

IN P.A.



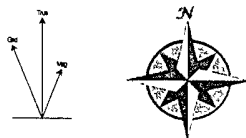
Energen Resources

Actual

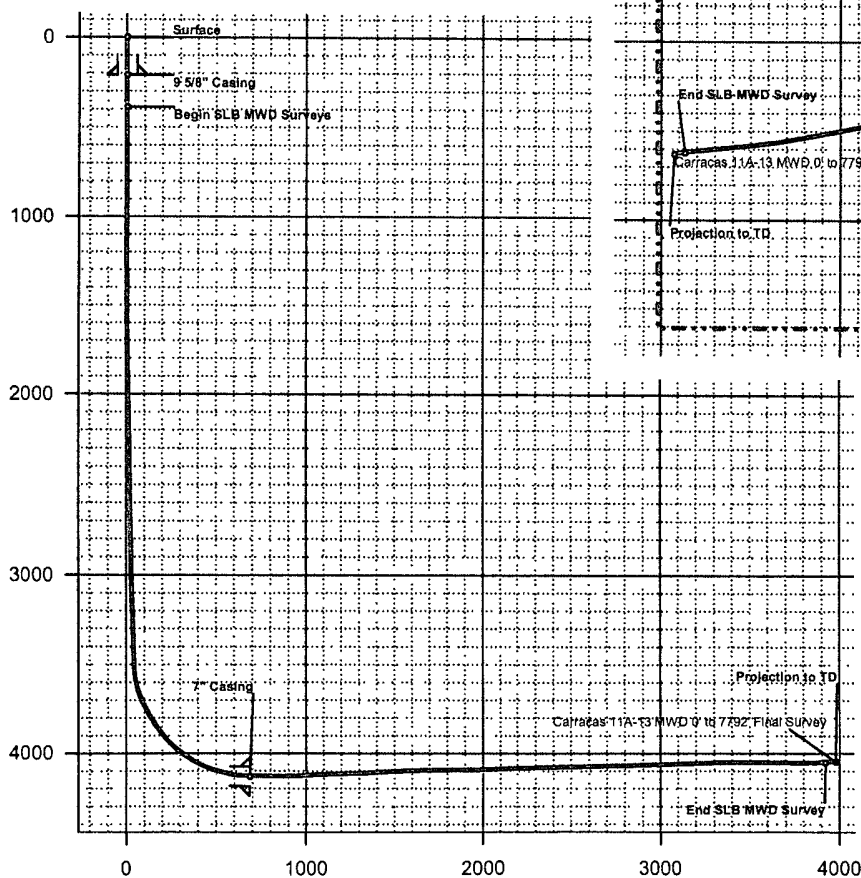
Schlumberger

WELL		Carracas 11A-13				FIELD		NM, Rio Arriba (NAD83)				STRUCTURE		Energen 11-32N-5W					
Magnetic Parameters						Surface Location						Miscellaneous							
Model		BGM 2007		Dip		63.854°		Date		May 16, 2008		NAD83 New Mexico State Planes		Central Zone US Feet		Carracas 11A-13			
		Mag Dec		+10.174°		FS		51234.9 nT		N36.59.31.000		Northing		2182142.38 ftUS		Grid Conv		-0.64804973°	
										W107.19.37.000		Easting		1325907.05 ftUS		Scale Fact		1.0000131729	
												TVD Ref							
												RKB (7528.00 ft above MSL)							
												May 16, 2008							

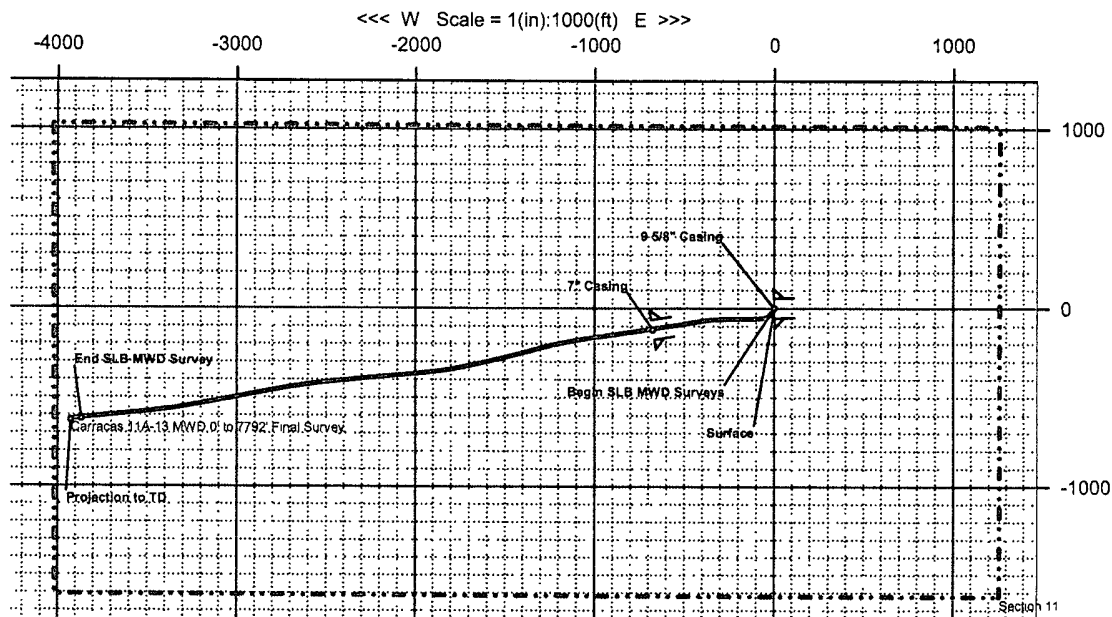
True North
Tot Corr (M->T +10 1740°)
Mag Dec (+10 174°)
Grid Conv (-0.64804973°)



TVD Scale = 1(in):1000(ft)



Vertical Section (ft) Azim = 260.96°, Scale = 1(in):1000(ft) Origin = 0 N-S, 0 E-W



Critical Point		MD	INCL	AZIM	Critical Points			
					TVD	VSEC	N(+) / S(-)	E(+) / W(-)
Surface		0 00	0 00	0 00	0 00	0 00	0 00	0 00
9 5/8\" Casing		210 00	0 17	268 10	210 00	0 32	-0 01	-0 32
Begin SLB MWD Surveys		387 00	0 32	268 10	387 00	1 07	-0 04	-1 08
7\" Casing		4494 00	88 77	260 70	4132 57	687 45	-120 20	-676 97
End SLB MWD Survey		7732 00	94 37	263 46	4053 37	3919 68	-622 19	-3869 99
Projection to TD		7792 00	94 37	263 46	4048 80	3979 45	-629 00	-3929 43

Quality Control
Date Drawn January 16, 2002
Drawn by Jeff Wilson
Checked by Oswaldo Salazar
Client OK

Scale = 1(in):1000(ft) N >>>



Carracas 11A-13 MWD 0' to 7792' Final Survey Report

Report Date: 20-May-08 Client: Energen Resources Field: NM, Rio Amba (NAD83) Structure / Slot: Energen 11-32N-5W (Carracas 11A-13) / Carracas 11A-13 Well: Carracas 11A-13 Borehole: Original Hole UWU/APH: Survey Name / Date: Carracas 11A-13 MWD 0' to 7792' Final Survey / May 16, 2008 Tort / AHD / DDI / ERD ratio: 162 177' / 4010 02 ft / 6.088 / 0 970 Grid Coordinate System: NAD83 New Mexico State Planes, Central Zone, US Feet Location Lat/Long: N 36 59 31 000, W 107 19 37 000 Location Grid N/E Y/X: N 2182142 385 ftUS, E 1325907 051 ftUS Grid Convergence Angle: -0 64804973" Grid Scale Factor: 1 00001317	Survey / DLS Computation Method: Minimum Curvature / Lubinski Vertical Section Azimuth: 260 960° Vertical Section Origin: N 0.000 ft, E 0 000 ft TVD Reference Datum: RKB TVD Reference Elevation: 7528.0 ft relative to MSL Sea Bed / Ground Level Elevation: 7513 000 ft relative to MSL Magnetic Declination: 10 176° Total Field Strength: 51240 048 nT Magnetic Dip: 63 855° Declination Date: April 29, 2008 Magnetic Declination Model: BGGM 2007 North Reference: True North Total Corr Mag North -> True North: +10 176° Local Coordinates Referenced To: Well Head
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Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Northing (ftUS)	Easting (ftUS)	Latitude	Longitude
Surface	0 00	0.00	0 00	0 00	0.00	0 00	0 00	0.00	2182142.39	1325907.05	N 36 59 31 000	W 107 19 37.000
9 5/8" Casing	210 00	0 17	268.10	210 00	0.32	-0 01	-0.32	0.08	2182142.38	1325906.73	N 36 59 31.000	W 107 19 37.004
Begin SLB MWD Surveys	387.00	0 32	268.10	387.00	1 07	-0.04	-1 08	0.08	2182142 36	1325905 97	N 36 59 31.000	W 107 19 37.013
	899.00	0 33	173.71	898.99	2 56	-1 55	-2 35	0.09	2182140.86	1325904.69	N 36 59 30.985	W 107 19 37 029
	1379.00	1.33	175 14	1378 94	3.03	-8.47	-1.72	0 21	2182133.93	1325905.23	N 36 59 30.916	W 107 19 37.021
	1933.00	1 91	218 59	1932 73	10.32	-22 10	-6 94	0 24	2182120 37	1325899 86	N 36 59 30 782	W 107 19 37 086
	2427.00	0.83	231 64	2426.58	19.53	-30.75	-14 88	0 23	2182111 80	1325891.82	N 36 59 30.696	W 107 19 37 183
	2900 00	1 63	224.77	2899.47	27 94	-37.65	-22 30	0 17	2182104 98	1325884.32	N 36 59 30 628	W 107 19 37 275
	3473 00	2.54	223.35	3472.09	44 58	-52 67	-36.76	0 16	2182090 13	1325869.70	N 36 59 30 479	W 107 19 37.453
	3504.00	2 34	227 83	3503 06	45.65	-53 60	-37 70	0.89	2182089.22	1325868.75	N 36 59 30 470	W 107 19 37 465
	3536 00	4.35	241 71	3535.00	47.35	-54.61	-39 25	6.73	2182088 22	1325867.18	N 36 59 30.460	W 107 19 37.484
	3567 00	7 33	253.00	3565.84	50 41	-55.75	-42 18	10 26	2182087.12	1325864.24	N 36 59 30.449	W 107 19 37 520
	3598 00	11.37	258.32	3596.42	55 43	-56.94	-47 07	13 31	2182085.98	1325859.34	N 36 59 30.437	W 107 19 37.580
	3629.00	14.59	261 21	3626.63	62 39	-58 16	-53.92	10.59	2182084.84	1325852.48	N 36 59 30.425	W 107 19 37 665
	3660.00	18.40	262 66	3656.34	71 18	-59 38	-62.63	12.36	2182083 71	1325843.75	N 36 59 30.413	W 107 19 37.772
	3692 00	21.61	263.71	3686.41	82 12	-60.67	-73.50	10.09	2182082.55	1325832.87	N 36 59 30.400	W 107 19 37.906
	3723 00	23.78	265 94	3715.01	94.05	-61.74	-85.41	7.53	2182081 61	1325820 95	N 36 59 30 390	W 107 19 38.053
	3754.00	26 20	267.13	3743 10	107.08	-62.53	-98 48	7.97	2182080 98	1325807 87	N 36 59 30.382	W 107 19 38 214
	3786.00	28 23	268.13	3771 56	121 62	-63.13	-113 10	6 50	2182080 54	1325793 24	N 36 59 30.376	W 107 19 38.394
	3817.00	30 09	269.91	3798.63	136.57	-63.38	-128 20	6 62	2182080 46	1325778.14	N 36 59 30.373	W 107 19 38 580
	3849.00	32.20	270.20	3826 02	152 91	-63.36	-144 75	6.61	2182080 66	1325761.59	N 36 59 30.374	W 107 19 38.784
	3880 00	34.61	270.05	3851 89	169 76	-63 32	-161.82	7 78	2182080 89	1325744.52	N 36 59 30.374	W 107 19 38.995
	3911.00	36.82	270 86	3877 06	187.61	-63 18	-179.91	7 29	2182081 25	1325726.43	N 36 59 30 375	W 107 19 39 218
	3943 00	38.99	270.03	3902 31	207.00	-63.03	-199.57	6.97	2182081.62	1325706.78	N 36 59 30 377	W 107 19 39 460
	3972.00	41.67	268.53	3924.42	225.56	-63 27	-218 33	9.83	2182081.59	1325688.01	N 36 59 30.374	W 107 19 39 691
	4004.00	45.19	267.13	3947.65	247 40	-64.11	-240 31	11 40	2182080.99	1325666.03	N 36 59 30 366	W 107 19 39.962
	4035 00	48 63	267 55	3968.83	269.90	-65 16	-262 92	11 14	2182080.20	1325643.40	N 36 59 30 356	W 107 19 40.241
	4066.00	51.42	267.45	3988 74	293.50	-66.20	-286 66	9.00	2182079.43	1325619.66	N 36 59 30.345	W 107 19 40.533
	4094.00	53 24	267.19	4005 85	315.52	-67.23	-308.79	6 54	2182078.65	1325597 51	N 36 59 30.335	W 107 19 40 806
	4124 00	55.33	266.39	4023 36	339.75	-68 60	-333.11	7 30	2182077 56	1325573 18	N 36 59 30 322	W 107 19 41.106
	4155.00	58.23	264 88	4040.35	365.60	-70.58	-358 97	10 20	2182075.87	1325547 31	N 36 59 30 302	W 107 19 41.425
	4186 00	60 90	263 00	4056.05	392 28	-73.41	-385 54	10 08	2182073.34	1325520 70	N 36 59 30 274	W 107 19 41.752
	4217 00	63.74	261.18	4070 45	419 73	-77 19	-412.73	10 53	2182069.87	1325493 47	N 36 59 30 237	W 107 19 42.087
	4248.00	67.31	259.76	4083 29	447.93	-81 86	-440.54	12 25	2182065 51	1325465 60	N 36 59 30.191	W 107 19 42 430
	4280.00	70.56	259 20	4094.79	477.78	-87 32	-469.90	10 29	2182060 39	1325436.19	N 36 59 30.137	W 107 19 42.792
	4309 00	73 83	259 80	4103.66	505.38	-92 35	-497.04	11.45	2182055 66	1325408.99	N 36 59 30.087	W 107 19 43.127
	4340 00	75.79	261 14	4111.78	535 29	-97 30	-526.55	7.57	2182051.05	1325379.43	N 36 59 30.038	W 107 19 43.490
	4371 00	77.54	261.69	4118.93	565 46	-101 80	-556.37	5 90	2182046 88	1325349.56	N 36 59 29.993	W 107 19 43.858
	4401 00	79.87	261.74	4124 80	594 87	-106 04	-585.48	7.77	2182042 97	1325320 40	N 36 59 29.951	W 107 19 44.217
Coal Entry Point	4424.00	82.94	261 56	4128.24	617.61	-109.34	-607.98	13 35	2182039.93	1325297.87	N 36 59 29.919	W 107 19 44.494
	4431.00	83.87	261.51	4129 05	624.56	-110.36	-614 86	13.35	2182038.98	1325290 98	N 36 59 29 909	W 107 19 44.579
	4447 00	86 05	261 10	4130 45	640 50	-112.77	-630.61	13 86	2182036.75	1325275 20	N 36 59 29 885	W 107 19 44.773
7" Casing	4494.00	88.77	260.70	4132.57	687.45	-120 20	-676 97	5.86	2182029.85	1325228.76	N 36 59 29.811	W 107 19 45 344
	4511.00	89 76	260 55	4132.79	704 44	-122.97	-693.74	5 86	2182027 27	1325211.96	N 36 59 29 784	W 107 19 45 551
	4542 00	90 31	262.25	4132.77	735 44	-127.61	-724.39	5.76	2182022.98	1325181 26	N 36 59 29.738	W 107 19 45.929
	4573.00	89.35	261.34	4132 86	766 44	-132 03	-755.07	4 27	2182018 90	1325150 53	N 36 59 29.694	W 107 19 46.307
	4603 00	89.17	261.61	4133 25	796 43	-136.48	-784 74	1.08	2182014.79	1325120.81	N 36 59 29.650	W 107 19 46.673
	4634 00	89.59	261 73	4133 59	827.43	-140 97	-815.41	1.41	2182010 65	1325090.09	N 36 59 29.606	W 107 19 47.051
	4663.00	89 83	260 83	4133 73	856.43	-145 36	-844.07	3.21	2182006 58	1325061.38	N 36 59 29.563	W 107 19 47 404
	4693 00	91 00	261 29	4133 52	886 43	-150 03	-873 71	4.19	2182002 25	1325031.69	N 36 59 29.517	W 107 19 47.769
	4724 00	92.03	261 83	4132.70	917 41	-154.57	-904.36	3 75	2181998 05	1325000.99	N 36 59 29.472	W 107 19 48.147
	4755 00	92 79	261 90	4131 39	948 38	-158.96	-935.02	2 46	2181994.01	1324970.28	N 36 59 29.428	W 107 19 48.525
	4785.00	93 44	262 27	4129.76	978 33	-163.08	-964 69	2 49	2181990.22	1324940.57	N 36 59 29 387	W 107 19 48.891

4815.00	93.55	261.72	4127.93	1008.27	-167.25	-994.34	1.87	2181986.39	1324910.87	N 36 59 29.346	W 107 19 49 256
4845.00	92.61	261.66	4126.32	1038.22	-171.58	-1023.98	3.14	2181982.39	1324881.18	N 36 59 29.303	W 107 19 49.622
4876.00	92.48	260.60	4124.95	1069.19	-176.36	-1054.58	3.44	2181977.97	1324850.53	N 36 59 29.256	W 107 19 49.999
4906.00	92.31	260.10	4123.69	1099.17	-181.38	-1084.13	1.76	2181973.28	1324820.92	N 36 59 29.206	W 107 19 50.363
4936.00	91.41	259.72	4122.72	1129.14	-186.63	-1113.65	3.26	2181968.36	1324791.35	N 36 59 29.154	W 107 19 50.727
4966.00	91.41	259.17	4121.98	1159.12	-192.13	-1143.14	1.83	2181963.20	1324761.80	N 36 59 29.100	W 107 19 51.090
4996.00	91.79	258.46	4121.14	1189.09	-197.95	-1172.55	2.68	2181957.71	1324732.32	N 36 59 29.043	W 107 19 51.453
5026.00	92.20	257.52	4120.10	1219.03	-204.18	-1201.88	3.42	2181951.81	1324702.93	N 36 59 28.981	W 107 19 51.814
5055.00	91.51	256.80	4119.16	1247.95	-210.62	-1230.14	3.44	2181945.68	1324674.59	N 36 59 28.917	W 107 19 52.163
5086.00	91.79	255.54	4118.27	1278.83	-218.03	-1260.23	4.16	2181938.62	1324644.42	N 36 59 28.844	W 107 19 52.534
5115.00	92.89	255.57	4117.08	1307.68	-225.26	-1288.29	3.79	2181931.71	1324616.28	N 36 59 28.772	W 107 19 52.879
5146.00	93.51	255.47	4115.35	1338.49	-233.00	-1318.25	2.03	2181924.31	1324586.23	N 36 59 28.696	W 107 19 53.249
5176.00	93.72	254.86	4113.46	1368.28	-240.66	-1347.20	2.15	2181916.97	1324557.20	N 36 59 28.620	W 107 19 53.605
5206.00	93.48	254.86	4111.58	1398.05	-248.48	-1376.10	0.80	2181909.48	1324528.21	N 36 59 28.543	W 107 19 53.962
5237.00	93.06	255.01	4109.81	1428.83	-256.53	-1405.98	1.44	2181901.77	1324498.24	N 36 59 28.463	W 107 19 54.330
5267.00	92.93	255.25	4108.24	1458.63	-264.22	-1434.94	0.91	2181894.41	1324469.20	N 36 59 28.387	W 107 19 54.687
5298.00	92.75	255.54	4106.71	1489.45	-272.02	-1464.90	1.10	2181886.94	1324439.15	N 36 59 28.310	W 107 19 55.056
5328.00	92.31	255.89	4105.38	1519.29	-279.42	-1493.95	1.87	2181879.88	1324410.02	N 36 59 28.237	W 107 19 55.414
5357.00	92.34	256.37	4104.20	1548.17	-286.37	-1522.08	1.66	2181873.25	1324381.82	N 36 59 28.168	W 107 19 55.761
5388.00	92.00	256.93	4103.03	1579.06	-293.52	-1552.22	2.11	2181866.44	1324351.60	N 36 59 28.097	W 107 19 56.133
5417.00	91.38	257.15	4102.18	1607.97	-300.02	-1580.47	2.27	2181860.26	1324323.28	N 36 59 28.033	W 107 19 56.481
5447.00	91.55	256.61	4101.41	1637.89	-306.83	-1609.67	1.89	2181853.78	1324293.99	N 36 59 27.966	W 107 19 56.841
5477.00	91.34	257.21	4100.65	1667.80	-313.62	-1638.88	2.12	2181847.32	1324264.71	N 36 59 27.899	W 107 19 57.201
5508.00	91.27	257.46	4099.95	1698.73	-320.41	-1669.12	0.84	2181840.87	1324234.39	N 36 59 27.831	W 107 19 57.573
5539.00	91.24	258.04	4099.27	1729.68	-326.99	-1699.41	1.87	2181834.63	1324204.03	N 36 59 27.766	W 107 19 57.947
5569.00	91.13	258.34	4098.65	1759.64	-333.13	-1728.77	1.06	2181828.83	1324174.61	N 36 59 27.706	W 107 19 58.309
5600.00	91.10	259.31	4098.04	1790.61	-339.14	-1759.17	3.13	2181823.16	1324144.13	N 36 59 27.646	W 107 19 58.683
5632.00	90.76	260.39	4097.52	1822.60	-344.77	-1790.67	3.54	2181817.88	1324112.58	N 36 59 27.591	W 107 19 59.072
5664.00	90.07	260.84	4097.29	1854.60	-349.99	-1822.24	2.57	2181813.02	1324080.95	N 36 59 27.539	W 107 19 59.461
5695.00	90.00	261.72	4097.27	1885.60	-354.69	-1852.88	2.85	2181808.67	1324050.26	N 36 59 27.492	W 107 19 59.838
5726.00	90.03	262.69	4097.26	1916.59	-358.90	-1883.59	3.13	2181804.81	1324019.50	N 36 59 27.451	W 107 20 0.217
5758.00	90.72	263.65	4097.06	1948.56	-362.70	-1915.36	3.69	2181801.37	1323987.69	N 36 59 27.413	W 107 20 0.609
5790.00	91.17	264.08	4096.53	1980.52	-366.12	-1947.18	1.94	2181798.31	1323955.84	N 36 59 27.379	W 107 20 1.001
5821.00	91.82	264.20	4095.72	2011.46	-369.28	-1978.00	2.13	2181795.49	1323924.97	N 36 59 27.348	W 107 20 1.381
5853.00	92.07	264.83	4094.63	2043.38	-372.34	-2009.84	2.12	2181792.80	1323893.11	N 36 59 27.318	W 107 20 1.773
5885.00	91.93	264.92	4093.52	2075.28	-375.20	-2041.69	0.52	2181790.30	1323861.22	N 36 59 27.290	W 107 20 2.166
5916.00	91.93	264.79	4092.47	2106.20	-377.98	-2072.55	0.42	2181787.87	1323830.34	N 36 59 27.262	W 107 20 2.546
5948.00	91.79	265.14	4091.43	2138.10	-380.78	-2104.41	1.18	2181785.42	1323798.45	N 36 59 27.234	W 107 20 2.939
5980.00	91.65	264.47	4090.47	2170.01	-383.68	-2136.26	2.14	2181782.89	1323766.56	N 36 59 27.206	W 107 20 3.331
6011.00	91.89	264.47	4089.52	2200.94	-386.67	-2167.10	0.77	2181780.25	1323735.69	N 36 59 27.176	W 107 20 3.711
6042.00	91.79	263.87	4088.52	2231.88	-389.81	-2197.93	1.96	2181777.45	1323704.83	N 36 59 27.145	W 107 20 4.091
6074.00	91.86	264.52	4087.50	2263.81	-393.05	-2229.75	2.04	2181774.58	1323672.98	N 36 59 27.113	W 107 20 4.484
6105.00	91.93	264.92	4086.48	2294.72	-395.90	-2260.60	1.31	2181772.08	1323642.09	N 36 59 27.085	W 107 20 4.864
6137.00	91.76	264.56	4085.45	2326.64	-398.83	-2292.45	1.24	2181769.50	1323610.21	N 36 59 27.056	W 107 20 5.256
6169.00	91.55	264.37	4084.52	2358.57	-401.92	-2324.29	0.88	2181766.78	1323578.34	N 36 59 27.025	W 107 20 5.649
6201.00	91.51	264.43	4083.67	2390.50	-405.04	-2356.12	0.23	2181764.02	1323546.47	N 36 59 26.994	W 107 20 6.041
6232.00	91.48	264.36	4082.86	2421.43	-408.06	-2386.96	0.25	2181761.34	1323515.60	N 36 59 26.964	W 107 20 6.421
6264.00	91.31	264.50	4082.08	2453.36	-411.17	-2418.80	0.69	2181758.59	1323483.73	N 36 59 26.934	W 107 20 6.814
6295.00	90.93	263.95	4081.47	2484.31	-414.29	-2449.64	2.16	2181755.82	1323452.86	N 36 59 26.903	W 107 20 7.194
6327.00	91.62	263.76	4080.76	2516.26	-417.71	-2481.45	2.24	2181752.76	1323421.01	N 36 59 26.869	W 107 20 7.586
6359.00	91.51	263.67	4079.89	2548.21	-421.21	-2513.24	0.44	2181749.62	1323389.18	N 36 59 26.834	W 107 20 7.978
6391.00	91.51	263.16	4079.04	2580.17	-424.88	-2545.02	1.59	2181746.31	1323357.36	N 36 59 26.798	W 107 20 8.370
6423.00	91.93	262.89	4078.08	2612.13	-428.77	-2576.77	1.56	2181742.78	1323325.57	N 36 59 26.759	W 107 20 8.761
6455.00	91.48	262.32	4077.13	2644.10	-432.88	-2608.49	2.27	2181739.03	1323293.80	N 36 59 26.719	W 107 20 9.152
6487.00	91.51	261.62	4076.30	2676.09	-437.35	-2640.16	2.19	2181734.92	1323262.08	N 36 59 26.674	W 107 20 9.542
6519.00	90.65	260.93	4075.69	2708.08	-442.21	-2671.79	3.45	2181730.42	1323230.40	N 36 59 26.626	W 107 20 9.932
6550.00	90.83	260.53	4075.29	2739.08	-447.20	-2702.38	1.41	2181725.77	1323199.76	N 36 59 26.577	W 107 20 10.309
6582.00	90.96	260.18	4074.79	2771.07	-452.56	-2733.92	1.17	2181720.77	1323168.15	N 36 59 26.524	W 107 20 10.698
6614.00	91.31	259.63	4074.16	2803.06	-458.17	-2765.42	2.04	2181715.52	1323136.59	N 36 59 26.469	W 107 20 11.086
6645.00	91.93	259.67	4073.28	2834.04	-463.74	-2795.90	2.00	2181710.30	1323106.05	N 36 59 26.413	W 107 20 11.462
6676.00	92.45	259.22	4072.10	2865.01	-469.41	-2826.36	2.22	2181704.97	1323075.53	N 36 59 26.357	W 107 20 11.837
6708.00	91.89	259.46	4070.89	2896.97	-475.32	-2857.78	1.90	2181699.41	1323044.04	N 36 59 26.299	W 107 20 12.225
6739.00	91.65	259.33	4069.93	2927.94	-481.03	-2888.24	0.88	2181694.05	1323013.52	N 36 59 26.242	W 107 20 12.600
6771.00	91.62	258.99	4069.02	2959.92	-487.04	-2919.65	1.07	2181688.39	1322982.04	N 36 59 26.183	W 107 20 12.987
6803.00	91.65	258.55	4068.10	2991.88	-493.27	-2951.03	1.38	2181682.52	1322950.60	N 36 59 26.121	W 107 20 13.374
6834.00	91.86	259.00	4067.15	3022.84	-499.30	-2981.42	1.60	2181676.83	1322920.14	N 36 59 26.062	W 107 20 13.749
6866.00	92.07	258.66	4066.06	3054.80	-505.50	-3012.80	1.25	2181670.99	1322888.70	N 36 59 26.000	W 107 20 14.135
6898.00	92.27	259.11	4064.84	3086.76	-511.66	-3044.17	1.54	2181665.18	1322857.25	N 36 59 25.939	W 107 20 14.522
6930.00	92.27	259.63	4063.58	3118.72	-517.56	-3075.60	1.62	2181659.64	1322825.76	N 36 59 25.881	W 107 20 14.909
6961.00	92.13	260.12	4062.39	3149.69	-523.01	-3106.10	1.64	2181654.54	1322795.20	N 36 59 25.827	W 107 20 15.285
6993.00	91.82	259.58	4061.28	3181.67	-528.64	-3137.58	1.94	2181649.26	1322763.66	N 36 59 25.771	W 107 20 15.673
7025.00	91.76	259.30	4060.28	3213.64	-534.51	-3169.02	0.89	2181643.75	1322732.15	N 36 59 25.713	W 107 20 16.061
7056.00	91.76	259.55	4059.33	3244.61	-540.19	-3199.48	0.81	2181638.41	1322701.63	N 36 59 25.657	W 107 20 16.436
7088.00	91.69	259.67	4058.37	3276.59	-545.96	-3230.94	0.43	2181633.00	1322670.11	N 36 59 25.600	W 107 20 16.824
7120.00	91.82	260.22	4057.39	3308.57	-551.54	-3262.43	1.77	2181627.77	1322638.55	N 36 59 25.545	W 107 20 17.212
7151.00	92.00	261.11	4056.36	3339.55	-556.57	-3293.00	2.93	2181623.09	1322607.93	N 36 59 25.495	W 107 20 17.589
7183.00	91.38	261.33	4055.41	3371.54	-561.45						

7278.00	89.83	262.25	4054.61	3466.52	-575.40	-3418.58	2.08	2181605.68	1322482.15	N 36 59 25.309	W 107 20 19.137
7310.00	89.48	262.92	4054.80	3498.51	-579.53	-3450.31	2.36	2181601.91	1322450.37	N 36 59 25.268	W 107 20 19.528
7342.00	89.18	263.78	4055.18	3530.48	-583.24	-3482.09	2.85	2181598.56	1322418.55	N 36 59 25.231	W 107 20 19.920
7373.00	89.07	264.33	4055.65	3561.43	-586.45	-3512.92	1.81	2181595.70	1322387.68	N 36 59 25.199	W 107 20 20.300
7405.00	89.35	264.40	4056.09	3593.37	-589.59	-3544.76	0.90	2181592.92	1322355.81	N 36 59 25.168	W 107 20 20.692
7437.00	89.52	264.13	4056.41	3625.32	-592.79	-3576.60	1.00	2181590.08	1322323.93	N 36 59 25.137	W 107 20 21.084
7469.00	89.14	264.09	4056.78	3657.27	-596.07	-3608.43	1.19	2181587.16	1322292.07	N 36 59 25.104	W 107 20 21.477
7500.00	89.21	264.49	4057.23	3688.21	-599.16	-3639.27	1.31	2181584.42	1322261.19	N 36 59 25.074	W 107 20 21.857
7532.00	89.17	264.67	4057.68	3720.14	-602.18	-3671.13	0.58	2181581.76	1322229.31	N 36 59 25.044	W 107 20 22.250
7564.00	89.35	264.65	4058.10	3752.07	-605.16	-3702.99	0.57	2181579.14	1322197.42	N 36 59 25.014	W 107 20 22.642
7596.00	90.03	264.34	4058.27	3784.01	-608.23	-3734.84	2.34	2181576.43	1322165.53	N 36 59 24.984	W 107 20 23.035
7627.00	90.83	264.25	4058.04	3814.96	-611.31	-3765.68	2.60	2181573.70	1322134.65	N 36 59 24.953	W 107 20 23.415
7659.00	91.82	264.45	4057.30	3846.89	-614.46	-3797.52	3.16	2181570.91	1322102.78	N 36 59 24.922	W 107 20 23.807
7691.00	92.86	263.96	4055.99	3878.82	-617.68	-3829.33	3.59	2181568.04	1322070.94	N 36 59 24.890	W 107 20 24.199
7722.00	94.10	263.52	4054.11	3909.72	-621.06	-3860.08	4.24	2181565.02	1322040.15	N 36 59 24.857	W 107 20 24.579
End SLB MWD Survey	7732.00	94.37	263.46	4053.37	3919.68	-622.19	2.77	2181564.00	1322030.22	N 36 59 24.846	W 107 20 24.701
Projection to TD	7792.00	94.37	263.46	4048.80	3979.45	-629.00	0.00	2181557.86	1321970.71	N 36 59 24.778	W 107 20 25.433

Survey Type: Definitive Survey

Survey Error Model: SLB ISCWSA version 24 *** 3-D 95.00% Confidence 2.7955 sigma

Surveying Prog:

MD From (ft)	MD To (ft)	EOU Freq	Survey Tool Type
0.00	15.00	Act-Stns	SLB_MWD+DMAG-Depth Only
15.00	7732.00	Act-Stns	SLB_MWD+DMAG
7732.00	7792.00	Act-Stns	SLB_BLIND+TREND

Borehole -> Survey

Original Hole -> Carracas 11A-13 MWD 0' to 7792' Final Survey
Original Hole -> Carracas 11A-13 MWD 0' to 7792' Final Survey
Original Hole -> Carracas 11A-13 MWD 0' to 7792' Final Survey

**Italicized stations are NOT used in position calculations.*