



B.P.

La Plata County, CO NAD83

SEC 9-T32N-R6W

Tubbs 32-6-9 A 2

OH

Design: OH

Standard Survey Report

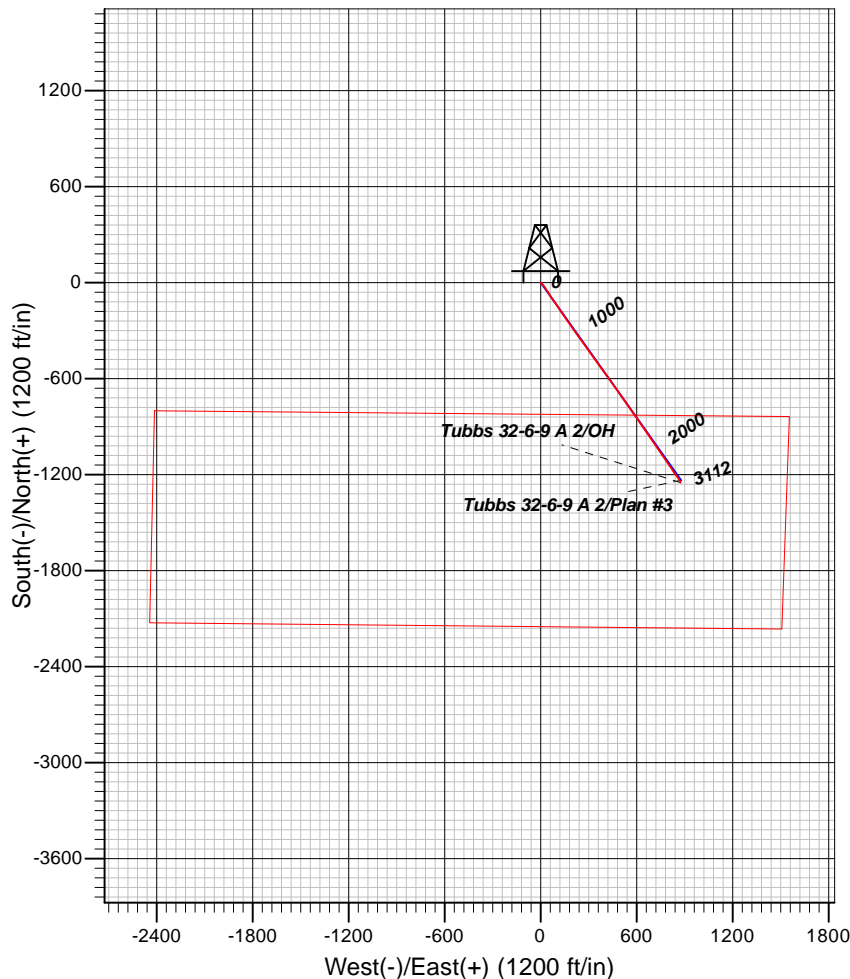
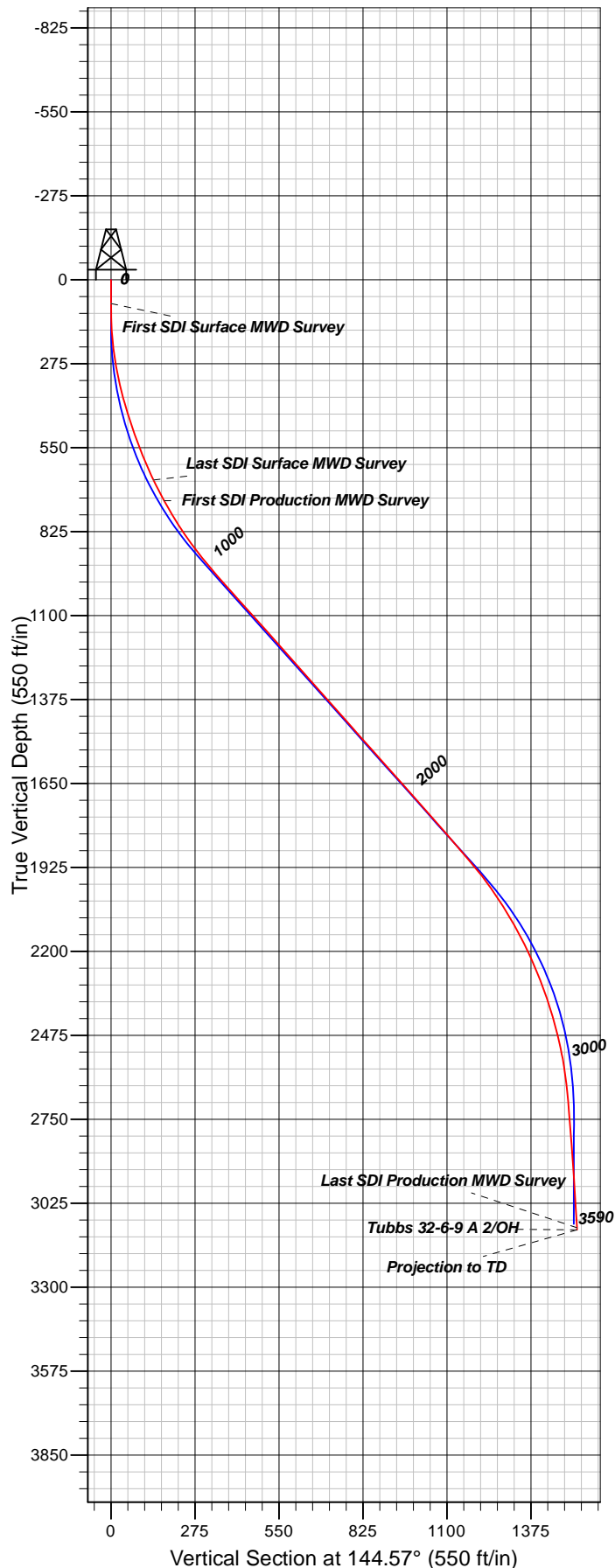
09 June, 2015



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Well Details: Tubbs 32-6-9 A 2

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1139408.90	2414944.99	37.0322891	-107.5043066	

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Tubbs 32-6-9 A 2, Grid North
 Vertical (TVD) Reference: GL 6347.92' & RKB 11' @ 6358.92ft (Aztec 507)
 Section (VS) Reference: Slot - (0.00N, 0.00E)
 Measured Depth Reference: GL 6347.92' & RKB 11' @ 6358.92ft (Aztec 507)
 Calculation Method: Minimum Curvature

PROJECT DETAILS: La Plata County, CO NAD83

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Southern Zone

System Datum: Mean Sea Level

Plan: OH

10:55, June 09 2015
 Created By: Janie Collins



Survey Report



Company:	B.P.	Local Co-ordinate Reference:	Well Tubbs 32-6-9 A 2
Project:	La Plata County, CO NAD83	TVD Reference:	GL 6347.92' & RKB 11' @ 6358.91usft (Aztec 507)
Site:	SEC 9-T32N-R6W	MD Reference:	GL 6347.92' & RKB 11' @ 6358.91usft (Aztec 507)
Well:	Tubbs 32-6-9 A 2	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Project	La Plata County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Southern Zone		

Site		SEC 9-T32N-R6W			
Site Position:		Northing:	1,139,408.81 usft	Latitude:	37.0322889
From:	Lat/Long	Easting:	2,414,944.98 usft	Longitude:	-107.5043067
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.23 °

Well	Tubbs 32-6-9 A 2					
Well Position	+N/-S	0.00 usft	Northing:	1,139,408.90 usft	Latitude:	37.0322891
	+E/-W	0.00 usft	Easting:	2,414,944.99 usft	Longitude:	-107.5043067
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,347.91 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/29/2015	9.33	63.63	50,316

Design	OH				
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	144.57	

Survey Program	Date	6/9/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
78.00	678.00	Survey #1 - Surface MWD Survey (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
754.00	3,590.00	Survey #2 - Production MWD Survey (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

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	
78.00	0.32	135.68	78.00	-0.16	0.15	0.22	0.41	0.41	0.00	
First SDI Surface MWD Survey										
107.00	1.08	128.32	107.00	-0.38	0.42	0.56	2.63	2.62	-25.38	
136.00	2.08	135.65	135.99	-0.93	1.01	1.34	3.51	3.45	25.28	
166.00	3.43	129.57	165.95	-1.89	2.08	2.74	4.60	4.50	-20.27	
195.00	5.11	133.33	194.87	-3.33	3.69	4.85	5.87	5.79	12.97	
225.00	6.95	133.79	224.70	-5.50	5.97	7.94	6.14	6.13	1.53	



Company:	B.P.	Local Co-ordinate Reference:	Well Tubbs 32-6-9 A 2
Project:	La Plata County, CO NAD83	TVD Reference:	GL 6347.92' & RKB 11' @ 6358.91usft (Aztec 507)
Site:	SEC 9-T32N-R6W	MD Reference:	GL 6347.92' & RKB 11' @ 6358.91usft (Aztec 507)
Well:	Tubbs 32-6-9 A 2	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

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)	
256.00	8.92	135.97	255.40	-8.53	8.99	12.16	6.43	6.35	7.03	
285.00	10.26	137.82	284.00	-12.06	12.29	16.95	4.74	4.62	6.38	
316.00	11.54	141.46	314.44	-16.53	16.08	22.79	4.69	4.13	11.74	
347.00	13.01	144.16	344.73	-21.78	20.05	29.37	5.09	4.74	8.71	
377.00	14.42	144.92	373.87	-27.58	24.18	36.49	4.74	4.70	2.53	
408.00	15.89	144.82	403.79	-34.21	28.84	44.59	4.74	4.74	-0.32	
439.00	17.23	146.27	433.51	-41.49	33.83	53.42	4.52	4.32	4.68	
469.00	18.11	147.23	462.09	-49.11	38.83	62.52	3.09	2.93	3.20	
500.00	19.26	148.38	491.46	-57.52	44.11	72.44	3.90	3.71	3.71	
530.00	20.29	148.27	519.69	-66.15	49.44	82.57	3.44	3.43	-0.37	
561.00	21.02	147.94	548.70	-75.44	55.22	93.48	2.38	2.35	-1.06	
591.00	21.83	146.84	576.62	-84.67	61.13	104.42	3.01	2.70	-3.67	
622.00	22.95	145.47	605.28	-94.47	67.71	116.23	3.99	3.61	-4.42	
653.00	24.36	144.34	633.68	-104.65	74.86	128.66	4.78	4.55	-3.65	
678.00	25.64	144.05	656.34	-113.21	81.04	139.23	5.14	5.12	-1.16	
Last SDI Surface MWD Survey										
754.00	29.24	146.11	723.78	-141.94	101.05	174.24	4.90	4.74	2.71	
First SDI Production MWD Survey										
785.00	30.10	144.86	750.71	-154.58	109.75	189.58	3.42	2.77	-4.03	
816.00	30.99	146.95	777.41	-167.63	118.58	205.33	4.47	2.87	6.74	
846.00	32.45	146.84	802.93	-180.84	127.19	221.09	4.87	4.87	-0.37	
877.00	34.07	144.71	828.85	-194.90	136.76	238.08	6.44	5.23	-6.87	
908.00	35.31	145.75	854.34	-209.39	146.82	255.73	4.43	4.00	3.35	
939.00	37.02	144.77	879.37	-224.42	157.24	274.02	5.82	5.52	-3.16	
969.00	38.17	145.01	903.14	-239.39	167.77	292.32	3.86	3.83	0.80	
1,001.00	39.87	145.08	928.00	-255.90	179.31	312.46	5.31	5.31	0.22	
1,032.00	40.83	143.86	951.62	-272.23	190.98	332.53	4.01	3.10	-3.94	
1,064.00	40.68	143.91	975.86	-289.11	203.29	353.42	0.48	-0.47	0.16	
1,095.00	41.40	144.79	999.24	-305.65	215.15	373.78	2.98	2.32	2.84	
1,126.00	41.78	145.08	1,022.43	-322.49	226.97	394.35	1.37	1.23	0.94	
1,157.00	41.34	145.44	1,045.63	-339.39	238.69	414.92	1.61	-1.42	1.16	
1,189.00	41.87	144.93	1,069.55	-356.84	250.82	436.16	1.97	1.66	-1.59	
1,220.00	42.57	144.56	1,092.51	-373.85	262.85	456.99	2.40	2.26	-1.19	
1,251.00	42.30	144.07	1,115.39	-390.84	275.05	477.91	1.38	-0.87	-1.58	
1,283.00	42.11	144.87	1,139.09	-408.33	287.54	499.41	1.78	-0.59	2.50	
1,315.00	42.10	143.96	1,162.84	-425.78	300.03	520.86	1.91	-0.03	-2.84	
1,347.00	41.86	143.88	1,186.62	-443.08	312.63	542.27	0.77	-0.75	-0.25	
1,378.00	41.34	144.76	1,209.81	-459.80	324.64	562.85	2.52	-1.68	2.84	
1,409.00	41.22	144.24	1,233.10	-476.45	336.51	583.30	1.17	-0.39	-1.68	
1,441.00	41.03	144.07	1,257.21	-493.51	348.84	604.34	0.69	-0.59	-0.53	
1,472.00	40.83	144.02	1,280.63	-509.95	360.76	624.65	0.65	-0.65	-0.16	
1,504.00	41.43	143.91	1,304.73	-526.97	373.14	645.70	1.89	1.88	-0.34	



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Site:	SEC 9-T32N-R6W	MD Reference:	GL 6347.92' & RKB 11' @ 6358.91usft (Aztec 507)
Well:	Tubbs 32-6-9 A 2	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

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)
1,536.00	42.06	144.03	1,328.61	-544.20	385.68	667.01	1.98	1.97	0.38
1,568.00	41.57	144.10	1,352.46	-561.47	398.20	688.34	1.54	-1.53	0.22
1,600.00	41.19	144.23	1,376.47	-578.62	410.58	709.49	1.22	-1.19	0.41
1,630.00	41.42	144.28	1,399.00	-594.69	422.15	729.29	0.77	0.77	0.17
1,662.00	41.93	143.40	1,422.91	-611.87	434.71	750.57	2.43	1.59	-2.75
1,693.00	41.58	144.17	1,446.03	-628.53	446.90	771.21	2.00	-1.13	2.48
1,724.00	41.40	143.06	1,469.25	-645.06	459.08	791.74	2.44	-0.58	-3.58
1,756.00	41.71	144.73	1,493.20	-662.21	471.59	812.97	3.59	0.97	5.22
1,787.00	41.84	145.05	1,516.32	-679.10	483.47	833.62	0.81	0.42	1.03
1,818.00	41.60	145.63	1,539.46	-696.07	495.20	854.25	1.47	-0.77	1.87
1,849.00	41.50	144.95	1,562.66	-712.97	506.91	874.81	1.49	-0.32	-2.19
1,881.00	41.94	145.53	1,586.54	-730.47	519.05	896.10	1.83	1.38	1.81
1,912.00	42.09	144.84	1,609.57	-747.50	530.90	916.85	1.57	0.48	-2.23
1,944.00	41.80	145.72	1,633.38	-765.08	543.08	938.24	2.05	-0.91	2.75
1,975.00	41.15	145.46	1,656.60	-782.02	554.68	958.76	2.17	-2.10	-0.84
2,007.00	41.53	145.10	1,680.63	-799.40	566.72	979.90	1.40	1.19	-1.13
2,038.00	42.00	144.52	1,703.75	-816.27	578.62	1,000.55	1.96	1.52	-1.87
2,069.00	41.65	144.21	1,726.85	-833.07	590.66	1,021.22	1.31	-1.13	-1.00
2,101.00	41.03	144.26	1,750.88	-850.22	603.02	1,042.36	1.94	-1.94	0.16
2,132.00	40.99	144.72	1,774.27	-866.78	614.83	1,062.70	0.98	-0.13	1.48
2,162.00	40.91	144.76	1,796.93	-882.84	626.18	1,082.36	0.28	-0.27	0.13
2,196.00	40.60	145.48	1,822.68	-901.04	638.88	1,104.56	1.66	-0.91	2.12
2,228.00	40.67	145.64	1,846.97	-918.23	650.66	1,125.39	0.39	0.22	0.50
2,260.00	40.83	145.65	1,871.21	-935.48	662.45	1,146.28	0.50	0.50	0.03
2,289.00	40.67	146.40	1,893.18	-951.17	673.03	1,165.20	1.78	-0.55	2.59
2,320.00	40.05	145.56	1,916.80	-967.81	684.26	1,185.27	2.66	-2.00	-2.71
2,352.00	38.63	146.03	1,941.55	-984.59	695.66	1,205.55	4.53	-4.44	1.47
2,383.00	37.01	145.77	1,966.04	-1,000.33	706.32	1,224.55	5.25	-5.23	-0.84
2,415.00	35.43	146.32	1,991.85	-1,016.01	716.88	1,243.45	5.04	-4.94	1.72
2,446.00	33.70	145.00	2,017.38	-1,030.53	726.80	1,261.04	6.08	-5.58	-4.26
2,478.00	32.25	145.76	2,044.22	-1,044.87	736.70	1,278.45	4.71	-4.53	2.38
2,509.00	31.15	145.12	2,070.60	-1,058.28	745.93	1,294.74	3.71	-3.55	-2.06
2,540.00	30.25	144.89	2,097.25	-1,071.25	755.01	1,310.56	2.93	-2.90	-0.74
2,572.00	29.28	144.14	2,125.03	-1,084.18	764.23	1,326.45	3.25	-3.03	-2.34
2,603.00	27.81	145.92	2,152.26	-1,096.32	772.72	1,341.26	5.48	-4.74	5.74
2,634.00	25.92	146.04	2,179.92	-1,107.93	780.56	1,355.26	6.10	-6.10	0.39
2,665.00	24.76	145.74	2,207.93	-1,118.91	788.00	1,368.53	3.76	-3.74	-0.97
2,697.00	23.74	145.84	2,237.11	-1,129.78	795.39	1,381.67	3.19	-3.19	0.31
2,729.00	22.48	145.55	2,266.54	-1,140.16	802.47	1,394.23	3.95	-3.94	-0.91
2,760.00	21.30	145.06	2,295.30	-1,149.66	809.05	1,405.78	3.85	-3.81	-1.58
2,792.00	20.12	146.42	2,325.24	-1,159.01	815.42	1,417.09	3.98	-3.69	4.25
2,823.00	18.61	144.77	2,354.48	-1,167.49	821.22	1,427.37	5.18	-4.87	-5.32



Company:	B.P.	Local Co-ordinate Reference:	Well Tubbs 32-6-9 A 2
Project:	La Plata County, CO NAD83	TVD Reference:	GL 6347.92' & RKB 11' @ 6358.91usft (Aztec 507)
Site:	SEC 9-T32N-R6W	MD Reference:	GL 6347.92' & RKB 11' @ 6358.91usft (Aztec 507)
Well:	Tubbs 32-6-9 A 2	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

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)	
2,854.00	17.52	144.85	2,383.95	-1,175.35	826.76	1,436.98	3.52	-3.52	0.26	
2,885.00	16.36	146.41	2,413.61	-1,182.80	831.86	1,446.01	4.02	-3.74	5.03	
2,917.00	15.01	146.43	2,444.42	-1,190.01	836.65	1,454.66	4.22	-4.22	0.06	
2,948.00	13.99	144.63	2,474.43	-1,196.41	841.04	1,462.42	3.60	-3.29	-5.81	
2,980.00	12.55	142.74	2,505.57	-1,202.33	845.38	1,469.76	4.70	-4.50	-5.91	
3,011.00	11.07	145.19	2,535.92	-1,207.45	849.12	1,476.11	5.04	-4.77	7.90	
3,042.00	9.66	143.21	2,566.41	-1,211.98	852.38	1,481.68	4.69	-4.55	-6.39	
3,074.00	8.13	145.10	2,598.02	-1,215.99	855.28	1,486.63	4.87	-4.78	5.91	
3,105.00	7.19	146.50	2,628.75	-1,219.40	857.61	1,490.76	3.09	-3.03	4.52	
3,137.00	5.46	148.85	2,660.55	-1,222.38	859.50	1,494.28	5.47	-5.41	7.34	
3,169.00	4.80	139.84	2,692.42	-1,224.70	861.15	1,497.13	3.25	-2.06	-28.16	
3,200.00	4.47	139.47	2,723.32	-1,226.61	862.77	1,499.63	1.07	-1.06	-1.19	
3,232.00	4.20	149.81	2,755.23	-1,228.57	864.17	1,502.04	2.58	-0.84	32.31	
3,263.00	4.46	153.35	2,786.14	-1,230.63	865.28	1,504.36	1.20	0.84	11.42	
3,294.00	4.96	152.05	2,817.04	-1,232.89	866.45	1,506.88	1.65	1.61	-4.19	
3,326.00	4.19	156.97	2,848.93	-1,235.19	867.56	1,509.39	2.70	-2.41	15.38	
3,358.00	4.05	146.13	2,880.85	-1,237.20	868.64	1,511.66	2.47	-0.44	-33.88	
3,389.00	4.12	153.15	2,911.77	-1,239.11	869.76	1,513.86	1.63	0.23	22.65	
3,420.00	3.76	155.06	2,942.70	-1,241.02	870.69	1,515.96	1.24	-1.16	6.16	
3,451.00	3.83	155.33	2,973.63	-1,242.88	871.55	1,517.98	0.23	0.23	0.87	
3,482.00	3.37	145.72	3,004.57	-1,244.58	872.49	1,519.90	2.44	-1.48	-31.00	
3,513.00	3.56	156.97	3,035.52	-1,246.22	873.38	1,521.76	2.27	0.61	36.29	
3,583.00	3.29	158.57	3,105.39	-1,250.09	874.97	1,525.83	0.41	-0.39	2.29	
Last SDI Production MWD Survey										
3,590.00	3.29	158.57	3,112.38	-1,250.46	875.11	1,526.22	0.00	0.00	0.00	
Projection to TD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
78.00	78.00	-0.16	0.15	First SDI Surface MWD Survey	
678.00	656.34	-113.21	81.04	Last SDI Surface MWD Survey	
754.00	723.78	-141.94	101.05	First SDI Production MWD Survey	
3,583.00	3,105.39	-1,250.09	874.97	Last SDI Production MWD Survey	
3,590.00	3,112.38	-1,250.46	875.11	Projection to TD	

Checked By: _____ Approved By: _____ Date: _____



JOB NO.:	330515DEF284836	Report Time:	2400	1 of 6
COMPANY:	B.P.	API JOB #	05 067 09928	
LOCATION:	Sec 9 T32N R06W	WORK ORDER#	284836	
RIG NAME:	Aztec 507	FIELD:	San Juan Basin	
STATE:	Colorado	Township:	32N	
COUNTY:	La Plata	SECT\	9	6W
WELL NAME:	Tubbs 32-6-9 A2			

From Thursday, May 28, 2015 at 0000 to Thursday, May 28, 2015 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°	
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 :	Mark Houston			Size	Lb/ft	Set Depth	N/A				
Second Directional :	Doug Tanner			Signature:							
MWD Operator1	Kyle Temple										
MWD Operator2	Mike Miller										
Directional Company:	SDI										
Geologist:											
Company Man:	Mike Colbert										
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0				
GENERAL COMMENT											
Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT				
28-May-15	00:00	24:00	24.00	0	0	Other	Rig Move				



JOB NO.:	330515DEF284836	Report Time:	2400	2 of 6
COMPANY:	B.P.	API JOB #	05 067 09928	
LOCATION:	Sec 9 T32N R06W	WORK ORDER#	284836	
RIG NAME:	Aztec 507	FIELD:	San Juan Basin	
STATE:	Colorado	Township:	32N	
COUNTY:	La Plata	SECT\	9	6W
WELL NAME:	Tubbs 32-6-9 A2			

From Friday, May 29, 2015 at 0000 to Friday, May 29, 2015 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	104.00	Rotary Hours	4.33	WOB	28	Pick UP	44	Slack Off	36	SPM	
End Depth	557.00	Circulating Hours	0.58	RAB	40	SPP	1150	FlowRate	0 - 585	210	
Total Drilled:	453.00	Avg. Total ROP:	59.09	Mud Data							
Total Rotary Drilled:	228.00	Avg. Rotary ROP:	52.62	Type	Water Based			PV	0	SOLID	0
Total Drilled Sliding:	225.00	Avg. Slide ROP:	67.50	Weight	9	GAS	0	YP	0	BHT°	0
Slide Hours:	3.33	Percent Rotary:	50.33	Viscosity	48	SAND	0	PH	9	Flow T°	0
Below Rotary Hrs.	24.00	Percent Slide:	49.67	Chlorides	0	WL	0			Oil %	0
PERSONNEL				cASING					BHA		
Lead Directional :	Mark Houston			Size	Lb/ft	Set Depth		BHA # 2:12 1/4 JZ, B-S, 6 1/2 FBH 1.5 7:8 3.0 W/12" STB, 12" Stabilizer, 6 1/2 NMPC, 6 1/2 HOS, 6 1/2 NMDC, 6 1/2 GAP SUB, 6 1/2 NMDC,			
Second Directional :	Doug Tanner			Signature:							
MWD Operator1	Kyle Temple										
MWD Operator2	Mike Miller										
Directional Company:	SDI										
Geologist:											
Company Man:	Mike Colbert										
Incl. In:	0	Azm. In:	0	Incl. Out:	18.11	Azm. Out:	146				

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
29-May-15	00:00	06:00	6.00	0	0	Other	Rig up
29-May-15	06:00	12:00	6.00	0	0	Other	Other change liners in pumps to 6"
29-May-15	12:00	13:00	1.00	0	0	Change BHA	Change BHA P/U BHA #1 straight hole motor
29-May-15	13:00	14:40	1.67	104	104	Drilling	Drilled straight F/4' T/104'
29-May-15	14:40	15:00	0.33	104	104	POOH	POOH
29-May-15	15:00	16:15	1.25	104	104	Change BHA	Change BHA
29-May-15	16:15	16:23	0.13	104	106	Drilling	Drilling - (WOB:10;GPM :0;RPM:0)
29-May-15	16:23	16:47	0.40	106	122	Sliding	Sliding - (WOB:10;GPM :446;RPM:50)
29-May-15	16:47	16:55	0.13	122	135	Drilling	Drilling - (WOB:10;GPM :446;RPM:50)
29-May-15	16:55	17:00	0.08	135	135	Survey & Conn.	Survey & Conn.@107' Inc 1.08° Azm 127.09°
29-May-15	17:00	17:15	0.25	135	151	Sliding	Sliding - (WOB:10;GPM :446;TFO:140M)
29-May-15	17:15	17:20	0.08	151	164	Drilling	Drilling - (WOB:10;GPM :446;RPM:50)
29-May-15	17:20	17:25	0.08	164	164	Survey & Conn.	Survey & Conn.@136' Inc 2.08° Azm 134.42°
29-May-15	17:25	17:35	0.17	164	180	Sliding	Sliding - (WOB:14;GPM :558;TFO:140M))
29-May-15	17:35	17:40	0.08	180	193	Drilling	Drilling - (WOB:14;GPM :446;RPM:50)
29-May-15	17:40	17:45	0.08	193	193	Survey & Conn.	Survey & Conn.@166' Inc 3.43° Azm 128.34°
29-May-15	17:45	18:20	0.58	193	193	Circulating	Replace hydraulic cylinder on Iron Roughneck
29-May-15	18:20	18:35	0.25	193	213	Sliding	Sliding - (WOB:18;GPM :558;TFO:163M))
29-May-15	18:35	18:45	0.17	213	223	Drilling	Drilling - (WOB:18;GPM :446;RPM:50)
29-May-15	18:45	18:50	0.08	223	223	Survey & Conn.	Survey & Conn.@195' Inc 5.11° Azm 132.1°
29-May-15	18:50	19:08	0.30	223	243	Sliding	Sliding - (WOB:20;GPM :558;TFO:163M))

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
29-May-15	19:08	19:15	0.12	243	252	Drilling	Drilling - (WOB:18;GPM :558;RPM:50)
29-May-15	19:15	19:20	0.08	252	252	Survey & Conn.	Survey & Conn.@225' Inc 6.95° Azm 132.47°
29-May-15	19:20	19:35	0.25	252	268	Sliding	Sliding - (WOB:20;GPM :558;TFO:163M))
29-May-15	19:35	19:47	0.20	268	282	Drilling	Drilling - (WOB:20;GPM :558;RPM:50)
29-May-15	19:47	19:52	0.08	282	282	Survey & Conn.	Survey & Conn.@256' Inc 8.92° Azm 134.74°
29-May-15	19:52	20:10	0.30	282	298	Sliding	Sliding - (WOB:20;GPM :558;TFO:30R))
29-May-15	20:10	20:20	0.17	298	312	Drilling	Drilling - (WOB:20;GPM :558;RPM:50)
29-May-15	20:20	20:25	0.08	312	312	Survey & Conn.	Survey & Conn.@285' Inc 10.26° Azm 136.59°
29-May-15	20:25	20:43	0.30	312	328	Sliding	Sliding - (WOB:20;GPM :558;TFO:50R)
29-May-15	20:43	20:55	0.20	328	342	Drilling	Drilling - (WOB:22;GPM :558;RPM:50)
29-May-15	20:55	21:00	0.08	342	342	Survey & Conn.	Survey & Conn.@316' Inc 11.54° Azm 140.23°
29-May-15	21:00	21:07	0.12	342	357	Sliding	Sliding - (WOB:22;GPM :585;TFO:50R))
29-May-15	21:07	21:20	0.22	357	373	Drilling	Drilling - (WOB:22;GPM :585;RPM:50)
29-May-15	21:20	21:25	0.08	373	373	Survey & Conn.	Survey & Conn.@347' Inc 13.01° Azm 142.93°
29-May-15	21:25	21:35	0.17	373	388	Sliding	Sliding - (WOB:24;GPM :585;TFO:20R))
29-May-15	21:35	21:45	0.17	388	404	Drilling	Drilling - (WOB:24;GPM :585;RPM:50)
29-May-15	21:45	21:50	0.08	404	404	Survey & Conn.	Survey & Conn.@377' Inc 14.42° Azm 143.69°
29-May-15	21:50	22:05	0.25	404	418	Sliding	Sliding - (WOB:24;GPM :585;TFO:10R))
29-May-15	22:05	22:20	0.25	418	434	Drilling	Drilling - (WOB:24;GPM :585;RPM:50)
29-May-15	22:20	22:25	0.08	434	434	Survey & Conn.	Survey & Conn.@408' Inc 15.89° Azm 143.59°
29-May-15	22:25	22:30	0.08	434	446	Sliding	Sliding - (WOB:24;GPM :585;TFO:30R))
29-May-15	22:30	22:40	0.17	446	465	Drilling	Drilling - (WOB:24;GPM :585;RPM:50)
29-May-15	22:40	22:45	0.08	465	465	Survey & Conn.	Survey & Conn.@439' Inc 17.23° Azm 145.04°
29-May-15	22:45	22:55	0.17	465	476	Sliding	Sliding - (WOB:26;GPM :585;TFO:30R)
29-May-15	22:55	23:05	0.17	476	496	Drilling	Drilling - (WOB:26;GPM :585;RPM:50)
29-May-15	23:05	23:10	0.08	496	496	Survey & Conn.	Survey & Conn.@469' Inc 18.11° Azm 146°
29-May-15	23:10	23:20	0.17	496	506	Sliding	Sliding - (WOB:28;GPM :585;TFO:30R))
29-May-15	23:20	23:30	0.17	506	526	Drilling	Drilling - (WOB:26;GPM :585;RPM:50)
29-May-15	23:30	23:35	0.08	526	526	Survey & Conn.	Survey & Conn.@500' Inc 19.26° Azm 147.15°
29-May-15	23:35	23:45	0.17	526	538	Sliding	Sliding - (WOB:30;GPM :585;TFO:10R))
29-May-15	23:45	24:00	0.25	538	557	Drilling	Drilling - (WOB:28;GPM :585;RPM:50)



JOB NO.:	330515DEF284836	Report Time:	2400	3 of 6
COMPANY:	B.P.	API JOB #	05 067 09928	
LOCATION:	Sec 9 T32N R06W	WORK ORDER#	284836	
RIG NAME:	Aztec 507	FIELD:	San Juan Basin	
STATE:	Colorado	Township:	32N	
COUNTY:	La Plata	SECT\	9	6W
WELL NAME:	Tubbs 32-6-9 A2			

From Saturday, May 30, 2015 at 0000 to Saturday, May 30, 2015 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	557.00	Rotary Hours	1.05	WOB	35	Pick UP	60	Slack Off	48	SPM	
End Depth	735.00	Circulating Hours	1.03	RAB	54	SPP	1550	FlowRate	585 - 585	210	
Total Drilled:	178.00	Avg. Total ROP:	68.90	Mud Data							
Total Rotary Drilled:	82.00	Avg. Rotary ROP:	78.10	Type	Water Based			PV	0	SOLID	0
Total Drilled Sliding:	96.00	Avg. Slide ROP:	62.61	Weight	9	GAS	0	YP	0	BHT°	0
Slide Hours:	1.53	Percent Rotary:	46.07	Viscosity	48	SAND	0	PH	9	Flow T°	0
Below Rotary Hrs.	24.00	Percent Slide:	53.93	Chlorides	0	WL	0			Oil %	0
PERSONNEL				cASING				BHA			
Lead Directional :	Mark Houston			Size	Lb/ft	Set Depth		BHA # 2:12 1/4 JZ, B-S, 6 1/2 FBH 1.5 7:8 3.0 W/12" STB, 12" Stabilizer, 6 1/2 NMPC, 6 1/2 HOS, 6 1/2 NMDC, 6 1/2 GAP SUB, 6 1/2 NMDC,			
Second Directional :	Doug Tanner			Signature:							
MWD Operator1	Kyle Temple										
MWD Operator2	Mike Miller										
Directional Company:	SDI										
Geologist:											
Company Man:	Mike Colbert										
Incl. In:	18.11	Azm. In:	146	Incl. Out:	28.69	Azm. Out:	144.65				

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
30-May-15	00:00	00:10	0.17	557	557	Survey & Conn.	Survey & Conn. @530' Inc 20.29° Azm 147.04°
30-May-15	00:10	00:20	0.17	557	565	Sliding	Sliding - (WOB:30;GPM :585;TFO:5R))
30-May-15	00:20	00:30	0.17	565	587	Drilling	Drilling - (WOB:30;GPM :585;RPM:50)
30-May-15	00:30	00:35	0.08	587	587	Survey & Conn.	Survey & Conn. @561' Inc 21.02° Azm 146.71°
30-May-15	00:35	00:50	0.25	587	603	Sliding	Sliding - (WOB:30;GPM :585;TFO:10L))
30-May-15	00:50	01:00	0.17	603	618	Drilling	Drilling - (WOB:30;GPM :585;RPM:50)
30-May-15	01:00	01:05	0.08	618	618	Survey & Conn.	Survey & Conn. @591' Inc 21.83° Azm 145.61°
30-May-15	01:05	01:15	0.17	618	634	Sliding	Sliding - (WOB:30;GPM :585;TFO:5L)
30-May-15	01:15	01:25	0.17	634	648	Drilling	Drilling - (WOB:30;GPM :585;RPM:50)
30-May-15	01:25	01:30	0.08	648	648	Survey & Conn.	Survey & Conn. @622' Inc 22.95° Azm 144.24°
30-May-15	01:30	01:50	0.33	648	664	Sliding	Sliding - (WOB:35;GPM :585;TFO:5L))
30-May-15	01:50	02:10	0.33	664	679	Drilling	Drilling - (WOB:30;GPM :585;RPM:50)
30-May-15	02:10	02:18	0.13	679	679	Survey & Conn.	Survey & Conn. @678' Inc 25.64° Azm 142.82°
30-May-15	02:18	02:35	0.28	679	699	Sliding	Sliding - (WOB:35;GPM :585;TFO:5R))
30-May-15	02:35	02:45	0.17	699	710	Drilling	Drilling - (WOB:35;GPM :585;RPM:50)
30-May-15	02:45	02:50	0.08	710	710	Survey & Conn.	Survey & Conn. @678' Inc 25.64° Azm 142.82°
30-May-15	02:50	03:10	0.33	710	730	Sliding	Sliding - (WOB:35;GPM :585;TFO:15R))
30-May-15	03:10	03:13	0.05	730	735	Drilling	Drilling - (WOB:35;GPM :585;RPM:50)
30-May-15	03:13	04:15	1.03	735	735	Circulating	Circulating
30-May-15	04:15	06:30	2.25	735	735	POOH	POOH L/D BHA #2
30-May-15	06:30	24:00	17.50	735	735	Other	Casing Operations / Nipple up



JOB NO.:	330515DEF284836	Report Time:	2400	4 of 6
COMPANY:	B.P.	API JOB #	05 067 09928	
LOCATION:	Sec 9 T32N R06W	WORK ORDER#	284836	
RIG NAME:	Aztec 507	FIELD:	San Juan Basin	
STATE:	Colorado	Township:	32N	
COUNTY:	La Plata	SECT\	9	6W
WELL NAME:	Tubbs 32-6-9 A2			

From Sunday, May 31, 2015 at 0000 to Sunday, May 31, 2015 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	735.00	Rotary Hours	2.82	WOB	25	Pick UP	46	Slack Off	48	SPM	
End Depth	1565.00	Circulating Hours	2.67	RAB	52	SPP	1350	FlowRate	335 - 585	200	
Total Drilled:	830.00	Avg. Total ROP:	208.37	Mud Data							
Total Rotary Drilled:	650.00	Avg. Rotary ROP:	230.77	Type	Water Based			PV	11	SOLID	0.5
Total Drilled Sliding:	180.00	Avg. Slide ROP:	154.29	Weight	9	GAS	0	YP	10	BHT°	0
Slide Hours:	1.17	Percent Rotary:	78.31	Viscosity	48	SAND	0.01	PH	9	Flow T°	0
Below Rotary Hrs.	24.00	Percent Slide:	21.69	Chlorides	500	WL	18			Oil %	0
PERSONNEL				cASING				BHA			
Lead Directional :	Mark Houston			Size	Lb/ft	Set Depth		BHA # 3:7 7/8 Smith MDSi516 PDC w/ 3x13's 2x12's, 6 1/2 Motor 7/8 3.3 FBH 1.5, Float Sub, PRT Collar, 6 1/2 NMPC, 6 1/2 HOS, 6 1/2 GAP SUB, 6 1/2 NMDC, 6 1/2 NMDC,			
Second Directional :	Doug Tanner			Signature:							
MWD Operator1	Kyle Temple										
MWD Operator2	Mike Miller										
Directional Company:	SDI										
Geologist:											
Company Man:	Mike Colbert										
Incl. In:	28.69	Azm. In:	144.65	Incl. Out:	41.43	Azm. Out:	143.91				

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
31-May-15	00:00	09:30	9.50	735	735	Other	Nipple Down / Nipple up for leaking well head
31-May-15	09:30	11:30	2.00	735	735	Other	Other Tested BOP
31-May-15	11:30	12:30	1.00	735	735	Change BHA	P/U Motor and Resistivity collar (test motor)
31-May-15	12:30	12:51	0.35	735	735	Other	Other Air calibrated PRT tool
31-May-15	12:51	13:10	0.32	735	735	Change BHA	Change BHA P/U n-mag D/C's
31-May-15	13:10	13:56	0.77	735	735	TIH	TIH Tag cemeny @618'
31-May-15	13:56	15:00	1.07	735	735	Other	Other Drilled cement, float and shoe
31-May-15	15:00	15:08	0.13	735	745	Drilling	Drilling - (WOB:35;GPM :585;RPM:50)
31-May-15	15:08	17:20	2.20	745	745	Circulating	Circulating Rigged up Haliburton for leak off test
31-May-15	17:20	17:25	0.08	745	754	Drilling	Drilling - (WOB:20;GPM :335;RPM:50)
31-May-15	17:25	17:30	0.08	754	754	Survey & Conn.	Survey & Conn.@678' Inc 25.64° Azm 144.05°
31-May-15	17:30	17:40	0.17	754	754	Circulating	Downlink to MWD
31-May-15	17:40	17:50	0.17	754	767	Sliding	Sliding - (WOB:35;GPM :585;TFO:25R))
31-May-15	17:50	17:55	0.08	767	785	Drilling	Drilling - (WOB:20;GPM :335;RPM:50)
31-May-15	17:55	18:00	0.08	785	785	Survey & Conn.	Survey & Conn.@754' Inc 29.24° Azm 146.11°
31-May-15	18:00	18:05	0.08	785	798	Sliding	Sliding - (WOB:28;GPM :585;TFO:10R))
31-May-15	18:05	18:13	0.13	798	815	Drilling	Drilling - (WOB:15;GPM :335;RPM:50)
31-May-15	18:13	18:20	0.12	815	815	Survey & Conn.	Survey & Conn.@754' Inc 29.24° Azm 146.11°
31-May-15	18:20	18:25	0.08	815	828	Sliding	Sliding - (WOB:28;GPM :585;TFO:360))
31-May-15	18:25	18:32	0.12	828	846	Drilling	Drilling - (WOB:15;GPM :335;RPM:50)
31-May-15	18:32	18:37	0.08	846	846	Survey & Conn.	Survey & Conn.@785' Inc 30.1° Azm 144.86°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
31-May-15	18:37	18:50	0.22	846	846	Circulating	Downlink to MWD
31-May-15	18:50	19:00	0.17	846	864	Sliding	Sliding - (WOB:28;GPM :335;TFO:360))
31-May-15	19:00	19:06	0.10	864	877	Drilling	Drilling - (WOB:15;GPM :335;RPM:50)
31-May-15	19:06	19:15	0.15	877	877	Other	Line up both pumps on the hole
31-May-15	19:15	19:20	0.08	877	892	Sliding	Sliding - (WOB:28;GPM :558;TFO:10L))
31-May-15	19:20	19:25	0.08	892	907	Drilling	Drilling - (WOB:15;GPM :335;RPM:70)
31-May-15	19:25	19:30	0.08	907	907	Survey & Conn.	Survey & Conn.@846' Inc 32.45° Azm 146.84°
31-May-15	19:30	19:35	0.08	907	922	Sliding	Sliding - (WOB:28;GPM :558;TFO:10L))
31-May-15	19:35	19:40	0.08	922	937	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	19:40	19:45	0.08	937	937	Survey & Conn.	Survey & Conn.@877' Inc 34.07° Azm 144.71°
31-May-15	19:45	19:50	0.08	937	952	Sliding	Sliding - (WOB:28;GPM :558;TFO:360))
31-May-15	19:50	19:53	0.05	952	968	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	19:53	19:58	0.08	968	968	Survey & Conn.	Survey & Conn.@908' Inc 35.31° Azm 145.75°
31-May-15	19:58	20:02	0.07	968	984	Sliding	Sliding - (WOB:28;GPM :558;TFO:360))
31-May-15	20:02	20:05	0.05	984	999	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	20:05	20:10	0.08	999	999	Survey & Conn.	Survey & Conn.@939' Inc 37.02° Azm 144.77°
31-May-15	20:10	20:17	0.12	999	1017	Sliding	Sliding - (WOB:28;GPM :558;TFO:360))
31-May-15	20:17	20:23	0.10	1017	1030	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	20:23	20:27	0.07	1030	1030	Survey & Conn.	Survey & Conn.@969' Inc 38.17° Azm 145.01°
31-May-15	20:27	20:35	0.13	1030	1061	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	20:35	20:40	0.08	1061	1061	Survey & Conn.	Survey & Conn.@1001' Inc 39.87° Azm 145.08°
31-May-15	20:40	20:45	0.08	1061	1093	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	20:45	20:50	0.08	1093	1093	Survey & Conn.	Survey & Conn.@1032' Inc 40.83° Azm 143.86°
31-May-15	20:50	20:55	0.08	1093	1109	Sliding	Sliding - (WOB:28;GPM :558;TFO:25R))
31-May-15	20:55	21:00	0.08	1109	1125	Drilling	Drilling - (WOB:2;GPM :335;RPM:70)
31-May-15	21:00	21:05	0.08	1125	1125	Survey & Conn.	Survey & Conn.@1064' Inc 40.68° Azm 143.91°
31-May-15	21:05	21:10	0.08	1125	1156	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	23:35	23:43	0.13	1514	1533	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
31-May-15	23:43	23:48	0.08	1533	1533	Survey & Conn.	Survey & Conn.@1472' Inc 40.83° Azm 144.02°
31-May-15	23:48	23:53	0.08	1533	1565	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
31-May-15	23:53	24:00	0.12	1565	1565	Survey & Conn.	Survey & Conn.@1504' Inc 41.43° Azm 143.91°
31-May-15	21:10	21:15	0.08	1156	1156	Survey & Conn.	Survey & Conn.@1095' Inc 41.4° Azm 144.79°
31-May-15	21:15	21:23	0.13	1156	1187	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	21:23	21:28	0.08	1187	1187	Survey & Conn.	Survey & Conn.@1126' Inc 41.78° Azm 145.08°
31-May-15	21:28	21:32	0.07	1187	1202	Sliding	Sliding - (WOB:28;GPM :558;TFO:10R))
31-May-15	21:32	21:37	0.08	1202	1218	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	21:37	21:42	0.08	1218	1218	Survey & Conn.	Survey & Conn.@1157' Inc 41.34° Azm 145.44°
31-May-15	21:42	21:50	0.13	1218	1249	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	21:50	21:55	0.08	1249	1249	Survey & Conn.	Survey & Conn.@1189' Inc 41.87° Azm 144.93°
31-May-15	21:55	22:00	0.08	1249	1281	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	22:00	22:05	0.08	1281	1281	Survey & Conn.	Survey & Conn.@1220' Inc 42.57° Azm 144.56°
31-May-15	22:05	22:10	0.08	1281	1312	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	22:10	22:15	0.08	1312	1312	Survey & Conn.	Survey & Conn.@1251' Inc 42.3° Azm 144.07°
31-May-15	22:15	22:20	0.08	1312	1312	Circulating	Pason went down
31-May-15	22:20	22:25	0.08	1312	1344	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	22:25	22:30	0.08	1344	1344	Survey & Conn.	Survey & Conn.@1283' Inc 42.11° Azm 144.87°
31-May-15	22:30	22:37	0.12	1344	1376	Drilling	Drilling - (WOB:20;GPM :335;RPM:70)
31-May-15	22:37	22:42	0.08	1376	1376	Survey & Conn.	Survey & Conn.@1315' Inc 42.1° Azm 143.96°
31-May-15	22:42	22:48	0.10	1376	1408	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
31-May-15	22:48	22:53	0.08	1408	1408	Survey & Conn.	Survey & Conn.@1347' Inc 41.86° Azm 143.88°
31-May-15	22:53	23:00	0.12	1408	1439	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
31-May-15	23:00	23:05	0.08	1439	1439	Survey & Conn.	Survey & Conn.@1378' Inc 41.34° Azm 144.76°
31-May-15	23:05	23:14	0.15	1439	1470	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
31-May-15	23:14	23:18	0.07	1470	1470	Survey & Conn.	Survey & Conn.@1409' Inc 41.22° Azm 144.24°
31-May-15	23:18	23:25	0.12	1470	1501	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
31-May-15	23:25	23:30	0.08	1501	1501	Survey & Conn.	Survey & Conn.@1441' Inc 41.03° Azm 144.07°
31-May-15	23:30	23:35	0.08	1501	1514	Sliding	Sliding - (WOB:28;GPM :558;TFO:10R))



JOB NO.:	330515DEF284836	Report Time:	2400	5 of 6
COMPANY:	B.P.	API JOB #	05 067 09928	
LOCATION:	Sec 9 T32N R06W	WORK ORDER#	284836	
RIG NAME:	Aztec 507	FIELD:	San Juan Basin	
STATE:	Colorado	Township:	32N	
COUNTY:	La Plata	SECT\	RANGE: 9	6W
WELL NAME:	Tubbs 32-6-9 A2			

From Monday, June 01, 2015 at 0000 to Monday, June 01, 2015 at 2400

DRILLING SUMMARY					Drilling Parameters							
Start Depth	1565.00	Rotary Hours	9.52	WOB	25	Pick UP	128	Slack Off	70	SPM		
End Depth	3590.00	Circulating Hours	2.30	RAB	92	SPP	1930	FlowRate	335 - 580	210		
Total Drilled:	2025.00	Avg. Total ROP:	154.97	Mud Data								
Total Rotary Drilled:	1701.00	Avg. Rotary ROP:	178.74	Type	Water Based			PV	8	SOLID	0.5	
Total Drilled Sliding:	324.00	Avg. Slide ROP:	91.27	Weight	8.5	GAS	0	YP	5	BHT°	0	
Slide Hours:	3.55	Percent Rotary:	84.00	Viscosity	48	SAND	0.01	PH	9	Flow T°	0	
Below Rotary Hrs.	24.00	Percent Slide:	16.00	Chlorides	1000	WL	11			Oil %	0	
PERSONNEL				cASING					BHA			
Lead Directional :	Mark Houston			Size	Lb/ft	Set Depth		BHA # 3:7 7/8 Smith MDSi516 PDC w/ 3x13's 2x12's, 6 1/2 Motor 7/8 3.3 FBH 1.5, Float Sub, PRT Collar, 6 1/2 NMPC, 6 1/2 HOS, 6 1/2 GAP SUB, 6 1/2 NMDC, 6 1/2 NMDC,				
Second Directional :	Doug Tanner			Signature:								
MWD Operator1	Kyle Temple											
MWD Operator2	Mike Miller											
Directional Company:	SDI											
Geologist:												
Company Man:	Mike Colbert											
Incl. In:	41.43	Azm. In:	143.91	Incl. Out:	3.29	Azm. Out:	158.57					

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
1-Jun-15	00:00	00:05	0.08	1565	1565	Circulating	Pason went down
1-Jun-15	00:05	00:12	0.12	1565	1597	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
1-Jun-15	00:12	00:20	0.13	1597	1597	Circulating	Light Plant problems
1-Jun-15	00:20	00:25	0.08	1597	1597	Survey & Conn.	Survey & Conn.@ 1536' Inc 42.06° Azm 144.03°
1-Jun-15	00:25	00:30	0.08	1597	1629	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
1-Jun-15	00:30	00:35	0.08	1629	1629	Survey & Conn.	Survey & Conn.@ 1568' Inc 41.57° Azm 144.1°
1-Jun-15	00:35	00:40	0.08	1629	1641	Sliding	Sliding - (WOB:33;GPM :558;TFO:25R))
1-Jun-15	00:40	00:45	0.08	1641	1660	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
1-Jun-15	00:45	00:50	0.08	1660	1660	Survey & Conn.	Survey & Conn.@ 1600' Inc 41.19° Azm 144.23°
1-Jun-15	00:50	00:58	0.13	1660	1691	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
1-Jun-15	00:58	01:03	0.08	1691	1691	Survey & Conn.	Survey & Conn.@ 1630' Inc 41.42° Azm 144.28°
1-Jun-15	01:03	01:10	0.12	1691	1723	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
1-Jun-15	01:10	01:15	0.08	1723	1723	Survey & Conn.	Survey & Conn.@ 1662' Inc 41.93° Azm 143.4°
1-Jun-15	01:15	01:23	0.13	1723	1754	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
1-Jun-15	01:23	01:28	0.08	1754	1754	Survey & Conn.	Survey & Conn.@ 1693' Inc 41.58° Azm 144.17°
1-Jun-15	01:28	01:33	0.08	1754	1769	Sliding	Sliding - (WOB:33;GPM :558;TFO:35R))
1-Jun-15	01:33	01:37	0.07	1769	1785	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
1-Jun-15	01:37	01:42	0.08	1785	1785	Survey & Conn.	Survey & Conn.@ 1724' Inc 41.4° Azm 143.06°
1-Jun-15	01:42	01:50	0.13	1785	1816	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)
1-Jun-15	01:50	02:00	0.17	1816	1816	Survey & Conn.	Survey & Conn.@ 1756' Inc 41.71° Azm 144.73°
1-Jun-15	02:00	02:05	0.08	1816	1847	Drilling	Drilling - (WOB:25;GPM :335;RPM:70)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
1-Jun-15	02:05	02:10	0.08	1847	1847	Survey & Conn.	Survey & Conn.@1787' Inc 41.84° Azm 145.05°
1-Jun-15	03:05	03:11	0.10	1941	1973	Drilling	Drilling - (WOB:25; :335;RPM:70)
1-Jun-15	03:11	03:16	0.08	1973	1973	Survey & Conn.	Survey & Conn.@1912' Inc 42.09° Azm 144.84°
1-Jun-15	03:16	03:17	0.02	1973	1976	Drilling	Drilling - (WOB:25; :335;RPM:70)
1-Jun-15	03:17	03:20	0.05	1976	1976	Other	Fix leaking hose
1-Jun-15	03:20	03:30	0.17	1976	2005	Drilling	Drilling - (WOB:25; :335;RPM:70)
1-Jun-15	03:30	03:35	0.08	2005	2005	Survey & Conn.	Survey & Conn.@1944' Inc 41.8° Azm 145.72°
1-Jun-15	03:35	03:42	0.12	2005	2020	Sliding	Sliding - (WOB:33; :335;TFO:360))
1-Jun-15	03:42	03:47	0.08	2020	2036	Drilling	Drilling - (WOB:25; :335;RPM:70)
1-Jun-15	03:47	03:53	0.10	2036	2036	Survey & Conn.	Survey & Conn.@1975' Inc 41.15° Azm 145.46°
1-Jun-15	03:53	03:55	0.03	2036	2036	Circulating	Both pumps back on the hole
1-Jun-15	03:55	04:10	0.25	2036	2067	Drilling	Drilling - (WOB:10; :335;RPM:40) Lowered parameters entering the Animas
1-Jun-15	04:10	04:15	0.08	2067	2067	Survey & Conn.	Survey & Conn.@2007' Inc 41.53° Azm 145.1°
1-Jun-15	04:15	04:48	0.55	2067	2130	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	04:48	04:51	0.05	2130	2130	Survey & Conn.	Survey & Conn.@2069' Inc 41.65° Azm 144.21°
1-Jun-15	04:51	05:02	0.18	2130	2162	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	05:02	05:05	0.05	2162	2162	Survey & Conn.	Survey & Conn.@2101' Inc 41.03° Azm 144.26°
1-Jun-15	05:05	05:20	0.25	2162	2193	Drilling	Drilling - (WOB:10; :580;RPM:40)(Pump #2 down)
1-Jun-15	05:20	05:23	0.05	2193	2193	Survey & Conn.	Survey & Conn.@2132' Inc 40.99° Azm 144.72°
1-Jun-15	05:23	05:36	0.22	2193	2223	Drilling	Drilling - (WOB:10; :580;RPM:40)(pump #2 down)
1-Jun-15	05:36	05:39	0.05	2223	2223	Survey & Conn.	Survey & Conn.@2162' Inc 40.91° Azm 144.76°
1-Jun-15	05:39	05:57	0.30	2223	2257	Drilling	Drilling - (WOB:10; :580;RPM:40)(pump #2 down)
1-Jun-15	05:57	06:00	0.05	2257	2257	Survey & Conn.	Survey & Conn.@2196' Inc 40.6° Azm 145.48°
1-Jun-15	06:00	06:12	0.20	2257	2289	Drilling	Drilling - (WOB:10; :580;RPM:40)(pump #1 down)
1-Jun-15	06:12	06:15	0.05	2289	2289	Survey & Conn.	Survey & Conn.@2228' Inc 40.67° Azm 145.64°
1-Jun-15	06:15	06:30	0.25	2289	2320	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	06:30	06:33	0.05	2320	2320	Survey & Conn.	Survey & Conn.@2260' Inc 40.83° Azm 145.65°
1-Jun-15	06:33	06:46	0.22	2320	2332	Sliding	Sliding - (WOB:33; :335;TFO:10R)
1-Jun-15	06:46	06:56	0.17	2332	2349	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	06:56	06:59	0.05	2349	2349	Survey & Conn.	Survey & Conn.@2289' Inc 40.67° Azm 146.4°
1-Jun-15	06:59	07:04	0.08	2349	2361	Sliding	Sliding - (WOB:33; :335;TFO:160L)
1-Jun-15	07:04	07:10	0.10	2361	2381	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	07:10	07:14	0.07	2381	2381	Survey & Conn.	Survey & Conn.@2320' Inc 40.05° Azm 145.56°
1-Jun-15	07:14	07:21	0.12	2381	2393	Sliding	Sliding - (WOB:33; :335;TFO:160L))both pumps back on line
1-Jun-15	07:21	07:26	0.08	2393	2413	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	07:26	07:29	0.05	2413	2413	Survey & Conn.	Survey & Conn.@2352' Inc 38.63° Azm 146.03°
1-Jun-15	07:29	07:35	0.10	2413	2434	Sliding	Sliding - (WOB:33; :335;TFO:160L))
1-Jun-15	07:35	07:39	0.07	2434	2444	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	07:39	07:42	0.05	2444	2444	Survey & Conn.	Survey & Conn.@2383' Inc 37.01° Azm 145.77°
1-Jun-15	07:42	07:51	0.15	2444	2453	Sliding	Sliding - (WOB:33; :335;TFO:160L)
1-Jun-15	07:51	07:57	0.10	2453	2475	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	07:57	08:00	0.05	2475	2475	Survey & Conn.	Survey & Conn.@2415' Inc 35.43° Azm 146.32°
1-Jun-15	08:00	08:04	0.07	2475	2483	Sliding	Sliding - (WOB:33; :335;TFO:160L)
1-Jun-15	08:04	08:12	0.13	2483	2507	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	08:12	08:15	0.05	2507	2507	Survey & Conn.	Survey & Conn.@2446' Inc 33.7° Azm 145°
1-Jun-15	08:35	08:42	0.12	2547	2570	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	08:42	08:45	0.05	2570	2570	Survey & Conn.	Survey & Conn.@2509' Inc 31.15° Azm 145.12°
1-Jun-15	08:45	08:50	0.08	2570	2578	Sliding	Sliding - (WOB:33; :335;TFO:160L)
1-Jun-15	08:50	08:57	0.12	2578	2601	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	08:57	09:01	0.07	2601	2601	Survey & Conn.	Survey & Conn.@2540' Inc 30.25° Azm 144.89°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
1-Jun-15	09:01	09:06	0.08	2601	2612	Sliding	Sliding - (WOB:33; :335;TFO:160L)
1-Jun-15	09:06	09:14	0.13	2612	2632	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	09:14	09:17	0.05	2632	2632	Survey & Conn.	Survey & Conn.@2572' Inc 29.28° Azm 144.14°
1-Jun-15	09:17	09:24	0.12	2632	2643	Sliding	Sliding - (WOB:33; :335;TFO:160L)
1-Jun-15	09:24	09:33	0.15	2643	2664	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	09:33	09:35	0.03	2664	2664	Survey & Conn.	Survey & Conn.@2603' Inc 27.81° Azm 145.92°
1-Jun-15	09:35	09:43	0.13	2664	2673	Sliding	Sliding - (WOB:33; :335;TFO:160L))
1-Jun-15	09:43	09:54	0.18	2673	2695	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	09:54	09:57	0.05	2695	2695	Survey & Conn.	Survey & Conn.@2634' Inc 25.92° Azm 146.04°
1-Jun-15	09:57	10:01	0.07	2695	2702	Sliding	Sliding - (WOB:33; :335;TFO:160L)
1-Jun-15	10:01	10:09	0.13	2702	2726	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	10:09	10:12	0.05	2726	2726	Survey & Conn.	Survey & Conn.@2665' Inc 24.76° Azm 145.74°
1-Jun-15	10:12	10:23	0.18	2726	2735	Sliding	Sliding - (WOB:33; :335;TFO:160L)
1-Jun-15	10:23	10:31	0.13	2735	2758	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	10:31	10:34	0.05	2758	2758	Survey & Conn.	Survey & Conn.@2697' Inc 23.74° Azm 145.84°
1-Jun-15	10:34	10:41	0.12	2758	2767	Sliding	Sliding - (WOB:33; :335;TFO:160L)
1-Jun-15	10:41	10:48	0.12	2767	2789	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	10:48	10:51	0.05	2789	2789	Survey & Conn.	Survey & Conn.@2729' Inc 22.48° Azm 145.55°
1-Jun-15	10:51	11:00	0.15	2789	2798	Sliding	Sliding - (WOB:36; :335;TFO:160L))
1-Jun-15	11:00	11:09	0.15	2798	2820	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	11:09	11:12	0.05	2820	2820	Survey & Conn.	Survey & Conn.@2760' Inc 21.3° Azm 145.06°
1-Jun-15	11:12	11:18	0.10	2820	2829	Sliding	Sliding - (WOB:36; :335;TFO:160L)
1-Jun-15	11:18	11:27	0.15	2829	2852	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	11:27	11:30	0.05	2852	2852	Survey & Conn.	Survey & Conn.@2792' Inc 20.12° Azm 146.42°
1-Jun-15	11:30	11:38	0.13	2852	2862	Sliding	Sliding - (WOB:36; :335;TFO:160L))
1-Jun-15	11:38	11:46	0.13	2862	2884	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	11:46	11:49	0.05	2884	2884	Survey & Conn.	Survey & Conn.@2823' Inc 18.61° Azm 144.77°
1-Jun-15	11:49	11:56	0.12	2884	2892	Sliding	Sliding - (WOB:36; :335;TFO:160L))
1-Jun-15	11:56	12:05	0.15	2892	2915	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	12:05	12:08	0.05	2915	2915	Survey & Conn.	Survey & Conn.@2854' Inc 17.52° Azm 144.85°
1-Jun-15	12:08	12:13	0.08	2915	2924	Sliding	Sliding - (WOB:36; :335;TFO:160L)
1-Jun-15	12:13	12:21	0.13	2924	2946	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	12:21	12:24	0.05	2946	2946	Survey & Conn.	Survey & Conn.@2885' Inc 16.36° Azm 146.41°
1-Jun-15	12:24	12:31	0.12	2946	2956	Sliding	Sliding - (WOB:36; :335;TFO:180)
1-Jun-15	12:31	12:40	0.15	2956	2978	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	12:40	12:43	0.05	2978	2978	Survey & Conn.	Survey & Conn.@2917' Inc 15.01° Azm 146.43°
1-Jun-15	12:43	12:51	0.13	2978	2987	Sliding	Sliding - (WOB:36; :335;TFO:160L)
1-Jun-15	12:51	13:00	0.15	2987	3009	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	13:00	13:20	0.33	3009	3009	Rig Service-Inhole	Rig Service-Inhole
1-Jun-15	13:20	13:23	0.05	3009	3009	Survey & Conn.	Survey & Conn.@2948' Inc 13.99° Azm 144.63°
1-Jun-15	13:23	13:34	0.18	3009	3019	Sliding	Sliding - (WOB:36; :335;TFO:160L)(PUMP #1 DOWN)
1-Jun-15	13:34	13:49	0.25	3019	3041	Drilling	Drilling - (WOB:10; :580;RPM:40)(pump #1 down)
1-Jun-15	13:49	13:57	0.13	3041	3041	Other	Othe Re-log F/3025' T/3041'
1-Jun-15	13:57	14:00	0.05	3041	3041	Survey & Conn.	Survey & Conn.@2980' Inc 12.55° Azm 142.74°
1-Jun-15	14:00	14:09	0.15	3041	3051	Sliding	Sliding - (WOB:36; :335;TFO:170L)(both pumps back on line)
1-Jun-15	14:09	14:16	0.12	3051	3072	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	14:16	14:19	0.05	3072	3072	Survey & Conn.	Survey & Conn.@3011' Inc 11.07° Azm 145.19°
1-Jun-15	14:19	14:26	0.12	3072	3082	Sliding	Sliding - (WOB:36; :335;TFO:170L)
1-Jun-15	14:26	14:35	0.15	3082	3103	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	14:35	14:38	0.05	3103	3103	Survey & Conn.	Survey & Conn.@3042' Inc 9.66° Azm 143.21°
1-Jun-15	14:38	14:44	0.10	3103	3113	Sliding	Sliding - (WOB:36; :335;TFO:170L)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
1-Jun-15	14:44	14:54	0.17	3113	3135	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	14:54	14:57	0.05	3135	3135	Survey & Conn.	Survey & Conn.@3074' Inc 8.13° Azm 145.1°
1-Jun-15	14:57	15:04	0.12	3135	3145	Sliding	Sliding - (WOB:36; :335;TFO:170L)
1-Jun-15	15:04	15:10	0.10	3145	3166	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	15:10	15:13	0.05	3166	3166	Survey & Conn.	Survey & Conn.@3105' Inc 7.19° Azm 146.5°
1-Jun-15	15:13	15:24	0.18	3166	3198	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	15:24	15:27	0.05	3198	3198	Survey & Conn.	Survey & Conn.@3137' Inc 5.46° Azm 148.85°
1-Jun-15	15:27	15:34	0.12	3198	3230	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	15:34	15:37	0.05	3230	3230	Survey & Conn.	Survey & Conn.@3169' Inc 4.8° Azm 139.84°
1-Jun-15	15:37	15:44	0.12	3230	3261	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	15:44	15:47	0.05	3261	3261	Survey & Conn.	Survey & Conn.@3200' Inc 4.47° Azm 139.47°
1-Jun-15	15:47	15:56	0.15	3261	3293	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	15:56	15:59	0.05	3293	3293	Survey & Conn.	Survey & Conn.@3232' Inc 4.2° Azm 149.81°
1-Jun-15	15:59	16:08	0.15	3293	3324	Drilling	Drilling - (WOB:15; :580;RPM:40)
1-Jun-15	16:08	16:11	0.05	3324	3324	Survey & Conn.	Survey & Conn.@3263' Inc 4.46° Azm 153.35°
1-Jun-15	16:11	16:20	0.15	3324	3355	Drilling	Drilling - (WOB:15; :580;RPM:40)
1-Jun-15	16:20	16:43	0.38	3355	3355	Rig repair	Rig repair work on top drive power pack
1-Jun-15	16:43	16:46	0.05	3355	3355	Survey & Conn.	Survey & Conn.@3294' Inc 4.96° Azm 152.05°
1-Jun-15	16:46	16:54	0.13	3355	3387	Drilling	Drilling - (WOB:15; :580;RPM:40)
1-Jun-15	16:54	16:57	0.05	3387	3387	Survey & Conn.	Survey & Conn.@3326' Inc 4.19° Azm 156.97°
1-Jun-15	16:57	17:07	0.17	3387	3418	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	17:07	17:10	0.05	3418	3418	Survey & Conn.	Survey & Conn.@3358' Inc 4.05° Azm 146.13°
1-Jun-15	17:25	17:35	0.17	3449	3481	Drilling	Drilling - (WOB:15; :580;RPM:60)
1-Jun-15	17:35	17:40	0.08	3481	3481	Survey & Conn.	Survey & Conn.@3420' Inc 3.76° Azm 155.06°
1-Jun-15	17:40	17:48	0.13	3481	3512	Drilling	Drilling - (WOB:15; :580;RPM:60)
1-Jun-15	17:48	17:53	0.08	3512	3512	Survey & Conn.	Survey & Conn.@3451' Inc 3.83° Azm 155.33°
1-Jun-15	17:53	18:00	0.12	3512	3543	Drilling	Drilling - (WOB:15; :580;RPM:60)
1-Jun-15	18:00	18:10	0.17	3543	3543	Survey & Conn.	Survey & Conn.@3482' Inc 3.37° Azm 145.72°
1-Jun-15	18:10	18:18	0.13	3543	3574	Drilling	Drilling - (WOB:25; :580;RPM:60)
1-Jun-15	18:18	18:24	0.10	3574	3574	Survey & Conn.	Survey & Conn.@3513' Inc 3.56° Azm 156.97°
1-Jun-15	18:24	18:26	0.03	3574	3590	Drilling	Drilling - (WOB:25; :580;RPM:60)
1-Jun-15	18:26	20:00	1.57	3590	3590	Circulating	Circulating
1-Jun-15	20:00	20:20	0.33	3590	3590	Other	Flow Check
1-Jun-15	20:20	24:00	3.67	3590	3590	POOH	POOH
1-Jun-15	02:10	02:15	0.08	1847	1847	Circulating	Swab out / 1 pump on the hole
1-Jun-15	02:15	02:25	0.17	1847	1874	Drilling	Drilling - (WOB:25; :558;RPM:70)
1-Jun-15	02:25	02:29	0.07	1874	1874	Circulating	Lost 300 psi / check pumps/ got psi back
1-Jun-15	02:29	02:30	0.02	1874	1878	Drilling	Drilling - (WOB:25; :558;RPM:70)
1-Jun-15	02:30	02:35	0.08	1878	1878	Survey & Conn.	Survey & Conn.@1818' Inc 41.6° Azm 145.63°
1-Jun-15	02:35	02:40	0.08	1878	1893	Sliding	Sliding - (WOB:33; :558;TFO:360))
1-Jun-15	02:40	02:48	0.13	1893	1910	Drilling	Drilling - (WOB:25; :558;RPM:70)
1-Jun-15	02:48	02:53	0.08	1910	1910	Survey & Conn.	Survey & Conn.@1849' Inc 41.5° Azm 144.95°
1-Jun-15	02:53	03:00	0.12	1910	1941	Drilling	Drilling - (WOB:25; :335;RPM:70)
1-Jun-15	03:00	03:05	0.08	1941	1941	Survey & Conn.	Survey & Conn.@1881' Inc 41.94° Azm 145.53°
1-Jun-15	08:15	08:19	0.07	2507	2514	Sliding	Sliding - (WOB:33; :335;TFO:160L)
1-Jun-15	08:19	08:26	0.12	2514	2539	Drilling	Drilling - (WOB:10; :580;RPM:40)
1-Jun-15	08:26	08:29	0.05	2539	2539	Survey & Conn.	Survey & Conn.@2478' Inc 32.25° Azm 145.76°
1-Jun-15	08:29	08:35	0.10	2539	2547	Sliding	Sliding - (WOB:33; :335;TFO:160L)
1-Jun-15	17:10	17:20	0.17	3418	3449	Drilling	Drilling - (WOB:10; :580;RPM:60)
1-Jun-15	17:20	17:25	0.08	3449	3449	Survey & Conn.	Survey & Conn.@3389' Inc 4.12° Azm 153.15°



JOB NO.:	330515DEF284836	Report Time:	2400	6 of 6
COMPANY:	B.P.	API JOB #	05 067 09928	
LOCATION:	Sec 9 T32N R06W	WORK ORDER#	284836	
RIG NAME:	Aztec 507	FIELD:	San Juan Basin	
STATE:	Colorado	Township:	32N	
COUNTY:	La Plata	SECT\	9	6W
WELL NAME:	Tubbs 32-6-9 A2			

From Tuesday, June 02, 2015 at 0000 to Tuesday, June 02, 2015 at 2400

DRILLING SUMMARY						Drilling Parameters							
Start Depth	0.00	Rotary Hours	0.00	WOB	25	Pick UP	128	Slack Off	70	SPM			
End Depth	0.00	Circulating Hours	0.00	RAB	92	SPP	1930	FlowRate	580 - 580	210			
Total Drilled:	0.00	Avg. Total ROP:	NA	Mud Data									
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type	Water Based				PV	8	SOLID	0.5	
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	8.5	GAS	0	YP	5	BHT°	0		
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	48	SAND	0.01	PH	9	Flow T°	0		
Below Rotary Hrs.	24.00	Percent Slide:	NA	Chlorides	1000	WL	11			Oil %	0		
PERSONNEL				cASING					BHA				
Lead Directional :	Mark Houston			Size	Lb/ft	Set Depth		BHA # 3:7 7/8 Smith MDSi516 PDC w/ 3x13's 2x12's, 6 1/2 Motor 7/8 3.3 FBH 1.5, Float Sub, PRT Collar, 6 1/2 NMPC, 6 1/2 HOS, 6 1/2 GAP SUB, 6 1/2 NMDC, 6 1/2 NMDC,					
Second Directional :	Doug Tanner			Signature:									
MWD Operator1	Kyle Temple												
MWD Operator2	Mike Miller												
Directional Company:	SDI												
Geologist:													
Company Man:	Mike Colbert												
Incl. In:	3.29	Azm. In:	158.57	Incl. Out:	0	Azm. Out:	0						

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
2-Jun-15	00:00	00:15	0.25	3590	3590	POOH	POOH
2-Jun-15	00:15	00:35	0.33	3590	3590	Other	Pull Rubber
2-Jun-15	00:35	01:15	0.67	3590	3590	Other	L/D BHA
2-Jun-15	01:15	01:40	0.42	3590	3590	Other	Remove Bit (Always time consuming on this rig due to design)
2-Jun-15	01:40	24:00	22.33	3590	3590	Other	Casing operations

JOB NO.: 330515DEF284836 **Work Order:** 284836
COMPANY: B.P.
LOCATION: Sec 9 T32N R06W
RIG NAME: Aztec 507
STATE: Colorado
COUNTY: La Plata
WELL NAME: Tubbs 32-6-9 A2

FIELD:	San Juan Basin
Township:	32N
SECT. RANGE:	9 6W
Lead DD:	Mark Houston
Co. Man:	Mike Colbert
BHA TYPE:	
BHA WT:	4010 Wt @ Jars: N/A

Time and Depths		MOTOR DATA		Drilling Parameters	
Date In:	29-May-15 @ 12:00	NOV top hole motor		SO/PU:	0 - 0 / 0-0
Date Out:	29-May-15 @ 15:00	MFG.: NOV		Rot Strg Wt:	0-0
Hrs In Hole:	3.00	Pad OD:		WOB:	0 - 0
Start Depth:	104.00	NB Stab:		TORQ:	0 - 0
End Depth:	104.00	Bit to Bend:		SPP:	0 - 0
Total Drilled:	.00	Bent Hsg/Sub°: 0 /		Motor RPM:	No Rev/Gal Input
Avg. Total ROP:	.00	Lobe/Stage: /		Rotary RPM:	0 - 0
Circ Hrs: Tot/Only	1.67 / .00	Rev/GAL:		Flow Rate:	0 - 0
Percent Slide:	NA	Rotor Jet:		Avg Diff:	
Percent Hrs:	.00	Prop BUR:		Stall Pres.:	
Slide Hours:	.00	Act BUR:		Off Bot Pres.:	
Total Sliding:	.00	Mud Data		Bit Record	
Avg. Slide ROP:	NA	Type		Reed / GHIGC 12 1/14" 3x16 1x12	
Percent Rotary:	NA	WT:	0	GAS:	0
Percent Hrs:	100.00	Vis:	0	PV:	0
Rotary Hours:	1.67	WL:	0	PH:	0
Total Rotary:	.00	SOL:	0	SAND:	0
Avg. Rotary ROP:	.00	Oil %:	0	T °:	0
Reason POOH:		Chlor:	0	YP:	0
MWD Spacing	Gamma: 0	Restiv: 0	Sensor: 0	Last Casing	n n .
	GYRO: 0	DNSC: 0	Sonic: 0	Shoe @:	Hanger @:
INC IN:	.0	INC OUT:	.0	AZM IN:	.00
				AZM OUT:	.00

BHA Detail							
Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
GHIGC 12 1/14" 3x16 1x12 TFA=.699	11231901	.699	12 1/4	1.00	1.00	6 5/8 REGP	NOV
NOV Bit Sub	450XS6625	2 3/8	7 11/16	1.11	2.11	4 1/2 REGP	
NOV top hole motor 7:8 2.9	675-67860-H	4	6 3/4	29.45	31.56	4 1/2 XHB	OTHER
Shock Sub	1	2 1/16	6 3/8	11.56	43.12	4 1/2 XHB	Other

Shock Sub
O.D.=6 3/8
Length=11.56

NOV top hole motor 7:8 2.5
O.D.=6 3/4
Length=29.45

NOV Bit Sub
O.D.=7 11/16
Length=1.11

GHIGC 12 1/4" 3x16 1x1
O.D.=12 1/4
Length=1



JOB NO.: 330515DEF284836
COMPANY: B.P.
LOCATION: Sec 9 T32N R06W
RIG NAME: Aztec 507
STATE: Colorado
COUNTY: Country
WELL NAME: Tubbs 32-6-9 A2

FIELD: San Juan Basin
Township: 32N
Range 6W

MOTOR INFORMATION		
Desc: NOV top hole motor		
Bent Hsg/Sub: 0	/ 0	Bit to Bend: 0
Pad OD:		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	29-May	Drilling	13:00	14:40	1.67	104	104	0		0.0	0	0				1.00	143.00	2.63	

Total Drilled:						0	Avg. Total ROP:				.00	DEPTH% - TIME %							
Total Rotary Drilled:						0	Avg. Rotary ROP:				.00	Percent Rotary:		NA					
Total Drilled Sliding:						0	Avg. Slide ROP:				NA	Percent Slide:		NA					

BHA # 2

SDI



JOB NO.: 330515DEF284836 Work Order: 284836
 COMPANY: B.P.
 LOCATION: Sec 9 T32N R06W
 RIG NAME: Aztec 507
 STATE: Colorado
 COUNTY: La Plata
 WELL NAME: Tubbs 32-6-9 A2

FIELD: San Juan Basin
 Township: 32N
 SECT. RANGE: 9 6W
 Lead DD: Mark Houston
 Co. Man: Mike Colbert
 BHA TYPE: Steerable Assembly
 BHA WT: 8005 Wt @ Jars: N/A

Time and Depths		MOTOR DATA	Drilling Parameters	
Date In:	29-May-15 @ 15:00	6 1/2 Motor 7/8 3.0 FBH 1.5	SO/PU:	32 - 48 / 32-60
Date Out:	30-May-15 @ 04:15	MFG.: SDI	Rot Strg Wt:	32-54
Hrs In Hole:	13.25	Pad OD: 6 7/8	WOB:	10 - 35
Start Depth:	104.00	NB Stab: 12	TORQ:	2300 - 2300
End Depth:	735.00	Bit to Bend: 4.44	SPP:	750 - 1550
Total Drilled:	631.00	Bent Hsg/Sub°: 1.5 /	Motor RPM:	125 - 164
Avg. Total ROP:	73.51	Lobe/Stage: 7/8 / 3	Rotary RPM:	50 - 50
Circ Hrs: Tot/Only	10.20 / 1.62	Rev/GAL: 0.28	Flow Rate:	446 - 585
Percent Slide:	50.87	Rotor Jet: 0	Avg Diff:	250
Percent Hrs:	56.70	Prop BUR: 8	Stall Pres.:	
Slide Hours:	4.87	Act BUR: 10	Off Bot Pres.:	450
Total Sliding:	321.00	Mud Data		Bit Record
Avg. Slide ROP:	65.96	Type	Water Based	
Percent Rotary:	49.13	WT:	9	GAS: 0
Percent Hrs:	43.30	Vis:	48	PV: 0
Rotary Hours:	3.72	WL:	0	PH: 9
Total Rotary:	310.00	SOL:	0	SAND: 0
Avg. Rotary ROP:	83.41	Oil %:	0	T °: 0
Reason POOH:	TD	Chlor:	0	YP: 0
MWD Spacing	Gamma: 0	Restiv: 0	Sensor: 0	Last Casing
	GYRO: 0	DNSC: 0	Sonic: 0	Shoe @: Hanger @:

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

Motor 65280 7/8 3.0 FBH 1.5 going in with 8.73 HRS

BHA Detail

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
12 1/4 JZ	F32281	3	12 1/4	1.00	1.00	4 1/2 REGP	OTHER
B-S	12-100	2 3/8	7 11/16	1.03	2.03	4 1/2 REGP	SDI
6 1/2 FBH 1.5 7:8 3.0 W/12" STB	65280	2	6 1/2	18.48	20.51	4 1/2 XHB	SDI
12" Stabilizer	604124	2 7/8	6 9/16	7.84	28.35	4 1/2 XHB	SDI
6 1/2 NMPC	125-485	3 1/4	6 9/16	10.03	38.38	4 1/2 XHB	SDI
6 1/2 HOS	8-728	3 1/4	6 3/8	1.90	40.28	4 1/2 XHB	SDI
6 1/2 NMDC	122-691	3 1/4	6 7/16	30.98	71.26	4 1/2 XHB	SDI
6 1/2 GAP SUB	69-858	2 7/8	6 3/8	4.71	75.97	4 1/2 XHB	SDI
6 1/2 NMDC	122-283	3 5/16	6 1/8	30.29	106.26	4 1/2 XHB	SDI

6 1/2 NMDC
O.D.=6 1/8
Length=30.29

6 1/2 GAP SUB
O.D.=6 3/8
Length=4.71

6 1/2 NMDC
O.D.=6 7/16
Length=30.98

6 1/2 HOS
O.D.=6 3/8
Length=1.9

6 1/2 NMPC
O.D.=6 9/16
Length=10.03

12" Stabilizer
O.D.=6 9/16
Length=7.84

6 1/2 FBH 1.5 7:8 3.0 W/12" STB
O.D.=6 1/2
Length=18.48

B-S
O.D.=7 11/16

12 1/4 JZ
O.D.=12 1/4
Length=1



JOB NO.: 330515DEF284836
COMPANY: B.P.
LOCATION: Sec 9 T32N R06W
RIG NAME: Aztec 507
STATE: Colorado
COUNTY: Country
WELL NAME: Tubbs 32-6-9 A2

FIELD: San Juan Basin
Township: 32N
Range 6W

MOTOR INFORMATION	
Desc: 6 1/2 Motor 7/8 3.0 FBH 1.5	
Bent Hsg/Sub: 1.5 / 0	Bit to Bend: 4.44
Pad OD: 6 7/8	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	29-May	Drilling	16:15	16:23	0.13	104	106	2	10	15.0	50	2300	446	750		1.05	143.00	2.63	
2	29-May	Sliding	16:23	16:47	0.40	106	122	16	10	40.0	50	2300	446	750	140M	1.59	133.00	3.51	
2	29-May	Drilling	16:47	16:55	0.13	122	135	13	10	97.5	50	2300	446	750		2.05	136.00	3.51	
2	29-May	Sliding	17:00	17:15	0.25	135	151	16	12	64.0	50	2300	446	750	140M	2.75	139.00	4.60	
2	29-May	Drilling	17:15	17:20	0.08	151	164	13	14	156.0	50	2300	446	750		3.34	141.00	4.60	
2	29-May	Sliding	17:25	17:35	0.17	164	180	16	14	96.0	50	2300	558	1000	140M	4.24	132.00	5.87	
2	29-May	Drilling	17:35	17:40	0.08	180	193	13	14	156.0	50	2300	558	1000		4.99	133.00	5.87	
2	29-May	Sliding	18:20	18:35	0.25	193	213	20	18	80.0	50	2300	558	1000	163M	6.21	134.00	6.14	
2	29-May	Drilling	18:35	18:45	0.17	213	223	10	18	60.0	50	2300	558	1000		6.83	134.00	6.14	
2	29-May	Sliding	18:50	19:08	0.30	223	243	20	20	66.7	50	2300	558	1000	163M	8.09	135.00	6.43	
2	29-May	Drilling	19:08	19:15	0.12	243	252	9	20	77.1	50	2300	558	1000		8.67	136.00	6.43	
2	29-May	Sliding	19:20	19:35	0.25	252	268	16	20	64.0	50	2300	558	1000	30R	9.47	137.00	4.74	
2	29-May	Drilling	19:35	19:47	0.20	268	282	14	20	70.0	50	2300	558	1000		10.12	138.00	4.74	
2	29-May	Sliding	19:52	20:10	0.30	282	298	16	20	53.3	50	2300	558	1000	50R	10.79	139.00	4.69	
2	29-May	Drilling	20:10	20:20	0.17	298	312	14	20	84.0	50	2300	558	1000		11.37	141.00	4.69	
2	29-May	Sliding	20:25	20:43	0.30	312	328	16	22	53.3	50	2300	558	1000	50R	12.11	143.00	5.09	
2	29-May	Drilling	20:43	20:55	0.20	328	342	14	22	70.0	50	2300	558	1000		12.77	144.00	5.09	
2	29-May	Sliding	21:00	21:07	0.12	342	357	15	22	128.6	50	2300	585	1150	20R	13.48	144.00	4.74	
2	29-May	Drilling	21:07	21:20	0.22	357	373	16	22	73.8	50	2300	585	1150		14.23	145.00	4.74	
2	29-May	Sliding	21:25	21:35	0.17	373	388	15	24	90.0	50	2300	585	1150	15R	14.94	145.00	4.74	
2	29-May	Drilling	21:35	21:45	0.17	388	404	16	24	96.0	50	2300	585	1150		15.70	145.00	4.74	
2	29-May	Sliding	21:50	22:05	0.25	404	418	14	24	56.0	50	2300	585	1150	10R	16.32	145.00	4.52	
2	29-May	Drilling	22:05	22:20	0.25	418	434	16	24	64.0	50	2300	585	1150		17.01	146.00	4.52	
2	29-May	Sliding	22:25	22:30	0.08	434	446	12	26	144.0	50	2300	585	1150	30R	17.43	147.00	3.09	
2	29-May	Drilling	22:30	22:40	0.17	446	465	19	26	114.0	50	2300	585	1150		17.99	147.00	3.09	

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	29-May	Sliding	22:45	22:55	0.17	465	476	11	26	66.0	50	2300	585	1150	30R	18.37	148.00	3.90	
2	29-May	Drilling	22:55	23:05	0.17	476	496	20	26	120.0	50	2300	585	1150		19.11	148.00	3.90	
2	29-May	Sliding	23:10	23:20	0.17	496	506	10	28	60.0	50	2300	585	1150	10R	19.47	148.00	3.44	
2	29-May	Drilling	23:20	23:30	0.17	506	526	20	28	120.0	50	2300	585	1150		20.15	148.00	3.44	
2	29-May	Sliding	23:35	23:45	0.17	526	538	12	30	72.0	50	2300	585	1150	5R	20.48	148.00	2.38	
2	29-May	Drilling	23:45	24:00	0.25	538	557	19	28	76.0	50	2300	585	1150		20.93	149.00	2.38	
2	30-May	Sliding	00:10	00:20	0.17	557	565	8	30	48.0	50	2300	585	1150	10L	21.13	148.00	3.01	
2	30-May	Drilling	00:20	00:30	0.17	565	587	22	30	132.0	50	2300	585	1150		21.72	149.00	3.01	
2	30-May	Sliding	00:35	00:50	0.25	587	603	16	30	64.0	50	2300	585	1150	5L	22.26	147.00	3.99	
2	30-May	Drilling	00:50	01:00	0.17	603	618	15	30	90.0	50	2300	585	1150		22.80	148.00	3.99	
2	30-May	Sliding	01:05	01:15	0.17	618	634	16	30	96.0	50	2300	585	1150	5L	23.49	146.00	4.78	
2	30-May	Drilling	01:15	01:25	0.17	634	648	14	30	84.0	50	2300	585	1150		24.13	146.00	4.78	
2	30-May	Sliding	01:30	01:50	0.33	648	664	16	35	48.0	50	2300	585	1150	5R	24.92	144.00	5.14	
2	30-May	Drilling	01:50	02:10	0.33	664	679	15	35	45.0	50	2300	585	1150		25.69	144.00	4.90	
2	30-May	Sliding	02:18	02:35	0.28	679	699	20	35	70.6	50	2300	585	1550	15R	26.63	145.00	4.90	
2	30-May	Drilling	02:35	02:45	0.17	699	710	11	35	66.0	50	2300	585	1550		27.15	145.00	4.90	
2	30-May	Sliding	02:50	03:10	0.33	710	730	20	35	60.0	50	2300	585	1550	25R	28.10	146.00	4.90	
2	30-May	Drilling	03:10	03:13	0.05	730	735	5	35	100.0	50	2300	585	1550		28.34	146.00	4.90	

Total Drilled:

631

Avg. Total ROP:

73.51

DEPTH% - TIME %

Total Rotary Drilled:

310

Avg. Rotary ROP:

83.41

Percent Rotary: 49.13 - 43.30

Total Drilled Sliding:

321

Avg. Slide ROP:

65.96

Percent Slide: 50.87 - 56.70

BHA # 3

SDI



JOB NO.: 330515DEF284836 Work Order: 284836
 COMPANY: B.P.
 LOCATION: Sec 9 T32N R06W
 RIG NAME: Aztec 507
 STATE: Colorado
 COUNTY: La Plata
 WELL NAME: Tubbs 32-6-9 A2

FIELD: San Juan Basin
 Township: 32N
 SECT. RANGE: 9 6W
 Lead DD: Mark Houston
 Co. Man: Mike Colbert
 BHA TYPE: Steerable Assembly
 BHA WT: 10791 Wt @ Jars: N/A

Time and Depths		MOTOR DATA		Drilling Parameters	
Date In:	31-May-15 @ 11:30	6 1/2 Motor 7/8 3.3 FBH 1.5		SO/PU:	45 - 70 / 46-128
Date Out:	02-Jun-15 @ 01:40	MFG.: SDI		Rot Strg Wt:	52-92
Hrs In Hole:	38.17	Pad OD: 6 7/8		WOB:	2 - 36
Start Depth:	735.00	NB Stab: 0		TORQ:	2300 - 8000
End Depth:	3590.00	Bit to Bend: 5.23		SPP:	650 - 1930
Total Drilled:	2855.00	Bent Hsg/Sub°: 1.5 /		Motor RPM:	47 - 82
Avg. Total ROP:	167.45	Lobe/Stage: 7/8 / 3.3		Rotary RPM:	40 - 70
Circ Hrs: Tot/Only	22.02 / 4.97	Rev/GAL: 0.14		Flow Rate:	335 - 585
Percent Slide:	17.65	Rotor Jet: 0		Avg Diff:	250
Percent Hrs:	27.66	Prop BUR: 8.5		Stall Pres.:	510
Slide Hours:	4.72	Act BUR: 10		Off Bot Pres.:	1700
Total Sliding:	504.00	Mud Data		Bit Record	
Avg. Slide ROP:	106.86	Type Water Based		SMITH / 7 7/8 Smith MDSi516 PDC w/	
Percent Rotary:	82.35	WT:	8.5	GAS:	0
Percent Hrs:	72.34	Vis:	48	PV:	8
Rotary Hours:	12.33	WL:	11	PH:	9
Total Rotary:	2351.00	SOL:	0.5	SAND:	0.01
Avg. Rotary ROP:	190.62	Oil %:	0	T °:	0
Reason POOH:	TD	Chlor:	1000	YP:	5
MWD Spacing	Gamma: 34.05	Restiv: 38.07	Sensor: 58.6	Last Casing	
	GYRO: 0	DNSC: 0	Sonic: 0	Shoe @: Hanger @:	

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

Bit to eye=58.70
 Bit Gain=35.05
 Bit to resistivity=38.07
 Bit gamma=34.05

BHA Detail

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
7 7/8 Smith MDSi516 PDC w/ 3x13's 2x12's	JJ7387	.61	7 7/8	0.75	0.75	4 1/2 REGP	SMITH
6 1/2 Motor 7/8 3.3 FBH 1.5	6348	1	6 1/2	29.49	30.24	4 1/2 XHB	SDI
Float Sub	5-229	2 13/16	6 1/2	2.89	33.13	4 1/2 XHB	SDI
PRT Collar	182-011	3 1/4	6 1/2	30.96	64.09	4 1/2 XHB	SDI
6 1/2 NMPC	125-485	3 1/4	6 9/16	10.03	74.12	4 1/2 XHB	SDI
6 1/2 HOS	8-728	3 1/4	6 3/8	1.90	76.02	4 1/2 XHB	SDI
6 1/2 GAP SUB	69-858	2 7/8	6 3/8	4.71	80.73	4 1/2 XHB	SDI
6 1/2 NMDC	122-283	3 5/16	6 1/8	30.29	111.02	4 1/2 XHB	SDI
6 1/2 NMDC	122-691	3 1/4	6 7/16	30.98	142.00	4 1/2 XHB	SDI

6 1/2 NMDC
 O.D.=6 7/16
 Length=30.98

6 1/2 NMDC
 O.D.=6 1/8
 Length=30.29

6 1/2 GAP SUB
 O.D.=6 3/8
 Length=4.71

6 1/2 HOS
 O.D.=6 3/8
 Length=1.9

6 1/2 NMPC
 O.D.=6 9/16
 Length=10.03

PRT Collar
 O.D.=6 1/2
 Length=30.96
 FN=run this one

Float Sub
 O.D.=6 1/2

6 1/2 Motor 7/8 3.3 FBH 1.5
 O.D.=6 1/2
 Length=29.49

7 7/8 Smith MDSi516 PDC w/ 3x13's
 O.D.=7 7/8
 Length=0.75



JOB NO.: 330515DEF284836
COMPANY: B.P.
LOCATION: Sec 9 T32N R06W
RIG NAME: Aztec 507
STATE: Colorado
COUNTY: Country
WELL NAME: Tubbs 32-6-9 A2

FIELD: San Juan Basin
Township: 32N
Range 6W

MOTOR INFORMATION	
Desc: 6 1/2 Motor 7/8 3.3 FBH 1.5	
Bent Hsg/Sub: 1.5 / 0	Bit to Bend: 5.23
Pad OD: 6 7/8	NB Stab:

Slide Report for BHA # 3

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
3	31-May	Drilling	15:00	15:08	0.13	735	745	10	35	75.0	50	2300	585	1550		28.81	146.00	4.90	
3	31-May	Drilling	17:20	17:25	0.08	745	754	9	20	108.0	50	2300	335	650		29.24	146.00	4.90	
3	31-May	Sliding	17:40	17:50	0.17	754	767	13	28	78.0	50	2300	585	650	10R	29.60	147.00	3.42	
3	31-May	Drilling	17:50	17:55	0.08	767	785	18	15	216.0	50	2300	335	650		30.10	147.00	3.42	
3	31-May	Sliding	18:00	18:05	0.08	785	798	13	28	156.0	50	2300	335	650	10R	30.47	146.00	4.47	
3	31-May	Drilling	18:05	18:13	0.13	798	815	17	15	127.5	50	2300	335	650		30.96	147.00	4.47	
3	31-May	Sliding	18:20	18:25	0.08	815	828	13	28	156.0	50	2300	335	650	360	31.57	147.00	4.87	
3	31-May	Drilling	18:25	18:32	0.12	828	846	18	15	154.3	50	2300	335	650		32.45	147.00	4.87	
3	31-May	Sliding	18:50	19:00	0.17	846	864	18	28	108.0	50	2300	335	650	360	33.39	148.00	6.44	
3	31-May	Drilling	19:00	19:06	0.10	864	877	13	20	130.0	50	2300	335	650		34.07	149.00	6.44	
3	31-May	Sliding	19:15	19:20	0.08	877	892	15	28	180.0	70	2300	558	1350	10L	34.67	145.00	4.43	
3	31-May	Drilling	19:20	19:25	0.08	892	907	15	20	180.0	70	2300	558	1350		35.27	146.00	4.43	
3	31-May	Sliding	19:30	19:35	0.08	907	922	15	28	180.0	70	2300	558	1350	10L	36.08	146.00	5.82	
3	31-May	Drilling	19:35	19:40	0.08	922	937	15	20	180.0	70	2300	558	1350		36.91	147.00	5.82	
3	31-May	Sliding	19:45	19:50	0.08	937	952	15	28	180.0	70	2300	558	1350	360	37.52	145.00	3.86	
3	31-May	Drilling	19:50	19:53	0.05	952	968	16	20	320.0	70	2300	558	1350		38.13	145.00	3.86	
3	31-May	Sliding	19:58	20:02	0.07	968	984	16	28	240.0	70	2300	558	1350	360	38.97	145.00	5.31	
3	31-May	Drilling	20:02	20:05	0.05	984	999	15	20	300.0	70	2300	558	1350		39.76	145.00	5.31	
3	31-May	Sliding	20:10	20:17	0.12	999	1017	18	28	154.3	70	2300	558	1350	360	40.36	146.00	4.01	
3	31-May	Drilling	20:17	20:23	0.10	1017	1030	13	20	130.0	70	2300	558	1350		40.77	146.00	4.01	
3	31-May	Drilling	20:27	20:35	0.13	1030	1061	31	20	232.5	70	2300	558	1350		40.69	144.00	0.48	
3	31-May	Drilling	20:40	20:45	0.08	1061	1093	32	20	384.0	70	2300	558	1350		41.35	145.00	2.98	
3	31-May	Sliding	20:50	20:55	0.08	1093	1109	16	28	192.0	70	2300	558	1350	25R	41.57	145.00	1.37	
3	31-May	Drilling	20:55	21:00	0.08	1109	1125	16	2	192.0	70	2300	558	1350		41.77	145.00	1.37	
3	31-May	Drilling	21:05	21:10	0.08	1125	1156	31	20	372.0	70	2300	558	1350		41.35	145.00	1.61	

Slide Report for BHA # 3

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
3	31-May	Drilling	21:15	21:23	0.13	1156	1187	31	20	232.5	70	2300	558	1350		41.84	146.00	1.97	
3	31-May	Sliding	21:28	21:32	0.07	1187	1202	15	28	225.0	70	2300	558	1350	10R	42.16	145.00	2.40	
3	31-May	Drilling	21:32	21:37	0.08	1202	1218	16	20	192.0	70	2300	558	1350		42.52	145.00	2.40	
3	31-May	Drilling	21:42	21:50	0.13	1218	1249	31	20	232.5	70	2300	558	1350		42.32	145.00	1.38	
3	31-May	Drilling	21:55	22:00	0.08	1249	1281	32	20	384.0	70	2300	558	1350		42.12	145.00	1.78	
3	31-May	Drilling	22:05	22:10	0.08	1281	1312	31	20	372.0	70	2300	558	1350		42.10	146.00	1.91	
3	31-May	Drilling	22:20	22:25	0.08	1312	1344	32	20	384.0	70	2300	558	1350		41.88	144.00	0.77	
3	31-May	Drilling	22:30	22:37	0.12	1344	1376	32	20	274.3	70	2300	558	1350		41.37	145.00	2.52	
3	31-May	Drilling	22:42	22:48	0.10	1376	1408	32	25	320.0	70	2300	558	1350		41.22	145.00	1.17	
3	31-May	Drilling	22:53	23:00	0.12	1408	1439	31	25	265.7	70	2300	558	1350		41.04	144.00	0.69	
3	31-May	Drilling	23:05	23:14	0.15	1439	1470	31	25	206.7	70	2300	558	1350		40.84	144.00	0.65	
3	31-May	Drilling	23:18	23:25	0.12	1470	1501	31	25	265.7	70	2300	558	1350		41.37	144.00	1.89	
3	31-May	Sliding	23:30	23:35	0.08	1501	1514	13	28	156.0	70	2300	558	1350	10R	41.63	144.00	1.98	
3	31-May	Drilling	23:35	23:43	0.13	1514	1533	19	25	142.5	70	8000	558	1350		42.00	144.00	1.98	
3	31-May	Drilling	23:48	23:53	0.08	1533	1565	32	25	384.0	70	8000	558	1350		41.62	144.00	1.54	
3	1-Jun	Drilling	00:05	00:12	0.12	1565	1597	32	25	274.3	70	8000	558	1580		41.23	144.00	1.22	
3	1-Jun	Drilling	00:25	00:30	0.08	1597	1629	32	25	384.0	70	8000	558	1580		41.41	144.00	0.77	
3	1-Jun	Sliding	00:35	00:40	0.08	1629	1641	12	33	144.0	70	8000	558	1580	25R	41.59	145.00	2.43	
3	1-Jun	Drilling	00:40	00:45	0.08	1641	1660	19	25	228.0	70	8000	558	1580		41.90	145.00	2.43	
3	1-Jun	Drilling	00:50	00:58	0.13	1660	1691	31	25	232.5	70	8000	558	1580		41.60	144.00	2.00	
3	1-Jun	Drilling	01:03	01:10	0.12	1691	1723	32	25	274.3	70	8000	558	1580		41.41	145.00	2.44	
3	1-Jun	Drilling	01:15	01:23	0.13	1723	1754	31	25	232.5	70	8000	558	1580		41.69	145.00	3.59	
3	1-Jun	Sliding	01:28	01:33	0.08	1754	1769	15	33	180.0	70	8000	558	1580	35R	41.76	145.00	0.81	
3	1-Jun	Drilling	01:33	01:37	0.07	1769	1785	16	25	240.0	70	8000	558	1580		41.83	145.00	0.81	
3	1-Jun	Drilling	01:42	01:50	0.13	1785	1816	31	25	232.5	70	8000	558	1580		41.62	146.00	1.47	
3	1-Jun	Drilling	02:00	02:05	0.08	1816	1847	31	25	372.0	70	8000	558	1580		41.51	146.00	1.49	
3	1-Jun	Drilling	02:15	02:25	0.17	1847	1874	27	25	162.0	70	8000	335	1050		41.84	145.00	1.83	
3	1-Jun	Drilling	02:29	02:30	0.02	1874	1878	4	25	240.0	70	8000	335	1050		41.90	145.00	1.83	
3	1-Jun	Sliding	02:35	02:40	0.08	1878	1893	15	33	180.0	70	8000	335	1050	360	42.00	146.00	1.57	
3	1-Jun	Drilling	02:40	02:48	0.13	1893	1910	17	25	127.5	70	8000	335	1050		42.08	146.00	1.57	
3	1-Jun	Drilling	02:53	03:00	0.12	1910	1941	31	25	265.7	70	8000	335	1050		41.83	146.00	2.05	
3	1-Jun	Drilling	03:05	03:11	0.10	1941	1973	32	25	320.0	70	8000	335	1050		41.19	146.00	2.17	
3	1-Jun	Drilling	03:16	03:17	0.02	1973	1976	3	25	180.0	70	8000	335	1050		41.16	145.00	1.40	

Slide Report for BHA # 3

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
3	1-Jun	Drilling	03:20	03:30	0.17	1976	2005	29	25	174.0	70	8000	335	1050		41.51	146.00	1.40	
3	1-Jun	Sliding	03:35	03:42	0.12	2005	2020	15	33	128.6	70	8000	335	1050	10R	41.73	145.00	1.96	
3	1-Jun	Drilling	03:42	03:47	0.08	2020	2036	16	25	192.0	70	8000	335	1050		41.97	146.00	1.96	
3	1-Jun	Drilling	03:55	04:10	0.25	2036	2067	31	10	124.0	40	8000	580	1868		41.67	145.00	1.31	
3	1-Jun	Drilling	04:15	04:48	0.55	2067	2130	63	10	114.5	40	8000	580	1868		40.99	145.00	0.98	
3	1-Jun	Drilling	04:51	05:02	0.18	2130	2162	32	10	174.5	40	8000	580	1868		40.91	145.00	0.28	
3	1-Jun	Drilling	05:05	05:20	0.25	2162	2193	31	10	124.0	40	8000	580	1868		40.63	145.00	1.66	
3	1-Jun	Drilling	05:23	05:36	0.22	2193	2223	30	10	138.5	40	8000	580	1868		40.66	146.00	0.39	
3	1-Jun	Drilling	05:39	05:57	0.30	2223	2257	34	10	113.3	40	8000	580	1868		40.82	146.00	0.50	
3	1-Jun	Drilling	06:00	06:12	0.20	2257	2289	32	10	160.0	40	8000	580	1868		40.67	146.00	1.78	
3	1-Jun	Drilling	06:15	06:30	0.25	2289	2320	31	10	124.0	40	8000	580	1868		40.05	147.00	2.66	
3	1-Jun	Sliding	06:33	06:46	0.22	2320	2332	12	33	55.4	40	8000	335	1868	160L	39.52	146.00	4.53	
3	1-Jun	Drilling	06:46	06:56	0.17	2332	2349	17	10	102.0	40	8000	580	1868		38.76	146.00	4.53	
3	1-Jun	Sliding	06:59	07:04	0.08	2349	2361	12	33	144.0	40	8000	335	1868	160L	38.16	146.00	5.25	
3	1-Jun	Drilling	07:04	07:10	0.10	2361	2381	20	10	200.0	40	8000	580	1868		37.11	146.00	5.25	
3	1-Jun	Sliding	07:14	07:21	0.12	2381	2393	12	33	102.9	40	8000	335	1868	160L	36.52	146.00	5.04	
3	1-Jun	Drilling	07:21	07:26	0.08	2393	2413	20	10	240.0	40	8000	580	1868		35.53	146.00	5.04	
3	1-Jun	Sliding	07:29	07:35	0.10	2413	2434	21	33	210.0	40	8000	335	1868	160L	34.37	147.00	6.08	
3	1-Jun	Drilling	07:35	07:39	0.07	2434	2444	10	10	150.0	40	8000	580	1868		33.81	148.00	6.08	
3	1-Jun	Sliding	07:42	07:51	0.15	2444	2453	9	33	60.0	40	8000	335	1868	160L	33.38	145.00	4.71	
3	1-Jun	Drilling	07:51	07:57	0.10	2453	2475	22	10	220.0	40	8000	580	1868		32.39	146.00	4.71	
3	1-Jun	Sliding	08:00	08:04	0.07	2475	2483	8	33	120.0	40	8000	335	1868	160L	32.07	146.00	3.71	
3	1-Jun	Drilling	08:04	08:12	0.13	2483	2507	24	10	180.0	40	8000	580	1868		31.22	146.00	3.71	
3	1-Jun	Sliding	08:15	08:19	0.07	2507	2514	7	33	105.0	40	8000	335	1868	160L	31.00	145.00	2.93	
3	1-Jun	Drilling	08:19	08:26	0.12	2514	2539	25	10	214.3	40	8000	580	1868		30.28	145.00	2.93	
3	1-Jun	Sliding	08:29	08:35	0.10	2539	2547	8	33	80.0	40	8000	335	1868	160L	30.04	145.00	3.25	
3	1-Jun	Drilling	08:35	08:42	0.12	2547	2570	23	10	197.1	40	8000	580	1868		29.34	146.00	3.25	
3	1-Jun	Sliding	08:45	08:50	0.08	2570	2578	8	33	96.0	40	8000	335	1868	160L	28.99	144.00	5.48	
3	1-Jun	Drilling	08:50	08:57	0.12	2578	2601	23	10	197.1	40	8000	580	1868		27.90	146.00	5.48	
3	1-Jun	Sliding	09:01	09:06	0.08	2601	2612	11	33	132.0	40	8000	335	1868	160L	27.26	146.00	6.10	
3	1-Jun	Drilling	09:06	09:14	0.13	2612	2632	20	10	150.0	40	8000	580	1868		26.04	146.00	6.10	
3	1-Jun	Sliding	09:17	09:24	0.12	2632	2643	11	33	94.3	40	8000	335	1868	160L	25.58	146.00	3.76	
3	1-Jun	Drilling	09:24	09:33	0.15	2643	2664	21	10	140.0	40	8000	580	1868		24.80	146.00	3.76	

Slide Report for BHA # 3

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
3	1-Jun	Sliding	09:35	09:43	0.13	2664	2673	9	33	67.5	40	8000	335	1868	160L	24.50	146.00	3.19	
3	1-Jun	Drilling	09:43	09:54	0.18	2673	2695	22	10	120.0	40	8000	580	1868		23.80	146.00	3.19	
3	1-Jun	Sliding	09:57	10:01	0.07	2695	2702	7	33	105.0	40	8000	335	1868	160L	23.54	146.00	3.95	
3	1-Jun	Drilling	10:01	10:09	0.13	2702	2726	24	10	180.0	40	8000	580	1868		22.60	146.00	3.95	
3	1-Jun	Sliding	10:12	10:23	0.18	2726	2735	9	33	49.1	40	8000	335	1868	160L	22.25	146.00	3.85	
3	1-Jun	Drilling	10:23	10:31	0.13	2735	2758	23	10	172.5	40	8000	580	1868		21.38	146.00	3.85	
3	1-Jun	Sliding	10:34	10:41	0.12	2758	2767	9	33	77.1	40	8000	335	1868	160L	21.04	145.00	3.98	
3	1-Jun	Drilling	10:41	10:48	0.12	2767	2789	22	10	188.6	40	8000	580	1868		20.23	146.00	3.98	
3	1-Jun	Sliding	10:51	11:00	0.15	2789	2798	9	36	60.0	40	8000	335	1868	160L	19.83	147.00	5.18	
3	1-Jun	Drilling	11:00	11:09	0.15	2798	2820	22	10	146.7	40	8000	580	1868		18.76	148.00	5.18	
3	1-Jun	Sliding	11:12	11:18	0.10	2820	2829	9	36	90.0	40	8000	335	1868	160L	18.40	145.00	3.52	
3	1-Jun	Drilling	11:18	11:27	0.15	2829	2852	23	10	153.3	40	8000	580	1868		17.59	145.00	3.52	
3	1-Jun	Sliding	11:30	11:38	0.13	2852	2862	10	36	75.0	40	8000	335	1868	160L	17.22	145.00	4.02	
3	1-Jun	Drilling	11:38	11:46	0.13	2862	2884	22	10	165.0	40	8000	580	1868		16.40	146.00	4.02	
3	1-Jun	Sliding	11:49	11:56	0.12	2884	2892	8	36	68.6	40	8000	335	1868	180	16.06	146.00	4.22	
3	1-Jun	Drilling	11:56	12:05	0.15	2892	2915	23	10	153.3	40	8000	580	1868		15.09	146.00	4.22	
3	1-Jun	Sliding	12:08	12:13	0.08	2915	2924	9	36	108.0	40	8000	335	1868	180	14.78	147.00	3.60	
3	1-Jun	Drilling	12:13	12:21	0.13	2924	2946	22	10	165.0	40	8000	580	1868		14.06	148.00	3.60	
3	1-Jun	Sliding	12:24	12:31	0.12	2946	2956	10	36	85.7	40	8000	335	1868	160L	13.63	145.00	4.70	
3	1-Jun	Drilling	12:31	12:40	0.15	2956	2978	22	10	146.7	40	8000	580	1868		12.64	146.00	4.70	
3	1-Jun	Sliding	12:43	12:51	0.13	2978	2987	9	36	67.5	40	8000	335	1868	160L	12.21	143.00	5.04	
3	1-Jun	Drilling	12:51	13:00	0.15	2987	3009	22	10	146.7	40	8000	580	1868		11.16	145.00	5.04	
3	1-Jun	Sliding	13:23	13:34	0.18	3009	3019	10	36	54.5	40	8000	335	1868	170L	10.71	146.00	4.69	
3	1-Jun	Drilling	13:34	13:49	0.25	3019	3041	22	10	88.0	40	8000	580	1868		9.71	147.00	4.69	
3	1-Jun	Sliding	14:00	14:09	0.15	3041	3051	10	36	66.7	40	8000	335	1868	170L	9.23	144.00	4.87	
3	1-Jun	Drilling	14:09	14:16	0.12	3051	3072	21	10	180.0	40	8000	580	1868		8.23	145.00	4.87	
3	1-Jun	Sliding	14:19	14:26	0.12	3072	3082	10	36	85.7	40	8000	335	1868	170L	7.89	145.00	3.09	
3	1-Jun	Drilling	14:26	14:35	0.15	3082	3103	21	10	140.0	40	8000	580	1868		7.25	146.00	3.09	
3	1-Jun	Sliding	14:38	14:44	0.10	3103	3113	10	36	100.0	40	8000	335	1868	170L	6.76	147.00	5.47	
3	1-Jun	Drilling	14:44	14:54	0.17	3113	3135	22	10	132.0	40	8000	580	1868		5.57	149.00	5.47	
3	1-Jun	Sliding	14:57	15:04	0.12	3135	3145	10	36	85.7	40	8000	335	1868	170L	5.28	151.00	3.25	
3	1-Jun	Drilling	15:04	15:10	0.10	3145	3166	21	10	210.0	40	8000	580	1868		4.86	157.00	3.25	
3	1-Jun	Drilling	15:13	15:24	0.18	3166	3198	32	10	174.5	40	8000	580	1868		4.49	140.00	1.07	

Slide Report for BHA # 3

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
3	1-Jun	Drilling	15:27	15:34	0.12	3198	3230	32	10	274.3	40	8000	580	1868		4.21	149.00	2.58	
3	1-Jun	Drilling	15:37	15:44	0.12	3230	3261	31	10	265.7	40	8000	580	1868		4.44	153.00	1.20	
3	1-Jun	Drilling	15:47	15:56	0.15	3261	3293	32	10	213.3	40	8000	580	1868		4.94	155.00	1.65	
3	1-Jun	Drilling	15:59	16:08	0.15	3293	3324	31	10	206.7	40	8000	580	1868		4.24	157.00	2.70	
3	1-Jun	Drilling	16:11	16:20	0.15	3324	3355	31	10	206.7	40	8000	580	1868		4.06	167.00	2.47	
3	1-Jun	Drilling	16:46	16:54	0.13	3355	3387	32	15	240.0	40	8000	580	1868		4.11	153.00	1.63	
3	1-Jun	Drilling	16:57	17:07	0.17	3387	3418	31	15	186.0	40	8000	580	1930		3.78	155.00	1.24	
3	1-Jun	Drilling	17:10	17:20	0.17	3418	3449	31	15	186.0	60	8000	580	1930		3.83	155.00	0.23	
3	1-Jun	Drilling	17:25	17:35	0.17	3449	3481	32	15	192.0	60	8000	580	1930		3.38	165.00	2.44	
3	1-Jun	Drilling	17:40	17:48	0.13	3481	3512	31	15	232.5	60	8000	580	1930		3.55	157.00	2.27	
3	1-Jun	Drilling	17:53	18:00	0.12	3512	3543	31	25	265.7	60	8000	580	1930		3.44	158.00	0.41	
3	1-Jun	Drilling	18:10	18:18	0.13	3543	3574	31	25	232.5	60	8000	580	1930		3.32	158.00	0.41	
3	1-Jun	Drilling	18:24	18:26	0.03	3574	3590	16	25	480.0	60	8000	580	1930		3.29	159.00	0.00	

Total Drilled:

2855

Avg. Total ROP:

167.45

DEPTH% - TIME %

Total Rotary Drilled:

2351

Avg. Rotary ROP:

190.62

Percent Rotary:

82.35 - 72.34

Total Drilled Sliding:

504

Avg. Slide ROP:

106.86

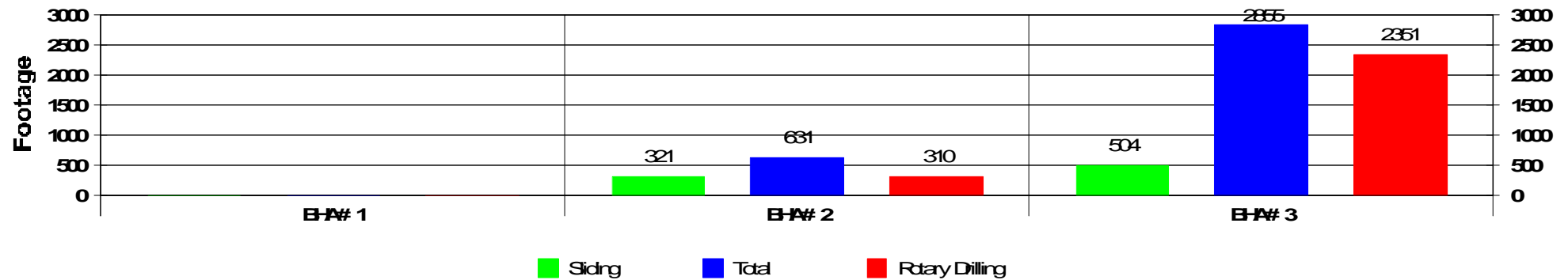
Percent Slide:

17.65 - 27.66

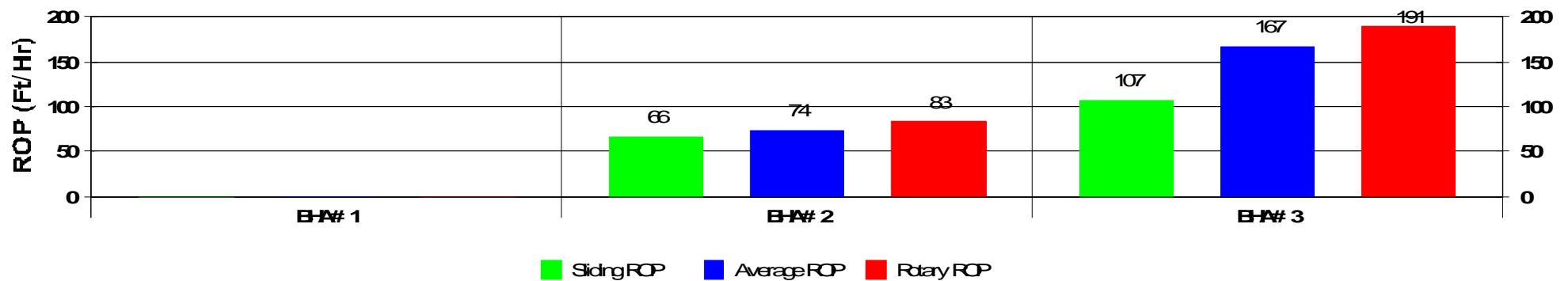


JOB NO.:	330515DEF284836	FIELD:	San Juan Basin	
COMPANY:	B.P.	Township:	32N	
LOCATION:	Sec 9 T32N R06W	SECT/RANGE:	9	6W
RIG NAME:	Aztec 507	COMMENT		
STATE:	Colorado			
COUNTY:	La Plata			
WELL NAME:	Tubbs 32-6-9 A2			

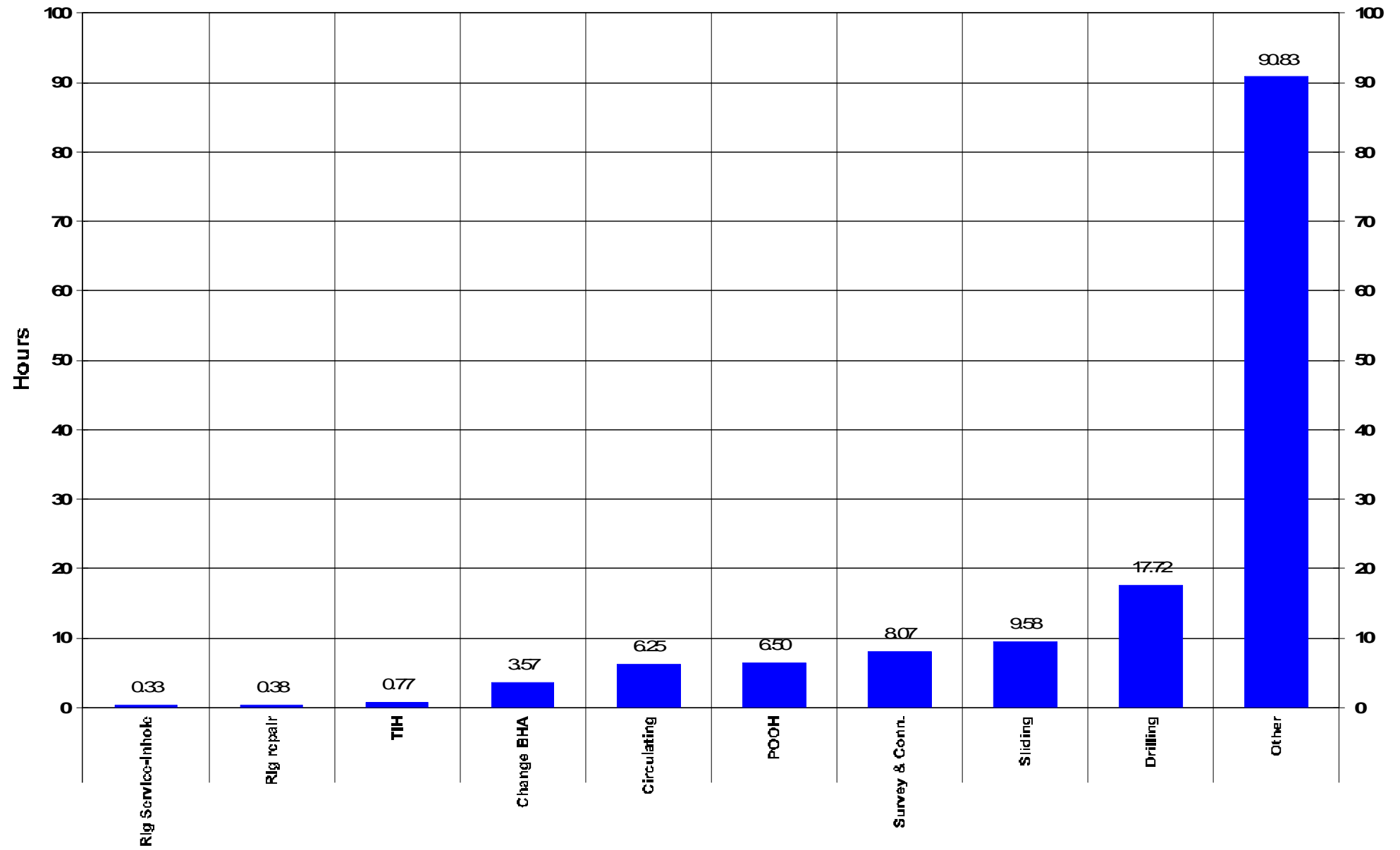
Footage Drilled with BHA



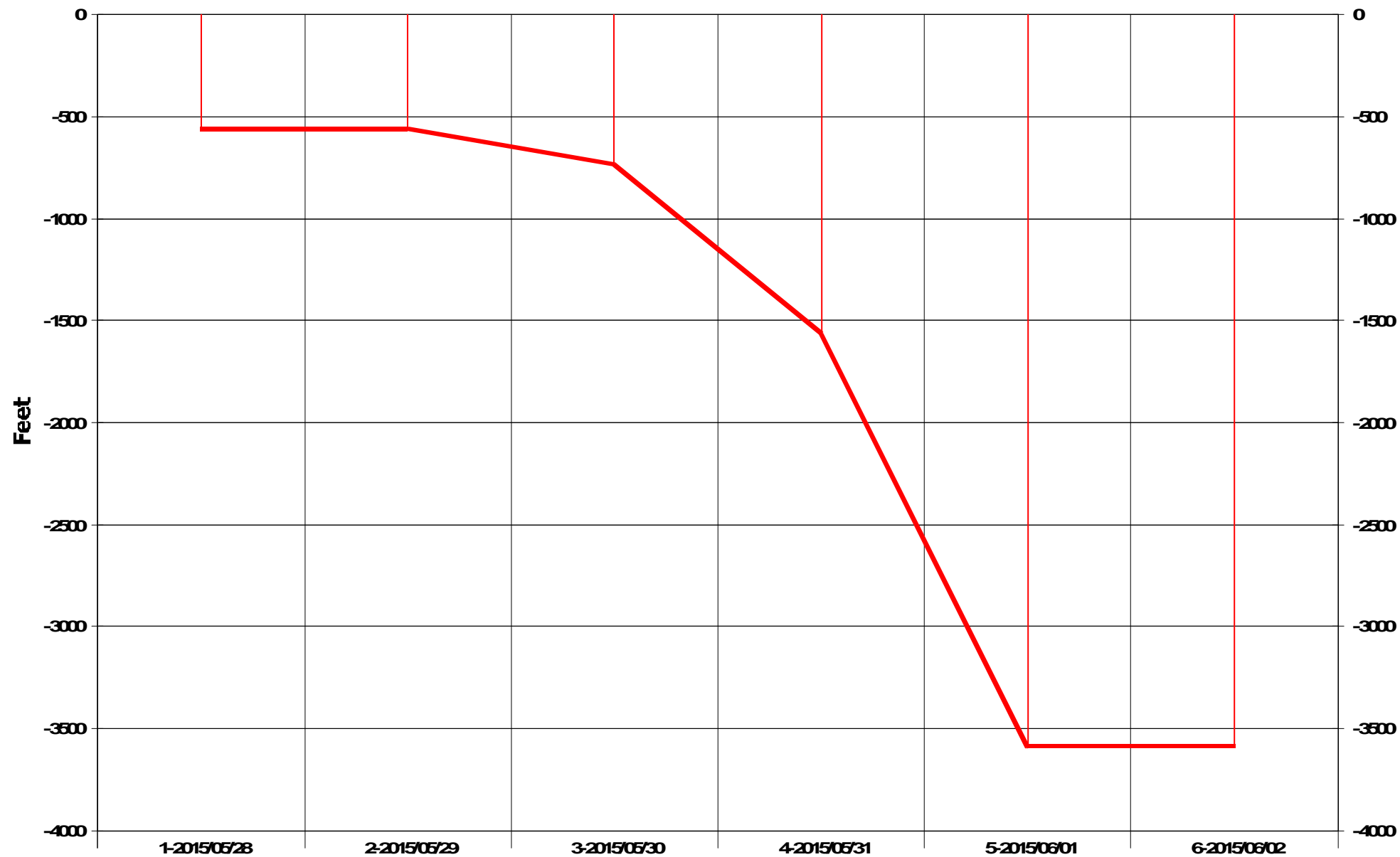
ROP vs BHA



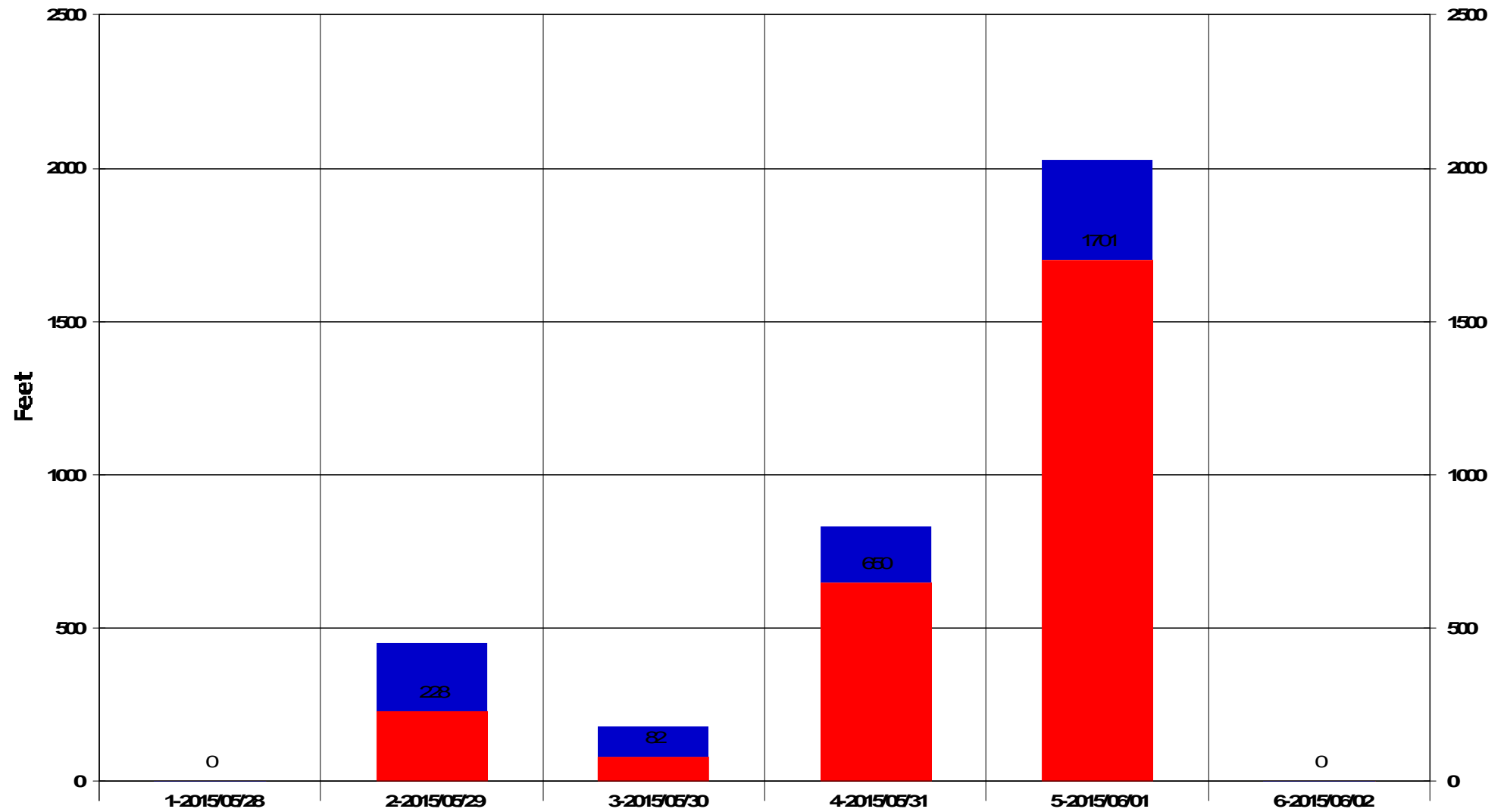
Activity Histogram



Measured Depth vs Days



Daily Footage



Rotary Drilling Siding

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