

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

SURVEY LISTING Page 2  
Your ref :  
Last revised : 4-Feb-94

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert. Depth	RECTANGULAR COORDINATES		Dogleg Deg/100Ft	Vert Sect
4992.00	53.75	148.50	3739.65	2009.14 S	2251.59 E	1.36	3004.97
5085.00	53.50	148.50	3794.80	2072.98 S	2290.72 E	0.27	3078.35
5178.00	52.25	147.75	3850.94	2135.95 S	2329.87 E	1.49	3151.11
5270.00	51.75	147.50	3907.58	2197.18 S	2368.69 E	0.58	3222.36
5363.00	51.50	147.75	3965.31	2258.76 S	2407.73 E	0.34	3294.02
5455.00	52.75	148.25	4021.79	2320.34 S	2446.21 E	1.42	3365.30
5548.00	52.75	148.25	4078.09	2383.29 S	2485.17 E	0.00	3437.91
5579.00	52.50	148.25	4096.90	2404.24 S	2498.13 E	0.81	3462.07
5610.00	52.25	148.25	4115.83	2425.12 S	2511.05 E	0.81	3486.15
5641.00	52.00	148.00	4134.86	2445.90 S	2523.97 E	1.03	3510.16
5672.00	51.50	148.00	4154.05	2466.54 S	2536.88 E	1.61	3534.06
5704.00	50.00	147.75	4174.30	2487.53 S	2550.05 E	4.73	3558.40
5735.00	48.50	147.25	4194.54	2507.34 S	2562.67 E	4.99	3581.49
5766.00	48.25	147.25	4215.13	2526.83 S	2575.21 E	0.81	3604.29
5797.00	48.00	147.00	4235.82	2546.21 S	2587.74 E	1.00	3627.01
5828.00	48.00	146.75	4256.56	2565.51 S	2600.32 E	0.60	3649.71
5859.00	46.75	147.00	4277.56	2584.61 S	2612.79 E	4.08	3672.18
5890.00	45.25	146.50	4299.09	2603.26 S	2625.02 E	4.98	3694.16
5921.00	45.00	146.00	4320.96	2621.52 S	2637.22 E	1.40	3715.84
5952.00	44.75	145.25	4342.93	2639.58 S	2649.57 E	1.89	3737.47
5984.00	43.00	145.00	4366.00	2657.77 S	2662.25 E	5.50	3759.42
6015.00	41.75	145.50	4388.90	2674.94 S	2674.16 E	4.18	3780.10
6046.00	41.50	144.75	4412.07	2691.83 S	2685.94 E	1.80	3800.49
6077.00	39.50	144.75	4435.64	2708.27 S	2697.56 E	6.45	3820.44
6108.00	38.25	144.00	4459.78	2724.09 S	2708.89 E	4.31	3839.73
6140.00	38.00	143.50	4484.95	2740.02 S	2720.57 E	1.24	3859.35
6172.00	37.00	144.25	4510.34	2755.76 S	2732.06 E	3.44	3878.69
6204.00	36.25	145.00	4536.02	2771.32 S	2743.11 E	2.73	3897.61
6236.00	35.75	144.75	4561.91	2786.71 S	2753.93 E	1.63	3916.24
6268.00	35.00	145.75	4588.00	2801.93 S	2764.49 E	2.96	3934.58
6300.00	34.00	146.00	4614.37	2816.93 S	2774.66 E	3.16	3952.48
6332.00	33.75	145.50	4640.94	2831.68 S	2784.70 E	1.17	3970.11
6364.00	32.75	145.75	4667.70	2846.16 S	2794.60 E	3.15	3987.46
6396.00	32.00	145.75	4694.73	2860.32 S	2804.24 E	2.34	4004.40
6428.00	31.25	145.25	4721.98	2874.15 S	2813.75 E	2.48	4020.99
6460.00	31.00	145.25	4749.37	2887.74 S	2823.18 E	0.78	4037.36
6492.00	29.50	146.00	4777.01	2901.04 S	2832.28 E	4.83	4053.30
6524.00	28.50	145.75	4805.00	2913.89 S	2840.98 E	3.15	4068.63
6556.00	26.75	146.50	4833.35	2926.21 S	2849.25 E	5.58	4083.28
6588.00	26.00	147.00	4862.02	2938.10 S	2857.05 E	2.44	4097.29
6620.00	25.50	147.50	4890.84	2949.79 S	2864.57 E	1.70	4110.97
6651.00	24.00	147.75	4919.00	2960.75 S	2871.52 E	4.85	4123.72
6683.00	22.75	148.25	4948.37	2971.52 S	2878.24 E	3.96	4136.19
6715.00	20.50	150.00	4978.12	2981.64 S	2884.30 E	7.31	4147.72
6746.00	19.50	150.50	5007.25	2990.84 S	2889.56 E	3.27	4158.04
6778.00	18.25	150.75	5037.53	2999.86 S	2894.64 E	3.91	4168.10
6810.00	17.25	150.50	5068.00	3008.36 S	2899.42 E	3.13	4177.58
6842.00	17.00	151.50	5098.59	3016.60 S	2903.99 E	1.21	4186.72
6874.00	16.75	151.50	5129.21	3024.77 S	2908.42 E	0.78	4195.72
6906.00	16.75	151.25	5159.85	3032.86 S	2912.84 E	0.22	4204.65

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