



End of Well Report



GREAT WESTERN

MS #DDOK-120041

**Binder 2-4-20
Weld County, Colorado
Cade 22**

January 18, 2012

**Prepared By:
Megan Pope**

Actual Well & Surveys 1

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Support Staff 5

Great Western

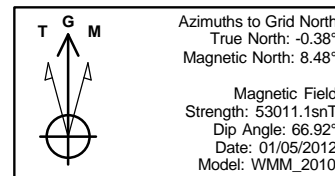
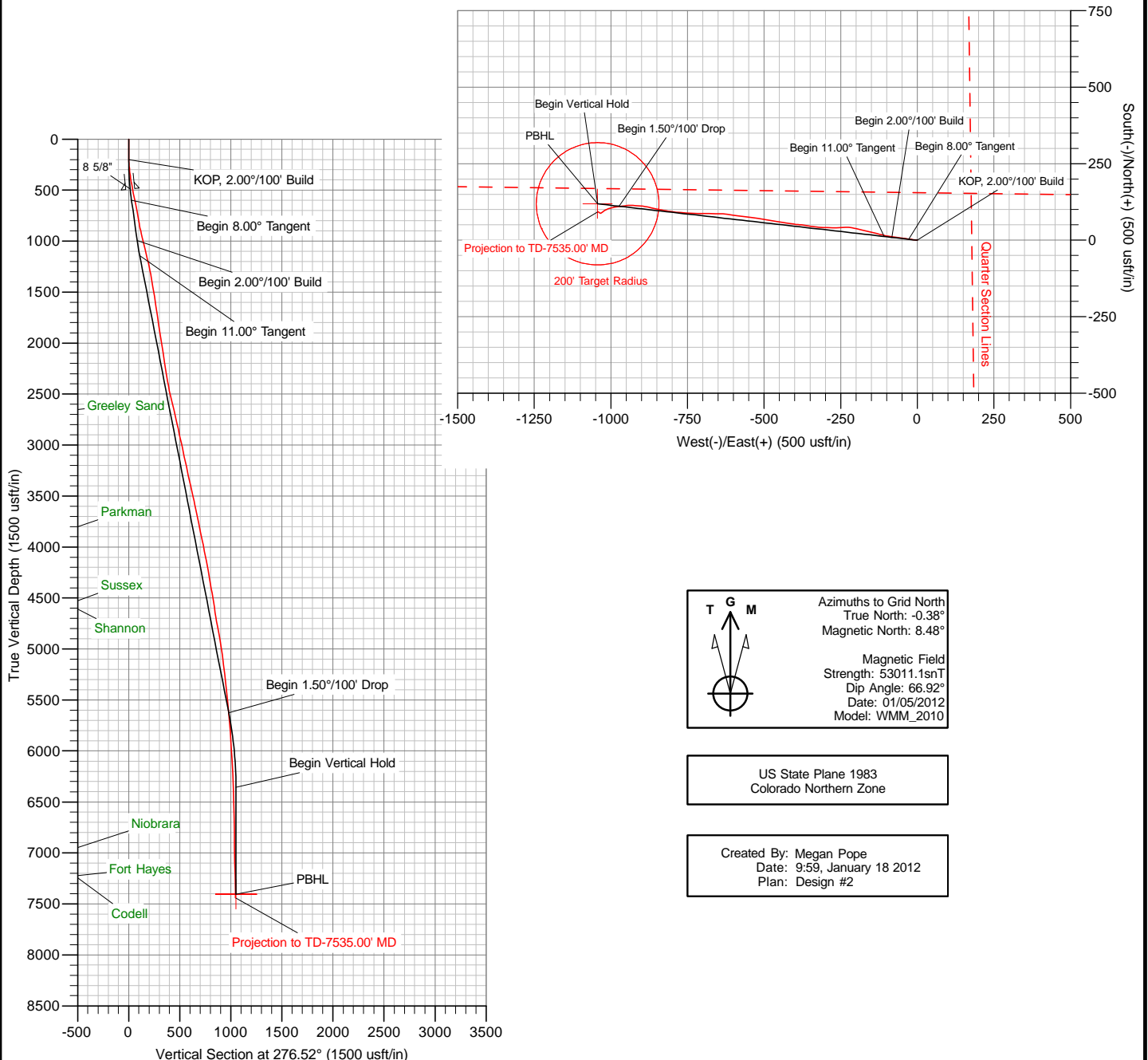
Company: Great Western
 Site: Binder
 Well: 2-4-20
 Project: Weld County, Colorado (NAD 83)
 Rig Name: Cade 22



Planning: 936.442.2510 Fax: 936.442.2515
 Operations: 936.442.2500 Fax: 936.442.2599

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	KOP, 2.00°/100' Build
600.00	8.00	276.52	598.70	3.16	-27.70	27.88	27.88	Begin 8.00° Tangent
1000.00	8.00	276.52	994.81	9.48	-83.01	83.55	83.55	Begin 2.00°/100' Build
1149.92	11.00	276.52	1142.66	12.29	-107.59	108.29	108.29	Begin 11.00° Tangent
5717.43	11.00	276.52	5626.27	111.18	-973.36	979.68	979.68	Begin 1.50°/100' Drop
6450.65	0.00	0.00	6355.00	119.14	-1043.06	1049.84	1049.84	Begin Vertical Hold
7499.65	0.00	0.00	7404.00	119.14	-1043.06	1049.84	1049.84	PBHL



US State Plane 1983
 Colorado Northern Zone

Created By: Megan Pope
 Date: 9:59, January 18 2012
 Plan: Design #2

The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by MS Energy are at the sole risk and responsibility of the customer. MS Energy is not responsible for the accuracy of this schematic or the information contained herein.



Great Western

Weld County, Colorado (NAD 83)

Binder

2-4-20

Wellbore #1

Survey: MS MWD

Standard Survey Report

18 January, 2012

Company:	Great Western	Local Co-ordinate Reference:	Well 2-4-20
Project:	Weld County, Colorado (NAD 83)	TVD Reference:	WELL @ 4916.00usft (Cade 22)
Site:	Binder	MD Reference:	WELL @ 4916.00usft (Cade 22)
Well:	2-4-20	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

Site	Binder					
Site Position:		Northing:	0.00 usft	Latitude:	36° 7' 5.9694 N	
From:	Map	Easting:	0.00 usft	Longitude:	115° 39' 12.952 W	
Position Uncertainty:		0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-6.56 °

Well	2-4-20					
Well Position	+N/-S	0.00 usft	Northing:	1,351,992.87 usft	Latitude:	40° 17' 53.3135 N
	+E/-W	0.00 usft	Easting:	3,163,195.70 usft	Longitude:	104° 54' 53.696 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,902.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM_2010	01/05/12	8.86	66.92	53,011

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	276.52	

Survey Program		Date	01/18/12		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
82.00	7,535.00	MS MWD (Wellbore #1)	MWD	MWD - Standard	

Survey										
	Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	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
	82.00	0.40	68.40	82.00	0.11	0.27	-0.25	0.49	0.49	0.00
	172.00	1.30	276.60	171.99	0.34	-0.46	0.49	1.85	1.00	-168.67
	265.00	4.80	277.70	264.85	0.98	-5.36	5.44	3.76	3.76	1.18
	356.00	8.00	276.00	355.27	2.15	-15.43	15.58	3.52	3.52	-1.87
	448.00	10.00	280.90	446.13	4.33	-29.65	29.95	2.33	2.17	5.33
	539.00	11.40	276.50	535.55	6.85	-46.34	46.82	1.78	1.54	-4.84
	630.00	11.60	278.70	624.72	9.25	-64.32	64.96	0.53	0.22	2.42
	721.00	10.70	277.60	714.00	11.75	-81.74	82.54	1.02	-0.99	-1.21
	811.00	9.80	276.40	802.57	13.71	-97.63	98.56	1.03	-1.00	-1.33
	907.00	12.20	286.70	896.81	17.53	-115.47	116.72	3.22	2.50	10.73
	1,002.00	14.00	282.50	989.33	22.91	-136.31	138.03	2.14	1.89	-4.42
	1,095.00	14.10	284.10	1,079.55	28.10	-158.28	160.44	0.43	0.11	1.72
	1,187.00	13.20	282.50	1,168.95	33.10	-179.40	182.00	1.06	-0.98	-1.74
	1,282.00	12.00	283.10	1,261.66	37.69	-199.61	202.60	1.27	-1.26	0.63

Company:	Great Western	Local Co-ordinate Reference:	Well 2-4-20
Project:	Weld County, Colorado (NAD 83)	TVD Reference:	WELL @ 4916.00usft (Cade 22)
Site:	Binder	MD Reference:	WELL @ 4916.00usft (Cade 22)
Well:	2-4-20	North Calculation:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
1,377.00	9.60	279.50	1,354.97	41.24	-217.05	220.32	2.62	-2.53	-3.79	
1,472.00	10.00	268.80	1,448.59	42.37	-233.11	236.41	1.96	0.42	-11.26	
1,567.00	9.10	267.70	1,542.28	41.90	-248.86	252.01	0.97	-0.95	-1.16	
1,662.00	8.40	264.20	1,636.17	40.90	-263.27	266.21	0.93	-0.74	-3.68	
1,756.00	9.00	272.80	1,729.09	40.56	-277.44	280.26	1.52	0.64	9.15	
1,850.00	8.30	271.90	1,822.02	41.14	-291.57	294.36	0.76	-0.74	-0.96	
1,945.00	9.50	272.70	1,915.88	41.74	-306.25	309.01	1.27	1.26	0.84	
2,038.00	8.20	272.10	2,007.77	42.35	-320.55	323.28	1.40	-1.40	-0.65	
2,132.00	9.20	278.50	2,100.69	43.70	-334.68	337.48	1.48	1.06	6.81	
2,225.00	8.30	280.00	2,192.60	45.97	-348.64	351.61	1.00	-0.97	1.61	
2,319.00	9.50	279.50	2,285.47	48.43	-362.98	366.13	1.28	1.28	-0.53	
2,412.00	9.70	274.00	2,377.17	50.24	-378.36	381.62	1.01	0.22	-5.91	
2,508.00	12.00	275.90	2,471.45	51.83	-396.36	399.68	2.42	2.40	1.98	
2,603.00	13.90	280.00	2,564.03	54.83	-417.42	420.95	2.22	2.00	4.32	
2,696.00	12.90	278.00	2,654.50	58.21	-438.70	442.48	1.18	-1.08	-2.15	
2,790.00	13.10	278.80	2,746.09	61.30	-459.62	463.61	0.29	0.21	0.85	
2,885.00	12.00	279.50	2,838.82	64.58	-480.00	484.23	1.17	-1.16	0.74	
2,979.00	13.10	279.50	2,930.57	67.95	-500.15	504.63	1.17	1.17	0.00	
3,073.00	11.60	278.20	3,022.39	71.05	-520.01	524.71	1.62	-1.60	-1.38	
3,167.00	11.80	278.40	3,114.44	73.81	-538.87	543.77	0.22	0.21	0.21	
3,262.00	12.20	278.30	3,207.36	76.67	-558.41	563.51	0.42	0.42	-0.11	
3,357.00	12.50	276.40	3,300.16	79.27	-578.56	583.82	0.53	0.32	-2.00	
3,452.00	12.80	277.60	3,392.86	81.81	-599.21	604.63	0.42	0.32	1.26	
3,547.00	13.00	278.00	3,485.46	84.69	-620.22	625.83	0.23	0.21	0.42	
3,642.00	11.30	271.90	3,578.33	86.48	-640.11	645.79	2.24	-1.79	-6.42	
3,737.00	11.90	270.30	3,671.39	86.84	-659.21	664.80	0.72	0.63	-1.68	
3,832.00	12.20	270.90	3,764.30	87.05	-679.04	684.53	0.34	0.32	0.63	
3,926.00	11.80	269.20	3,856.25	87.07	-698.58	703.95	0.57	-0.43	-1.81	
4,019.00	12.20	273.00	3,947.21	87.45	-717.90	723.19	0.95	0.43	4.09	
4,114.00	10.20	272.40	4,040.40	88.33	-736.33	741.60	2.11	-2.11	-0.63	
4,208.00	11.00	272.90	4,132.80	89.13	-753.60	758.85	0.86	0.85	0.53	
4,303.00	10.70	273.80	4,226.10	90.18	-771.46	776.71	0.36	-0.32	0.95	
4,396.00	10.00	276.60	4,317.58	91.68	-788.09	793.40	0.93	-0.75	3.01	
4,487.00	10.30	278.90	4,407.16	93.84	-803.98	809.43	0.55	0.33	2.53	
4,582.00	9.30	280.00	4,500.77	96.49	-819.93	825.58	1.07	-1.05	1.16	
4,676.00	8.00	278.40	4,593.70	98.77	-833.88	839.70	1.41	-1.38	-1.70	
4,769.00	9.40	283.10	4,685.63	101.43	-847.68	853.72	1.69	1.51	5.05	
4,864.00	10.60	283.10	4,779.19	105.17	-863.75	870.10	1.26	1.26	0.00	
4,958.00	10.00	281.70	4,871.67	108.79	-880.16	886.82	0.69	-0.64	-1.49	
5,053.00	8.70	276.20	4,965.41	111.24	-895.38	902.22	1.66	-1.37	-5.79	
5,147.00	8.30	273.00	5,058.38	112.36	-909.22	916.10	0.66	-0.43	-3.40	
5,243.00	7.60	275.80	5,153.45	113.36	-922.46	929.37	0.83	-0.73	2.92	
5,335.00	6.70	269.30	5,244.74	113.91	-933.88	940.77	1.31	-0.98	-7.07	
5,430.00	6.30	267.10	5,339.13	113.58	-944.63	951.41	0.50	-0.42	-2.32	

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Site:	Binder	MD Reference:	WELL @ 4916.00usft (Cade 22)
Well:	2-4-20	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,524.00	5.10	264.00	5,432.66	112.88	-953.93	960.58	1.32	-1.28	-3.30	
5,619.00	5.70	264.30	5,527.24	111.97	-962.83	969.31	0.63	0.63	0.32	
5,902.00	4.70	259.20	5,809.07	108.40	-988.20	994.12	0.39	-0.35	-1.80	
6,185.00	3.60	250.20	6,091.33	103.22	-1,007.95	1,013.15	0.45	-0.39	-3.18	
6,468.00	2.00	235.00	6,373.99	97.38	-1,020.36	1,024.81	0.62	-0.57	-5.37	
6,751.00	2.00	229.40	6,656.81	91.33	-1,028.15	1,031.87	0.07	0.00	-1.98	
7,034.00	0.30	234.90	6,939.75	87.69	-1,032.51	1,035.79	0.60	-0.60	1.94	
7,318.00	1.90	302.50	7,223.69	89.80	-1,037.09	1,040.57	0.64	0.56	23.80	
7,474.00	1.40	309.00	7,379.63	92.38	-1,040.75	1,044.51	0.34	-0.32	4.17	
7,535.00	1.40	309.00	7,440.61	93.32	-1,041.91	1,045.76	0.00	0.00	0.00	
Projection to TD-7535.00' MD										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
7,535.00	7,440.61	93.32	-1,041.91	Projection to TD-7535.00' MD	



JOB NO.:	DDOK-120041	Report Time:	2400	1 of 4
Company:	Great Western	API JOB #	05-123-32968-00	
LOCATION:	Weld County	WORK ORDER#	MS#110823RR	
RIG NAME:	Cade 22	FIELD:	Wattenberg	
STATE:	Colorado	Township:		
COUNTY:	Weld County	SECTRANGE:		
WELL NAME:	Binder 2-4-20			

From Saturday, January 14, 2012 at 0000 to Saturday, January 14, 2012 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	0.00	Rotary Hours	3.72	WOB	15	Pick UP	35	Slack Off	35	SPM	
End Depth	530.00	Circulating Hours	1.02	RAB	35	SPP	800	FlowRate	0 - 425	125	
Total Drilled:	530.00	Avg. Total ROP:	109.66	Mud Data							
Total Rotary Drilled:	435.00	Avg. Rotary ROP:	117.04	Type	Water			PV	0	SOLID	0
Total Drilled Sliding:	95.00	Avg. Slide ROP:	85.07	Weight	8.3	GAS	0	YP	0	BHT°	0
Slide Hours:	1.12	Percent Rotary:	82.08	Viscosity	22	SAND	0	PH	0	Flow T°	0
Below Rotary Hrs.	10.00	Percent Slide:	17.92	Chlorides	0	WL	0			Oil %	0
PERSONNEL				CASING					BHA		
Lead Directional :	David Cathey			Size	Lb/ft	Set Depth		BHA # 1: 12 1/4 Hughes HCM506Z, 7 3/4" MTR 4/5_5.3 Stg, 4 1/2" XH BX - 6 5/8" Reg Pin, 6 13/16 NMPC, 6 15/16 UBHO, 6 1/4 NMDC, 6 1/2 NMFC, 6 Jts 6 1/2 Steel DC, 15 Jts 4 1/2 Spiral, 4 1/2 Drill pipe, ,			
Second Directional :	Coty Jeane			4 1/2	11.6	0					
MWD Operator1	Chuck Johnson			Signature:							
MWD Operator2											
Directional Company:	MS Energy										
Geologist:											
Company Man:	Eric Geiger										
Incl. In:	0	Azm. In:	0	Incl. Out:	10.5	Azm. Out:	278.8				

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
14-Jan-12	00:00	07:00	7.00	0	0	Standby	Standby While Rig Crew Runs CSG & Cements Same & Skid Rig Over On Binder 2-4-20.
14-Jan-12	07:00	08:15	1.25	0	0	Standby	Standby While Rig Crew Drills Pilot Hole & Mouse Hole.
14-Jan-12	08:15	09:45	1.50	0	133	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
14-Jan-12	09:45	11:00	1.25	133	133	Change BHA	Pick Up Surface BHA
14-Jan-12	11:00	11:14	0.23	133	133	Reaming	Wash & Ream BHA Down.
14-Jan-12	11:14	11:26	0.20	133	145	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
14-Jan-12	11:26	11:30	0.07	145	145	Survey & Conn.	Survey & Conn @ 82' - .40 Inc - 68.4 Azm
14-Jan-12	11:30	11:41	0.18	145	170	Sliding	Drilling - (WOB:15;GPM :425;TFO:276M)
14-Jan-12	11:41	11:57	0.27	170	205	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
14-Jan-12	11:57	12:05	0.13	205	205	Circulating	Check Shot
14-Jan-12	12:05	12:19	0.23	205	230	Sliding	Sliding - (WOB:15;GPM :425;TFO:276M)
14-Jan-12	12:19	12:26	0.12	230	235	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
14-Jan-12	12:26	12:32	0.10	235	235	Survey & Conn.	Survey & Conn @ 172' - 1.3 Inc - 276.6 Azm
14-Jan-12	12:32	12:38	0.10	235	245	Sliding	Sliding - (WOB:15;GPM :425;TFO:276M)
14-Jan-12	12:38	13:04	0.43	245	297	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
14-Jan-12	13:04	13:10	0.10	297	297	Circulating	Check Shot
14-Jan-12	13:10	13:27	0.28	297	322	Sliding	Sliding - (WOB:15;GPM :425;TFO:276M)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
14-Jan-12	13:27	13:29	0.03	322	328	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
14-Jan-12	13:29	13:40	0.18	328	328	Survey & Conn.	Survey & Conn @ 265' - 4.8 Inc - 277.7 Azm
14-Jan-12	13:40	13:59	0.32	328	338	Sliding	Sliding - (WOB:15;GPM :425;TFO:276M)
14-Jan-12	13:59	14:20	0.35	338	389	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
14-Jan-12	14:20	14:30	0.17	389	389	Circulating	Check Shot
14-Jan-12	14:30	14:40	0.17	389	419	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
14-Jan-12	14:40	14:50	0.17	419	419	Survey & Conn.	Survey & Conn @ 356' - 8.0 Inc - 276.0
14-Jan-12	14:50	15:21	0.52	419	511	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
14-Jan-12	15:21	15:31	0.17	511	511	Survey & Conn.	Survey & Conn @ 448' - 10.0 Inc - 280.9 Azm
14-Jan-12	15:31	15:39	0.13	511	530	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
14-Jan-12	15:39	15:49	0.17	530	530	Survey & Conn.	Survey @ 467' - 10.5 Inc - 278.8 Azm
14-Jan-12	15:49	15:53	0.07	530	530	Circulating	Circulating
14-Jan-12	15:53	16:39	0.77	530	530	Short Trip	Short Trip
14-Jan-12	16:39	16:58	0.32	530	530	Circulating	Circulating
14-Jan-12	16:58	17:40	0.70	530	530	POOH	POOH
14-Jan-12	17:40	18:15	0.58	530	530	Change BHA	Lay Down BHA.
14-Jan-12	18:15	21:00	2.75	530	530	Standby	Standby While Rig Crew Runs CSG & Cements Same.
14-Jan-12	21:00	24:00	3.00	530	530	N/U BOPS	N/U BOPS & Test Same.



JOB NO.:	DDOK-120041	Report Time:	2400	2 of 4
Company:	Great Western	API JOB #	05-123-32968-00	
LOCATION:	Weld County	WORK ORDER#	MS#110823RR	
RIG NAME:	Cade 22	FIELD:	Wattenberg	
STATE:	Colorado	Township:		
COUNTY:	Weld County	SECTRANGE:		
WELL NAME:	Binder 2-4-20			

From Sunday, January 15, 2012 at 0000 to Sunday, January 15, 2012 at 2400

DRILLING SUMMARY				Drilling Parameters						
Start Depth	530.00	Rotary Hours	10.00	WOB	15	Pick UP	95	Slack Off	85	SPM
End Depth	3290.00	Circulating Hours	0.37	RAB	90	SPP	1100	FlowRate	425 - 425	125
Total Drilled:	2760.00	Avg. Total ROP:	226.54	Mud Data						
Total Rotary Drilled:	2408.00	Avg. Rotary ROP:	240.80	Type	Water		PV	0	SOLID	0
Total Drilled Sliding:	352.00	Avg. Slide ROP:	161.22	Weight	8.3	GAS	0	YP	0	BHT°
Slide Hours:	2.18	Percent Rotary:	87.25	Viscosity	22	SAND	0	PH	0	Flow T°
Below Rotary Hrs.	17.00	Percent Slide:	12.75	Chlorides	0	WL	0	Oil %		0

PERSONNEL						CASING			BHA
Lead Directional :		David Cathey				Size	Lb/ft	Set Depth	BHA # 2:7 7/8 Hughes PDC, 6 1/4" MTR 7/8_4.8 Stg, 6 3/8" FLT Sub, 6 13/16 NMPC, 6 15/16 UBHO, 6 1/4 NMDC, 6 1/2 NMFC, 18 Jts 4 1/2 Spiral, 4 Drill Pipe,
Second Directional :		Coty Jeane				4 1/2	11.6	0	
MWD Operator1		Chuck Johnson				8 5/8	24	690	
MWD Operator2									
Directional Company:		MS Energy				Signature:			
Geologist:									
Company Man:		Eric Geiger							
Incl. In:	10.5	Azm. In:	278.8	Incl. Out:	11.8	Azm. Out:	278.4		

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Jan-12	00:00	07:00	7.00	530	530	Standby	Standby N/U BOPS
15-Jan-12	07:00	07:34	0.57	530	530	Change BHA	Pick Up BHA.
15-Jan-12	07:34	08:16	0.70	530	530	TIH	TIH
15-Jan-12	08:16	08:38	0.37	530	530	Circulating	Drill Out Cement.
15-Jan-12	08:38	08:55	0.28	530	600	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	08:55	09:04	0.15	600	600	Survey & Conn.	Survey & Conn @ 539' - 11.4 Inc - 276.5 Azm
15-Jan-12	09:04	09:45	0.68	600	691	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	09:45	09:58	0.22	691	691	Survey & Conn.	Survey & Conn @ 630' - 11.6 Inc - 278.7 Azm
15-Jan-12	09:58	10:20	0.37	691	782	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	10:20	10:26	0.10	782	782	Survey & Conn.	Survey & Conn @ 721' - 10.7 Inc - 277.6 Azm
15-Jan-12	10:26	10:50	0.40	782	873	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	10:50	10:57	0.12	873	873	Survey & Conn.	Survey & Conn @ 811' - 9.8 Inc - 276.4 Azm
15-Jan-12	10:57	11:03	0.10	873	888	Sliding	Sliding - (WOB:15;GPM :425;TFO:10)
15-Jan-12	11:03	11:24	0.35	888	968	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	11:24	11:30	0.10	968	968	Survey & Conn.	Survey & Conn @ 907' - 12.2 Inc - 286.7 Azm
15-Jan-12	11:30	11:33	0.05	968	978	Sliding	Sliding - (WOB:15;GPM :425;TFO:350)
15-Jan-12	11:33	11:53	0.33	978	1063	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Jan-12	11:53	12:00	0.12	1063	1063	Survey & Conn.	Survey & Conn @ 1002' - 14.0 Inc - 282.5 Azm
15-Jan-12	12:00	12:20	0.33	1063	1156	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	12:20	12:25	0.08	1156	1156	Survey & Conn.	Survey & Conn @ 1095' - 14.1 Inc - 284.1 Azm
15-Jan-12	12:25	12:44	0.32	1156	1248	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	12:44	12:50	0.10	1248	1248	Survey & Conn.	Survey & Conn @ 1187' - 13.2 Inc - 282.5 Azm
15-Jan-12	12:50	13:08	0.30	1248	1343	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	13:08	13:14	0.10	1343	1343	Survey & Conn.	Survey & Conn @ 1282' - 12.0 Inc - 283.1 Azm
15-Jan-12	13:14	13:33	0.32	1343	1438	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	13:33	13:36	0.05	1438	1438	Survey & Conn.	Survey & Conn @ 1377' - 9.6 Inc - 279.5 Azm
15-Jan-12	13:36	13:43	0.12	1438	1448	Sliding	Sliding - (WOB:15;GPM :425;TFO:300)
15-Jan-12	13:43	13:59	0.27	1448	1533	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	13:59	14:06	0.12	1533	1533	Survey & Conn.	Survey & Conn @ 1472' - 10.0 Inc - 268.8 Azm
15-Jan-12	14:06	14:27	0.35	1533	1628	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	14:27	14:33	0.10	1628	1628	Survey & Conn.	Survey & Conn @ 1567' - 9.1 Inc - 267.7 Azm
15-Jan-12	14:33	14:53	0.33	1628	1723	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	14:53	14:59	0.10	1723	1723	Survey & Conn.	Survey & Conn @ 1662' - 8.4 Inc - 264.2 Azm
15-Jan-12	14:59	15:05	0.10	1723	1738	Sliding	Sliding - (WOB:15;GPM :425;TFO:300)
15-Jan-12	15:05	15:24	0.32	1738	1817	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	15:24	15:30	0.10	1817	1817	Survey & Conn.	Survey & Conn @ 1756' - 9.0 Inc - 272.8 Azm
15-Jan-12	15:30	15:53	0.38	1817	1911	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	15:53	15:59	0.10	1911	1911	Survey & Conn.	Survey & Conn @ 1850' - 8.3 Inc - 271.9 Azm
15-Jan-12	15:59	16:03	0.07	1911	1926	Sliding	Sliding - (WOB:15;GPM :425;TFO:10)
15-Jan-12	16:03	16:21	0.30	1926	2006	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	16:21	16:27	0.10	2006	2006	Survey & Conn.	Survey & Conn @ 1945' - 9.5 Inc - 272.7 Azm
15-Jan-12	16:27	16:51	0.40	2006	2099	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	16:51	16:57	0.10	2099	2099	Survey & Conn.	Survey & Conn @ 2038' - 8.2 Inc - 272.1 Azm
15-Jan-12	16:57	17:01	0.07	2099	2114	Sliding	Sliding - (WOB:15;GPM :425;TFO:20)
15-Jan-12	17:01	17:22	0.35	2114	2193	Sliding	Sliding - (WOB:15;GPM :425;TFO:10)
15-Jan-12	17:22	17:28	0.10	2193	2193	Survey & Conn.	Survey & Conn@2132- 9.2 Inc- 278.5 Azm
15-Jan-12	17:28	17:49	0.35	2193	2286	Sliding	Sliding - (WOB:15;GPM :425;TFO:20)
15-Jan-12	17:49	17:54	0.08	2286	2286	Survey & Conn.	Survey & Conn@2225- 8.3 Inc- 280.0 Azm
15-Jan-12	17:54	18:00	0.10	2286	2301	Sliding	Sliding - (WOB:15;GPM :425;TFO:20)
15-Jan-12	18:00	18:20	0.33	2301	2380	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	18:20	18:27	0.12	2380	2380	Survey & Conn.	Survey & Conn@2319- 9.5 Inc- 279.5 Azm
15-Jan-12	18:27	18:31	0.07	2380	2390	Sliding	Sliding - (WOB:15;GPM :425;TFO:20)
15-Jan-12	18:31	18:53	0.37	2390	2473	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	18:53	19:01	0.13	2473	2473	Survey & Conn.	Survey & Conn@2412- 9.7 Inc- 274.0 Azm
15-Jan-12	19:01	19:08	0.12	2473	2488	Sliding	Sliding - (WOB:15;GPM :425;TFO:350)
15-Jan-12	19:08	19:27	0.32	2488	2569	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	19:27	19:32	0.08	2569	2569	Survey & Conn.	Survey & Conn@2508- 12.0 Inc- 275.9 Azm
15-Jan-12	19:32	19:38	0.10	2569	2579	Sliding	Sliding - (WOB:15;GPM :425;TFO:20)
15-Jan-12	19:38	19:59	0.35	2579	2664	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	19:59	20:05	0.10	2664	2664	Survey & Conn.	Survey & Conn@2603- 13.9 Inc- 280.0 Azm
15-Jan-12	20:05	20:28	0.38	2664	2757	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	20:28	20:35	0.12	2757	2757	Survey & Conn.	Survey & Conn@2696- 12.9 Inc- 278.0 Azm
15-Jan-12	20:35	20:42	0.12	2757	2767	Sliding	Sliding - (WOB:15;GPM :425;TFO:20)
15-Jan-12	20:42	21:07	0.42	2767	2851	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	21:07	21:12	0.08	2851	2851	Survey & Conn.	Survey & Conn@2790- 13.1 Inc- 278.8 Azm

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Jan-12	21:12	21:35	0.38	2851	2946	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	21:35	21:43	0.13	2946	2946	Survey & Conn.	Survey & Conn@2885- 12.0 Inc- 279.5 Azm
15-Jan-12	21:43	21:52	0.15	2946	2956	Sliding	Sliding - (WOB:15;GPM :425;TFO:20)
15-Jan-12	21:52	22:16	0.40	2956	3040	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	22:16	22:20	0.07	3040	3040	Survey & Conn.	Survey & Conn@2979- 13.1 Inc- 279.5 Azm
15-Jan-12	22:20	22:43	0.38	3040	3134	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	22:43	22:53	0.17	3134	3134	Survey & Conn.	Survey & Conn@3073- 11.6 Inc- 278.2 Azm
15-Jan-12	22:53	23:05	0.20	3134	3149	Sliding	Sliding - (WOB:15;GPM :425;TFO:20)
15-Jan-12	23:05	23:28	0.38	3149	3228	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
15-Jan-12	23:28	23:37	0.15	3228	3228	Survey & Conn.	Survey & Conn@3167- 11.8 Inc- 278.4 Azm
15-Jan-12	23:37	23:45	0.13	3228	3243	Sliding	Sliding - (WOB:15;GPM :425;TFO:10)
15-Jan-12	23:45	24:00	0.25	3243	3290	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)



JOB NO.:	DDOK-120041	Report Time:	2400	3 of 4
Company:	Great Western	API JOB #	05-123-32968-00	
LOCATION:	Weld County	WORK ORDER#	MS#110823RR	
RIG NAME:	Cade 22	FIELD:	Wattenberg	
STATE:	Colorado	Township:		
COUNTY:	Weld County	SECTRANGE:		
WELL NAME:	Binder 2-4-20			

From Monday, January 16, 2012 at 0000 to Monday, January 16, 2012 at 2400

DRILLING SUMMARY				Drilling Parameters						
Start Depth	3290.00	Rotary Hours	15.85	WOB	15	Pick UP	95	Slack Off	85	SPM
End Depth	6182.00	Circulating Hours	0.20	RAB	90	SPP	1300	FlowRate	425 - 425	125
Total Drilled:	2892.00	Avg. Total ROP:	146.18	Mud Data						
Total Rotary Drilled:	2737.00	Avg. Rotary ROP:	172.68	Type	Water		PV	0	SOLID	0
Total Drilled Sliding:	155.00	Avg. Slide ROP:	39.41	Weight	8.3	GAS	0	YP	0	BHT°
Slide Hours:	3.93	Percent Rotary:	94.64	Viscosity	22	SAND	0	PH	0	Flow T°
Below Rotary Hrs.	24.00	Percent Slide:	5.36	Chlorides	0	WL	0	Oil %		0

PERSONNEL						CASING			BHA
Lead Directional :		David Cathey				Size	Lb/ft	Set Depth	BHA # 2:7 7/8 Hughes PDC, 6 1/4" MTR 7/8_4.8 Stg, 6 3/8" FLT Sub, 6 13/16 NMPC, 6 15/16 UBHO, 6 1/4 NMDC, 6 1/2 NMFC, 18 Jts 4 1/2 Spiral, 4 Drill Pipe,
Second Directional :		Coty Jeane				4 1/2	11.6	0	
MWD Operator1		Chuck Johnson				8 5/8	24	690	
MWD Operator2									
Directional Company:		MS Energy				Signature:			
Geologist:									
Company Man:		Eric Geiger							
Incl. In:	11.8	Azm. In:	278.4	Incl. Out:	4.7	Azm. Out:	259.2		

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Jan-12	00:00	00:07	0.12	3290	3323	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	00:07	00:17	0.17	3323	3323	Survey & Conn.	Survey & Conn@3262- 12.2 Inc- 278.3 Azm
16-Jan-12	00:17	00:25	0.13	3323	3338	Sliding	Sliding - (WOB:15;GPM :425;TFO:10)
16-Jan-12	00:25	00:50	0.42	3338	3418	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	00:50	01:00	0.17	3418	3418	Survey & Conn.	Survey & Conn@3357- 12.5 Inc- 276.4 Azm
16-Jan-12	01:00	01:10	0.17	3418	3433	Sliding	Sliding - (WOB:15;GPM :425;TFO:10)
16-Jan-12	01:10	01:31	0.35	3433	3513	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	01:31	01:39	0.13	3513	3513	Survey & Conn.	Survey & Conn@3452- 12.8 Inc- 277.6 Azm
16-Jan-12	01:39	01:50	0.18	3513	3528	Sliding	Sliding - (WOB:15;GPM :425;TFO:20)
16-Jan-12	01:50	02:11	0.35	3528	3608	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	02:11	02:17	0.10	3608	3608	Survey & Conn.	Survey & Conn@3547- 13.0 Inc- 278.0 Azm
16-Jan-12	02:17	02:43	0.43	3608	3703	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	02:43	02:53	0.17	3703	3703	Survey & Conn.	Survey & Conn@3642- 11.3 Inc- 271.9 Azm
16-Jan-12	02:53	03:00	0.12	3703	3708	Sliding	Sliding - (WOB:15;GPM :425;TFO:20)
16-Jan-12	03:00	03:23	0.38	3708	3798	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	03:23	03:30	0.12	3798	3798	Survey & Conn.	Survey & Conn@3737- 11.9 Inc- 270.3 Azm
16-Jan-12	03:30	03:57	0.45	3798	3893	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Jan-12	03:57	04:04	0.12	3893	3893	Survey & Conn.	Survey & Conn@3832- 12.2 Inc- 270.9 Azm
16-Jan-12	04:04	04:35	0.52	3893	3987	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	04:35	04:45	0.17	3987	3987	Survey & Conn.	Survey & Conn@3926- 11.8 Inc- 269.2 Azm
16-Jan-12	04:45	04:54	0.15	3987	3997	Sliding	Sliding - (WOB:15;GPM :425;TFO:20)
16-Jan-12	04:54	05:18	0.40	3997	4080	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	05:18	05:23	0.08	4080	4080	Survey & Conn.	Survey & Conn@4019- 12.2 Inc- 273.0 Azm
16-Jan-12	05:23	05:58	0.58	4080	4175	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	05:58	06:04	0.10	4175	4175	Survey & Conn.	Survey & Conn @ 4114' -10.2 Inc - 272.4 Azm
16-Jan-12	06:04	06:19	0.25	4175	4185	Sliding	Sliding - (WOB:15;GPM :425;TFO:30)
16-Jan-12	06:19	06:50	0.52	4185	4269	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	06:50	06:56	0.10	4269	4269	Survey & Conn.	Survey & Conn @ 4208' - 11.0 Inc - 272.9 Azm
16-Jan-12	06:56	07:21	0.42	4269	4279	Sliding	Sliding - (WOB:15;GPM :425;TFO:360)
16-Jan-12	07:21	07:39	0.30	4279	4332	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	07:39	07:45	0.10	4332	4332	Circulating	Check Shot
16-Jan-12	07:45	07:53	0.13	4332	4364	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	07:53	07:59	0.10	4364	4364	Survey & Conn.	Survey & Conn 4303' - 10.7 Inc - 273.8 Azm
16-Jan-12	07:59	08:20	0.35	4364	4379	Sliding	Sliding - (WOB:15;GPM :425;TFO:360)
16-Jan-12	08:20	08:34	0.23	4379	4426	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	08:34	08:40	0.10	4426	4426	Circulating	Check Shot
16-Jan-12	08:40	09:27	0.78	4426	4436	Sliding	Sliding - (WOB:15;GPM :425;TFO:360)
16-Jan-12	09:27	09:33	0.10	4436	4457	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	09:33	09:39	0.10	4457	4457	Survey & Conn.	Survey & Conn @ 4396' - 9.6 Inc - 276.7 Azm
16-Jan-12	09:39	10:16	0.62	4457	4548	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	10:16	10:20	0.07	4548	4548	Survey & Conn.	Survey & Conn @ 4487' - 10.3 Inc - 278.9 Azm
16-Jan-12	10:20	10:55	0.58	4548	4643	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	10:55	11:01	0.10	4643	4643	Survey & Conn.	Survey & Conn @ 4582' - 9.3 Inc - 280.0 Azm
16-Jan-12	11:01	11:22	0.35	4643	4706	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	11:22	11:28	0.10	4706	4706	Survey & Conn.	Survey & Conn.
16-Jan-12	11:28	11:58	0.50	4706	4731	Sliding	Sliding - (WOB:15;GPM :425;TFO:360)
16-Jan-12	11:58	12:02	0.07	4731	4737	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	12:02	12:42	0.67	4737	4737	Rig repair	Rig repair
16-Jan-12	12:42	12:48	0.10	4737	4737	Survey & Conn.	Survey & Conn@4676- 8.0 Inc- 278.4 Azm
16-Jan-12	12:48	13:03	0.25	4737	4747	Sliding	Sliding - (WOB:15;GPM :425;TFO:360)
16-Jan-12	13:03	13:20	0.28	4747	4798	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	13:20	13:26	0.10	4798	4798	Survey & Conn.	Survey & Conn.
16-Jan-12	13:26	14:04	0.63	4798	4813	Sliding	Sliding - (WOB:15;GPM :425;TFO:360)
16-Jan-12	14:04	14:10	0.10	4813	4830	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	14:10	14:16	0.10	4830	4830	Survey & Conn.	Survey & Conn.
16-Jan-12	14:16	14:54	0.63	4830	4925	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	14:54	15:00	0.10	4925	4925	Survey & Conn.	Survey & Conn@4864- 10.6 Inc- 283.1 Azm
16-Jan-12	15:00	15:36	0.60	4925	5019	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	15:36	15:40	0.07	5019	5019	Survey & Conn.	Survey & Conn@4958- 10.0 Inc- 281.7 Azm
16-Jan-12	15:40	16:17	0.62	5019	5114	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	16:17	16:23	0.10	5114	5114	Survey & Conn.	Survey & Conn@5053- 8.7 Inc- 276.2 Azm
16-Jan-12	16:23	16:54	0.52	5114	5208	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	16:54	17:00	0.10	5208	5208	Survey & Conn.	Survey & Conn@5147- 8.3 Inc- 273.0 Azm
16-Jan-12	17:00	17:35	0.58	5208	5304	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	17:35	17:40	0.08	5304	5304	Survey & Conn.	Survey & Conn@5243- 7.6 Inc- 275.8 Azm

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Jan-12	17:40	18:16	0.60	5304	5396	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	18:16	18:26	0.17	5396	5396	Survey & Conn.	Survey & Conn@5335- 6.7 Inc- 269.3 Azm
16-Jan-12	18:26	18:56	0.50	5396	5491	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	18:56	19:03	0.12	5491	5491	Survey & Conn.	Survey & Conn@5430- 6.3 Inc- 267.1 Azm
16-Jan-12	19:03	19:40	0.62	5491	5585	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	19:40	19:46	0.10	5585	5585	Survey & Conn.	Survey & Conn@5524- 5.1 Inc- 264.0 Azm
16-Jan-12	19:46	20:24	0.63	5585	5680	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	20:24	20:34	0.17	5680	5680	Survey & Conn.	Survey & Conn@5619- 5.7 Inc- 264.3 Azm
16-Jan-12	20:34	22:28	1.90	5680	5963	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
16-Jan-12	22:28	22:38	0.17	5963	5963	Survey & Conn.	Survey & Conn@5902- 4.7 Inc- 259.2 Azm
16-Jan-12	22:38	24:00	1.37	5963	6182	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)



JOB NO.:	DDOK-120041	Report Time:	2400	4 of 4
Company:	Great Western	API JOB #	05-123-32968-00	
LOCATION:	Weld County	WORK ORDER#	MS#110823RR	
RIG NAME:	Cade 22	FIELD:	Wattenberg	
STATE:	Colorado	Township:		
COUNTY:	Weld County	SECTRANGE:		
WELL NAME:	Binder 2-4-20			

From Tuesday, January 17, 2012 at 0000 to Tuesday, January 17, 2012 at 2400

DRILLING SUMMARY				Drilling Parameters						
Start Depth	6182.00	Rotary Hours	11.78	WOB	15	Pick UP	120	Slack Off	95	SPM
End Depth	7535.00	Circulating Hours	1.52	RAB	100	SPP	1300	FlowRate	425 - 425	125
Total Drilled:	1353.00	Avg. Total ROP:	114.82	Mud Data						
Total Rotary Drilled:	1353.00	Avg. Rotary ROP:	114.82	Type	Water Base		PV	2	SOLID	5.8
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	9.1	GAS	0	YP	1	BHT°
Slide Hours:	0.00	Percent Rotary:	100.00	Viscosity	32	SAND	0	PH	8	Flow T°
Below Rotary Hrs.	17.00	Percent Slide:	.00	Chlorides	900	WL	15.8	Oil %		0

PERSONNEL						CASING			BHA
Lead Directional :		David Cathey				Size	Lb/ft	Set Depth	BHA # 2:7 7/8 Hughes PDC, 6 1/4" MTR 7/8_4.8 Stg, 6 3/8" FLT Sub, 6 13/16 NMPC, 6 15/16 UBHO, 6 1/4 NMDC, 6 1/2 NMFC, 18 Jts 4 1/2 Spiral, 4 Drill Pipe,
Second Directional :		Coty Jeane				4 1/2	11.6	0	
MWD Operator1		Chuck Johnson				8 5/8	24	690	
MWD Operator2						Signature:			
Directional Company:		MS Energy							
Geologist:									
Company Man:		Eric Geiger							
Incl. In:	4.7	Azm. In:	259.2	Incl. Out:	1.4	Azm. Out:	309		

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
17-Jan-12	00:00	00:20	0.33	6182	6246	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
17-Jan-12	00:20	00:27	0.12	6246	6246	Survey & Conn.	Survey & Conn@6185- 3.6 Inc- 250.2 Azm
17-Jan-12	00:27	02:36	2.15	6246	6529	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
17-Jan-12	02:36	02:42	0.10	6529	6529	Survey & Conn.	Survey & Conn@6468- 2.0 Inc- 235.0 Azm
17-Jan-12	02:42	05:19	2.62	6529	6812	Drilling	Drilling - (WOB:15;GPM :425;RPM:85)
17-Jan-12	05:19	05:34	0.25	6812	6812	Survey & Conn.	Survey & Conn.
17-Jan-12	05:34	08:22	2.80	6812	7095	Drilling	Drilling - (WOB:15;GPM :425;RPM:30)
17-Jan-12	08:22	08:30	0.13	7095	7095	Survey & Conn.	Survey & Conn @ 7034' - .3 Inc - 234.9
17-Jan-12	08:30	10:59	2.48	7095	7379	Drilling	Drilling - (WOB:15;GPM :425;RPM:55)
17-Jan-12	10:59	11:05	0.10	7379	7379	Survey & Conn.	Survey & Conn @ 7318' - 1.9 Inc - 302.3 Azm
17-Jan-12	11:05	12:29	1.40	7379	7535	Drilling	Drilling - (WOB:15;GPM :425;RPM:55)
17-Jan-12	12:29	12:35	0.10	7535	7535	Survey & Conn.	Survey & Conn @ 7474' - 1.4 Inc - 309.0 Azm
17-Jan-12	12:35	12:46	0.18	7535	7535	Circulating	Circulating
17-Jan-12	12:46	14:40	1.90	7535	7535	Short Trip	Short Trip
17-Jan-12	14:40	16:00	1.33	7535	7535	Circulating	Circulating
17-Jan-12	16:00	21:00	5.00	7535	7535	L/D DP	POOH L/D DP
17-Jan-12	21:00	22:00	1.00	7535	7535	Change BHA	Lay Down BHA

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
17-Jan-12	22:00	24:00	2.00	7535	7535	Standby	Stanby While Rig Crew Runs Wireline Loggs.

Well Information

BHA # 1



JOB NO.: DDOK-120041
Company: Great Western
LOCATION: Weld County
RIG NAME: Cade 22
STATE: Colorado
COUNTY: Weld County
WELL NAME: Binder 2-4-20

FIELD: Wattenberg
Township:
SECT. RANGE:
Lead DD: David Cathey
Co. Man: Eric Geiger
BHA TYPE: Steerable Assembly

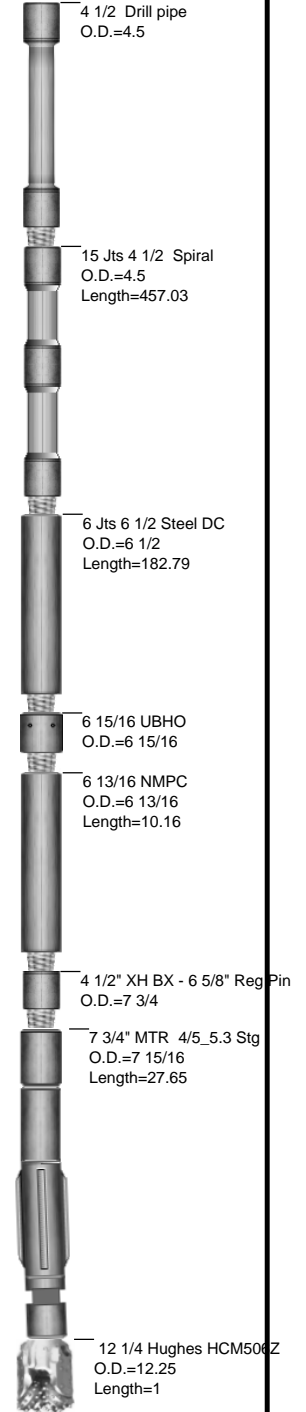
BHA Summary Information

TIME IN - OUT		Rotary Hours		2.22		Start Depth		133.00		RPM	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only		4.35 / 1.02		End Depth		530.00			
14-Jan-12 @ 11:00	14-Jan-12 @ 18:15	Slide Hours		1.12		Percent Rotary:		76.07		85 -85	425 -425
		Below Rotary Hrs.		7.25		Percent Slide:		23.93			
Total Drilled:		397.00		Avg. Total ROP:		119.10		Incl.		Azimuth	
Total Rotary Drilled:		302.00		Avg. Rotary ROP:		136.24		IN	OUT	IN	OUT
Total Drilled Sliding:		95.00		Avg. Slide ROP:		85.07		.9	11.3	342.38	276.94
SPP	800 -800	Weights	SO	10 -35	PU	10 -35	RAB	10 -35	Reason POOH		TD

Bit Data								MOTOR DATA						Mud Data					
BAKER		12 1/4 Hughes HCM506Z						Performance						Type	Water				
Type Bit				PDC				Model: 7754553			Pad OD			WT	8.3	GAS	0	Solids	0
TFA		0.777						MFG. Mpact			.25			Vis	22	SAND	0	T °	0
JETS			13	13	13	13	13	Bend °	1.83	Stator/Rotor		4/5		PV	0	PH	0	Chlor	0
			13	0	0	0	0	Bit to Bend	6.88	Motor Diff		200		YP	0	WL	0	Oil %	0
Bit Coding				IADC#				Rev/GAL	0.25								BHT°	0	
IR	OR	DL	Loc	BS	G	ODL		NB Stab	12		PUMPS		PUMP1		PUMP1				
								Rotor Jet	0		NAME		OFR						
												Model		FR1300					
Bit Drop:			229 PSI @ 425 GPM					Sensor Offsets				Type		Triplex					
Comments				Sensor	48		Sonic	0		Liner		6.00 .00							
				Gamma	0		DNsc	0		Stroke		12.00 .00							
				Restiv	0		GYRO	0		Efficiency		95.00 .00							

BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	12 1/4 Hughes HCM506Z	7010941	0	12.25	1.00	1.00	6 5/8 REGP
2	7 3/4" MTR 4/5_5.3 Stg	MSD77D116D		7 15/16	27.65	28.65	6 5/8 REGB
3	4 1/2" XH BX - 6 5/8" Reg Pin	SD107244	2 7/8	7 3/4	3.86	32.51	4 1/2 XHB
4	6 13/16 NMPC	SD38939	3 7/8	6 13/16	10.16	42.67	4 1/2 XHB
5	6 15/16 UBHO	SN6528	2 1/2	6 15/16	3.45	46.12	4 1/2 XHB
6	6 1/4 NMDC	SD39672	2 7/8	6 1/4	28.49	74.61	4 1/2 XHB
7	6 1/2 NMFC	SD44762	3 7/8	6 1/2	28.75	103.36	4 1/2 XHB
8	6 Jts 6 1/2 Steel DC	Rig	3 7/8	6 1/2	182.79	286.15	4 1/2 XHB
9	15 Jts 4 1/2 Spiral	HWDP-2.75-	2.75	4.5	457.03	743.18	4 1/2 XH
10	4 1/2 Drill pipe	DP-3.64-S-135	3.64	4.5	0.00	743.18	4 1/2 XH
11					0.00	743.18	



Well Information

BHA # 2



JOB NO.: DDOK-120041
Company: Great Western
LOCATION: Weld County
RIG NAME: Cade 22
STATE: Colorado
COUNTY: Weld County
WELL NAME: Binder 2-4-20

FIELD: Wattenberg
Township:
SECT. RANGE:
Lead DD: David Cathey
Co. Man: Eric Geiger
BHA TYPE: Steerable Assembly

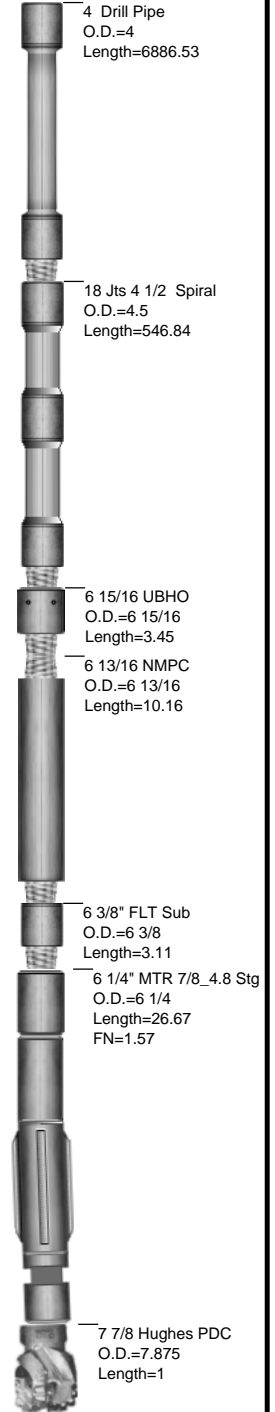
BHA Summary Information

TIME IN - OUT			Rotary Hours		37.63		Start Depth		530.00		RPM Range	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only	45.83 / 2.08		End Depth		7535.00					
15-Jan-12 @ 07:34	17-Jan-12 @ 22:00	Slide Hours		6.12		Percent Rotary:		92.76		30 -85	425 -425	
		Below Rotary Hrs.		57.43		Percent Slide:		7.24				
Total Drilled:			7005.00		Avg. Total ROP:		160.11		Incl.		Azimuth	
Total Rotary Drilled:			6498.00		Avg. Rotary ROP:		172.67		IN	OUT	IN OUT	
Total Drilled Sliding:			507.00		Avg. Slide ROP:		82.89		11.3	1.4	276.94 309.00	
SPP	800 -1300	Weights	SO	55 -95	PU	55 -120	RAB	55 -100	Reason POOH			TD

Bit Data				MOTOR DATA				Mud Data			
BAKER 7 7/8 Hughes PDC				Performance				Type	Water Base		
Type Bit TFA 0.862 PDC				Model: 625 4878 Pad OD .25				WT	9.1	GAS	0 Solids 5.8
JETS 15 15 15 15 15 0 0 0 0 0				MFG. MPact .25				Vis	32	SAND	0 T ° 0
Bit Coding IADC#				Bend ° 1.83 Stator/Rotor 7/8				PV	2	PH	8 Chlor 900
IR OR DL Loc BS G ODL				Bit to Bend 5.67 Motor Diff 250				YP	1	WL	15.8 Oil % 0
1 1 WT A X 0 NO				Rev/GAL 0.34				BHT° 0			
Bit Drop: 204 PSI @ 425 GPM				NB Stab 0				PUMPS			
Comments				Rotor Jet 0				PUMP1			
				Sensor Offsets				NAME			
				Sensor 58 Sonic 0				Model			
				Gamma 0 DNSC 0				Type			
				Restiv 0 GYRO 0				Liner			
								Stroke			
								Efficiency			

BHA Detail

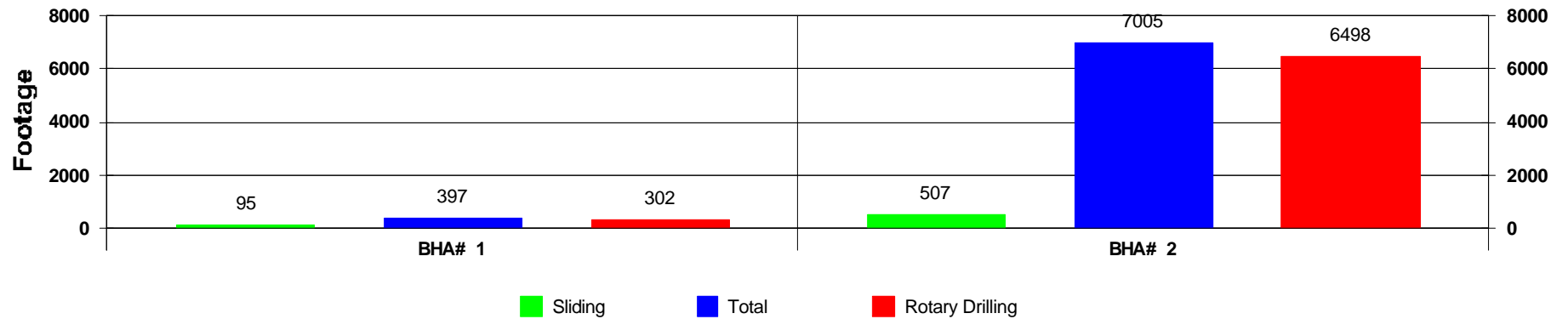
#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	7 7/8 Hughes PDC	7134007		7.875	1.00	1.00	4 1/2 REGP
2	6 1/4" MTR 7/8_4.8 Stg	MSD62D277SR		6 1/4	26.67	27.67	4 1/2 XHB
3	6 3/8" FLT Sub	SD105358	2 7/8	6 3/8	3.11	30.78	4 1/2 XHB
4	6 13/16 NMPC	SD38939	3 7/8	6 13/16	10.16	40.94	4 1/2 XHP
5	6 15/16 UBHO	SN6528	2 1/2	6 15/16	3.45	44.39	4 1/2 XHB
6	6 1/4 NMDC	SD39672	2 7/8	6 1/4	28.49	72.88	4 1/2 XHB
7	6 1/2 NMFC	SD44762	3 7/8	6 1/2	28.75	101.63	4 1/2 XHB
8	18 Jts 4 1/2 Spiral	HWDP-2.75-	2.75	4.5	546.84	648.47	4 1/2 XH
9	4 Drill Pipe	DP-3.476-E	3.476	4	6,886.53	7535.00	4 1/2 XH



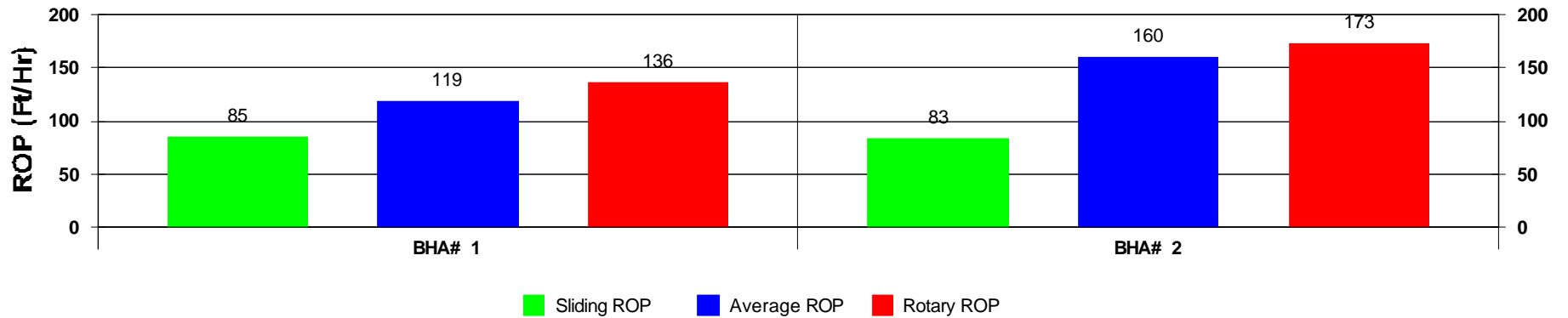


JOB NO.:	DDOK-120041	FIELD:	Wattenberg	
Company:	Great Western	Township:		
LOCATION:	Weld County	SECT/RANGE:		
RIG NAME:	Cade 22	COMMENT		
STATE:	Colorado			
COUNTY:	Weld County			
WELL NAME:	Binder 2-4-20			

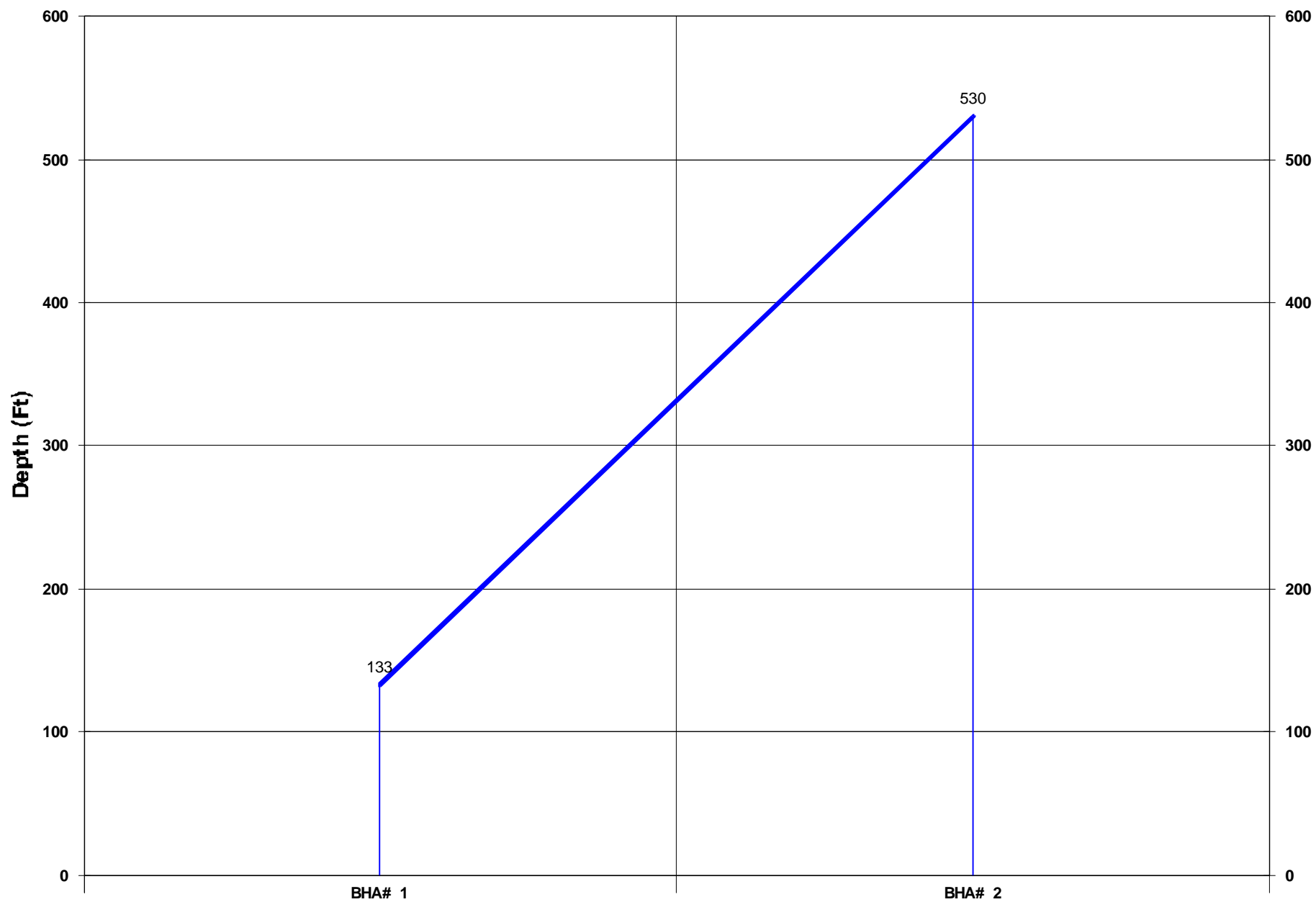
Footage Drilled with BHA



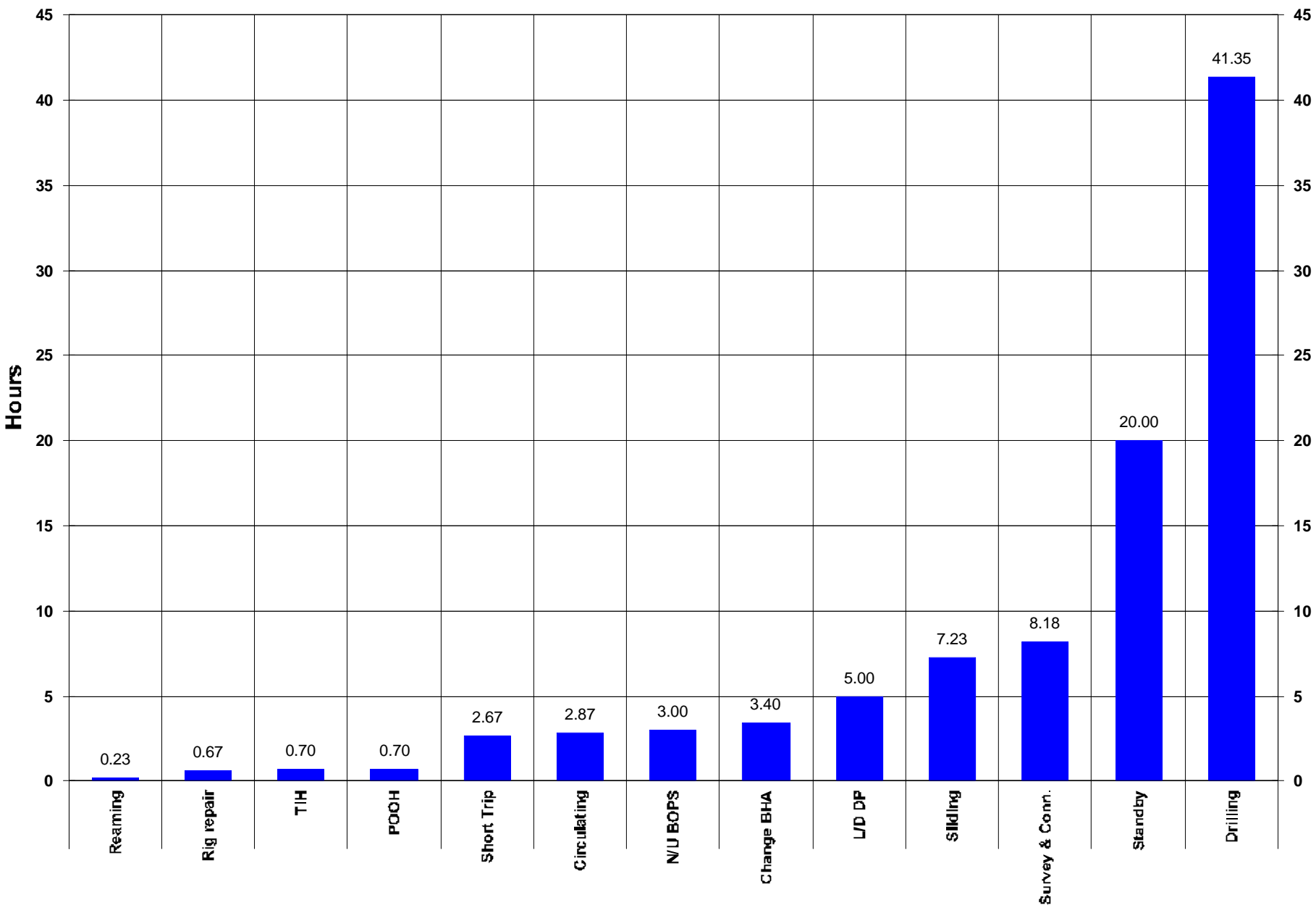
ROP vs BHA



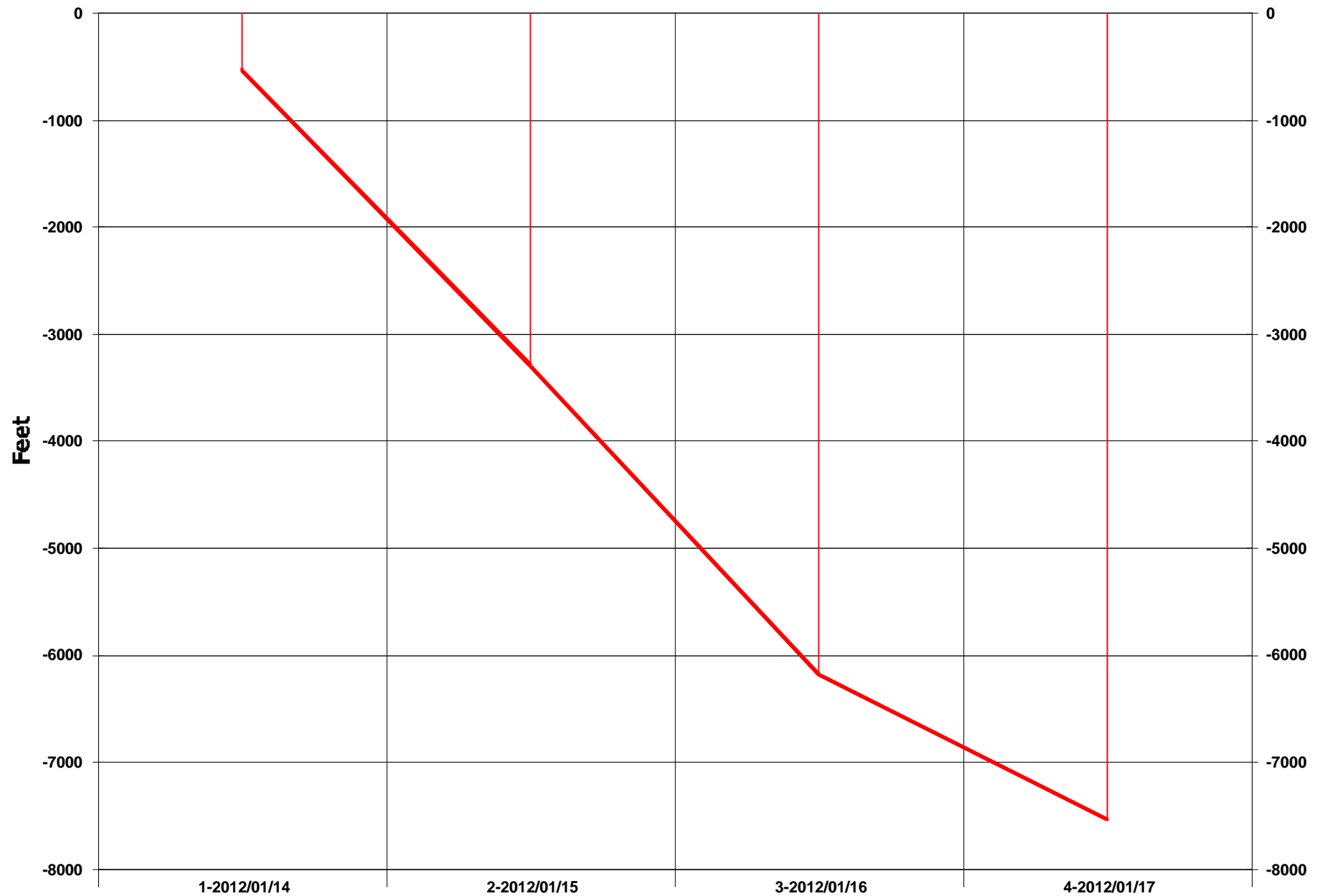
Depth vs BHA



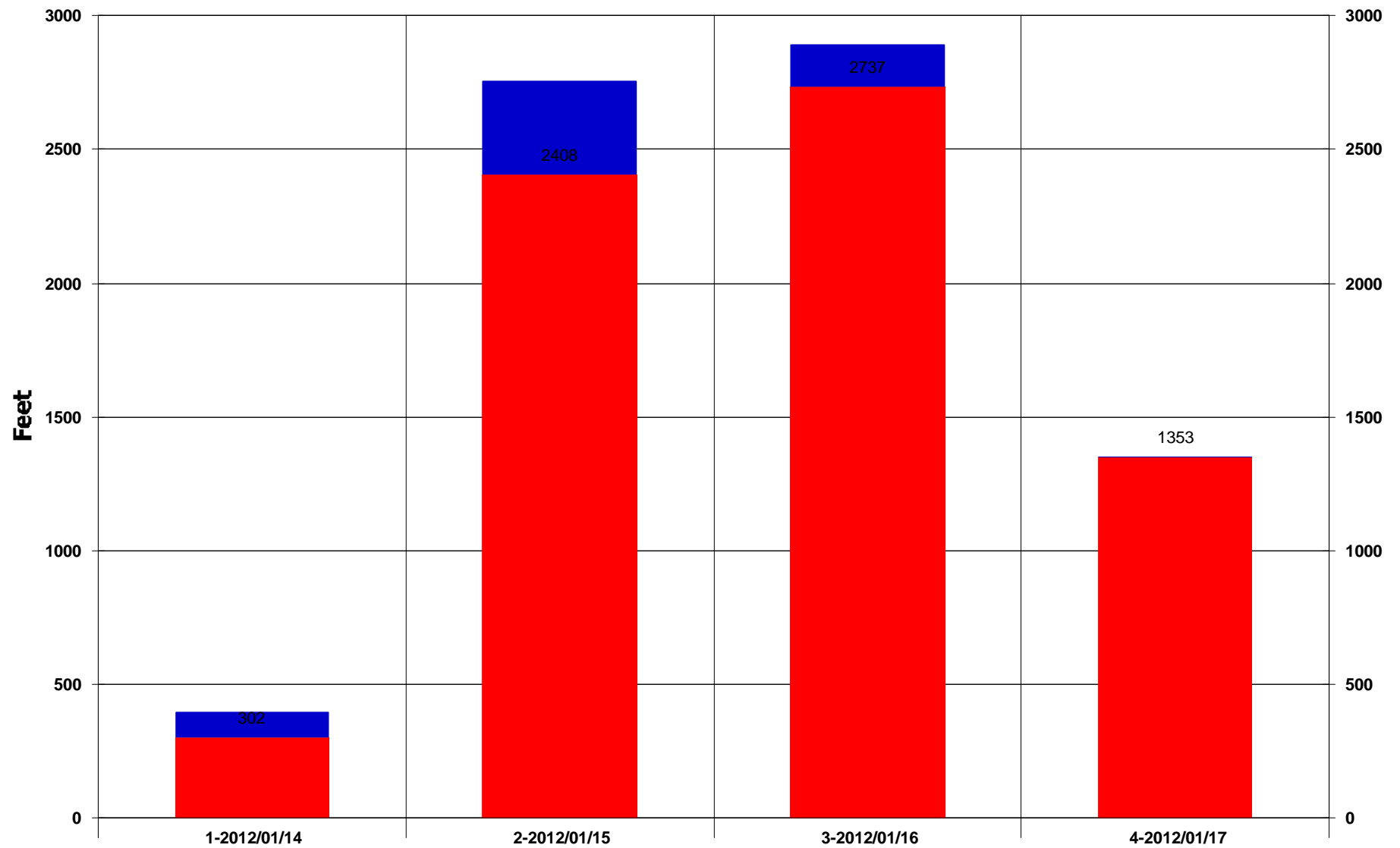
Activity Histogram



Measured Depth vs Days

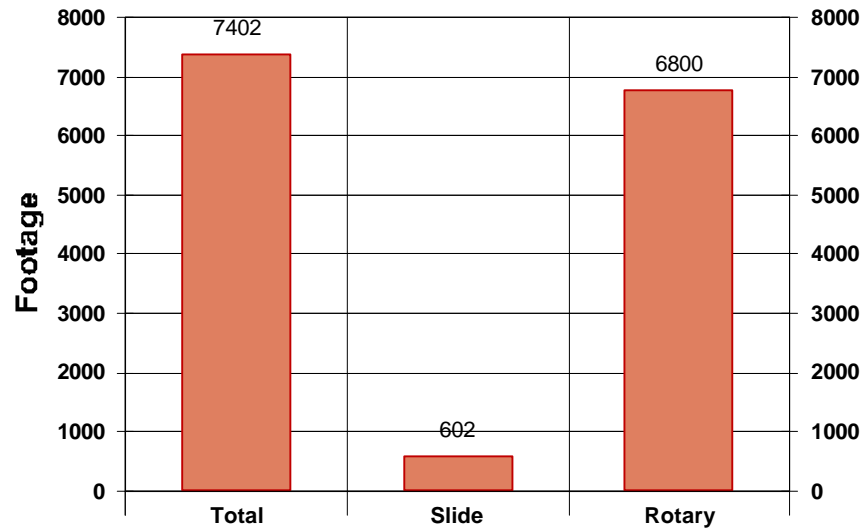


Daily Footage

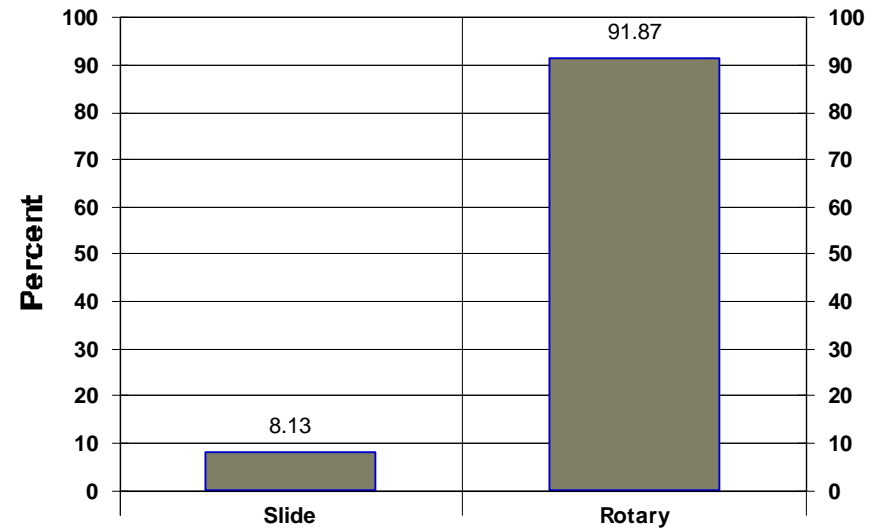


Rotary Drilling Sliding

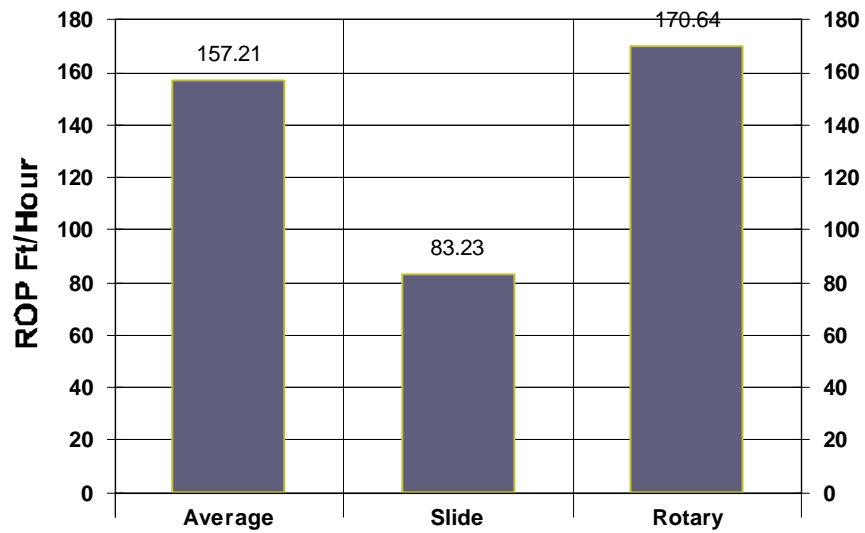
Footage Drilled Totals



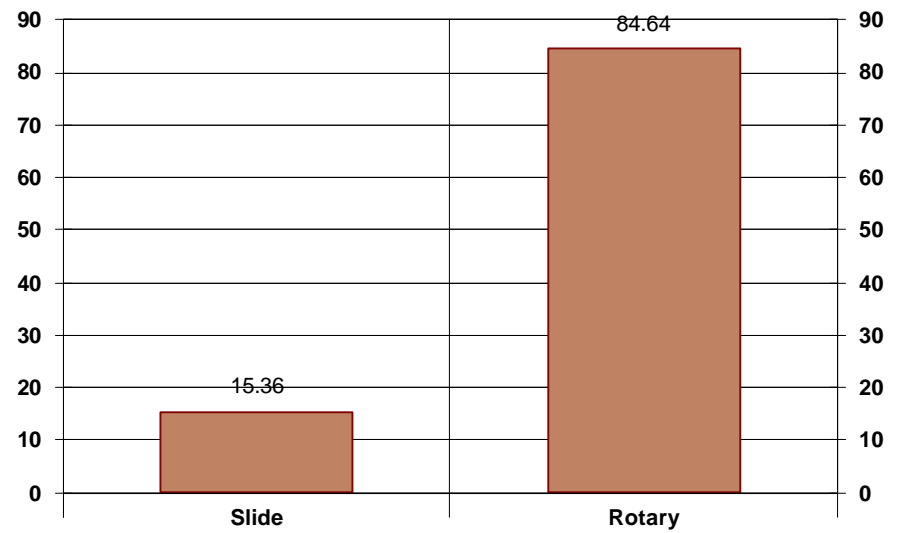
Footage Percent



Rate of Penetration Totals



Time Percent



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