

FloSurvey - Real Time Survey Tool

1200 Cypress Creek Road
Cedar Park, TX 78613
Phone: (512)340-5000
Fax: (512)340-5441

August 11, 2016

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NM OIL CONSERVATION

ARTESIA DISTRICT

NOV 15 2016

RECEIVED

CLIENT: Matador Production Company
WELL: B Banker 33-23S-28E RB #226H
FIELD: Culbera Bluff
RIG: Patterson 297
COUNTY: Eddy
API NO: 30-015-43817

We hereby certify that the enclosed field survey data performed on the referenced well by National Oilwell Varco, contained in this report represents to the best of our knowledge, a true and accurate survey of the surveyed section of the well at the time the survey was run.

Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Lee Pendegraft Survey Manager	B Banker 33-23S-28E RB #226H Original Hole	161.00 Ft to 466.00 Ft	July 20, 2016 to July 20, 2016	FloSurvey

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Jonathan Leininger
Field Service Manager

CC: Matador Production Company
Enclosures: [2]
County of Eddy
State of New Mexico

Attn: Adam Lange
One Lincoln Centre 5400 LBJ Freeway
Dallas, TX 75240

Attn:

FloSurvey - Real Time Survey Tool

1200 Cypress Creek Road

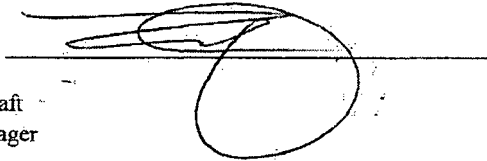
Cedar Park, TX 78613

Phone: (512) 340-5000

Fax: (512) 340-5441

I, Lee Pendegraft certify that; I am employed by National Oilwell Varco, L.P.; that the surveys taken on the day(s) of July 20, 2016 through July 20, 2016, from a depth of 161 feet to a depth of 466 feet; are to the best of my knowledge, the data is true, correct, complete and within the limitations of the tool as set forth by National Oilwell Varco, L.P.; that I am authorized and qualified to make this report; that this survey was conducted at the request of Matador Production Company for the B Banker 33-23S-28E RB #226H Well (Original Hole) API No. 30-015-43817 in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by National Oilwell Varco, L.P.

Signature



Lee Pendegraft
Survey Manager

Matador Production Company
Eddy County
B Banker 33-23S-28E RB #226H
Surveys: 161`MD - 466`MD
Survey Date: Wednesday, July 20, 2016

National Oilwell Varco

Survey Report

Thursday, August 11, 2016

UWI No. 30-015-43817

Surface Coordinates: 459686.00 N, 577167.00 E (32° 15' 48.7692" N, 104° 05' 01.2729" W)
Grid Coordinate System: NAD27 New Mexico State Planes, Eastern Zone, US Foot

Kelly Bushing Elevation: 3086.50ft above Mean Sea Level
Kelly Bushing Elevation: 28.50ft above Ground Level
Ground Level: 3058.00ft above Mean Sea Level

Survey Ref: svy576

Matador Production Company

Survey Report for Eddy County, B Banker 33-23S-28E RB #226H, Surveys:161`MD - 466`MD

Survey Depth (ft)	Incl. (°)	(Grid) Azim. (°)	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00	
161.00	1.53	337.41	160.98	1.98 N	0.83 W	2.15	0.95
285.00	2.03	337.53	284.92	5.54 N	2.30 W	5.99	0.40
466.00	2.54	325.75	465.78	11.82 N	5.78 W	13.16	0.38

All data is in Feet (US Survey) unless otherwise stated. Directions and coordinates are relative to Grid North.

Vertical depths are relative to B Banker 33-23S-28E RB #226H. Northings and Eastings are relative to B Banker 33-23S-28E RB #226H.

The dogleg severity is in Degrees per 100 feet (US Survey).

Vertical Section is from B Banker 33-23S-28E RB #226H calculated along an azimuth of 333.93° (Grid).

Based upon minimum curvature calculations, at a measured depth of 466.00ft, the bottom hole displacement is 13.16ft, in the direction of 333.93° (Grid).

The along-hole displacement is 13.19ft. The total accumulated dogleg is 2.71°.

The measured tortuosity is 0.61°/100ft. The directional difficulty index is 1.1.

Survey Tool Program for B Banker 33-23S-28E RB #226H, Surveys:161`MD - 466`MD

From Measured Depth (ft)	Vertical Depth (ft)	To Measured Depth (ft)	Vertical Depth (ft)	Survey Tool Description
0.00	0.00	466.00	465.78	NOV_FLOSURVEY_TILT_MEM

Matador Production Company

Survey Report for Eddy County, B Banker 33-23S-28E RB #226H, Surveys:161`MD - 466`MD

REFERENCE DATA			
Ellipsoid	Clarke - 1866	Unit System	Feet (Us Survey)
Coord. System	NAD27 New Mexico State Planes, Eastern Zone, US Foc	North Ref.	Grid North
Mag. Model	International Geomagnetic Reference Field 2015	Vertical Ref.	Mean Sea Level
Calc. Date	20 Jul, 2016		

LOCATION DATA			
RKB Elevation	3086.50ft above MSL	Total Field	48001.6 nT
Map North	459686.00 N	Magnetic Dip	60.03°
Map East	577167.00 E	Declination	7.28°
Latitude	32° 15' 48.7692" N	Convergence	0.13°
Longitude	104° 05' 01.2729" W		

NORTH REFERENCE DATA	
Magnetic Model	ational Geomagnetic Reference Field 2015
Calculation Date	Wednesday, July 20, 2016
Declination	7.28°
Inclination/Dip	60.03°
Horizontal Component	23981.2 nT
Northerly Component	23787.4 nT
Easterly Component	3043.4 nT
Vertical Component	41581.8 nT
Total Field Strength	48001.6 nT
Grid North is 0.13 degrees East of True North (Grid Convergence) Magnetic North is 7.28 degrees East of True North (Magnetic Declination) Magnetic North is 7.15 degrees East of Grid North (Magnetic Convergence)	
To convert a True Direction to a Grid Direction, Subtract 0.13 degrees. To convert a Magnetic Direction to a True Direction, Add 7.28 degrees. To convert a Magnetic Direction to a Grid Direction, Add 7.15 degrees.	

The diagram illustrates the angular relationships between three types of north: True North, Grid North, and Magnetic North. True North is represented by a vertical arrow pointing upwards. Grid North is an arrow pointing slightly to the right of True North, with an angle of 0.13° indicated between them. Magnetic North is an arrow pointing further to the right, with an angle of 7.15° indicated between Grid North and Magnetic North. A fourth arrow, labeled 'Hole Direction', points horizontally to the right from the same origin. The background of the diagram area is a textured, greyish-blue.

Disclaimer Notice

National Oilwell Varco makes no warranty of any kind with respect to the subject matter included herein or the completeness or accuracy of this document.

National Oilwell Varco are not responsible for any actions (or lack thereof) taken as a result of relying on or in any way using information contained in this document and in no event shall be liable for any damages resulting from reliance on or use of this information.



7821 Will Rogers Blvd.
Fort Worth, Texas 76140

817.568.1038 (office)
817.568.1499 (fax)
www.msenergyservices.com

State of Texas

County of Tarrant

I, JUSTIN RELOV, certify that; I am employed by MS Energy Services;
that I did on the day(s) of 7/21/16 through 8/2/16 conduct or supervise
the taking of MWD survey(s) from a depth of 161 feet to a depth of 14,278
feet; that the data is true, correct, complete and within the limitations of the tool set forth by MS Energy
Services; that I am authorized and qualified to make this report; that this survey(s) was / were
conducted at the request of MATADOR PRODUCTIONS COMPANY
for the BANKER 33-235-28ERB ^{226H} API No. 30-015-43817
in EDDY County Parish, NEW MEXICO; and that I have
reviewed this report and find that it conforms to the principles and procedures as set forth by
MS Energy Services.

Signature: J. Relov

Title: MWD FIELD SPECIALIST

MS Directional

MS Guidance

MS Survey

MS Wireline



SURVEY CALCULATION PROGRAM

11/2/16 9:20

Company:	Matador Production Company		
Well Name:	B Banker 33-23S-28E RB 226H		
Location:	Eddy County, NM		
Rig:	Patterson #297	Magnetic Declination:	7.21
Job Number:	DDMO-160309		
API #:	30-015-43817		

REFERENCED TO GRID NORTH

Vertical Section Azimuth:	269.56	Proposed Direction:	269.56
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Survey Calculation Method:	Minimum Curvature
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PTB:	MD	INC	AZM	TVD	N/S	E/W	VS
	14,350	91.5	269	9527.84	-400.54	-4941.11	4944.04
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	VS
TIE IN	0	0.00	0.00	0.00	0.00	0.00	0.00
1	161	1.50	338.00	160.98	1.95	-0.79	0.77
2	290	1.90	339.00	289.92	5.52	-2.19	2.15
3	470	2.40	327.00	469.80	11.46	-5.31	5.22
4	622	2.20	323.80	621.68	16.49	-8.77	8.64
5	801	2.40	181.90	800.62	15.51	-10.92	10.80
6	984	1.90	176.00	983.49	8.66	-10.84	10.77
7	1,171	4.40	180.00	1170.19	-1.61	-10.62	10.63
8	1,358	3.50	179.80	1356.74	-14.49	-10.60	10.71
9	1,544	5.10	150.00	1542.24	-27.33	-6.45	6.66
10	1,731	4.10	148.20	1728.63	-40.21	-1.23	-0.92
11	1,918	4.60	135.90	1915.10	-51.28	9.97	-9.58
12	2,105	4.40	152.30	2101.53	-63.02	18.53	-18.04
13	2,293	5.10	143.60	2288.88	-76.13	26.84	-26.25
14	2,480	4.60	153.60	2475.22	-89.53	35.10	-34.42
15	2,667	3.10	183.60	2661.81	-101.30	38.12	-37.34
16	2,752	2.70	184.90	2746.70	-105.59	37.81	-36.99
17	2,939	5.80	161.50	2933.17	-118.94	40.43	-39.51
18	3,126	7.20	170.30	3118.97	-139.45	45.40	-44.33
19	3,314	9.40	177.20	3305.00	-166.40	48.14	-46.86
20	3,501	9.80	171.60	3489.38	-197.40	51.21	-49.69
21	3,688	11.10	167.60	3673.28	-230.73	57.40	-55.63
22	3,875	10.60	168.70	3856.93	-265.18	64.63	-62.60
23	4,063	9.40	172.40	4042.08	-297.35	70.05	-67.77
24	4,250	8.60	174.00	4226.77	-326.39	73.53	-71.03
25	4,437	6.90	171.10	4412.06	-351.40	76.73	-74.03
26	4,624	6.10	153.50	4597.87	-371.39	82.91	-80.05
27	4,811	3.20	146.10	4784.24	-384.62	90.25	-87.30
28	4,998	0.50	159.90	4971.13	-389.72	93.44	-90.45
29	5,185	0.80	184.10	5158.11	-391.78	93.63	-90.62
30	5,373	0.50	190.40	5346.10	-393.90	93.39	-90.36
31	5,560	0.20	198.70	5533.10	-395.01	93.14	-90.10
32	5,747	0.40	187.80	5720.10	-395.97	92.94	-89.90



SURVEY CALCULATION PROGRAM

11/2/16 9:20

Company:	Matador Production Company
Well Name:	B Banker 33-23S-28E RB 226H
Location:	Eddy County, NM
Rig:	Patterson #297
Job Number:	DDMO-160309
API #:	30-015-43817

Magnetic Declination: 7.21 REFERENCED TO GRID NORTH

Vertical Section Azimuth: 269.56 Proposed Direction: 269.56

Survey Calculation Method: Minimum Curvature

PTB:	MD		INC		AZM		TVD		N/S		E/W		VS	
	14,350		91.5		269		9527.84		-400.54		-4941.11		4944.04	
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance Azm		DLS/ 100	BUR/ 100'			
33	5,934	0.50	160.00	5907.09	-397.38	93.13	-90.08	408.15	166.81	0.13	0.05			
34	6,121	0.40	268.00	6094.09	-398.17	92.76	-89.70	408.83	166.89	0.39	-0.05			
35	6,308	1.40	210.70	6281.06	-400.16	90.94	-87.87	410.36	167.20	0.66	0.53			
36	6,496	1.50	247.40	6469.01	-403.08	87.50	-84.40	412.47	167.75	0.49	0.05			
37	6,683	1.40	258.30	6655.95	-404.48	83.00	-79.89	412.91	168.40	0.16	-0.05			
38	6,870	2.10	125.00	6842.91	-406.91	83.57	-80.44	415.40	168.39	1.72	0.37			
39	7,057	1.10	192.50	7029.85	-410.63	85.99	-82.83	419.54	168.17	1.05	-0.53			
40	7,244	1.60	168.80	7216.79	-414.94	86.11	-82.92	423.78	168.28	0.40	0.27			
41	7,431	0.70	109.70	7403.76	-417.89	87.69	-84.48	426.99	168.15	0.74	-0.48			
42	7,619	0.30	88.90	7591.75	-418.27	89.26	-86.05	427.68	167.95	0.23	-0.21			
43	7,806	2.30	65.20	7778.70	-416.68	93.16	-89.96	426.97	167.40	1.08	1.07			
44	7,993	3.00	73.40	7965.49	-413.71	101.26	-98.08	425.92	166.25	0.42	0.37			
45	8,180	1.00	17.80	8152.38	-410.76	106.45	-103.29	424.33	165.47	1.37	-1.07			
46	8,368	1.00	304.30	8340.36	-408.27	105.59	-102.45	421.71	165.50	0.64	0.00			
47	8,554	1.20	308.40	8526.33	-406.15	102.72	-99.60	418.94	165.81	0.12	0.11			
48	8,741	1.40	282.00	8713.28	-404.46	98.96	-95.85	416.39	166.25	0.33	0.11			
49	8,928	1.70	264.50	8900.21	-404.25	93.96	-90.85	415.02	166.91	0.30	0.16			
50	8,998	4.60	284.40	8970.10	-403.65	90.21	-87.10	413.60	167.40	4.37	4.14			
51	9,044	9.10	283.10	9015.76	-402.36	84.87	-81.78	411.22	168.09	9.79	9.78			
52	9,092	14.50	279.20	9062.73	-400.54	75.24	-72.16	407.55	169.36	11.37	11.25			
53	9,138	18.00	278.40	9106.89	-398.58	62.52	-59.46	403.46	171.09	7.62	7.61			
54	9,185	22.10	276.30	9151.03	-396.55	46.54	-43.49	399.27	173.31	8.86	8.72			
55	9,231	25.40	279.40	9193.13	-393.99	28.20	-25.17	395.00	175.91	7.67	7.17			
56	9,279	31.00	278.40	9235.41	-390.50	5.80	-2.80	390.54	179.15	11.71	11.67			
57	9,325	34.10	276.10	9274.19	-387.40	-18.75	21.72	387.85	182.77	7.26	6.74			
58	9,373	37.10	272.40	9313.22	-385.36	-46.60	49.56	388.17	186.90	7.69	6.25			
59	9,419	41.20	270.90	9348.88	-384.54	-75.63	78.58	391.91	191.13	9.15	8.91			
60	9,466	46.60	269.20	9382.74	-384.54	-108.20	111.15	399.47	195.72	11.76	11.49			
61	9,512	51.50	268.40	9412.88	-385.27	-142.93	145.88	410.93	200.35	10.73	10.65			
62	9,560	55.70	269.60	9441.35	-385.94	-181.54	184.50	426.50	205.19	8.98	8.75			
63	9,606	59.30	270.20	9466.07	-386.00	-220.33	223.29	444.46	209.72	7.90	7.83			
64	9,653	62.40	270.30	9488.96	-385.82	-261.38	264.33	466.02	214.12	6.60	6.60			
65	9,699	66.20	270.20	9508.90	-385.64	-302.82	305.77	490.32	218.14	8.26	8.26			
66	9,793	70.90	273.40	9543.27	-382.85	-390.22	393.15	546.67	225.55	5.92	5.00			



SURVEY CALCULATION PROGRAM

11/2/16 9:20

Company:		Matador Production Company												
Well Name:		B Banker 33-23S-28E RB 226H												
Location:		Eddy County, NM												
Rig:		Patterson #297					Magnetic Declination:		7.21		REFERENCED TO GRID NORTH			
Job Number:		DDMO-160309												
API #:		30-015-43817												
Vertical Section Azimuth:		269.56					Proposed Direction:		269.56					
Survey Calculation Method:		Minimum Curvature												
PTB:	MD		INC		AZM		TVD		N/S		E/W		VS	
	14,350		91.5		269		9527.84		-400.54		-4941.11		4944.04	
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance Azm		DLS/ 100	BUR/ 100'			
67	9,840	75.70	273.40	9556.78	-380.18	-435.15	438.06	577.84	228.86	10.21	10.21			
68	9,964	86.50	271.30	9575.93	-375.20	-557.37	560.23	671.89	236.05	8.87	8.71			
69	10,058	90.00	270.30	9578.80	-373.89	-651.30	654.15	750.99	240.14	3.87	3.72			
70	10,153	89.00	269.70	9579.63	-373.89	-746.29	749.14	834.71	243.39	1.23	-1.05			
71	10,247	92.70	271.20	9578.24	-373.15	-840.26	843.10	919.39	246.05	4.25	3.94			
72	10,342	93.40	271.70	9573.18	-370.75	-935.09	937.91	1005.91	248.37	0.91	0.74			
73	10,436	92.10	271.00	9568.67	-368.54	-1028.96	1031.76	1092.97	250.29	1.57	-1.38			
74	10,531	90.20	270.90	9566.77	-366.97	-1123.92	1126.70	1182.31	251.92	2.00	-2.00			
75	10,625	89.50	270.40	9567.01	-365.90	-1217.91	1220.69	1271.69	253.28	0.92	-0.74			
76	10,719	90.10	271.00	9567.34	-364.75	-1311.90	1314.67	1361.67	254.46	0.90	0.64			
77	10,813	90.80	269.80	9566.60	-364.10	-1405.90	1408.65	1452.28	255.48	1.48	0.74			
78	10,907	90.60	269.10	9565.45	-365.00	-1499.88	1502.64	1543.66	256.32	0.77	-0.21			
79	11,002	90.50	268.90	9564.54	-366.66	-1594.87	1597.63	1636.47	257.05	0.24	-0.11			
80	11,096	89.90	268.90	9564.21	-368.46	-1688.85	1691.63	1728.57	257.69	0.64	-0.64			
81	11,190	88.30	268.10	9565.69	-370.92	-1782.80	1785.60	1820.98	258.25	1.90	-1.70			
82	11,285	91.50	268.90	9565.86	-373.41	-1877.75	1880.57	1914.52	258.75	3.47	3.37			
83	11,379	91.40	269.00	9563.48	-375.13	-1971.71	1974.53	2007.08	259.23	0.15	-0.11			
84	11,473	90.90	268.90	9561.59	-376.85	-2065.67	2068.51	2099.77	259.66	0.54	-0.53			
85	11,567	90.50	268.90	9560.44	-378.66	-2159.65	2162.49	2192.59	260.06	0.43	-0.43			
86	11,661	90.60	268.80	9559.54	-380.54	-2253.63	2256.48	2285.53	260.42	0.15	0.11			
87	11,756	90.60	268.20	9558.55	-383.03	-2348.59	2351.46	2379.62	260.74	0.63	0.00			
88	11,849	88.10	267.50	9559.60	-386.52	-2441.51	2444.40	2471.91	261.00	2.79	-2.69			
89	11,944	89.90	267.80	9561.26	-390.41	-2536.41	2539.33	2566.28	261.25	1.92	1.89			
90	12,038	90.50	268.50	9560.93	-393.45	-2630.36	2633.30	2659.62	261.49	0.98	0.64			
91	12,132	90.90	268.20	9559.78	-396.15	-2724.31	2727.27	2752.96	261.73	0.53	0.43			
92	12,226	91.90	269.60	9557.49	-397.96	-2818.26	2821.24	2846.22	261.96	1.83	1.06			
93	12,321	89.70	268.40	9556.16	-399.61	-2913.23	2916.22	2940.51	262.19	2.64	-2.32			
94	12,414	89.90	268.50	9556.48	-402.13	-3006.20	3009.20	3032.97	262.38	0.24	0.22			
95	12,509	91.00	269.00	9555.74	-404.20	-3101.17	3104.18	3127.40	262.57	1.27	1.16			
96	12,604	91.00	269.20	9554.08	-405.69	-3196.14	3199.17	3221.79	262.77	0.21	0.00			
97	12,699	90.70	269.60	9552.67	-406.69	-3291.13	3294.15	3316.16	262.96	0.53	-0.32			
98	12,793	91.10	270.20	9551.19	-406.85	-3385.12	3388.14	3409.48	263.15	0.77	0.43			
99	12,887	94.00	271.80	9547.01	-405.22	-3479.00	3482.00	3502.51	263.36	3.52	3.09			



SURVEY CALCULATION PROGRAM

11/2/16 9:20

Company:		Matador Production Company												
Well Name:		B Banker 33-23S-28E RB 226H												
Location:		Eddy County, NM												
Rig:		Patterson #297				Magnetic Declination:		7.21		REFERENCED TO GRID NORTH				
Job Number:		DDMO-160309												
API #:		30-015-43817												
Vertical Section Azimuth:				269.56		Proposed Direction:		269.56						
Survey Calculation Method:				Minimum Curvature										
PTB:	MD		INC		AZM		TVD		N/S		E/W		VS	
	14,350		91.5		269		9527.84		-400.54		-4941.11		4944.04	
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure		Distance	Azm	DLS/ 100	BUR/ 100'	
100	12,982	91.70	272.40	9542.29	-401.74	-3573.81	3576.79	3596.32	263.59	2.50	-2.42			
101	13,076	90.50	272.30	9540.48	-397.89	-3667.71	3670.66	3689.23	263.81	1.28	-1.28			
102	13,170	89.00	271.30	9540.89	-394.93	-3761.66	3764.58	3782.33	264.01	1.92	-1.60			
103	13,264	89.80	270.20	9541.88	-393.70	-3855.64	3858.55	3875.69	264.17	1.45	0.85			
104	13,359	91.70	269.80	9540.64	-393.70	-3950.63	3953.54	3970.20	264.31	2.04	2.00			
105	13,453	89.40	268.90	9539.73	-394.77	-4044.61	4047.52	4063.83	264.43	2.63	-2.45			
106	13,547	90.20	268.90	9540.06	-396.57	-4138.59	4141.52	4157.55	264.53	0.85	0.85			
107	13,641	93.10	270.70	9537.35	-396.90	-4232.54	4235.46	4251.11	264.64	3.63	3.09			
108	13,735	93.30	270.40	9532.11	-396.00	-4326.39	4329.30	4344.47	264.77	0.38	0.21			
109	13,829	90.80	270.30	9528.75	-395.43	-4420.32	4423.23	4437.97	264.89	2.66	-2.66			
110	13,923	87.20	270.40	9530.39	-394.85	-4514.29	4517.19	4531.52	265.00	3.83	-3.83			
111	14,018	89.00	269.50	9533.54	-394.94	-4609.23	4612.13	4626.12	265.10	2.12	1.89			
112	14,112	91.90	269.40	9532.80	-395.84	-4703.21	4706.11	4719.84	265.19	3.09	3.09			
113	14,205	90.40	268.40	9530.93	-397.62	-4796.17	4799.09	4812.63	265.26	1.94	-1.61			
114	14,278	91.50	269.00	9529.72	-399.28	-4869.14	4872.07	4885.49	265.31	1.72	1.51			



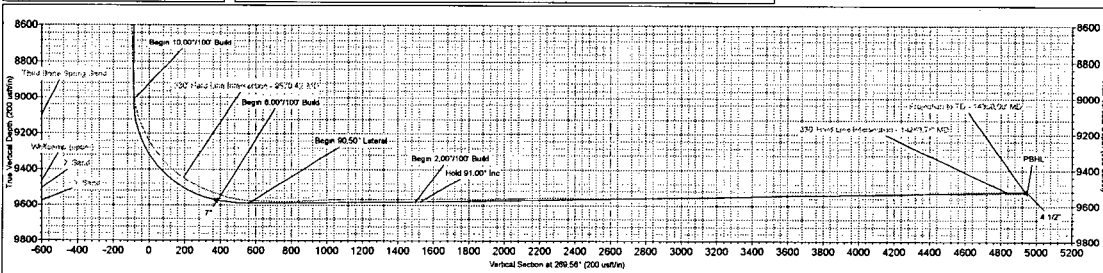
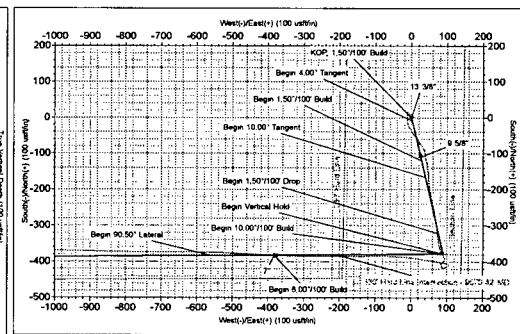
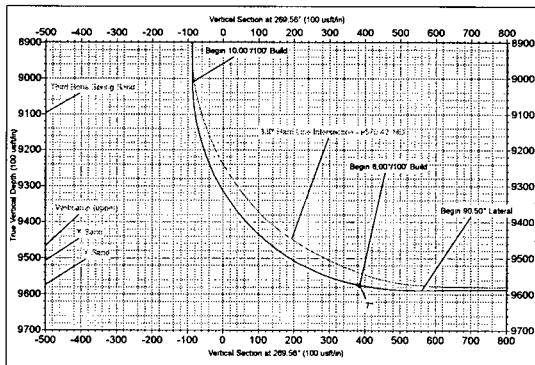
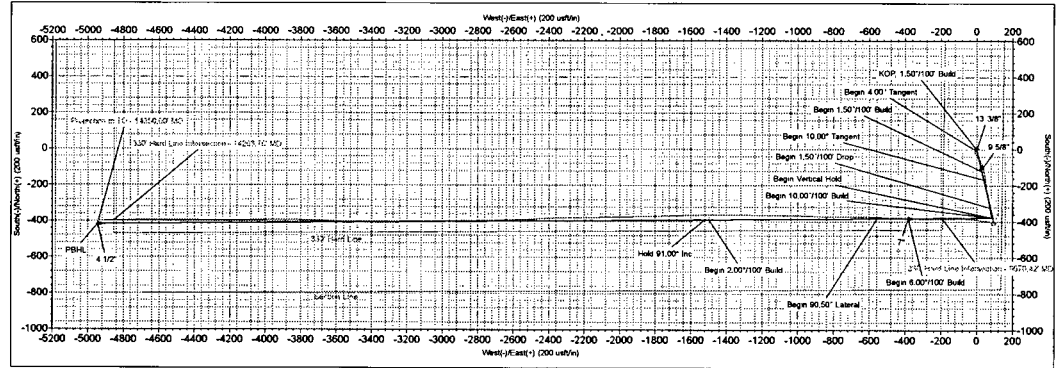
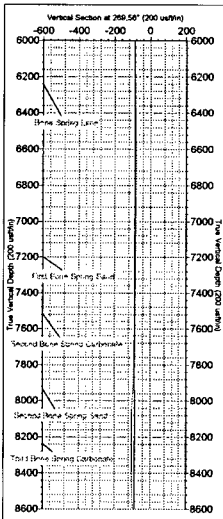
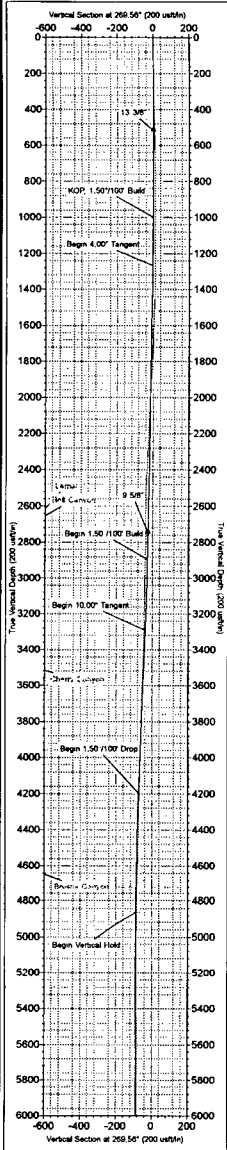
Company: Matador Resources
Site: 8 Banker 33-23S-28E RB
Well: #225H
Project: Eddy County, New Mexico (NAD 27)
Rig: Patterson 297

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Atmosphere to Grid North
True North: 4277.177
Magnetic North: 7.21°
Magnetic Field
Strength: 48891.1 nT
Dip Angle: 66.87°
Date: 11/03/2016
Time: 9:02:20 AM
US State Plane 1983 (GCS NAD83)
New Mexico East Zone 1
Created By: JLL
Date: 11/18/2016
Plan: Design #1

ANNOTATIONS									
MD	Inc	Azi	TVD	+N-S	+E-W	V-Set	Departure	Annotation	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	KOP	1.50°/100' Build
1395.67	4.00	168.64	1296.45	-9.05	2.15	2.08	0.30	Begin	4.00° Tangent
2900.00	4.00	168.64	2895.80	-119.91	28.47	-27.55	123.24	Begin	1.50°/100' Build
3290.70	10.00	168.64	3222.34	-187.26	39.71	-56.43	171.81	Begin	10.00° Tangent
4218.30	10.00	168.64	4197.01	-322.39	78.54	-74.07	311.38	Begin	1.50°/100' Drop
4884.87	0.00	0.00	4884.87	-378.80	85.94	-47.01	349.34	Begin	Vertical Hold
6035.17	0.00	0.00	6035.17	-378.80	85.94	-47.03	349.34	Begin	10.00°/100' Build
8375.17	80.00	289.58	8574.75	-382.47	-351.51	384.44	862.80	Begin	6.00°/100' Build
10043.59	90.50	289.58	9581.00	-191.10	-1497.02	1499.87	1878.34	Begin	2.00°/100' Build
10574.44	91.00	289.58	9569.87	-191.29	-1521.88	1524.82	2001.18	Hold	91.00° Inc
14398.68	91.00	289.58	9531.00	-417.82	-4845.48	4948.54	5424.91	PBHL	

WELL DETAILS #225H			
Ground Level	Existing	Latitude	Longitude
3058.00		32° 15' 48.785 N	104° 5' 1.277 W
+N-S	+E-W	Nothing	
0.00	0.00	459685.82	577168.63



The customer should only rely on this document after independently verifying all well targets, coordinates, base and north lines represented. Any deviations made or omissions shall affect drilling and any other information supplied by MS Energy is at the sole risk and responsibility of the customer. MS Energy is not responsible for the accuracy of this information or the information contained herein.



Matador Resources

Eddy County, New Mexico (NAD 27)

B Banker 33-23S-28E RB

#226H

Wellbore #1

Design: Surveys

Standard Survey Report

03 August, 2016



MS Energy Services Survey Report



Company:	Matador Resources	Local Co-ordinate Reference:	Well #226H
Project:	Eddy County, New Mexico (NAD 27)	TVD Reference:	Rig @ 3087.00usft (Patterson 297)
Site:	B Banker 33-23S-28E RB	MD Reference:	Rig @ 3087.00usft (Patterson 297)
Well:	#226H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM Conroe

Project	Eddy County, New Mexico (NAD 27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Well	#226H				
Well Position	+N-S	0.00 usft	Northing:	459,685.62 usft	Latitude: 32° 15' 48.765 N
	+E-W	0.00 usft	Easting:	577,166.63 usft	Longitude: 104° 5' 1.277 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft	Ground Level: 3,058.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2016	7/15/2016	7.34	60.03	48,084

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	269.56	

Survey Program	Date 8/3/2016				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
161.00	14,350.00	MS MWD (Wellbore #1)	MWD	OWSG MWD - Standard	

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
161.00	1.50	338.00	160.98	1.95	-0.79	0.77	0.93	0.93	0.00
290.00	1.90	339.00	289.92	5.52	-2.19	2.15	0.31	0.31	0.78
470.00	2.40	327.00	469.80	11.46	-5.31	5.22	0.37	0.28	-6.67
622.00	2.20	323.80	621.68	16.49	-8.77	8.64	0.16	-0.13	-2.11
801.00	2.40	181.90	800.62	15.51	-10.92	10.80	2.43	0.11	-79.27
984.00	1.90	176.00	983.49	8.66	-10.84	10.77	0.30	-0.27	-3.22
1,171.00	4.40	180.00	1,170.19	-1.61	-10.62	10.63	1.34	1.34	2.14
1,358.00	3.50	179.80	1,356.74	-14.49	-10.60	10.71	0.48	-0.48	-0.11
1,544.00	5.10	150.00	1,542.24	-27.33	-6.45	6.66	1.45	0.86	-16.02
1,731.00	4.10	148.20	1,728.63	-40.21	1.23	-0.92	0.54	-0.53	-0.96
1,918.00	4.60	135.90	1,915.10	-51.28	9.97	-9.58	0.56	0.27	-6.58
2,105.00	4.40	152.30	2,101.53	-63.02	18.53	-18.04	0.69	-0.11	8.77
2,293.00	5.10	143.60	2,288.88	-76.13	26.84	-26.25	0.53	0.37	-4.63
2,480.00	4.60	153.60	2,475.22	-89.53	35.10	-34.42	0.52	-0.27	5.35



MS Energy Services Survey Report



Company:	Matador Resources	Local Co-ordinate Reference:	Well #226H
Project:	Eddy County, New Mexico (NAD 27)	TVD Reference:	Rig @ 3087.00usft (Patterson 297)
Site:	B Banker 33-23S-28E RB	MD Reference:	Rig @ 3087.00usft (Patterson 297)
Well:	#226H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM Conroe

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)
2,667.00	3.10	183.60	2,661.81	-101.30	38.12	-37.34	1.32	-0.80	16.04
2,752.00	2.70	184.90	2,746.70	-105.59	37.81	-36.99	0.48	-0.47	1.53
2,939.00	5.80	161.50	2,933.17	-118.94	40.43	-39.51	1.87	1.66	-12.51
3,126.00	7.20	170.30	3,118.97	-139.45	45.40	-44.33	0.92	0.75	4.71
3,314.00	9.40	177.20	3,305.00	-166.40	48.14	-46.86	1.28	1.17	3.67
3,501.00	9.80	171.60	3,489.38	-197.40	51.21	-49.69	0.54	0.21	-2.99
3,688.00	11.10	167.60	3,673.28	-230.73	57.40	-55.63	0.80	0.70	-2.14
3,875.00	10.60	168.70	3,856.93	-265.18	64.63	-62.60	0.29	-0.27	0.59
4,063.00	9.40	172.40	4,042.08	-297.35	70.05	-67.77	0.72	-0.64	1.97
4,250.00	8.60	174.00	4,226.77	-326.39	73.53	-71.03	0.45	-0.43	0.86
4,437.00	6.90	171.10	4,412.06	-351.40	76.73	-74.03	0.93	-0.91	-1.55
4,624.00	6.10	153.50	4,597.87	-371.39	82.91	-80.05	1.14	-0.43	-9.41
4,811.00	3.20	146.10	4,784.24	-384.62	90.25	-87.30	1.58	-1.55	-3.96
4,886.56	2.10	147.41	4,859.72	-387.54	92.18	-89.20	1.45	-1.45	1.74
vert v1 - B Banker 33-23S-28E RB #226H									
4,998.00	0.50	159.90	4,971.13	-389.72	93.44	-90.45	1.45	-1.44	11.21
5,185.00	0.80	184.10	5,158.11	-391.78	93.63	-90.62	0.21	0.16	12.94
5,373.00	0.50	190.40	5,346.10	-393.90	93.39	-90.36	0.16	-0.16	3.35
5,560.00	0.20	198.70	5,533.10	-395.01	93.14	-90.10	0.16	-0.16	4.44
5,747.00	0.40	187.80	5,720.10	-395.97	92.94	-89.90	0.11	0.11	-5.83
5,934.00	0.50	160.00	5,907.09	-397.38	93.13	-90.08	0.13	0.05	-14.87
6,121.00	0.40	268.00	6,094.09	-398.17	92.76	-89.70	0.39	-0.05	57.75
6,308.00	1.40	210.70	6,281.06	-400.16	90.94	-87.87	0.66	0.53	-30.64
6,496.00	1.50	247.40	6,469.01	-403.08	87.50	-84.40	0.49	0.05	19.52
6,683.00	1.40	258.30	6,655.95	-404.48	83.00	-79.89	0.16	-0.05	5.83
6,870.00	2.10	125.00	6,842.91	-406.91	83.57	-80.44	1.72	0.37	-71.28
7,057.00	1.10	192.50	7,029.85	-410.63	85.99	-82.83	1.05	-0.53	36.10
7,244.00	1.60	168.80	7,216.79	-414.94	86.11	-82.92	0.40	0.27	-12.67
7,431.00	0.70	109.70	7,403.76	-417.89	87.69	-84.48	0.74	-0.48	-31.60
7,619.00	0.30	88.90	7,591.75	-418.27	89.26	-86.05	0.23	-0.21	-11.06
7,806.00	2.30	65.20	7,778.70	-416.68	93.16	-89.96	1.08	1.07	-12.67
7,993.00	3.00	73.40	7,965.49	-413.71	101.26	-98.08	0.42	0.37	4.39
8,180.00	1.00	17.80	8,152.38	-410.76	106.45	-103.29	1.37	-1.07	-29.73
8,368.00	1.00	304.30	8,340.36	-408.27	105.59	-102.45	0.64	0.00	-39.10
8,554.00	1.20	308.40	8,526.33	-406.15	102.72	-99.60	0.12	0.11	2.20
8,741.00	1.40	282.00	8,713.28	-404.46	98.96	-95.85	0.33	0.11	-14.12
8,928.00	1.70	264.50	8,900.21	-404.25	93.96	-90.85	0.30	0.16	-9.36
8,998.00	4.60	284.40	8,970.10	-403.65	90.21	-87.10	4.37	4.14	28.43
9,044.00	9.10	283.10	9,015.76	-402.36	84.87	-81.78	9.79	9.78	-2.83
9,092.00	14.50	279.20	9,062.73	-400.54	75.24	-72.16	11.37	11.25	-8.13
9,138.00	18.00	278.40	9,106.89	-398.58	62.52	-59.46	7.62	7.61	-1.74
9,185.00	22.10	276.30	9,151.03	-396.55	46.54	-43.49	8.86	8.72	-4.47
9,231.00	25.40	279.40	9,193.13	-393.99	28.20	-25.17	7.67	7.17	6.74
9,279.00	31.00	278.40	9,235.42	-390.50	5.80	-2.80	11.71	11.67	-2.08



MS Energy Services Survey Report



Company:	Matador Resources	Local Co-ordinate Reference:	Well #226H
Project:	Eddy County, New Mexico (NAD 27)	TVD Reference:	Rig @ 3087.00usft (Patterson 297)
Site:	B Banker 33-23S-28E RB	MD Reference:	Rig @ 3087.00usft (Patterson 297)
Well:	#226H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM Conroe

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)
9,325.00	34.10	276.10	9,274.19	-387.40	-18.75	21.72	7.26	6.74	-5.00
9,373.00	37.10	272.40	9,313.22	-385.36	-46.60	49.56	7.69	6.25	-7.71
9,419.00	41.20	270.90	9,348.88	-384.54	-75.63	78.58	9.15	8.91	-3.26
9,466.00	46.60	269.20	9,382.74	-384.54	-108.20	111.15	11.76	11.49	-3.62
9,512.00	51.50	268.40	9,412.88	-385.27	-142.93	145.88	10.73	10.65	-1.74
9,560.00	55.70	269.60	9,441.35	-385.94	-181.54	184.50	8.98	8.75	2.50
9,570.42	56.52	269.74	9,447.16	-385.99	-190.19	193.15	7.90	7.82	1.35
330' Hard Line Intersection - 9570.42' MD									
9,606.00	59.30	270.20	9,466.07	-386.00	-220.33	223.29	7.90	7.83	1.29
9,653.00	62.40	270.30	9,488.96	-385.82	-261.38	264.33	6.60	6.60	0.21
9,699.00	66.20	270.20	9,508.90	-385.64	-302.82	305.77	8.26	8.26	-0.22
9,793.00	70.90	273.40	9,543.27	-382.85	-390.22	393.15	5.92	5.00	3.40
9,840.00	75.70	273.40	9,556.78	-380.18	-435.15	438.06	10.21	10.21	0.00
9,964.00	86.50	271.30	9,575.93	-375.20	-557.37	560.23	8.87	8.71	-1.69
10,058.00	90.00	270.30	9,578.80	-373.89	-651.30	654.15	3.87	3.72	-1.06
10,153.00	89.00	269.70	9,579.63	-373.89	-746.29	749.14	1.23	-1.05	-0.63
10,247.00	92.70	271.20	9,578.24	-373.15	-840.26	843.10	4.25	3.94	1.60
10,342.00	93.40	271.70	9,573.18	-370.75	-935.09	937.91	0.91	0.74	0.53
10,436.00	92.10	271.00	9,568.67	-368.54	-1,028.96	1,031.76	1.57	-1.38	-0.74
10,531.00	90.20	270.90	9,566.77	-366.97	-1,123.92	1,126.70	2.00	-2.00	-0.11
10,625.00	89.50	270.40	9,567.01	-365.90	-1,217.91	1,220.69	0.92	-0.74	-0.53
10,719.00	90.10	271.00	9,567.34	-364.75	-1,311.90	1,314.67	0.90	0.64	0.64
10,813.00	90.80	269.80	9,566.60	-364.10	-1,405.90	1,408.65	1.48	0.74	-1.28
10,904.19	90.61	269.12	9,565.48	-364.95	-1,497.08	1,499.83	0.77	-0.21	-0.74
T1 v1 - B Banker 33-23S-28E RB #226H									
10,907.00	90.60	269.10	9,565.46	-365.00	-1,499.88	1,502.64	0.77	-0.21	-0.74
11,002.00	90.50	268.90	9,564.54	-366.66	-1,594.87	1,597.63	0.24	-0.11	-0.21
11,096.00	89.90	268.90	9,564.22	-368.46	-1,688.85	1,691.63	0.64	-0.64	0.00
11,190.00	88.30	268.10	9,565.69	-370.92	-1,782.80	1,785.60	1.90	-1.70	-0.85
11,285.00	91.50	268.90	9,565.86	-373.41	-1,877.75	1,880.57	3.47	3.37	0.84
11,379.00	91.40	269.00	9,563.48	-375.13	-1,971.71	1,974.53	0.15	-0.11	0.11
11,473.00	90.90	268.90	9,561.59	-376.85	-2,065.67	2,068.51	0.54	-0.53	-0.11
11,567.00	90.50	268.90	9,560.44	-378.66	-2,159.65	2,162.49	0.43	-0.43	0.00
11,661.00	90.60	268.80	9,559.54	-380.54	-2,253.63	2,256.48	0.15	0.11	-0.11
11,756.00	90.60	268.20	9,558.55	-383.03	-2,348.59	2,351.46	0.63	0.00	-0.63
11,849.00	88.10	267.50	9,559.60	-386.52	-2,441.51	2,444.40	2.79	-2.69	-0.75
11,944.00	89.90	267.80	9,561.26	-390.41	-2,536.41	2,539.33	1.92	1.89	0.32
12,038.00	90.50	268.50	9,560.93	-393.45	-2,630.36	2,633.30	0.98	0.64	0.74
12,132.00	90.90	268.20	9,559.78	-396.15	-2,724.31	2,727.27	0.53	0.43	-0.32
12,226.00	91.90	269.60	9,557.49	-397.96	-2,818.26	2,821.24	1.83	1.06	1.49
12,321.00	89.70	268.40	9,556.16	-399.61	-2,913.23	2,916.22	2.64	-2.32	-1.26
12,414.00	89.90	268.50	9,556.48	-402.13	-3,006.20	3,009.20	0.24	0.22	0.11
12,509.00	91.00	269.00	9,555.74	-404.20	-3,101.17	3,104.18	1.27	1.16	0.53
12,604.00	91.00	269.20	9,554.08	-405.69	-3,196.14	3,199.17	0.21	0.00	0.21



MS Energy Services Survey Report



Company:	Matador Resources	Local Co-ordinate Reference:	Well #226H
Project:	Eddy County, New Mexico (NAD 27)	TVD Reference:	Rig @ 3087.00usft (Patterson 297)
Site:	B Banker 33-23S-28E RB	MD Reference:	Rig @ 3087.00usft (Patterson 297)
Well:	#226H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM Conroe

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)
12,699.00	90.70	269.60	9,552.67	-406.69	-3,291.13	3,294.15	0.53	-0.32	0.42
12,793.00	91.10	270.20	9,551.19	-406.85	-3,385.12	3,388.14	0.77	0.43	0.64
12,887.00	94.00	271.80	9,547.01	-405.22	-3,479.00	3,482.00	3.52	3.09	1.70
12,982.00	91.70	272.40	9,542.29	-401.74	-3,573.81	3,576.79	2.50	-2.42	0.63
13,076.00	90.50	272.30	9,540.48	-397.89	-3,667.71	3,670.66	1.28	-1.28	-0.11
13,170.00	89.00	271.30	9,540.89	-394.93	-3,761.66	3,764.58	1.92	-1.60	-1.06
13,264.00	89.80	270.20	9,541.88	-393.70	-3,855.64	3,858.55	1.45	0.85	-1.17
13,359.00	91.70	269.80	9,540.64	-393.70	-3,950.63	3,953.54	2.04	2.00	-0.42
13,453.00	89.40	268.90	9,539.73	-394.77	-4,044.61	4,047.52	2.63	-2.45	-0.96
13,547.00	90.20	268.90	9,540.06	-396.57	-4,138.59	4,141.52	0.85	0.85	0.00
13,641.00	93.10	270.70	9,537.36	-396.90	-4,232.54	4,235.46	3.63	3.09	1.91
13,735.00	93.30	270.40	9,532.11	-396.00	-4,326.39	4,329.30	0.38	0.21	-0.32
13,829.00	90.80	270.30	9,528.75	-395.43	-4,420.32	4,423.23	2.66	-2.66	-0.11
13,923.00	87.20	270.40	9,530.39	-394.85	-4,514.29	4,517.19	3.83	-3.83	0.11
14,018.00	89.00	269.50	9,533.54	-394.94	-4,609.23	4,612.13	2.12	1.89	-0.95
14,112.00	91.90	269.40	9,532.80	-395.84	-4,703.21	4,706.12	3.09	3.09	-0.11
14,205.00	90.40	268.40	9,530.93	-397.62	-4,796.17	4,799.09	1.94	-1.61	-1.08
14,263.76	91.29	268.88	9,530.07	-399.02	-4,854.91	4,857.83	1.72	1.51	0.82
330' Hard Line Intersection - 14263.76' MD									
14,278.00	91.50	269.00	9,529.72	-399.28	-4,869.14	4,872.07	1.72	1.51	0.82
14,350.00	91.50	269.00	9,527.84	-400.54	-4,941.11	4,944.04	0.00	0.00	0.00
Projection to TD - 14350.00' MD - PBHL v1 - B Banker 33-23S-28E RB #226H									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,570.42	9,447.16	-385.99	-190.19	330' Hard Line Intersection - 9570.42' MD
14,263.76	9,530.07	-399.02	-4,854.91	330' Hard Line Intersection - 14263.76' MD
14,350.00	9,527.84	-400.54	-4,941.11	Projection to TD - 14350.00' MD