

15-40509



**DRILLING SERVICES
END OF WELL REPORT
FOR
Spencer Stuart
Devon Energy
Nermal 4 State 1H
Eddy County, New Mexico**

Weatherford Drilling Services job start date : 6-5-2013

Weatherford Drilling Services job end date : 6-14-2013

Presented By:

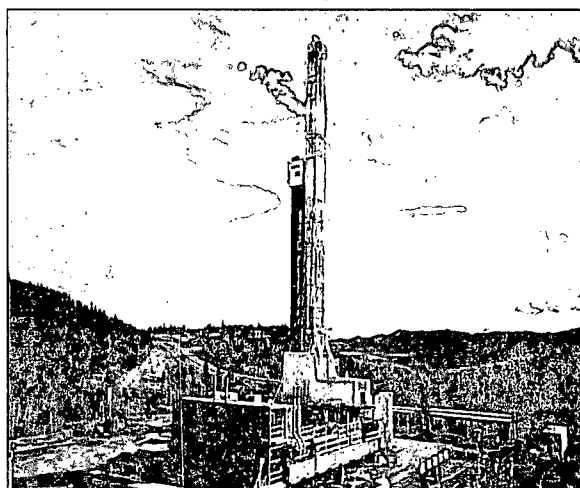
Damien Tarpley
Area Manager

Scott Dixon
Account Manager

Orry Armendariz
Directional Drilling Coordinator

Jesse Aguilar
MWD Coordinator

McVay 6





10000 West County Road 116
P.O. Box 61028
Midland, Texas 79711
Phone (432) 561-8892

June 18, 2013

Spencer Stuart
333 W. Sherridan Ave
Oklahoma City, OK 73102

Reference Well Name : Nermal 4 State 1H
Location : Eddy County, New Mexico
Wft Job # : 4029638
Rig : McVay 6

Dear Mr. Stuart

Thank you for allowing us the opportunity to provide our services on your Nermal 4 State 1H in Eddy County, New Mexico.

Please find the final End Of Well (EOW) report enclosed behind this coverletter.

The EOW report contains the following information :

Section 1 - Weatherford (Wft) Final Definitive Survey & 8.5" x 11".

* Note: This survey contains the Directional Survey's obtained by Weatherford Drilling Services via Weatherford MWD Services, and any gyro survey needed for Tie On (if required).

Section 2- Days vs. Feet Drilled (24 hrs) and Days vs. Depth Graphs

Section 3- Wft Gamma Logs

Section 4 - Wft Final BHA reports (BHA Graphic Reports, BHA Detail Reports, Motor Evaluation Reports, and BHA Slide Reports).

Section 5 - Wft Final Daily Drilling reports.

Section 6 - Wft Personnel list with contact numbers.

We at *Weatherford Drilling Services'* understand the importance of this project to you and hope that you were satisfied with our Directional Drilling and MWD services provided.

Please feel free to contact me if you have any questions.

Sincerely,

Damien Tarpley
Area Manager
Weatherford Drilling Services
Midland, TX (432) 561-8892



Weatherford

Devon Energy
Nermal 4 State 1H
Eddy County, New Mexico

Section 1

Weatherford (Wft) Final Definitive

Plot & Survey



Nermal 4 State 1H
Eddy County, New Mexico



KB ELEV: 3032
GL ELEV: 3007

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	9361.00	90.56	181.92	8079.68	-1546.01	-0.71	0.00	0.00	1546.00	
2	9489.94	87.09	180.21	8082.33	-1674.87	-3.11	3.00	206.22	1674.87	
3	9789.60	87.09	180.21	8097.54	-1974.14	-4.21	0.00	0.00	1974.15	
4	9886.60	90.00	180.19	8100.00	-2071.10	-4.55	3.00	-0.32	2071.11	
5	12616.33	90.00	180.19	8100.00	-4800.72	-13.78	0.00	0.00	4800.74	PBHL

TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	8100.00	-4800.72	-13.78	419383.86	615187.26	Rectangle (4323x200)

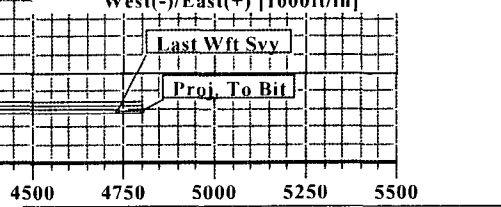
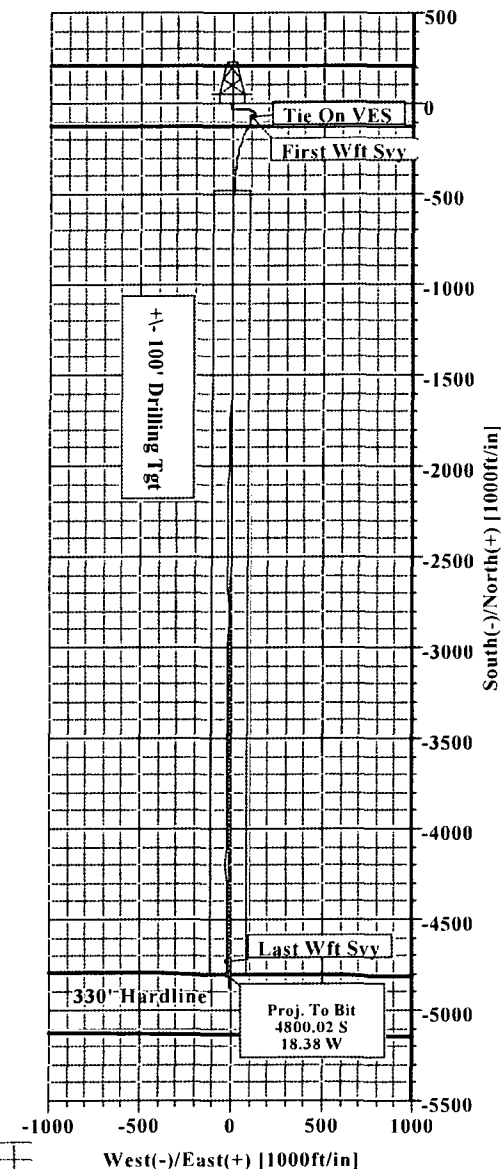
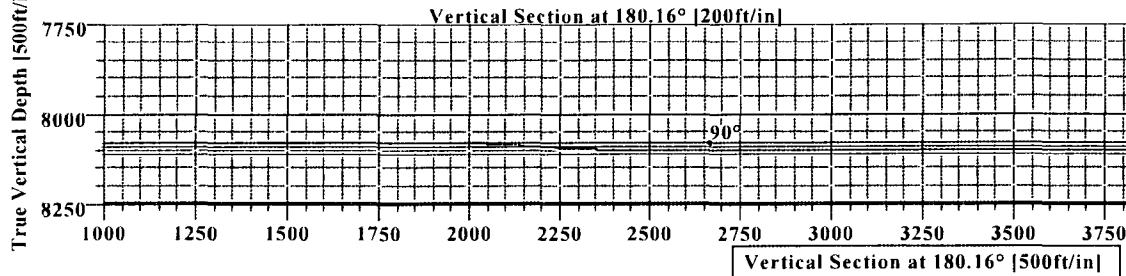
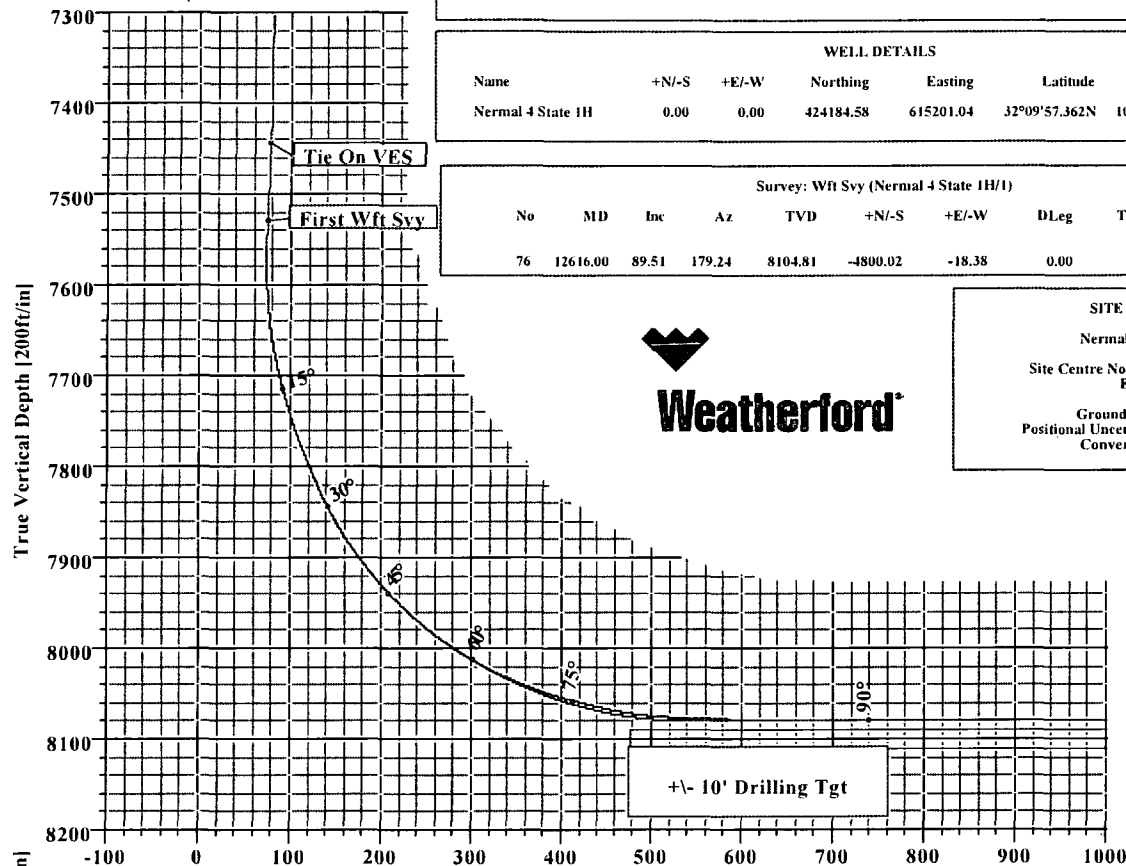
WELL DETAILS							
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Nermal 4 State 1H	0.00	0.00	424184.58	615201.04	32°09'57.362N	104°05'40.661W	N/A

Survey: Wft Svy (Nermal 4 State 1H/1)										
No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	
76	12616.00	89.51	179.24	8104.81	-4800.02	-18.38	0.00	0.00	4800.06	

SITE DETAILS
Nermal 4 State 1H
Site Centre Northing: 424184.58
Easting: 615201.04
Ground Level: 3007.00
Positional Uncertainty: 0.00
Convergence: 0.13



Weatherford



Survey: Wft Svy (Nermal 4 State 1H/1)
Created By: Russell W. Joyner
Date: 6/14/2013



Weatherford

Wft Survey Report X Y's.



Weatherford

Company: Devon Energy		Date: 6/14/2013	Time: 05:42:55	Page: 1
Field: Eddy Co., NM (NAD 83)		Co-ordinate(NE) Reference: Well: Nermal 4 State 1H, Grid North		
Site: Nermal 4 State 1H		Vertical (TVD) Reference: SITE 3032.0		
Well: Nermal 4 State 1H		Section (VS) Reference: Well (0.00N,0.00E,180.16Azi)		
Wellpath: 1		Survey Calculation Method: Minimum Curvature Db: Sybase		

Survey: Wft Svy	Start Date: 6/7/2013
Company: Weatherford	Engineer: Russell W. Joyner
Tool: MWD;MWD - Standard	Tied-to: User Defined

Site: Nermal 4 State 1H	
Site Position:	Northing: 424184.58 ft Latitude: 32 9 57.362 N
From: Map	Easting: 615201.04 ft Longitude: 104 5 40.661 W
Position Uncertainty: 0.00 ft	North Reference: Grid
Ground Level: 3007.00 ft	Grid Convergence: 0.13 deg

Well: Nermal 4 State 1H		Slot Name:	
Well Position: +N/-S 0.00 ft	Northing: 424184.58 ft	Latitude: 32 9 57.362 N	
+E/-W 0.00 ft	Easting: 615201.04 ft	Longitude: 104 5 40.661 W	
Position Uncertainty: 0.00 ft			

Wellpath: 1	Drilled From: Surface		
Current Datum: SITE	Tie-on Depth: 0.00 ft		
Magnetic Data: 5/30/2013	Above System Datum: Mean Sea Level		
Field Strength: 48353 nT	Declination: 7.58 deg		
Vertical Section: Depth From (TVD)	Mag Dip Angle: 59.99 deg		
ft	+N/-S	+E/-W	Direction
	ft	ft	deg
0.00	0.00	0.00	180.16

Survey										
MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
7450.00	2.15	320.96	7444.32	-77.94	100.83	0.00	77.66	424106.64	615301.87	Tie On VES
7535.00	2.58	340.07	7529.25	-74.90	99.17	1.05	74.63	424109.68	615300.21	First Wft Svy
7566.00	1.94	338.23	7560.23	-73.76	98.74	2.08	73.48	424110.82	615299.78	
7598.00	1.69	202.24	7592.22	-73.69	98.36	10.52	73.42	424110.89	615299.40	
7629.00	5.20	180.11	7623.16	-75.52	98.19	11.90	75.25	424109.06	615299.23	
7661.00	8.72	176.87	7654.92	-79.40	98.32	11.06	79.12	424105.18	615299.36	
7693.00	12.23	184.55	7686.39	-85.20	98.18	11.78	84.92	424099.38	615299.22	
7724.00	15.19	192.57	7716.50	-92.44	97.03	11.33	92.17	424092.14	615298.07	
7756.00	18.48	200.06	7747.13	-101.30	94.38	12.30	101.03	424083.28	615295.42	
7787.00	22.54	203.21	7776.16	-111.38	90.35	13.57	111.12	424073.20	615291.39	
7819.00	25.65	205.88	7805.37	-123.25	84.91	10.30	123.01	424061.33	615285.95	
7851.00	28.63	208.14	7833.84	-136.24	78.27	9.85	136.02	424048.34	615279.31	
7882.00	32.33	207.35	7860.55	-150.16	70.96	12.01	149.96	424034.42	615272.00	
7913.00	36.60	204.37	7886.11	-165.95	63.33	14.81	165.77	424018.63	615264.37	
7944.00	40.37	202.12	7910.37	-183.68	55.73	12.97	183.52	424000.90	615256.77	
7976.00	43.92	198.68	7934.10	-203.80	48.27	13.23	203.66	423980.78	615249.31	
8007.00	47.96	196.72	7955.65	-225.02	41.52	13.80	224.90	423959.56	615242.56	
8039.00	51.50	194.68	7976.33	-248.52	34.92	12.08	248.42	423936.06	615235.96	
8070.00	55.50	191.84	7994.77	-272.77	29.22	14.85	272.69	423911.81	615230.26	
8102.00	59.66	189.85	8011.93	-299.30	24.15	14.02	299.23	423885.28	615225.19	
8134.00	64.33	188.13	8026.95	-327.19	19.75	15.35	327.14	423857.39	615220.79	
8165.00	68.45	186.44	8039.36	-355.36	16.15	14.20	355.32	423829.22	615217.19	
8196.00	72.90	184.72	8049.62	-384.47	13.32	15.28	384.43	423800.11	615214.36	
8228.00	75.23	183.99	8058.40	-415.15	10.98	7.60	415.12	423769.43	615212.02	
8260.00	78.02	184.04	8065.80	-446.20	8.80	8.72	446.17	423738.38	615209.84	
8300.00	82.29	184.75	8072.64	-485.49	5.78	10.82	485.47	423699.09	615206.82	
8323.00	84.95	184.39	8075.20	-508.27	3.96	11.67	508.26	423676.31	615205.00	
8354.00	88.46	182.84	8076.98	-539.15	2.01	12.37	539.14	423645.43	615203.05	
8386.00	88.74	181.84	8077.76	-571.11	0.70	3.24	571.11	423613.47	615201.74	
8418.00	89.09	181.50	8078.37	-603.09	-0.23	1.52	603.09	423581.49	615200.81	



Weatherford

Wft Survey Report X Y's.

**Weatherford**

Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Nermal 4 State 1H
Well: Nermal 4 State 1H
Wellpath: 1

Date: 6/14/2013 Time: 05:42:55 Page: 2
Co-ordinate(NE) Reference: Well: Nermal 4 State 1H, Grid North
Vertical (TVD) Reference: SITE 3032.0
Section (VS) Reference: Well (0.00N,0.00E,180.16Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
8449.00	89.72	181.54	8078.69	-634.08	-1.05	2.04	634.08	423550.50	615199.99	
8512.00	89.72	180.21	8079.00	-697.07	-2.01	2.11	697.08	423487.51	615199.03	
8606.00	90.35	179.16	8078.94	-791.07	-1.50	1.30	791.07	423393.51	615199.54	
8701.00	90.21	179.26	8078.48	-886.06	-0.19	0.18	886.06	423298.52	615200.85	
8795.00	89.93	179.32	8078.36	-980.05	0.98	0.30	980.05	423204.53	615202.02	
8889.00	89.37	179.09	8078.94	-1074.04	2.28	0.64	1074.03	423110.54	615203.32	
8984.00	90.21	180.24	8079.28	-1169.04	2.84	1.50	1169.02	423015.54	615203.88	
9079.00	90.14	180.48	8078.99	-1264.03	2.24	0.26	1264.02	422920.55	615203.28	
9173.00	89.86	180.71	8078.99	-1358.03	1.26	0.39	1358.02	422826.55	615202.30	
9267.00	89.37	179.89	8079.62	-1452.02	0.77	1.02	1452.02	422732.56	615201.81	
9361.00	90.56	181.92	8079.68	-1546.01	-0.71	2.50	1546.00	422638.57	615200.33	
9456.00	90.63	182.10	8078.70	-1640.94	-4.04	0.20	1640.95	422543.64	615197.00	
9550.00	89.09	180.45	8078.93	-1734.91	-6.14	2.40	1734.92	422449.67	615194.90	
9645.00	89.65	181.21	8079.97	-1829.90	-7.51	0.99	1829.91	422354.68	615193.53	
9740.00	90.14	182.21	8080.14	-1924.85	-10.35	1.17	1924.87	422259.73	615190.69	
9834.00	87.69	182.03	8081.92	-2018.76	-13.82	2.61	2018.79	422165.82	615187.22	
9929.00	86.92	180.61	8086.39	-2113.63	-16.01	1.70	2113.67	422070.95	615185.03	
10023.00	86.57	180.62	8091.73	-2207.47	-17.02	0.37	2207.51	421977.11	615184.02	
10117.00	87.13	181.04	8096.89	-2301.32	-18.38	0.74	2301.36	421883.26	615182.66	
10212.00	88.95	180.38	8100.14	-2396.25	-19.55	2.04	2396.30	421788.33	615181.49	
10306.00	90.35	179.29	8100.72	-2490.25	-19.28	1.89	2490.29	421694.33	615181.76	
10401.00	89.72	178.81	8100.66	-2585.23	-17.71	0.83	2585.27	421599.35	615183.33	
10496.00	89.30	178.83	8101.47	-2680.21	-15.75	0.44	2680.24	421504.37	615185.29	
10591.00	90.00	179.78	8102.05	-2775.20	-14.60	1.24	2775.23	421409.38	615186.44	
10685.00	90.42	180.33	8101.71	-2869.20	-14.69	0.74	2869.23	421315.38	615186.35	
10780.00	90.28	180.92	8101.13	-2964.19	-15.72	0.64	2964.22	421220.39	615185.32	
10874.00	89.86	181.18	8101.01	-3058.17	-17.45	0.53	3058.21	421126.41	615183.59	
10969.00	90.56	180.17	8100.66	-3153.16	-18.57	1.29	3153.20	421031.42	615182.47	
11064.00	90.49	181.18	8099.79	-3248.15	-19.69	1.07	3248.19	420936.43	615181.35	
11158.00	90.28	180.09	8099.16	-3342.14	-20.73	1.18	3342.19	420842.44	615180.31	
11253.00	89.86	179.69	8099.05	-3437.14	-20.54	0.61	3437.19	420747.44	615180.50	
11348.00	89.58	180.19	8099.51	-3532.14	-20.45	0.60	3532.18	420652.44	615180.59	
11443.00	89.44	180.55	8100.32	-3627.14	-21.06	0.41	3627.18	420557.44	615179.98	
11538.00	89.23	180.85	8101.42	-3722.12	-22.22	0.39	3722.17	420462.46	615178.82	
11632.00	90.14	180.28	8101.94	-3816.11	-23.15	1.14	3816.16	420368.47	615177.89	
11727.00	90.00	180.45	8101.83	-3911.11	-23.75	0.23	3911.16	420273.47	615177.29	
11822.00	89.93	180.65	8101.88	-4006.11	-24.66	0.22	4006.16	420178.47	615176.38	
11917.00	89.23	180.60	8102.58	-4101.10	-25.70	0.74	4101.15	420083.48	615175.34	
12011.00	89.72	180.03	8103.44	-4195.09	-26.22	0.80	4195.15	419989.49	615174.82	
12106.00	90.21	179.66	8103.50	-4290.09	-25.96	0.65	4290.15	419894.49	615175.08	
12201.00	90.07	179.51	8103.27	-4385.09	-25.27	0.22	4385.14	419799.49	615175.77	
12296.00	89.58	178.92	8103.56	-4480.08	-23.97	0.81	4480.13	419704.50	615177.07	
12390.00	90.14	178.70	8103.79	-4574.06	-22.02	0.64	4574.10	419610.52	615179.02	
12485.00	89.79	179.10	8103.85	-4669.04	-20.19	0.56	4669.08	419515.54	615180.85	
12549.00	89.51	179.24	8104.24	-4733.03	-19.27	0.49	4733.07	419451.55	615181.77	Last Wft Svy
12616.00	89.51	179.24	8104.81	-4800.02	-18.38	0.00	4800.06	419384.56	615182.66	Proj. To Bit



Weatherford

Wft Survey Report X Y's.



Company: Devon Energy	Date: 6/14/2013	Time: 05:42:55	Page: 3
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: Nermal 4 State 1H, Grid North		
Site: Nermal 4 State 1H	Vertical (TVD) Reference: SITE 3032.0		
Well: Nermal 4 State 1H	Section (VS) Reference: Well (0.00N,0.00E,180.16Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Annotation

MD ft	TVD ft	
7450.00	7444.32	Tie On VES
7535.00	7529.25	First Wft Svy
12549.00	8104.24	Last Wft Svy
12616.00	8104.81	Proj. To Bit



Company: DEVON ENERGY PRODUCTION COMPANY

Lease/Well: CORAL PWU 28/ No. 005H

Rig Name: H&P 233

State/County: NEW MEXICO/EDDY

Latitude: 32.64, Longitude: -104.09

GRID North is 0.13 Degrees East of True North

VS-Azi: 0.00 Degrees



Depth Reference : RKB= 25'

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: e-line gyro-de_01.ut

Minimum Curvature Method

Report Date/Time: 9/20/2013 / 08:36

Vaughn Energy Services

Conway, Arkansas

501-730-0602

Survey Engineer: Chris Ford

Coral PWU 28 No. 005H / API 30-015-40509

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.19	215.98	100.00	-0.13	-0.10	-0.13	0.16	215.98	0.19
200.00	0.97	183.10	199.99	-1.11	-0.24	-1.11	1.14	192.15	0.82
300.00	1.97	191.34	299.96	-3.64	-0.62	-3.64	3.69	189.71	1.02
400.00	1.11	212.84	399.92	-6.13	-1.48	-6.13	6.31	193.60	1.02
500.00	0.96	195.17	499.91	-7.76	-2.23	-7.76	8.07	196.03	0.35
600.00	1.90	71.56	599.89	-8.05	-0.88	-8.05	8.09	186.22	2.56
700.00	1.40	65.78	699.85	-7.02	1.81	-7.02	7.25	165.58	0.53
800.00	0.60	53.99	799.83	-6.21	3.34	-6.21	7.06	151.70	0.81
900.00	0.62	38.26	899.83	-5.48	4.10	-5.48	6.85	143.17	0.17
1000.00	1.51	60.05	999.81	-4.40	5.58	-4.40	7.10	128.29	0.96
1100.00	0.77	72.25	1099.79	-3.54	7.35	-3.54	8.16	115.73	0.77
1200.00	1.27	125.80	1199.77	-3.99	8.89	-3.99	9.74	114.16	1.02
1300.00	2.41	133.41	1299.72	-6.08	11.32	-6.08	12.85	118.26	1.17
1400.00	2.54	138.60	1399.63	-9.19	14.31	-9.19	17.00	122.71	0.25
1500.00	2.88	161.50	1499.52	-13.23	16.57	-13.23	21.20	128.60	1.12
1600.00	4.44	168.04	1599.31	-19.39	18.17	-19.39	26.57	136.87	1.62
1700.00	5.50	166.59	1698.94	-27.85	20.08	-27.85	34.33	144.20	1.07
1800.00	5.47	168.88	1798.48	-37.19	22.11	-37.19	43.27	149.26	0.22
1900.00	4.73	165.22	1898.08	-45.85	24.08	-45.85	51.79	152.29	0.81
2000.00	4.52	167.42	1997.76	-53.68	25.99	-53.68	59.65	154.16	0.27

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
2100.00	4.28	173.40	2097.46	-61.24	27.28	-61.24	67.04	155.99	0.52
2200.00	3.97	171.40	2197.20	-68.36	28.23	-68.36	73.96	157.56	0.35
2300.00	3.84	178.79	2296.97	-75.13	28.82	-75.13	80.47	159.02	0.52
2400.00	4.15	167.51	2396.73	-82.02	29.67	-82.02	87.22	160.11	0.84
2500.00	4.40	163.25	2496.45	-89.22	31.55	-89.22	94.63	160.52	0.40
2600.00	5.11	174.01	2596.11	-97.31	33.12	-97.31	102.80	161.20	1.14
2700.00	9.47	171.90	2695.28	-109.89	34.75	-109.89	115.25	162.45	4.37
2800.00	10.29	168.89	2793.79	-126.80	37.63	-126.80	132.26	163.47	0.97
2900.00	10.14	163.47	2892.21	-144.00	41.86	-144.00	149.96	163.79	0.97
3000.00	9.78	154.63	2990.71	-160.12	48.00	-160.12	167.16	163.31	1.57
3100.00	8.08	144.16	3089.50	-173.49	55.76	-173.49	182.23	162.18	2.34
3200.00	7.44	131.48	3188.59	-183.48	64.72	-183.48	194.56	160.57	1.82
3300.00	8.05	119.47	3287.69	-191.21	75.67	-191.21	205.64	158.41	1.73
3400.00	8.14	124.65	3386.69	-198.68	87.59	-198.68	217.13	156.21	0.74
3500.00	5.93	127.59	3485.93	-205.86	97.51	-205.86	227.78	154.65	2.24
3600.00	4.66	126.90	3585.50	-211.45	104.85	-211.45	236.01	153.63	1.27
3700.00	4.42	123.84	3685.19	-216.03	111.30	-216.03	243.02	152.74	0.34
3800.00	3.44	121.33	3784.95	-219.74	117.07	-219.74	248.98	151.95	0.99
3900.00	2.85	124.61	3884.80	-222.72	121.68	-222.72	253.79	151.35	0.62
4000.00	2.61	123.39	3984.69	-225.38	125.63	-225.38	258.03	150.86	0.25
4100.00	2.44	128.87	4084.59	-227.97	129.19	-227.97	262.03	150.46	0.29
4200.00	2.56	125.75	4184.49	-230.62	132.66	-230.62	266.05	150.09	0.18
4300.00	2.59	131.98	4284.39	-233.43	136.16	-233.43	270.24	149.75	0.28
4400.00	1.70	138.16	4384.32	-236.05	138.83	-236.05	273.85	149.54	0.92
4500.00	1.92	181.48	4484.28	-238.83	139.78	-238.83	276.73	149.66	1.35
4600.00	0.98	207.49	4584.25	-241.27	139.34	-241.27	278.61	149.99	1.12
4700.00	0.11	192.95	4684.24	-242.12	138.92	-242.12	279.14	150.15	0.88
4800.00	0.12	38.74	4784.24	-242.12	138.97	-242.12	279.17	150.15	0.22
4900.00	1.15	30.26	4884.23	-241.17	139.54	-241.17	278.63	149.95	1.03
5000.00	1.15	39.64	4984.21	-239.53	140.69	-239.53	277.79	149.57	0.19
5100.00	1.31	31.72	5084.19	-237.78	141.93	-237.78	276.92	149.17	0.23
5200.00	0.83	26.54	5184.17	-236.16	142.86	-236.16	276.01	148.83	0.49
5300.00	0.51	7.22	5284.16	-235.08	143.23	-235.08	275.28	148.65	0.39
5400.00	0.55	21.04	5384.16	-234.19	143.46	-234.19	274.64	148.51	0.13
5500.00	1.14	19.71	5484.15	-232.81	143.97	-232.81	273.73	148.27	0.60
5600.00	1.58	0.15	5584.12	-230.49	144.31	-230.49	271.94	147.95	0.64
5700.00	1.87	351.43	5684.08	-227.50	144.07	-227.50	269.28	147.65	0.39
5800.00	1.78	359.14	5784.03	-224.33	143.80	-224.33	266.46	147.34	0.26
5900.00	0.97	4.21	5884.00	-221.94	143.84	-221.94	264.47	147.05	0.82
6000.00	1.10	314.17	5983.98	-220.43	143.21	-220.43	262.87	146.99	0.88
6100.00	1.45	334.23	6083.96	-218.62	141.97	-218.62	260.67	147.00	0.56
6200.00	0.69	338.39	6183.94	-216.91	141.20	-216.91	258.82	146.94	0.76

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
6219.00	1.10	338.13	6202.94	-216.64	141.09	-216.64	258.53	146.92	2.15

Devon

Eddy County, NM (NAD 83)

Coral PWU 28

Coral PWU 28 #5H

API 30-015-40509 / JOB# 900301522 / HP 223

Wellbore #1

Survey: Sperry MWD Surveys

Sperry Drilling Services Combo Report

30 May, 2013

Surface UWI : API 30-015-40509 / JOB# 900301522 / HP 223

Well Coordinates: 596,106.01 N, 616,920.17 E (32° 38' 18.61" N, 104° 05' 16.05" W)

Ground Level: 3,323.00 ft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Centered on Well Coral PWU 28 #5H
WELL @ 3348.00ft (Original Well Elev+25'KB)
N
Grid
API US Survey Feet

Version: 2003.21 Build: 43

HALLIBURTON

Survey Report for Coral PWU 28 #5H - Sperry MWD Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)	Comments
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)			
0.00	0.00	0.00	-3,348.00	0.00	0.00 N	0.00 E	596,106.01	616,920.17	0.00	0.00	
100.00	0.44	326.96	-3,248.00	100.00	0.32 N	0.21 W	596,106.33	616,919.96	0.44	-0.22	First Gyro Survey
200.00	0.52	333.00	-3,148.00	200.00	1.05 N	0.62 W	596,107.06	616,919.55	0.09	-0.66	
300.00	0.51	343.38	-3,048.01	299.99	1.88 N	0.96 W	596,107.89	616,919.21	0.09	-1.02	Final Gyro Survey
366.00	1.40	206.06	-2,982.01	365.99	1.44 N	1.40 W	596,107.45	616,918.77	2.74	-1.44	First Sperry MWD Survey
397.00	1.48	208.17	-2,951.02	396.98	0.74 N	1.75 W	596,106.75	616,918.42	0.31	-1.77	
456.00	1.34	216.48	-2,892.04	455.96	0.48 S	2.52 W	596,105.53	616,917.65	0.42	-2.50	
515.00	1.02	198.64	-2,833.05	514.95	1.54 S	3.10 W	596,104.47	616,917.07	0.82	-3.05	
575.00	0.70	94.30	-2,773.06	574.94	2.07 S	2.90 W	596,103.94	616,917.27	2.29	-2.84	
610.00	1.64	73.15	-2,738.07	609.93	1.94 S	2.21 W	596,104.07	616,917.96	2.91	-2.15	
672.00	2.23	66.10	-2,676.10	671.90	1.19 S	0.26 W	596,104.82	616,919.91	1.02	-0.22	
764.00	0.65	25.92	-2,584.13	763.87	0.00 N	1.60 E	596,106.01	616,921.77	1.94	1.60	
855.00	0.63	24.15	-2,493.14	854.86	0.92 N	2.03 E	596,106.93	616,922.20	0.03	2.00	
947.00	0.73	33.49	-2,401.14	946.86	1.87 N	2.57 E	596,107.88	616,922.74	0.16	2.50	
1,037.00	1.01	73.82	-2,311.15	1,036.85	2.57 N	3.64 E	596,108.58	616,923.81	0.73	3.56	
1,129.00	0.77	60.04	-2,219.16	1,128.84	3.11 N	4.96 E	596,109.12	616,925.13	0.35	4.85	
1,221.00	1.26	133.83	-2,127.18	1,220.82	2.71 N	6.22 E	596,108.72	616,926.39	1.39	6.13	
1,310.00	2.42	138.15	-2,038.22	1,309.78	0.64 N	8.18 E	596,106.65	616,928.35	1.31	8.16	
1,405.00	2.67	138.10	-1,943.32	1,404.68	2.50 S	11.00 E	596,103.51	616,931.17	0.26	11.07	
1,500.00	2.87	162.02	-1,848.43	1,499.57	6.41 S	13.21 E	596,099.60	616,933.38	1.23	13.41	
1,594.00	4.46	168.91	-1,754.62	1,593.38	12.24 S	14.64 E	596,093.77	616,934.81	1.75	15.03	
1,689.00	5.51	167.60	-1,659.98	1,688.02	20.32 S	16.33 E	596,085.69	616,936.50	1.11	16.98	
1,784.00	5.31	169.31	-1,565.40	1,782.60	29.09 S	18.12 E	596,076.92	616,938.29	0.27	19.06	
1,878.00	5.31	169.36	-1,471.81	1,876.19	37.64 S	19.73 E	596,068.37	616,939.90	0.00	20.95	
1,973.00	5.00	167.17	-1,377.19	1,970.81	46.00 S	21.47 E	596,060.01	616,941.64	0.39	22.95	
2,067.00	4.72	169.56	-1,283.53	2,064.47	53.80 S	23.08 E	596,052.21	616,943.25	0.37	24.81	
2,162.00	4.26	170.38	-1,188.82	2,159.18	61.12 S	24.37 E	596,044.89	616,944.54	0.49	26.34	
2,256.00	4.56	175.74	-1,095.10	2,252.90	68.29 S	25.23 E	596,037.72	616,945.40	0.54	27.44	
2,351.00	4.38	175.56	-1,000.39	2,347.61	75.67 S	25.80 E	596,030.34	616,945.97	0.19	28.24	
2,445.00	4.42	166.52	-906.66	2,441.34	82.77 S	26.92 E	596,023.24	616,947.09	0.74	29.59	
2,540.00	4.82	167.28	-811.97	2,536.03	90.22 S	28.65 E	596,015.79	616,948.82	0.43	31.56	
2,635.00	6.25	171.96	-717.42	2,630.58	99.24 S	30.25 E	596,006.77	616,950.42	1.58	33.46	
2,729.00	9.10	171.73	-624.27	2,723.73	111.66 S	32.04 E	595,994.35	616,952.21	3.03	35.65	
2,824.00	10.34	168.82	-530.63	2,817.37	127.46 S	34.77 E	595,978.55	616,954.94	1.40	38.89	
2,918.00	9.87	163.36	-438.09	2,909.91	143.46 S	38.71 E	595,962.55	616,958.88	1.13	43.35	
3,013.00	9.17	154.35	-344.39	3,003.61	158.08 S	44.32 E	595,947.93	616,964.49	1.73	49.43	
3,107.00	7.96	144.65	-251.44	3,096.56	170.15 S	51.33 E	595,935.86	616,971.50	2.00	56.83	
3,202.00	7.69	131.87	-157.32	3,190.68	179.75 S	59.87 E	595,926.26	616,980.04	1.85	65.67	
3,257.00	7.52	124.26	-102.80	3,245.20	184.24 S	65.59 E	595,921.77	616,985.76	1.86	71.53	

Survey Report for Coral PWU 28 #5H - Sperry MWD Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)	Comments
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)			
3,350.00	8.59	119.44	-10.72	3,337.28	191.08 S	76.67 E	595,914.93	616,996.83	1.36	82.83	
3,445.00	6.80	125.35	83.42	3,431.42	197.82 S	87.43 E	595,908.19	617,007.60	2.06	93.81	
3,539.00	5.52	128.72	176.88	3,524.88	203.87 S	95.50 E	595,902.14	617,015.67	1.41	102.07	
3,634.00	4.76	126.98	271.50	3,619.50	209.10 S	102.21 E	595,896.91	617,022.38	0.82	108.95	
3,728.00	4.83	123.87	365.17	3,713.17	213.65 S	108.61 E	595,892.36	617,028.78	0.29	115.49	
3,828.00	3.27	121.79	464.92	3,812.92	217.50 S	114.53 E	595,888.51	617,034.70	1.57	121.53	
3,917.00	3.12	124.49	553.78	3,901.78	220.20 S	118.69 E	595,885.81	617,038.86	0.24	125.77	
4,012.00	2.73	123.06	648.65	3,996.65	222.90 S	122.71 E	595,883.11	617,042.88	0.42	129.89	
4,106.00	2.65	128.29	742.55	4,090.55	225.47 S	126.30 E	595,880.54	617,046.47	0.27	133.55	
4,200.00	2.75	125.92	836.45	4,184.45	228.14 S	129.83 E	595,877.87	617,050.00	0.16	137.16	
4,295.00	3.11	131.42	931.32	4,279.32	231.18 S	133.61 E	595,874.83	617,053.78	0.48	141.04	
4,390.00	1.79	136.74	1,026.23	4,374.23	233.97 S	136.56 E	595,872.04	617,056.73	1.41	144.08	
4,484.00	2.34	148.85	1,120.17	4,468.17	236.68 S	138.55 E	595,869.33	617,058.72	0.74	146.16	
4,579.00	1.02	181.59	1,215.13	4,563.13	239.18 S	139.53 E	595,866.83	617,059.70	1.66	147.22	
4,673.00	0.58	207.85	1,309.12	4,657.12	240.44 S	139.29 E	595,865.57	617,059.46	0.60	147.02	
4,768.00	0.03	191.18	1,404.12	4,752.12	240.89 S	139.06 E	595,865.12	617,059.23	0.58	146.80	
4,863.00	0.94	38.26	1,499.12	4,847.12	240.30 S	139.54 E	595,865.71	617,059.71	1.02	147.26	
4,957.00	1.15	31.44	1,593.10	4,941.10	238.89 S	140.51 E	595,867.12	617,060.68	0.26	148.19	
5,052.00	1.15	38.67	1,688.08	5,036.08	237.34 S	141.60 E	595,868.68	617,061.77	0.15	149.23	
5,146.00	1.31	30.22	1,782.06	5,130.06	235.67 S	142.73 E	595,870.34	617,062.90	0.26	150.30	
5,241.00	0.83	26.72	1,877.04	5,225.04	234.12 S	143.59 E	595,871.89	617,063.76	0.51	151.11	
5,336.00	0.51	5.58	1,972.04	5,320.04	233.08 S	143.94 E	595,872.93	617,064.11	0.42	151.43	
5,430.00	0.57	21.17	2,066.03	5,414.03	232.23 S	144.15 E	595,873.78	617,064.32	0.17	151.61	
5,525.00	1.18	19.22	2,161.02	5,509.02	230.87 S	144.64 E	595,875.15	617,064.81	0.64	152.06	
5,623.00	1.57	0.82	2,258.99	5,606.99	228.57 S	144.99 E	595,877.44	617,065.16	0.60	152.33	
5,717.00	1.87	351.18	2,352.95	5,700.95	225.77 S	144.77 E	595,880.24	617,064.94	0.44	152.02	
5,812.00	1.77	0.32	2,447.90	5,795.90	222.77 S	144.54 E	595,883.24	617,064.71	0.32	151.70	
5,907.00	0.93	5.05	2,542.88	5,890.88	220.53 S	144.62 E	595,885.48	617,064.79	0.89	151.70	
6,001.00	1.03	318.74	2,636.86	5,984.86	219.14 S	144.13 E	595,886.87	617,064.30	0.83	151.17	
6,096.00	1.82	336.80	2,731.83	6,079.83	217.11 S	142.97 E	595,888.90	617,063.14	0.95	149.94	
6,190.00	0.65	338.03	2,825.81	6,173.81	215.24 S	142.18 E	595,890.77	617,062.35	1.24	149.10	
6,285.00	1.75	315.36	2,920.79	6,268.79	213.71 S	140.96 E	595,892.30	617,061.13	1.24	147.83	
6,317.00	1.00	321.40	2,952.78	6,300.78	213.15 S	140.45 E	595,892.87	617,060.62	2.38	147.29	
6,359.00	0.68	293.24	2,994.77	6,342.77	212.76 S	139.99 E	595,893.25	617,060.16	1.22	146.82	
6,390.00	0.70	112.64	3,025.77	6,373.77	212.76 S	139.99 E	595,893.25	617,060.16	4.45	146.83	
6,422.00	4.03	109.94	3,057.74	6,405.74	213.22 S	141.23 E	595,892.79	617,061.40	10.41	148.08	
6,453.00	6.72	100.03	3,088.60	6,436.60	213.91 S	144.04 E	595,892.10	617,064.21	9.15	150.91	
6,485.00	10.60	96.91	3,120.23	6,468.23	214.59 S	148.81 E	595,891.42	617,068.98	12.21	155.70	
6,516.00	14.50	93.57	3,150.49	6,498.49	215.17 S	155.52 E	595,890.84	617,075.69	12.79	162.42	

Survey Report for Coral PWU 28 #5H - Sperry MWD Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)	Comments
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)			
6,548.00	17.03	90.33	3,181.28	6,529.28	215.45 S	164.20 E	595,890.56	617,084.37	8.37	171.11	
6,579.00	18.88	86.22	3,210.77	6,558.77	215.14 S	173.75 E	595,890.87	617,093.92	7.23	180.64	
6,611.00	19.16	82.80	3,241.03	6,589.03	214.14 S	184.12 E	595,891.87	617,104.29	3.59	190.98	
6,643.00	20.25	81.35	3,271.15	6,619.15	212.65 S	194.81 E	595,893.36	617,114.98	3.73	201.61	
6,674.00	22.72	82.80	3,299.99	6,647.99	211.10 S	206.05 E	595,894.91	617,126.22	8.15	212.80	
6,706.00	26.53	86.05	3,329.08	6,677.08	209.83 S	219.32 E	595,896.18	617,139.49	12.63	226.02	
6,737.00	27.85	88.24	3,356.66	6,704.66	209.13 S	233.47 E	595,896.88	617,153.64	5.34	240.13	
6,769.00	29.84	87.81	3,384.68	6,732.68	208.60 S	248.89 E	595,897.41	617,169.06	6.25	255.53	
6,800.00	31.31	88.03	3,411.37	6,759.37	208.02 S	264.65 E	595,897.99	617,184.82	4.76	271.26	
6,832.00	34.73	89.08	3,438.20	6,786.20	207.59 S	282.08 E	595,898.42	617,202.25	10.84	288.67	
6,863.00	37.87	89.79	3,463.18	6,811.18	207.42 S	300.43 E	595,898.60	617,220.60	10.22	307.00	
6,895.00	42.46	89.34	3,487.63	6,835.63	207.25 S	321.06 E	595,898.76	617,241.23	14.37	327.62	
6,926.00	46.81	88.03	3,509.68	6,857.68	206.75 S	342.83 E	595,899.27	617,263.00	14.34	349.36	
6,958.00	51.09	86.26	3,530.69	6,878.69	205.53 S	366.93 E	595,900.48	617,287.10	14.01	373.40	
6,989.00	56.17	85.42	3,549.07	6,897.07	203.72 S	391.81 E	595,902.29	617,311.98	16.53	398.22	
7,021.00	61.13	85.32	3,565.71	6,913.71	201.51 S	419.04 E	595,904.50	617,339.21	15.50	425.36	
7,052.00	65.68	85.19	3,579.59	6,927.59	199.22 S	446.66 E	595,906.79	617,366.83	14.68	452.89	
7,084.00	70.70	85.52	3,591.47	6,939.47	196.81 S	476.26 E	595,909.20	617,396.43	15.72	482.40	
7,115.00	75.59	87.16	3,600.46	6,948.46	194.93 S	505.86 E	595,911.09	617,426.03	16.57	511.92	
7,147.00	80.72	85.33	3,607.03	6,955.03	192.87 S	537.10 E	595,913.14	617,457.27	16.98	543.08	
7,178.00	86.24	85.90	3,610.55	6,958.55	190.52 S	567.80 E	595,915.49	617,487.97	17.90	573.68	
7,210.00	88.40	86.28	3,612.04	6,960.04	188.34 S	599.69 E	595,917.67	617,519.86	6.85	605.48	
7,241.00	88.71	86.77	3,612.82	6,960.82	186.46 S	630.62 E	595,919.55	617,550.79	1.87	636.34	
7,273.00	88.55	86.97	3,613.59	6,961.59	184.71 S	662.56 E	595,921.30	617,582.73	0.80	668.21	
7,305.00	88.98	87.00	3,614.28	6,962.28	183.03 S	694.51 E	595,922.98	617,614.68	1.35	700.09	
7,346.00	89.05	87.09	3,614.98	6,962.98	180.92 S	735.45 E	595,925.09	617,655.62	0.28	740.93	
7,431.00	89.17	87.62	3,616.30	6,964.30	176.99 S	820.35 E	595,929.02	617,740.52	0.64	825.66	
7,525.00	89.78	87.74	3,617.17	6,965.17	173.19 S	914.27 E	595,932.82	617,834.44	0.66	919.41	
7,620.00	87.87	87.79	3,619.11	6,967.11	169.49 S	1,009.17 E	595,936.52	617,929.34	2.01	1,014.14	
7,714.00	88.30	87.35	3,622.25	6,970.25	165.50 S	1,103.03 E	595,940.51	618,023.20	0.65	1,107.82	
7,809.00	89.26	87.38	3,624.28	6,972.28	161.14 S	1,197.91 E	595,944.87	618,118.08	1.01	1,202.51	
7,904.00	87.29	87.36	3,627.14	6,975.14	156.78 S	1,292.76 E	595,949.23	618,212.93	2.07	1,297.17	
7,998.00	87.72	88.83	3,631.23	6,979.23	153.66 S	1,386.62 E	595,952.35	618,306.79	1.63	1,390.88	
8,092.00	88.08	89.04	3,634.67	6,982.67	151.91 S	1,480.54 E	595,954.10	618,400.71	0.44	1,484.69	
8,187.00	88.49	89.28	3,637.52	6,985.52	150.52 S	1,575.49 E	595,955.49	618,495.65	0.50	1,579.54	
8,282.00	88.77	89.50	3,639.79	6,987.79	149.51 S	1,670.45 E	595,956.50	618,590.62	0.37	1,674.43	
8,376.00	88.61	89.70	3,641.94	6,989.94	148.85 S	1,764.43 E	595,957.16	618,684.59	0.27	1,768.33	
8,471.00	88.98	90.21	3,643.93	6,991.93	148.78 S	1,859.41 E	595,957.23	618,779.57	0.66	1,863.25	
8,565.00	87.85	89.76	3,646.53	6,994.53	148.75 S	1,953.37 E	595,957.26	618,873.53	1.29	1,957.17	

Survey Report for Coral PWU 28 #5H - Sperry MWD Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)	Comments
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)			
8,660.00	88.09	89.86	3,649.90	6,997.90	148.44 S	2,048.31 E	595,957.57	618,968.47	0.27	2,052.05	
8,755.00	88.24	90.44	3,652.94	7,000.94	148.69 S	2,143.26 E	595,957.32	619,063.42	0.63	2,146.95	
8,849.00	88.61	91.15	3,655.53	7,003.53	149.99 S	2,237.21 E	595,956.02	619,157.38	0.85	2,240.90	
8,944.00	89.08	91.71	3,657.44	7,005.44	152.36 S	2,332.16 E	595,953.65	619,252.33	0.77	2,335.88	
9,038.00	89.14	92.21	3,658.90	7,006.90	155.58 S	2,426.10 E	595,950.43	619,346.26	0.54	2,429.87	
9,133.00	88.15	90.78	3,661.15	7,009.15	158.05 S	2,521.03 E	595,947.96	619,441.20	1.83	2,524.84	
9,228.00	88.67	91.33	3,663.78	7,011.78	159.80 S	2,615.98 E	595,946.21	619,536.15	0.80	2,619.79	
9,323.00	88.76	91.49	3,665.91	7,013.91	162.14 S	2,710.93 E	595,943.87	619,631.09	0.19	2,714.76	
9,417.00	89.48	90.13	3,667.36	7,015.36	163.47 S	2,804.90 E	595,942.54	619,725.07	1.64	2,808.73	
9,449.00	89.88	90.31	3,667.54	7,015.54	163.59 S	2,836.90 E	595,942.42	619,757.07	1.37	2,840.72	
9,480.00	89.44	90.21	3,667.72	7,015.72	163.73 S	2,867.90 E	595,942.28	619,788.07	1.46	2,871.71	
9,512.00	88.43	89.95	3,668.31	7,016.31	163.78 S	2,899.90 E	595,942.23	619,820.06	3.26	2,903.68	
9,607.00	89.23	90.83	3,670.25	7,018.25	164.42 S	2,994.87 E	595,941.59	619,915.04	1.25	2,998.63	
9,701.00	88.40	89.54	3,672.20	7,020.20	164.73 S	3,088.85 E	595,941.28	620,009.01	1.63	3,092.57	
9,796.00	89.48	90.68	3,673.96	7,021.96	164.91 S	3,183.83 E	595,941.10	620,103.99	1.65	3,187.51	
9,891.00	90.19	90.39	3,674.23	7,022.23	165.80 S	3,278.82 E	595,940.21	620,198.99	0.81	3,282.48	
9,986.00	87.44	87.16	3,676.19	7,024.19	163.77 S	3,373.76 E	595,942.24	620,293.92	4.46	3,377.30	
10,080.00	87.63	88.50	3,680.24	7,028.24	160.21 S	3,467.60 E	595,945.80	620,387.77	1.44	3,470.98	
10,175.00	88.06	88.39	3,683.81	7,031.81	157.63 S	3,562.50 E	595,948.38	620,482.67	0.47	3,565.74	
10,270.00	88.25	88.69	3,686.87	7,034.87	155.22 S	3,657.42 E	595,950.79	620,577.58	0.37	3,660.53	
10,364.00	88.70	88.22	3,689.37	7,037.37	152.68 S	3,751.35 E	595,953.33	620,671.52	0.69	3,754.33	
10,459.00	89.32	88.04	3,691.01	7,039.01	149.58 S	3,846.29 E	595,956.43	620,766.45	0.68	3,849.12	
10,554.00	90.22	88.32	3,691.39	7,039.39	146.57 S	3,941.24 E	595,959.44	620,861.40	0.99	3,943.92	
10,648.00	90.28	89.11	3,690.98	7,038.98	144.46 S	4,035.21 E	595,961.55	620,955.38	0.84	4,037.78	
10,743.00	90.03	88.95	3,690.73	7,038.73	142.85 S	4,130.20 E	595,963.16	621,050.36	0.31	4,132.66	
10,837.00	88.28	89.26	3,692.11	7,040.11	141.38 S	4,224.17 E	595,964.63	621,144.34	1.89	4,226.54	
10,932.00	88.61	88.93	3,694.69	7,042.69	139.88 S	4,319.13 E	595,966.13	621,239.29	0.49	4,321.39	
11,027.00	88.27	88.85	3,697.28	7,045.28	138.04 S	4,414.07 E	595,967.97	621,334.24	0.37	4,416.23	
11,121.00	88.27	87.84	3,700.11	7,048.11	135.33 S	4,507.99 E	595,970.68	621,428.15	1.07	4,510.01	
11,216.00	87.01	88.34	3,704.03	7,052.03	132.16 S	4,602.86 E	595,973.85	621,523.02	1.43	4,604.72	
11,305.00	87.27	88.08	3,708.47	7,056.47	129.39 S	4,691.70 E	595,976.62	621,611.86	0.41	4,693.43	Final Sperry MWD Survey
11,373.00	87.27	88.08	3,711.71	7,059.71	127.11 S	4,759.59 E	595,978.90	621,679.75	0.00	4,761.20	Projection to TD

Survey Report for Coral PWU 28 #5H - Sperry MWD Surveys

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
100.00	100.00	0.32	-0.21	First Gyro Survey
300.00	299.99	1.88	-0.96	Final Gyro Survey
366.00	365.99	1.44	-1.40	First Sperry MWD Survey
11,305.00	7,056.47	-129.39	4,691.70	Final Sperry MWD Survey
11,373.00	7,059.71	-127.11	4,759.59	Projection to TD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
User	No Target (Freehand)	91.86	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
100.00	11,373.00	Sperry MWD Surveys	MWD

Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(°)	(°)	(°)	(°)	(°)		
- Shape									

Directional Difficulty Index

Average Dogleg over Survey: 1.68 °/100ft Maximum Dogleg over Survey: 17.90 °/100ft at 7,178.00 ft

Net Tortousity applicable to Plans: 0.65 °/100ft Directional Difficulty Index: 6.184

Audit Info

North Reference Sheet for Coral PWU 28 - Coral PWU 28 #5H - Wellbore #1

All data is in Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to WELL @ 3348.00ft (Original Well Elev+25'KB). Northing and Easting are relative to Coral PWU 28 #5H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 104° 20' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:0° 0' 0.000 N°

False Easting: 541,337.50ft, False Northing: 0.00ft, Scale Reduction: 0.99991563

Grid Coordinates of Well: 596,106.01 ft N, 616,920.17 ft E

Geographical Coordinates of Well: 32° 38' 18.61" N, 104° 05' 16.05" W

Grid Convergence at Surface is: 0.13°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,373.00ft
the Bottom Hole Displacement is 4,761.28ft in the Direction of 91.53° (Grid).

Magnetic Convergence at surface is: -7.60° (3 May 2013, , BGGM2012)

