	78	15	260.0	55	0	276	3000		88.12	178.00	2.85	
2	18-Aug	Sliding	16:17	16:28	0.18	9117	9133	16	28	87.3	0	0	276	3000	30	88.54	178.00	2.85	
2	18-Aug	Drilling	16:28	16:48	0.33	9133	9212	79	15	237.0	55	0	276	3000		88.56	178.00	0.69	
2	18-Aug	Drilling	17:20	17:43	0.38	9212	9306	94	15	245.2	55	0	276	3000		90.44	179.00	3.54	

Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	18-Aug	Sliding	18:01	18:11	0.17	9306	9323	17	28	102.0	0	0	276	3000	15	90.99	180.00	3.54	
2	18-Aug	Drilling	18:11	18:29	0.30	9323	9400	77	15	256.7	55	0	276	3000		89.01	181.00	4.01	
2	18-Aug	Sliding	18:39	18:52	0.22	9400	9410	10	28	46.2	0	0	276	3000	15	88.63	181.00	4.01	
2	18-Aug	Drilling	18:52	19:11	0.32	9410	9494	84	15	265.3	55	0	276	3000		89.08	179.00	2.07	
2	18-Aug	Sliding	19:21	19:26	0.08	9494	9501	7	28	84.0	0	0	276	3000	5	89.21	179.00	2.07	
2	18-Aug	Drilling	19:26	19:45	0.32	9501	9589	88	15	277.9	55	0	276	3000		89.89	180.00	1.53	
2	18-Aug	Drilling	19:56	20:19	0.38	9589	9683	94	15	245.2	55	0	276	3000		90.20	182.00	2.26	
2	18-Aug	Sliding	20:29	20:34	0.08	9683	9692	9	28	108.0	0	0	276	3000	270	90.23	182.00	2.26	
2	18-Aug	Drilling	20:34	20:55	0.35	9692	9777	85	15	242.9	70	0	276	3000		89.75	182.00	5.54	
2	18-Aug	Drilling	21:05	21:28	0.38	9777	9871	94	15	245.2	70	0	276	3000		89.34	174.00	1.71	
2	18-Aug	Sliding	21:41	21:55	0.23	9871	9880	9	28	38.6	0	0	276	3000	90	89.31	175.00	1.71	
2	18-Aug	Drilling	21:55	22:14	0.32	9880	9966	86	15	271.6	70	0	276	3000		89.46	173.00	2.24	
2	18-Aug	Sliding	22:24	22:30	0.10	9966	9978	12	28	120.0	0	0	276	3000	90	89.50	173.00	2.24	
2	18-Aug	Drilling	22:30	22:54	0.40	9978	10060	82	15	205.0	70	0	276	3000		90.65	176.00	3.14	
2	18-Aug	Sliding	23:02	23:21	0.32	10060	10072	12	28	37.9	0	0	276	3000	90	90.86	176.00	3.14	
2	18-Aug	Drilling	23:21	23:42	0.35	10072	10155	83	15	237.1	70	0	276	3000		89.87	177.00	2.07	
2	18-Aug	Sliding	23:52	24:00	0.13	10155	10169	14	28	105.0	0	0	276	3000	90	89.59	177.00	2.07	
2	19-Aug	Drilling	00:00	00:26	0.43	10169	10249	80	15	184.6	70	0	276	3000		89.33	179.00	4.01	
2	19-Aug	Sliding	00:36	00:53	0.28	10249	10262	13	28	45.9	0	0	276	3000	100	89.34	180.00	4.01	
2	19-Aug	Drilling	00:53	01:13	0.33	10262	10344	82	15	246.0	70	0	276	3000		89.36	182.00	2.43	
2	19-Aug	Sliding	01:22	01:29	0.12	10344	10352	8	28	68.6	0	0	276	3000	100	89.36	182.00	2.43	
2	19-Aug	Drilling	01:29	01:48	0.32	10352	10438	86	15	271.6	70	0	276	3000		89.02	183.00	0.80	
2	19-Aug	Drilling	01:57	02:18	0.35	10438	10532	94	23	268.6	70	0	276	3790		88.06	184.00	2.99	
2	19-Aug	Drilling	02:26	02:52	0.43	10532	10627	95	23	219.2	70	0	276	3790		88.36	180.00	1.06	
2	19-Aug	Sliding	02:59	03:15	0.27	10627	10636	9	28	33.8	0	0	276	3790	60	88.46	180.00	1.06	
2	19-Aug	Drilling	03:15	03:38	0.38	10636	10722	86	23	224.3	70	0	276	3790		89.79	180.00	2.03	
2	19-Aug	Sliding	03:47	03:54	0.12	10722	10730	8	28	68.6	70	0	276	3790	60	89.92	180.00	2.03	
2	19-Aug	Drilling	03:54	04:20	0.43	10730	10816	86	23	198.5	70	0	276	3790		92.22	184.00	5.75	
2	19-Aug	Sliding	04:28	04:36	0.13	10816	10825	9	28	67.5	70	0	276	3790	60	92.49	184.00	5.75	
2	19-Aug	Drilling	04:36	04:57	0.35	10825	10911	86	23	245.7	70	0	276	3790		90.64	187.00	4.45	
2	19-Aug	Sliding	05:14	05:23	0.15	10911	10919	8	28	53.3	70	0	276	3790	60	90.32	187.00	4.45	
2	19-Aug	Drilling	05:23	05:47	0.40	10919	11005	86	23	215.0	70	0	276	3790		90.19	184.00	2.09	
2	19-Aug	Drilling	05:47	06:24	0.62	11005	11100	95	23	154.1	70	0	276	3790		89.65	183.00	2.29	
2	19-Aug	Sliding	06:40	06:51	0.18	11100	11110	10	28	54.5	70	0	276	3790	120	89.51	183.00	2.29	
2	19-Aug	Drilling	06:51	07:14	0.38	11110	11194	84	23	219.1	70	0	276	3790		88.73	183.00	0.78	

Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

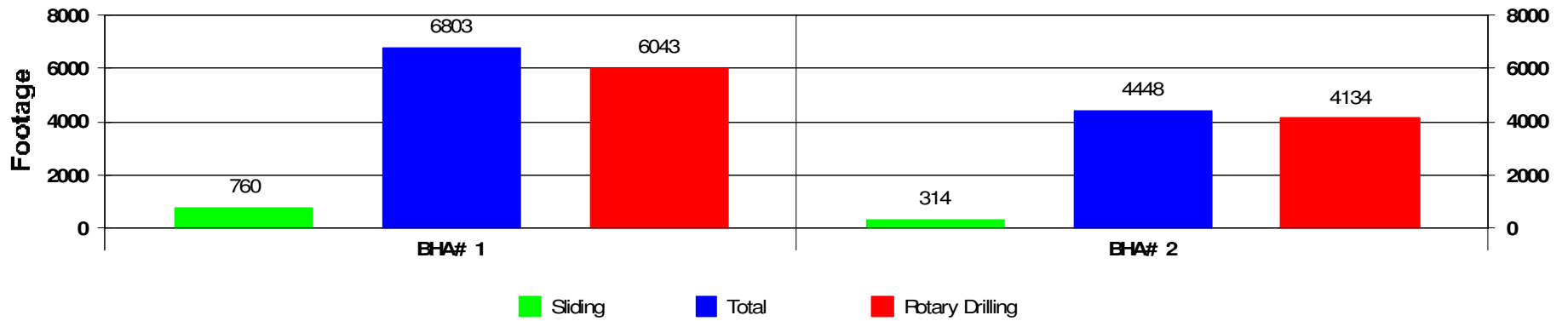
#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	19-Aug	Drilling	07:36	08:02	0.43	11194	11289	95	23	219.2	70	0	276	3790		87.20	184.00	2.47	
2	19-Aug	Drilling	08:16	08:33	0.28	11289	11383	94	23	331.8	70	0	276	3790		87.63	182.00	1.83	
2	19-Aug	Sliding	08:42	08:56	0.23	11383	11397	14	28	60.0	70	0	276	3790	40	87.86	183.00	1.83	
2	19-Aug	Drilling	08:56	09:15	0.32	11397	11477	80	23	252.6	70	0	276	3790		87.90	182.00	2.17	
2	19-Aug	Sliding	09:26	09:31	0.08	11477	11487	10	28	120.0	70	0	276	3790	70	87.86	183.00	2.17	
2	19-Aug	Drilling	09:31	09:53	0.37	11487	11572	85	23	231.8	70	0	276	3790		89.04	184.00	2.08	
2	19-Aug	Sliding	10:08	10:20	0.20	11572	11585	13	28	65.0	70	0	276	3790	20	89.30	184.00	2.08	
2	19-Aug	Drilling	10:20	10:41	0.35	11585	11666	81	23	231.4	70	0	276	3790		89.09	185.00	1.59	
2	19-Aug	Drilling	10:51	11:11	0.33	11666	11761	95	23	285.0	70	0	276	3790		89.90	183.00	1.67	
2	19-Aug	Sliding	11:21	11:41	0.33	11761	11775	14	28	42.0	70	0	276	3790	20	90.13	183.00	1.67	
2	19-Aug	Drilling	11:41	12:17	0.60	11775	11855	80	23	133.3	70	0	276	3790		90.26	183.00	0.25	
2	19-Aug	Drilling	12:31	13:14	0.72	11855	11949	94	23	131.2	70	0	276	3790		91.36	183.00	1.96	
2	19-Aug	Sliding	13:39	13:56	0.28	11949	11955	6	28	21.2	70	0	276	3790	340	91.47	183.00	1.96	
2	19-Aug	Drilling	13:56	14:16	0.33	11955	12044	89	23	267.0	70	0	276	3790		91.76	183.00	1.48	
2	19-Aug	Drilling	14:31	14:52	0.35	12044	12139	95	23	271.4	70	0	276	3790		91.07	180.00	0.95	
2	19-Aug	Drilling	15:06	15:30	0.40	12139	12233	94	23	235.0	70	0	276	3790		90.74	181.00	0.00	
2	19-Aug	Drilling	15:38	15:40	0.03	12233	12238	5	23	150.0	70	0	276	3790		90.74	181.00	0.00	

Total Drilled:	4448	Avg. Total ROP:	190.63	DEPTH% - TIME %
Total Rotary Drilled:	4134	Avg. Rotary ROP:	228.40	Percent Rotary: 92.94 - 77.57
Total Drilled Sliding:	314	Avg. Slide ROP:	60.00	Percent Slide: 7.06 - 22.43

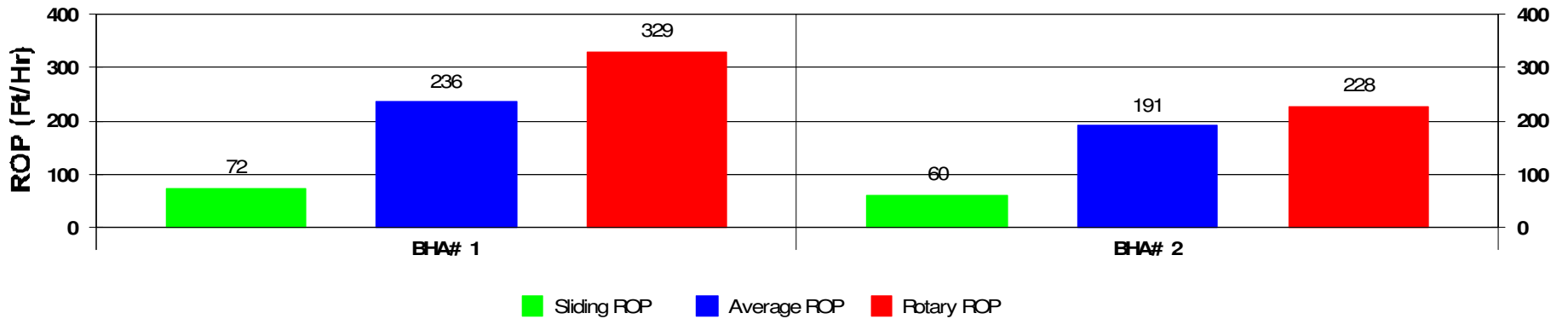


JOB NO.:	410813HMP45120	FIELD:	WATTENBURG	
COMPANY:	Kerr McGee Oil & Gas Onshore LP	Township:	T3N	
LOCATION:	HEDGE 1-22HZ Pad	SECT\ RANGE:	22	R66W
RIG NAME:	H&P 311	COMMENT		
STATE:	COLORADO			
COUNTY:	WELD			
WELL NAME:	Hedge 16C-22HZ			

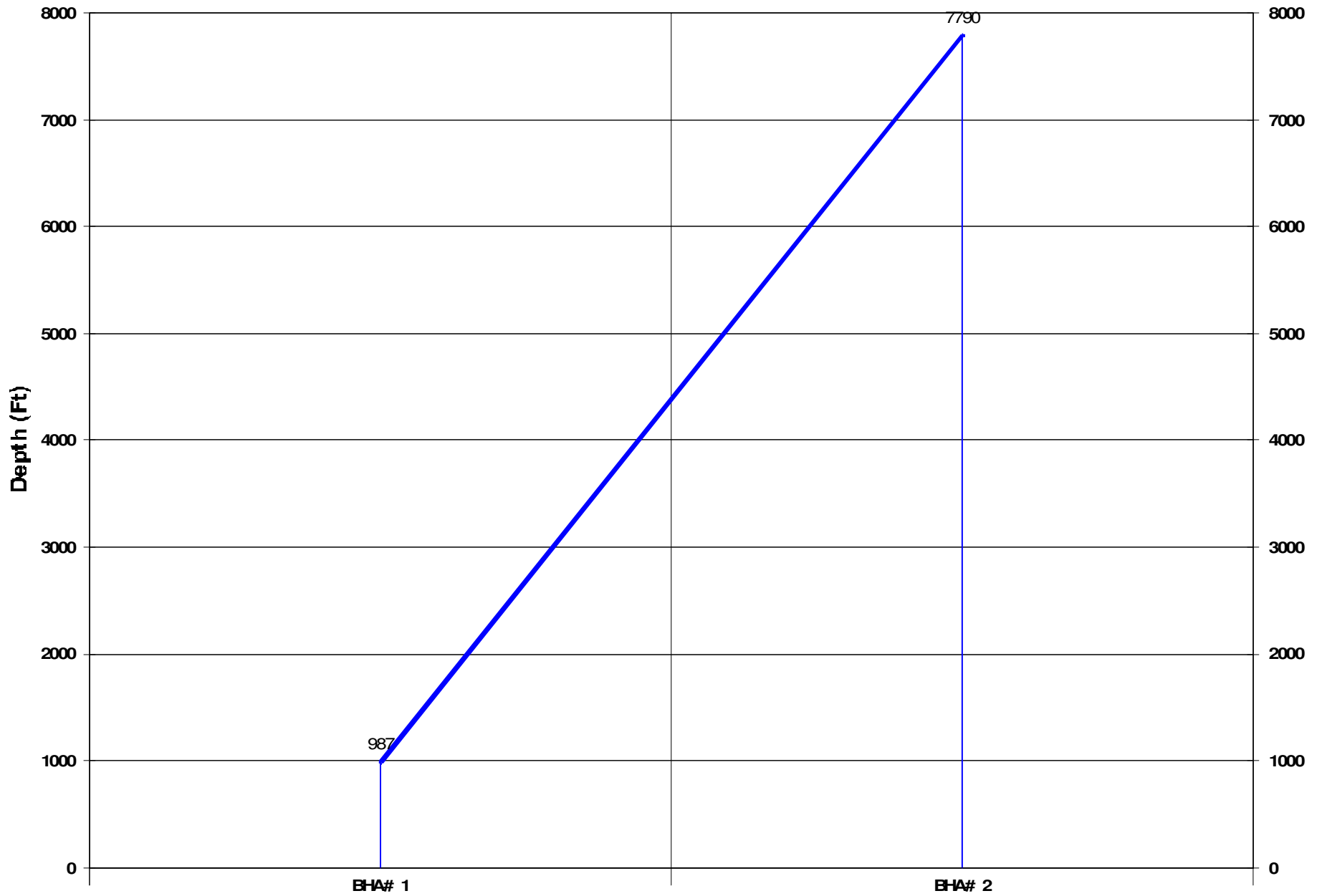
Footage Drilled with BHA



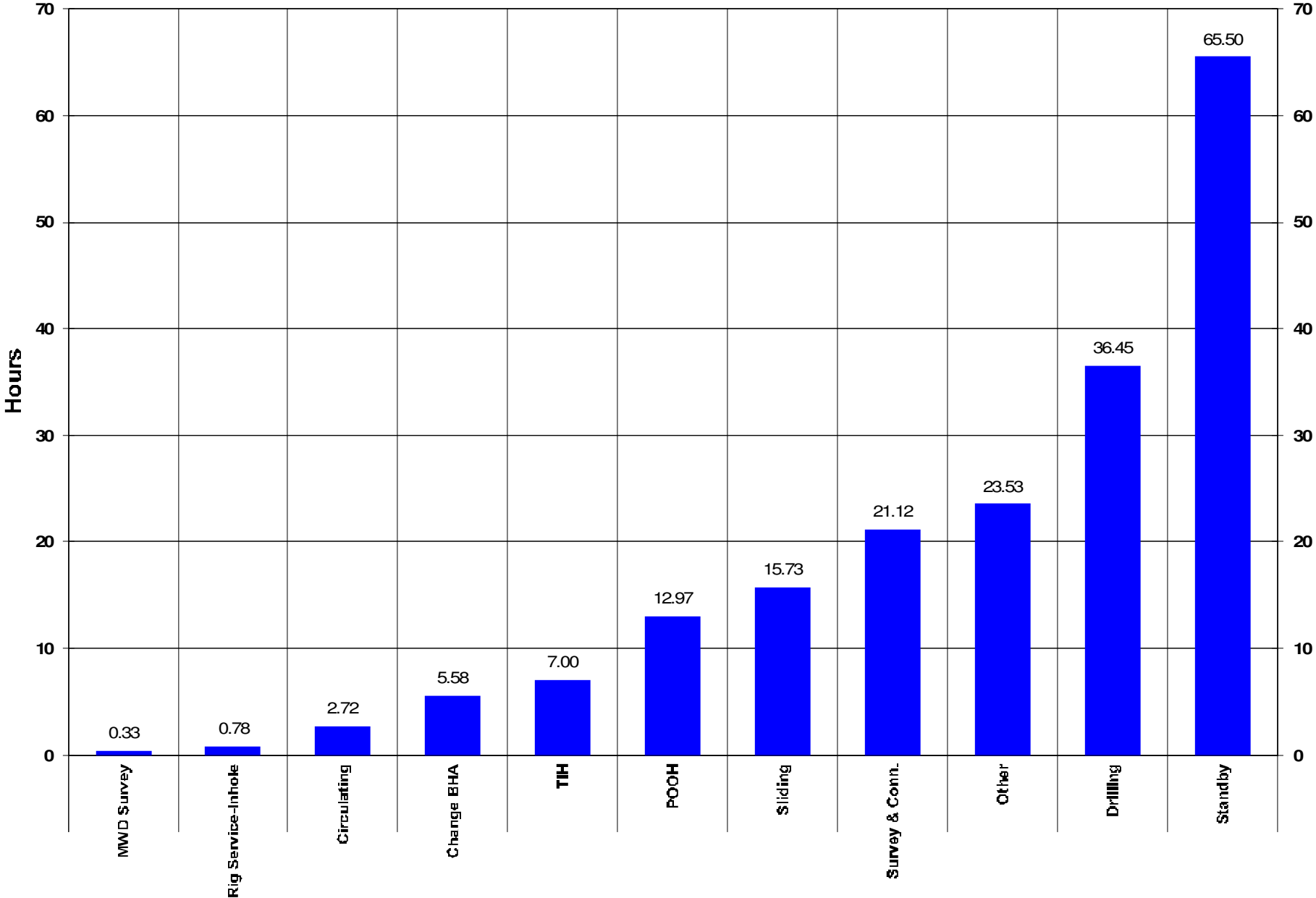
ROP vs BHA



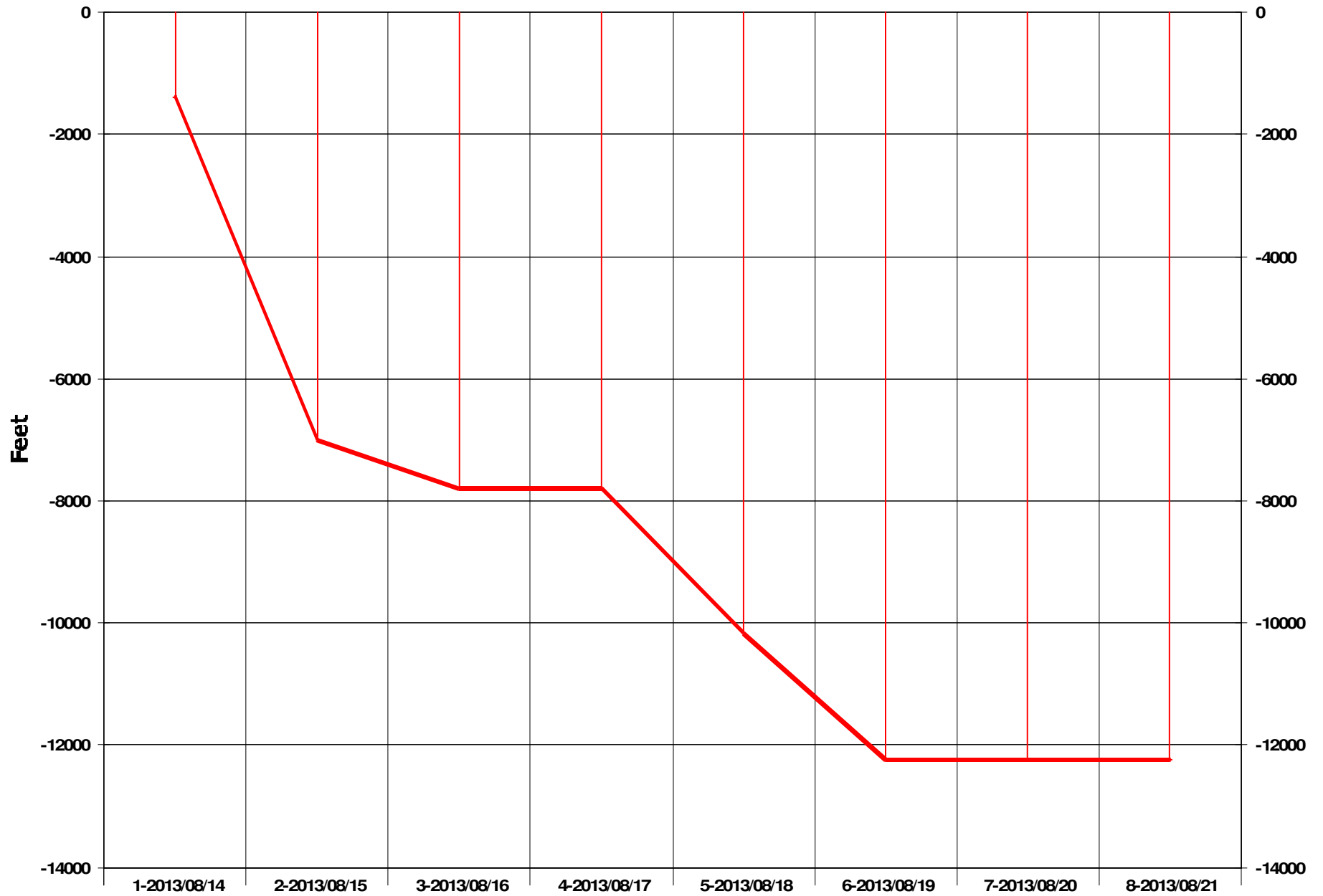
Depth vs BHA



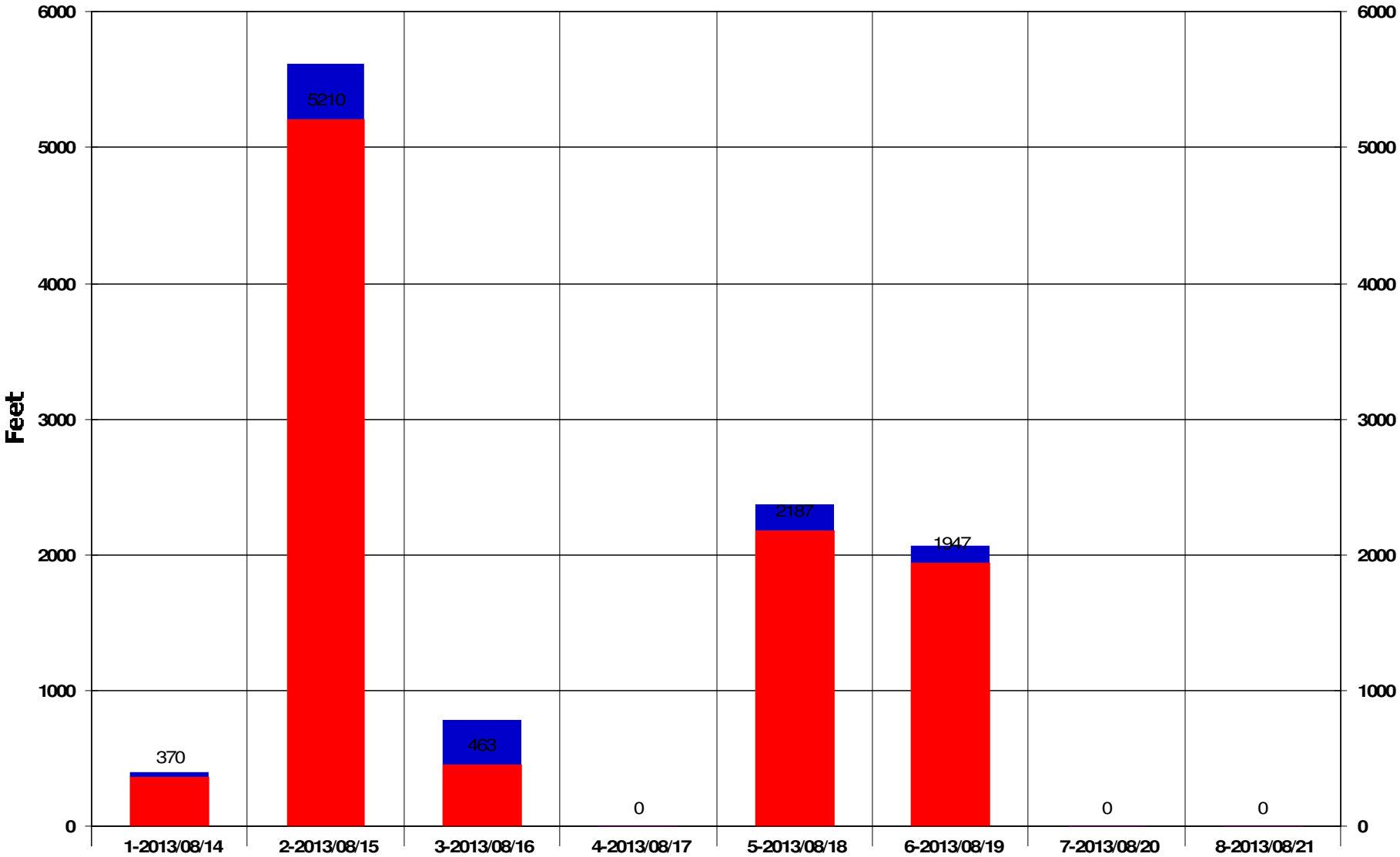
Activity Histogram



Measured Depth vs Days

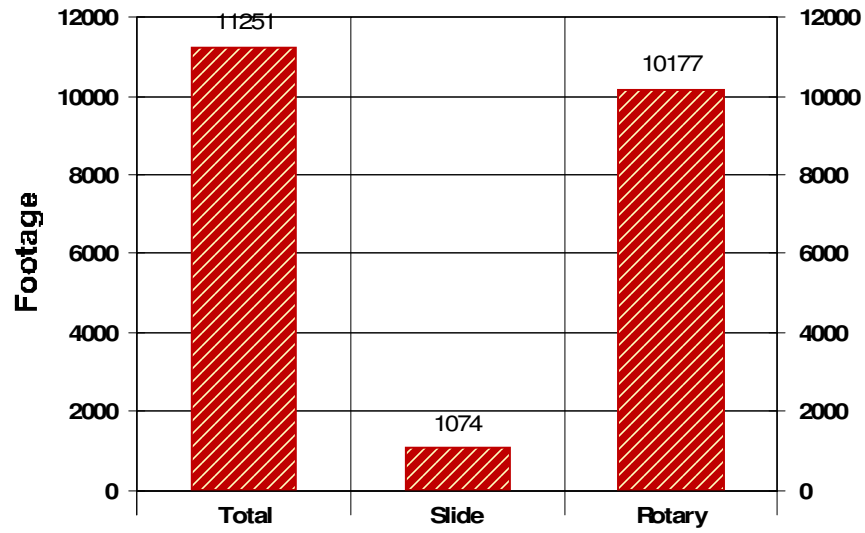


Daily Footage

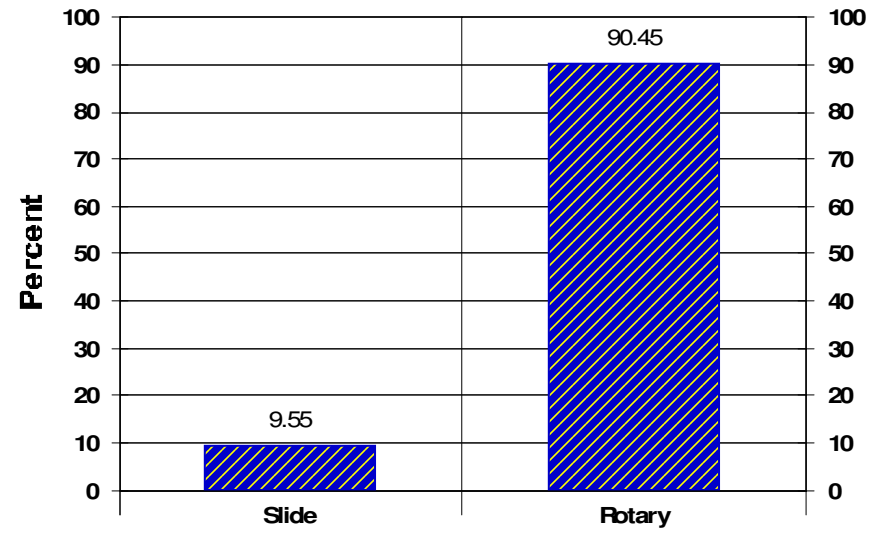


Rotary Drilling Sliding

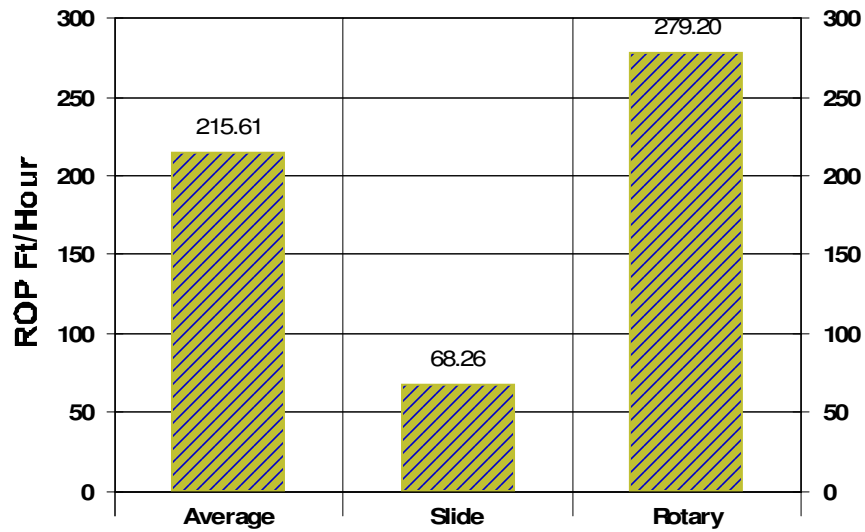
Footage Drilled Totals



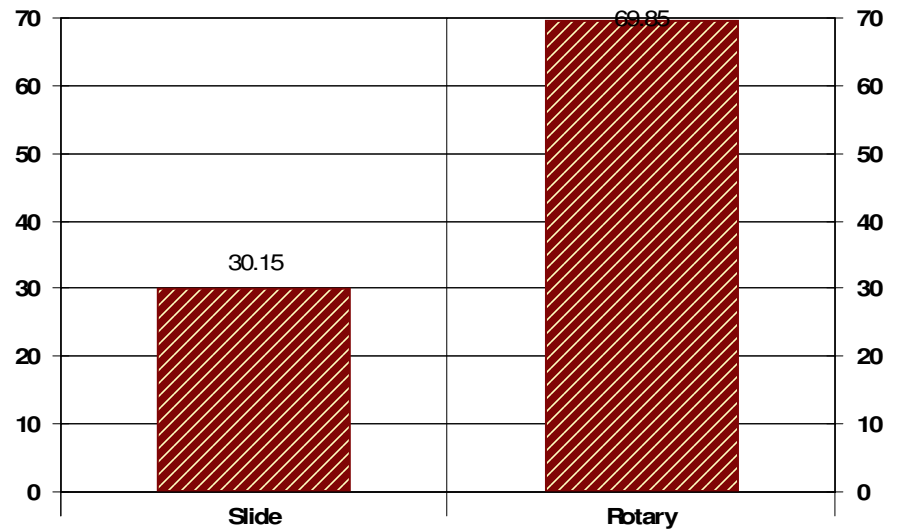
Footage Percent



Rate of Penetration Totals



Time Percent





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