

THUMS LONG BEACH COMPANY  
ISLAND CHAFFEE, C-239 M1  
WILMINGTON, CALIFORNIA

SURVEY LISTING Page 1  
Your ref :  
Last revised : 4-Feb-94

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert. Depth	R E C T A N G U L A R C O O R D I N A T E S		Dogleg Deg/100Ft	Vert Sect
1825.00	45.25	125.50	1567.04	471.01 S	617.74 E	0.00	765.77
1831.00	44.75	125.25	1571.28	473.47 S	621.20 E	8.84	769.93
1898.00	42.25	125.00	1619.88	500.00 S	658.92 E	3.74	815.06
1929.00	42.00	124.25	1642.87	511.82 S	676.03 E	1.81	835.37
1960.00	41.75	123.75	1665.96	523.39 S	693.19 E	1.34	855.53
1991.00	42.00	122.50	1689.04	534.70 S	710.52 E	2.81	875.62
2022.00	42.00	122.00	1712.08	545.76 S	728.06 E	1.08	895.68
2115.00	41.25	122.25	1781.60	578.61 S	780.38 E	0.82	955.39
2207.00	41.75	121.75	1850.50	610.92 S	832.07 E	0.65	1014.27
2300.00	42.00	121.50	1919.75	643.47 S	884.93 E	0.32	1074.13
2392.00	42.00	121.75	1988.12	675.75 S	937.35 E	0.18	1133.48
2485.00	41.75	121.75	2057.36	708.42 S	990.14 E	0.27	1193.38
2578.00	43.75	122.25	2125.66	741.87 S	1043.68 E	2.18	1254.35
2671.00	43.50	122.50	2192.98	776.23 S	1097.87 E	0.33	1316.44
2764.00	42.50	122.50	2260.99	810.30 S	1151.36 E	1.08	1377.84
2856.00	43.75	122.25	2328.14	843.98 S	1204.47 E	1.37	1438.70
2949.00	43.25	122.00	2395.60	878.02 S	1258.69 E	0.57	1500.57
3041.00	43.50	121.75	2462.47	911.39 S	1312.34 E	0.33	1561.56
3134.00	44.50	125.00	2529.37	946.93 S	1366.29 E	2.65	1624.35
3226.00	43.75	126.50	2595.41	984.35 S	1418.28 E	1.40	1687.17
3319.00	44.25	127.00	2662.31	1023.00 S	1470.04 E	0.65	1750.74
3412.00	44.75	127.50	2728.64	1062.46 S	1521.93 E	0.66	1814.98
3504.00	44.50	127.00	2794.12	1101.58 S	1573.37 E	0.47	1878.68
3597.00	45.00	127.25	2860.17	1141.09 S	1625.57 E	0.57	1943.18
3628.00	45.25	127.50	2882.04	1154.43 S	1643.03 E	0.99	1964.84
3659.00	45.25	127.25	2903.86	1167.79 S	1660.53 E	0.57	1986.55
3690.00	45.25	128.00	2925.69	1181.23 S	1677.96 E	1.72	2008.27
3721.00	46.00	129.25	2947.37	1195.06 S	1695.28 E	3.76	2030.19
3753.00	46.00	130.00	2969.60	1209.74 S	1713.00 E	1.68	2053.02
3784.00	46.00	132.00	2991.13	1224.38 S	1729.83 E	4.64	2075.20
3815.00	46.00	133.00	3012.67	1239.44 S	1746.28 E	2.32	2097.43
3846.00	46.00	133.25	3034.20	1254.68 S	1762.55 E	0.58	2119.68
3877.00	47.00	133.25	3055.54	1270.09 S	1778.93 E	3.22	2142.11
3908.00	49.00	134.00	3076.28	1285.99 S	1795.61 E	6.70	2165.11
3939.00	50.75	135.50	3096.26	1302.67 S	1812.44 E	6.75	2188.80
3970.00	52.25	137.25	3115.56	1320.24 S	1829.18 E	6.55	2213.06
4001.00	52.25	139.25	3134.54	1338.52 S	1845.50 E	5.10	2237.56
4032.00	52.25	141.00	3153.52	1357.33 S	1861.22 E	4.46	2262.04
4063.00	52.25	143.25	3172.50	1376.68 S	1876.26 E	5.74	2286.45
4155.00	52.25	150.75	3228.82	1437.69 S	1915.88 E	6.44	2358.09
4248.00	51.75	151.50	3286.08	1501.86 S	1951.27 E	0.83	2429.16
4341.00	51.25	152.50	3343.97	1566.13 S	1985.44 E	1.00	2499.46
4434.00	52.00	150.75	3401.70	1630.28 S	2020.09 E	1.68	2570.01
4527.00	52.50	148.25	3458.64	1693.64 S	2057.41 E	2.19	2641.80
4558.00	52.50	148.25	3477.51	1714.55 S	2070.35 E	0.00	2665.92
4575.00	52.25	148.25	3487.89	1726.00 S	2077.44 E	1.47	2679.12
4620.00	53.25	147.00	3515.13	1756.25 S	2096.62 E	3.13	2714.33
4713.00	53.00	149.00	3570.94	1819.34 S	2136.04 E	1.74	2787.36
4806.00	52.50	148.50	3627.23	1882.63 S	2174.45 E	0.69	2859.84
4899.00	52.50	148.75	3683.84	1945.62 S	2212.86 E	0.21	2932.10

All data is in feet unless otherwise stated  
Coordinates from C-239 M1 and TVD from wellhead.  
Vertical section is from N 0.00 E 0.00 on azimuth 137.00 degrees.  
Declination is 0.00 degrees, Convergence is 0.00 degrees.  
Calculation uses the average angle method.  
Presented by Baker Hughes INTEQ