

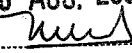
Petrotech Peruana S.A.

Well File **LO 16-26**
GEOSCIENCES

End of Well Report

PETRO-TECH PERUANA S.A.
GERENCIA GEOCIENCIAS

20 AGO. 2002

Firma: 

RECIBIDO

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1. GENERAL DATA

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WELL **LO 16-26**
PLATFORM **LO16-26**
RIG **PEPESA 48**

1.1 Coordinates

Magnetic Parameters

Model: BGGM 2002 **FS:** 28764.9 nT
Dip: 14.664° **Magnetic Declination:** +1.453° @ July 2002

Surface Coordinates

UTM: UTM – Zone 17S, WGS84
True Coordinates: Lat. S: 4° 28' 9.399"
 Long. W: 81° 21' 55.785"
UTM Coordinates: N: 9 505 990.43 mts. E: 459 452.05 mts.
TVD reference: 50 Ft. above MSL

Target Coordinates

Target Formation Top **RIO BRAVO**
Programmed TVD : 4050 Ft. TVD

UTM Coordinates : N: 9 507 135.00 mts. E: 458 430.00 mts.

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1.2 Rig Data

<u>Drawworks:</u>	OIME - 750
<u>Traveling Block:</u>	IDECO UTB -265 Ton
<u>Mud Pump:</u>	
# 1	IDECO-T-1000 (10" x 7")
# 2	IDECO-T-1000 (10" x 7")

1.3 Casing Data

Conductor 18"	570 ft MD
Casing 13 3/8" K-55, 54.5 #/ft	2000 ft MD
Casing 9 5/8" N-80, 43.5 #/ft	5518 ft MD

1.4 Well Plan Description

This is a slant type development well planned for 61.25 deg. Inclination, 319.41 deg. azimuth, BUR 5.5 deg/100ft, and a KOP of 600 ft, which main target is the top of the RIO BRAVO formation.

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1.5 Geological information (in ft)

	TVD (proposal)	TVD (real)
TALARA	AT SEA BOTTOM	
CHACRA	2350.0 FT	
RIO BRAVO	4050.0 FT	
T.D.	4800.0 FT	

1.6 Directional Drilling Personnel

Ing. R. Torres	Leader Directional Drilling Engineer
Ing. G. Soto	DD Engineer
Ing. J. Beoutis	DDT Engineer
Ing. P. Mejia	MWD/LWD Engineer
Ing. S. Sakaneta	MWD/LWD Engineer
Ing. V. Laguna	MWD/LWD Engineer

1.7 Office Suport

Ing. A. Martin	Perú FSM
Ing. J. Rodriguez	Drilling Planning

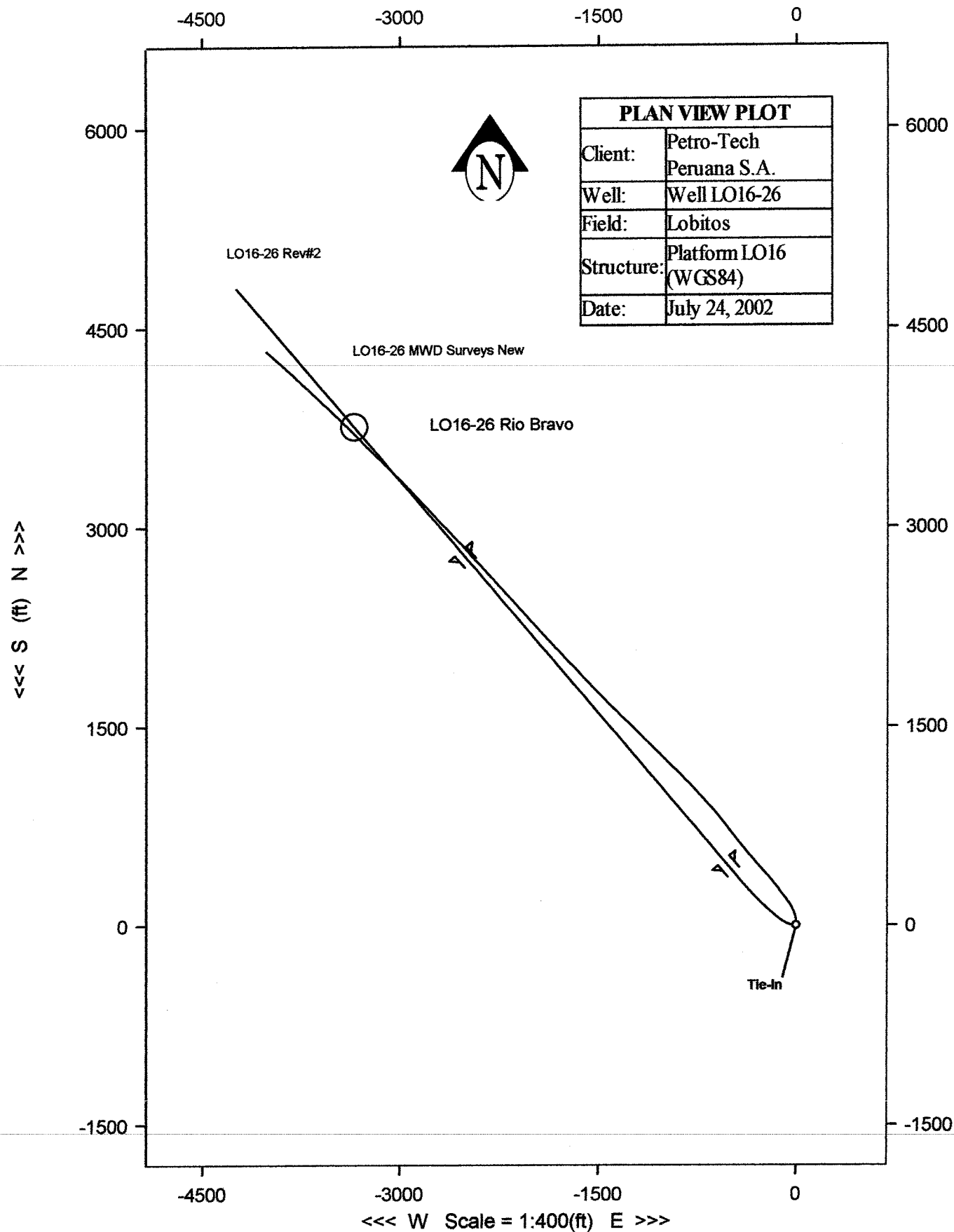
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2. DIRECTIONAL DRILLING REPORTS

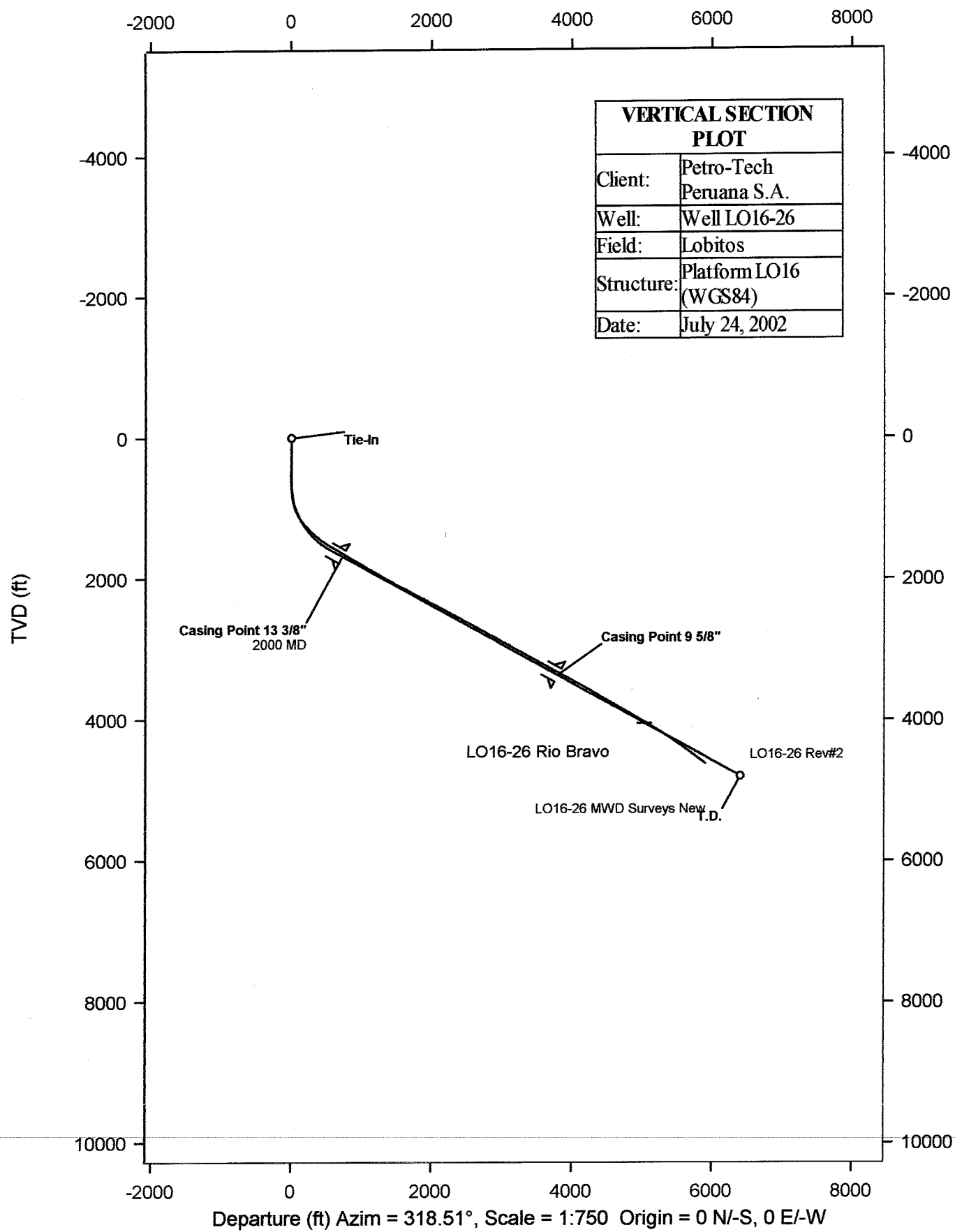
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2.1. FINAL PLOT & SURVEY FILES

Plan View Plot



Vertical Section Plot



LO16-26 MWD Survey Report

Report Date: August 15, 2002	Survey / DLS Computation Method: Minimum Curvature / Lubinski
Client: Petro-Tech Peruana S.A.	Vertical Section Azimuth: 318.510°
Field: Lobitos	Vertical Section Origin: N 0.000 ft, E 0.000 ft
Structure / Slot: Platform LO16 (WGS84) / Slot #26	TVD Reference Datum: KB
Well: Well LO16-26	TVD Reference Elevation: 50.0 ft relative to MSL
Borehole: Borehole LO16-26	Sea Bed / Ground Level Elevation: 0.000 ft relative to MSL
UWI/API#:	Magnetic Declination: 1.403°
Survey Name / Date: LO16-26 MWD Surveys New / July 24, 2002	Total Field Strength: 28771.372 nT
Tort / AHD / DDI / ERD ratio: 121.483° / 6058.53 ft / 6.102 / 1.286	Magnetic Dip: 14.709°
Grid Coordinate System: UTM Zone 17S - WGS84, Meters	Declination Date: July 24, 2002
Location Lat/Long: S 4 28 9.399, W 81 21 55.785	Magnetic Declination Model: BGGM 2001
Location Grid N/E Y/X: N 9505990.430 m, E 459452.050 m	North Reference: True North
Grid Convergence Angle: +0.02848147°	Total Corr Mag North -> True North: +1.403°
Grid Scale Factor: 0.99962035	Local Coordinates Referenced To: Well Head

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (deg)	DLS (deg/100 ft)	Build Rate (deg/100 ft)	Walk Rate (deg/100 ft)
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Strong Magn. Int.	346.00	1.80	90.00	345.94	-3.60	0.00	5.43	5.43	90.00	0.52	0.52	0.00
Strong Magn. Int.	436.00	1.58	90.00	435.90	-5.36	0.00	8.09	8.09	90.00	0.24	-0.24	0.00
Strong Magn. Int.	516.00	1.10	90.00	515.88	-6.60	0.00	9.96	9.96	90.00	0.60	-0.60	0.00
Strong Magn. Int.	527.00	1.10	90.00	526.88	-6.74	0.00	10.17	10.17	90.00	0.00	0.00	0.00
Strong Magn. Int.	558.00	1.07	90.00	557.87	-7.13	0.00	10.76	10.76	90.00	0.10	-0.10	0.00
Slight Magn Int	588.39	1.63	55.87	588.26	-7.37	0.24	11.40	11.40	88.78	3.15	1.84	-112.31
Slight Magn Int	608.50	2.18	23.06	608.36	-7.24	0.75	11.79	11.81	86.34	5.96	2.73	-163.15
Slight Magn Int	627.50	2.50	339.80	627.34	-6.70	1.48	11.78	11.88	82.86	9.21	1.68	-227.68
Strong Magn. Int.	648.10	3.10	329.90	647.92	-5.74	2.38	11.35	11.60	78.16	3.73	2.91	-48.06
Slight Magn Int	687.10	3.02	328.73	686.86	-3.69	4.17	10.29	11.10	67.93	0.26	-0.21	-3.00
Strong Magn. Int.	747.80	5.00	284.80	747.42	0.08	6.21	6.90	9.28	47.99	5.79	3.26	-72.37
Slight Magn Int	828.40	8.97	342.57	827.49	8.76	13.12	1.61	13.21	7.01	9.41	4.93	71.67
Slight Magn Int	858.10	10.89	344.60	856.75	13.39	18.03	0.17	18.03	0.56	6.57	6.46	6.84
Slight Magn Int	889.40	13.20	351.80	887.36	19.03	24.42	-1.12	24.44	357.37	8.79	7.38	23.00
Slight Magn Int	952.20	17.50	351.10	947.90	32.99	40.85	-3.60	41.01	354.96	6.85	6.85	-1.11
Slight Magn Int	983.70	19.70	348.60	977.76	41.57	50.74	-5.39	51.02	353.94	7.43	6.98	-7.94
	1015.10	22.10	348.50	1007.09	51.27	61.71	-7.61	62.18	352.97	7.64	7.64	-0.32
	1046.00	24.40	345.70	1035.48	61.98	73.60	-10.35	74.32	352.00	8.26	7.44	-9.06
	1080.60	27.10	342.10	1066.64	75.57	88.03	-14.54	89.22	350.62	9.01	7.80	-10.40
	1108.60	29.20	338.80	1091.33	87.82	100.46	-18.97	102.24	349.31	9.33	7.50	-11.79
	1133.10	31.10	336.24	1112.51	99.45	111.83	-23.68	114.31	348.05	9.36	7.76	-10.45
	1164.60	33.60	333.60	1139.12	115.62	127.09	-30.83	130.77	346.36	9.11	7.94	-8.38
	1195.60	35.40	330.30	1164.67	132.70	142.57	-39.10	147.83	344.67	8.37	5.81	-10.65
	1227.20	37.50	327.40	1190.09	151.16	158.63	-48.82	165.97	342.89	8.59	6.65	-9.18
	1258.60	39.20	324.20	1214.72	170.48	174.73	-59.77	184.67	341.12	8.32	5.41	-10.19
	1290.20	40.70	323.60	1238.94	190.68	191.12	-71.73	204.14	339.43	4.90	4.75	-1.90
	1321.90	42.20	322.10	1262.70	211.61	207.84	-84.40	224.33	337.90	5.67	4.73	-4.73
	1384.30	44.20	322.20	1308.19	254.23	241.57	-110.61	265.69	335.40	3.21	3.21	0.16
	1447.30	46.70	322.60	1352.38	299.02	277.14	-138.00	309.60	333.53	3.99	3.97	0.63
	1510.30	49.70	322.30	1394.37	345.87	314.37	-166.62	355.80	332.08	4.78	4.76	-0.48
	1601.10	53.40	319.00	1450.83	416.90	369.30	-211.73	425.69	330.17	4.97	4.07	-3.63
	1664.30	56.60	318.20	1487.08	468.67	408.13	-245.97	476.51	328.92	5.17	5.06	-1.27
	1758.30	59.60	317.80	1536.74	548.46	467.42	-299.36	555.07	327.36	3.21	3.19	-0.43
	1853.10	59.50	318.50	1584.79	630.18	528.30	-353.89	635.87	326.18	0.65	-0.11	0.74
	1915.70	59.20	320.90	1616.70	684.02	569.36	-388.72	689.40	325.68	3.33	-0.48	3.83
Csg 13 3/8" @ 2000 ft	2041.20	59.40	321.30	1680.78	791.82	653.35	-456.48	797.02	325.06	0.32	0.16	0.32
	2134.80	59.20	322.90	1728.57	872.14	716.85	-505.92	877.40	324.79	1.49	-0.21	1.71
	2229.20	59.30	321.50	1776.83	953.09	780.95	-555.64	958.45	324.57	1.28	0.11	-1.48
	2324.10	59.30	319.50	1825.29	1034.64	843.91	-607.54	1039.85	324.25	1.81	0.00	-2.11
	2418.30	59.70	317.50	1873.10	1115.80	904.69	-661.32	1120.63	323.83	1.88	0.42	-2.12
	2512.80	60.60	316.90	1920.14	1197.74	964.83	-717.01	1202.08	323.38	1.10	0.95	-0.63
	2606.80	60.50	316.70	1966.35	1279.55	1024.50	-773.04	1283.43	322.96	0.21	-0.11	-0.21
	2700.60	61.10	315.70	2012.12	1361.37	1083.59	-829.72	1364.77	322.56	1.13	0.64	-1.07
	2795.30	61.90	314.80	2057.30	1444.45	1142.69	-888.31	1447.36	322.14	1.19	0.84	-0.95
	2889.70	61.90	314.70	2101.77	1527.55	1201.32	-947.45	1529.97	321.74	0.09	0.00	-0.11

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (deg)	DLS (deg/100 ft)	Build Rate (deg/100 ft)	Walk Rate (deg/100 ft)
	2984.50	62.30	314.50	2146.13	1611.13	1260.15	-1007.10	1613.14	321.37	0.46	0.42	-0.21
	3078.70	62.20	314.50	2189.99	1694.29	1318.58	-1066.56	1695.94	321.03	0.11	-0.11	0.00
	3172.20	62.10	314.60	2233.67	1776.77	1376.57	-1125.48	1778.10	320.73	0.14	-0.11	0.11
	3266.80	62.20	314.80	2277.86	1860.22	1435.41	-1184.93	1861.30	320.46	0.21	0.11	0.21
	3360.70	62.20	314.20	2321.65	1943.08	1493.63	-1244.17	1943.93	320.21	0.57	0.00	-0.64
	3465.40	62.10	314.30	2370.57	2035.40	1558.22	-1310.48	2036.03	319.94	0.13	-0.10	0.10
	3560.10	62.40	314.40	2414.66	2118.99	1616.81	-1370.41	2119.46	319.72	0.33	0.32	0.11
	3654.60	61.80	315.00	2458.88	2202.32	1675.55	-1429.78	2202.66	319.53	0.85	-0.63	0.63
	3749.30	61.40	316.20	2503.92	2285.51	1735.07	-1488.06	2285.78	319.38	1.19	-0.42	1.27
	3832.80	61.40	316.20	2543.89	2358.76	1787.98	-1538.80	2358.98	319.28	0.00	0.00	0.00
	3927.20	61.40	316.00	2589.08	2441.57	1847.70	-1596.27	2441.74	319.18	0.19	0.00	-0.21
	4021.60	61.60	316.70	2634.12	2524.47	1907.73	-1653.53	2524.60	319.08	0.69	0.21	0.74
	4116.40	61.50	316.70	2679.29	2607.78	1968.39	-1710.70	2607.88	319.01	0.11	-0.11	0.00
	4211.50	61.70	316.10	2724.52	2691.38	2028.97	-1768.39	2691.45	318.93	0.59	0.21	-0.63
	4306.10	61.60	316.50	2769.44	2774.57	2089.16	-1825.91	2774.62	318.85	0.39	-0.11	0.42
	4337.70	61.40	316.80	2784.52	2802.33	2109.35	-1844.97	2802.37	318.83	1.05	-0.63	0.95
	4369.30	61.40	317.30	2799.65	2830.06	2129.66	-1863.87	2830.10	318.81	1.39	0.00	1.58
	4400.80	61.30	317.90	2814.75	2857.70	2150.07	-1882.51	2857.74	318.80	1.70	-0.32	1.90
	4463.90	61.30	317.50	2845.05	2913.04	2191.01	-1919.76	2913.07	318.78	0.56	0.00	-0.63
	4526.80	61.30	317.50	2875.26	2968.21	2231.69	-1957.04	2968.23	318.75	0.00	0.00	0.00
	4558.60	61.30	317.60	2890.53	2996.10	2252.27	-1975.86	2996.12	318.74	0.28	0.00	0.31
	4590.00	61.10	317.70	2905.65	3023.61	2272.60	-1994.40	3023.63	318.73	0.70	-0.64	0.32
	4621.40	61.10	317.70	2920.83	3051.10	2292.93	-2012.90	3051.12	318.72	0.00	0.00	0.00
	4652.70	61.10	317.70	2935.96	3078.50	2313.20	-2031.34	3078.51	318.71	0.00	0.00	0.00
	4684.20	61.08	317.92	2951.19	3106.07	2333.63	-2049.86	3106.09	318.70	0.61	-0.06	0.70
	4715.70	61.28	318.13	2966.37	3133.67	2354.15	-2068.32	3133.68	318.70	0.86	0.63	0.67
	4747.20	61.23	318.24	2981.52	3161.28	2374.73	-2086.73	3161.30	318.69	0.34	-0.16	0.35
	4778.80	61.09	317.38	2996.76	3188.96	2395.24	-2105.32	3188.98	318.69	2.42	-0.44	-2.72
	4810.00	61.14	317.78	3011.83	3216.28	2415.41	-2123.75	3216.29	318.68	1.13	0.16	1.28
	4872.70	61.20	317.40	3042.07	3271.20	2455.97	-2160.80	3271.21	318.66	0.54	0.10	-0.61
	4935.70	61.00	316.80	3072.51	3326.33	2496.37	-2198.34	3326.34	318.63	0.89	-0.32	-0.95
	4999.00	61.30	317.90	3103.06	3381.77	2537.15	-2235.90	3381.77	318.61	1.59	0.47	1.74
	5093.50	61.60	316.70	3148.22	3464.75	2598.15	-2292.19	3464.76	318.58	1.16	0.32	-1.27
	5188.37	61.70	317.20	3193.27	3548.21	2659.16	-2349.19	3548.21	318.54	0.48	0.11	0.53
	5282.50	61.70	317.10	3237.90	3631.07	2719.92	-2405.55	3631.07	318.51	0.09	0.00	-0.11
	5376.70	61.20	317.90	3282.92	3713.80	2780.93	-2461.46	3713.80	318.49	0.92	-0.53	0.85
Csg 9 5/8" @ 5518'	5471.00	61.30	317.80	3328.28	3796.47	2842.22	-2516.94	3796.47	318.47	0.14	0.11	-0.11
	5562.10	60.90	316.50	3372.31	3876.20	2900.69	-2571.17	3876.20	318.45	1.32	-0.44	-1.43
	5656.60	61.30	316.40	3417.98	3958.88	2960.65	-2628.17	3958.88	318.40	0.43	0.42	-0.11
	5750.60	61.90	316.40	3462.68	4041.51	3020.53	-2685.20	4041.52	318.36	0.64	0.64	0.00
	5844.90	61.00	317.10	3507.75	4124.30	3080.86	-2741.95	4124.32	318.33	1.16	-0.95	0.74
	5939.10	59.90	316.80	3554.21	4206.22	3140.75	-2797.89	4206.24	318.30	1.20	-1.17	-0.32
	6032.70	60.20	316.70	3600.94	4287.28	3199.82	-2853.46	4287.31	318.27	0.33	0.32	-0.11
	6127.10	59.30	316.30	3648.50	4368.77	3258.97	-2909.59	4368.82	318.24	1.02	-0.95	-0.42
	6158.40	59.50	315.90	3664.43	4395.69	3278.38	-2928.27	4395.74	318.23	1.27	0.64	-1.28
	6349.20	60.60	315.70	3759.68	4560.82	3396.90	-3043.53	4560.92	318.14	0.58	0.58	-0.10
	6506.50	60.21	314.27	3837.37	4697.34	3493.59	-3140.26	4697.49	318.05	0.83	-0.25	-0.91
	6664.40	60.00	314.96	3916.07	4833.91	3589.73	-3237.71	4834.14	317.95	0.40	-0.13	0.44
	6847.80	60.29	315.00	4007.37	4992.67	3702.16	-3350.22	4992.99	317.86	0.16	0.16	0.02
	7040.50	58.80	313.60	4105.04	5158.32	3818.18	-3469.09	5158.79	317.74	1.00	-0.77	-0.73
	7228.10	56.90	313.60	4204.87	5316.57	3927.71	-3584.10	5317.21	317.62	1.01	-1.01	0.00
	7416.70	55.60	312.90	4309.65	5472.72	4035.16	-3698.31	5473.58	317.49	0.76	-0.69	-0.37
	7605.40	54.30	312.90	4418.01	5626.45	4140.32	-3811.47	5627.57	317.37	0.69	-0.69	0.00
	7762.30	53.70	311.50	4510.24	5752.61	4225.58	-3905.50	5754.00	317.25	0.82	-0.38	-0.89
	7950.00	52.40	310.80	4623.07	5901.38	4324.29	-4018.44	5903.17	317.10	0.75	-0.69	-0.37
Bottom Projection	8095.00	51.40	310.30	4712.54	6014.38	4398.47	-4105.14	6016.54	316.98	0.74	-0.69	-0.34

Survey Type: Raw Survey

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

Surveying Prog:

LO16-26 MWD Geodetic Survey Report

Report Date: August 15, 2002	Survey / DLS Computation Method: Minimum Curvature / Lubinski
Client: Petro-Tech Peruana S.A.	Vertical Section Azimuth: 318.510°
Field: Lobitos	Vertical Section Origin: N 0.000 ft, E 0.000 ft
Structure / Slot: Platform LO16 (WGS84) / Slot #26	TVD Reference Datum: KB
Well: Well LO16-26	TVD Reference Elevation: 50.0 ft relative to MSL
Borehole: Borehole LO16-26	Sea Bed / Ground Level Elevation: 0.000 ft relative to MSL
UWI/API#:	Magnetic Declination: 1.403°
Survey Name / Date: LO16-26 MWD Surveys New / July 24, 2002	Total Field Strength: 28771.372 nT
Tort / AHD / DDI / ERD ratio: 121.483° / 6058.53 ft / 6.102 / 1.286	Magnetic Dip: 14.709°
Grid Coordinate System: UTM Zone 17S - WGS84, Meters	Declination Date: July 24, 2002
Location Lat/Long: S 4 28 9.399, W 81 21 55.785	Magnetic Declination Model: BGGM 2001
Location Grid N/E Y/X: N 9505990.430 m, E 459452.050 m	North Reference: True North
Grid Convergence Angle: +0.02848147°	Total Corr Mag North -> True North: +1.403°
Grid Scale Factor: 0.99962035	Local Coordinates Referenced To: Well Head

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Northing (m)	Easting (m)	Latitude	Longitude
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9505990.43	459452.05	S 4 28 9.399	W 81 21 55.785
Strong Magn. Int.	346.00	1.80	90.00	345.94	-3.60	0.00	5.43	0.52	9505990.43	459453.71	S 4 28 9.399	W 81 21 55.731
Strong Magn. Int.	436.00	1.58	90.00	435.90	-5.36	0.00	8.09	0.24	9505990.43	459454.51	S 4 28 9.399	W 81 21 55.705
Strong Magn. Int.	516.00	1.10	90.00	515.88	-6.60	0.00	9.96	0.60	9505990.43	459455.08	S 4 28 9.399	W 81 21 55.686
Strong Magn. Int.	527.00	1.10	90.00	526.88	-6.74	0.00	10.17	0.00	9505990.43	459455.15	S 4 28 9.399	W 81 21 55.684
Strong Magn. Int.	558.00	1.07	90.00	557.87	-7.13	0.00	10.76	0.10	9505990.43	459455.33	S 4 28 9.399	W 81 21 55.678
Slight Magn Int	588.39	1.63	55.87	588.26	-7.37	0.24	11.40	3.15	9505990.51	459455.52	S 4 28 9.396	W 81 21 55.672
Slight Magn Int	608.50	2.18	23.06	608.36	-7.24	0.75	11.79	5.96	9505990.66	459455.64	S 4 28 9.391	W 81 21 55.668
Slight Magn Int	627.50	2.50	339.80	627.34	-6.70	1.48	11.78	9.21	9505990.88	459455.64	S 4 28 9.384	W 81 21 55.668
Strong Magn. Int.	648.10	3.10	329.90	647.92	-5.74	2.38	11.35	3.73	9505991.16	459455.51	S 4 28 9.375	W 81 21 55.672
Slight Magn Int	687.10	3.02	328.73	686.86	-3.69	4.17	10.29	0.26	9505991.70	459455.18	S 4 28 9.357	W 81 21 55.683
Strong Magn. Int.	747.80	5.00	284.80	747.42	0.08	6.21	6.90	5.79	9505992.32	459454.15	S 4 28 9.337	W 81 21 55.716
Slight Magn Int	828.40	8.97	342.57	827.49	8.76	13.12	1.61	9.41	9505994.43	459452.54	S 4 28 9.269	W 81 21 55.769
Slight Magn Int	858.10	10.89	344.60	856.75	13.39	18.03	0.17	6.57	9505995.92	459452.10	S 4 28 9.220	W 81 21 55.783
Slight Magn Int	889.40	13.20	351.80	887.36	19.03	24.42	-1.12	8.79	9505997.87	459451.70	S 4 28 9.157	W 81 21 55.796
Slight Magn Int	952.20	17.50	351.10	947.90	32.99	40.85	-3.60	6.85	9506002.88	459450.95	S 4 28 8.993	W 81 21 55.820
Slight Magn Int	983.70	19.70	348.60	977.76	41.57	50.74	-5.39	7.43	9506005.89	459450.40	S 4 28 8.895	W 81 21 55.838
	1015.10	22.10	348.50	1007.09	51.27	61.71	-7.61	7.64	9506009.23	459449.72	S 4 28 8.786	W 81 21 55.860
	1046.00	24.40	345.70	1035.48	61.98	73.60	-10.35	8.26	9506012.85	459448.89	S 4 28 8.669	W 81 21 55.887
	1080.60	27.10	342.10	1066.64	75.57	88.03	-14.54	9.01	9506017.25	459447.61	S 4 28 8.525	W 81 21 55.928
	1108.60	29.20	338.80	1091.33	87.82	100.46	-18.97	9.33	9506021.04	459446.26	S 4 28 8.402	W 81 21 55.972
	1133.10	31.10	336.24	1112.51	99.45	111.83	-23.68	9.36	9506024.50	459444.82	S 4 28 8.289	W 81 21 56.019
	1164.60	33.60	333.60	1139.12	115.62	127.09	-30.83	9.11	9506029.15	459442.64	S 4 28 8.138	W 81 21 56.089
	1195.60	35.40	330.30	1164.67	132.70	142.57	-39.10	8.37	9506033.86	459440.12	S 4 28 7.984	W 81 21 56.171
	1227.20	37.50	327.40	1190.09	151.16	158.63	-48.82	8.59	9506038.75	459437.15	S 4 28 7.825	W 81 21 56.267
	1258.60	39.20	324.20	1214.72	170.48	174.73	-59.77	8.32	9506043.66	459433.81	S 4 28 7.665	W 81 21 56.375
	1290.20	40.70	323.60	1238.94	190.68	191.12	-71.73	4.90	9506048.65	459430.17	S 4 28 7.502	W 81 21 56.494
	1321.90	42.20	322.10	1262.70	211.61	207.84	-84.40	5.67	9506053.74	459426.30	S 4 28 7.336	W 81 21 56.619
	1384.30	44.20	322.20	1308.19	254.23	241.57	-110.61	3.21	9506064.02	459418.31	S 4 28 7.002	W 81 21 56.878
	1447.30	46.70	322.60	1352.38	299.02	277.14	-138.00	3.99	9506074.85	459409.96	S 4 28 6.649	W 81 21 57.149
	1510.30	49.70	322.30	1394.37	345.87	314.37	-166.62	4.78	9506086.19	459401.24	S 4 28 6.279	W 81 21 57.432
	1601.10	53.40	319.00	1450.83	416.90	369.30	-211.73	4.97	9506102.92	459387.48	S 4 28 5.734	W 81 21 57.878
	1664.30	56.60	318.20	1487.08	468.67	408.13	-245.97	5.17	9506114.74	459377.05	S 4 28 5.349	W 81 21 58.216
	1758.30	59.60	317.80	1536.74	548.46	467.42	-299.36	3.21	9506132.80	459360.77	S 4 28 4.761	W 81 21 58.744
	1853.10	59.50	318.50	1584.79	630.18	528.30	-353.89	0.65	9506151.34	459344.15	S 4 28 4.157	W 81 21 59.283
Csg 13 3/8" @ 2000 ft	1915.70	59.20	320.90	1616.70	684.02	569.36	-388.72	3.33	9506163.85	459333.53	S 4 28 3.749	W 81 21 59.628
	2041.20	59.40	321.30	1680.78	791.82	653.35	-456.48	0.32	9506189.42	459312.87	S 4 28 2.916	W 81 22 0.298
	2134.80	59.20	322.90	1728.57	872.14	716.85	-505.92	1.49	9506208.77	459297.80	S 4 28 2.286	W 81 22 0.786
	2229.20	59.30	321.50	1776.83	953.09	780.95	-555.64	1.28	9506228.29	459282.64	S 4 28 1.650	W 81 22 1.278
	2324.10	59.30	319.50	1825.29	1034.64	843.91	-607.54	1.81	9506247.46	459266.81	S 4 28 1.025	W 81 22 1.791
	2418.30	59.70	317.50	1873.10	1115.80	904.69	-661.32	1.88	9506265.98	459250.42	S 4 28 0.422	W 81 22 2.323
	2512.80	60.60	316.90	1920.14	1197.74	964.83	-717.01	1.10	9506284.29	459233.44	S 4 27 59.825	W 81 22 2.874
	2606.80	60.50	316.70	1966.35	1279.55	1024.50	-773.04	0.21	9506302.46	459216.36	S 4 27 59.233	W 81 22 3.427
	2700.60	61.10	315.70	2012.12	1361.37	1083.59	-829.72	1.13	9506320.46	459199.08	S 4 27 58.646	W 81 22 3.988
	2795.30	61.90	314.80	2057.30	1444.45	1142.69	-888.31	1.19	9506338.46	459181.22	S 4 27 58.060	W 81 22 4.567
	2889.70	61.90	314.70	2101.77	1527.55	1201.32	-947.45	0.09	9506356.31	459163.20	S 4 27 57.478	W 81 22 5.152
	2984.50	62.30	314.50	2146.13	1611.13	1260.15	-1007.10	0.46	9506374.22	459145.01	S 4 27 56.895	W 81 22 5.742
	3078.70	62.20	314.50	2189.99	1694.29	1318.58	-1066.56	0.11	9506392.02	459126.89	S 4 27 56.315	W 81 22 6.329
	3172.20	62.10	314.60	2233.67	1776.77	1376.57	-1125.48	0.14	9506409.68	459108.93	S 4 27 55.739	W 81 22 6.912
	3266.80	62.20	314.80	2277.86	1860.22	1435.41	-1184.93	0.21	9506427.60	459090.80	S 4 27 55.155	W 81 22 7.500

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Northing (m)	Easting (m)	Latitude	Longitude
	3360.70	62.20	314.20	2321.65	1943.08	1493.63	-1244.17	0.57	9506445.33	459072.74	S 4 27 54.578	W 81 22 8.085
	3465.40	62.10	314.30	2370.57	2035.40	1558.22	-1310.48	0.13	9506465.00	459052.53	S 4 27 53.937	W 81 22 8.741
	3560.10	62.40	314.40	2414.66	2118.99	1616.81	-1370.41	0.33	9506482.84	459034.26	S 4 27 53.355	W 81 22 9.334
	3654.60	61.80	315.00	2458.88	2202.32	1675.55	-1429.78	0.85	9506500.73	459016.17	S 4 27 52.773	W 81 22 9.920
	3749.30	61.40	316.20	2503.92	2285.51	1735.07	-1488.06	1.19	9506518.85	458998.40	S 4 27 52.182	W 81 22 10.497
	3832.80	61.40	316.20	2543.89	2358.76	1787.98	-1538.80	0.00	9506534.97	458982.93	S 4 27 51.657	W 81 22 10.998
	3927.20	61.40	316.00	2589.08	2441.57	1847.70	-1596.27	0.19	9506553.15	458965.41	S 4 27 51.064	W 81 22 11.567
	4021.60	61.60	316.70	2634.12	2524.47	1907.73	-1653.53	0.69	9506571.43	458947.96	S 4 27 50.469	W 81 22 12.133
	4116.40	61.50	316.70	2679.29	2607.78	1968.39	-1710.70	0.11	9506589.91	458930.53	S 4 27 49.867	W 81 22 12.698
	4211.50	61.70	316.10	2724.52	2691.38	2028.97	-1768.39	0.59	9506608.36	458912.94	S 4 27 49.266	W 81 22 13.268
	4306.10	61.60	316.50	2769.44	2774.57	2089.16	-1825.91	0.39	9506626.69	458895.41	S 4 27 48.668	W 81 22 13.837
	4337.70	61.40	316.80	2784.52	2802.33	2109.35	-1844.97	1.05	9506632.84	458889.60	S 4 27 48.468	W 81 22 14.025
	4369.30	61.40	317.30	2799.65	2830.06	2129.66	-1863.87	1.39	9506639.02	458883.83	S 4 27 48.266	W 81 22 14.212
	4400.80	61.30	317.90	2814.75	2857.70	2150.07	-1882.51	1.70	9506645.24	458878.15	S 4 27 48.064	W 81 22 14.397
	4463.90	61.30	317.50	2845.05	2913.04	2191.01	-1919.76	0.56	9506657.70	458866.80	S 4 27 47.658	W 81 22 14.765
	4526.80	61.30	317.50	2875.26	2968.21	2231.69	-1957.04	0.00	9506670.09	458855.43	S 4 27 47.254	W 81 22 15.133
	4558.60	61.30	317.60	2890.53	2996.10	2252.27	-1975.86	0.28	9506676.36	458849.69	S 4 27 47.050	W 81 22 15.320
	4590.00	61.10	317.70	2905.65	3023.61	2272.60	-1994.40	0.70	9506682.55	458844.04	S 4 27 46.848	W 81 22 15.503
	4621.40	61.10	317.70	2920.83	3051.10	2292.93	-2012.90	0.00	9506688.75	458838.40	S 4 27 46.646	W 81 22 15.686
	4652.70	61.10	317.70	2935.96	3078.50	2313.20	-2031.34	0.00	9506694.92	458832.78	S 4 27 46.445	W 81 22 15.868
	4684.20	61.08	317.92	2951.19	3106.07	2333.63	-2049.86	0.61	9506701.14	458827.14	S 4 27 46.242	W 81 22 16.051
	4715.70	61.28	318.13	2966.37	3133.67	2354.15	-2068.32	0.86	9506707.39	458821.51	S 4 27 46.039	W 81 22 16.234
	4747.20	61.23	318.24	2981.52	3161.28	2374.73	-2086.73	0.34	9506713.66	458815.90	S 4 27 45.835	W 81 22 16.416
	4778.80	61.09	317.38	2996.76	3188.96	2395.24	-2105.32	2.42	9506719.90	458810.23	S 4 27 45.631	W 81 22 16.599
	4810.00	61.14	317.78	3011.83	3216.28	2415.41	-2123.75	1.13	9506726.05	458804.61	S 4 27 45.431	W 81 22 16.782
	4872.70	61.20	317.40	3042.07	3271.20	2455.97	-2160.80	0.54	9506738.40	458793.32	S 4 27 45.029	W 81 22 17.148
	4935.70	61.00	316.80	3072.51	3326.33	2496.37	-2198.34	0.89	9506750.70	458781.87	S 4 27 44.628	W 81 22 17.519
	4999.00	61.30	317.90	3103.06	3381.77	2537.15	-2235.90	1.59	9506763.12	458770.42	S 4 27 44.223	W 81 22 17.890
	5093.50	61.60	316.70	3148.22	3464.75	2598.15	-2292.19	1.16	9506781.70	458753.26	S 4 27 43.618	W 81 22 18.447
	5188.37	61.70	317.20	3193.27	3548.21	2659.16	-2349.19	0.48	9506800.28	458735.89	S 4 27 43.012	W 81 22 19.010
	5282.50	61.70	317.10	3237.90	3631.07	2719.92	-2405.55	0.09	9506818.78	458718.70	S 4 27 42.409	W 81 22 19.568
	5376.70	61.20	317.90	3282.92	3713.80	2780.93	-2461.46	0.92	9506837.36	458701.66	S 4 27 41.804	W 81 22 20.120
	5471.00	61.30	317.80	3328.28	3796.47	2842.22	-2516.94	0.14	9506856.03	458684.75	S 4 27 41.196	W 81 22 20.669
	5562.10	60.90	316.50	3372.31	3876.20	2900.69	-2571.17	1.32	9506873.84	458668.21	S 4 27 40.616	W 81 22 21.205
	5656.60	61.30	316.40	3417.98	3958.88	2960.65	-2628.17	0.43	9506892.10	458650.84	S 4 27 40.021	W 81 22 21.769
	5750.60	61.90	316.40	3462.68	4041.51	3020.53	-2685.20	0.64	9506910.33	458633.46	S 4 27 39.426	W 81 22 22.332
	5844.90	61.00	317.10	3507.75	4124.30	3080.86	-2741.95	1.16	9506928.71	458616.15	S 4 27 38.828	W 81 22 22.894
	5939.10	59.90	316.80	3554.21	4206.22	3140.75	-2797.89	1.20	9506946.94	458599.10	S 4 27 38.234	W 81 22 23.447
	6032.70	60.20	316.70	3600.94	4287.28	3199.82	-2853.46	0.33	9506964.93	458582.16	S 4 27 37.647	W 81 22 23.996
	6127.10	59.30	316.30	3648.50	4368.77	3258.97	-2909.59	1.02	9506982.95	458565.05	S 4 27 37.060	W 81 22 24.551
	6158.40	59.50	315.90	3664.43	4395.69	3278.38	-2928.27	1.27	9506988.86	458559.36	S 4 27 36.868	W 81 22 24.736
	6349.20	60.60	315.70	3759.68	4560.82	3396.90	-3043.53	0.58	9507024.95	458524.22	S 4 27 35.692	W 81 22 25.875
	6506.50	60.21	314.27	3837.37	4697.34	3493.59	-3140.26	0.83	9507054.40	458494.73	S 4 27 34.732	W 81 22 26.832
	6664.40	60.00	314.96	3916.07	4833.91	3589.73	-3237.71	0.40	9507083.67	458465.03	S 4 27 33.778	W 81 22 27.795
	6847.80	60.29	315.00	4007.37	4992.67	3702.16	-3350.22	0.16	9507117.91	458430.73	S 4 27 32.663	W 81 22 28.907
	7040.50	58.80	313.60	4105.04	5158.32	3818.18	-3469.09	1.00	9507153.24	458394.50	S 4 27 31.511	W 81 22 30.083
	7228.10	56.90	313.60	4204.87	5316.57	3927.71	-3584.10	1.01	9507186.60	458359.44	S 4 27 30.424	W 81 22 31.220
	7416.70	55.60	312.90	4309.65	5472.72	4035.16	-3698.31	0.76	9507219.32	458324.62	S 4 27 29.358	W 81 22 32.349
	7605.40	54.30	312.90	4418.01	5626.45	4140.32	-3811.47	0.69	9507251.34	458290.13	S 4 27 28.315	W 81 22 33.468
	7762.30	53.70	311.50	4510.24	5752.61	4225.58	-3905.50	0.82	9507277.31	458261.47	S 4 27 27.469	W 81 22 34.397
	7950.00	52.40	310.80	4623.07	5901.38	4324.29	-4018.44	0.75	9507307.36	458227.04	S 4 27 26.489	W 81 22 35.514
Bottom Projection	8095.00	51.40	310.30	4712.54	6014.38	4398.47	-4105.14	0.74	9507329.95	458200.61	S 4 27 25.753	W 81 22 36.371

Survey Type: Raw Survey

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

Surveying Prog:

MD From (ft)

0.00

MD To (ft) EQU Freq Survey Tool Type

8095.00 Act-Stns SLB_MWD-STD

Well File
GEOSCIENCES

Schlumberger	PETROTECH PERUANA S.A.	PETRO-TECH  PERUANA S.A.
	END OF WELL REPORT: LO16-26	Page 8

2.2. BHA COMMENTS

Petro-Tech Peruana S.A. - Well LO16-26

Date	July 25, 2002
Well	Well LO16-26
Borehole	Borehole LO16-26

BHA Comments:	Bha oriented due west using scribe line until junk (pieces of metal) was found. At the third run of this bha (oriented southwest) the metal debris was passed allowing us to start drilling curve @ 9.5 deg/ 100 ft because of left hand correction was mandatory to hit main target. No problems were encountered during short trips and csg run. Bha pooh to change bit.
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Bit Nozzles	
Count	Size(1/32 in)
1	16.00
3	18.00
TFA (in2)	0.94

Quality Control	
Created By:	Torres/Donoso
Checked By:	

Well File
GEOSCIENCES

Petro-Tech Peruana S.A. - Well LO16-26

Date	July 28, 2002
Well	Well LO16-26
Borehole	Borehole LO16-26

BHA Comments:	Continued drilling curve with a DLS 5 deg/100 ft. It was pooh due to pump pressure limitations

[illegible]

Quality Control	
Created By:	Torres/Soto
Checked By:	

Well File
GEOSCIENCES

BHA In: 1578' Out: 2000'

Petro-Tech Peruana S.A. - Well LO16-26

BHA #	BHA NO. 3 17" HOLE (REAL)
Field	Lobitos
Structure	Platform LO16 (WGS84)

Date	July 30, 2002
Well	Well LO16-26
Borehole	Borehole LO16-26

Item	Name	Vendor/ Model	Serial #	Fish. Neck OD (in)/ Length (ft)	OD (in)/ ID (in)	Max OD (in)	Bottom/ Top Connection	Length (ft)	Cum. Length (ft)
1	17" Bit	Hughes Christensen GTXC1	6004837		10 1/5 3 3/4	17	7.63 Reg Pin	1.33	1.33
2	Crossover		952		9 1/2 3 1/8	9 1/2	6.63 Reg Box 7.63 Reg Pin	1.46	2.79
3	A800M7840XP (1.5 deg)	Anadrill A800M7840XP	02966	8.00 1.30	8 1/4 6 1/4	16 11/16	6.63 Reg Box 6.63 Reg Box	27.12	29.91
4	Float Sub		14128-10	8.00	8 2 13/16	8	6.63 Reg Pin 6.63 Reg Box	2.58	32.49
5	Non-Magnetic Short Drill Collar		876-1	8.06	8 1/16 2 7/8	8 1/16	6.63 Reg Pin 6.63 Reg Box	9.52	42.01
6	UBHO Sub		14128-4		8 2 3/4	8	6.63 Reg Pin 6.63 Reg Box	2.24	44.25
7	NMDC w/ Slim-1	Anadrill Slim-1	H-872 (7978)	8.00	8 4 19/50	8	6.63 Reg Box 6.63 Reg Box	30.77	75.02
8	8" Non-Magnetic Drill Collar		K-870		7 7/8 2 7/8	7 7/8	6.63 Reg Pin 6.63 Reg Box	29.16	104.18
9	7 3/4" Collar (2 joints)			7.69	7 11/16 2 47/50	7 11/16	6.63 Reg Pin 6.63 Reg Box	60.50	164.68
10	Crossover			6.50 0.80	7 1/2 2 13/16	7 1/2	6.63 Reg Pin 4.00 NC46(IF) Box	2.25	166.93
11	6 1/4" Collar (7 joints)			6.13	6 1/8 2 13/16	6 1/8	4.50 NC46(XH) 4.50 NC46(XH)	203.94	370.87
12	Crossover				6 1/32 2 13/16	6 1/32	4.50 NC46(XH) 4.50 NC50(IF) Box	2.94	373.81
13	5" HWDP (6 joints)				5 3	6 1/4	4.50 NC50(IF) Pin 4.50 NC50(IF) Box	179.70	553.51
14	Hydraulic Jar	HE Hydra-Jar	03377	6.44 2.52	6 7/16 2 3/4	6 7/16	4.50 NC50(IF) Pin 4.50 NC50(IF) Box	32.23	585.74
15	5" HWDP (17 joints)				5 3	6 1/2	4.50 NC50(IF) Pin 4.50 NC50(IF) Box	510.31	1096.05
Total Weight (lbf)							76021	Total Len.	1096.05
Below Jar (lbf)							48398.1		

BHA Comments: Continued drilling curve to 13 3/8" csg point (2000 ft)

Stabilizer	
Blade Length (ft)	Mid-Pl. To Bit (ft)
1.33	4.80
	Bend To Bottom
Bent Housing Angle (deg)	Connection (ft)
1.50	7.06

Sensor	
Type	Distance To Bit (ft)
D&I	60.02

Bit Nozzles	
Count	Size (1/32 in)
1	18.00
3	20.00
TFA (in2)	1.17

Quality Control	
Created By	Torres/Soto
Checked By	

Well File
GEOSCIENCES

Petro-Tech Peruana S.A. - Well LO16-26

BHA #	BHA NO. 4 12 1/4" HOLE (REAL)
Field	Lobitos
Structure	Platform LO16 (WGS84)

Date	August 02, 2002
Well	Well LO16-26
Borehole	Borehole LO16-26

Item	Name	Vendor/ Model	Serial #	Fish. Neck OD (in)/ Length (ft)	OD (in)/ ID (in)	Max OD (in)	Bottom/ Top Connection	Length (ft)	Cum. Length (ft)
1	12 1/4 " Bit	Smith International	JS7794		7 1/2	12 1/4		0.88	0.88
		S987BHPX			3 3/4		6.63 Reg Pin		
2	A800M7840XP (1.15 deg)	Anadrill	01125	8.00	8 1/4	11 15/16	6.63 Reg Box	27.20	28.08
		A800M7840XP		1.29	6 1/4		6.63 Reg Box		
3	Float Sub		14128-10	8.00	8	8	6.63 Reg Pin	2.58	30.66
					2 13/16		6.63 Reg Box		
4	Non-Magnetic Short Drill Collar		876-1	8.06	8 1/16	8 1/16	6.63 Reg Pin	9.52	40.18
					2 7/8		6.63 Reg Box		
5	Stabilizer 11 15/16"		15485-1	8.00	8	11 15/16	6.63 Reg Pin	5.98	46.16
				2.58	2 13/16		6.63 Reg Box		
6	UBHO Sub		14128-4		8	8	6.63 Reg Pin	2.24	48.40
					2 3/4		6.63 Reg Box		
7	NMDC w/ Slim-1	Anadrill	H-872 (7978)	8.00	8	8	6.63 Reg Box	30.77	79.17
		Slim-1			4 19/50		6.63 Reg Box		
8	8" Non-Magnetic Drill Collar		K-870		7 7/8	7 7/8	6.63 Reg Pin	29.16	108.33
					2 7/8		6.63 Reg Box		
9	7 3/4" Collar (2 joints)			7.69	7 11/16	7 11/16	6.63 Reg Pin	60.50	168.83
					2 47/50		6.63 Reg Box		
10	Crossover			6.50	7 1/2	7 1/2	6.63 Reg Pin	2.25	171.08
				0.80	2 13/16		4.00 NC46(IF) Box		
11	6 1/4" Collar (7 joints)			6.13	6 1/8	6 1/8	4.50 NC46(XH) Pin	203.94	375.02
					2 13/16		4.50 NC46(XH)		
12	Crossover				6 1/32	6 1/32	4.50 NC46(XH) Pin	2.94	377.96
					2 13/16		4.50 NC50(IF) Box		
13	5" HWDP (6 joints)				5	6 1/4	4.50 NC50(IF) Pin	179.70	557.66
					3		4.50 NC50(IF) Box		
14	Hydraulic Jar 6 1/2"	HE	03377	6.44	6 7/16	6 7/16	4.50 NC50(IF) Pin	32.23	589.89
		Hydra-Jar		2.52	2 3/4		4.50 NC50(IF) Box		
15	5" HWDP (17 joints)				5	6 1/2	4.50 NC50(IF) Pin	510.31	1100.20
					3		4.50 NC50(IF) Box		
						Total Weight (lbf)	76641	Total Len.	1100.20
						Below Jar (lbf)	49018.3		

BHA Comments:	Only 172 ft of slidding was necessary to correct well path. No problems encountered while slidding with PDC bit. 3505 ft were drilled successfully. BHA behaved as expected.
----------------------	--

Stabilizer	
Blade Length (ft)	Mid-Pt. To Bit (ft)
0.50	1.13
2.00	42.68
	Bend To Bottom
Bent Housing Angle (deg)	Connection (ft)
1.15	7.06

[illegible]

Bit Nozzles	
Count	Size(1/32 in)
7	13.00
2	14.00
TFA (in2)	1.21

Quality Control	
Created By:	Torres/Soto
Checked By:	

Petro-Tech Peruana S.A. - Well LO16-26

BHA #	BHA NO. 5 8 1/2" HOLE (REAL)
Field	Lobitos
Structure	Platform LO16 (WGS84)

Date	August 10, 2002
Well	Well LO16-26
Borehole	Borehole LO16-26

[illegible]

BHA Comments:	42 ft slidding was necessary to correct well path. Bha behaved as expected. Motor stalled with only 150 psi differential pressure. Pooh to change rotary assy and run GR real time.
---------------	---

Stabilizer	
Blade Length (ft)	Mid-Pt. To Bit (ft)
0.58	2.06
0.54	43.24
	Bend To Bottom
Bent Housing Angle (deg)	Connection (ft)
1.15	6.44

[illegible]

Bit Nozzles	
Count	Size(1/32 in)
6	18.0
TFA (in2)	1.4

Quality Control	
Created By:	RT/GS/JB
Checked By:	

Well File
GEOSCIENCES

Petro-Tech Peruana S.A. - Well LO16-26

BHA #	BHA NO. 6 8 1/2" HOLE (REAL)
Field	Lobitos
Structure	Platform LO16 (WGS84)

Date	August 11, 2002
Well	Well LO16-26
Borehole	Borehole LO16-26

[illegible]

BHA Comments:	Bha behaved as expected with a drop rate of -0.52 deg/100ft and a left turn of - 0.3 deg/100ft.
	Target was hit without any trouble. GR log started reaming from 5850 ft to 6249 ft and continued logging while drilling down to TD.

Stabilizer	Mid-Pt. To Bit (ft)
Blade Length (ft)	
1.52	3.22
1.58	20.19
1.50	57.92
	Bend To Bottom
Bent Housing Angle (deg)	Connection (ft)

[illegible]

Bit Nozzles	
Count	Size(1/32 in)
4	16.00
2	18.00
TFA (in2)	1.28

Quality Control	
Created By:	Torres/Soto
Checked By:	F. Cordova

Petro-Tech Peruana S.A. - Well LO16-26

BHA #	BHA NO. 6 8 1/2" HOLE (REAL)
Field	Lobitos
Structure	Platform LO16 (WGS84)

Date	August 11, 2002
Well	Well LO16-26
Borehole	Borehole LO16-26

[illegible]

BHA Comments:	Bha behaved as expected with a drop rate of -0.52 deg/ 100ft and a left turn of - 0.3 deg/100ft.
	Target was hit without any trouble. GR log started reaming from 5850 ft to 6249 ft and continued logging while drilling down to TD.

Stabilizer	
Blade Length (ft)	Mid-Pt. To Bit (ft)
1.52	3.22
1.58	20.19
1.50	57.92
	Bend To Bottom
Bent Housing Angle (deg)	Connection (ft)

[illegible]

Bit Nozzles	
Count	Size(1/32 in)
4	16.00
2	18.00
TFA (in2)	1.28

Quality Control	
Created By:	Torres/Soto
Checked By:	F. Cordova

Schlumberger	PETROTECH PERUANA S.A.	PETRO-TECH  PERUANA S.A.
	END OF WELL REPORT: LO16-26	Page 9

3. CONCLUSIONS

- The nudge started due west as planned, however, it was modified to the southwest to be able to avoid junk and well collision.
- Because of platform with high density wells an anti-collision program was run on every survey.
- After handling magnetic interference a PDM 80078XP with a new tricone bit was used, increasing bit revolutions (0.2 rev/gal) and consequently better ROP.
- Regardless of High DLS 13 3/8" csg was successfully run.
- Another PDM 80078XP was run with a new Smith PDC bit accomplishing expected rotating and sliding modes.
- In 8 1/2" hole a steerable assy experienced some problems while sliding with more than 100 psi diff. Pressure, making the motor stall up.
- Also in 8 1/2" section a rotary assy was used accomplishing a Drop rate desired, however, the turn rate (left turn rate) was opposite to the previous wells (right turn rate).
- Real time GR was used in 8 1/2" section enhancing the search for pay zones.

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	END OF WELL REPORT: LO16-26	Page 10

4. RECOMMENDATIONS

RECOMENDACIONES PARA EL DESARROLLO EN LA PERFORACION DE NUEVOS POZOS EN LA PLATAFORMA LO16

Estas recomendaciones son aplicables a otras plataformas que tambien tienen alta densidad de pozos.

1. Necesidad obligatoria de correr un sistema de Gyro-multishot (sin interferencia magnetica) en las conductoras verticales e inclinadas de pozos antes perforados. Una inclinacion de 2 grados (en slots "verticales") podria significar un desplazamiento de hasta 12 pies en cualquier direccion, con lo cual la posibilidad de colision con otro pozo nuevo es muy grande. La corrida de Gyro debe tener un alcance de minimo 1000 pies y en el caso de los pozos dirigidos hasta el punto de inicio desvio de los mismos (KOP). Con el solo hecho de tener los Multishot Gyro Surveys se disminuye el factor de separacion con los pozos circundantes (al disminuir la incertidumbre en las medidas)
2. Ademas debido a la alta densidad de pozos es indispensable como minimo de un sistema de Gyro-Single Shot (que debe ser corrido por la compania especializada en esto) hasta alejarse de las zonas de interferencia magnetica.
3. Medidas de precaucion adicionales se toman cuando se esta perforando en zonas de riesgo como: uso de broca triconica para empezar el KOP, Motores de fondo de bajas revoluciones y uso de motores de fondo hasta alejarnos de las zonas de riesgo. De ser necesario se podria llegar a la necesidad de cerrar y despresurizar momentaneamente el pozo que esta en nuestra zona de riesgo (minimo o mayor).
4. Ademas, luego de alejarnos de la zona de interferencia magnetica pero aun estando en las zonas de minimo riesgo y ya utilizando el MWD se puede llegar a requerir tomar registros de desviacion MWD (surveys) cada tubo.
5. Una vez que nos alejemos de la zona de minimo riesgo (o sea cuando estemos en la zona sin riesgo) podemos tomar surveys cada 3 tubos o cada 5 tubos dependiendo del riesgo de la zona que estamos perforando (riesgo de atasque de tuberia)

Definiciones adicionales: El tradicional factor de separacion usado por Schlumberger, es definido como la razon entre la distancia centro-centro entre pozos y la suma de los radios de las zonas de incertidumbre entre dos pozos que estan siendo escaneados, incluyendo el diametro de los huecos perforados

Consideraciones adicionales relacionados al (OSF) Oriented

Separation Factor:

- $OSF > 5$. Zona sin riesgo (seguir perforando)
- $5 > OSF > 1.5$. Zona de alerta (correr programa anticollision detalladamente survey a survey)
- $1.5 > OSF > 1$. Zona de riesgo minimo (seguir perforando solo con autorizaciones escrita del Gerente y del cliente). Posibilidad de cierre temporal de pozo de interferencia
- $OSF < 1$. Zona de mayor riesgo. No perforar. Incrementar OSF (por ejemplo correr gyro en pozos vecinos y el actual, lo cual ya sugerimos en los acapites anteriores). Replanear pozo.

Quedando a sus servicios

Rodolfo Torres Suarez
DD3 Engineer
Schlumberger

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Quedando a sus servicios

Rodolfo Torres Suarez
DD3 Engineer
Schlumberger

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ATTACHEMENTS

Schlumberger	PETROTECH PERUANA S.A.	PETRO-TECH  PERUANA S.A.
	END OF WELL REPORT: LO16-26	Page 12

ATTACHED A.
ANTICOLLISION REPORTS

ANTI-COLLISION REPORT

Analysis Method:	3D Least Distance	Distance Unit:	ft
Depth Interval:	Every 100.00ft Measured Depth	Azimuth Unit:	degrees
Step-down Trajectory:	Subject Trajectory	Azimuth Reference:	North
Date:	August 15, 2002		

NOTE: Measured Depth is referenced to individual borehole elevation
TVD, NS, EW are referenced to the subject trajectory's wellhead location and borehole elevation.

Subject Trajectory Summary

Client:	Petro-Tech Peruana S.A.		
Field:	Lobitos	Well:	Well LO16-26
Structure:	Platform LO16 (WGS84)	Borehole:	Borehole LO16-26
Slot:	Slot #26	Trajectory:	LO16-26 MWD Surveys New
		Type:	RAW SVY

Coordinate System: UTM Zone 17S - WGS84, Meters

Reference Point:					
Northing (m)	Easting (m)	Elevation (ft)	Structure Unc. (ft)	Slot Unc. (ft)	Hole Diameter (ft)
N 9505990.430	E 459452.050	50.00 above MSL	0.000	0.000	2.500

Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma

Surveying Prog:			
MD From (ft)	MD To (ft)	EOU Freq	Survey Tool Type
0.00	8095.00	Act-Stns	SLB_MWD-STD

Offset Trajectories Summary

Offset Selection Criteria

Wellhead distance scan: Not performed

Selection filters: no filters used

Trajectory	Borehole	Well	Type
LO16-07 SS Survey	Borehole LO16-07	Well LO16-07	DEF SVY
LO16-08 SS Survey	Borehole LO16-08	Well LO16-08	DEF SVY
LO16-09 SS Survey	Borehole LO16-09	Well LO16-09	DEF SVY
LO16-10 SS Survey	Borehole LO16-10	Well LO16-10	DEF SVY
LO16-11 SS Survey	Borehole LO16-11	Well LO16-11	DEF SVY
LO16-12 SS Survey	Borehole LO16-12	Well LO16-12	DEF SVY
LO16-13 SS Survey	Borehole LO16-13	Well LO16-13	DEF SVY
LO16-14 MWD Survey	Borehole LO16-14	Well LO16-14	DEF SVY
LO16-15 SS Survey	Borehole LO16-15	Well LO16-15	DEF SVY
LO16-15 S1 SS Survey	Borehole LO16-15 S1	Well LO16-15	DEF SVY
LO16-16 SS Survey	Borehole LO16-16	Well LO16-16	DEF SVY
LO16-17 SS Survey	Borehole LO16-17	Well LO16-17	DEF SVY
LO16-18 SS Survey	Borehole LO16-18	Well LO16-18	DEF SVY
LO16-19 SS Survey	Borehole LO16-19	Well LO16-19	DEF SVY
LO16-20 MWD Survey	Borehole LO16-20	Well LO16-20	DEF SVY
LO16-21 SS Survey	Borehole LO16-21	Well LO16-21	DEF SVY
LO16-22 SS Survey	Borehole LO16-22	Well LO16-22	DEF SVY
LO16-23 MWD Survey	Borehole LO16-23	Well LO16-23	DEF SVY
LO16-24 MWD Survey	Borehole LO16-24	Well LO16-24	DEF SVY
LO16-24 S1 MWD Survey	Borehole LO16-24 S1	Well LO16-24	DEF SVY

Major EOU radii used. All local minima indicated.

Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft

Anti-Collision Rules Used

Alert Rule Type:	Separation Factor Based
EOU Confidence level:	3-D 95.00% Confidence 2.7955 sigma
Allowable deviation based-on:	Minor Risk - Alert Radius NOT Added
Wellbore Diameter:	2.50 ft diameter included in results
Major Risk:	Separation Factor 1.00
Minor Risk:	Separation Factor 1.50
Alert Zone:	Separation Factor 5.00

Individual Offset Trajectories Details

Well File
GEOSCIENCES

5000.00	3103.54	N 2537.80	W 2236.49	2914.61	2792.33	S 705.77	W 342.23	165.18	3769.06	3671.83	38.76	63.78											
5100.00	3151.32	N 2602.31	W 2296.11	2966.78	2842.23	S 716.71	W 352.86	166.38	3858.45	3758.48	38.60	63.62											
5200.00	3198.79	N 2666.67	W 2356.15	3019.20	2892.35	S 727.62	W 363.62	165.75	3947.82	3845.21	38.47	63.72											
5300.00	3246.21	N 2731.22	W 2416.02	3067.25	2938.29	S 737.57	W 373.58	165.37	4037.19	3931.94	38.36	63.58											
5400.00	3294.14	N 2796.08	W 2475.15	3112.67	2981.67	S 747.07	W 383.18	164.21	4126.48	4018.68	38.28	63.38											
5500.00	3342.23	N 2860.99	W 2534.08	3158.28	3025.15	S 756.70	W 393.00	164.52	4215.74	4105.31	38.18	63.16											
5600.00	3390.69	N 2924.72	W 2594.00	3204.80	3069.43	S 766.62	W 403.22	165.16	4304.50	4191.39	38.06	62.74											
5700.00	3438.73	N 2988.26	W 2654.46	3226.18	3089.75	S 771.26	W 407.98	165.62	4393.45	4277.98	38.05	63.50											
5800.00	3486.13	N 3052.12	W 2715.08	3241.85	3104.61	S 774.79	W 411.50	165.04	4483.00	4365.31	38.09	63.82											
5900.00	3534.74	N 3116.01	W 2774.71	3251.86	3114.08	S 777.13	W 413.73	163.86	4572.49	4452.81	38.21	63.31											
6000.00	3584.66	N 3179.17	W 2834.02	3261.87	3123.55	S 779.53	W 415.93	163.80	4661.66	4539.98	38.31	63.44											
6100.00	3634.71	N 3242.08	W 2893.49	3271.64	3132.78	S 781.94	W 418.04	163.62	4751.06	4627.33	38.40	63.26											
6200.00	3685.47	N 3304.14	W 2953.26	3279.49	3140.19	S 783.92	W 419.71	164.34	4840.30	4714.49	38.47	63.69											
6300.00	3735.42	N 3366.25	W 3013.65	3286.71	3147.00	S 785.79	W 421.21	165.00	4930.16	4802.23	38.54	64.63											
6400.00	3784.67	N 3428.43	W 3074.54	3293.61	3153.50	S 787.62	W 422.61	165.69	5020.58	4890.53	38.61	65.02											
6500.00	3834.14	N 3489.65	W 3136.23	3300.41	3159.91	S 789.46	W 423.97	166.36	5110.94	4978.78	38.67	64.90											
6600.00	3883.91	N 3550.40	W 3198.13	3309.43	3168.40	S 791.95	W 425.72	165.80	5201.37	5067.19	38.77	65.26											
6700.00	3933.86	N 3611.52	W 3259.53	3323.27	3181.42	S 795.82	W 428.35	165.39	5292.11	5155.89	38.85	65.63											
6800.00	3983.65	N 3672.82	W 3320.87	3336.72	3194.08	S 799.63	W 430.85	165.50	5383.16	5244.86	38.92	66.09											
6900.00	4033.40	N 3734.05	W 3382.32	3349.86	3206.44	S 803.39	W 433.23	165.49	5474.43	5334.04	38.99	65.96											
7000.00	4084.16	N 3794.19	W 3444.02	3363.12	3218.91	S 807.23	W 435.58	165.38	5565.29	5422.81	39.06	65.31											
7100.00	4136.13	N 3853.17	W 3505.82	3376.55	3231.55	S 811.16	W 437.90	164.64	5655.65	5511.19	39.15	64.67											
7200.00	4189.58	N 3911.45	W 3567.03	3390.15	3244.33	S 815.19	W 440.19	163.54	5745.59	5599.20	39.25	64.03											
7300.00	4244.39	N 3969.03	W 3627.69	3403.89	3257.25	S 819.31	W 442.44	162.99	5835.11	5686.80	39.35	63.53											
7400.00	4300.22	N 4025.77	W 3688.22	3510.58	3357.25	S 851.60	W 460.86	162.43	5924.00	5772.67	39.15	62.11											
7500.00	4357.05	N 4081.79	W 3748.49	3639.25	3477.12	S 890.67	W 486.52	161.68	6011.66	5856.72	38.80	60.63											
7600.00	4414.86	N 4137.33	W 3808.26	3730.12	3561.35	S 918.26	W 506.52	161.03	6098.28	5939.99	38.53	59.60											
7700.00	4473.46	N 4192.08	W 3868.00	3803.51	3629.08	S 940.74	W 523.68	161.32	6184.12	6022.65	38.30	58.71											
7800.00	4532.63	N 4245.65	W 3928.24	3982.19	3792.51	S 995.74	W 570.46	161.37	6268.55	6101.14	37.44	56.83											
7900.00	4592.68	N 4298.30	W 3988.43	4103.79	3903.71	S 1031.98	W 603.72	161.06	6351.59	6179.52	36.91	55.49											
8000.00	4653.69	N 4350.07	W 4048.40	4217.71	4008.11	S 1064.90	W 635.26	160.76	6433.37	6256.69	36.41	54.24											
8095.00	4712.54	N 4398.47	W 4105.14	4330.40	4111.57	S 1096.54	W 666.81	160.47	6509.87	6328.91	35.97	53.04											
Field: Lobitos Well: Well LO16-08																							
Structure: Platform LO16 (WGS84) Borehole: Borehole LO16-08																							
Slot: Slot #08 Trajectory: LO16-08 SS Survey																							
Type: DEF SVY																							
Coordinate System: UTM Zone 17S - WGS84, Meters																							
Reference Point:																							
Northing (m)		Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)													
N 9505997.540		E 459460.690		50.00 above MSL		0.000		0.000		2.500													
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma																							
Surveying Prog:																							
MD From (ft)		MD To (ft)		EOU Freq		Survey Tool Type																	
0.00		8226.00		Act-Stns		SLB_MWD-POOR																	
Subject Trajectory Offset Trajectory																							
MD (ft)		TVD (ft)		NS (ft)		EW (ft)		MD (ft)		TVD (ft)													
Major EOU radii used. All local minima indicated.																							
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft																							
400.00	399.92	S 0.00	E 7.07	395.94	384.37	S 47.02	W 35.49	221.83	65.30	58.15	9.14	14.91											
500.00	499.88	S 0.00	E 9.64	492.81	478.45	S 64.81	W 50.13	222.46	90.73	83.43	12.42	14.47											
600.00	599.86	N 0.49	E 11.64	590.93	573.93	S 82.15	W 64.68	222.79	115.44	107.92	15.34	14.85											
700.00	699.74	N 4.72	E 9.86	689.50	670.11	S 98.21	W 79.07	221.53	139.22	131.15	17.26	12.85											
800.00	799.36	N 9.52	E 3.13	784.99	763.29	S 113.64	W 93.09	219.64	160.40	151.51	18.05	16.55											
900.00	897.66	N 26.88	W 1.48	875.73	851.56	S 129.58	W 106.83	217.25	194.18	184.53	20.12	25.25											
1000.00	993.04	N 56.29	W 6.51	960.57	933.82	S 145.63	W 120.05	215.26	239.10	228.74	23.08	32.12											
1100.00	1083.80	N 96.58	W 17.50	1040.16	1010.76	S 161.26	W 133.07	213.97	291.84	280.59	25.93	38.06											
1200.00	1168.25	N 144.79	W 40.37	1113.92	1081.90	S 175.96	W 145.87	212.26	348.52	336.56	29.15	42.84											
1300.00	1246.35	N 196.27	W 75.56	1182.10	1147.49	S 189.79	W 158.32	209.54	407.02	394.09	31.47	46.49											
1400.00	1319.38	N 250.27	W 117.35	1245.36	1208.16	S 203.01	W 170.38	206.69	469.74	454.41	30.65	49.85											
1500.00	1387.67	N 308.18	W 161.84	1303.61	1263.87	S 215.54	W 181.92	205.62	538.53	520.82	30.41	54.09											
1600.00	1450.17	N 368.64	W 211.15	1356.83	1314.62	S 227.28	W 192.83	205.14	611.42	591.18	30.21	57.12											
1700.00	1506.43	N 430.46	W 265.99	1407.51	1362.82	S 238.61	W 203.61	205.50	687.15	663.83	29.46	60.74											

1800.00	1557.86	N 494.12	W 323.44	1454.35	1407.28	S 249.14	W 213.95	203.77	766.23	740.09	29.32	62.28
1900.00	1608.67	N 558.94	W 380.15	1500.73	1451.20	S 259.60	W 224.55	199.83	847.95	819.50	29.80	62.52
2000.00	1659.78	N 625.70	W 434.28	1546.85	1494.78	S 270.06	W 235.45	196.86	932.28	901.42	30.21	62.70
2100.00	1710.77	N 693.09	W 487.76	1592.96	1538.25	S 280.55	W 246.69	193.91	1017.77	984.41	30.51	62.88
2200.00	1761.92	N 761.24	W 540.09	1639.02	1581.61	S 291.07	W 258.16	192.01	1104.25	1068.27	30.69	62.66
2300.00	1812.98	N 828.09	W 594.15	1686.88	1626.58	S 302.01	W 270.30	190.95	1190.27	1151.53	30.72	61.93
2400.00	1863.86	N 893.01	W 650.69	1736.94	1673.61	S 313.39	W 283.15	190.28	1275.42	1233.68	30.56	61.37
2500.00	1913.84	N 956.69	W 709.40	1787.48	1721.07	S 324.81	W 296.25	189.88	1360.18	1315.35	30.34	61.71
2600.00	1963.01	N 1020.19	W 768.98	1837.98	1768.47	S 336.15	W 309.47	188.32	1445.21	1396.22	29.50	61.49
2700.00	2011.83	N 1083.22	W 829.35	1889.08	1816.41	S 347.54	W 322.98	187.85	1530.25	1479.49	30.15	61.53
2800.00	2059.52	N 1145.61	W 891.25	1940.81	1864.91	S 359.00	W 336.85	187.65	1615.27	1561.17	29.86	61.75
2900.00	2106.61	N 1207.71	W 953.91	1992.93	1913.73	S 370.47	W 351.05	186.29	1700.38	1643.07	29.67	61.54
3000.00	2153.33	N 1269.76	W 1016.89	2045.48	1962.90	S 381.96	W 365.61	185.42	1785.67	1725.19	29.52	61.57
3100.00	2199.93	N 1331.78	W 1080.00	2098.68	2012.62	S 393.52	W 380.59	184.02	1871.07	1807.68	29.51	61.27
3200.00	2246.67	N 1393.84	W 1142.96	2153.07	2063.40	S 405.25	W 396.17	182.75	1956.53	1890.20	29.50	61.02
3300.00	2293.34	N 1456.06	W 1205.81	2208.63	2115.13	S 417.21	W 412.53	181.81	2042.10	1972.48	29.33	60.77
3400.00	2339.99	N 1517.87	W 1269.08	2265.45	2167.89	S 429.40	W 429.73	180.93	2127.43	2054.47	29.16	60.31
3500.00	2386.73	N 1579.60	W 1332.37	2323.43	2221.57	S 441.81	W 447.78	180.04	2212.66	2136.46	29.04	60.09
3600.00	2433.22	N 1641.57	W 1395.59	2382.13	2275.76	S 454.33	W 466.57	178.99	2297.98	2218.57	28.94	59.85
3700.00	2480.40	N 1703.96	W 1457.90	2439.23	2328.33	S 466.47	W 485.26	177.23	2383.25	2300.62	28.84	59.54
3800.00	2528.19	N 1767.19	W 1518.87	2495.08	2379.75	S 478.24	W 503.63	176.12	2468.74	2382.83	28.73	59.47
3900.00	2576.06	N 1830.51	W 1579.69	2551.35	2431.54	S 489.99	W 522.21	175.71	2554.19	2464.89	28.60	59.30
4000.00	2623.84	N 1893.92	W 1640.49	2612.97	2488.26	S 502.73	W 542.64	175.08	2639.62	2546.85	28.45	59.39
4100.00	2671.46	N 1957.90	W 1700.81	2681.23	2551.09	S 516.50	W 565.47	174.46	2725.09	2628.79	28.30	59.05
4200.00	2719.06	N 2021.67	W 1761.37	2751.12	2615.43	S 530.21	W 589.08	174.46	2810.18	2710.32	28.14	58.61
4300.00	2766.54	N 2085.26	W 1822.21	2824.87	2683.34	S 544.23	W 614.21	173.74	2894.89	2791.45	27.99	58.25
4400.00	2814.36	N 2149.55	W 1882.04	2905.06	2757.40	S 558.63	W 641.37	172.17	2979.39	2872.42	27.85	58.03
4500.00	2862.39	N 2214.35	W 1941.15	2982.59	2829.28	S 571.66	W 667.33	172.03	3063.59	2953.04	27.71	57.48
4600.00	2910.49	N 2279.08	W 2000.29	3003.45	2848.67	S 575.15	W 674.19	171.63	3147.85	3034.84	27.86	57.98
4700.00	2958.81	N 2343.91	W 2059.12	3026.03	2869.67	S 579.12	W 681.47	171.39	3232.64	3117.12	27.98	58.71
4800.00	3007.00	N 2408.93	W 2117.86	3055.67	2897.22	S 584.55	W 690.98	171.46	3317.97	3199.83	28.08	58.89
4900.00	3055.24	N 2473.53	W 2177.02	3084.85	2924.29	S 590.11	W 700.35	171.67	3403.47	3282.68	28.18	59.06
5000.00	3103.54	N 2537.80	W 2236.49	3113.61	2950.96	S 595.77	W 709.51	171.20	3489.16	3365.76	28.27	59.88
5100.00	3151.32	N 2602.31	W 2296.11	3141.48	2976.80	S 601.41	W 718.29	172.19	3575.44	3449.32	28.35	60.09
5200.00	3198.79	N 2666.67	W 2356.15	3168.68	3002.03	S 607.05	W 726.76	171.83	3662.08	3533.34	28.44	60.70
5300.00	3246.21	N 2731.22	W 2416.02	3195.23	3026.64	S 612.69	W 734.94	171.56	3749.13	3617.79	28.55	60.98
5400.00	3294.14	N 2796.08	W 2475.15	3221.30	3050.82	S 618.35	W 742.89	170.59	3836.44	3702.62	28.67	61.21
5500.00	3342.23	N 2860.99	W 2534.08	3255.09	3082.15	S 625.86	W 753.08	170.81	3924.00	3787.42	28.73	61.19
5600.00	3390.69	N 2924.72	W 2594.00	3302.52	3126.10	S 636.48	W 767.43	171.23	4011.05	3871.37	28.72	60.75
5700.00	3438.73	N 2988.26	W 2654.46	3349.64	3169.71	S 647.07	W 781.74	171.60	4098.18	3955.40	28.70	61.21
5800.00	3486.13	N 3052.12	W 2715.08	3394.78	3211.51	S 657.24	W 795.44	170.98	4185.66	4039.84	28.70	61.25
5900.00	3534.74	N 3116.01	W 2774.71	3440.55	3253.91	S 667.55	W 809.27	169.65	4272.83	4124.12	28.73	60.39
6000.00	3584.66	N 3179.17	W 2834.02	3487.41	3297.33	S 678.11	W 823.36	169.42	4359.35	4207.71	28.75	60.13
6100.00	3634.71	N 3242.08	W 2893.49	3732.15	3525.02	S 728.14	W 897.76	168.51	4444.95	4286.62	28.07	57.04
6200.00	3685.47	N 3304.14	W 2953.26	3848.55	3632.66	S 749.68	W 936.48	168.74	4528.10	4365.32	27.82	56.10
6300.00	3735.42	N 3366.25	W 3013.65	3889.63	3670.37	S 757.38	W 950.83	169.20	4611.27	4445.38	27.80	56.74
6400.00	3784.67	N 3428.43	W 3074.54	3930.00	3707.37	S 765.12	W 965.00	169.55	4694.90	4525.92	27.78	56.83
6500.00	3834.14	N 3489.65	W 3136.23	3950.87	3726.47	S 769.21	W 972.34	169.81	4778.27	4606.64	27.84	56.65
6600.00	3883.91	N 3550.40	W 3198.13	3961.19	3735.91	S 771.32	W 975.93	169.46	4861.83	4687.91	27.95	57.19
6700.00	3933.86	N 3611.52	W 3259.53	3971.20	3745.07	S 773.46	W 979.38	169.23	4945.99	4769.78	28.07	57.79
6800.00	3983.65	N 3672.82	W 3320.87	4378.01	4114.68	S 850.68	W 1130.40	168.72	5027.66	4839.22	26.68	53.81
6900.00	4033.40	N 3734.05	W 3382.32	4474.53	4201.22	S 866.88	W 1169.94	168.56	5107.97	4914.89	26.45	52.93
7000.00	4084.16	N 3794.19	W 3444.02	4548.73	4267.56	S 879.21	W 1200.82	168.26	5187.12	4989.83	26.29	51.79
7100.00	4136.13	N 3853.17	W 3505.82	4625.05	4335.70	S 891.78	W 1232.82	167.69	5265.06	5063.66	26.14	50.73
7200.00	4189.58	N 3911.45	W 3567.03	4705.43	4407.37	S 904.91	W 1266.77	166.98	5341.90	5136.39	25.99	49.69
7300.00	4244.39	N 3969.03	W 3627.69	4837.83	4525.03	S 925.88	W 1323.73	166.58	5417.30	5206.06	25.65	48.20
7400.00	4300.22	N 4025.77	W 3688.22	4938.93	4614.54	S 941.22	W 1368.16	166.29	5491.13	5275.11	25.42	47.11
7500.00	4357.05	N 4081.79	W 3748.49	5037.55	4701.78	S 955.86	W 1411.77	165.93	5563.90	5343.10	25.20	46.20
7600.00	4414.86	N 4137.33	W 3808.26	5197.57	4841.61	S 979.21	W 1485.96	165.65	5635.09	5407.50	24.76	44.80
7700.00	4473.46	N 4192.08	W 3868.00	5315.82	4943.84	S 996.02	W 1542.96	165.74	5704.69	5471.32	24.44	43.62
7800.00	4532.63	N 4245.65	W 3928.24	5451.24	5060.10	S 1014.66	W 1609.86	165.75	5772.70	5532.77	24.06	42.31
7900.00	4592.68	N 4298.30	W 3988.43	5670.61	5245.81	S 1042.88	W 1723.14	165.70	5838.35	5588.84	23.40	40.31

8000.00	4653.69	N 4350.07	W 4048.40	5747.26	5310.09	S 1052.27	W 1763.81	165.51	5902.16	5647.98	23.22	39.61									
8095.00	4712.54	N 4398.47	W 4105.14	5986.54	5510.81	S 1078.27	W 1891.42	165.53	5960.91	5696.66	22.56	37.30									
Field:		Lobitos		Well:		Well LO16-09															
Structure:		Platform LO16 (WGS84)		Borehole:		Borehole LO16-09															
Slot:		Slot #09		Trajectory:		LO16-09 SS Survey															
				Type:		DEF SVY															
Coordinate System:		UTM Zone 17S - WGS84, Meters																			
Reference Point:																					
Northing (m)		Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)											
N 9505995.230		E 459463.240		50.00 above MSL		0.000		0.000		2.500											
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma																					
Surveying Prog:																					
MD From (ft)		MD To (ft)		EOU Freq		Survey Tool Type															
0.00		7995.00		Act-Stns		SLB_MWD-STD															
Subject Trajectory				Offset Trajectory				Ct-Ct		EOU		Sep									
MD (ft)	TVD (ft)	NS (ft)	EW (ft)	MD (ft)	TVD (ft)	NS (ft)	EW (ft)	TC Azim	Dist (ft)	Dist (ft)	Factor	Inter.	Angle								
Major EOU radii used. All local minima indicated.																					
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft																					
400.00	399.92	S 0.00	E 7.07	396.46	385.07	S 9.78	W 54.07	260.84	63.67	56.55	8.94	15.16									
500.00	499.88	S 0.00	E 9.64	492.93	478.87	S 14.69	W 76.05	260.22	89.44	82.17	12.30	14.77									
600.00	599.86	N 0.49	E 11.64	589.48	572.42	S 15.62	W 99.89	262.13	115.99	108.48	15.44	14.96									
700.00	699.74	N 4.72	E 9.86	690.73	671.18	S 16.37	W 122.19	261.44	136.74	129.00	17.67	10.22									
800.00	799.36	N 9.52	E 3.13	790.47	768.76	S 16.64	W 142.82	261.04	151.40	143.39	18.89	10.45									
900.00	897.66	N 26.88	W 1.48	886.52	862.75	S 17.43	W 162.60	257.71	170.72	162.29	20.25	17.43									
1000.00	993.04	N 56.29	W 6.51	977.96	952.05	S 18.28	W 182.26	252.14	195.27	186.43	22.10	22.50									
1100.00	1083.80	N 96.58	W 17.50	1065.40	1037.02	S 18.42	W 202.85	245.45	223.09	213.93	24.34	26.71									
1200.00	1168.25	N 144.79	W 40.37	1150.37	1119.16	S 17.91	W 224.59	237.37	250.63	241.21	26.59	30.09									
1300.00	1246.35	N 196.27	W 75.56	1233.38	1198.99	S 16.94	W 247.31	228.89	277.85	268.06	28.38	32.72									
1400.00	1319.38	N 250.27	W 117.35	1313.38	1275.49	S 15.71	W 270.71	221.96	310.15	298.59	26.81	35.44									
1500.00	1387.67	N 308.18	W 161.84	1392.78	1351.21	S 14.46	W 294.55	216.41	350.77	337.29	26.03	39.52									
1600.00	1450.17	N 368.64	W 211.15	1468.45	1423.38	S 13.27	W 317.27	210.77	397.28	381.78	25.63	42.55									
1700.00	1506.43	N 430.46	W 265.99	1541.62	1493.26	S 11.95	W 338.92	206.46	448.58	430.68	25.07	46.52									
1800.00	1557.86	N 494.12	W 323.44	1610.77	1559.43	S 10.47	W 358.93	201.80	505.84	485.71	25.13	48.32									
1900.00	1608.67	N 558.94	W 380.15	1679.53	1625.36	S 8.75	W 378.39	196.91	567.94	546.01	25.90	48.53									
2000.00	1659.78	N 625.70	W 434.28	1748.59	1691.68	S 6.68	W 397.56	192.88	634.26	610.40	26.59	48.69									
2100.00	1710.77	N 693.09	W 487.76	1818.34	1758.73	S 4.21	W 416.58	189.28	702.57	676.76	27.22	48.69									
2200.00	1761.92	N 761.24	W 540.09	1888.74	1826.46	S 1.29	W 435.58	186.40	772.36	744.57	27.79	48.38									
2300.00	1812.98	N 828.09	W 594.15	1960.17	1895.19	N 2.12	W 454.70	183.98	841.69	811.85	28.21	47.74									
2400.00	1863.86	N 893.01	W 650.69	2032.82	1965.08	N 6.00	W 474.16	181.91	910.05	878.03	28.42	47.35									
2500.00	1913.84	N 956.69	W 709.40	2105.87	2035.33	N 10.34	W 493.77	180.21	978.18	943.82	28.47	47.73									
2600.00	1963.01	N 1020.19	W 768.98	2177.96	2104.65	N 15.05	W 512.95	178.13	1046.87	1010.21	28.56	47.59									
2700.00	2011.83	N 1083.22	W 829.35	2250.20	2174.19	N 20.21	W 531.84	176.64	1115.73	1076.75	28.62	47.89									
2800.00	2059.52	N 1145.61	W 891.25	2321.75	2243.12	N 25.76	W 550.23	175.36	1184.94	1143.42	28.54	48.44									
2900.00	2106.61	N 1207.71	W 953.91	2388.56	2307.47	N 31.11	W 567.34	173.75	1254.66	1210.74	28.56	48.40									
3000.00	2153.33	N 1269.76	W 1016.89	2455.31	2371.73	N 36.42	W 584.60	172.48	1325.03	1278.70	28.60	48.63									
3100.00	2199.93	N 1331.78	W 1080.00	2522.63	2436.51	N 41.78	W 602.13	171.01	1395.87	1347.35	28.77	48.47									
3200.00	2246.67	N 1393.84	W 1142.96	2590.25	2501.55	N 47.18	W 619.82	169.69	1467.01	1416.46	29.02	48.38									
3300.00	2293.34	N 1456.06	W 1205.81	2657.95	2566.64	N 52.62	W 637.61	168.60	1538.56	1485.81	29.16	48.37									
3400.00	2339.99	N 1517.87	W 1269.08	2732.17	2637.96	N 58.75	W 657.23	167.48	1610.02	1554.86	29.19	48.02									
3500.00	2386.73	N 1579.60	W 1332.37	2808.15	2710.89	N 65.38	W 677.46	166.39	1681.32	1623.81	29.24	47.78									
3600.00	2433.22	N 1641.57	W 1395.59	2884.74	2784.34	N 72.45	W 698.01	165.28	1752.73	1692.87	29.28	47.47									
3700.00	2480.40	N 1703.96	W 1457.90	2962.51	2858.83	N 80.01	W 719.03	163.89	1823.83	1761.70	29.36	46.79									
3800.00	2528.19	N 1767.19	W 1518.87	3040.72	2933.71	N 88.09	W 740.12	162.88	1894.80	1830.36	29.40	46.44									
3900.00	2576.06	N 1830.51	W 1579.69	3119.67	3009.27	N 96.74	W 761.30	162.22	1965.55	1898.63	29.37	46.18									
4000.00	2623.84	N 1893.92	W 1640.49	3199.21	3085.37	N 105.98	W 782.52	161.49	2036.14	1966.83	29.38	46.16									
4100.00	2671.46	N 1957.90	W 1700.81	3276.55	3159.34	N 115.43	W 803.03	160.83	2106.83	2035.23	29.43	45.97									
4200.00	2719.06	N 2021.67	W 1761.37	3349.03	3228.68	N 124.57	W 822.07	160.51	2177.38	2103.45	29.45	46.03									
4300.00	2766.54	N 2085.26	W 1822.21	3421.53	3298.06	N 133.93	W 840.92	159.87	2247.92	2171.67	29.48	45.96									
4400.00	2814.36	N 2149.55	W 1882.04	3494.30	3367.71	N 143.55	W 859.65	158.88	2318.52	2240.10	29.56	45.79									
4500.00	2862.39	N 2214.35	W 1941.15	3568.25	3438.52	N 153.55	W 878.48	158.57	2389.17	2308.40	29.58	45.68									
4600.00	2910.49	N 2279.08	W 2000.29	3643.69	3510.77	N 164.02	W 897.52	158.03	2459.65	2376.56	29.60	45.41									
4700.00	2958.81	N 2343.91	W 2059.12	3719.55	3583.41	N 174.84	W 916.51	157.58	2529.93	2444.50	29.61	45.43									

4800.00	3007.00	N 2408.93	W 2117.86	3795.53	3656.16	N 185.96	W 935.36	157.30	2600.25	2512.51	29.63	45.24											
4900.00	3055.24	N 2473.53	W 2177.02	3875.51	3732.75	N 197.99	W 955.04	157.05	2670.27	2580.13	29.62	45.02											
5000.00	3103.54	N 2537.80	W 2236.49	3962.67	3816.15	N 211.72	W 976.28	156.47	2739.81	2647.27	29.60	44.99											
5100.00	3151.32	N 2602.31	W 2296.11	4050.16	3899.81	N 226.22	W 997.41	156.46	2809.39	2714.31	29.55	44.92											
5200.00	3198.79	N 2666.67	W 2356.15	4138.03	3983.75	N 241.48	W 1018.43	155.93	2878.75	2781.21	29.51	44.76											
5300.00	3246.21	N 2731.22	W 2416.02	4225.93	4067.59	N 257.20	W 1039.67	155.48	2947.84	2847.84	29.48	44.32											
5400.00	3294.14	N 2796.08	W 2475.15	4289.79	4128.45	N 268.74	W 1055.21	154.94	3016.57	2914.40	29.52	44.16											
5500.00	3342.23	N 2860.99	W 2534.08	4353.10	4188.89	N 280.07	W 1070.26	154.81	3085.57	2981.16	29.55	44.26											
5600.00	3390.69	N 2924.72	W 2594.00	4428.62	4261.01	N 293.71	W 1088.02	154.70	3153.99	3047.22	29.54	44.05											
5700.00	3438.73	N 2988.26	W 2654.46	4504.74	4333.70	N 307.66	W 1105.77	154.54	3222.58	3113.35	29.50	44.53											
5800.00	3486.13	N 3052.12	W 2715.08	4634.98	4457.90	N 332.99	W 1135.68	153.84	3291.28	3179.28	29.39	43.57											
5900.00	3534.74	N 3116.01	W 2774.71	4670.11	4491.42	N 340.35	W 1143.19	153.37	3358.77	3244.77	29.46	43.36											
6000.00	3584.66	N 3179.17	W 2834.02	4735.50	4553.98	N 354.12	W 1156.31	153.06	3425.67	3309.51	29.49	43.28											
6100.00	3634.71	N 3242.08	W 2893.49	4805.38	4620.89	N 368.85	W 1170.07	152.70	3492.60	3374.20	29.50	42.81											
6200.00	3685.47	N 3304.14	W 2953.26	4864.77	4677.77	N 381.34	W 1181.73	152.63	3558.90	3438.22	29.49	43.21											
6300.00	3735.42	N 3366.25	W 3013.65	4893.99	4705.83	N 387.31	W 1187.28	152.68	3626.48	3503.67	29.53	44.61											
6400.00	3784.67	N 3428.43	W 3074.54	4919.11	4730.06	N 392.46	W 1191.45	152.74	3695.53	3570.63	29.59	45.77											
6500.00	3834.14	N 3489.65	W 3136.23	5019.78	4827.25	N 414.24	W 1206.07	152.36	3764.30	3636.86	29.54	45.40											
6600.00	3883.91	N 3550.40	W 3198.13	5096.00	4900.75	N 431.26	W 1216.88	151.80	3832.54	3702.71	29.52	45.19											
6700.00	3933.86	N 3611.52	W 3259.53	5172.53	4974.53	N 448.55	W 1227.65	151.31	3900.77	3768.55	29.50	45.09											
6800.00	3983.65	N 3672.82	W 3320.87	5236.65	5036.32	N 463.09	W 1236.61	151.02	3969.21	3834.72	29.51	45.32											
6900.00	4033.40	N 3734.05	W 3382.32	5295.98	5093.56	N 476.36	W 1244.92	150.74	4037.94	3901.24	29.54	45.14											
7000.00	4084.16	N 3794.19	W 3444.02	5355.72	5151.22	N 489.52	W 1253.32	150.44	4105.93	3967.01	29.56	44.54											
7100.00	4136.13	N 3853.17	W 3505.82	5420.27	5213.57	N 503.55	W 1262.38	149.98	4172.99	4031.96	29.59	43.76											
7200.00	4189.58	N 3911.45	W 3567.03	5488.58	5279.57	N 518.44	W 1271.79	149.42	4238.96	4095.90	29.63	42.85											
7300.00	4244.39	N 3969.03	W 3627.69	5557.67	5346.34	N 533.54	W 1281.11	149.01	4303.88	4158.79	29.66	42.20											
7400.00	4300.22	N 4025.77	W 3688.22	5627.27	5413.62	N 548.81	W 1290.28	148.64	4367.96	4220.86	29.69	41.66											
7500.00	4357.05	N 4081.79	W 3748.49	5697.15	5481.19	N 564.19	W 1299.27	148.21	4431.23	4282.13	29.72	41.09											
7600.00	4414.86	N 4137.33	W 3808.26	5757.25	5539.33	N 577.49	W 1306.67	147.82	4493.87	4342.72	29.73	40.73											
7700.00	4473.46	N 4192.08	W 3868.00	5817.22	5597.39	N 590.87	W 1313.55	147.67	4556.01	4402.74	29.73	40.75											
7800.00	4532.63	N 4245.65	W 3928.24	5876.87	5655.17	N 604.27	W 1319.89	147.44	4617.71	4462.35	29.72	40.67											
7900.00	4592.68	N 4298.30	W 3988.43	5939.27	5715.64	N 618.38	W 1326.02	147.10	4678.81	4521.34	29.71	40.33											
8000.00	4653.69	N 4350.07	W 4048.40	6009.99	5784.18	N 634.50	W 1332.58	146.71	4739.11	4579.49	29.69	39.86											
8095.00	4712.54	N 4398.47	W 4105.14	6077.46	5849.58	N 649.99	W 1338.53	146.35	4795.63	4634.00	29.67	39.42											
Field:		Lobitos		Well:		Well LO16-10																	
Structure:		Platform LO16 (WGS84)		Borehole:		Borehole LO16-10																	
Slot:		Slot #10		Trajectory:		LO16-10 SS Survey																	
				Type:		DEF SVY																	
Coordinate System:		UTM Zone 17S - WGS84, Meters																					
Reference Point:																							
Northing (m)		Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)													
N 9505992.100		E 459464.350		50.00 above MSL		0.000		0.000		2.500													
Trajectory Error Model:		SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma																					
Surveying Prog:																							
MD From (ft)		MD To (ft)		EOU Freq		Survey Tool Type																	
0.00		6602.00		Act-Stns		SLB_MWD-POOR																	
Subject Trajectory		Offset Trajectory		Ct-Ct		EOU		Sep		Inter.													
MD (ft)		TVD (ft)		NS (ft)		EW (ft)		TC Azim		Dist (ft)		Factor											
Major EOU radii used. All local minima indicated.																							
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft																							
400.00	399.92	S 0.00	E 7.07	394.99	383.14	N 18.29	W 54.81	286.60	66.67	59.55	9.37	16.39											
500.00	499.88	S 0.00	E 9.64	489.52	474.36	N 21.68	W 79.35	283.77	95.08	87.53	12.60	16.83											
600.00	599.86	N 0.49	E 11.64	582.34	563.50	N 25.40	W 104.92	282.61	124.62	116.09	14.62	17.84											
700.00	699.74	N 4.72	E 9.86	672.73	649.43	N 31.37	W 132.33	281.21	153.17	143.36	15.63	16.53											
800.00	799.36	N 9.52	E 3.13	760.46	731.51	N 39.63	W 162.15	282.19	181.19	169.52	15.53	17.73											
900.00	897.66	N 26.88	W 1.48	845.62	809.54	N 50.60	W 194.40	282.44	213.42	199.53	15.37	21.36											
1000.00	993.04	N 56.29	W 6.51	928.08	883.12	N 66.34	W 228.10	281.15	247.56	230.86	14.82	22.52											
1100.00	1083.80	N 96.58	W 17.50	1010.52	954.85	N 83.71	W 264.81	277.84	279.21	259.11	13.89	21.39											
1200.00	1168.25	N 144.79	W 40.37	1094.91	1026.45	N 103.69	W 304.76	272.83	302.82	279.07	12.75	18.52											
1300.00	1246.35	N 196.27	W 75.56	1179.60	1096.21	N 125.80	W 347.36	267.72	318.41	289.96	11.19	16.59											
1400.00	1319.38	N 250.27	W 117.35	1267.77	1166.46	N 151.02	W 394.28	263.91	331.55	296.56	9.48	16.46											

1500.00	1387.67	N 308.18	W 161.84	1357.37	1235.41	N 180.05	W 443.56	260.53	344.92	302.21	8.08	17.02
1600.00	1450.17	N 368.64	W 211.15	1443.31	1298.84	N 210.19	W 493.10	255.88	357.08	306.40	7.05	16.20
1700.00	1506.43	N 430.46	W 265.99	1526.92	1357.61	N 241.14	W 543.86	252.26	367.70	307.35	6.09	17.12
1800.00	1557.86	N 494.12	W 323.44	1611.13	1413.49	N 273.68	W 597.79	249.00	380.40	311.13	5.49	16.87
1900.00	1608.67	N 558.94	W 380.15	1700.88	1469.39	N 310.28	W 657.69	247.12	397.82	317.78	4.97	16.58
2000.00	1659.78	N 625.70	W 434.28	1804.56	1530.22	N 355.66	W 728.32	245.01	419.72	327.09	4.53	15.03
2100.00	1710.77	N 693.09	W 487.76	1913.97	1593.21	N 407.46	W 801.26	243.48	440.10	333.75	4.14	13.95
2200.00	1761.92	N 761.24	W 540.09	2005.42	1645.66	N 451.51	W 861.83	241.73	461.48	343.06	3.90	14.36
2300.00	1812.98	N 828.09	W 594.15	2098.83	1699.25	N 495.61	W 924.36	239.27	482.20	351.89	3.70	13.32
2400.00	1863.86	N 893.01	W 650.69	2196.79	1755.61	N 541.56	W 989.99	236.82	500.36	357.46	3.50	11.84
2500.00	1913.84	N 956.69	W 709.40	2301.18	1816.20	N 590.60	W 1059.43	234.95	515.82	359.52	3.30	11.46
2600.00	1963.01	N 1020.19	W 768.98	2407.01	1879.08	N 640.85	W 1128.15	233.10	529.10	359.68	3.12	11.31
2700.00	2011.83	N 1083.22	W 829.35	2506.79	1939.57	N 688.06	W 1191.93	230.93	541.14	359.21	2.97	11.63
2800.00	2059.52	N 1145.61	W 891.25	2607.32	2001.51	N 735.35	W 1255.43	228.63	551.64	357.04	2.83	12.25
2900.00	2106.61	N 1207.71	W 953.91	2706.88	2063.77	N 781.99	W 1317.55	226.59	561.52	354.97	2.72	12.69
3000.00	2153.33	N 1269.76	W 1016.89	2800.72	2122.84	N 825.56	W 1376.02	224.63	572.03	353.94	2.62	13.21
3100.00	2199.93	N 1331.78	W 1080.00	2896.43	2183.80	N 869.29	W 1435.45	222.66	583.53	354.03	2.54	13.99
3200.00	2246.67	N 1393.84	W 1142.96	2991.16	2245.23	N 911.76	W 1493.73	220.73	596.18	355.87	2.48	14.61
3300.00	2293.34	N 1456.06	W 1205.81	3086.41	2306.60	N 954.26	W 1552.89	218.82	610.28	358.79	2.43	13.97
3400.00	2339.99	N 1517.87	W 1269.08	3212.13	2386.49	N 1012.64	W 1630.42	216.37	622.88	356.77	2.34	12.51
3500.00	2386.73	N 1579.60	W 1332.37	3377.70	2493.16	N 1099.27	W 1722.64	213.27	627.98	343.83	2.21	13.18
3600.00	2433.22	N 1641.57	W 1395.59	3500.91	2573.10	N 1170.19	W 1783.94	210.85	626.56	329.12	2.11	13.17
3700.00	2480.40	N 1703.96	W 1457.90	3681.03	2686.15	N 1283.99	W 1865.51	207.77	620.37	305.11	1.97	14.84
3800.00	2528.19	N 1767.19	W 1518.87	3848.02	2789.08	N 1403.32	W 1920.26	203.93	601.32	272.76	1.83	22.15
3900.00	2576.06	N 1830.51	W 1579.69	3950.42	2852.49	N 1479.43	W 1946.19	200.57	577.92	241.53	1.72	23.34
4000.00	2623.84	N 1893.92	W 1640.49	4047.10	2912.41	N 1551.64	W 1969.48	197.41	555.58	212.03	1.62	23.89
4100.00	2671.46	N 1957.90	W 1700.81	4142.92	2972.17	N 1623.38	W 1990.98	193.76	535.27	184.92	1.53	24.78
4200.00	2719.06	N 2021.67	W 1761.37	4231.36	3027.92	N 1689.46	W 2009.60	189.56	517.08	160.63	1.45	25.90
4300.00	2766.54	N 2085.26	W 1822.21	4318.02	3083.39	N 1753.72	W 2027.02	185.61	502.26	139.91	1.39	26.28
4400.00	2814.36	N 2149.55	W 1882.04	4402.60	3138.53	N 1815.78	W 2043.21	182.23	492.40	124.68	1.34	25.80
4500.00	2862.39	N 2214.35	W 1941.15	4490.51	3196.86	N 1879.60	W 2059.12	177.47	487.69	114.50	1.31	26.83
4600.00	2910.49	N 2279.08	W 2000.29	4583.45	3258.58	N 1947.33	W 2074.62	172.58	486.57	108.01	1.29	27.40
4700.00	2958.81	N 2343.91	W 2059.12	4674.19	3318.68	N 2013.87	W 2088.57	167.80	489.18	105.54	1.28	27.72
4800.00	3007.00	N 2408.93	W 2117.86	4763.92	3377.98	N 2079.92	W 2101.67	162.75	496.12	107.55	1.28	28.37
4900.00	3055.24	N 2473.53	W 2177.02	4853.35	3436.95	N 2146.00	W 2114.03	157.70	506.90	113.47	1.29	29.13
5000.00	3103.54	N 2537.80	W 2236.49	4943.15	3495.85	N 2212.77	W 2125.76	153.21	521.36	123.32	1.31	29.08
5100.00	3151.32	N 2602.31	W 2296.11	5032.13	3553.84	N 2279.36	W 2136.71	148.22	540.12	137.37	1.34	30.48
5200.00	3198.79	N 2666.67	W 2356.15	5120.46	3610.89	N 2346.09	W 2146.39	143.92	562.67	155.92	1.38	31.26
5300.00	3246.21	N 2731.22	W 2416.02	5206.87	3666.03	N 2412.19	W 2154.09	139.70	588.76	178.08	1.43	32.26
5400.00	3294.14	N 2796.08	W 2475.15	5290.03	3718.47	N 2476.47	W 2159.88	135.98	617.74	203.87	1.49	32.59
5500.00	3342.23	N 2860.99	W 2534.08	5369.41	3768.39	N 2538.04	W 2164.14	132.36	650.20	233.88	1.56	33.79
5600.00	3390.69	N 2924.72	W 2594.00	5446.66	3816.91	N 2598.06	W 2167.16	128.83	685.98	267.15	1.64	35.28
5700.00	3438.73	N 2988.26	W 2654.46	5521.99	3864.18	N 2656.68	W 2169.03	125.66	725.67	304.34	1.72	36.37
5800.00	3486.13	N 3052.12	W 2715.08	5595.67	3910.36	N 2714.09	W 2169.83	122.85	769.11	345.32	1.81	36.80
5900.00	3534.74	N 3116.01	W 2774.71	5668.56	3955.97	N 2770.95	W 2169.61	120.39	814.03	387.94	1.91	36.98
6000.00	3584.66	N 3179.17	W 2834.02	5740.22	4000.73	N 2826.89	W 2168.43	117.97	860.36	431.94	2.01	37.78
6100.00	3634.71	N 3242.08	W 2893.49	5810.30	4044.43	N 2881.64	W 2166.35	115.80	909.14	478.36	2.11	38.55
6200.00	3685.47	N 3304.14	W 2953.26	5887.05	4092.27	N 2941.59	W 2163.37	113.38	959.61	526.71	2.22	39.08
6300.00	3735.42	N 3366.25	W 3013.65	5968.43	4143.20	N 3005.00	W 2160.68	110.96	1012.10	577.21	2.33	39.02
6400.00	3784.67	N 3428.43	W 3074.54	6050.29	4194.67	N 3068.62	W 2158.53	108.86	1066.14	629.26	2.44	39.09
6500.00	3834.14	N 3489.65	W 3136.23	6132.42	4246.54	N 3132.27	W 2156.94	107.01	1121.07	682.20	2.55	39.29
6600.00	3883.91	N 3550.40	W 3198.13	6215.29	4299.13	N 3196.32	W 2155.92	105.28	1176.42	735.68	2.67	38.56
6700.00	3933.86	N 3611.52	W 3259.53	6299.53	4352.81	N 3261.23	W 2155.47	103.69	1231.73	789.11	2.78	37.91
6800.00	3983.65	N 3672.82	W 3320.87	6388.72	4409.78	N 3329.85	W 2155.68	102.13	1287.20	842.21	2.89	37.49
6900.00	4033.40	N 3734.05	W 3382.32	6480.27	4468.08	N 3400.44	W 2156.69	100.82	1342.54	895.02	3.00	37.12
7000.00	4084.16	N 3794.19	W 3444.02	6572.81	4526.80	N 3471.94	W 2158.52	99.70	1397.24	947.19	3.10	36.83
7100.00	4136.13	N 3853.17	W 3505.82	6602.00	4545.28	N 3494.52	W 2159.27	99.61	1452.32	1000.19	3.21	36.52
7200.00	4189.58	N 3911.45	W 3567.03	6602.00	4545.28	N 3494.52	W 2159.27	100.01	1510.68	1056.70	3.33	36.11
7300.00	4244.39	N 3969.03	W 3627.69	6602.00	4545.28	N 3494.52	W 2159.27	100.37	1572.25	1116.42	3.45	36.01
7400.00	4300.22	N 4025.77	W 3688.22	6602.00	4545.28	N 3494.52	W 2159.27	100.75	1637.06	1179.40	3.58	36.05
7500.00	4357.05	N 4081.79	W 3748.49	6602.00	4545.28	N 3494.52	W 2159.27	101.09	1704.68	1245.19	3.71	35.85
7600.00	4414.86	N 4137.33	W 3808.26	6602.00	4545.28	N 3494.52	W 2159.27	101.45	1774.65	1313.36	3.85	35.61
7700.00	4473.46	N 4192.08	W 3868.00	6602.00	4545.28	N 3494.52	W 2159.27	101.93	1847.03	1383.87	3.99	36.12

7800.00	4532.63	N 4245.65	W 3928.24	6602.00	4545.28	N 3494.52	W 2159.27	102.47	1921.88	1456.86	4.13	36.49	
7900.00	4592.68	N 4298.30	W 3988.43	6602.00	4545.28	N 3494.52	W 2159.27	103.03	1998.53	1531.66	4.28	36.55	
8000.00	4653.69	N 4350.07	W 4048.40	6602.00	4545.28	N 3494.52	W 2159.27	103.60	2076.67	1607.96	4.43	36.62	
8095.00	4712.54	N 4398.47	W 4105.14	6602.00	4545.28	N 3494.52	W 2159.27	104.16	2152.10	1681.68	4.57	36.67	
Field:	Lobitos			Well:	Well LO16-11								
Structure:	Platform LO16 (WGS84)			Borehole:	Borehole LO16-11								
Slot:	Slot #11			Trajectory:	LO16-11 SS Survey								
				Type:	DEF SVY								
Coordinate System: UTM Zone 17S - WGS84, Meters													
Reference Point:													
Northing (m)		Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)			
N 9505988.350		E 459463.650		50.00 above MSL		0.000		0.000		2.500			
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma													
Surveying Prog:				MD From (ft)		MD To (ft)		EOU Freq		Survey Tool Type			
				0.00		8010.00		Act-Sins		SLB_MWD-POOR			
Subject Trajectory				Offset Trajectory						Ct-Ct	EOU	Sep	Inter.
MD (ft)	TVD (ft)	NS (ft)	EW (ft)	MD (ft)	TVD (ft)	NS (ft)	EW (ft)	TC Azim	Dist (ft)	Dist (ft)	Factor	Angle	
Major EOU radii used. All local minima indicated.													
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft													
400.00	399.92	S 0.00	E 7.07	394.45	381.78	N 62.10	W 33.19	327.40	76.20	69.03	10.63	15.36	
500.00	499.88	S 0.00	E 9.64	492.63	477.13	N 79.21	W 49.01	323.71	101.15	93.85	13.85	13.71	
600.00	599.86	N 0.49	E 11.64	592.72	574.55	N 101.19	W 54.45	327.07	123.08	115.60	16.44	12.36	
700.00	699.74	N 4.72	E 9.86	688.83	668.13	N 122.15	W 60.12	329.06	140.30	132.34	17.62	9.95	
800.00	799.36	N 9.52	E 3.13	786.40	762.95	N 139.54	W 74.99	329.02	155.99	147.38	18.12	7.40	
900.00	897.66	N 26.88	W 1.48	886.21	859.91	N 156.67	W 91.33	326.08	162.31	152.30	16.22	8.02	
1000.00	993.04	N 56.29	W 6.51	984.99	955.96	N 173.85	W 106.74	320.31	158.88	147.90	14.48	11.39	
1100.00	1083.80	N 96.58	W 17.50	1081.92	1050.22	N 190.68	W 121.86	312.22	144.48	132.57	12.13	16.78	
1200.00	1168.25	N 144.79	W 40.37	1176.37	1142.07	N 206.80	W 136.77	301.84	117.57	104.82	9.22	22.87	
1300.00	1246.35	N 196.27	W 75.56	1267.00	1230.34	N 222.02	W 150.58	286.49	80.91	67.27	5.93	28.23	
1400.00	1319.38	N 250.27	W 117.35	1353.48	1314.61	N 236.48	W 163.60	251.50	48.50	32.66	3.06	31.87	
1500.00	1387.67	N 308.18	W 161.84	1436.45	1395.46	N 250.36	W 175.98	199.39	60.03	41.92	3.31	36.35	
1600.00	1450.17	N 368.64	W 211.15	1514.71	1471.77	N 263.47	W 187.39	173.60	109.96	89.42	5.35	40.59	
1700.00	1506.43	N 430.46	W 265.99	1587.59	1542.87	N 275.69	W 197.77	162.38	173.02	149.87	7.48	45.09	
1800.00	1557.86	N 494.12	W 323.44	1656.16	1609.79	N 287.17	W 207.36	155.82	242.91	217.32	9.49	47.02	
1900.00	1608.67	N 558.94	W 380.15	1723.62	1675.65	N 298.43	W 216.59	151.06	314.81	287.24	11.42	46.91	
2000.00	1659.78	N 625.70	W 434.28	1790.62	1741.13	N 309.59	W 225.42	148.88	387.52	357.87	13.07	47.19	
2100.00	1710.77	N 693.09	W 487.76	1858.39	1807.40	N 320.87	W 234.00	147.20	460.74	429.03	14.53	47.15	
2200.00	1761.92	N 761.24	W 540.09	1930.39	1877.74	N 333.18	W 243.20	146.66	533.66	499.87	15.79	46.73	
2300.00	1812.98	N 828.09	W 594.15	2002.36	1947.94	N 345.95	W 252.61	146.60	606.08	570.19	16.89	46.47	
2400.00	1863.86	N 893.01	W 650.69	2073.77	2017.52	N 359.04	W 261.88	146.41	678.17	640.10	17.82	46.65	
2500.00	1913.84	N 956.69	W 709.40	2149.67	2091.39	N 373.46	W 271.71	145.64	750.49	710.00	18.53	46.96	
2600.00	1963.01	N 1020.19	W 768.98	2236.06	2175.09	N 390.98	W 283.96	144.49	822.27	779.24	19.11	45.72	
2700.00	2011.83	N 1083.22	W 829.35	2319.66	2255.67	N 409.30	W 296.58	143.82	893.01	847.41	19.58	45.53	
2800.00	2059.52	N 1145.61	W 891.25	2403.69	2336.30	N 429.23	W 309.37	143.07	963.53	915.13	19.91	45.63	
2900.00	2106.61	N 1207.71	W 953.91	2484.35	2413.38	N 449.49	W 321.79	142.04	1033.72	982.47	20.17	45.15	
3000.00	2153.33	N 1269.76	W 1016.89	2565.98	2491.11	N 470.90	W 334.54	141.14	1103.58	1049.47	20.40	44.97	
3100.00	2199.93	N 1331.78	W 1080.00	2647.84	2568.81	N 493.07	W 347.67	140.24	1172.96	1116.08	20.62	44.33	
3200.00	2246.67	N 1393.84	W 1142.96	2731.37	2647.84	N 516.27	W 361.54	139.41	1241.64	1182.17	20.88	43.73	
3300.00	2293.34	N 1456.06	W 1205.81	2809.86	2721.90	N 538.67	W 374.76	138.77	1309.93	1246.68	20.71	43.59	
3400.00	2339.99	N 1517.87	W 1269.08	2887.50	2795.01	N 561.46	W 387.54	138.22	1378.00	1312.96	21.19	43.45	
3500.00	2386.73	N 1579.60	W 1332.37	2967.61	2870.29	N 585.63	W 400.45	137.55	1445.78	1377.95	21.32	43.25	
3600.00	2433.22	N 1641.57	W 1395.59	3050.67	2948.13	N 611.34	W 413.87	136.85	1513.37	1442.68	21.41	42.80	
3700.00	2480.40	N 1703.96	W 1457.90	3131.98	3024.10	N 637.11	W 427.06	136.09	1580.00	1506.60	21.52	41.90	
3800.00	2528.19	N 1767.19	W 1518.87	3203.23	3090.62	N 660.02	W 438.33	135.57	1646.13	1570.14	21.66	41.77	
3900.00	2576.06	N 1830.51	W 1579.69	3274.18	3156.87	N 683.03	W 449.11	135.26	1712.38	1633.68	21.76	41.96	
4000.00	2623.84	N 1893.92	W 1640.49	3345.09	3223.07	N 706.24	W 459.46	134.80	1778.90	1697.56	21.87	42.18	
4100.00	2671.46	N 1957.90	W 1700.81	3403.58	3277.81	N 724.47	W 469.00	134.58	1845.63	1761.56	21.95	42.39	
4200.00	2719.06	N 2021.67	W 1761.37	3437.50	3309.86	N 733.94	W 474.77	134.66	1913.80	1827.37	22.14	43.74	
4300.00	2766.54	N 2085.26	W 1822.21	3470.11	3340.93	N 742.21	W 480.27	134.52	1983.56	1894.79	22.35	44.76	
4400.00	2814.36	N 2149.55	W 1882.04	3521.86	3390.52	N 754.21	W 488.88	134.03	2054.22	1963.13	22.55	44.94	

4500.00	2862.39	N 2214.35	W 1941.15	3591.16	3456.97	N 770.32	W 500.19	134.19	2124.89	2031.22	22.69	44.99	
4600.00	2910.49	N 2279.08	W 2000.29	3670.04	3532.56	N 788.97	W 512.86	134.13	2195.41	2099.11	22.80	44.57	
4700.00	2958.81	N 2343.91	W 2059.12	3748.59	3607.70	N 808.08	W 525.38	134.02	2265.43	2166.45	22.89	44.44	
4800.00	3007.00	N 2408.93	W 2117.86	3819.01	3675.05	N 825.41	W 536.50	134.14	2335.49	2233.92	22.99	44.43	
4900.00	3055.24	N 2473.53	W 2177.02	3889.38	3742.35	N 842.80	W 547.50	134.29	2405.57	2301.38	23.09	44.48	
5000.00	3103.54	N 2537.80	W 2236.49	3956.58	3806.62	N 859.49	W 557.84	133.98	2475.67	2369.02	23.21	44.72	
5100.00	3151.32	N 2602.31	W 2296.11	4021.83	3869.04	N 875.79	W 567.58	134.33	2546.34	2437.13	23.32	45.24	
5200.00	3198.79	N 2666.67	W 2356.15	4086.54	3930.96	N 892.05	W 576.95	134.09	2617.43	2505.74	23.44	45.42	
5300.00	3246.21	N 2731.22	W 2416.02	4150.92	3992.60	N 908.33	W 585.97	134.02	2688.70	2574.57	23.56	45.46	
5400.00	3294.14	N 2796.08	W 2475.15	4217.08	4055.95	N 925.16	W 594.95	133.77	2759.68	2643.18	23.69	45.12	
5500.00	3342.23	N 2860.99	W 2534.08	4285.31	4121.29	N 942.60	W 604.02	133.90	2830.59	2711.63	23.79	45.16	
5600.00	3390.69	N 2924.72	W 2594.00	4385.75	4217.37	N 968.51	W 617.60	134.10	2901.09	2779.26	23.81	44.54	
5700.00	3438.73	N 2988.26	W 2654.46	4504.05	4330.11	N 999.57	W 635.46	133.97	2970.82	2845.93	23.79	44.13	
5800.00	3486.13	N 3052.12	W 2715.08	4571.10	4393.88	N 1017.45	W 645.94	133.78	3040.60	2913.16	23.86	44.04	
5900.00	3534.74	N 3116.01	W 2774.71	4646.30	4465.40	N 1037.68	W 657.37	133.72	3109.45	2979.46	23.92	42.91	
6000.00	3584.66	N 3179.17	W 2834.02	4744.46	4558.71	N 1063.44	W 673.66	133.74	3176.83	3043.85	23.89	42.19	
6100.00	3634.71	N 3242.08	W 2893.49	5009.40	4807.59	N 1140.39	W 721.05	133.61	3242.25	3104.82	23.59	38.76	
6200.00	3685.47	N 3304.14	W 2953.26	5038.36	4834.25	N 1151.04	W 724.82	133.62	3304.76	3165.28	23.69	40.16	
6300.00	3735.42	N 3366.25	W 3013.65	5067.30	4860.95	N 1161.77	W 727.92	133.53	3369.14	3227.52	23.79	41.65	
6400.00	3784.67	N 3428.43	W 3074.54	5095.23	4886.79	N 1172.08	W 730.42	133.55	3435.21	3291.46	23.90	42.81	
6500.00	3834.14	N 3489.65	W 3136.23	5140.23	4928.50	N 1188.66	W 733.66	133.61	3502.07	3356.12	24.00	43.39	
6600.00	3883.91	N 3550.40	W 3198.13	5205.85	4989.29	N 1213.00	W 737.95	133.21	3569.01	3420.91	24.10	43.36	
6700.00	3933.86	N 3611.52	W 3259.53	5274.76	5053.06	N 1238.78	W 742.02	132.83	3635.98	3485.72	24.20	43.38	
6800.00	3983.65	N 3672.82	W 3320.87	5346.13	5119.03	N 1265.72	W 745.95	132.52	3703.17	3550.70	24.29	43.61	
6900.00	4033.40	N 3734.05	W 3382.32	5417.23	5184.68	N 1292.79	W 749.57	132.33	3770.48	3615.80	24.38	43.49	
7000.00	4084.16	N 3794.19	W 3444.02	5508.41	5268.70	N 1327.93	W 753.92	132.15	3836.95	3680.00	24.45	42.81	
7100.00	4136.13	N 3853.17	W 3505.82	5617.53	5368.81	N 1371.03	W 759.21	131.75	3901.85	3740.82	24.23	41.67	
7200.00	4189.58	N 3911.45	W 3567.03	5715.11	5457.97	N 1410.39	W 764.05	131.35	3964.95	3801.79	24.30	40.50	
7300.00	4244.39	N 3969.03	W 3627.69	5814.60	5548.57	N 1451.18	W 769.05	131.00	4026.45	3861.15	24.36	39.64	
7400.00	4300.22	N 4025.77	W 3688.22	5907.63	5633.04	N 1489.86	W 773.80	130.68	4086.69	3919.27	24.41	38.99	
7500.00	4357.05	N 4081.79	W 3748.49	5975.18	5694.30	N 1518.14	W 777.24	130.42	4145.94	3976.52	24.47	38.56	
7600.00	4414.86	N 4137.33	W 3808.26	6020.85	5735.79	N 1537.09	W 779.32	130.25	4204.83	4033.52	24.55	38.37	
7700.00	4473.46	N 4192.08	W 3868.00	6066.19	5777.10	N 1555.70	W 781.11	130.22	4263.67	4090.40	24.61	38.74	
7800.00	4532.63	N 4245.65	W 3928.24	6111.04	5818.06	N 1573.91	W 782.62	130.16	4322.67	4147.46	24.67	38.97	
7900.00	4592.68	N 4298.30	W 3988.43	6164.12	5866.66	N 1595.21	W 784.14	130.00	4381.46	4204.32	24.73	38.75	
8000.00	4653.69	N 4350.07	W 4048.40	6224.20	5921.79	N 1619.02	W 785.80	129.81	4439.74	4260.69	24.80	38.40	
8095.00	4712.54	N 4398.47	W 4105.14	6279.50	5972.66	N 1640.66	W 787.31	129.64	4494.60	4313.77	24.86	38.10	
Field:	Lobitos					Well:		Well LO16-12					
Structure:	Platform LO16 (WGS84)					Borehole:		Borehole LO16-12					
Slot:	Slot #12					Trajectory:		LO16-12 SS Survey					
						Type:		DEF SVY					
Coordinate System:	UTM Zone 17S - WGS84, Meters												
Reference Point:													
Northing (m)	Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)				
N 9505985.730	E 459461.170		50.00 above MSL		0.000		0.000		2.500				
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma													
Surveying Prog:													
MD From (ft)		MD To (ft)		EOU Freq		Survey Tool Type							
0.00		7729.00		Act-Stns		SLB_MWD-POOR							
Subject Trajectory													
MD (ft)		TVD (ft)		NS (ft)		EW (ft)		TC Azim		Ct-Ct	EOU	Sep	Inter.
										Dist (ft)	Dist (ft)	Factor	Angle
Major EOU radii used. All local minima indicated.													
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft													
400.00	399.92	S 0.00	E 7.07	395.14	383.96	N 75.15	E 8.26	1.27	76.83	69.64	10.68	12.73	
500.00	499.88	S 0.00	E 9.64	493.80	480.49	N 95.16	E 4.23	356.99	97.27	89.91	13.22	11.89	
600.00	599.86	N 0.49	E 11.64	592.97	577.74	N 114.22	E 0.72	354.73	116.38	108.83	15.43	9.73	
700.00	699.74	N 4.72	E 9.86	692.13	675.11	N 132.79	W 2.04	354.35	130.96	123.20	16.88	8.50	
800.00	799.36	N 9.52	E 3.13	791.22	772.45	N 151.24	W 3.94	356.72	144.42	136.41	18.02	5.31	
900.00	897.66	N 26.88	W 1.48	889.53	868.99	N 169.69	W 5.81	358.14	145.73	137.30	17.28	2.60	
1000.00	993.04	N 56.29	W 6.51	985.08	962.41	N 189.68	W 7.91	359.22	136.87	128.01	15.45	8.12	
1100.00	1083.80	N 96.58	W 17.50	1077.70	1052.19	N 212.29	W 9.89	3.32	120.19	110.95	13.01	14.33	
1200.00	1168.25	N 144.79	W 40.37	1168.64	1139.37	N 238.08	W 11.71	15.24	101.78	92.24	10.67	21.16	

1300.00	1246.35	N 196.27	W 75.56	1256.74	1222.83	N 266.20	W 13.69	35.17	96.28	86.35	9.70	26.32
1400.00	1319.38	N 250.27	W 117.35	1343.37	1303.64	N 297.32	W 16.20	55.65	112.66	100.96	9.63	28.16
1500.00	1387.67	N 308.18	W 161.84	1429.17	1382.68	N 330.57	W 18.92	70.53	144.74	131.16	10.66	31.90
1600.00	1450.17	N 368.64	W 211.15	1511.46	1458.30	N 362.95	W 21.21	79.88	190.20	174.55	12.16	36.73
1700.00	1506.43	N 430.46	W 265.99	1589.00	1529.55	N 393.48	W 23.35	85.85	246.53	228.65	13.79	41.09
1800.00	1557.86	N 494.12	W 323.44	1661.21	1595.89	N 421.93	W 25.19	90.90	309.22	289.23	15.47	43.03
1900.00	1608.67	N 558.94	W 380.15	1731.91	1660.85	N 449.80	W 26.45	95.41	373.82	352.12	17.22	42.44
2000.00	1659.78	N 625.70	W 434.28	1804.41	1727.46	N 478.42	W 27.24	98.86	438.13	414.51	18.55	42.39
2100.00	1710.77	N 693.09	W 487.76	1878.13	1795.14	N 507.65	W 27.89	101.60	502.98	477.27	19.56	41.98
2200.00	1761.92	N 761.24	W 540.09	1952.34	1863.21	N 537.18	W 28.45	103.91	567.66	539.64	20.25	42.09
2300.00	1812.98	N 828.09	W 594.15	2026.20	1930.95	N 566.63	W 28.96	105.76	633.81	603.32	20.78	42.72
2400.00	1863.86	N 893.01	W 650.69	2099.13	1997.83	N 595.70	W 29.47	107.04	701.61	668.89	21.44	43.70
2500.00	1913.84	N 956.69	W 709.40	2169.60	2062.46	N 623.80	W 29.93	107.53	771.09	735.98	21.96	44.87
2600.00	1963.01	N 1020.19	W 768.98	2238.03	2125.21	N 651.08	W 30.18	108.14	841.65	804.21	22.48	45.14
2700.00	2011.83	N 1083.22	W 829.35	2306.58	2188.08	N 678.41	W 30.24	108.56	912.97	873.19	22.95	46.11
2800.00	2059.52	N 1145.61	W 891.25	2375.96	2251.80	N 705.87	W 30.42	108.78	985.59	943.33	23.32	47.13
2900.00	2106.61	N 1207.71	W 953.91	2444.68	2315.00	N 732.81	W 30.80	109.07	1058.81	1014.14	23.70	47.18
3000.00	2153.33	N 1269.76	W 1016.89	2512.35	2377.30	N 759.25	W 31.26	109.22	1132.36	1085.24	24.03	47.56
3100.00	2199.93	N 1331.78	W 1080.00	2579.90	2439.48	N 785.64	W 31.72	109.47	1206.04	1156.71	24.45	47.45
3200.00	2246.67	N 1393.84	W 1142.96	2646.19	2500.50	N 811.54	W 32.16	109.63	1279.60	1228.18	24.88	47.42
3300.00	2293.34	N 1456.06	W 1205.81	2709.40	2558.66	N 836.31	W 32.35	109.78	1353.33	1299.57	25.17	47.69
3400.00	2339.99	N 1517.87	W 1269.08	2772.00	2616.21	N 860.92	W 32.24	110.02	1427.46	1371.30	25.42	47.96
3500.00	2386.73	N 1579.60	W 1332.37	2840.53	2679.19	N 887.95	W 31.88	110.05	1501.73	1443.23	25.67	47.91
3600.00	2433.22	N 1641.57	W 1395.59	2922.08	2754.12	N 920.13	W 32.05	110.09	1575.65	1514.79	25.89	47.22
3700.00	2480.40	N 1703.96	W 1457.90	2996.49	2822.50	N 949.47	W 32.91	110.19	1648.29	1585.22	26.13	46.22
3800.00	2528.19	N 1767.19	W 1518.87	3058.79	2879.81	N 973.86	W 33.61	110.26	1720.18	1654.98	26.38	46.07
3900.00	2576.06	N 1830.51	W 1579.69	3120.62	2936.79	N 997.87	W 34.12	110.46	1792.26	1724.79	26.56	46.36
4000.00	2623.84	N 1893.92	W 1640.49	3179.65	2991.23	N 1020.70	W 34.35	110.39	1864.72	1794.98	26.74	46.65
4100.00	2671.46	N 1957.90	W 1700.81	3238.01	3045.05	N 1043.27	W 34.21	110.51	1937.44	1865.52	26.94	46.86
4200.00	2719.06	N 2021.67	W 1761.37	3319.26	3119.95	N 1074.76	W 33.92	110.79	2010.33	1936.06	27.07	46.81
4300.00	2766.54	N 2085.26	W 1822.21	3383.41	3179.02	N 1099.76	W 34.15	110.85	2082.91	2006.38	27.22	46.76
4400.00	2814.36	N 2149.55	W 1882.04	3401.42	3195.63	N 1106.71	W 33.91	110.58	2156.03	2077.63	27.50	47.35
4500.00	2862.39	N 2214.35	W 1941.15	3418.66	3211.57	N 1113.25	W 33.28	110.75	2230.33	2149.89	27.73	48.75
4600.00	2910.49	N 2279.08	W 2000.29	3448.77	3239.45	N 1124.47	W 31.51	110.84	2305.95	2223.48	27.96	49.39
4700.00	2958.81	N 2343.91	W 2059.12	3491.91	3279.55	N 1140.17	W 28.78	110.76	2382.05	2297.47	28.16	49.90
4800.00	3007.00	N 2408.93	W 2117.86	3537.99	3322.53	N 1156.46	W 25.66	111.07	2458.76	2372.08	28.36	50.42
4900.00	3055.24	N 2473.53	W 2177.02	3591.89	3372.91	N 1175.25	W 21.89	111.42	2535.95	2447.09	28.54	50.80
5000.00	3103.54	N 2537.80	W 2236.49	3645.21	3422.83	N 1193.63	W 18.06	111.08	2613.46	2522.51	28.74	50.96
5100.00	3151.32	N 2602.31	W 2296.11	3692.92	3467.59	N 1209.75	W 14.58	111.56	2691.59	2598.45	28.90	51.95
5200.00	3198.79	N 2666.67	W 2356.15	3739.57	3511.53	N 1225.07	W 11.18	111.39	2770.37	2675.13	29.09	52.23
5300.00	3246.21	N 2731.22	W 2416.02	3786.03	3555.42	N 1239.91	W 7.76	111.54	2849.45	2752.09	29.27	52.43
5400.00	3294.14	N 2796.08	W 2475.15	3833.45	3600.21	N 1255.01	W 4.02	111.57	2928.31	2828.86	29.44	52.14
5500.00	3342.23	N 2860.99	W 2534.08	3880.47	3644.57	N 1270.06	E 0.00	111.95	3007.33	2905.70	29.59	52.50
5600.00	3390.69	N 2924.72	W 2594.00	3926.85	3688.28	N 1284.98	E 4.28	112.56	3086.80	2982.94	29.72	52.94
5700.00	3438.73	N 2988.26	W 2654.46	3984.85	3742.90	N 1303.68	E 9.92	112.38	3166.90	3060.76	29.84	53.48
5800.00	3486.13	N 3052.12	W 2715.08	4054.45	3808.53	N 1325.90	E 16.35	112.36	3247.22	3138.83	29.96	53.06
5900.00	3534.74	N 3116.01	W 2774.71	4122.82	3873.15	N 1347.48	E 22.24	112.95	3326.43	3215.95	30.11	51.89
6000.00	3584.66	N 3179.17	W 2834.02	4182.80	3929.88	N 1366.26	E 27.27	113.24	3404.82	3292.28	30.25	51.74
6100.00	3634.71	N 3242.08	W 2893.49	4242.68	3986.57	N 1384.91	E 32.27	113.73	3483.24	3368.60	30.38	51.38
6200.00	3685.47	N 3304.14	W 2953.26	4301.82	4042.67	N 1403.00	E 37.04	113.97	3561.43	3444.63	30.49	51.78
6300.00	3735.42	N 3366.25	W 3013.65	4360.03	4098.07	N 1420.29	E 41.44	113.80	3640.31	3521.31	30.59	52.42
6400.00	3784.67	N 3428.43	W 3074.54	4399.13	4135.39	N 1431.59	E 44.32	114.06	3719.91	3598.75	30.70	53.05
6500.00	3834.14	N 3489.65	W 3136.23	4435.43	4170.13	N 1441.77	E 47.07	114.73	3800.01	3676.70	30.82	53.43
6600.00	3883.91	N 3550.40	W 3198.13	4471.20	4204.43	N 1451.54	E 49.87	114.61	3880.39	3755.05	30.96	53.57
6700.00	3933.86	N 3611.52	W 3259.53	4507.45	4239.26	N 1461.15	E 52.78	114.48	3960.90	3833.51	31.09	53.80
6800.00	3983.65	N 3672.82	W 3320.87	4545.18	4275.55	N 1471.00	E 55.94	114.43	4041.79	3912.28	31.21	54.25
6900.00	4033.40	N 3734.05	W 3382.32	4582.32	4311.28	N 1480.58	E 59.21	114.85	4123.04	3991.41	31.32	54.33
7000.00	4084.16	N 3794.19	W 3444.02	4625.08	4352.44	N 1491.48	E 63.13	115.68	4204.11	4070.33	31.43	54.00
7100.00	4136.13	N 3853.17	W 3505.82	4668.85	4394.60	N 1502.52	E 67.25	116.24	4284.76	4148.93	31.54	53.42
7200.00	4189.58	N 3911.45	W 3567.03	4713.05	4437.18	N 1513.56	E 71.53	116.63	4364.66	4226.51	31.59	52.66
7300.00	4244.39	N 3969.03	W 3627.69	4756.16	4478.68	N 1524.34	E 75.91	117.05	4443.89	4304.05	31.78	52.23
7400.00	4300.22	N 4025.77	W 3688.22	4799.35	4520.21	N 1535.24	E 80.59	117.47	4522.72	4380.90	31.89	51.93

7500.00	4357.05	N 4081.79	W 3748.49	4842.62	4561.76	N 1546.27	E 85.56	117.69	4601.16	4457.36	32.00	51.55																
7600.00	4414.86	N 4137.33	W 3808.26	4886.04	4603.38	N 1557.44	E 90.83	117.85	4679.13	4533.37	32.10	51.15																
7700.00	4473.46	N 4192.08	W 3868.00	4961.29	4675.29	N 1577.40	E 100.50	118.30	4756.71	4608.75	32.15	50.95																
7800.00	4532.63	N 4245.65	W 3928.24	5031.16	4741.67	N 1597.05	E 109.93	118.65	4833.80	4683.66	32.20	50.73																
7900.00	4592.68	N 4298.30	W 3988.43	5069.22	4777.68	N 1608.08	E 115.42	118.92	4910.50	4758.35	32.27	50.58																
8000.00	4653.69	N 4350.07	W 4048.40	5107.11	4813.44	N 1619.20	E 121.21	119.15	4986.87	4832.73	32.35	50.44																
8095.00	4712.54	N 4398.47	W 4105.14	5142.93	4847.15	N 1629.85	E 127.00	119.36	5059.09	4903.10	32.43	50.31																
Field: Lobitos																												
Well: Well LO16-13																												
Structure: Platform LO16 (WGS84)																												
Borehole: Borehole LO16-13																												
Slot: Slot #13																												
Trajectory: LO16-13 SS Survey																												
Type: DEF SVY																												
Coordinate System: UTM Zone 17S - WGS84, Meters																												
Reference Point:																												
Northing (m)		Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)																		
N 9505988.390		E 459459.410		50.00 above MSL		0.000		0.000		2.500																		
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma																												
Surveying Prog:																												
MD From (ft)		MD To (ft)		EOU Freq		Survey Tool Type																						
0.00		8682.00		Act-Stns		SLB_MWD-POOR																						
Subject Trajectory																												
Offset Trajectory																												
MD (ft)		TVD (ft)		NS (ft)		EW (ft)		TC Azim		Dist (ft)		Inter. Angle																
Major EOU radii used. All local minima indicated.																												
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft																												
400.00	399.92	S 0.00	E 7.07	399.74	399.73	S 6.06	E 26.28	107.50	20.15	13.31	2.95	1.07																
500.00	499.88	S 0.00	E 9.64	499.74	499.72	S 5.67	E 27.44	107.67	18.68	11.66	2.66	0.65																
600.00	599.86	N 0.49	E 11.64	599.86	599.83	S 4.88	E 28.23	107.95	17.44	10.13	2.39	1.22																
700.00	699.74	N 4.72	E 9.86	699.92	699.89	S 3.58	E 28.44	114.04	20.35	12.76	2.68	2.63																
800.00	799.36	N 9.52	E 3.13	799.81	799.76	S 1.77	E 28.07	114.21	27.38	19.48	3.47	5.71																
900.00	897.66	N 26.88	W 1.48	898.77	898.69	N 0.53	E 27.13	132.04	38.91	30.63	4.70	12.37																
1000.00	993.04	N 56.29	W 6.51	995.07	994.95	N 3.22	E 25.68	147.71	62.09	53.44	7.18	19.32																
1100.00	1083.80	N 96.58	W 17.50	1082.37	1082.23	N 3.37	E 24.59	155.10	102.28	93.30	11.39	29.47																
1200.00	1168.25	N 144.79	W 40.37	1160.09	1159.90	N 1.06	E 25.69	156.83	158.40	149.18	17.17	38.72																
1300.00	1246.35	N 196.27	W 75.56	1226.45	1226.09	S 3.31	E 27.56	156.78	225.56	216.00	23.59	46.16																
1400.00	1319.38	N 250.27	W 117.35	1284.16	1283.47	S 8.87	E 29.97	155.13	300.25	288.96	26.58	51.57																
1500.00	1387.67	N 308.18	W 161.84	1334.17	1333.04	S 14.70	E 33.10	154.25	381.09	367.96	29.01	57.45																
1600.00	1450.17	N 368.64	W 211.15	1375.31	1373.69	S 19.70	E 37.00	156.72	467.15	451.97	30.78	62.85																
1700.00	1506.43	N 430.46	W 265.99	1407.78	1405.66	S 23.96	E 40.70	158.35	557.41	540.03	32.08	68.26																
1800.00	1557.86	N 494.12	W 323.44	1435.33	1432.72	S 27.78	E 44.24	157.42	650.57	631.13	33.47	70.75																
1900.00	1608.67	N 558.94	W 380.15	1462.90	1459.74	S 31.73	E 48.01	151.41	744.58	723.50	35.33	70.89																
2000.00	1659.78	N 625.70	W 434.28	1489.58	1485.85	S 35.67	E 51.83	148.80	839.03	816.18	36.72	71.37																
2100.00	1710.77	N 693.09	W 487.76	1515.04	1510.72	S 39.51	E 55.65	145.80	933.82	909.21	37.95	71.68																
2200.00	1761.92	N 761.24	W 540.09	1537.89	1533.01	S 43.06	E 59.24	146.30	1028.83	1002.46	39.01	72.17																
2300.00	1812.98	N 828.09	W 594.15	1559.48	1554.03	S 46.50	E 62.79	149.96	1124.08	1095.90	39.89	72.72																
2400.00	1863.86	N 893.01	W 650.69	1579.80	1573.77	S 49.82	E 66.29	154.04	1219.48	1189.40	40.53	73.52																
2500.00	1913.84	N 956.69	W 709.40	1598.42	1591.82	S 52.93	E 69.61	156.03	1315.25	1283.09	40.90	74.81																
2600.00	1963.01	N 1020.19	W 768.98	1615.53	1608.38	S 55.84	E 72.78	155.81	1411.44	1377.27	41.31	75.22																
2700.00	2011.83	N 1083.22	W 829.35	1631.57	1623.88	S 58.62	E 75.83	158.20	1507.86	1471.65	41.64	76.18																
2800.00	2059.52	N 1145.61	W 891.25	1646.24	1638.03	S 61.22	E 78.69	160.91	1604.64	1566.16	41.70	77.28																
2900.00	2106.61	N 1207.71	W 953.91	1660.05	1651.35	S 63.75	E 81.37	160.44	1701.67	1661.00	41.83	77.57																
3000.00	2153.33	N 1269.76	W 1016.89	1673.10	1663.90	S 66.24	E 83.89	160.77	1798.93	1756.05	41.95	78.14																
3100.00	2199.93	N 1331.78	W 1080.00	1685.59	1675.91	S 68.69	E 86.29	159.78	1896.36	1851.50	42.28	78.25																
3200.00	2246.67	N 1393.84	W 1142.96	1697.72	1687.57	S 71.16	E 88.62	158.64	1993.89	1947.21	42.72	78.42																
3300.00	2293.34	N 1456.06	W 1205.81	1709.39	1698.75	S 73.59	E 90.84	158.42	2091.57	2042.89	42.97	78.69																
3400.00	2339.99	N 1517.87	W 1269.08	1720.64	1709.54	S 76.01	E 92.97	158.91	2189.31	2138.55	43.13	78.85																
3500.00	2386.73	N 1579.60	W 1332.37	1731.56	1719.99	S 78.41	E 95.03	158.16	2287.13	2234.36	43.34	79.09																
3600.00	2433.22	N 1641.57	W 1395.59	1741.97	1729.94	S 80.76	E 96.98	156.49	2385.12	2330.31	43.52	79.22																
3700.00	2480.40	N 1703.96	W 1457.90	1752.43	1739.92	S 83.17	E 98.93	151.94	2483.11	2426.38	43.77	78.89																
3800.00	2528.19	N 1767.19	W 1518.87	1762.88	1749.89	S 85.63	E 100.87	149.14	2581.14	2522.46	43.99	78.89																
3900.00	2576.06	N 1830.51	W 1579.69	1773.02	1759.56	S 88.07	E 102.75	149.46	2679.23	2618.46	44.09	79.08																
4000.00	2623.84	N 1893.92	W 1640.49	1782.79	1768.85	S 90.48	E 104.55	147.53	2777.40	2714.61	44.23	79.43																
4100.00	2671.46	N 1957.90	W 1700.81	1792.13	1777.73	S 92.82	E 106.26	146.71	2875.71	2810.96	44.41	79.57																
4200.00	2719.06	N 2021.67	W 1761.37	1801.17	1786.32	S 95.12	E 107.91	148.94	2974.06	2907.26	44.52	79.87																

4300.00	2766.54	N 2085.26	W 1822.21	1809.86	1794.56	S 97.38	E 109.49	147.42	3072.48	3003.64	44.63	79.98
4400.00	2814.36	N 2149.55	W 1882.04	1818.45	1802.70	S 99.64	E 111.05	140.96	3170.92	3100.17	44.82	79.89
4500.00	2862.39	N 2214.35	W 1941.15	1826.85	1810.65	S 101.89	E 112.56	142.64	3266.39	3196.58	44.90	80.04
4600.00	2910.49	N 2279.08	W 2000.29	1835.18	1818.52	S 104.15	E 114.06	141.63	3367.89	3293.03	44.99	80.00
4700.00	2958.81	N 2343.91	W 2059.12	1843.45	1826.33	S 106.42	E 115.56	140.18	3466.39	3389.44	45.05	80.24
4800.00	3007.00	N 2408.93	W 2117.86	1851.40	1833.84	S 108.62	E 117.00	141.88	3564.97	3485.95	45.12	80.31
4900.00	3055.24	N 2473.53	W 2177.02	1859.16	1841.15	S 110.78	E 118.42	144.21	3663.57	3582.45	45.17	80.42
5000.00	3103.54	N 2537.80	W 2236.49	1866.75	1848.30	S 112.91	E 119.82	140.70	3762.19	3679.05	45.25	80.78
5100.00	3151.32	N 2602.31	W 2296.11	1873.85	1854.99	S 114.92	E 121.13	146.58	3860.95	3775.65	45.27	81.16
5200.00	3198.79	N 2666.67	W 2356.15	1880.62	1861.35	S 116.85	E 122.39	144.30	3959.78	3872.41	45.32	81.40
5300.00	3246.21	N 2731.22	W 2416.02	1887.18	1867.51	S 118.73	E 123.61	143.86	4058.66	3969.23	45.38	81.43
5400.00	3294.14	N 2796.08	W 2475.15	1893.78	1873.71	S 120.64	E 124.84	140.40	4157.50	4066.08	45.48	81.20
5500.00	3342.23	N 2860.99	W 2534.08	1900.28	1879.81	S 122.53	E 126.07	142.89	4256.35	4162.85	45.53	81.24
5600.00	3390.69	N 2924.72	W 2594.00	1906.82	1885.94	S 124.44	E 127.30	147.42	4355.13	4259.51	45.54	81.19
5700.00	3438.73	N 2988.26	W 2654.46	1913.01	1891.74	S 126.26	E 128.48	148.34	4454.01	4356.24	45.56	81.82
5800.00	3486.13	N 3052.12	W 2715.08	1918.75	1897.11	S 127.96	E 129.57	146.09	4553.01	4453.17	45.60	81.79
5900.00	3534.74	N 3116.01	W 2774.71	1924.87	1902.83	S 129.79	E 130.74	144.24	4651.87	4550.08	45.70	80.84
6000.00	3584.66	N 3179.17	W 2834.02	1931.44	1908.97	S 131.75	E 132.00	144.90	4750.52	4646.75	45.78	80.69
6100.00	3634.71	N 3242.08	W 2893.49	1937.91	1915.02	S 133.70	E 133.25	145.83	4849.17	4743.38	45.84	80.25
6200.00	3685.47	N 3304.14	W 2953.26	1944.57	1921.23	S 135.72	E 134.54	148.48	4947.70	4839.81	45.86	80.52
6300.00	3735.42	N 3366.25	W 3013.65	1950.50	1926.76	S 137.53	E 135.69	149.71	5046.39	4936.37	45.86	81.20
6400.00	3784.67	N 3428.43	W 3074.54	1954.46	1930.45	S 138.75	E 136.47	152.43	5145.24	5033.06	45.87	81.44
6500.00	3834.14	N 3489.65	W 3136.23	1958.40	1934.12	S 139.96	E 137.24	156.11	5244.02	5129.69	45.87	81.25
6600.00	3883.91	N 3550.40	W 3198.13	1962.33	1937.77	S 141.18	E 138.01	154.13	5342.76	5226.40	45.91	81.26
6700.00	3933.86	N 3611.52	W 3259.53	1966.20	1941.36	S 142.39	E 138.78	152.65	5441.54	5323.14	45.96	81.37
6800.00	3983.65	N 3672.82	W 3320.87	1969.91	1944.81	S 143.56	E 139.52	152.80	5540.39	5419.92	45.99	81.64
6900.00	4033.40	N 3734.05	W 3382.32	1973.52	1948.16	S 144.70	E 140.24	153.83	5639.27	5516.72	46.02	81.40
7000.00	4084.16	N 3794.19	W 3444.02	1977.33	1951.69	S 145.91	E 141.00	155.36	5737.96	5613.33	46.04	80.69
7100.00	4136.13	N 3853.17	W 3505.82	1981.40	1955.46	S 147.21	E 141.82	154.62	5836.41	5709.79	46.10	79.88
7200.00	4189.58	N 3911.45	W 3567.03	1985.78	1959.51	S 148.62	E 142.71	152.76	5934.60	5806.07	46.17	79.01
7300.00	4244.39	N 3969.03	W 3627.69	1990.42	1963.80	S 150.12	E 143.65	152.37	6032.54	5902.08	46.24	78.35
7400.00	4300.22	N 4025.77	W 3688.22	1995.24	1968.25	S 151.69	E 144.64	152.45	6130.26	5997.89	46.31	77.78
7500.00	4357.05	N 4081.79	W 3748.49	2000.22	1972.84	S 153.32	E 145.66	151.60	6227.76	6093.50	46.39	77.24
7600.00	4414.86	N 4137.33	W 3808.26	2005.35	1977.56	S 155.01	E 146.72	150.65	6325.08	6188.95	46.47	76.71
7700.00	4473.46	N 4192.08	W 3868.00	2010.58	1982.37	S 156.76	E 147.81	152.36	6422.20	6284.16	46.52	76.40
7800.00	4532.63	N 4245.65	W 3928.24	2015.87	1987.23	S 158.53	E 148.92	153.38	6519.13	6379.21	46.59	76.00
7900.00	4592.68	N 4298.30	W 3988.43	2021.29	1992.20	S 160.36	E 150.06	153.24	6615.82	6473.61	46.52	75.44
8000.00	4653.69	N 4350.07	W 4048.40	2026.85	1997.30	S 162.25	E 151.23	153.06	6712.26	6568.16	46.58	74.89
8095.00	4712.54	N 4398.47	W 4105.14	2032.26	2002.25	S 164.11	E 152.39	152.85	6803.62	6657.75	46.64	74.37
Field:	Lobitos			Well:		Well LO16-14						
Structure:	Platform LO16 (WGS84)			Borehole:		Borehole LO16-14						
Slot:	Slot #14			Trajectory:		LO16-14 MWD Survey						
				Type:		DEF SVY						
Coordinate System:	UTM Zone 17S - WGS84, Meters											
Reference Point:												
Northing (m)	Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)			
N 9505988.500	E 459455.660		50.00 above MSL		0.000		0.000		2.500			
Trajectory Error Model:	SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma											
Surveying Prog:												
MD From (ft)	MD To (ft)		EOU Freq		Survey Tool Type							
0.00	9558.00		Act-Slts		SLB_MWD-STD							
Subject Trajectory	Offset Trajectory								Ct-Ct	EOU	Sep	Inter.
MD (ft)	TVD (ft)	NS (ft)	EW (ft)	MD (ft)	TVD (ft)	NS (ft)	EW (ft)	TC Azim	Dist (ft)	Dist (ft)	Factor	Angle
Major EOU radii used. All local minima indicated.												
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft												
400.00	399.92	S 0.00	E 7.07	399.77	399.72	S 10.55	E 8.41	172.73	10.64	3.73	1.54	2.91
500.00	499.88	S 0.00	E 9.64	499.57	499.48	S 12.92	E 6.48	193.70	13.31	6.22	1.88	2.86
600.00	599.86	N 0.49	E 11.64	599.32	599.15	S 15.81	E 4.12	204.75	17.96	10.68	2.47	4.21
700.00	699.74	N 4.72	E 9.86	698.70	698.43	S 19.27	E 1.23	199.97	25.53	18.00	3.39	4.64
800.00	799.36	N 9.52	E 3.13	797.09	796.55	S 24.36	W 3.80	192.14	34.70	26.85	4.42	9.98
900.00	897.66	N 26.88	W 1.48	890.53	889.17	S 33.14	W 12.27	191.38	61.57	53.31	7.46	21.12

1000.00	993.04	N 56.29	W 6.51	977.25	974.12	S 45.28	W 24.70	193.19	104.90	96.23	12.10	29.71
1100.00	1083.80	N 96.58	W 17.50	1060.44	1054.82	S 57.56	W 40.70	195.04	158.55	149.56	17.65	35.27
1200.00	1168.25	N 144.79	W 40.37	1138.87	1130.18	S 69.41	W 58.87	195.53	218.33	209.12	23.70	39.12
1300.00	1246.35	N 196.27	W 75.56	1217.34	1204.72	S 80.60	W 80.68	194.29	280.03	270.47	29.29	40.69
1400.00	1319.38	N 250.27	W 117.35	1299.77	1281.79	S 90.75	W 108.04	192.28	343.22	331.88	30.25	41.45
1500.00	1387.67	N 308.18	W 161.84	1377.33	1352.90	S 98.62	W 137.99	192.21	408.97	395.53	30.42	43.82
1600.00	1450.17	N 368.64	W 211.15	1443.28	1411.98	S 105.65	W 166.42	193.14	477.92	461.88	29.79	45.93
1700.00	1506.43	N 430.46	W 265.99	1513.64	1473.92	S 113.64	W 198.81	193.94	549.20	530.61	29.54	48.31
1800.00	1557.86	N 494.12	W 323.44	1587.15	1537.12	S 121.57	W 235.48	192.88	622.29	601.17	29.46	48.47
1900.00	1608.67	N 558.94	W 380.15	1668.53	1605.02	S 129.23	W 279.68	190.65	695.48	672.14	29.80	47.78
2000.00	1659.78	N 625.70	W 434.28	1733.94	1658.15	S 135.10	W 317.38	189.94	769.74	744.17	30.10	48.29
2100.00	1710.77	N 693.09	W 487.76	1799.95	1710.47	S 141.33	W 357.12	189.42	844.58	816.71	30.31	48.89
2200.00	1761.92	N 761.24	W 540.09	1858.64	1756.11	S 147.38	W 393.53	189.50	920.39	890.27	30.56	49.09
2300.00	1812.98	N 828.09	W 594.15	1911.89	1796.85	S 153.38	W 427.28	189.82	995.69	963.30	30.74	48.61
2400.00	1863.86	N 893.01	W 650.69	1953.89	1828.63	S 158.93	W 454.18	190.29	1070.72	1036.06	30.90	48.75
2500.00	1913.84	N 956.69	W 709.40	1995.30	1859.68	S 165.41	W 480.80	191.03	1146.43	1109.37	30.94	49.94
2600.00	1963.01	N 1020.19	W 768.98	2080.83	1923.60	S 179.23	W 535.92	190.71	1222.49	1182.83	30.82	48.77
2700.00	2011.83	N 1083.22	W 829.35	2155.38	1979.18	S 190.23	W 584.38	190.99	1297.20	1254.92	30.68	48.11
2800.00	2059.52	N 1145.61	W 891.25	2223.88	2030.26	S 200.03	W 628.95	191.36	1371.29	1326.26	30.46	47.96
2900.00	2106.61	N 1207.71	W 953.91	2290.93	2080.29	S 209.62	W 672.53	191.01	1445.23	1397.52	30.29	47.91
3000.00	2153.33	N 1269.76	W 1016.89	2357.95	2130.39	S 219.18	W 716.02	190.93	1519.21	1468.83	30.15	48.03
3100.00	2199.93	N 1331.78	W 1080.00	2431.18	2185.18	S 229.52	W 763.50	190.43	1593.13	1540.14	30.07	47.74
3200.00	2246.67	N 1393.84	W 1142.96	2509.70	2243.67	S 240.20	W 814.78	190.03	1666.67	1611.08	29.98	47.39
3300.00	2293.34	N 1456.06	W 1205.81	2586.89	2301.06	S 250.22	W 865.42	189.79	1739.92	1681.52	29.79	47.07
3400.00	2339.99	N 1517.87	W 1269.08	2655.28	2351.80	S 258.97	W 910.43	189.50	1812.71	1751.48	29.61	46.80
3500.00	2386.73	N 1579.60	W 1332.37	2723.80	2402.50	S 267.77	W 955.68	189.31	1885.44	1821.42	29.45	46.88
3600.00	2433.22	N 1641.57	W 1395.59	2792.15	2452.88	S 276.58	W 1001.01	189.05	1958.41	1891.56	29.29	47.03
3700.00	2480.40	N 1703.96	W 1457.90	2860.42	2502.94	S 285.44	W 1046.59	188.43	2031.60	1962.02	29.20	47.29
3800.00	2528.19	N 1767.19	W 1518.87	2928.05	2552.34	S 294.25	W 1091.93	188.17	2105.33	2033.01	29.11	47.58
3900.00	2576.06	N 1830.51	W 1579.69	3007.09	2609.93	S 304.43	W 1145.09	188.15	2178.99	2103.66	28.93	47.18
4000.00	2623.84	N 1893.92	W 1640.49	3082.10	2664.49	S 313.68	W 1195.73	188.23	2252.33	2174.10	28.79	47.42
4100.00	2671.46	N 1957.90	W 1700.81	3149.90	2713.57	S 322.05	W 1241.74	188.19	2326.08	2245.11	28.73	47.51
4200.00	2719.06	N 2021.67	W 1761.37	3217.76	2762.55	S 330.45	W 1287.96	188.36	2399.67	2315.88	28.64	47.23
4300.00	2766.54	N 2085.26	W 1822.21	3285.42	2811.36	S 338.82	W 1334.06	188.28	2473.16	2386.64	28.59	47.40
4400.00	2814.36	N 2149.55	W 1882.04	3352.50	2859.91	S 347.10	W 1379.61	187.91	2547.11	2458.05	28.60	48.19
4500.00	2862.39	N 2214.35	W 1941.15	3419.15	2908.31	S 355.29	W 1424.69	187.99	2621.44	2529.75	28.59	47.93
4600.00	2910.49	N 2279.08	W 2000.29	3485.87	2956.93	S 363.46	W 1469.64	187.82	2695.69	2601.46	28.61	47.94
4700.00	2958.81	N 2343.91	W 2059.12	3552.65	3005.73	S 371.61	W 1514.50	187.89	2770.00	2673.15	28.60	48.22
4800.00	3007.00	N 2408.93	W 2117.86	3619.23	3054.47	S 379.73	W 1559.13	187.91	2844.47	2745.05	28.61	47.93
4900.00	3055.24	N 2473.53	W 2177.02	3685.93	3103.46	S 387.82	W 1603.65	187.96	2918.63	2816.57	28.60	47.58
5000.00	3103.54	N 2537.80	W 2236.49	3752.88	3152.91	S 395.89	W 1648.07	188.04	2992.52	2887.92	28.61	48.22
5100.00	3151.32	N 2602.31	W 2296.11	3819.46	3202.34	S 403.86	W 1691.95	188.37	3066.71	2959.40	28.58	47.65
5200.00	3198.79	N 2666.67	W 2356.15	3886.06	3252.07	S 411.78	W 1735.54	188.36	3140.84	3030.91	28.57	48.04
5300.00	3246.21	N 2731.22	W 2416.02	3952.33	3301.83	S 419.61	W 1778.60	188.21	3215.14	3102.61	28.57	48.04
5400.00	3294.14	N 2796.08	W 2475.15	4018.21	3351.69	S 427.31	W 1820.97	187.77	3289.60	3174.57	28.60	48.22
5500.00	3342.23	N 2860.99	W 2534.08	4084.00	3401.89	S 434.91	W 1862.80	187.71	3364.10	3246.48	28.60	47.90
5600.00	3390.69	N 2924.72	W 2594.00	4150.69	3453.21	S 442.53	W 1904.71	187.62	3437.65	3317.38	28.58	47.28
5700.00	3438.73	N 2988.26	W 2654.46	4217.27	3504.88	S 450.04	W 1946.03	187.94	3511.14	3388.22	28.56	47.66
5800.00	3486.13	N 3052.12	W 2715.08	4283.48	3556.66	S 457.41	W 1986.62	187.65	3585.03	3459.51	28.56	47.83
5900.00	3534.74	N 3116.01	W 2774.71	4350.01	3609.00	S 464.76	W 2027.03	186.62	3658.74	3530.77	28.59	47.21
6000.00	3584.66	N 3179.17	W 2834.02	4417.10	3662.12	S 472.08	W 2067.34	186.33	3731.68	3601.23	28.61	46.96
6100.00	3634.71	N 3242.08	W 2893.49	4484.19	3715.66	S 479.31	W 2107.13	185.82	3804.43	3671.48	28.62	46.44
6200.00	3685.47	N 3304.14	W 2953.26	4590.68	3800.68	S 490.33	W 2170.29	185.85	3876.13	3740.08	28.49	45.65
6300.00	3735.42	N 3366.25	W 3013.65	4705.14	3891.12	S 501.22	W 2239.58	186.14	3947.25	3807.99	28.34	45.29
6400.00	3784.67	N 3428.43	W 3074.54	4795.29	3961.54	S 509.23	W 2295.29	186.16	4017.92	3875.63	28.24	44.74
6500.00	3834.14	N 3489.65	W 3136.23	4875.17	4022.90	S 516.43	W 2345.93	185.91	4087.65	3942.40	28.14	43.81
6600.00	3883.91	N 3550.40	W 3198.13	4999.41	4116.17	S 527.28	W 2427.28	185.74	4156.40	4007.69	27.95	43.18
6700.00	3933.86	N 3611.52	W 3259.53	5104.55	4192.84	S 536.00	W 2498.68	185.75	4224.68	4072.66	27.79	42.95
6800.00	3983.65	N 3672.82	W 3320.87	5182.46	4248.61	S 542.36	W 2552.72	185.91	4292.78	4137.78	27.69	43.00
6900.00	4033.40	N 3734.05	W 3382.32	5256.03	4301.20	S 548.36	W 2603.81	185.71	4360.83	4202.91	27.62	42.55
7000.00	4084.16	N 3794.19	W 3444.02	5328.75	4353.24	S 554.28	W 2654.26	185.21	4427.79	4267.01	27.54	41.60
7100.00	4136.13	N 3853.17	W 3505.82	5403.91	4407.29	S 560.38	W 2706.12	184.63	4493.60	4330.03	27.47	40.85
7200.00	4189.58	N 3911.45	W 3567.03	5498.31	4475.58	S 567.72	W 2770.89	184.03	4558.36	4391.88	27.38	40.01

7300.00	4244.39	N 3969.03	W 3627.69	5588.65	4541.32	S 574.31	W 2832.50	183.61	4621.95	4452.61	27.29	39.20
7400.00	4300.22	N 4025.77	W 3688.22	5675.26	4604.38	S 580.50	W 2891.54	183.26	4684.54	4512.35	27.20	38.45
7500.00	4357.05	N 4081.79	W 3748.49	5878.94	4752.92	S 591.96	W 3030.42	183.05	4745.13	4568.67	26.89	36.48
7600.00	4414.86	N 4137.33	W 3808.26	6011.44	4850.37	S 596.62	W 3120.09	182.79	4803.49	4623.71	26.72	35.44
7700.00	4473.46	N 4192.08	W 3868.00	6048.97	4877.94	S 597.94	W 3145.50	182.57	4861.06	4678.97	26.70	35.20
7800.00	4532.63	N 4245.65	W 3928.24	6102.14	4916.92	S 600.34	W 3181.59	182.31	4918.22	4733.68	26.65	34.80
7900.00	4592.68	N 4298.30	W 3988.43	6135.35	4941.36	S 602.03	W 3204.02	181.96	4974.95	4788.22	26.64	34.72
8000.00	4653.69	N 4350.07	W 4048.40	6171.01	4967.65	S 604.17	W 3228.01	181.61	5031.51	4842.58	26.63	34.65
8095.00	4712.54	N 4398.47	W 4105.14	6204.70	4992.49	S 606.49	W 3250.65	181.28	5085.10	4894.10	26.62	34.60
Field:	Lobitos			Well:	Well LO16-15							
Structure:	Platform LO16 (WGS84)			Borehole:	Borehole LO16-15							
Slot:	Slot #15			Trajectory:	LO16-15 SS Survey							
				Type:	DEF SVY							
Coordinate System:				UTM Zone 17S - WGS84, Meters								
Reference Point:												
Northing (m)		Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)		
N 9505989.510		E 459454.620		50.00 above MSL		0.000		0.000		2.500		
Trajectory Error Model:				SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma								
Surveying Prog:												
MD From (ft)				MD To (ft)		EOU Freq		Survey Tool Type				
0.00				8148.00		Act-Stns		SLB_MWD-POOR				
Subject Trajectory				Offset Trajectory					Ct-Ct	EOU	Sep	Inter.
MD (ft)	TVD (ft)	NS (ft)	EW (ft)	MD (ft)	TVD (ft)	NS (ft)	EW (ft)	TC Azim	Dist (ft)	Dist (ft)	Factor	Angle
Major EOU radii used. All local minima indicated.												
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft												
400.00	399.92	S 0.00	E 7.07	399.87	399.85	S 2.91	E 11.57	122.89	5.37	-1.50	0.78	0.77
500.00	499.88	S 0.00	E 9.64	499.85	499.81	S 2.85	E 13.34	127.61	4.67	-2.36	0.66	0.08
600.00	599.86	N 0.49	E 11.64	599.86	599.81	S 2.76	E 15.31	131.50	4.90	-2.35	0.68	1.46
700.00	699.74	N 4.72	E 9.86	699.80	699.74	S 2.47	E 16.23	138.42	9.61	2.07	1.27	3.28
800.00	799.36	N 9.52	E 3.13	799.53	799.47	S 1.77	E 16.50	130.06	17.50	9.65	2.23	6.47
900.00	897.66	N 26.88	W 1.48	898.16	898.10	S 0.68	E 16.22	146.72	32.75	24.50	3.97	13.20
1000.00	993.04	N 56.29	W 6.51	993.97	993.89	N 0.39	E 15.33	158.03	60.02	51.34	6.92	20.24
1100.00	1083.80	N 96.58	W 17.50	1085.31	1085.22	N 1.25	E 13.88	162.04	100.37	91.36	11.14	27.72
1200.00	1168.25	N 144.79	W 40.37	1170.70	1170.58	N 1.92	E 12.00	161.99	152.18	142.92	16.43	34.63
1300.00	1246.35	N 196.27	W 75.56	1250.16	1250.01	N 2.42	E 9.78	160.07	211.84	202.23	22.04	39.89
1400.00	1319.38	N 250.27	W 117.35	1324.49	1324.31	N 2.84	E 7.62	157.24	277.24	265.86	24.35	43.59
1500.00	1387.67	N 308.18	W 161.84	1394.05	1393.84	N 3.22	E 5.68	155.52	347.99	334.73	26.23	48.03
1600.00	1450.17	N 368.64	W 211.15	1457.86	1457.62	N 3.55	E 3.99	155.83	423.83	408.48	27.61	52.16
1700.00	1506.43	N 430.46	W 265.99	1510.98	1510.72	N 3.58	E 2.55	155.72	504.34	486.75	28.67	56.98
1800.00	1557.86	N 494.12	W 323.44	1556.51	1556.23	N 2.79	E 1.09	154.52	588.84	569.15	29.89	59.38
1900.00	1608.67	N 558.94	W 380.15	1599.05	1598.71	N 1.29	W 0.49	151.15	674.70	653.33	31.57	59.85
2000.00	1659.78	N 625.70	W 434.28	1639.45	1639.01	S 0.90	W 2.20	149.84	761.42	738.25	32.86	60.67
2100.00	1710.77	N 693.09	W 487.76	1672.39	1671.82	S 3.40	W 3.85	148.45	848.99	824.04	34.02	61.77
2200.00	1761.92	N 761.24	W 540.09	1696.13	1695.42	S 5.74	W 4.79	148.92	937.67	910.95	35.08	63.17
2300.00	1812.98	N 828.09	W 594.15	1717.77	1716.90	S 8.30	W 5.35	151.18	1027.36	998.83	36.01	64.34
2400.00	1863.86	N 893.01	W 650.69	1737.56	1736.51	S 10.98	W 5.60	153.79	1117.84	1087.40	36.72	65.67
2500.00	1913.84	N 956.69	W 709.40	1755.38	1754.12	S 13.68	W 5.62	155.23	1209.31	1176.80	37.20	67.51
2600.00	1963.01	N 1020.19	W 768.98	1778.27	1776.69	S 17.49	W 5.44	155.13	1301.73	1267.19	37.69	68.16
2700.00	2011.83	N 1083.22	W 829.35	1804.57	1802.57	S 22.15	W 5.29	156.58	1394.52	1357.91	38.09	69.03
2800.00	2059.52	N 1145.61	W 891.25	1829.27	1826.83	S 26.79	W 5.20	158.19	1487.87	1448.96	38.24	70.08
2900.00	2106.61	N 1207.71	W 953.91	1852.79	1849.89	S 31.44	W 5.17	157.83	1581.61	1540.49	38.46	70.45
3000.00	2153.33	N 1269.76	W 1016.89	1874.21	1870.84	S 35.90	W 5.21	157.99	1675.73	1632.38	38.65	71.11
3100.00	2199.93	N 1331.78	W 1080.00	1894.71	1890.83	S 40.41	W 5.32	157.38	1770.13	1724.79	39.04	71.35
3200.00	2246.67	N 1393.84	W 1142.96	1914.58	1910.17	S 45.00	W 5.51	156.69	1864.74	1817.56	39.52	71.66
3300.00	2293.34	N 1456.06	W 1205.81	1933.71	1928.73	S 49.62	W 5.77	156.59	1959.62	1910.41	39.82	72.05
3400.00	2339.99	N 1517.87	W 1269.08	1953.31	1947.69	S 54.56	W 6.11	156.90	2054.64	2003.33	40.05	72.22
3500.00	2386.73	N 1579.60	W 1332.37	1975.15	1968.74	S 60.38	W 6.75	156.45	2149.77	2096.42	40.30	72.46
3600.00	2433.22	N 1641.57	W 1395.59	2002.93	1995.39	S 68.15	W 7.92	155.42	2245.10	2189.68	40.51	72.49
3700.00	2480.40	N 1703.96	W 1457.90	2032.60	2023.77	S 76.65	W 9.43	152.77	2340.33	2282.93	40.77	72.17
3800.00	2528.19	N 1767.19	W 1518.87	2062.50	2052.29	S 85.43	W 11.22	151.25	2435.51	2376.12	41.01	72.13
3900.00	2576.06	N 1830.51	W 1579.69	2102.00	2089.85	S 97.33	W 14.05	151.58	2530.65	2469.10	41.12	71.90

4000.00	2623.84	N 1893.92	W 1640.49	2153.37	2138.53	S 113.10	W 18.67	150.82	2625.63	2561.95	41.23	71.74													
4100.00	2671.46	N 1957.90	W 1700.81	2194.21	2177.06	S 125.86	W 23.09	150.65	2720.52	2654.83	41.41	71.56													
4200.00	2719.06	N 2021.67	W 1761.37	2229.99	2210.70	S 137.28	W 27.40	152.00	2815.34	2747.58	41.55	71.49													
4300.00	2766.54	N 2085.26	W 1822.21	2265.99	2244.41	S 148.99	W 32.14	151.50	2910.13	2840.31	41.68	71.45													
4400.00	2814.36	N 2149.55	W 1882.04	2337.46	2310.91	S 172.76	W 43.10	149.07	3004.71	2932.86	41.82	70.94													
4500.00	2862.39	N 2214.35	W 1941.15	2441.75	2406.88	S 208.11	W 63.43	150.79	3098.66	3024.55	41.81	69.64													
4600.00	2910.49	N 2279.08	W 2000.29	2569.11	2522.53	S 251.25	W 94.75	151.62	3191.26	3114.56	41.61	68.08													
4700.00	2958.81	N 2343.91	W 2059.12	2605.31	2555.09	S 263.64	W 104.57	151.53	3283.69	3204.11	41.26	68.34													
4800.00	3007.00	N 2408.93	W 2117.86	2641.10	2587.15	S 276.06	W 114.51	152.45	3376.22	3293.89	41.01	68.21													
4900.00	3055.24	N 2473.53	W 2177.02	2675.47	2617.81	S 288.15	W 124.27	153.55	3468.72	3383.60	40.75	68.07													
5000.00	3103.54	N 2537.80	W 2236.49	2705.83	2644.79	S 298.98	W 133.04	152.78	3561.22	3473.27	40.50	68.70													
5100.00	3151.32	N 2602.31	W 2296.11	2735.41	2670.97	S 309.66	W 141.69	155.08	3654.02	3563.22	40.24	68.60													
5200.00	3198.79	N 2666.67	W 2356.15	2764.53	2696.67	S 320.32	W 150.33	154.67	3746.99	3653.43	40.05	69.02													
5300.00	3246.21	N 2731.22	W 2416.02	2793.00	2721.61	S 330.95	W 158.99	154.75	3840.09	3743.55	39.78	69.16													
5400.00	3294.14	N 2796.08	W 2475.15	2821.05	2745.97	S 341.68	W 167.84	153.73	3933.15	3833.79	39.59	69.32													
5500.00	3342.23	N 2860.99	W 2534.08	2848.62	2769.70	S 352.47	W 176.83	154.77	4026.26	3924.06	39.40	69.24													
5600.00	3390.69	N 2924.72	W 2594.00	2896.19	2810.34	S 371.35	W 192.79	156.55	4119.07	4012.79	38.76	68.58													
5700.00	3438.73	N 2988.26	W 2654.46	2949.07	2855.42	S 392.30	W 210.82	157.52	4211.86	4101.42	38.14	68.78													
5800.00	3486.13	N 3052.12	W 2715.08	3002.02	2900.45	S 413.22	W 229.20	157.23	4304.79	4190.45	37.65	68.63													
5900.00	3534.74	N 3116.01	W 2774.71	3054.04	2944.60	S 433.72	W 247.55	156.53	4397.20	4279.13	37.24	67.66													
6000.00	3584.66	N 3179.17	W 2834.02	3098.64	2982.34	S 451.33	W 263.52	156.95	4488.96	4366.97	36.80	67.31													
6100.00	3634.71	N 3242.08	W 2893.49	3143.71	3020.35	S 469.18	W 279.88	157.29	4580.60	4454.78	36.41	66.67													
6200.00	3685.47	N 3304.14	W 2953.26	3190.15	3059.39	S 487.63	W 296.96	158.48	4671.77	4542.12	36.03	66.48													
6300.00	3735.42	N 3366.25	W 3013.65	3255.51	3114.20	S 513.58	W 321.37	159.54	4763.13	4628.27	35.32	66.60													
6400.00	3784.67	N 3428.43	W 3074.54	3327.20	3174.24	S 541.77	W 348.56	160.72	4854.50	4714.31	34.63	66.10													
6500.00	3834.14	N 3489.65	W 3136.23	3395.41	3231.30	S 568.33	W 374.83	161.88	4945.29	4800.14	34.07	65.13													
6600.00	3883.91	N 3550.40	W 3198.13	3428.40	3258.89	S 581.15	W 387.61	161.48	5035.82	4887.07	33.86	65.30													
6700.00	3933.86	N 3611.52	W 3259.53	3460.98	3286.11	S 593.87	W 400.20	161.26	5126.47	4974.22	33.67	65.53													
6800.00	3983.65	N 3672.82	W 3320.87	3493.14	3312.97	S 606.48	W 412.61	161.53	5217.30	5061.57	33.50	65.77													
6900.00	4033.40	N 3734.05	W 3382.32	3525.07	3339.63	S 619.05	W 424.90	161.78	5308.21	5149.06	33.35	65.42													
7000.00	4084.16	N 3794.19	W 3444.02	3557.82	3366.95	S 631.99	W 437.48	161.96	5398.58	5236.02	33.21	64.53													
7100.00	4136.13	N 3853.17	W 3505.82	3618.87	3417.86	S 656.16	W 460.97	161.62	5488.27	5320.80	32.77	63.48													
7200.00	4189.58	N 3911.45	W 3567.03	3739.94	3518.71	S 703.33	W 508.53	161.17	5576.80	5401.53	31.82	61.94													
7300.00	4244.39	N 3969.03	W 3627.69	3847.11	3607.86	S 744.19	W 551.76	161.14	5664.01	5481.82	31.09	60.62													
7400.00	4300.22	N 4025.77	W 3688.22	3916.47	3665.53	S 770.32	W 580.08	161.14	5750.29	5562.57	30.63	59.70													
7500.00	4357.05	N 4081.79	W 3748.49	3988.04	3725.04	S 797.09	W 609.48	160.89	5835.78	5642.64	30.22	58.94													
7600.00	4414.86	N 4137.33	W 3808.26	4092.30	3812.04	S 835.40	W 652.26	160.72	5920.45	5720.23	29.57	57.82													
7700.00	4473.46	N 4192.08	W 3868.00	4190.63	3895.13	S 870.05	W 691.83	161.27	6003.97	5797.04	29.01	56.56													
7800.00	4532.63	N 4245.65	W 3928.24	4244.14	3940.59	S 888.60	W 713.09	161.46	6086.72	5875.28	28.79	55.82													
7900.00	4592.68	N 4298.30	W 3988.43	4298.65	3987.01	S 907.43	W 734.59	161.29	6168.78	5952.86	28.57	55.10													
8000.00	4653.69	N 4350.07	W 4048.40	4354.16	4034.39	S 926.53	W 756.32	161.12	6250.11	6029.78	28.37	54.39													
8095.00	4712.54	N 4398.47	W 4105.14	4407.78	4080.25	S 944.92	W 777.15	160.94	6326.70	6102.23	28.19	53.72													
Field:	Lobitos			Well:		Well LO16-15																			
Structure:	Platform LO16 (WGS84)			Borehole:		Borehole LO16-15 S1																			
Slot:	Slot #15			Trajectory:		LO16-15 S1 SS Survey																			
				Type:		DEF SVY																			
Coordinate System: UTM Zone 17S - WGS84, Meters																									
Reference Point:																									
Northing (m)		Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)															
N 9505989.510		E 459454.620		50.00 above MSL		0.000		0.000		2.500															
Trajectory Error Model: SLB ISCSWA 3-D 95.00% Confidence 2.7955 sigma																									
Surveying Prog:																									
MD From (ft)		MD To (ft)		EOU Freq		Survey Tool Type																			
0.00		7482.00		Act-Sns		SLB_MWD-POOR																			
Subject Trajectory				Offset Trajectory				Ct-Ct		EOU		Sep		Inter.											
MD (ft)		TVD (ft)		NS (ft)		EW (ft)		TC Azim		Dist (ft)		Dist (ft)		Factor		Angle									
Major EOU radii used. All local minima indicated.																									
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft																									
400.00		399.92		S 0.00		E 7.07		399.87		399.85		S 2.91		E 11.57		122.89		5.37		-1.50		0.78		0.77	
500.00		499.88		S 0.00		E 9.64		499.85		499.81		S 2.85		E 13.34		127.61		4.67		-2.36		0.66		0.08	
600.00		599.86		N 0.49		E 11.64		599.86		599.81		S 2.76		E 15.31		131.50		4.90		-2.35		0.68		1.46	
700.00		699.74		N 4.72		E 9.86		699.80		699.74		S 2.47		E 16.23		138.42		9.61		2.07		1.27		3.28	

800.00	799.36	N 9.52	E 3.13	799.53	799.47	S 1.77	E 16.50	130.06	17.50	9.65	2.23	6.47	
900.00	897.66	N 26.88	W 1.48	898.16	898.10	S 0.68	E 16.22	146.72	32.75	24.50	3.97	13.20	
1000.00	993.04	N 56.29	W 6.51	993.97	993.89	N 0.39	E 15.33	158.03	60.02	51.34	6.92	20.24	
1100.00	1083.80	N 96.58	W 17.50	1085.31	1085.22	N 1.25	E 13.88	162.04	100.37	91.36	11.14	27.72	
1200.00	1168.25	N 144.79	W 40.37	1170.70	1170.58	N 1.92	E 12.00	161.99	152.18	142.92	16.43	34.63	
1300.00	1246.35	N 196.27	W 75.56	1250.16	1250.01	N 2.42	E 9.78	160.07	211.84	202.23	22.04	39.89	
1400.00	1319.38	N 250.27	W 117.35	1324.49	1324.31	N 2.84	E 7.62	157.24	277.24	265.86	24.35	43.59	
1500.00	1387.67	N 308.18	W 161.84	1394.05	1393.84	N 3.22	E 5.68	155.52	347.99	334.73	26.23	48.03	
1600.00	1450.17	N 368.64	W 211.15	1457.86	1457.62	N 3.55	E 3.99	155.83	423.83	408.48	27.61	52.16	
1700.00	1506.43	N 430.46	W 265.99	1510.98	1510.72	N 3.58	E 2.55	155.72	504.34	486.75	28.67	56.98	
1800.00	1557.86	N 494.12	W 323.44	1556.51	1556.23	N 2.79	E 1.09	154.52	588.84	569.15	29.89	59.38	
1900.00	1608.67	N 558.94	W 380.15	1599.05	1598.71	N 1.29	W 0.49	151.15	674.70	653.33	31.57	59.85	
2000.00	1659.78	N 625.70	W 434.28	1639.45	1639.01	S 0.90	W 2.20	149.84	761.42	738.25	32.86	60.67	
2100.00	1710.77	N 693.09	W 487.76	1672.39	1671.82	S 3.40	W 3.85	148.45	848.99	824.04	34.02	61.77	
2200.00	1761.92	N 761.24	W 540.09	1696.13	1695.42	S 5.74	W 4.79	148.92	937.67	910.95	35.08	63.17	
2300.00	1812.98	N 828.09	W 594.15	1717.77	1716.90	S 8.30	W 5.35	151.18	1027.36	998.83	36.01	64.34	
2400.00	1863.86	N 893.01	W 650.69	1737.56	1736.51	S 10.98	W 5.60	153.79	1117.84	1087.40	36.72	65.67	
2500.00	1913.84	N 956.69	W 709.40	1755.38	1754.12	S 13.68	W 5.62	155.23	1209.31	1176.80	37.20	67.51	
2600.00	1963.01	N 1020.19	W 768.98	1778.27	1776.69	S 17.49	W 5.44	155.13	1301.73	1267.19	37.69	68.16	
2700.00	2011.83	N 1083.22	W 829.35	1804.57	1802.57	S 22.15	W 5.29	156.58	1394.52	1357.91	38.09	69.03	
2800.00	2059.52	N 1145.61	W 891.25	1829.27	1826.83	S 26.79	W 5.20	158.19	1487.87	1448.96	38.24	70.08	
2900.00	2106.61	N 1207.71	W 953.91	1852.79	1849.89	S 31.44	W 5.17	157.83	1581.61	1540.49	38.46	70.45	
3000.00	2153.33	N 1269.76	W 1016.89	1874.21	1870.84	S 35.90	W 5.21	157.99	1675.73	1632.38	38.65	71.11	
3100.00	2199.93	N 1331.78	W 1080.00	1894.71	1890.83	S 40.41	W 5.32	157.38	1770.13	1724.79	39.04	71.35	
3200.00	2246.67	N 1393.84	W 1142.96	1914.58	1910.17	S 45.00	W 5.51	156.69	1864.74	1817.56	39.52	71.66	
3300.00	2293.34	N 1456.06	W 1205.81	1933.71	1928.73	S 49.62	W 5.77	156.59	1959.62	1910.41	39.82	72.05	
3400.00	2339.99	N 1517.87	W 1269.08	1953.31	1947.69	S 54.56	W 6.11	156.90	2054.64	2003.33	40.05	72.22	
3500.00	2386.73	N 1579.60	W 1332.37	1975.15	1968.74	S 60.38	W 6.75	156.45	2149.77	2096.42	40.30	72.46	
3600.00	2433.22	N 1641.57	W 1395.59	2002.93	1995.39	S 68.15	W 7.92	155.42	2245.10	2189.68	40.51	72.49	
3700.00	2480.40	N 1703.96	W 1457.90	2032.60	2023.77	S 76.65	W 9.43	152.77	2340.33	2282.93	40.77	72.17	
3800.00	2528.19	N 1767.19	W 1518.87	2062.50	2052.29	S 85.43	W 11.22	151.25	2435.51	2376.12	41.01	72.13	
3900.00	2576.06	N 1830.51	W 1579.69	2102.00	2089.85	S 97.33	W 14.05	151.58	2530.65	2469.10	41.12	71.90	
4000.00	2623.84	N 1893.92	W 1640.49	2153.37	2138.53	S 113.10	W 18.67	150.82	2625.63	2561.95	41.23	71.74	
4100.00	2671.46	N 1957.90	W 1700.81	2194.21	2177.06	S 125.86	W 23.09	150.65	2720.62	2654.83	41.41	71.56	
4200.00	2719.06	N 2021.67	W 1761.37	2229.99	2210.70	S 137.28	W 27.40	152.00	2815.34	2747.58	41.55	71.49	
4300.00	2766.54	N 2085.26	W 1822.21	2265.99	2244.41	S 148.99	W 32.14	151.50	2910.13	2840.31	41.68	71.45	
4400.00	2814.36	N 2149.55	W 1882.04	2337.46	2310.91	S 172.76	W 43.10	149.07	3004.71	2932.86	41.82	70.94	
4500.00	2862.39	N 2214.35	W 1941.15	2441.75	2406.88	S 208.11	W 63.43	150.79	3098.66	3024.55	41.81	69.64	
4600.00	2910.49	N 2279.08	W 2000.29	2569.11	2522.53	S 251.25	W 94.75	151.62	3191.26	3114.56	41.61	68.08	
4700.00	2958.81	N 2343.91	W 2059.12	2605.31	2555.09	S 263.64	W 104.57	151.53	3283.69	3204.11	41.26	68.34	
4800.00	3007.00	N 2408.93	W 2117.86	2641.10	2587.15	S 276.06	W 114.51	152.45	3376.22	3293.89	41.01	68.21	
4900.00	3055.24	N 2473.53	W 2177.02	2675.47	2617.81	S 288.15	W 124.27	153.55	3468.72	3383.60	40.75	68.07	
5000.00	3103.54	N 2537.80	W 2236.49	2705.83	2644.79	S 298.98	W 133.04	152.78	3561.22	3473.27	40.50	68.70	
5100.00	3151.32	N 2602.31	W 2296.11	2735.41	2670.97	S 309.66	W 141.69	155.08	3654.02	3563.22	40.24	68.60	
5200.00	3198.79	N 2666.67	W 2356.15	2764.53	2696.67	S 320.32	W 150.33	154.67	3746.99	3653.43	40.05	69.02	
5300.00	3246.21	N 2731.22	W 2416.02	2793.00	2721.61	S 330.95	W 158.99	154.75	3840.09	3743.55	39.78	69.16	
5400.00	3294.14	N 2796.08	W 2475.15	2821.05	2745.97	S 341.68	W 167.84	153.73	3933.15	3833.79	39.59	69.32	
5500.00	3342.23	N 2860.99	W 2534.08	2848.62	2769.70	S 352.47	W 176.83	154.77	4026.26	3924.06	39.40	69.24	
5600.00	3390.69	N 2924.72	W 2594.00	2896.19	2810.34	S 371.35	W 192.79	156.55	4119.07	4012.79	38.76	68.58	
5700.00	3438.73	N 2988.26	W 2654.46	2949.07	2855.42	S 392.30	W 210.82	157.52	4211.86	4101.42	38.14	68.78	
5800.00	3486.13	N 3052.12	W 2715.08	3002.02	2900.45	S 413.22	W 229.20	157.23	4304.79	4190.45	37.65	68.63	
5900.00	3534.74	N 3116.01	W 2774.71	3054.04	2944.60	S 433.72	W 247.55	156.53	4397.20	4279.13	37.24	67.66	
6000.00	3584.66	N 3179.17	W 2834.02	3098.64	2982.34	S 451.33	W 263.52	156.95	4488.96	4366.97	36.80	67.31	
6100.00	3634.71	N 3242.08	W 2893.49	3143.71	3020.35	S 469.18	W 279.88	157.29	4580.60	4454.78	36.41	66.67	
6200.00	3685.47	N 3304.14	W 2953.26	3190.15	3059.39	S 487.63	W 296.96	158.48	4671.77	4542.12	36.03	66.48	
6300.00	3735.42	N 3366.25	W 3013.65	3255.51	3114.20	S 513.58	W 321.37	159.54	4763.13	4628.27	35.32	66.60	
6400.00	3784.67	N 3428.43	W 3074.54	3327.20	3174.24	S 541.77	W 348.56	160.72	4854.50	4714.31	34.63	66.10	
6500.00	3834.14	N 3489.65	W 3136.23	3395.41	3231.30	S 568.33	W 374.83	161.88	4945.29	4800.14	34.07	65.13	
6600.00	3883.91	N 3550.40	W 3198.13	3428.40	3258.89	S 581.15	W 387.61	161.48	5035.82	4887.07	33.86	65.30	
6700.00	3933.86	N 3611.52	W 3259.53	3460.98	3286.11	S 593.87	W 400.20	161.26	5126.47	4974.22	33.67	65.53	
6800.00	3983.65	N 3672.82	W 3320.87	3493.14	3312.97	S 606.48	W 412.61	161.53	5217.30	5061.57	33.50	65.77	
6900.00	4033.40	N 3734.05	W 3382.32	3525.07	3339.63	S 619.05	W 424.90	161.78	5308.21	5149.06	33.35	65.42	

7000.00	4084.16	N 3794.19	W 3444.02	3557.82	3366.95	S 631.99	W 437.48	161.96	5398.58	5236.02	33.21	64.53
7100.00	4136.13	N 3853.17	W 3505.82	3618.87	3417.86	S 656.16	W 460.97	161.62	5488.27	5320.80	32.77	63.48
7200.00	4189.58	N 3911.45	W 3567.03	3739.94	3518.71	S 703.33	W 508.53	161.17	5576.80	5401.53	31.82	61.94
7300.00	4244.39	N 3969.03	W 3627.69	3847.11	3607.86	S 744.19	W 551.76	161.14	5664.01	5481.82	31.09	60.62
7400.00	4300.22	N 4025.77	W 3688.22	3916.47	3665.53	S 770.32	W 580.08	161.14	5750.29	5562.57	30.63	59.70
7500.00	4357.05	N 4081.79	W 3748.49	3988.04	3725.04	S 797.09	W 609.48	160.89	5835.78	5642.64	30.22	58.94
7600.00	4414.86	N 4137.33	W 3808.26	4092.30	3812.04	S 835.40	W 652.26	160.72	5920.45	5720.23	29.57	57.82
7700.00	4473.46	N 4192.08	W 3868.00	4190.63	3895.13	S 870.05	W 691.83	161.27	6003.97	5797.04	29.01	56.56
7800.00	4532.63	N 4245.65	W 3928.24	4244.14	3940.59	S 888.60	W 713.09	161.46	6086.72	5875.28	28.79	55.82
7900.00	4592.68	N 4298.30	W 3988.43	4298.65	3987.01	S 907.43	W 734.59	161.29	6168.78	5952.86	28.57	55.10
8000.00	4653.69	N 4350.07	W 4048.40	4354.16	4034.39	S 926.53	W 756.32	161.12	6250.11	6029.78	28.57	54.39
8095.00	4712.54	N 4398.47	W 4105.14	4407.78	4080.25	S 944.92	W 777.15	160.94	6326.70	6102.23	28.19	53.72
Field:	Lobitos					Well:		Well LO16-16				
Structure:	Platform LO16 (WGS84)					Borehole:		Borehole LO16-16				
Slot:	Slot #16					Trajectory:		LO16-16 SS Survey				
						Type:		DEF SVY				
Coordinate System: UTM Zone 17S - WGS84, Meters												
Reference Point:												
Northing (m)		Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)		
N 9505993.530		E 459454.500		50.00 above MSL		0.000		0.000		2.500		
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma												
Surveying Prog:												
MD From (ft)		MD To (ft)		EOU Freq		Survey Tool Type						
0.00		7655.00		Act-Stns		SLB_MWD-STD						
Subject Trajectory				Offset Trajectory					Ct-Ct	EOU	Sep	Inter.
MD (ft)	TVD (ft)	NS (ft)	EW (ft)	MD (ft)	TVD (ft)	NS (ft)	EW (ft)	TC Azim	Dist (ft)	Dist (ft)	Factor	Angle
Major EOU radii used. All local minima indicated.												
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft												
400.00	399.92	S 0.00	E 7.07	399.90	399.90	N 10.51	E 7.70	3.46	10.53	3.60	1.52	1.77
500.00	499.88	S 0.00	E 9.64	499.86	499.86	N 10.70	E 7.51	348.77	10.91	3.80	1.53	1.32
600.00	599.86	N 0.49	E 11.64	599.82	599.82	N 10.94	E 7.28	337.31	11.32	4.00	1.55	1.85
700.00	699.74	N 4.72	E 9.86	699.72	699.71	N 11.22	E 7.00	336.29	7.10	-0.45	0.94	2.99
800.00	799.36	N 9.52	E 3.13	799.39	799.39	N 11.51	E 6.49	59.45	3.90	-3.96	0.50	6.55
900.00	897.66	N 26.88	W 1.48	897.81	897.80	N 11.75	E 5.34	155.31	16.60	8.32	2.01	13.70
1000.00	993.04	N 56.29	W 6.51	993.36	993.33	N 11.94	E 3.60	167.07	45.49	36.82	5.25	20.64
1100.00	1083.80	N 96.58	W 17.50	1084.46	1084.40	N 12.07	E 1.37	168.42	86.59	77.60	9.63	27.99
1200.00	1168.25	N 144.79	W 40.37	1169.52	1169.43	N 12.16	W 0.90	166.31	138.38	129.11	14.92	34.89
1300.00	1246.35	N 196.27	W 75.56	1248.56	1248.44	N 12.21	W 3.08	163.02	197.84	188.19	20.51	40.20
1400.00	1319.38	N 250.27	W 117.35	1322.74	1322.60	N 12.22	W 5.17	159.41	263.18	251.77	23.06	43.84
1500.00	1387.67	N 308.18	W 161.84	1392.27	1392.09	N 12.21	W 7.18	157.32	333.97	320.68	25.13	48.22
1600.00	1450.17	N 368.64	W 211.15	1456.16	1455.96	N 12.18	W 9.07	157.39	409.80	394.43	26.67	52.28
1700.00	1506.43	N 430.46	W 265.99	1514.00	1513.77	N 12.13	W 10.81	156.90	490.08	472.47	27.84	56.63
1800.00	1557.86	N 494.12	W 323.44	1568.45	1568.20	N 12.13	W 12.46	155.08	573.70	553.97	29.07	58.32
1900.00	1608.67	N 558.94	W 380.15	1623.28	1623.00	N 12.36	W 14.10	151.32	657.99	636.54	30.68	57.91
2000.00	1659.78	N 625.70	W 434.28	1678.88	1678.58	N 12.83	W 15.73	149.59	742.39	719.10	31.87	57.81
2100.00	1710.77	N 693.09	W 487.76	1734.90	1734.56	N 13.56	W 17.35	147.90	826.81	801.67	32.90	57.58
2200.00	1761.92	N 761.24	W 540.09	1791.64	1791.28	N 14.55	W 18.96	147.77	911.04	884.05	33.76	57.39
2300.00	1812.98	N 828.09	W 594.15	1848.90	1848.50	N 15.81	W 20.55	148.76	995.03	966.16	34.47	57.22
2400.00	1863.86	N 893.01	W 650.69	1906.54	1906.10	N 17.34	W 22.12	149.70	1078.74	1047.88	34.96	57.36
2500.00	1913.84	N 956.69	W 709.40	1963.80	1963.31	N 19.13	W 23.65	149.73	1162.64	1129.63	35.22	58.05
2600.00	1963.01	N 1020.19	W 768.98	2018.24	2017.70	N 21.01	W 25.08	149.04	1246.89	1211.77	35.50	58.01
2700.00	2011.83	N 1083.22	W 829.35	2071.29	2070.70	N 22.87	W 26.49	149.23	1331.30	1294.02	35.71	58.58
2800.00	2059.52	N 1145.61	W 891.25	2123.29	2122.64	N 24.71	W 27.89	149.44	1416.26	1376.61	35.72	59.37
2900.00	2106.61	N 1207.71	W 953.91	2174.76	2174.06	N 26.55	W 29.28	148.71	1501.54	1459.59	35.79	59.39
3000.00	2153.33	N 1269.76	W 1016.89	2225.91	2225.17	N 28.38	W 30.68	148.22	1587.07	1542.81	35.86	59.72
3100.00	2199.93	N 1331.78	W 1080.00	2277.00	2276.20	N 30.22	W 32.09	147.44	1672.72	1626.39	36.10	59.59
3200.00	2246.67	N 1393.84	W 1142.96	2328.31	2327.45	N 32.09	W 33.52	146.67	1758.33	1710.08	36.44	59.52
3300.00	2293.34	N 1456.06	W 1205.81	2379.61	2378.70	N 33.96	W 34.97	146.18	1844.05	1793.70	36.62	59.57
3400.00	2339.99	N 1517.87	W 1269.08	2430.94	2429.97	N 35.85	W 36.43	145.94	1929.74	1877.21	36.74	59.52
3500.00	2386.73	N 1579.60	W 1332.37	2482.41	2481.39	N 37.76	W 37.90	145.35	2015.41	1960.77	36.89	59.54
3600.00	2433.22	N 1641.57	W 1395.59	2533.72	2532.64	N 39.67	W 39.39	144.58	2101.26	2044.49	37.02	59.46
3700.00	2480.40	N 1703.96	W 1457.90	2585.76	2584.62	N 41.62	W 40.91	143.23	2186.80	2128.01	37.20	58.89

3800.00	2528.19	N 1767.19	W 1518.87	2638.87	2637.68	N 43.62	W 42.47	142.36	2272.10	2211.27	37.35	58.65
3900.00	2576.06	N 1830.51	W 1579.69	2693.49	2692.22	N 45.67	W 44.17	142.24	2357.32	2294.28	37.39	58.58
4000.00	2623.84	N 1893.92	W 1640.49	2748.23	2746.89	N 47.71	W 45.99	141.61	2442.55	2377.36	37.47	58.66
4100.00	2671.46	N 1957.90	W 1700.81	2803.01	2801.61	N 49.72	W 47.93	141.29	2527.87	2460.62	37.59	58.56
4200.00	2719.06	N 2021.67	W 1761.37	2850.30	2848.84	N 51.43	W 49.68	141.65	2613.16	2543.82	37.69	58.82
4300.00	2766.54	N 2085.26	W 1822.21	2886.35	2884.85	N 52.56	W 50.95	141.25	2698.75	2627.34	37.79	59.08
4400.00	2814.36	N 2149.55	W 1882.04	2921.96	2920.42	N 53.48	W 52.10	139.82	2784.50	2711.14	37.96	59.11
4500.00	2862.39	N 2214.35	W 1941.15	2957.01	2955.45	N 54.21	W 53.15	140.14	2870.44	2795.00	38.05	59.43
4600.00	2910.49	N 2279.08	W 2000.29	2991.46	2989.89	N 54.74	W 54.09	139.90	2956.63	2879.15	38.16	59.55
4700.00	2958.81	N 2343.91	W 2059.12	3025.42	3023.83	N 55.10	W 54.93	139.56	3042.97	2963.43	38.26	59.95
4800.00	3007.00	N 2408.93	W 2117.86	3058.66	3057.06	N 55.28	W 55.67	139.91	3129.67	3048.09	38.36	60.20
4900.00	3055.24	N 2473.53	W 2177.02	3091.31	3089.71	N 55.29	W 56.31	140.41	3216.59	3132.94	38.45	60.48
5000.00	3103.54	N 2537.80	W 2236.49	3123.42	3121.81	N 55.15	W 56.87	139.60	3303.73	3218.07	38.57	60.98
5100.00	3151.32	N 2602.31	W 2296.11	3167.56	3165.95	N 54.84	W 57.52	140.81	3391.33	3303.49	38.61	61.33
5200.00	3198.79	N 2666.67	W 2356.15	3215.44	3213.82	N 54.58	W 58.12	140.27	3479.10	3389.14	38.67	61.44
5300.00	3246.21	N 2731.22	W 2416.02	3263.26	3261.63	N 54.43	W 58.61	140.13	3566.91	3474.84	38.74	61.35
5400.00	3294.14	N 2796.08	W 2475.15	3311.56	3309.94	N 54.38	W 58.98	139.39	3654.45	3560.36	38.84	60.97
5500.00	3342.23	N 2860.99	W 2534.08	3360.02	3358.40	N 54.43	W 59.24	139.87	3741.91	3645.70	38.89	60.92
5600.00	3390.69	N 2924.72	W 2594.00	3411.89	3410.27	N 54.60	W 59.40	140.74	3829.12	3730.73	38.92	60.77
5700.00	3438.73	N 2988.26	W 2654.46	3472.19	3470.56	N 54.99	W 59.56	140.75	3916.45	3815.82	38.92	61.12
5800.00	3486.13	N 3052.12	W 2715.08	3532.34	3530.71	N 55.61	W 59.73	140.22	4003.99	3901.18	38.95	60.80
5900.00	3534.74	N 3116.01	W 2774.71	3594.64	3593.00	N 56.49	W 59.93	139.86	4090.73	3985.88	39.02	59.55
6000.00	3584.66	N 3179.17	W 2834.02	3659.26	3657.61	N 57.66	W 60.16	139.92	4176.54	4069.62	39.06	59.11
6100.00	3634.71	N 3242.08	W 2893.49	3724.71	3723.04	N 59.11	W 60.40	140.06	4262.10	4153.07	39.09	58.40
6200.00	3685.47	N 3304.14	W 2953.26	3782.88	3781.19	N 60.65	W 60.58	140.47	4347.07	4235.86	39.09	58.53
6300.00	3735.42	N 3366.25	W 3013.65	3834.58	3832.87	N 62.29	W 60.45	140.52	4432.50	4319.07	39.08	59.14
6400.00	3784.67	N 3428.43	W 3074.54	3885.50	3883.75	N 64.17	W 60.03	140.89	4518.34	4402.70	39.07	59.34
6500.00	3834.14	N 3489.65	W 3136.23	3936.49	3934.69	N 66.32	W 59.30	141.52	4604.00	4486.15	39.07	59.17
6600.00	3883.91	N 3550.40	W 3198.13	4024.95	4023.02	N 70.74	W 57.79	140.87	4689.26	4569.21	39.06	58.60
6700.00	3933.86	N 3611.52	W 3259.53	4106.55	4104.46	N 75.64	W 56.40	140.35	4774.06	4651.82	39.06	58.23
6800.00	3983.65	N 3672.82	W 3320.87	4163.11	4160.90	N 79.25	W 55.46	140.18	4858.82	4734.42	39.06	58.34
6900.00	4033.40	N 3734.05	W 3382.32	4219.75	4217.42	N 82.92	W 54.52	140.28	4943.57	4817.01	39.06	57.98
7000.00	4084.16	N 3794.19	W 3444.02	4277.55	4275.08	N 86.72	W 53.58	140.58	5027.61	4898.88	39.06	57.21
7100.00	4136.13	N 3853.17	W 3505.82	4336.72	4334.11	N 90.66	W 52.63	140.46	5110.79	4979.99	39.07	56.27
7200.00	4189.58	N 3911.45	W 3567.03	4400.20	4397.44	N 94.95	W 51.63	140.10	5192.97	5060.14	39.10	55.18
7300.00	4244.39	N 3969.03	W 3627.69	4488.27	4485.31	N 100.86	W 50.79	139.92	5274.00	5139.09	39.09	54.04
7400.00	4300.22	N 4025.77	W 3688.22	4618.08	4614.82	N 109.64	W 51.07	139.73	5353.87	5216.77	39.05	52.59
7500.00	4357.05	N 4081.79	W 3748.49	4745.71	4742.03	N 119.82	W 52.66	139.36	5431.81	5292.55	39.00	51.22
7600.00	4414.86	N 4137.33	W 3808.26	4771.30	4767.54	N 121.88	W 52.98	139.21	5509.12	5367.98	39.03	50.92
7700.00	4473.46	N 4192.08	W 3868.00	4796.77	4792.93	N 123.80	W 53.19	139.56	5586.21	5443.14	39.04	50.94
7800.00	4532.63	N 4245.65	W 3928.24	4822.02	4818.12	N 125.57	W 53.28	139.80	5663.21	5518.20	39.05	50.86
7900.00	4592.68	N 4298.30	W 3988.43	4847.18	4843.23	N 127.20	W 53.27	139.82	5739.88	5592.95	39.07	50.57
8000.00	4653.69	N 4350.07	W 4048.40	4872.31	4868.31	N 128.71	W 53.15	139.82	5816.18	5667.36	39.08	50.27
8095.00	4712.54	N 4398.47	W 4105.14	4892.50	4888.47	N 129.81	W 52.98	139.81	5888.33	5737.74	39.10	50.01
Field:	Lobitos					Well:		Well LO16-17				
Structure:	Platform LO16 (WGS84)					Borehole:		Borehole LO16-17				
Slot:	Slot #17					Trajectory:		LO16-17 SS Survey				
						Type:		DEF SVY				
Coordinate System: UTM Zone 17S - WGS84, Meters												
Reference Point:												
Northing (m)		Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)		
N 9505994.820		E 459455.750		50.00 above MSL		0.000		0.000		2.500		
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma												
Surveying Prog:												
MD From (ft)		MD To (ft)		EOU Freq		Survey Tool Type						
0.00		8200.00		Act-Stns		SLB_MWD-STD						
Subject Trajectory				Offset Trajectory				Ct-Ct		EOU	Sep	Inter.
MD (ft)	TVD (ft)	NS (ft)	EW (ft)	MD (ft)	TVD (ft)	NS (ft)	EW (ft)	TC Azim	Dist (ft)	Dist (ft)	Factor	Angle
Major EOU radii used. All local minima indicated.												
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft												
400.00	399.92	S 0.00	E 7.07	400.00	400.00	N 13.07	E 12.34	21.94	14.10	7.24	2.06	1.66

500.00	499.88	S 0.00	E 9.64	499.99	499.98	N 12.33	E 12.44	12.80	12.64	5.62	1.80	1.23
600.00	599.86	N 0.49	E 11.64	599.91	599.91	N 11.64	E 12.59	4.81	11.19	3.93	1.54	2.03
700.00	699.74	N 4.72	E 9.86	699.73	699.72	N 11.51	E 12.80	23.43	7.40	-0.14	0.98	3.27
800.00	799.36	N 9.52	E 3.13	799.41	799.40	N 11.96	E 12.80	75.77	9.98	2.13	1.27	6.38
900.00	897.66	N 26.88	W 1.48	898.11	898.09	N 13.06	E 11.69	135.76	19.10	10.83	2.31	12.99
1000.00	993.04	N 56.29	W 6.51	994.42	994.36	N 14.77	E 9.47	158.40	44.50	35.85	5.14	19.45
1100.00	1083.80	N 96.58	W 17.50	1088.43	1088.28	N 18.04	E 7.53	162.59	82.56	73.56	9.18	25.40
1200.00	1168.25	N 144.79	W 40.37	1182.59	1181.97	N 24.10	E 0.76	162.72	128.24	118.95	13.81	28.91
1300.00	1246.35	N 196.27	W 75.56	1281.78	1279.38	N 33.17	W 15.33	161.78	176.98	167.27	18.22	28.89
1400.00	1319.38	N 250.27	W 117.35	1383.07	1376.68	N 48.36	W 38.94	160.42	224.05	212.52	19.42	28.30
1500.00	1387.67	N 308.18	W 161.84	1481.05	1469.10	N 66.42	W 65.96	160.04	272.52	259.05	20.23	30.03
1600.00	1450.17	N 368.64	W 211.15	1580.77	1561.29	N 87.30	W 97.69	159.81	323.06	307.43	20.67	30.75
1700.00	1506.43	N 430.46	W 265.99	1687.03	1657.04	N 113.41	W 135.59	159.03	374.44	356.45	20.81	31.34
1800.00	1557.86	N 494.12	W 323.44	1799.24	1754.66	N 145.61	W 180.54	157.98	424.98	404.35	20.60	29.20
1900.00	1608.67	N 558.94	W 380.15	1894.44	1835.21	N 175.56	W 221.49	157.48	472.73	449.30	20.18	28.42
2000.00	1659.78	N 625.70	W 434.28	1988.04	1913.87	N 205.85	W 262.17	157.52	520.06	493.87	19.86	28.05
2100.00	1710.77	N 693.09	W 487.76	2079.44	1990.33	N 236.17	W 302.04	157.64	566.94	538.06	19.63	27.94
2200.00	1761.92	N 761.24	W 540.09	2170.23	2066.26	N 266.95	W 341.16	157.74	613.61	582.11	19.48	27.61
2300.00	1812.98	N 828.09	W 594.15	2260.45	2141.75	N 298.19	W 379.43	157.45	659.54	625.43	19.34	27.14
2400.00	1863.86	N 893.01	W 650.69	2350.38	2217.16	N 329.93	W 416.74	156.80	704.71	667.93	19.16	27.14
2500.00	1913.84	N 956.69	W 709.40	2440.11	2292.57	N 362.21	W 453.12	156.09	750.02	710.43	18.95	27.91
2600.00	1963.01	N 1020.19	W 768.98	2530.44	2368.39	N 394.83	W 489.81	155.29	795.83	753.40	18.76	27.70
2700.00	2011.83	N 1083.22	W 829.35	2621.69	2444.75	N 427.70	W 527.42	154.56	841.60	796.25	18.56	27.97
2800.00	2059.52	N 1145.61	W 891.25	2714.69	2522.37	N 461.59	W 565.87	153.79	887.69	839.02	18.24	28.43
2900.00	2106.61	N 1207.71	W 953.91	2806.46	2598.74	N 495.55	W 603.76	152.98	933.78	881.94	18.01	28.28
3000.00	2153.33	N 1269.76	W 1016.89	2893.77	2671.41	N 528.15	W 639.53	152.26	980.20	925.22	17.83	28.71
3100.00	2199.93	N 1331.78	W 1080.00	2980.95	2744.06	N 560.89	W 674.87	151.53	1026.88	969.04	17.75	28.71
3200.00	2246.67	N 1393.84	W 1142.96	3068.98	2817.52	N 594.26	W 710.09	150.84	1073.58	1013.01	17.72	28.74
3300.00	2293.34	N 1456.06	W 1205.81	3156.83	2890.91	N 627.94	W 744.69	150.19	1120.49	1057.05	17.66	28.90
3400.00	2339.99	N 1517.87	W 1269.08	3245.37	2964.95	N 662.28	W 779.02	149.47	1167.37	1100.89	17.56	28.93
3500.00	2386.73	N 1579.60	W 1332.37	3334.72	3039.67	N 697.40	W 813.16	148.82	1214.16	1144.62	17.46	29.00
3600.00	2433.22	N 1641.57	W 1395.59	3423.90	3114.26	N 732.93	W 846.74	148.19	1261.22	1188.65	17.38	28.95
3700.00	2480.40	N 1703.96	W 1457.90	3514.37	3189.91	N 769.47	W 880.30	147.61	1307.78	1232.22	17.31	28.37
3800.00	2528.19	N 1767.19	W 1518.87	3606.72	3267.07	N 807.44	W 913.98	147.12	1353.87	1275.19	17.21	28.08
3900.00	2576.06	N 1830.51	W 1579.69	3699.21	3344.24	N 846.19	W 947.10	146.59	1399.71	1317.82	17.09	28.04
4000.00	2623.84	N 1893.92	W 1640.49	3795.38	3424.31	N 887.30	W 980.95	146.11	1445.35	1360.13	16.96	27.98
4100.00	2671.46	N 1957.90	W 1700.81	3890.95	3503.64	N 929.06	W 1014.05	145.61	1490.86	1402.45	16.86	27.80
4200.00	2719.06	N 2021.67	W 1761.37	3980.20	3577.64	N 968.87	W 1044.16	145.07	1536.21	1444.60	16.77	28.19
4300.00	2766.54	N 2085.26	W 1822.21	4073.76	3655.14	N 1011.32	W 1074.90	144.53	1581.60	1486.70	16.67	28.00
4400.00	2814.36	N 2149.55	W 1882.04	4169.56	3734.27	N 1055.35	W 1106.16	144.13	1626.50	1528.43	16.59	27.33
4500.00	2862.39	N 2214.35	W 1941.15	4259.73	3808.58	N 1097.31	W 1135.25	143.66	1671.09	1569.75	16.49	27.45
4600.00	2910.49	N 2279.08	W 2000.29	4348.00	3881.34	N 1138.85	W 1163.07	143.23	1715.69	1611.16	16.41	27.37
4700.00	2958.81	N 2343.91	W 2059.12	4438.60	3955.98	N 1181.88	W 1191.08	142.83	1760.16	1652.57	16.36	27.38
4800.00	3007.00	N 2408.93	W 2117.86	4530.68	4031.76	N 1225.75	W 1219.57	142.37	1804.70	1694.19	16.33	27.29
4900.00	3055.24	N 2473.53	W 2177.02	4622.87	4107.53	N 1269.80	W 1248.16	141.91	1849.07	1735.59	16.29	27.29
5000.00	3103.54	N 2537.80	W 2236.49	4715.09	4183.22	N 1314.17	W 1276.57	141.55	1893.26	1776.87	16.27	27.32
5100.00	3151.32	N 2602.31	W 2296.11	4801.95	4254.41	N 1356.30	W 1303.05	141.07	1937.93	1818.59	16.24	27.94
5200.00	3198.79	N 2666.67	W 2356.15	4872.01	4312.08	N 1390.04	W 1324.13	140.79	1983.50	1861.57	16.27	28.44
5300.00	3246.21	N 2731.22	W 2416.02	4936.92	4365.85	N 1420.87	W 1343.41	140.51	2030.05	1905.64	16.32	28.93
5400.00	3294.14	N 2796.08	W 2475.15	4993.01	4412.77	N 1446.83	W 1359.87	140.32	2077.41	1950.78	16.40	29.23
5500.00	3342.23	N 2860.99	W 2534.08	5049.95	4460.89	N 1472.42	W 1376.37	140.11	2125.99	1997.03	16.49	30.02
5600.00	3390.69	N 2924.72	W 2594.00	5116.75	4517.71	N 1502.17	W 1395.03	139.82	2175.17	2043.77	16.55	30.73
5700.00	3438.73	N 2988.26	W 2654.46	5186.68	4577.47	N 1533.36	W 1413.65	139.54	2225.55	2091.64	16.62	31.69
5800.00	3486.13	N 3052.12	W 2715.08	5262.61	4642.56	N 1566.77	W 1433.95	139.23	2277.04	2140.58	16.69	31.59
5900.00	3534.74	N 3116.01	W 2774.71	5329.38	4700.00	N 1595.71	W 1451.84	138.98	2327.90	2189.17	16.78	31.00
6000.00	3584.66	N 3179.17	W 2834.02	5391.94	4754.10	N 1622.70	W 1467.95	138.75	2378.31	2237.34	16.87	31.42
6100.00	3634.71	N 3242.08	W 2893.49	5454.12	4808.13	N 1649.36	W 1483.30	138.52	2429.47	2286.18	16.96	31.54
6200.00	3685.47	N 3304.14	W 2953.26	5515.96	4862.14	N 1675.60	W 1498.10	138.29	2480.76	2335.06	17.03	32.39
6300.00	3735.42	N 3366.25	W 3013.65	5570.02	4909.59	N 1698.25	W 1510.64	138.10	2533.76	2385.69	17.11	33.63
6400.00	3784.67	N 3428.43	W 3074.54	5619.95	4953.73	N 1718.71	W 1521.88	137.93	2588.56	2438.16	17.21	34.59
6500.00	3834.14	N 3489.65	W 3136.23	5669.04	4997.42	N 1738.38	W 1532.59	137.79	2644.20	2491.48	17.31	35.21
6600.00	3883.91	N 3550.40	W 3198.13	5717.40	5040.71	N 1757.33	W 1542.82	137.55	2700.62	2545.70	17.43	35.68
6700.00	3933.86	N 3611.52	W 3259.53	5765.06	5083.65	N 1775.57	W 1552.58	137.33	2757.97	2600.85	17.55	36.27

6800.00	3983.65	N 3672.82	W 3320.87	5811.87	5126.05	N 1793.08	W 1561.86	137.16	2816.49	2657.13	17.67	37.08	
6900.00	4033.40	N 3734.05	W 3382.32	5857.85	5167.94	N 1809.88	W 1570.68	137.03	2876.05	2714.45	17.80	37.47	
7000.00	4084.16	N 3794.19	W 3444.02	5903.38	5209.63	N 1826.12	W 1579.12	136.94	2935.62	2771.78	17.92	37.48	
7100.00	4136.13	N 3853.17	W 3505.82	5948.56	5251.20	N 1841.84	W 1587.21	136.77	2994.98	2829.01	18.04	37.27	
7200.00	4189.58	N 3911.45	W 3567.03	6008.16	5306.27	N 1862.20	W 1597.46	136.51	3053.79	2885.70	18.17	36.70	
7300.00	4244.39	N 3969.03	W 3627.69	6074.78	5367.90	N 1885.00	W 1608.45	136.27	3111.72	2941.48	18.28	36.32	
7400.00	4300.22	N 4025.77	W 3688.22	6141.35	5429.54	N 1907.86	W 1618.93	136.04	3169.05	2996.69	18.39	36.06	
7500.00	4357.05	N 4081.79	W 3748.49	6207.88	5491.20	N 1930.76	W 1628.90	135.76	3225.81	3051.33	18.49	35.75	
7600.00	4414.86	N 4137.33	W 3808.26	6274.48	5552.99	N 1953.69	W 1638.46	135.48	3282.02	3105.42	18.58	35.38	
7700.00	4473.46	N 4192.08	W 3868.00	6340.95	5614.74	N 1976.51	W 1647.67	135.32	3337.84	3159.05	18.67	35.48	
7800.00	4532.63	N 4245.65	W 3928.24	6407.10	5676.27	N 1999.15	W 1656.48	135.12	3393.47	3212.50	18.75	35.46	
7900.00	4592.68	N 4298.30	W 3988.43	6473.16	5737.78	N 2021.68	W 1664.94	134.86	3448.60	3265.47	18.83	35.19	
8000.00	4653.69	N 4350.07	W 4048.40	6539.20	5799.35	N 2044.15	W 1673.05	134.59	3503.16	3317.88	18.91	34.92	
8095.00	4712.54	N 4398.47	W 4105.14	6600.93	5856.97	N 2065.08	W 1680.32	134.34	3554.46	3367.21	18.98	34.70	
Field: Lobitos													
Structure: Platform LO16 (WGS84)													
Slot: Slot #18													
Well: Well LO16-18													
Borehole: Borehole LO16-18													
Trajectory: LO16-18 SS Survey													
Type: DEF SVY													
Coordinate System: UTM Zone 17S - WGS84, Meters													
Reference Point:													
Northing (m)		Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)			
N 9505994.720		E 459459.520		50.00 above MSL		0.000		0.000		2.500			
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma													
Surveying Prog:													
MD From (ft)		MD To (ft)		EOU Freq		Survey Tool Type							
0.00		6738.00		Act-Stns		SLB_MWD-STD							
Subject Trajectory													
				Offset Trajectory				Ct-Ct		EOU		Sep	Inter.
MD (ft)	TVD (ft)	NS (ft)	EW (ft)	MD (ft)	TVD (ft)	NS (ft)	EW (ft)	TC Azim	Dist (ft)	Dist (ft)	Factor	Angle	
Major EOU radii used. All local minima indicated.													
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft													
400.00	399.92	S 0.00	E 7.07	400.01	399.87	N 18.62	E 16.63	27.18	20.94	13.95	2.99	4.14	
500.00	499.88	S 0.00	E 9.64	499.68	499.41	N 21.18	E 12.21	6.95	21.34	14.14	2.97	4.34	
600.00	599.86	N 0.49	E 11.64	599.23	598.76	N 24.29	E 6.82	348.59	24.31	16.90	3.28	4.47	
700.00	699.74	N 4.72	E 9.86	698.90	698.16	N 27.97	E 0.44	337.91	25.13	17.49	3.29	1.69	
800.00	799.36	N 9.52	E 3.13	798.64	797.54	N 32.22	W 6.91	336.12	24.89	16.99	3.15	3.55	
900.00	897.66	N 26.88	W 1.48	897.49	895.92	N 37.00	W 15.16	306.64	17.11	8.86	2.07	11.14	
1000.00	993.04	N 56.29	W 6.51	994.53	992.40	N 42.88	W 23.76	234.23	21.86	13.19	2.52	16.61	
1100.00	1083.80	N 96.58	W 17.50	1089.17	1086.37	N 50.09	W 32.40	200.40	48.89	39.88	5.43	22.39	
1200.00	1168.25	N 144.79	W 40.37	1180.67	1177.08	N 58.62	W 40.87	183.58	86.62	77.34	9.33	27.98	
1300.00	1246.35	N 196.27	W 75.56	1267.51	1263.01	N 67.73	W 49.45	172.44	132.23	122.57	13.69	32.63	
1400.00	1319.38	N 250.27	W 117.35	1354.65	1349.02	N 77.50	W 59.45	165.02	184.61	173.16	16.13	34.57	
1500.00	1387.67	N 308.18	W 161.84	1452.26	1444.49	N 93.64	W 71.52	159.75	239.60	226.21	17.89	35.82	
1600.00	1450.17	N 368.64	W 211.15	1543.83	1532.75	N 116.55	W 79.77	154.98	296.02	280.47	19.04	38.62	
1700.00	1506.43	N 430.46	W 265.99	1624.68	1610.13	N 138.74	W 87.21	151.12	357.52	339.66	20.02	42.21	
1800.00	1557.86	N 494.12	W 323.44	1704.54	1686.06	N 162.48	W 94.04	147.30	423.14	403.00	21.01	43.60	
1900.00	1608.67	N 558.94	W 380.15	1785.02	1761.82	N 189.15	W 99.13	143.40	489.06	467.05	22.22	42.52	
2000.00	1659.78	N 625.70	W 434.28	1866.81	1837.95	N 218.84	W 102.64	140.73	554.32	530.26	23.04	41.95	
2100.00	1710.77	N 693.09	W 487.76	1949.54	1914.14	N 250.95	W 105.14	138.39	619.07	592.98	23.73	41.14	
2200.00	1761.92	N 761.24	W 540.09	2027.90	1985.46	N 283.39	W 106.02	136.77	683.18	655.02	24.26	41.56	
2300.00	1812.98	N 828.09	W 594.15	2125.86	2072.86	N 327.56	W 104.00	134.71	747.21	716.80	24.57	41.29	
2400.00	1863.86	N 893.01	W 650.69	2284.99	2209.70	N 408.45	W 109.12	131.29	804.80	771.23	23.97	36.40	
2500.00	1913.84	N 956.69	W 709.40	2414.90	2319.04	N 477.14	W 123.08	128.98	859.02	822.21	23.33	33.61	
2600.00	1963.01	N 1020.19	W 768.98	2533.63	2416.64	N 542.29	W 141.03	127.27	910.22	870.05	22.66	31.87	
2700.00	2011.83	N 1083.22	W 829.35	2650.68	2509.70	N 611.02	W 158.72	125.39	959.48	916.72	22.44	31.91	
2800.00	2059.52	N 1145.61	W 891.25	2785.90	2611.94	N 697.20	W 178.72	122.92	1006.95	959.95	21.43	31.50	
2900.00	2106.61	N 1207.71	W 953.91	2901.81	2695.17	N 775.88	W 196.48	120.84	1051.94	1001.32	20.78	31.07	
3000.00	2153.33	N 1269.76	W 1016.89	2992.30	2758.13	N 839.49	W 209.82	119.16	1096.48	1042.54	20.33	31.76	
3100.00	2199.93	N 1331.78	W 1080.00	3071.82	2813.00	N 896.03	W 220.55	117.78	1142.10	1086.02	20.37	32.31	
3200.00	2246.67	N 1393.84	W 1142.96	3148.00	2865.26	N 950.67	W 229.86	116.51	1188.62	1129.88	20.24	32.93	
3300.00	2293.34	N 1456.06	W 1205.81	3217.99	2913.12	N 1001.20	W 237.26	115.33	1236.57	1175.05	20.10	33.99	
3400.00	2339.99	N 1517.87	W 1269.08	3295.92	2966.25	N 1057.77	W 244.33	114.03	1286.08	1221.56	19.93	34.61	

3500.00	2386.73	N 1579.60	W 1332.37	3377.99	3022.00	N 1117.55	W 251.63	112.74	1336.06	1268.50	19.78	34.66
3600.00	2433.22	N 1641.57	W 1395.59	3454.40	3073.87	N 1173.29	W 258.10	111.65	1386.94	1316.40	19.66	34.70
3700.00	2480.40	N 1703.96	W 1457.90	3530.30	3125.39	N 1228.70	W 264.11	110.79	1437.71	1364.34	19.60	34.06
3800.00	2528.19	N 1767.19	W 1518.87	3595.29	3169.57	N 1276.15	W 268.61	110.08	1488.50	1412.43	19.57	34.27
3900.00	2576.06	N 1830.51	W 1579.69	3660.68	3214.12	N 1323.87	W 272.25	109.29	1540.52	1461.60	19.52	35.12
4000.00	2623.84	N 1893.92	W 1640.49	3733.91	3263.79	N 1377.59	W 275.45	108.40	1593.57	1511.66	19.46	35.44
4100.00	2671.46	N 1957.90	W 1700.81	3807.85	3313.50	N 1432.26	W 277.86	107.58	1647.21	1562.34	19.41	35.82
4200.00	2719.06	N 2021.67	W 1761.37	3882.26	3363.08	N 1487.73	W 279.58	106.68	1701.63	1613.70	19.35	36.76
4300.00	2766.54	N 2085.26	W 1822.21	3948.69	3406.93	N 1537.62	W 280.48	105.97	1756.97	1666.09	19.33	37.23
4400.00	2814.36	N 2149.55	W 1882.04	4004.07	3443.09	N 1579.57	W 280.17	105.49	1812.77	1719.20	19.37	37.13
4500.00	2862.39	N 2214.35	W 1941.15	4060.63	3479.60	N 1622.74	W 278.71	104.87	1869.41	1772.32	19.25	38.41
4600.00	2910.49	N 2279.08	W 2000.29	4134.74	3527.15	N 1679.51	W 276.07	104.16	1926.84	1826.86	19.27	38.36
4700.00	2958.81	N 2343.91	W 2059.12	4207.72	3573.86	N 1735.52	W 273.20	103.38	1984.43	1881.58	19.30	38.35
4800.00	3007.00	N 2408.93	W 2117.86	4277.12	3618.33	N 1788.71	W 270.23	102.74	2042.58	1936.98	19.34	38.83
4900.00	3055.24	N 2473.53	W 2177.02	4345.98	3662.59	N 1841.37	W 267.03	102.10	2101.56	1993.22	19.40	39.43
5000.00	3103.54	N 2537.80	W 2236.49	4414.47	3706.72	N 1893.64	W 263.61	101.38	2161.26	2050.29	19.48	39.15
5100.00	3151.32	N 2602.31	W 2296.11	4475.57	3746.21	N 1940.15	W 260.32	100.74	2221.89	2108.21	19.54	40.55
5200.00	3198.79	N 2666.67	W 2356.15	4529.06	3780.96	N 1980.67	W 257.00	100.24	2283.84	2167.58	19.64	40.77
5300.00	3246.21	N 2731.22	W 2416.02	4581.79	3815.39	N 2020.44	W 253.28	99.87	2346.62	2227.82	19.75	41.20
5400.00	3294.14	N 2796.08	W 2475.15	4651.60	3861.26	N 2072.79	W 247.91	99.52	2409.43	2287.97	19.84	40.56
5500.00	3342.23	N 2860.99	W 2534.08	4737.07	3917.97	N 2136.44	W 241.86	98.99	2471.99	2347.62	19.88	40.51
5600.00	3390.69	N 2924.72	W 2594.00	4798.11	3958.81	N 2181.62	W 237.76	98.68	2535.12	2408.03	19.95	41.41
5700.00	3438.73	N 2988.26	W 2654.46	4848.65	3992.75	N 2218.88	W 233.94	98.09	2599.58	2469.87	20.04	42.25
5800.00	3486.13	N 3052.12	W 2715.08	4898.24	4026.14	N 2255.31	W 229.75	97.84	2665.21	2532.95	20.15	42.42
5900.00	3534.74	N 3116.01	W 2774.71	4947.50	4059.39	N 2291.37	W 225.18	98.11	2730.46	2595.79	20.27	42.24
6000.00	3584.66	N 3179.17	W 2834.02	4995.13	4091.56	N 2326.14	W 220.31	97.97	2795.72	2658.59	20.39	42.80
6100.00	3634.71	N 3242.08	W 2893.49	5045.73	4125.73	N 2363.03	W 214.63	97.98	2861.83	2722.17	20.49	43.31
6200.00	3685.47	N 3304.14	W 2953.26	5121.90	4175.68	N 2419.76	W 205.24	97.40	2928.15	2785.62	20.54	44.45
6300.00	3735.42	N 3366.25	W 3013.65	5195.79	4221.76	N 2476.62	W 195.20	96.51	2995.26	2849.88	20.60	45.47
6400.00	3784.67	N 3428.43	W 3074.54	5267.36	4264.10	N 2533.35	W 184.64	95.88	3063.10	2914.92	20.67	46.69
6500.00	3834.14	N 3489.65	W 3136.23	5320.15	4294.00	N 2576.05	W 176.31	95.66	3131.65	2980.74	20.75	47.91
6600.00	3883.91	N 3550.40	W 3198.13	5361.22	4317.17	N 2609.27	W 169.48	95.31	3200.96	3047.48	20.86	48.02
6700.00	3933.86	N 3611.52	W 3259.53	5401.90	4340.16	N 2642.08	W 162.40	94.92	3270.64	3114.61	20.96	48.21
6800.00	3983.65	N 3672.82	W 3320.87	5441.95	4362.83	N 2674.27	W 155.13	94.46	3341.07	3182.46	21.06	48.67
6900.00	4033.40	N 3734.05	W 3382.32	5481.26	4385.14	N 2705.78	W 147.70	94.41	3412.30	3251.12	21.17	49.27
7000.00	4084.16	N 3794.19	W 3444.02	5519.71	4406.99	N 2736.51	W 140.16	94.72	3484.02	3320.30	21.28	49.97
7100.00	4136.13	N 3853.17	W 3505.82	5557.39	4428.43	N 2766.52	W 132.49	95.03	3556.06	3389.90	21.40	50.28
7200.00	4189.58	N 3911.45	W 3567.03	5594.68	4449.68	N 2796.14	W 124.65	95.34	3627.88	3459.36	21.53	50.31
7300.00	4244.39	N 3969.03	W 3627.69	5631.56	4470.74	N 2825.35	W 116.64	95.56	3699.56	3528.70	21.65	50.63
7400.00	4300.22	N 4025.77	W 3688.22	5667.83	4491.47	N 2853.98	W 108.51	95.75	3771.47	3598.29	21.78	51.06
7500.00	4357.05	N 4081.79	W 3748.49	5703.56	4511.92	N 2882.09	W 100.26	95.87	3843.54	3668.07	21.90	51.24
7600.00	4414.86	N 4137.33	W 3808.26	5738.90	4532.17	N 2909.82	W 91.88	95.97	3915.62	3737.89	22.03	51.37
7700.00	4473.46	N 4192.08	W 3868.00	5773.61	4552.08	N 2936.95	W 83.42	96.13	3988.06	3808.01	22.15	52.23
7800.00	4532.63	N 4245.65	W 3928.24	5807.38	4571.47	N 2963.28	W 74.97	96.32	4061.24	3878.91	22.27	52.94
7900.00	4592.68	N 4298.30	W 3988.43	5840.53	4590.53	N 2989.04	W 66.47	96.55	4134.72	3950.11	22.40	53.31
8000.00	4653.69	N 4350.07	W 4048.40	5873.14	4609.29	N 3014.30	W 57.92	96.77	4208.34	4021.50	22.52	53.68
8095.00	4712.54	N 4398.47	W 4105.14	5903.64	4626.86	N 3037.86	W 49.74	96.98	4278.42	4089.48	22.65	54.00
Field:	Lobitos			Well:		Well LO16-19						
Structure:	Platform LO16 (WGS84)			Borehole:		Borehole LO16-19						
Slot:	Slot #19			Trajectory:		LO16-19 SS Survey						
				Type:		DEF SVY						
Coordinate System:	UTM Zone 17S - WGS84, Meters											
Reference Point:												
Northing (m)	Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)			
N 9505993.660	E 459460.560		50.00 above MSL		0.000		0.000		2.500			
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma												
Surveying Prog:												
MD From (ft)		MD To (ft)		EOU Freq		Survey Tool Type						
0.00		8550.00		Act-Stns		SLB_MWD-STD						
Subject Trajectory												
Offset Trajectory												
MD (ft)		TVD (ft)		NS (ft)		EW (ft)		TC Azim	Dist (ft)	EOU	Sep	Inter.
									Dist (ft)	Factor	Angle	

Major EOU radii used. All local minima indicated.												
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft												
400.00	399.92	S 0.00	E 7.07	399.54	399.53	N 11.98	E 30.56	62.98	26.37	19.54	3.86	1.00
500.00	499.88	S 0.00	E 9.64	499.50	499.48	N 12.75	E 32.00	60.30	25.74	18.72	3.67	0.60
600.00	599.86	N 0.49	E 11.64	599.62	599.59	N 13.47	E 33.13	58.86	25.11	17.83	3.45	1.29
700.00	699.74	N 4.72	E 9.86	699.64	699.60	N 14.07	E 33.76	68.58	25.67	18.12	3.40	3.18
800.00	799.36	N 9.52	E 3.13	799.41	799.37	N 14.56	E 33.89	80.55	31.17	23.33	3.97	6.57
900.00	897.66	N 26.88	W 1.48	898.14	898.09	N 15.82	E 33.52	107.02	36.71	28.46	4.45	12.79
1000.00	993.04	N 56.29	W 6.51	994.24	994.16	N 17.75	E 32.77	132.87	55.03	46.38	6.36	19.75
1100.00	1083.80	N 96.58	W 17.50	1086.57	1086.47	N 19.66	E 31.87	145.86	91.44	82.45	10.17	26.73
1200.00	1168.25	N 144.79	W 40.37	1181.64	1181.30	N 25.62	E 29.61	149.53	138.81	129.54	14.97	30.33
1300.00	1246.35	N 196.27	W 75.56	1270.59	1269.45	N 37.40	E 30.01	147.05	192.14	182.47	19.87	35.17
1400.00	1319.38	N 250.27	W 117.35	1358.85	1356.07	N 53.87	E 33.60	142.49	250.41	238.94	21.82	37.62
1500.00	1387.67	N 308.18	W 161.84	1454.70	1448.69	N 78.09	E 37.79	138.26	310.66	297.26	23.17	38.70
1600.00	1450.17	N 368.64	W 211.15	1542.14	1531.87	N 104.86	E 40.72	135.54	373.75	358.21	24.05	42.05
1700.00	1506.43	N 430.46	W 265.99	1619.70	1604.71	N 131.31	E 43.92	132.47	441.81	423.97	24.77	45.94
1800.00	1557.86	N 494.12	W 323.44	1694.87	1674.48	N 159.01	E 47.74	129.63	513.50	493.49	25.66	47.09
1900.00	1608.67	N 558.94	W 380.15	1770.53	1743.80	N 188.98	E 52.32	126.84	584.95	563.18	26.86	45.61
2000.00	1659.78	N 625.70	W 434.28	1848.43	1814.20	N 221.88	E 57.84	125.06	655.06	631.35	27.63	44.90
2100.00	1710.77	N 693.09	W 487.76	1922.79	1880.47	N 255.02	E 63.94	123.50	724.62	698.95	28.22	44.31
2200.00	1761.92	N 761.24	W 540.09	1997.14	1945.94	N 289.53	E 71.03	122.54	793.63	765.91	28.63	44.48
2300.00	1812.98	N 828.09	W 594.15	2071.45	2010.60	N 325.29	E 78.96	121.86	863.10	833.17	28.85	45.39
2400.00	1863.86	N 893.01	W 650.69	2144.19	2073.12	N 361.49	E 87.46	121.02	933.36	901.05	28.89	46.76
2500.00	1913.84	N 956.69	W 709.40	2214.08	2132.46	N 397.32	E 96.32	119.60	1004.92	969.88	28.68	48.06
2600.00	1963.01	N 1020.19	W 768.98	2282.62	2189.96	N 433.43	E 105.70	118.27	1077.44	1039.73	28.57	48.39
2700.00	2011.83	N 1083.22	W 829.35	2353.47	2248.62	N 471.78	E 116.02	117.01	1150.50	1109.91	28.34	49.43
2800.00	2059.52	N 1145.61	W 891.25	2423.56	2305.87	N 510.79	E 126.70	115.65	1224.71	1180.60	27.77	50.57
2900.00	2106.61	N 1207.71	W 953.91	2481.49	2352.68	N 543.67	E 135.89	114.52	1299.68	1253.20	27.96	50.99
3000.00	2153.33	N 1269.76	W 1016.89	2531.26	2392.97	N 571.69	E 144.15	113.55	1375.77	1326.64	28.00	51.85
3100.00	2199.93	N 1331.78	W 1080.00	2580.96	2433.36	N 599.35	E 152.70	112.74	1452.75	1400.83	27.98	52.17
3200.00	2246.67	N 1393.84	W 1142.96	2630.20	2473.58	N 626.40	E 161.38	111.95	1530.28	1476.29	28.34	52.45
3300.00	2293.34	N 1456.06	W 1205.81	2678.62	2513.33	N 652.64	E 170.13	111.30	1608.44	1552.76	28.89	52.93
3400.00	2339.99	N 1517.87	W 1269.08	2733.10	2558.23	N 681.82	E 180.16	110.79	1687.27	1629.27	29.09	53.25
3500.00	2386.73	N 1579.60	W 1332.37	2791.74	2606.65	N 713.08	E 190.92	110.03	1766.25	1705.97	29.30	53.25
3600.00	2433.22	N 1641.57	W 1395.59	2837.93	2644.72	N 737.74	E 199.64	109.41	1845.65	1782.96	29.44	53.53
3700.00	2480.40	N 1703.96	W 1457.90	2883.76	2682.29	N 762.34	E 208.80	108.79	1924.91	1859.29	29.33	53.09
3800.00	2528.19	N 1767.19	W 1518.87	2936.91	2725.53	N 791.15	E 219.96	108.13	2003.78	1935.53	29.36	52.90
3900.00	2576.06	N 1830.51	W 1579.69	2992.99	2770.71	N 822.03	E 232.24	107.70	2082.79	2012.40	29.59	53.22
4000.00	2623.84	N 1893.92	W 1640.49	3047.06	2813.88	N 852.21	E 244.47	106.89	2162.02	2089.75	29.92	53.26
4100.00	2671.46	N 1957.90	W 1700.81	3100.17	2856.11	N 881.97	E 256.75	106.41	2241.38	2166.76	30.04	53.35
4200.00	2719.06	N 2021.67	W 1761.37	3152.58	2897.66	N 911.44	E 269.12	106.15	2321.08	2244.07	30.14	54.00
4300.00	2766.54	N 2085.26	W 1822.21	3198.75	2934.22	N 937.35	E 280.20	105.69	2401.24	2321.94	30.28	54.04
4400.00	2814.36	N 2149.55	W 1882.04	3243.78	2970.06	N 962.34	E 291.13	104.95	2481.21	2399.79	30.47	53.25
4500.00	2862.39	N 2214.35	W 1941.15	3322.57	3032.98	N 1005.79	E 310.14	104.69	2560.87	2476.92	30.51	53.04
4600.00	2910.49	N 2279.08	W 2000.29	3413.69	3105.75	N 1056.42	E 331.18	104.28	2639.85	2553.35	30.52	52.10
4700.00	2958.81	N 2343.91	W 2059.12	3444.20	3130.12	N 1073.37	E 338.23	103.94	2718.62	2629.96	30.66	52.62
4800.00	3007.00	N 2408.93	W 2117.86	3473.83	3153.79	N 1089.70	E 345.38	104.02	2798.11	2707.33	30.82	53.44
4900.00	3055.24	N 2473.53	W 2177.02	3502.45	3176.65	N 1105.34	E 352.57	104.14	2878.45	2785.50	30.97	54.36
5000.00	3103.54	N 2537.80	W 2236.49	3531.95	3200.22	N 1121.33	E 360.26	103.48	2959.54	2864.50	31.14	54.59
5100.00	3151.32	N 2602.31	W 2296.11	3568.33	3229.58	N 1140.58	E 369.81	103.68	3041.37	2944.12	31.27	55.79
5200.00	3198.79	N 2666.67	W 2356.15	3612.37	3265.64	N 1163.11	E 381.26	103.21	3123.87	3024.42	31.41	55.75
5300.00	3246.21	N 2731.22	W 2416.02	3647.71	3294.85	N 1180.78	E 390.36	103.16	3206.56	3104.99	31.57	55.98
5400.00	3294.14	N 2796.08	W 2475.15	3680.69	3322.36	N 1196.86	E 398.90	103.08	3289.14	3185.47	31.73	55.72
5500.00	3342.23	N 2860.99	W 2534.08	3715.49	3351.62	N 1213.38	E 407.95	103.34	3371.98	3266.09	31.84	56.28
5600.00	3390.69	N 2924.72	W 2594.00	3770.84	3398.12	N 1239.64	E 422.51	103.84	3455.27	3346.86	31.87	56.72
5700.00	3438.73	N 2988.26	W 2654.46	3825.51	3443.75	N 1265.97	E 437.11	103.31	3538.94	3428.01	31.90	57.19
5800.00	3486.13	N 3052.12	W 2715.08	3869.53	3480.26	N 1287.47	E 449.05	103.10	3622.94	3509.59	31.96	57.06
5900.00	3534.74	N 3116.01	W 2774.71	3903.39	3508.17	N 1304.14	E 458.51	103.81	3706.38	3590.78	32.06	56.51
6000.00	3584.66	N 3179.17	W 2834.02	3937.11	3535.79	N 1320.86	E 468.22	104.02	3789.52	3671.64	32.15	56.79
6100.00	3634.71	N 3242.08	W 2893.49	3970.13	3562.68	N 1337.35	E 478.00	104.53	3873.00	3752.82	32.23	56.94
6200.00	3685.47	N 3304.14	W 2953.26	4002.54	3588.91	N 1353.64	E 487.86	104.59	3956.65	3834.10	32.29	57.76
6300.00	3735.42	N 3366.25	W 3013.65	4033.84	3614.08	N 1369.46	E 497.63	104.05	4041.16	3916.21	32.34	58.60
6400.00	3784.67	N 3428.43	W 3074.54	4068.57	3641.82	N 1387.16	E 508.75	104.12	4126.40	3998.95	32.38	59.32

6500.00	3834.14	N 3489.65	W 3136.23	4103.01	3669.09	N 1404.93	E 520.03	104.82	4212.07	4082.13	32.42	59.98
6600.00	3883.91	N 3550.40	W 3198.13	4136.79	3695.58	N 1422.55	E 531.35	104.47	4297.93	4165.63	32.49	59.97
6700.00	3933.86	N 3611.52	W 3259.53	4174.49	3724.91	N 1442.42	E 544.24	104.07	4383.76	4249.06	32.54	59.98
6800.00	3983.65	N 3672.82	W 3320.87	4216.78	3757.78	N 1464.70	E 558.80	103.69	4469.75	4332.56	32.58	60.17
6900.00	4033.40	N 3734.05	W 3382.32	4258.74	3790.39	N 1486.77	E 573.30	104.03	4555.90	4416.23	32.62	60.26
7000.00	4084.16	N 3794.19	W 3444.02	4300.84	3823.11	N 1508.87	E 587.90	104.99	4641.90	4499.77	32.66	60.25
7100.00	4136.13	N 3853.17	W 3505.82	4343.89	3856.66	N 1531.33	E 602.84	105.68	4727.60	4583.15	32.73	59.83
7200.00	4189.58	N 3911.45	W 3567.03	4387.71	3890.93	N 1554.02	E 618.03	106.18	4812.63	4665.93	32.81	59.16
7300.00	4244.39	N 3969.03	W 3627.69	4427.61	3922.25	N 1574.53	E 631.86	106.69	4897.06	4748.15	32.89	58.87
7400.00	4300.22	N 4025.77	W 3688.22	4460.23	3947.89	N 1591.17	E 643.23	107.24	4981.25	4830.20	32.98	58.80
7500.00	4357.05	N 4081.79	W 3748.49	4492.80	3973.53	N 1607.68	E 654.66	107.54	5065.18	4912.02	33.07	58.55
7600.00	4414.86	N 4137.33	W 3808.26	4514.47	3990.62	N 1618.58	E 662.34	107.86	5148.82	4993.64	33.18	58.37
7700.00	4473.46	N 4192.08	W 3868.00	4532.22	4004.64	N 1627.41	E 668.71	108.60	5232.50	5075.26	33.28	58.91
7800.00	4532.63	N 4245.65	W 3928.24	4549.53	4018.34	N 1635.91	E 675.00	109.30	5316.49	5157.21	33.38	59.28
7900.00	4592.68	N 4298.30	W 3988.43	4566.61	4031.88	N 1644.21	E 681.28	109.86	5400.44	5239.14	33.48	59.31
8000.00	4653.69	N 4350.07	W 4048.40	4583.52	4045.31	N 1652.34	E 687.57	110.39	5484.27	5320.97	33.58	59.33
8095.00	4712.54	N 4398.47	W 4105.14	4599.45	4057.98	N 1659.90	E 693.56	110.86	5563.79	5398.60	33.68	59.33
Field:	Lobitos			Well:			Well LO16-20					
Structure:	Platform LO16 (WGS84)			Borehole:			Borehole LO16-20					
Slot:	Slot #20			Trajectory:			LO16-20 MWD Survey					
				Type:			DEF SVY					
Coordinate System:				UTM Zone 17S - WGS84, Meters								
Reference Point:												
Northing (m)		Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)		
N 9505989.680		E 459460.680		50.00 above MSL		0.000		0.000		2.500		
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma												
Surveying Prog:												
MD From (ft)				MD To (ft)		EOU Freq		Survey Tool Type				
0.00				8809.00		Act-Stns		SLB_MWD-STD				
Subject Trajectory				Offset Trajectory								
MD (ft)	TVD (ft)	NS (ft)	EW (ft)	MD (ft)	TVD (ft)	NS (ft)	EW (ft)	TC Azim	Ct-Ct Dist (ft)	EOU Dist (ft)	Sep Factor	Inter. Angle
Major EOU radii used. All local minima indicated.												
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft												
400.00	399.92	S 0.00	E 7.07	400.00	399.99	S 4.72	E 27.07	103.28	20.55	13.71	3.00	2.13
500.00	499.88	S 0.00	E 9.64	499.91	499.89	S 5.99	E 26.38	109.68	17.78	10.77	2.54	1.76
600.00	599.86	N 0.49	E 11.64	599.81	599.76	S 8.45	E 25.99	121.92	16.91	9.66	2.33	4.13
700.00	699.74	N 4.72	E 9.86	698.94	698.67	S 13.96	E 22.86	145.20	22.78	15.24	3.02	7.08
800.00	799.36	N 9.52	E 3.13	797.21	796.23	S 23.88	E 16.75	157.95	36.21	28.34	4.60	13.12
900.00	897.66	N 26.88	W 1.48	889.37	887.09	S 37.69	E 9.96	169.83	66.42	58.14	8.02	23.94
1000.00	993.04	N 56.29	W 6.51	973.04	968.87	S 54.35	E 4.22	175.45	113.75	105.08	13.13	33.20
1100.00	1083.80	N 96.58	W 17.50	1046.61	1040.12	S 71.84	W 1.21	179.04	174.76	165.80	19.51	42.01
1200.00	1168.25	N 144.79	W 40.37	1109.02	1100.01	S 88.88	W 5.38	181.99	245.93	236.78	26.86	49.47
1300.00	1246.35	N 196.27	W 75.56	1162.01	1150.34	S 104.98	W 9.37	183.91	323.04	313.59	34.20	54.89
1400.00	1319.38	N 250.27	W 117.35	1206.03	1191.68	S 119.65	W 12.95	183.70	405.03	393.90	36.39	59.65
1500.00	1387.67	N 308.18	W 161.84	1245.73	1228.67	S 133.70	W 16.15	185.25	491.69	478.75	37.99	64.67
1600.00	1450.17	N 368.64	W 211.15	1284.45	1264.60	S 147.79	W 19.41	189.68	581.30	566.30	38.76	67.79
1700.00	1506.43	N 430.46	W 265.99	1317.49	1295.11	S 160.01	W 22.65	194.36	672.70	655.28	38.62	71.51
1800.00	1557.86	N 494.12	W 323.44	1344.76	1320.18	S 170.30	W 25.72	194.70	765.89	746.38	39.25	73.26
1900.00	1608.67	N 558.94	W 380.15	1370.02	1343.31	S 180.00	W 28.77	189.02	860.19	838.95	40.50	73.80
2000.00	1659.78	N 625.70	W 434.28	1391.28	1362.70	S 188.31	W 31.45	186.15	955.59	932.50	41.38	74.45
2100.00	1710.77	N 693.09	W 487.76	1410.12	1379.79	S 195.83	W 33.88	182.70	1051.54	1026.61	42.19	75.14
2200.00	1761.92	N 761.24	W 540.09	1427.23	1395.27	S 202.79	W 36.09	182.42	1147.96	1121.20	42.90	75.42
2300.00	1812.98	N 828.09	W 594.15	1443.86	1410.25	S 209.68	W 38.23	184.88	1244.28	1215.65	43.47	75.24
2400.00	1863.86	N 893.01	W 650.69	1462.20	1426.74	S 217.38	W 40.52	187.72	1340.28	1309.68	43.80	75.16
2500.00	1913.84	N 956.69	W 709.40	1482.50	1444.95	S 225.98	W 43.03	189.84	1436.17	1403.42	43.84	75.84
2600.00	1963.01	N 1020.19	W 768.98	1501.84	1462.29	S 234.23	W 45.41	188.98	1532.27	1497.36	43.90	75.95
2700.00	2011.83	N 1083.22	W 829.35	1521.09	1479.51	S 242.50	W 47.76	190.71	1628.42	1591.38	43.97	76.31
2800.00	2059.52	N 1145.61	W 891.25	1543.40	1499.44	S 252.13	W 50.51	192.67	1724.59	1685.04	43.60	76.73
2900.00	2106.61	N 1207.71	W 953.91	1565.37	1519.06	S 261.64	W 53.25	191.54	1820.83	1779.06	43.59	76.74
3000.00	2153.33	N 1269.76	W 1016.89	1587.04	1538.38	S 271.06	W 55.99	191.47	1917.19	1873.09	43.47	77.00
3100.00	2199.93	N 1331.78	W 1080.00	1608.60	1557.59	S 280.45	W 58.75	189.88	2013.67	1967.47	43.59	76.92
3200.00	2246.67	N 1393.84	W 1142.96	1629.59	1576.28	S 289.62	W 61.46	188.45	2110.24	2062.12	43.86	76.97

3300.00	2293.34	N 1456.06	W 1205.81	1650.08	1594.52	S 298.58	W 64.08	187.76	2206.96	2156.75	43.96	77.07
3400.00	2339.99	N 1517.87	W 1269.08	1670.59	1612.78	S 307.56	W 66.68	187.20	2303.65	2251.27	43.98	76.96
3500.00	2386.73	N 1579.60	W 1332.37	1691.03	1630.97	S 316.50	W 69.24	186.29	2400.39	2345.91	44.06	77.10
3600.00	2433.22	N 1641.57	W 1395.59	1711.13	1648.86	S 325.31	W 71.74	184.72	2497.29	2440.69	44.12	77.21
3700.00	2480.40	N 1703.96	W 1457.90	1731.93	1667.38	S 334.44	W 74.33	180.65	2594.29	2535.65	44.24	77.08
3800.00	2528.19	N 1767.19	W 1518.87	1752.65	1685.80	S 343.55	W 76.90	178.15	2691.49	2630.80	44.35	77.14
3900.00	2576.06	N 1830.51	W 1579.69	1773.27	1704.14	S 352.63	W 79.47	177.91	2788.73	2725.84	44.34	77.12
4000.00	2623.84	N 1893.92	W 1640.49	1793.69	1722.29	S 361.64	W 82.02	176.71	2886.03	2821.00	44.38	77.46
4100.00	2671.46	N 1957.90	W 1700.81	1813.59	1739.97	S 370.43	W 84.51	175.77	2983.49	2916.43	44.49	77.52
4200.00	2719.06	N 2021.67	W 1761.37	1833.57	1757.70	S 379.27	W 87.01	177.03	3080.94	3011.77	44.54	77.50
4300.00	2766.54	N 2085.26	W 1822.21	1853.94	1775.79	S 388.30	W 89.57	175.66	3178.39	3107.06	44.56	77.57
4400.00	2814.36	N 2149.55	W 1882.04	1874.14	1793.71	S 397.26	W 92.10	170.76	3275.95	3202.61	44.66	77.81
4500.00	2862.39	N 2214.35	W 1941.15	1894.13	1811.45	S 406.14	W 94.61	171.56	3373.60	3298.09	44.68	77.69
4600.00	2910.49	N 2279.08	W 2000.29	1914.16	1829.21	S 415.04	W 97.13	170.25	3471.23	3393.61	44.72	77.60
4700.00	2958.81	N 2343.91	W 2059.12	1934.23	1847.01	S 423.97	W 99.66	169.29	3568.86	3489.21	44.81	77.81
4800.00	3007.00	N 2408.93	W 2117.86	1954.03	1864.56	S 432.80	W 102.16	170.03	3666.56	3584.80	44.85	77.65
4900.00	3055.24	N 2473.53	W 2177.02	1974.02	1882.27	S 441.71	W 104.68	171.20	3764.19	3680.28	44.86	77.48
5000.00	3103.54	N 2537.80	W 2236.49	1994.18	1900.13	S 450.71	W 107.23	169.32	3861.76	3775.78	44.92	77.94
5100.00	3151.32	N 2602.31	W 2296.11	2013.76	1917.47	S 459.46	W 109.70	173.11	3959.45	3871.26	44.90	77.83
5200.00	3198.79	N 2666.67	W 2356.15	2033.13	1934.62	S 468.13	W 112.16	171.86	4057.17	3966.85	44.92	78.09
5300.00	3246.21	N 2731.22	W 2416.02	2052.31	1951.59	S 476.72	W 114.59	171.21	4154.94	4062.50	44.95	78.05
5400.00	3294.14	N 2796.08	W 2475.15	2071.62	1968.67	S 485.38	W 117.04	168.25	4252.70	4158.23	45.02	77.94
5500.00	3342.23	N 2860.99	W 2534.08	2090.12	1985.04	S 493.68	W 119.39	169.42	4350.47	4253.86	45.03	77.75
5600.00	3390.69	N 2924.72	W 2594.00	2108.72	2001.48	S 502.06	W 121.77	171.51	4447.99	4349.18	45.01	77.35
5700.00	3438.73	N 2988.26	W 2654.46	2127.04	2017.65	S 510.33	W 124.14	172.81	4545.56	4444.53	44.99	77.84
5800.00	3486.13	N 3052.12	W 2715.08	2144.67	2033.20	S 518.32	W 126.44	171.21	4643.28	4540.09	45.00	77.87
5900.00	3534.74	N 3116.01	W 2774.71	2162.97	2049.32	S 526.63	W 128.84	168.06	4740.87	4635.66	45.06	76.99
6000.00	3584.66	N 3179.17	W 2834.02	2182.38	2066.41	S 535.48	W 131.42	167.89	4838.16	4730.89	45.11	76.73
6100.00	3634.71	N 3242.08	W 2893.49	2201.89	2083.56	S 544.39	W 134.03	167.46	4935.39	4826.04	45.13	76.16
6200.00	3685.47	N 3304.14	W 2953.26	2222.16	2101.36	S 553.69	W 136.76	169.11	5032.39	4920.85	45.12	76.16
6300.00	3735.42	N 3366.25	W 3013.65	2241.05	2117.94	S 562.38	W 139.33	170.56	5129.53	5015.78	45.09	76.69
6400.00	3784.67	N 3428.43	W 3074.54	2257.62	2132.46	S 570.03	W 141.59	172.05	5226.82	5110.86	45.07	76.71
6500.00	3834.14	N 3489.65	W 3136.23	2274.56	2147.31	S 577.86	W 143.88	173.35	5323.92	5205.75	45.05	76.21
6600.00	3883.91	N 3550.40	W 3198.13	2291.70	2162.32	S 585.80	W 146.19	172.07	5420.92	5300.65	45.08	76.29
6700.00	3933.86	N 3611.52	W 3259.53	2308.61	2177.12	S 593.65	W 148.46	171.20	5518.00	5395.64	45.10	76.44
6800.00	3983.65	N 3672.82	W 3320.87	2325.19	2191.63	S 601.36	W 150.68	171.40	5615.17	5490.68	45.11	76.66
6900.00	4033.40	N 3734.05	W 3382.32	2341.61	2205.99	S 609.02	W 152.87	171.33	5712.36	5585.74	45.11	76.29
7000.00	4084.16	N 3794.19	W 3444.02	2358.87	2221.08	S 617.09	W 155.16	170.99	5809.22	5680.46	45.12	75.40
7100.00	4136.13	N 3853.17	W 3505.82	2387.50	2246.09	S 630.48	W 158.97	169.43	5905.66	5774.78	45.12	74.44
7200.00	4189.58	N 3911.45	W 3567.03	2419.41	2273.96	S 645.41	W 163.25	167.29	6001.69	5868.75	45.15	73.49
7300.00	4244.39	N 3969.03	W 3627.69	2453.16	2303.44	S 661.20	W 167.82	166.26	6097.30	5962.28	45.16	72.65
7400.00	4300.22	N 4025.77	W 3688.22	2488.56	2334.35	S 677.77	W 172.67	165.64	6192.49	6055.41	45.17	71.84
7500.00	4357.05	N 4081.79	W 3748.49	2523.84	2365.15	S 694.22	W 177.55	164.57	6287.29	6148.19	45.20	71.17
7600.00	4414.86	N 4137.33	W 3808.26	2557.94	2394.92	S 710.21	W 182.27	163.49	6381.74	6240.70	45.25	70.55
7700.00	4473.46	N 4192.08	W 3868.00	2593.17	2425.69	S 726.67	W 187.15	164.13	6475.81	6332.75	45.27	69.87
7800.00	4532.63	N 4245.65	W 3928.24	2629.61	2457.51	S 743.69	W 192.19	164.33	6569.45	6424.39	45.29	69.15
7900.00	4592.68	N 4298.30	W 3988.43	2667.34	2490.47	S 761.30	W 197.40	163.79	6662.63	6515.56	45.30	68.39
8000.00	4653.69	N 4350.07	W 4048.40	2707.39	2525.46	S 779.97	W 202.93	163.26	6755.32	6606.27	45.32	67.62
8095.00	4712.54	N 4398.47	W 4105.14	2749.43	2562.24	S 799.51	W 208.68	162.75	6842.90	6692.01	45.35	66.89
Field:	Lobitos			Well:		Well LO16-21						
Structure:	Platform LO16 (WGS84)			Borehole:		Borehole LO16-21						
Slot:	Slot #21			Trajectory:		LO16-21 SS Survey						
				Type:		DEF SVY						
Coordinate System: UTM Zone 17S - WGS84, Meters												
Reference Point:												
Northing (m)		Easting (m)		Elevation (ft)		Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)		
N 9505985.770		E 459456.930		50.00 above MSL		0.000		0.000		2.500		
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma												
Surveying Prog:												
MD From (ft)		MD To (ft)		EOU Freq		Survey Tool Type						
0.00		7800.00		Act-Stns		SLB_MWD-STD						

Subject Trajectory				Offset Trajectory					Ct-Ct	EOU	Sep	Inter.
MD (ft)	TVD (ft)	NS (ft)	EW (ft)	MD (ft)	TVD (ft)	NS (ft)	EW (ft)	TC Azim	Dist (ft)	Dist (ft)	Factor	Angle
Major EOU radii used. All local minima indicated.												
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft												
400.00	399.92	S 0.00	E 7.07	399.98	399.98	S 13.92	E 16.74	145.22	16.95	9.96	2.42	1.51
500.00	499.88	S 0.00	E 9.64	499.97	499.96	S 13.14	E 17.16	150.24	15.14	7.94	2.10	1.06
600.00	599.86	N 0.49	E 11.64	599.97	599.96	S 12.19	E 17.66	154.61	14.04	6.62	1.89	1.21
700.00	699.74	N 4.72	E 9.86	699.90	699.88	S 11.07	E 18.26	152.00	17.89	10.23	2.34	3.08
800.00	799.36	N 9.52	E 3.13	799.55	799.52	S 9.78	E 18.95	140.61	24.95	17.05	3.16	6.48
900.00	897.66	N 26.88	W 1.48	898.08	898.04	S 8.34	E 19.71	148.40	41.10	32.85	4.98	13.13
1000.00	993.04	N 56.29	W 6.51	993.96	993.90	S 6.88	E 20.25	156.31	68.60	59.93	7.91	20.14
1100.00	1083.80	N 96.58	W 17.50	1085.41	1085.34	S 5.52	E 20.34	159.65	108.90	99.88	12.08	27.74
1200.00	1168.25	N 144.79	W 40.37	1170.79	1170.71	S 4.28	E 20.07	159.65	160.87	151.60	17.35	34.82
1300.00	1246.35	N 196.27	W 75.56	1250.11	1250.02	S 3.16	E 19.49	157.90	220.95	211.34	22.98	40.20
1400.00	1319.38	N 250.27	W 117.35	1324.44	1324.34	S 2.12	E 18.73	155.18	286.78	275.39	25.18	43.82
1500.00	1387.67	N 308.18	W 161.84	1393.99	1393.88	S 1.14	E 18.02	153.49	357.85	344.56	26.93	48.21
1600.00	1450.17	N 368.64	W 211.15	1457.85	1457.73	S 0.23	E 17.37	153.86	433.98	418.60	28.21	52.36
1700.00	1506.43	N 430.46	W 265.99	1515.53	1515.40	N 0.60	E 16.80	153.48	514.62	496.98	29.17	56.75
1800.00	1557.86	N 494.12	W 323.44	1568.43	1568.30	N 1.36	E 16.28	151.92	598.61	578.85	30.29	58.57
1900.00	1608.67	N 558.94	W 380.15	1620.73	1620.58	N 2.12	E 15.77	148.41	683.34	661.89	31.86	58.28
2000.00	1659.78	N 625.70	W 434.28	1673.32	1673.17	N 2.89	E 15.27	146.89	768.23	744.96	33.01	58.34
2100.00	1710.77	N 693.09	W 487.76	1725.78	1725.62	N 3.66	E 14.78	145.36	853.28	828.19	34.01	58.28
2200.00	1761.92	N 761.24	W 540.09	1777.78	1777.61	N 4.41	E 14.29	145.44	938.29	911.36	34.85	58.31
2300.00	1812.98	N 828.09	W 594.15	1829.03	1828.86	N 5.03	E 13.74	146.75	1023.34	994.53	35.53	58.40
2400.00	1863.86	N 893.01	W 650.69	1879.94	1879.76	N 5.51	E 13.12	148.07	1108.40	1077.61	36.00	58.77
2500.00	1913.84	N 956.69	W 709.40	1929.83	1929.65	N 5.87	E 12.44	148.40	1193.89	1160.95	36.25	59.68
2600.00	1963.01	N 1020.19	W 768.98	1978.80	1978.60	N 6.09	E 11.71	147.93	1279.89	1244.87	36.54	59.76
2700.00	2011.83	N 1083.22	W 829.35	2027.29	2027.09	N 6.20	E 10.93	148.39	1366.11	1328.97	36.78	60.38
2800.00	2059.52	N 1145.61	W 891.25	2062.39	2062.19	N 6.14	E 10.35	149.06	1453.02	1413.56	36.82	61.69
2900.00	2106.61	N 1207.71	W 953.91	2087.38	2087.17	N 5.75	E 10.07	148.81	1540.89	1499.20	36.96	62.53
3000.00	2153.33	N 1269.76	W 1016.89	2111.31	2111.09	N 5.05	E 9.95	148.80	1629.62	1585.70	37.10	63.61
3100.00	2199.93	N 1331.78	W 1080.00	2138.70	2138.45	N 3.87	E 9.84	148.33	1718.97	1673.04	37.42	64.02
3200.00	2246.67	N 1393.84	W 1142.96	2165.19	2164.90	N 2.38	E 9.71	147.81	1808.73	1760.94	37.85	64.49
3300.00	2293.34	N 1456.06	W 1205.81	2193.93	2193.58	N 0.40	E 9.54	147.63	1898.94	1849.10	38.10	64.95
3400.00	2339.99	N 1517.87	W 1269.08	2222.42	2221.98	S 1.84	E 9.34	147.77	1989.42	1937.46	38.29	65.27
3500.00	2386.73	N 1579.60	W 1332.37	2249.59	2249.04	S 4.27	E 9.10	147.40	2080.18	2026.16	38.51	65.68
3600.00	2433.22	N 1641.57	W 1395.59	2277.25	2276.54	S 7.12	E 8.70	146.72	2171.35	2115.26	38.71	65.96
3700.00	2480.40	N 1703.96	W 1457.90	2308.33	2307.41	S 10.69	E 8.08	145.05	2262.53	2204.45	38.96	65.74
3800.00	2528.19	N 1767.19	W 1518.87	2341.73	2340.55	S 14.81	E 7.26	144.05	2353.68	2293.60	39.18	65.78
3900.00	2576.06	N 1830.51	W 1579.69	2374.71	2373.23	S 19.14	E 6.31	144.23	2444.94	2382.72	39.29	65.95
4000.00	2623.84	N 1893.92	W 1640.49	2409.21	2407.38	S 23.89	E 5.20	143.56	2536.36	2472.04	39.43	66.30
4100.00	2671.46	N 1957.90	W 1700.81	2443.21	2441.01	S 28.72	E 4.05	143.35	2627.99	2561.66	39.62	66.42
4200.00	2719.06	N 2021.67	W 1761.37	2476.85	2474.27	S 33.65	E 2.86	144.20	2719.70	2651.32	39.77	66.64
4300.00	2766.54	N 2085.26	W 1822.21	2510.07	2507.08	S 38.66	E 1.63	143.73	2811.55	2741.10	39.91	66.74
4400.00	2814.36	N 2149.55	W 1882.04	2543.98	2540.56	S 43.93	E 0.32	141.61	2903.38	2831.00	40.12	66.74
4500.00	2862.39	N 2214.35	W 1941.15	2579.45	2575.55	S 49.58	W 1.14	142.31	2995.22	2920.76	40.23	66.78
4600.00	2910.49	N 2279.08	W 2000.29	2614.75	2610.34	S 55.35	W 2.69	142.08	3087.08	3010.58	40.36	66.69
4700.00	2958.81	N 2343.91	W 2059.12	2649.98	2645.03	S 61.24	W 4.33	141.73	3178.90	3100.34	40.46	66.90
4800.00	3007.00	N 2408.93	W 2117.86	2681.84	2676.38	S 66.71	W 5.90	142.42	3270.86	3190.26	40.58	66.93
4900.00	3055.24	N 2473.53	W 2177.02	2711.18	2705.21	S 71.93	W 7.44	143.30	3362.89	3280.22	40.68	67.02
5000.00	3103.54	N 2537.80	W 2236.49	2740.19	2733.68	S 77.28	W 9.05	142.26	3454.98	3370.32	40.81	67.51
5100.00	3151.32	N 2602.31	W 2296.11	2768.37	2761.30	S 82.64	W 10.70	144.27	3547.42	3460.62	40.87	67.79
5200.00	3198.79	N 2666.67	W 2356.15	2795.64	2787.98	S 87.99	W 12.38	143.63	3640.08	3551.22	40.96	68.13
5300.00	3246.21	N 2731.22	W 2416.02	2820.93	2812.70	S 93.10	W 13.98	143.59	3732.89	3641.99	41.06	68.24
5400.00	3294.14	N 2796.08	W 2475.15	2846.06	2837.24	S 98.29	W 15.60	142.57	3825.64	3732.76	41.19	68.17
5500.00	3342.23	N 2860.99	W 2534.08	2870.87	2861.42	S 103.55	W 17.23	143.47	3918.45	3823.51	41.28	68.22
5600.00	3390.69	N 2924.72	W 2594.00	2895.71	2885.62	S 108.93	W 18.89	145.03	4011.15	3914.11	41.33	68.13
5700.00	3438.73	N 2988.26	W 2654.46	2920.12	2909.36	S 114.34	W 20.54	145.39	4104.13	4004.95	41.38	68.80
5800.00	3486.13	N 3052.12	W 2715.08	2944.64	2933.18	S 119.92	W 22.28	144.76	4197.47	4096.22	41.45	68.90
5900.00	3534.74	N 3116.01	W 2774.71	2969.53	2957.30	S 125.74	W 24.13	144.22	4290.46	4187.27	41.58	68.06
6000.00	3584.66	N 3179.17	W 2834.02	2994.99	2981.94	S 131.87	W 26.12	144.54	4382.98	4277.82	41.68	67.94
6100.00	3634.71	N 3242.08	W 2893.49	3020.20	3006.27	S 138.10	W 28.19	144.94	4475.55	4368.37	41.76	67.53
6200.00	3685.47	N 3304.14	W 2953.26	3045.63	3030.77	S 144.56	W 30.37	145.97	4567.87	4458.60	41.81	67.76

6300.00	3735.42	N 3366.25	W 3013.65	3070.21	3054.41	S 150.95	W 32.58	146.46	4660.61	4549.21	41.84	68.47			
6400.00	3784.67	N 3428.43	W 3074.54	3094.00	3077.23	S 157.29	W 34.79	147.45	4753.73	4640.19	41.87	68.66			
6500.00	3834.14	N 3489.65	W 3136.23	3123.19	3105.16	S 165.26	W 37.64	148.84	4846.75	4731.06	41.89	68.30			
6600.00	3883.91	N 3550.40	W 3198.13	3155.24	3135.77	S 174.18	W 40.94	148.24	4939.64	4821.90	41.95	68.32			
6700.00	3933.86	N 3611.52	W 3259.53	3187.10	3166.12	S 183.24	W 44.41	147.82	5032.56	4912.77	42.01	68.44			
6800.00	3983.65	N 3672.82	W 3320.87	3218.60	3196.04	S 192.37	W 48.02	147.95	5125.58	5003.71	42.06	68.67			
6900.00	4033.40	N 3734.05	W 3382.32	3251.97	3227.69	S 202.20	W 52.00	148.44	5218.65	5094.67	42.09	68.29			
7000.00	4084.16	N 3794.19	W 3444.02	3287.10	3260.97	S 212.62	W 56.25	149.16	5311.23	5185.14	42.12	67.39			
7100.00	4136.13	N 3853.17	W 3505.82	3323.54	3295.46	S 223.50	W 60.72	149.08	5403.21	5275.11	42.18	66.48			
7200.00	4189.58	N 3911.45	W 3567.03	3361.30	3331.16	S 234.85	W 65.42	148.54	5494.54	5364.49	42.25	65.56			
7300.00	4244.39	N 3969.03	W 3627.69	3400.29	3367.99	S 246.65	W 70.34	148.52	5585.23	5453.22	42.31	64.79			
7400.00	4300.22	N 4025.77	W 3688.22	3440.27	3405.73	S 258.83	W 75.47	148.66	5675.38	5541.44	42.37	64.07			
7500.00	4357.05	N 4081.79	W 3748.49	3534.87	3494.97	S 287.63	W 87.97	148.52	5764.93	5628.92	42.39	62.91			
7600.00	4414.86	N 4137.33	W 3808.26	3628.76	3583.71	S 315.39	W 101.01	148.33	5853.31	5715.25	42.40	61.80			
7700.00	4473.46	N 4192.08	W 3868.00	3680.74	3632.86	S 330.65	W 108.34	149.05	5941.10	5801.03	42.41	61.14			
7800.00	4532.63	N 4245.65	W 3928.24	3733.90	3683.12	S 346.23	W 115.87	149.50	6028.36	5886.29	42.43	60.43			
7900.00	4592.68	N 4298.30	W 3988.43	3790.71	3736.84	S 362.86	W 123.97	149.52	6114.97	5970.89	42.44	59.62			
8000.00	4653.69	N 4350.07	W 4048.40	3859.31	3801.67	S 382.91	W 133.95	149.51	6200.80	6054.71	42.44	58.71			
8095.00	4712.54	N 4398.47	W 4105.14	3926.45	3865.10	S 402.50	W 143.98	149.49	6281.58	6133.59	42.45	57.85			
Field:	Lobitos			Well:		Well LO16-22									
Structure:	Platform LO16 (WGS84)			Borehole:		Borehole LO16-22									
Slot:	Slot #22			Trajectory:		LO16-22 SS Survey									
				Type:		DEF SVY									
Coordinate System:	UTM Zone 17S - WGS84, Meters														
Reference Point:															
Northing (m)	Easting (m)			Elevation (ft)			Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)				
N 9505992.250	E 459451.760			50.00 above MSL			0.000		0.000		2.500				
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma															
Surveying Prog:															
MD From (ft)			MD To (ft)		EOU Freq		Survey Tool Type								
0.00			8002.00		Act-Stns		SLB_MWD-POOR								
Subject Trajectory				Offset Trajectory				Ct-Ct		EOU		Sep		Inter.	
MD (ft)		TVD (ft)		NS (ft)		EW (ft)		TC Azim		Dist (ft)		Factor		Angle	
Major EOU radii used. All local minima indicated.															
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft															
400.00	399.92	S 0.00	E 7.07	399.79	399.78	N 6.89	W 3.00	304.40	12.20	5.37	1.79	2.27			
500.00	499.88	S 0.00	E 9.64	500.02	500.00	N 7.40	W 3.69	299.05	15.25	8.24	2.18	0.60			
600.00	599.86	N 0.49	E 11.64	600.08	600.06	N 7.65	W 2.38	297.02	15.75	8.49	2.17	1.57			
700.00	699.74	N 4.72	E 9.86	699.97	699.93	N 7.39	W 0.86	283.90	11.05	3.52	1.47	4.12			
800.00	799.36	N 9.52	E 3.13	799.39	799.35	N 7.25	W 0.23	235.94	4.06	-3.79	0.52	6.57			
900.00	897.66	N 26.88	W 1.48	897.80	897.75	N 7.87	W 0.68	177.76	19.02	10.78	2.31	13.62			
1000.00	993.04	N 56.29	W 6.51	993.29	993.14	N 7.58	W 4.62	178.41	48.75	40.09	5.63	20.54			
1100.00	1083.80	N 96.58	W 17.50	1083.44	1082.96	N 7.59	W 12.34	178.96	89.14	80.15	9.91	27.90			
1200.00	1168.25	N 144.79	W 40.37	1163.67	1162.56	N 4.13	W 21.63	177.68	142.02	132.77	15.36	35.56			
1300.00	1246.35	N 196.27	W 75.56	1241.59	1239.23	S 1.02	W 34.47	175.93	201.66	192.05	20.98	39.36			
1400.00	1319.38	N 250.27	W 117.35	1309.08	1305.05	S 7.28	W 47.98	174.25	267.12	255.75	23.50	44.16			
1500.00	1387.67	N 308.18	W 161.84	1377.00	1370.83	S 15.41	W 62.82	173.91	338.82	325.58	25.59	48.25			
1600.00	1450.17	N 368.64	W 211.15	1443.29	1434.29	S 23.74	W 80.04	175.34	414.00	398.67	27.01	50.59			
1700.00	1506.43	N 430.46	W 265.99	1500.20	1488.02	S 31.82	W 96.93	176.81	492.57	474.85	27.80	54.41			
1800.00	1557.86	N 494.12	W 323.44	1562.61	1546.27	S 41.38	W 117.22	176.05	573.95	553.05	27.46	55.37			
1900.00	1608.67	N 558.94	W 380.15	1627.58	1606.67	S 50.63	W 139.27	173.11	655.44	631.78	27.70	55.15			
2000.00	1659.78	N 625.70	W 434.28	1684.38	1659.40	S 58.55	W 158.86	171.98	737.60	711.01	27.74	55.52			
2100.00	1710.77	N 693.09	W 487.76	1741.08	1711.99	S 66.49	W 178.51	170.80	820.12	790.42	27.61	55.86			
2200.00	1761.92	N 761.24	W 540.09	1804.31	1770.65	S 75.07	W 200.49	170.77	902.68	870.36	27.93	55.27			
2300.00	1812.98	N 828.09	W 594.15	1865.73	1827.68	S 82.95	W 221.87	171.45	984.28	948.96	27.87	54.35			
2400.00	1863.86	N 893.01	W 650.69	1923.11	1880.97	S 90.30	W 241.87	172.17	1065.05	1026.57	27.68	53.93			
2500.00	1913.84	N 956.69	W 709.40	1980.41	1934.16	S 97.72	W 261.86	172.57	1145.64	1103.96	27.49	54.44			
2600.00	1963.01	N 1020.19	W 768.98	2037.12	1986.77	S 105.14	W 281.65	172.02	1226.55	1181.85	27.44	54.43			
2700.00	2011.83	N 1083.22	W 829.35	2093.66	2039.23	S 112.63	W 301.40	172.29	1307.49	1259.78	27.41	54.65			
2800.00	2059.52	N 1145.61	W 891.25	2152.01	2093.33	S 120.42	W 321.81	172.62	1388.62	1337.66	27.25	55.01			
2900.00	2106.61	N 1207.71	W 953.91	2226.42	2162.33	S 129.89	W 348.00	171.78	1469.49	1414.88	26.91	54.36			

3000.00	2153.33	N 1269.76	W 1016.89	2302.94	2233.29	S 138.76	W 375.22	171.26	1549.86	1491.69	26.64	53.94
3100.00	2199.93	N 1331.78	W 1080.00	2381.88	2306.49	S 147.00	W 403.60	170.36	1629.63	1568.17	26.52	53.16
3200.00	2246.67	N 1393.84	W 1142.96	2442.83	2362.99	S 152.96	W 425.68	169.71	1708.98	1644.49	26.50	53.12
3300.00	2293.34	N 1456.06	W 1205.81	2500.73	2416.61	S 158.73	W 446.74	169.33	1788.56	1720.92	26.44	53.21
3400.00	2339.99	N 1517.87	W 1269.08	2558.66	2470.21	S 164.62	W 467.90	169.01	1868.05	1797.24	26.38	53.10
3500.00	2386.73	N 1579.60	W 1332.37	2616.54	2523.73	S 170.62	W 489.11	168.60	1947.59	1873.71	26.36	53.23
3600.00	2433.22	N 1641.57	W 1395.59	2678.08	2580.58	S 177.09	W 511.78	168.02	2027.41	1950.26	26.28	53.22
3700.00	2480.40	N 1703.96	W 1457.90	2743.71	2641.10	S 183.97	W 536.24	166.91	2107.03	2026.56	26.18	52.90
3800.00	2528.19	N 1767.19	W 1518.87	2809.83	2701.94	S 190.87	W 561.17	166.28	2186.64	2102.89	26.11	52.79
3900.00	2576.06	N 1830.51	W 1579.69	2876.46	2763.14	S 197.78	W 586.60	166.18	2266.09	2178.96	26.01	52.57
4000.00	2623.84	N 1893.92	W 1640.49	2953.15	2833.49	S 205.50	W 616.14	165.89	2345.37	2254.65	25.85	52.50
4100.00	2671.46	N 1957.90	W 1700.81	3034.34	2908.01	S 212.97	W 647.49	165.65	2424.48	2330.20	25.72	52.06
4200.00	2719.06	N 2021.67	W 1761.37	3117.41	2984.30	S 219.85	W 679.63	165.82	2502.98	2405.14	25.58	51.52
4300.00	2766.54	N 2085.26	W 1822.21	3185.92	3047.25	S 225.05	W 706.16	165.50	2581.06	2479.90	25.51	51.43
4400.00	2814.36	N 2149.55	W 1882.04	3247.40	3103.77	S 229.66	W 729.92	164.60	2659.29	2555.07	25.52	51.70
4500.00	2862.39	N 2214.35	W 1941.15	3308.70	3160.15	S 234.25	W 753.54	164.73	2737.66	2630.28	25.50	51.58
4600.00	2910.49	N 2279.08	W 2000.29	3370.04	3216.59	S 238.84	W 777.12	164.47	2815.98	2705.52	25.49	51.49
4700.00	2958.81	N 2343.91	W 2059.12	3437.72	3278.89	S 243.83	W 803.08	164.32	2894.22	2780.51	25.45	51.58
4800.00	3007.00	N 2408.93	W 2117.86	3510.00	3345.47	S 248.90	W 830.76	164.42	2972.41	2855.40	25.40	51.19
4900.00	3055.24	N 2473.53	W 2177.02	3583.16	3412.88	S 253.73	W 858.75	164.58	3050.19	2929.87	25.35	50.80
5000.00	3103.54	N 2537.80	W 2236.49	3659.11	3482.92	S 258.42	W 887.77	164.27	3127.58	3004.01	25.31	51.02
5100.00	3151.32	N 2602.31	W 2296.11	3744.59	3561.85	S 263.04	W 920.25	164.83	3204.96	3077.86	25.22	50.50
5200.00	3198.79	N 2666.67	W 2356.15	3831.33	3642.10	S 266.89	W 952.94	164.56	3281.97	3151.44	25.14	50.35
5300.00	3246.21	N 2731.22	W 2416.02	3917.16	3721.65	S 269.89	W 985.04	164.34	3358.63	3224.75	25.09	49.93
5400.00	3294.14	N 2796.08	W 2475.15	3998.93	3797.52	S 272.15	W 1015.46	163.78	3434.83	3297.78	25.06	49.51
5500.00	3342.23	N 2860.99	W 2534.08	4086.84	3879.14	S 273.97	W 1048.03	163.84	3510.64	3370.27	25.01	48.94
5600.00	3390.69	N 2924.72	W 2594.00	4193.24	3977.89	S 275.17	W 1087.65	163.94	3585.13	3441.14	24.90	47.90
5700.00	3438.73	N 2988.26	W 2654.46	4458.05	4222.74	S 269.13	W 1188.20	163.71	3657.21	3507.55	24.44	45.31
5800.00	3486.13	N 3052.12	W 2715.08	4490.30	4252.45	S 267.66	W 1200.65	163.48	3728.49	3576.34	24.50	45.87
5900.00	3534.74	N 3116.01	W 2774.71	4509.43	4270.15	S 267.02	W 1207.88	162.92	3800.08	3645.75	24.62	45.70
6000.00	3584.66	N 3179.17	W 2834.02	4528.33	4287.70	S 266.59	W 1214.88	162.84	3871.58	3715.04	24.73	46.16
6100.00	3634.71	N 3242.08	W 2893.49	4546.76	4304.88	S 266.36	W 1221.57	162.66	3943.81	3785.02	24.84	46.31
6200.00	3685.47	N 3304.14	W 2953.26	4564.90	4321.83	S 266.32	W 1228.01	162.90	4016.17	3855.06	24.93	47.05
6300.00	3735.42	N 3366.25	W 3013.65	4582.41	4338.25	S 266.46	W 1234.10	163.19	4089.84	3926.35	25.02	48.27
6400.00	3784.67	N 3428.43	W 3074.54	4599.32	4354.15	S 266.75	W 1239.86	163.42	4164.70	3998.86	25.11	48.96
6500.00	3834.14	N 3489.65	W 3136.23	4615.91	4369.77	S 267.20	W 1245.39	163.57	4239.82	4071.62	25.21	49.14
6600.00	3883.91	N 3550.40	W 3198.13	4710.74	4459.36	S 269.88	W 1276.40	163.13	4314.94	4143.63	25.19	48.77
6700.00	3933.86	N 3611.52	W 3259.53	4856.13	4596.60	S 271.86	W 1324.33	162.67	4389.17	4214.13	25.07	47.77
6800.00	3983.65	N 3672.82	W 3320.87	5148.81	4871.27	S 267.15	W 1425.19	162.14	4461.49	4280.91	24.71	45.09
6900.00	4033.40	N 3734.05	W 3382.32	5161.17	4882.84	S 266.71	W 1429.50	162.06	4532.23	4349.45	24.80	45.43
7000.00	4084.16	N 3794.19	W 3444.02	5173.38	4894.31	S 266.40	W 1433.67	161.87	4602.85	4417.86	24.88	45.24
7100.00	4136.13	N 3853.17	W 3505.82	5185.72	4905.95	S 266.20	W 1437.78	161.50	4673.18	4486.08	24.98	45.03
7200.00	4189.58	N 3911.45	W 3567.03	5204.30	4923.50	S 266.10	W 1443.89	161.00	4743.24	4554.00	25.06	44.67
7300.00	4244.39	N 3969.03	W 3627.69	5222.79	4940.97	S 266.23	W 1449.94	160.69	4813.03	4621.65	25.15	44.47
7400.00	4300.22	N 4025.77	W 3688.22	5241.13	4958.31	S 266.56	W 1455.91	160.46	4882.66	4689.17	25.23	44.32
7500.00	4357.05	N 4081.79	W 3748.49	5270.89	4986.42	S 267.49	W 1465.64	160.13	4952.14	4756.32	25.29	44.08
7600.00	4414.86	N 4137.33	W 3808.26	5307.58	5020.93	S 269.12	W 1477.97	159.80	5021.39	4823.13	25.33	43.79
7700.00	4473.46	N 4192.08	W 3868.00	5344.23	5055.25	S 271.26	W 1490.67	159.82	5090.34	4889.60	25.36	43.51
7800.00	4532.63	N 4245.65	W 3928.24	5380.84	5089.34	S 273.91	W 1503.72	159.76	5158.95	4955.73	25.39	43.19
7900.00	4592.68	N 4298.30	W 3988.43	5497.72	5197.73	S 283.16	W 1546.48	159.51	5226.75	5019.60	25.23	41.95
8000.00	4653.69	N 4350.07	W 4048.40	5654.28	5342.89	S 293.37	W 1604.22	159.24	5292.50	5080.76	24.99	40.33
8095.00	4712.54	N 4398.47	W 4105.14	5844.92	5519.66	S 302.13	W 1675.05	158.96	5352.79	5136.09	24.70	38.39
Field:	Lobitos			Well:			Well LO16-23					
Structure:	Platform LO16 (WGS84)			Borehole:			Borehole LO16-23					
Slot:	Slot #23			Trajectory:			LO16-23 MWD Survey					
				Type:			DEF SVY					
Coordinate System:				UTM Zone 17S - WGS84, Meters								
Reference Point:												
Northing (m)		Easting (m)		Elevation (ft)			Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)	
N 9505997.420		E 459458.220		50.00 above MSL			0.000		0.000		2.500	
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma												

Surveying Prog:				MD To (ft)		EOU Freq		Survey Tool Type							
MD From (ft)															
0.00				10004.00		Act-Stns		SLB_MWD-STD							
Subject Trajectory				Offset Trajectory						Ct-Ct	EOU	Sep	Inter.		
MD (ft)	TVD (ft)	NS (ft)	EW (ft)	MD (ft)	TVD (ft)	NS (ft)	EW (ft)	TC Azim	Dist (ft)	Dist (ft)	Factor	Angle			
Major EOU radii used. All local minima indicated.															
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft															
400.00	399.92	S 0.00	E 7.07	400.19	400.18	N 21.38	E 18.50	28.10	24.25	17.32	3.50	2.22			
500.00	499.88	S 0.00	E 9.64	500.19	500.17	N 20.51	E 17.51	20.97	21.97	14.86	3.09	1.91			
600.00	599.86	N 0.49	E 11.64	600.17	600.14	N 19.45	E 16.30	13.78	19.52	12.21	2.67	2.86			
700.00	699.74	N 4.72	E 9.86	700.05	700.00	N 18.19	E 14.87	20.49	14.38	6.84	1.91	3.37			
800.00	799.36	N 9.52	E 3.13	799.69	799.62	N 16.88	E 13.29	54.26	12.54	4.66	1.59	7.16			
900.00	897.66	N 26.88	W 1.48	897.85	897.76	N 15.74	E 11.68	129.46	17.24	8.91	2.07	14.43			
1000.00	993.04	N 56.29	W 6.51	993.05	992.94	N 14.79	E 10.07	157.50	44.69	35.94	5.11	21.29			
1100.00	1083.80	N 96.58	W 17.50	1083.74	1083.62	N 14.02	E 8.50	162.91	86.55	77.48	9.54	28.63			
1200.00	1168.25	N 144.79	W 40.37	1168.42	1168.28	N 13.43	E 6.99	162.48	139.63	130.32	14.99	35.50			
1300.00	1246.35	N 196.27	W 75.56	1247.08	1246.93	N 12.99	E 5.56	160.13	200.44	190.78	20.76	40.77			
1400.00	1319.38	N 250.27	W 117.35	1320.94	1320.77	N 12.67	E 4.19	157.02	266.89	255.50	23.43	44.34			
1500.00	1387.67	N 308.18	W 161.84	1390.33	1390.15	N 12.44	E 2.87	155.18	338.51	325.26	25.54	48.64			
1600.00	1450.17	N 368.64	W 211.15	1454.42	1454.23	N 12.30	E 1.52	155.50	415.00	399.65	27.05	52.61			
1700.00	1506.43	N 430.46	W 265.99	1512.63	1512.42	N 12.20	E 0.16	155.11	495.79	478.20	28.17	56.86			
1800.00	1557.86	N 494.12	W 323.44	1567.61	1567.37	N 12.08	W 1.47	153.48	579.76	560.04	29.39	58.37			
1900.00	1608.67	N 558.94	W 380.15	1622.42	1622.12	N 11.54	W 4.05	150.09	664.29	642.86	31.00	57.88			
2000.00	1659.78	N 625.70	W 434.28	1676.06	1675.63	N 10.53	W 7.58	148.87	748.84	725.58	32.20	57.91			
2100.00	1710.77	N 693.09	W 487.76	1714.10	1713.52	N 9.01	W 10.58	147.74	834.07	809.02	33.29	58.97			
2200.00	1761.92	N 761.24	W 540.09	1750.26	1749.45	N 6.55	W 13.78	148.27	920.18	893.32	34.27	59.91			
2300.00	1812.98	N 828.09	W 594.15	1844.72	1842.75	S 1.48	W 25.93	150.34	1005.96	977.12	34.89	57.19			
2400.00	1863.86	N 893.01	W 650.69	1913.57	1909.85	S 7.93	W 39.89	152.37	1089.45	1058.59	35.30	56.35			
2500.00	1913.84	N 956.69	W 709.40	1969.83	1963.83	S 14.78	W 54.16	153.64	1172.86	1139.83	35.51	56.95			
2600.00	1963.01	N 1020.19	W 768.98	2022.17	2013.29	S 22.58	W 69.39	154.18	1256.71	1221.59	35.78	57.10			
2700.00	2011.83	N 1083.22	W 829.35	2090.82	2076.94	S 34.36	W 92.24	155.77	1340.35	1303.03	35.91	56.84			
2800.00	2059.52	N 1145.61	W 891.25	2150.68	2131.00	S 46.10	W 115.08	157.39	1423.98	1384.24	35.83	57.19			
2900.00	2106.61	N 1207.71	W 953.91	2198.08	2172.71	S 56.66	W 134.95	157.98	1507.88	1465.81	35.85	57.65			
3000.00	2153.33	N 1269.76	W 1016.89	2241.28	2209.87	S 67.34	W 154.22	158.83	1592.25	1547.84	35.85	58.42			
3100.00	2199.93	N 1331.78	W 1080.00	2282.25	2244.32	S 78.43	W 173.41	159.26	1677.07	1630.54	36.04	58.98			
3200.00	2246.67	N 1393.84	W 1142.96	2320.49	2275.79	S 89.59	W 192.07	159.66	1762.27	1713.77	36.33	59.65			
3300.00	2293.34	N 1456.06	W 1205.81	2355.88	2304.47	S 100.49	W 209.69	160.29	1848.03	1797.31	36.44	60.27			
3400.00	2339.99	N 1517.87	W 1269.08	2395.89	2336.33	S 113.48	W 230.11	161.12	1934.10	1880.86	36.33	60.59			
3500.00	2386.73	N 1579.60	W 1332.37	2437.26	2368.29	S 127.70	W 252.19	161.72	2020.39	1964.50	36.15	61.25			
3600.00	2433.22	N 1641.57	W 1395.59	2479.69	2400.02	S 143.06	W 275.80	162.11	2107.12	2048.11	35.71	61.85			
3700.00	2480.40	N 1703.96	W 1457.90	2525.62	2433.74	S 160.09	W 301.92	161.71	2193.89	2132.82	35.93	62.31			
3800.00	2528.19	N 1767.19	W 1518.87	2570.27	2465.99	S 176.95	W 327.79	161.86	2280.84	2217.28	35.88	62.82			
3900.00	2576.06	N 1830.51	W 1579.69	2614.16	2497.19	S 193.81	W 353.65	162.80	2367.97	2301.78	35.78	62.96			
4000.00	2623.84	N 1893.92	W 1640.49	2671.53	2537.51	S 216.00	W 387.91	163.54	2455.23	2386.33	35.63	63.15			
4100.00	2671.46	N 1957.90	W 1700.81	2734.22	2581.61	S 239.88	W 425.53	164.45	2542.57	2471.03	35.54	62.83			
4200.00	2719.06	N 2021.67	W 1761.37	2795.43	2624.72	S 262.82	W 462.42	165.98	2629.65	2555.48	35.45	62.22			
4300.00	2766.54	N 2085.26	W 1822.21	2846.77	2660.97	S 281.87	W 493.38	166.40	2716.66	2640.03	35.45	62.26			
4400.00	2814.36	N 2149.55	W 1882.04	2897.88	2697.17	S 300.71	W 524.16	165.66	2803.81	2724.88	35.52	62.91			
4500.00	2862.39	N 2214.35	W 1941.15	2947.40	2732.33	S 318.85	W 553.94	166.69	2891.09	2809.72	35.53	62.54			
4600.00	2910.49	N 2279.08	W 2000.29	2990.92	2763.34	S 334.74	W 580.01	166.91	2978.40	2894.70	35.58	62.56			
4700.00	2958.81	N 2343.91	W 2059.12	3034.35	2794.40	S 350.58	W 605.90	167.25	3065.80	2979.74	35.62	62.84			
4800.00	3007.00	N 2408.93	W 2117.86	3077.53	2825.39	S 366.31	W 631.54	168.04	3153.43	3065.05	35.68	62.56			
4900.00	3055.24	N 2473.53	W 2177.02	3121.10	2856.76	S 382.17	W 657.27	168.93	3241.00	3150.26	35.72	62.23			
5000.00	3103.54	N 2537.80	W 2236.49	3175.64	2896.13	S 401.96	W 689.43	169.03	3328.45	3235.21	35.70	62.71			
5100.00	3151.32	N 2602.31	W 2296.11	3232.31	2937.03	S 422.37	W 722.92	170.80	3416.08	3320.17	35.62	61.96			
5200.00	3198.79	N 2666.67	W 2356.15	3289.10	2978.02	S 442.68	W 756.57	171.01	3503.64	3405.16	35.58	62.16			
5300.00	3246.21	N 2731.22	W 2416.02	3337.15	3012.70	S 459.80	W 785.08	171.26	3591.25	3490.16	35.52	62.12			
5400.00	3294.14	N 2796.08	W 2475.15	3385.07	3047.29	S 476.86	W 813.53	170.77	3678.86	3575.25	35.51	62.28			
5500.00	3342.23	N 2860.99	W 2534.08	3433.04	3081.91	S 493.92	W 842.01	171.50	3766.48	3660.28	35.47	61.90			
5600.00	3390.69	N 2924.72	W 2594.00	3479.66	3115.57	S 510.50	W 869.69	172.42	3853.53	3744.73	35.42	61.22			
5700.00	3438.73	N 2988.26	W 2654.46	3525.46	3148.66	S 526.79	W 896.83	173.30	3940.68	3829.30	35.38	61.53			
5800.00	3486.13	N 3052.12	W 2715.08	3570.72	3181.39	S 542.90	W 923.62	173.13	4028.19	3914.30	35.37	61.71			
5900.00	3534.74	N 3116.01	W 2774.71	3616.50	3214.54	S 559.20	W 950.67	172.18	4115.43	3999.17	35.40	61.15			

6000.00	3584.66	N 3179.17	W 2834.02	3667.89	3251.80	S 577.47	W 980.98	172.38	4202.01	4083.31	35.40	60.80
6100.00	3634.71	N 3242.08	W 2893.49	3719.75	3289.47	S 595.85	W 1011.50	172.37	4288.45	4167.27	35.39	60.19
6200.00	3685.47	N 3304.14	W 2953.26	3772.79	3328.10	S 614.58	W 1042.66	173.22	4374.30	4250.56	35.35	59.88
6300.00	3735.42	N 3366.25	W 3013.65	3824.28	3365.69	S 632.71	W 1072.82	174.13	4460.40	4334.00	35.29	60.14
6400.00	3784.67	N 3428.43	W 3074.54	3875.62	3403.26	S 650.73	W 1102.81	174.84	4546.72	4417.67	35.23	59.87
6500.00	3834.14	N 3489.65	W 3136.23	3928.06	3441.75	S 669.07	W 1133.35	175.30	4632.54	4500.84	35.18	59.07
6600.00	3883.91	N 3550.40	W 3198.13	3988.77	3486.53	S 690.16	W 1168.49	175.14	4718.02	4583.67	35.12	59.05
6700.00	3933.86	N 3611.52	W 3259.53	4050.14	3532.20	S 711.20	W 1203.67	175.12	4803.53	4666.53	35.06	59.06
6800.00	3983.65	N 3672.82	W 3320.87	4115.96	3581.61	S 733.47	W 1241.03	175.46	4889.05	4749.31	34.99	58.97
6900.00	4033.40	N 3734.05	W 3382.32	4189.94	3637.63	S 758.04	W 1282.63	175.49	4974.35	4831.77	34.89	58.23
7000.00	4084.16	N 3794.19	W 3444.02	4267.01	3696.53	S 783.09	W 1325.56	175.23	5058.62	4913.17	34.78	56.94
7100.00	4136.13	N 3853.17	W 3505.82	4347.37	3758.40	S 808.68	W 1370.00	174.61	5141.72	4993.45	34.68	55.83
7200.00	4189.58	N 3911.45	W 3567.03	4423.37	3817.27	S 832.41	W 1411.78	173.81	5223.79	5072.83	34.60	54.91
7300.00	4244.39	N 3969.03	W 3627.69	4485.52	3865.49	S 851.69	W 1445.95	173.35	5304.99	5151.48	34.56	54.18
7400.00	4300.22	N 4025.77	W 3688.22	4548.85	3914.59	S 871.30	W 1480.81	173.04	5385.41	5229.37	34.51	53.45
7500.00	4357.05	N 4081.79	W 3748.49	4596.81	3951.79	S 886.15	W 1507.18	172.58	5465.18	5306.79	34.51	53.06
7600.00	4414.86	N 4137.33	W 3808.26	4641.16	3986.32	S 899.95	W 1531.36	172.11	5544.56	5383.91	34.51	52.75
7700.00	4473.46	N 4192.08	W 3868.00	4685.86	4021.23	S 913.91	W 1555.52	172.20	5623.45	5460.47	34.50	52.11
7800.00	4532.63	N 4245.65	W 3928.24	4739.43	4063.25	S 930.67	W 1584.21	172.14	5701.68	5536.28	34.47	51.41
7900.00	4592.68	N 4298.30	W 3988.43	4794.14	4106.38	S 947.76	W 1613.21	171.80	5779.21	5611.41	34.44	50.78
8000.00	4653.69	N 4350.07	W 4048.40	4849.53	4150.27	S 965.03	W 1642.26	171.47	5856.04	5685.86	34.41	50.15
8095.00	4712.54	N 4398.47	W 4105.14	4924.93	4210.26	S 988.41	W 1681.50	171.19	5928.31	5755.62	34.33	49.38
Field:	Lobitos					Well:	Well LO16-24					
Structure:	Platform LO16 (WGS84)					Borehole:	Borehole LO16-24					
Slot:	Slot #24					Trajectory:	LO16-24 MWD Survey					
						Type:	DEF SVY					
Coordinate System:	UTM Zone 17S - WGS84, Meters											
Reference Point:												
Northing (m)	Easting (m)			Elevation (ft)			Structure Unc. (ft)		Slot Unc. (ft)		Hole Diameter (ft)	
N 9505990.930	E 459463.390			50.00 above MSL			0.000		0.000		2.500	
Trajectory Error Model:				SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma								
	Surveying Prog:											
	MD From (ft)			MD To (ft)		EOU Freq		Survey Tool Type				
	0.00			10147.00		Act-Stns		SLB_MWD-STD				
Subject Trajectory				Offset Trajectory					Ct-Ct	EOU	Sep	Inter.
MD (ft)	TVD (ft)	NS (ft)	EW (ft)	MD (ft)	TVD (ft)	NS (ft)	EW (ft)	TC Azim	Dist (ft)	Dist (ft)	Factor	Angle
Major EOU radii used. All local minima indicated.												
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft												
400.00	399.92	S 0.00	E 7.07	399.64	399.63	S 0.33	E 39.00	90.60	31.94	25.04	4.63	1.28
500.00	499.88	S 0.00	E 9.64	499.55	499.53	S 1.43	E 40.01	92.70	30.40	23.33	4.30	0.89
600.00	599.86	N 0.49	E 11.64	599.46	599.42	S 2.77	E 41.23	96.29	29.77	22.51	4.10	2.40
700.00	699.74	N 4.72	E 9.86	699.21	699.15	S 3.96	E 42.71	104.74	33.99	26.46	4.51	4.22
800.00	799.36	N 9.52	E 3.13	798.70	798.62	S 5.55	E 44.05	109.93	43.62	35.78	5.56	8.41
900.00	897.66	N 26.88	W 1.48	895.51	895.34	S 9.42	E 44.89	126.82	58.93	50.69	7.15	17.28
1000.00	993.04	N 56.29	W 6.51	986.82	986.38	S 16.44	E 44.65	142.69	89.16	80.52	10.31	26.18
1100.00	1083.80	N 96.58	W 17.50	1067.43	1066.44	S 25.75	E 44.70	151.57	138.33	129.37	15.44	36.19
1200.00	1168.25	N 144.79	W 40.37	1138.16	1136.31	S 36.74	E 44.97	156.74	203.11	193.92	22.09	44.56
1300.00	1246.35	N 196.27	W 75.56	1199.18	1196.26	S 48.08	E 45.11	159.66	277.09	267.57	29.11	50.82
1400.00	1319.38	N 250.27	W 117.35	1251.91	1247.78	S 59.31	E 45.11	159.72	356.88	345.64	31.76	55.56
1500.00	1387.67	N 308.18	W 161.84	1296.52	1291.06	S 70.07	E 44.69	160.59	441.65	428.59	33.82	60.94
1600.00	1450.17	N 368.64	W 211.15	1332.45	1325.66	S 79.73	E 43.87	165.69	530.63	515.55	35.19	65.41
1700.00	1506.43	N 430.46	W 265.99	1360.84	1352.78	S 88.08	E 42.90	170.19	622.82	605.55	36.07	70.24
1800.00	1557.86	N 494.12	W 323.44	1385.55	1376.21	S 95.85	E 41.80	170.89	717.27	697.94	37.12	72.47
1900.00	1608.67	N 558.94	W 380.15	1410.03	1399.29	S 103.91	E 40.42	164.92	812.46	791.51	38.78	73.03
2000.00	1659.78	N 625.70	W 434.28	1433.19	1420.99	S 111.85	E 38.85	162.62	908.23	885.51	39.98	73.63
2100.00	1710.77	N 693.09	W 487.76	1455.14	1441.43	S 119.66	E 37.12	159.67	1004.30	979.83	41.04	74.19
2200.00	1761.92	N 761.24	W 540.09	1481.44	1465.76	S 129.34	E 34.72	160.66	1100.57	1074.32	41.94	74.14
2300.00	1812.98	N 828.09	W 594.15	1516.11	1497.64	S 142.37	E 30.76	164.82	1196.56	1168.49	42.62	73.26
2400.00	1863.86	N 893.01	W 650.69	1572.70	1549.25	S 163.97	E 22.26	168.56	1291.92	1261.85	42.96	71.58
2500.00	1913.84	N 956.69	W 709.40	1598.59	1572.73	S 173.81	E 17.58	171.03	1386.68	1354.51	43.10	72.35
2600.00	1963.01	N 1020.19	W 768.98	2036.89	1968.12	S 294.37	W 89.40	166.69	1479.84	1444.27	41.61	56.87
2700.00	2011.83	N 1083.22	W 829.35	2160.44	2069.50	S 323.89	W 153.43	168.80	1562.09	1522.98	39.94	54.72

	2800.00	2059.52	N 1145.61	W 891.25	2254.99	2141.44	S 346.95	W 210.23	170.87	1642.64	1599.23	37.84	54.08			
	2900.00	2106.61	N 1207.71	W 953.91	2337.27	2199.38	S 367.95	W 264.72	172.02	1722.30	1675.33	36.67	53.99			
	3000.00	2153.33	N 1269.76	W 1016.89	2427.50	2258.44	S 391.61	W 328.70	173.65	1801.34	1751.06	35.83	53.63			
	3100.00	2199.93	N 1331.78	W 1080.00	2522.37	2317.17	S 416.05	W 399.06	174.95	1879.45	1826.06	35.20	53.12			
	3200.00	2246.67	N 1393.84	W 1142.96	2590.55	2357.52	S 433.37	W 451.21	175.88	1956.91	1900.83	34.89	53.18			
	3300.00	2293.34	N 1456.06	W 1205.81	2648.15	2391.36	S 448.10	W 495.44	176.77	2034.71	1975.87	34.58	53.26			
	3400.00	2339.99	N 1517.87	W 1269.08	2702.61	2423.19	S 462.14	W 537.33	177.54	2112.54	2050.89	34.27	53.17			
	3500.00	2386.73	N 1579.60	W 1332.37	2753.87	2452.93	S 475.60	W 576.85	178.20	2190.67	2126.32	34.04	53.57			
	3600.00	2433.22	N 1641.57	W 1395.59	2804.20	2481.90	S 489.08	W 615.75	178.66	2269.40	2202.36	33.85	54.08			
	3700.00	2480.40	N 1703.96	W 1457.90	2862.16	2514.96	S 504.83	W 660.66	178.62	2348.51	2278.77	33.67	54.70			
	3800.00	2528.19	N 1767.19	W 1518.87	2930.30	2553.42	S 523.25	W 713.82	179.11	2427.93	2355.35	33.45	54.98			
	3900.00	2576.06	N 1830.51	W 1579.69	2998.36	2591.35	S 541.47	W 767.30	180.00	2507.29	2431.73	33.18	54.74			
	4000.00	2623.84	N 1893.92	W 1640.49	3063.67	2627.35	S 558.83	W 818.96	180.78	2586.67	2508.17	32.95	55.12			
	4100.00	2671.46	N 1957.90	W 1700.81	3128.51	2662.69	S 575.95	W 870.56	181.45	2666.42	2585.11	32.79	55.17			
	4200.00	2719.06	N 2021.67	W 1761.37	3191.51	2696.68	S 592.51	W 920.95	182.46	2746.03	2661.85	32.62	54.76			
	4300.00	2766.54	N 2085.26	W 1822.21	3253.75	2729.97	S 608.81	W 970.95	182.96	2825.60	2738.55	32.46	54.97			
	4400.00	2814.36	N 2149.55	W 1882.04	3313.08	2761.43	S 624.31	W 1018.80	182.89	2905.56	2815.84	32.39	56.04			
	4500.00	2862.39	N 2214.35	W 1941.15	3355.70	2783.87	S 635.56	W 1053.25	183.47	2986.06	2893.71	32.34	56.02			
	4600.00	2910.49	N 2279.08	W 2000.29	3397.73	2805.86	S 646.85	W 1087.24	183.66	3066.87	2971.97	32.32	56.41			
	4700.00	2958.81	N 2343.91	W 2059.12	3438.99	2827.32	S 658.13	W 1120.62	184.07	3148.07	3050.60	32.30	57.00			
	4800.00	3007.00	N 2408.93	W 2117.86	3488.75	2853.06	S 671.95	W 1160.91	184.65	3229.75	3129.67	32.27	56.78			
	4900.00	3055.24	N 2473.53	W 2177.02	3558.05	2888.99	S 691.01	W 1217.02	185.45	3311.13	3208.21	32.17	56.08			
	5000.00	3103.54	N 2537.80	W 2236.49	3628.84	2925.86	S 710.17	W 1274.33	186.05	3392.14	3286.45	32.09	56.48			
	5100.00	3151.32	N 2602.31	W 2296.11	3697.53	2961.79	S 728.46	W 1329.93	187.24	3473.25	3364.69	31.99	55.40			
	5200.00	3198.79	N 2666.67	W 2356.15	3753.17	2991.08	S 743.18	W 1374.90	187.64	3554.30	3443.10	31.96	55.77			
	5300.00	3246.21	N 2731.22	W 2416.02	3808.69	3020.49	S 757.85	W 1419.65	187.91	3635.56	3521.75	31.94	55.76			
	5400.00	3294.14	N 2796.08	W 2475.15	3863.90	3049.93	S 772.43	W 1464.02	187.73	3717.03	3600.69	31.95	56.10			
	5500.00	3342.23	N 2860.99	W 2534.08	3919.11	3079.56	S 787.00	W 1508.27	188.17	3798.58	3679.63	31.94	55.65			
	5600.00	3390.69	N 2924.72	W 2594.00	3975.69	3110.12	S 801.93	W 1553.49	188.62	3879.34	3757.74	31.90	54.83			
	5700.00	3438.73	N 2988.26	W 2654.46	4032.62	3141.06	S 816.93	W 1598.86	189.50	3960.09	3835.82	31.86	54.94			
	5800.00	3486.13	N 3052.12	W 2715.08	4089.32	3172.08	S 831.86	W 1643.92	189.54	4041.20	3914.31	31.85	55.15			
	5900.00	3534.74	N 3116.01	W 2774.71	4145.97	3203.26	S 846.76	W 1688.79	188.63	4122.21	3992.87	31.87	54.85			
	6000.00	3584.66	N 3179.17	W 2834.02	4201.44	3233.60	S 861.39	W 1732.87	188.70	4202.61	4070.63	31.84	54.84			
	6100.00	3634.71	N 3242.08	W 2893.49	4255.31	3261.61	S 875.76	W 1776.58	188.52	4282.91	4148.22	31.80	54.83			
	6200.00	3685.47	N 3304.14	W 2953.26	4308.78	3287.87	S 890.17	W 1820.87	189.17	4362.65	4225.18	31.74	54.88			
	6300.00	3735.42	N 3366.25	W 3013.65	4361.11	3312.05	S 904.42	W 1865.04	190.16	4442.65	4302.39	31.67	55.41			
	6400.00	3784.67	N 3428.43	W 3074.54	4412.27	3334.20	S 918.46	W 1908.96	190.76	4522.93	4379.91	31.62	55.50			
	6500.00	3834.14	N 3489.65	W 3136.23	4463.06	3354.73	S 932.49	W 1953.24	190.97	4602.68	4456.90	31.57	55.20			
	6600.00	3883.91	N 3550.40	W 3198.13	4512.87	3373.42	S 946.33	W 1997.28	191.13	4682.23	4533.84	31.55	56.04			
	6700.00	3933.86	N 3611.52	W 3259.53	4584.22	3398.62	S 966.18	W 2061.01	191.61	4762.18	4610.87	31.47	56.00			
	6800.00	3983.65	N 3672.82	W 3320.87	4709.64	3449.58	S 999.90	W 2170.50	192.58	4841.78	4686.78	31.24	54.11			
	6900.00	4033.40	N 3734.05	W 3382.32	4847.18	3516.50	S 1034.72	W 2285.45	192.85	4920.52	4761.74	30.99	51.90			
	7000.00	4084.16	N 3794.19	W 3444.02	4998.22	3602.57	S 1070.03	W 2404.34	192.45	4997.35	4834.69	30.72	49.40			
	7100.00	4136.13	N 3853.17	W 3505.82	5095.68	3663.47	S 1091.30	W 2477.39	191.69	5072.36	4906.74	30.63	48.32			
	7200.00	4189.58	N 3911.45	W 3567.03	5184.53	3719.82	S 1110.23	W 2543.44	190.87	5146.43	4978.05	30.56	47.59			
	7300.00	4244.39	N 3969.03	W 3627.69	5275.21	3778.02	S 1129.11	W 2610.36	190.31	5219.53	5048.39	30.50	46.75			
	7400.00	4300.22	N 4025.77	W 3688.22	5367.88	3838.21	S 1147.95	W 2678.25	189.84	5291.59	5117.70	30.43	45.87			
	7500.00	4357.05	N 4081.79	W 3748.49	5458.15	3897.61	S 1165.87	W 2743.83	189.38	5362.68	5186.08	30.36	45.24			
	7600.00	4414.86	N 4137.33	W 3808.26	5547.68	3957.46	S 1183.26	W 2808.10	188.93	5433.07	5253.77	30.30	44.66			
	7700.00	4473.46	N 4192.08	W 3868.00	5638.88	4019.40	S 1200.58	W 2872.77	188.73	5502.49	5320.43	30.22	43.60			
	7800.00	4532.63	N 4245.65	W 3928.24	5732.12	4083.72	S 1217.86	W 2938.02	188.42	5570.64	5385.82	30.14	42.61			
	7900.00	4592.68	N 4298.30	W 3988.43	5827.12	4150.28	S 1235.03	W 3003.58	187.97	5637.67	5450.10	30.06	41.75			
	8000.00	4653.69	N 4350.07	W 4048.40	5923.78	4219.05	S 1252.05	W 3069.34	187.52	5703.61	5513.31	29.97	40.91			
	8095.00	4712.54	N 4398.47	W 4105.14	6004.61	4277.23	S 1265.99	W 3123.69	187.09	5765.32	5572.54	29.91	40.25			
Field:	Lobitos				Well:		Well LO16-24									
Structure:	Platform LO16 (WGS84)				Borehole:		Borehole LO16-24 S1									
Slot:	Slot #24				Trajectory:		LO16-24 S1 MWD Survey									
					Type:		DEF SVY									
Coordinate System:	UTM Zone 17S - WGS84, Meters															
Reference Point:																
Northing (m)	Easting (m)				Elevation (ft)				Structure Unc. (ft)				Slot Unc. (ft)		Hole Diameter (ft)	

N 9505990.930				E 459463.390				50.00 above MSL				0.000				0.000				2.500					
Trajectory Error Model: SLB ISCWSA 3-D 95.00% Confidence 2.7955 sigma																									
Surveying Prog:																									
MD From (ft)				MD To (ft)				EOU Freq				Survey Tool Type													
0.00				11051.00				Act-Stns				SLB_MWD-STD													
Subject Trajectory				Offset Trajectory								Ct-Ct		EOU		Sep		Inter.							
MD (ft)		TVD (ft)		NS (ft)		EW (ft)		MD (ft)		TVD (ft)		NS (ft)		EW (ft)		TC Azim		Dist (ft)		Dist (ft)		Factor		Angle	
Major EOU radii used. All local minima indicated.																									
Results filtered: Depth 350.00 ft <= MD <= 8500.00 ft																									
400.00		399.92		S 0.00		E 7.07		399.64		399.63		S 0.33		E 39.00		90.60		31.94		25.04		4.63		1.28	
500.00		499.88		S 0.00		E 9.64		499.55		499.53		S 1.43		E 40.01		92.70		30.40		23.33		4.30		0.89	
600.00		599.86		N 0.49		E 11.64		599.46		599.42		S 2.77		E 41.23		96.29		29.77		22.51		4.10		2.40	
700.00		699.74		N 4.72		E 9.86		699.21		699.15		S 3.96		E 42.71		104.74		33.99		26.46		4.51		4.22	
800.00		799.36		N 9.52		E 3.13		798.70		798.62		S 5.55		E 44.05		109.93		43.62		35.78		5.56		8.41	
900.00		897.66		N 26.88		W 1.48		895.51		895.34		S 9.42		E 44.89		126.82		58.93		50.69		7.15		17.28	
1000.00		993.04		N 56.29		W 6.51		986.82		986.38		S 16.44		E 44.65		142.69		89.16		80.52		10.31		26.18	
1100.00		1083.80		N 96.58		W 17.50		1067.43		1066.44		S 25.75		E 44.70		151.57		138.33		129.37		15.44		36.19	
1200.00		1168.25		N 144.79		W 40.37		1138.16		1136.31		S 36.74		E 44.97		156.74		203.11		193.92		22.09		44.56	
1300.00		1246.35		N 196.27		W 75.56		1199.18		1196.26		S 48.08		E 45.11		159.66		277.09		267.57		29.11		50.82	
1400.00		1319.38		N 250.27		W 117.35		1251.91		1247.78		S 59.31		E 45.11		159.72		356.88		345.64		31.76		55.56	
1500.00		1387.67		N 308.18		W 161.84		1296.52		1291.06		S 70.07		E 44.69		160.59		441.65		428.59		33.82		60.94	
1600.00		1450.17		N 368.64		W 211.15		1332.45		1325.66		S 79.73		E 43.87		165.69		530.63		515.55		35.19		65.41	
1700.00		1506.43		N 430.46		W 265.99		1360.84		1352.78		S 88.08		E 42.90		170.19		622.82		605.55		36.07		70.24	
1800.00		1557.86		N 494.12		W 323.44		1385.55		1376.21		S 95.85		E 41.80		170.89		717.27		697.94		37.12		72.47	
1900.00		1608.67		N 558.94		W 380.15		1410.03		1399.29		S 103.91		E 40.42		164.92		812.46		791.51		38.78		73.03	
2000.00		1659.78		N 625.70		W 434.28		1433.19		1420.99		S 111.85		E 38.85		162.62		908.23		885.51		39.98		73.63	
2100.00		1710.77		N 693.09		W 487.76		1455.14		1441.43		S 119.66		E 37.12		159.67		1004.30		979.83		41.04		74.19	
2200.00		1761.92		N 761.24		W 540.09		1481.44		1465.76		S 129.34		E 34.72		160.66		1100.57		1074.32		41.94		74.14	
2300.00		1812.98		N 828.09		W 594.15		1516.11		1497.64		S 142.37		E 30.76		164.82		1196.56		1168.49		42.62		73.26	
2400.00		1863.86		N 893.01		W 650.69		1572.70		1549.25		S 163.97		E 22.26		168.56		1291.92		1261.85		42.96		71.58	
2500.00		1913.84		N 956.69		W 709.40		1598.59		1572.73		S 173.81		E 17.58		171.03		1386.68		1354.51		43.10		72.35	
2600.00		1963.01		N 1020.19		W 768.98		2036.89		1968.12		S 294.37		W 89.40		166.69		1479.84		1444.27		41.61		56.87	
2700.00		2011.83		N 1083.22		W 829.35		2160.44		2069.50		S 323.89		W 153.43		168.80		1562.09		1522.98		39.94		54.72	
2800.00		2059.52		N 1145.61		W 891.25		2254.99		2141.44		S 346.95		W 210.23		170.87		1642.64		1599.23		37.84		54.08	
2900.00		2106.61		N 1207.71		W 953.91		2337.27		2199.38		S 367.95		W 264.72		172.02		1722.30		1675.33		36.67		53.99	
3000.00		2153.33		N 1269.76		W 1016.89		2427.50		2258.44		S 391.61		W 328.70		173.65		1801.34		1751.06		35.83		53.63	
3100.00		2199.93		N 1331.78		W 1080.00		2522.37		2317.17		S 416.05		W 399.06		174.95		1879.45		1826.06		35.20		53.12	
3200.00		2246.67		N 1393.84		W 1142.96		2590.55		2357.52		S 433.37		W 451.21		175.88		1956.91		1900.83		34.89		53.18	
3300.00		2293.34		N 1456.06		W 1205.81		2648.15		2391.36		S 448.10		W 495.44		176.77		2034.71		1975.87		34.58		53.26	
3400.00		2339.99		N 1517.87		W 1269.08		2702.61		2423.19		S 462.14		W 537.33		177.54		2112.54		2050.89		34.27		53.17	
3500.00		2386.73		N 1579.60		W 1332.37		2753.87		2452.93		S 475.60		W 576.85		178.20		2190.67		2126.32		34.04		53.57	
3600.00		2433.22		N 1641.57		W 1395.59		2804.20		2481.90		S 489.08		W 615.75		178.66		2269.40		2202.36		33.85		54.08	
3700.00		2480.40		N 1703.96		W 1457.90		2862.16		2514.96		S 504.83		W 660.66		178.62		2348.51		2278.77		33.67		54.70	
3800.00		2528.19		N 1767.19		W 1518.87		2930.30		2553.42		S 523.25		W 713.82		179.11		2427.93		2355.35		33.45		54.98	
3900.00		2576.06		N 1830.51		W 1579.69		2998.36		2591.35		S 541.47		W 767.30		180.00		2507.29		2431.73		33.18		54.74	
4000.00		2623.84		N 1893.92		W 1640.49		3063.67		2627.35		S 558.83		W 818.96		180.78		2586.67		2508.17		32.95		55.12	
4100.00		2671.46		N 1957.90		W 1700.81		3128.51		2662.69		S 575.95		W 870.56		181.45		2666.42		2585.11		32.79		55.17	
4200.00		2719.06		N 2021.67		W 1761.37		3191.51		2696.68		S 592.51		W 920.95		182.46		2746.03		2661.85		32.62		54.76	
4300.00		2766.54		N 2085.26		W 1822.21		3253.75		2729.97		S 608.81		W 970.95		182.96		2825.60		2738.55		32.46		54.97	
4400.00		2814.36		N 2149.55		W 1882.04		3313.08		2761.43		S 624.31		W 1018.80		182.89		2905.56		2815.84		32.39		56.04	
4500.00		2862.39		N 2214.35		W 1941.15		3355.70		2783.87		S 635.56		W 1053.25		183.47		2986.06		2893.71		32.34		56.02	
4600.00		2910.49		N 2279.08		W 2000.29		3397.73		2805.86		S 646.85		W 1087.24		183.66		3066.87		2971.97		32.32		56.41	
4700.00		2958.81		N 2343.91		W 2059.12		3438.99		2827.32		S 658.13		W 1120.62		184.07		3148.07		3050.60		32.30		57.00	
4800.00		3007.00		N 2408.93		W 2117.86		3488.75		2853.06		S 671.95		W 1160.91		184.65		3229.75		3129.67		32.27		56.78	
4900.00		3055.24		N 2473.53		W 2177.02		3558.05		2888.99		S 691.01		W 1217.02		185.45		3311.13		3208.21		32.17		56.08	
5000.00		3103.54		N 2537.80		W 2236.49		3628.84		2925.86		S 710.17		W 1274.33		186.05		3392.14		3286.45		32.09		56.48	
5100.00		3151.32		N 2602.31		W 2296.11		3697.53		2961.79		S 728.46		W 1329.93		187.24		3473.25		3364.69		31.99		55.40	
5200.00		3198.79		N 2666.67		W 2356.15		3753.17		2991.08		S 743.18		W 1374.90		187.64		3554.30		3443.10		31.96		55.77	
5300.00		3246.21		N 2731.22		W 2416.02		3808.69		3020.49		S 757.85		W 1419.65		187.91		3635.56		3521.75		31.94		55.76	
5400.00		3294.14		N 2796.08		W 2475.15		3863.90		3049.93		S 772.43		W 1464.02		187.73		3717.03		3600.69		31.95		56.10	
5500.00		3342.23		N 2860.99		W 2534.08		3919.11		3079.56		S 787.00		W 1508.27		188.17		3798.58		3679.63		31.94		55.65	
5600.00		3390.69		N 2924.72		W 2594.00		3975.69		3110.12		S 801.93		W 1553.49		188.62		3879.34		3757.74		31.90		54.83	
5700.00		3438.73		N 2988.26		W 2654.46		4032.62		3141.06		S 816.93		W 1598.86		189.50		3960.09		3835.82		31.86		54.94	

5800.00	3486.13	N 3052.12	W 2715.08	4089.32	3172.08	S 831.86	W 1643.92	189.54	4041.20	3914.31	31.85	55.15
5900.00	3534.74	N 3116.01	W 2774.71	4145.97	3203.26	S 846.76	W 1688.79	188.63	4122.21	3992.87	31.87	54.85
6000.00	3584.66	N 3179.17	W 2834.02	4201.44	3233.60	S 861.39	W 1732.87	188.70	4202.61	4070.63	31.84	54.84
6100.00	3634.71	N 3242.08	W 2893.49	4255.31	3261.61	S 875.76	W 1776.58	188.52	4282.91	4148.22	31.80	54.83
6200.00	3685.47	N 3304.14	W 2953.26	4308.78	3287.87	S 890.17	W 1820.87	189.17	4362.65	4225.18	31.74	54.88
6300.00	3735.42	N 3366.25	W 3013.65	4361.11	3312.05	S 904.42	W 1865.04	190.16	4442.65	4302.39	31.67	55.41
6400.00	3784.67	N 3428.43	W 3074.54	4412.27	3334.20	S 918.46	W 1908.96	190.76	4522.93	4379.91	31.62	55.50
6500.00	3834.14	N 3489.65	W 3136.23	4463.06	3354.73	S 932.49	W 1953.24	190.97	4602.68	4456.90	31.57	55.20
6600.00	3883.91	N 3550.40	W 3198.13	4512.87	3373.42	S 946.33	W 1997.28	191.13	4682.23	4533.84	31.55	56.04
6700.00	3933.86	N 3611.52	W 3259.53	4584.22	3398.62	S 966.18	W 2061.01	191.61	4762.18	4610.87	31.47	56.00
6800.00	3983.65	N 3672.82	W 3320.87	4709.64	3449.58	S 999.90	W 2170.50	192.58	4841.78	4686.78	31.24	54.11
6900.00	4033.40	N 3734.05	W 3382.32	4847.18	3516.50	S 1034.72	W 2285.45	192.85	4920.52	4761.74	30.99	51.90
7000.00	4084.16	N 3794.19	W 3444.02	4998.22	3602.57	S 1070.03	W 2404.34	192.45	4997.35	4834.69	30.72	49.40
7100.00	4136.13	N 3853.17	W 3505.82	5095.68	3663.47	S 1091.30	W 2477.39	191.69	5072.36	4906.74	30.63	48.32
7200.00	4189.58	N 3911.45	W 3567.03	5184.53	3719.82	S 1110.23	W 2543.44	190.87	5146.43	4978.05	30.56	47.59
7300.00	4244.39	N 3969.03	W 3627.69	5275.21	3778.02	S 1129.11	W 2610.36	190.31	5219.53	5048.39	30.50	46.75
7400.00	4300.22	N 4025.77	W 3688.22	5367.88	3838.21	S 1147.95	W 2678.25	189.84	5291.59	5117.70	30.43	45.87
7500.00	4357.05	N 4081.79	W 3748.49	5458.15	3897.61	S 1165.87	W 2743.83	189.38	5362.68	5186.08	30.36	45.24
7600.00	4414.86	N 4137.33	W 3808.26	5547.68	3957.46	S 1183.26	W 2808.10	188.93	5433.07	5253.77	30.30	44.66
7700.00	4473.46	N 4192.08	W 3868.00	5638.88	4019.40	S 1200.58	W 2872.77	188.73	5502.49	5320.43	30.22	43.60
7800.00	4532.63	N 4245.65	W 3928.24	5732.12	4083.72	S 1217.86	W 2938.02	188.42	5570.64	5385.82	30.14	42.61
7900.00	4592.68	N 4298.30	W 3988.43	5827.12	4150.28	S 1235.03	W 3003.58	187.97	5637.67	5450.10	30.06	41.75
8000.00	4653.69	N 4350.07	W 4048.40	5923.78	4219.05	S 1252.05	W 3069.34	187.52	5703.61	5513.31	29.97	40.91
8095.00	4712.54	N 4398.47	W 4105.14	6004.61	4277.23	S 1265.99	W 3123.69	187.09	5765.32	5572.54	29.91	40.25