

DIRECTIONAL SURVEY FOR WELL

PETROMAR
GERENCIA DE DESARROLLO

RAW DATA

WELL NO. Z28-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

THE CONDUCTOR IS VERTICAL

No.	MEASURED DEPTH	DEVIATION ANGLE	ORIENTATION
1	470	0.75	N - 73.00 - E
2	987	2.00	N - 30.00 - W
3	1065	1.00	S - 39.01 - W
4	1127	2.00	S - 32.01 - E
5	1159	3.00	S - 30.01 - E
6	1220	5.00	S - 20.01 - E
7	1313	7.75	S - 27.01 - E
8	1343	9.50	S - 37.01 - E
9	1423	11.00	S - 43.01 - E
10	1515 ✓	12.50	S - 45.01 - E
11	1638	15.25 ✓	S - 48.01 - E
12	1830	19.00	S - 33.51 - E
13	1950	21.25	S - 32.51 - E
14	2075	25.25	S - 31.51 - E
15	2200	29.00	S - 30.51 - E
16	2361	31.75	S - 30.01 - E
17	2517	31.25	S - 29.01 - E
18	2674 ✓	31.25	S - 29.51 - E
19	2829	31.75 ✓	S - 28.01 - E
20	3015	31.25	S - 27.01 - E
21	3255	33.00 ✓	S - 25.51 - E
22	3442	34.50 ✓	S - 24.01 - E
23	3577	34.00	S - 22.51 - E
24	3732	33.50	S - 22.01 - E
25	3888	32.00	S - 21.51 - E
26	4014	31.50 ✓	S - 19.51 - E
27	4234 ✓	31.75	S - 17.01 - E
28	4449	30.50	S - 15.01 - E
29	4630	30.25 ✓	S - 11.01 - E
30	4785	30.50 ✓	S - 10.01 - E
31	4942	31.00 ✓	S - 9.01 - E
32	5145	31.00 ✓	S - 9.01 - E
33	5424	30.25	S - 5.01 - E
34	5580	30.25	S - 1.01 - E
35	5742	30.50 ✓	S - 1.01 - E
36	5958	32.00 ✓	S - 3.01 - E
37	6150	22.75	S - 0.01 - E
38	6700	34.50	S - 2.01 - E
39	7200	33.75	S - 3.01 - E
40	7487	34.00	S - 5.01 - E
41	7609	34.00	S - 5.01 - E
42	7850	36.00	S - 0.01 - E
43	8202	36.00	S - 1.01 - W
44	8682	38.00	S - 3.01 - W

WELL FILE

DIRECTIONAL SURVEY FOR WELL L014-13
RAW DATAPETROMAR
GERENCIA DE DESARROLLO

THE CONDUCTOR IS VERTICAL

No.	MEASURED DEPTH	DEVIATION ANGLE	ORIENTATION
1	470	0.75	N - 73.00 - E
2	987	2.00	N - 30.00 - W
3	1065	1.00	S - 39.01 - W
4	1127	2.00	S - 32.01 - E
5	1159	3.00	S - 30.01 - E
6	1220	5.00	S - 20.01 - E
7	1313	7.75	S - 27.01 - E
8	1343	8.50	S - 37.01 - E
9	1423	11.00	S - 43.01 - E
10	1515	12.50	S - 45.01 - E
11	1638	15.25	S - 48.01 - E
12	1830	19.00	S - 33.51 - E
13	1950	21.25	S - 32.51 - E
14	2075	25.25	S - 31.51 - E
15	2200	29.00	S - 30.51 - E
16	2361	31.75	S - 30.01 - E
17	2517	31.25	S - 29.01 - E
18	2674	31.25	S - 29.51 - E
19	2829	31.75	S - 28.01 - E
20	3015	31.25	S - 27.01 - E
21	3255	33.00	S - 25.51 - E
22	3442	34.50	S - 24.01 - E
23	3577	34.00	S - 22.51 - E
24	3732	33.50	S - 22.01 - E
25	3888	32.00	S - 21.51 - E
26	4014	31.50	S - 19.51 - E
27	4234	31.75	S - 17.01 - E
28	4449	30.50	S - 15.01 - E
29	4630	30.25	S - 11.01 - E
30	4785	30.50	S - 10.01 - E
31	4942	31.00	S - 9.01 - E
32	5145	31.00	S - 9.01 - E
33	5424	30.25	S - 5.01 - E
34	5580	30.25	S - 1.01 - E
35	5742	30.50	S - 1.01 - E
36	5958	32.00	S - 3.01 - E
37	6150	22.75	S - 0.01 - E
38	6700	34.50	S - 2.01 - E
39	7200	33.75	S - 3.01 - E
40	7487	34.00	S - 5.01 - E
41	7609	34.00	S - 5.01 - E
42	7850	36.00	S - 0.01 - E
43	8202	36.00	S - 1.01 - W
44	8682	38.00	S - 3.01 - W

WELL FILE

DIRECTIONAL SURVEY FOR WELL LD16-13

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PETROMAR
 GERENCIA DE DESARROLLO

WELL NO. Z2B-42-B-D-LD16(LD16-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

	MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD -	ORDINATES	HORIZONTAL DISTANCE
*	373	373.00	323.00	N	0.00	E	0.00
	380	380.00	330.00	N	0.00	E	0.01
	390	390.00	340.00	N	0.01	E	0.03
	400	400.00	350.00	N	0.02	E	0.06
	410	410.00	360.00	N	0.03	E	0.11
	420	420.00	370.00	N	0.05	E	0.17
	430	430.00	380.00	N	0.07	E	0.25
	440	440.00	390.00	N	0.10	E	0.33
	450	450.00	400.00	N	0.13	E	0.43
	460	460.00	410.00	N	0.17	E	0.54
*	470	470.00	420.00	N	0.20	E	0.67
	480	480.00	430.00	N	0.32	E	0.60
	490	489.99	439.99	N	0.44	E	0.53
	500	499.99	449.99	N	0.57	E	0.46
	510	509.99	459.99	N	0.69	E	0.39
	520	519.99	469.99	N	0.83	E	0.31
	530	529.99	479.99	N	0.96	E	0.23
	540	539.99	489.99	N	1.10	E	0.15
	550	549.99	499.99	N	1.24	E	0.07
	560	559.99	509.99	N	1.39	W	0.02
	570	569.98	519.98	N	1.54	W	0.10
	580	579.98	529.98	N	1.69	W	0.19
	590	589.98	539.98	N	1.85	W	0.28
	600	599.98	549.98	N	2.01	W	0.37
	610	609.98	559.98	N	2.18	W	0.47
	620	619.98	569.98	N	2.34	W	0.57
	630	629.97	579.97	N	2.52	W	0.67
	640	639.97	589.97	N	2.69	W	0.77
	650	649.97	599.97	N	2.87	W	0.87
	660	659.97	609.97	N	3.05	W	0.98
	670	669.97	619.97	N	3.24	W	1.08
	680	679.96	629.96	N	3.43	W	1.19
	690	689.96	639.96	N	3.62	W	1.31
	700	699.96	649.96	N	3.82	W	1.42
	710	709.96	659.96	N	4.02	W	1.54
	720	719.95	669.95	N	4.23	W	1.65
	730	729.95	679.95	N	4.43	W	1.77
	740	739.95	689.95	N	4.65	W	1.90
	750	749.94	699.94	N	4.86	W	2.02
	760	759.94	709.94	N	5.08	W	2.15
	770	769.94	719.94	N	5.30	W	2.28
	780	779.93	729.93	N	5.53	W	2.41
	790	789.93	739.93	N	5.76	W	2.54
	800	799.93	749.93	N	5.99	W	2.67
	810	809.92	759.92	N	6.23	W	2.81

WELL FILE

DIRECTIONAL SURVEY FOR WELL LD16-13

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PETROMAR
 GERENCIA DE DESARROLLO

WELL NO. Z28-42-8-D-LD16(LD16-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES		HORIZONTAL DISTANCE
820	819.92	769.92	N	6.47	W	2.95
830	829.91	779.91	N	6.72	W	3.09
840	839.91	789.91	N	6.97	W	3.24
850	849.91	799.91	N	7.22	W	3.38
860	859.90	809.90	N	7.48	W	3.53
870	869.90	819.90	N	7.73	W	3.68
880	879.89	829.89	N	8.00	W	3.83
890	889.89	839.89	N	8.26	W	3.99
900	899.88	849.88	N	8.54	W	4.14
910	909.88	859.88	N	8.81	W	4.30
920	919.87	869.87	N	9.09	W	4.46
930	929.87	879.87	N	9.37	W	4.62
940	939.86	889.86	N	9.65	W	4.79
950	949.86	899.86	N	9.94	W	4.95
960	959.85	909.85	N	10.23	W	5.12
970	969.85	919.85	N	10.53	W	5.29
980	979.84	929.84	N	10.83	W	5.47
* 987	986.83	936.83	N	11.04	W	5.59
990	989.83	939.83	N	10.96	W	5.65
1000	999.83	949.83	N	10.71	W	5.85
1010	1,009.82	959.82	N	10.48	W	6.04
1020	1,019.82	969.82	N	10.27	W	6.21
1030	1,029.82	979.82	N	10.07	W	6.37
1040	1,039.81	989.81	N	9.89	W	6.52
1050	1,049.81	999.81	N	9.73	W	6.65
1060	1,059.81	1,009.81	N	9.59	W	6.77
* 1065	1,064.81	1,014.81	N	9.52	W	6.82
1070	1,069.81	1,019.81	N	9.44	W	6.77
1080	1,079.81	1,029.81	N	9.26	W	6.66
1090	1,089.80	1,039.80	N	9.05	W	6.53
1100	1,099.80	1,049.80	N	8.82	W	6.38
1110	1,109.79	1,059.79	N	8.56	W	6.22
1120	1,119.79	1,069.79	N	8.28	W	6.05
* 1127	1,126.79	1,076.79	N	8.07	W	5.92
1130	1,129.78	1,079.78	N	7.98	W	5.86
1140	1,139.77	1,089.77	N	7.62	W	5.65
1150	1,149.76	1,099.76	N	7.20	W	5.42
* 1159	1,158.75	1,108.75	N	6.80	W	5.18
1160	1,159.75	1,109.75	N	6.75	W	5.16
1170	1,169.73	1,119.73	N	6.20	W	4.96
1180	1,179.71	1,129.71	N	5.59	W	4.74
1190	1,189.69	1,139.69	N	4.93	W	4.50
1200	1,199.66	1,149.66	N	4.22	W	4.24
1210	1,209.63	1,159.63	N	3.46	W	3.97
* 1220	1,219.59	1,169.59	N	2.64	W	3.67

WELL FILE

DIRECTIONAL SURVEY FOR WELL L016-13

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WELL FILE

WELL NO. Z28-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES PETROMAR GERENCIA DE DESARROLLO				HORIZONTAL DISTANCE
1230	1,229.54	1,179.54	N	1.82	W	3.25	3.72
1240	1,239.50	1,189.50	N	0.95	W	2.81	2.96
1250	1,249.44	1,199.44	N	0.03	W	2.34	2.34
1260	1,259.39	1,209.39	S	0.93	W	1.85	2.07
1270	1,269.32	1,219.32	S	1.93	W	1.34	2.35
1280	1,279.25	1,229.25	S	2.98	W	0.80	3.09
1290	1,289.18	1,239.18	S	4.08	W	0.25	4.09
1300	1,299.09	1,249.09	S	5.22	E	0.34	5.23
1310	1,309.00	1,259.00	S	6.41	E	0.94	6.48
* 1313	1,311.98	1,261.98	S	6.77	E	1.13	6.86
1320	1,318.91	1,268.91	S	7.54	E	1.71	7.73
1330	1,328.81	1,278.81	S	8.68	E	2.56	9.05
1340	1,338.70	1,288.70	S	9.85	E	3.44	10.43
* 1343	1,341.67	1,291.67	S	10.20	E	3.71	10.85
1350	1,348.59	1,298.59	S	10.98	E	4.43	11.84
1360	1,358.46	1,308.46	S	12.12	E	5.50	13.32
1370	1,368.33	1,318.33	S	13.31	E	6.61	14.86
1380	1,378.19	1,328.19	S	14.54	E	7.76	16.48
1390	1,388.04	1,338.04	S	15.80	E	8.94	18.16
1400	1,397.88	1,347.88	S	17.11	E	10.15	19.90
1410	1,407.71	1,357.71	S	18.45	E	11.41	21.70
1420	1,417.53	1,367.53	S	19.84	E	12.70	23.55
* 1423	1,420.47	1,370.47	S	20.26	E	13.09	24.12
1430	1,427.34	1,377.34	S	21.21	E	14.04	25.44
1440	1,437.15	1,387.15	S	22.59	E	15.43	27.36
1450	1,446.95	1,396.95	S	24.00	E	16.83	29.31
1460	1,456.74	1,406.74	S	25.42	E	18.25	31.29
1470	1,466.53	1,416.53	S	26.86	E	19.69	33.31
1480	1,476.32	1,426.32	S	28.32	E	21.15	35.35
1490	1,486.10	1,436.10	S	29.80	E	22.63	37.42
1500	1,495.87	1,445.87	S	31.30	E	24.14	39.53
1510	1,505.63	1,455.63	S	32.83	E	25.66	41.66
* 1515	1,510.51	1,460.51	S	33.59	E	26.42	42.74
1520	1,515.39	1,465.39	S	34.32	E	27.23	43.81
1530	1,525.14	1,475.14	S	35.81	E	28.88	46.00
1540	1,534.89	1,484.89	S	37.32	E	30.56	48.24
1550	1,544.62	1,494.62	S	38.86	E	32.27	50.51
1560	1,554.34	1,504.34	S	40.42	E	34.01	52.82
1570	1,564.06	1,514.06	S	42.01	E	35.77	55.17
1580	1,573.76	1,523.76	S	43.62	E	37.56	57.56
1590	1,583.46	1,533.46	S	45.26	E	39.38	59.99
1600	1,593.14	1,543.14	S	46.92	E	41.23	62.46
1610	1,602.82	1,552.82	S	48.61	E	43.11	64.97
1620	1,612.48	1,562.48	S	50.33	E	45.01	67.52
1630	1,622.14	1,572.14	S	52.07	E	46.94	70.10

DIRECTIONAL SURVEY FOR WELL LD16-13

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WELL FILE

WELL NO. Z28-42-S-D-LD16(LD16-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES	HORIZONTAL DISTANCE
PETROMAR GERENCIA DE DESARROLLO				
* 1638	1,629.86	1,579.86	S 53.48 E 48.51	72.20
1640	1,631.79	1,581.79	S 53.92 E 48.80	72.72
1650	1,641.42	1,591.42	S 56.14 E 50.27	75.36
1660	1,651.05	1,601.05	S 58.40 E 51.76	78.03
1670	1,660.67	1,610.67	S 60.68 E 53.27	80.74
1680	1,670.28	1,620.28	S 62.98 E 54.80	83.49
1690	1,679.88	1,629.88	S 65.32 E 56.35	86.26
1700	1,689.47	1,639.47	S 67.68 E 57.91	89.08
1710	1,699.05	1,649.05	S 70.07 E 59.49	91.92
1720	1,708.62	1,658.62	S 72.49 E 61.09	94.80
1730	1,718.18	1,668.18	S 74.94 E 62.71	97.71
1740	1,727.73	1,677.73	S 77.41 E 64.34	100.66
1750	1,737.27	1,687.27	S 79.91 E 66.00	103.64
1760	1,746.80	1,696.80	S 82.43 E 67.67	106.65
1770	1,756.32	1,706.32	S 84.98 E 69.36	109.70
1780	1,765.83	1,715.83	S 87.56 E 71.07	112.78
1790	1,775.33	1,725.33	S 90.17 E 72.79	115.89
1800	1,784.82	1,734.82	S 92.81 E 74.54	119.03
1810	1,794.30	1,744.30	S 95.47 E 76.30	122.21
1820	1,803.76	1,753.76	S 98.16 E 78.08	125.42
* 1830	1,813.22	1,763.22	S 100.87 E 79.87	128.66
1840	1,822.66	1,772.66	S 103.64 E 81.64	131.93
1850	1,832.10	1,782.10	S 106.44 E 83.42	135.24
1860	1,841.52	1,791.52	S 109.26 E 85.22	138.57
1870	1,850.93	1,800.93	S 112.11 E 87.04	141.93
1880	1,860.33	1,810.33	S 114.99 E 88.87	145.33
1890	1,869.72	1,819.72	S 117.89 E 90.72	148.76
1900	1,879.10	1,829.10	S 120.82 E 92.58	152.21
1910	1,888.47	1,838.47	S 123.77 E 94.46	155.70
1920	1,897.82	1,847.82	S 126.75 E 96.36	159.22
1930	1,907.16	1,857.16	S 129.76 E 98.28	162.77
1940	1,916.50	1,866.50	S 132.79 E 100.21	166.36
* 1950	1,925.82	1,875.82	S 135.84 E 102.16	169.97
1960	1,935.12	1,885.12	S 138.98 E 104.08	173.63
1970	1,944.39	1,894.39	S 142.16 E 106.02	177.34
1980	1,953.65	1,903.65	S 145.38 E 108.00	181.11
1990	1,962.89	1,912.89	S 148.65 E 110.00	184.92
2000	1,972.10	1,922.10	S 151.96 E 112.03	188.79
2010	1,981.30	1,931.30	S 155.31 E 114.09	192.71
2020	1,990.47	1,940.47	S 158.71 E 116.17	196.68
2030	1,999.62	1,949.62	S 162.15 E 118.28	200.71
2040	2,008.74	1,958.74	S 165.64 E 120.41	204.78
2050	2,017.85	1,967.85	S 169.17 E 122.58	208.91
2060	2,026.93	1,976.93	S 172.74 E 124.77	213.09
2070	2,035.98	1,985.98	S 176.36 E 126.98	217.32

DIRECTIONAL SURVEY FOR WELL LD16-13

10

WELL FILE

WELL NO. Z28-42-B-D-LD16(LD16-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CD - ORDINATES				HORIZONTAL DISTANCE	
PETROMAR								
GERENCIA DE DESARROLLO								
*	2075	2,040.51	1,990.51	S	178.18	E	128.10	219.44
	2080	2,045.02	1,995.02	S	180.02	E	129.18	221.58
	2090	2,054.03	2,004.03	S	183.76	E	131.38	225.90
	2100	2,063.02	2,013.02	S	187.54	E	133.61	230.24
	2110	2,071.99	2,021.99	S	191.35	E	135.86	234.68
	2120	2,080.93	2,030.93	S	195.21	E	138.13	239.14
	2130	2,089.85	2,039.85	S	199.11	E	140.43	243.65
	2140	2,098.74	2,048.74	S	203.05	E	142.75	248.20
	2150	2,107.61	2,057.61	S	207.03	E	145.09	252.81
	2160	2,116.46	2,066.46	S	211.05	E	147.46	257.46
	2170	2,125.28	2,075.28	S	215.10	E	149.85	262.15
	2180	2,134.08	2,084.08	S	219.20	E	152.26	266.90
	2190	2,142.85	2,092.85	S	223.34	E	154.70	271.68
*	2200	2,151.59	2,101.59	S	227.52	E	157.16	276.52
	2210	2,160.32	2,110.32	S	231.74	E	159.60	281.38
	2220	2,169.04	2,119.04	S	235.98	E	162.05	286.26
	2230	2,177.74	2,127.74	S	240.25	E	164.51	291.17
	2240	2,186.43	2,136.43	S	244.54	E	166.99	296.11
	2250	2,195.11	2,145.11	S	248.85	E	169.47	301.08
	2260	2,203.76	2,153.76	S	253.18	E	171.98	306.07
	2270	2,212.41	2,162.41	S	257.54	E	174.49	311.08
	2280	2,221.03	2,171.03	S	261.92	E	177.02	316.12
	2290	2,229.65	2,179.65	S	266.32	E	179.56	321.19
	2300	2,238.25	2,188.25	S	270.74	E	182.11	326.29
	2310	2,246.83	2,196.83	S	275.18	E	184.68	331.41
	2320	2,255.40	2,205.40	S	279.65	E	187.26	336.55
	2330	2,263.95	2,213.95	S	284.14	E	189.85	341.73
	2340	2,272.48	2,222.48	S	288.65	E	192.45	346.92
	2350	2,281.00	2,231.00	S	293.18	E	195.07	352.15
	2360	2,289.51	2,239.51	S	297.74	E	197.70	357.40
*	2361	2,290.36	2,240.36	S	298.19	E	197.96	357.92
	2370	2,298.02	2,248.02	S	302.33	E	200.26	362.64
	2380	2,306.52	2,256.52	S	306.93	E	202.80	367.88
	2390	2,315.04	2,265.04	S	311.52	E	205.35	373.11
	2400	2,323.55	2,273.55	S	316.10	E	207.89	378.34
	2410	2,332.07	2,282.07	S	320.68	E	210.43	383.56
	2420	2,340.59	2,290.59	S	325.26	E	212.97	388.78
	2430	2,349.11	2,299.11	S	329.84	E	215.50	394.00
	2440	2,357.64	2,307.64	S	334.40	E	218.03	399.21
	2450	2,366.17	2,316.17	S	338.97	E	220.57	404.41
	2460	2,374.70	2,324.70	S	343.53	E	223.09	409.61
	2470	2,383.24	2,333.24	S	348.09	E	225.62	414.81
	2480	2,391.78	2,341.78	S	352.64	E	228.14	420.01
	2490	2,400.32	2,350.32	S	357.19	E	230.66	425.19
	2500	2,408.86	2,358.86	S	361.73	E	233.18	430.38

DIRECTIONAL SURVEY FOR WELL L016-13

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WELL NO. Z2B-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CD - ORDINATES PETROMAR GERENCIA DE DESARROLLO				HORIZONTAL DISTANCE	
	2510	2,417.41	2,367.41	S	366.27	E	235.70	435.56
*	2517	2,423.39	2,373.39	S	369.45	E	237.46	439.18
	2520	2,425.96	2,375.96	S	370.80	E	238.23	440.74
	2530	2,434.51	2,384.51	S	375.32	E	240.78	445.91
	2540	2,443.04	2,393.06	S	379.83	E	243.34	451.09
	2550	2,451.61	2,401.61	S	384.35	E	245.89	456.27
	2560	2,460.16	2,410.16	S	388.86	E	248.44	461.45
	2570	2,468.70	2,418.70	S	393.38	E	251.00	466.63
	2580	2,477.25	2,427.25	S	397.89	E	253.55	471.82
	2590	2,485.80	2,435.80	S	402.41	E	256.11	477.00
	2600	2,494.35	2,444.35	S	406.93	E	258.66	482.18
	2610	2,502.90	2,452.90	S	411.44	E	261.22	487.36
	2620	2,511.45	2,461.45	S	415.96	E	263.77	492.54
	2630	2,520.00	2,470.00	S	420.47	E	266.33	497.72
	2640	2,528.55	2,478.55	S	424.99	E	268.88	502.90
	2650	2,537.10	2,487.10	S	429.50	E	271.43	508.08
	2660	2,545.65	2,495.65	S	434.02	E	273.99	513.26
	2670	2,554.20	2,504.20	S	438.53	E	276.54	518.45
*	2674	2,557.61	2,507.61	S	440.34	E	277.57	520.52
	2680	2,562.74	2,512.74	S	443.09	E	279.03	523.62
	2690	2,571.29	2,521.29	S	447.67	E	281.47	528.81
	2700	2,579.83	2,529.83	S	452.27	E	283.91	533.99
	2710	2,588.37	2,538.37	S	456.86	E	286.35	539.18
	2720	2,596.90	2,546.90	S	461.46	E	288.80	544.38
	2730	2,605.44	2,555.44	S	466.07	E	291.25	549.58
	2740	2,613.97	2,563.97	S	470.67	E	293.70	554.79
	2750	2,622.49	2,572.49	S	475.29	E	296.15	560.00
	2760	2,631.02	2,581.02	S	479.90	E	298.60	565.22
	2770	2,639.54	2,589.54	S	484.52	E	301.06	570.44
	2780	2,648.06	2,598.06	S	489.15	E	303.52	575.67
	2790	2,656.57	2,606.57	S	493.78	E	305.98	580.90
	2800	2,665.08	2,615.08	S	498.41	E	308.44	586.14
	2810	2,673.59	2,623.59	S	503.05	E	310.91	591.38
	2820	2,682.10	2,632.10	S	507.69	E	313.38	596.62
*	2829	2,689.75	2,639.75	S	511.88	E	315.60	601.35
	2830	2,690.60	2,640.60	S	512.34	E	315.84	601.87
	2840	2,699.11	2,649.11	S	517.03	E	318.23	607.11
	2850	2,707.62	2,657.62	S	521.71	E	320.61	612.35
	2860	2,716.13	2,666.13	S	526.39	E	323.00	617.58
	2870	2,724.64	2,674.64	S	531.06	E	325.38	622.81
	2880	2,733.16	2,683.16	S	535.73	E	327.76	628.04
	2890	2,741.68	2,691.68	S	540.40	E	330.14	633.26
	2900	2,750.20	2,700.20	S	545.06	E	332.51	638.48
	2910	2,758.72	2,708.72	S	549.72	E	334.89	643.69
	2920	2,767.25	2,717.25	S	554.38	E	337.26	648.91

WELL FILE

DIRECTIONAL SURVEY FOR WELL L016-13

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WELL FILE

WELL NO. Z28-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES PETROMAR GERENCIA DE DESARROLLO				HORIZONTAL DISTANCE
2930	2,775.78	2,725.78	S	559.03	E	339.63	654.11
2940	2,784.31	2,734.31	S	563.68	E	342.00	659.32
2950	2,792.84	2,742.84	S	568.33	E	344.36	664.52
2960	2,801.38	2,751.38	S	572.97	E	346.73	669.71
2970	2,809.91	2,759.91	S	577.61	E	349.09	674.90
2980	2,818.45	2,768.45	S	582.24	E	351.45	680.09
2990	2,827.00	2,777.00	S	586.87	E	353.81	685.28
3000	2,835.54	2,785.54	S	591.50	E	356.17	690.46
3010	2,844.09	2,794.09	S	596.12	E	358.53	695.63
* 3015	2,848.36	2,798.36	S	598.43	E	359.71	698.22
3020	2,852.64	2,802.64	S	600.78	E	360.82	700.80
3030	2,861.18	2,811.18	S	605.47	E	363.06	705.99
3040	2,869.71	2,819.71	S	610.18	E	365.31	711.18
3050	2,878.24	2,828.24	S	614.90	E	367.56	716.38
3060	2,886.76	2,836.76	S	619.62	E	369.81	721.59
3070	2,895.27	2,845.27	S	624.36	E	372.07	726.82
3080	2,903.77	2,853.77	S	629.11	E	374.34	732.05
3090	2,912.27	2,862.27	S	633.86	E	376.60	737.30
3100	2,920.77	2,870.77	S	638.63	E	378.88	742.56
3110	2,929.25	2,879.25	S	643.40	E	381.15	747.83
3120	2,937.73	2,887.73	S	648.19	E	383.44	753.11
3130	2,946.20	2,896.20	S	652.98	E	385.72	758.40
3140	2,954.67	2,904.67	S	657.79	E	388.01	763.70
3150	2,963.13	2,913.13	S	662.60	E	390.31	769.02
3160	2,971.58	2,921.58	S	667.43	E	392.61	774.34
3170	2,980.02	2,930.02	S	672.26	E	394.92	779.67
3180	2,988.46	2,938.46	S	677.10	E	397.23	785.02
3190	2,996.89	2,946.89	S	681.96	E	399.54	790.38
3200	3,005.32	2,955.32	S	686.82	E	401.86	795.75
3210	3,013.74	2,963.74	S	691.69	E	404.19	801.13
3220	3,022.15	2,972.15	S	696.57	E	406.51	806.52
3230	3,030.55	2,980.55	S	701.46	E	408.85	811.92
3240	3,038.95	2,988.95	S	706.37	E	411.19	817.33
3250	3,047.34	2,997.34	S	711.28	E	413.53	822.75
* 3255	3,051.53	3,001.53	S	713.73	E	414.70	825.47
3260	3,055.72	3,005.72	S	716.23	E	415.81	828.18
3270	3,064.10	3,014.10	S	721.22	E	418.03	833.61
3280	3,072.47	3,022.47	S	726.22	E	420.26	839.05
3290	3,080.83	3,030.83	S	731.23	E	422.49	844.51
3300	3,089.18	3,039.18	S	736.26	E	424.73	849.98
3310	3,097.52	3,047.52	S	741.29	E	426.97	855.46
3320	3,105.86	3,055.86	S	746.33	E	429.21	860.95
3330	3,114.19	3,064.19	S	751.39	E	431.46	866.46
3340	3,122.51	3,072.51	S	756.46	E	433.72	871.97
3350	3,130.82	3,080.82	S	761.53	E	435.98	877.50

DIRECTIONAL SURVEY FOR WELL L016-13

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WELL FILE

WELL NO. Z28-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES PETROMAR GERENCIA DE DESARROLLO				HORIZONTAL DISTANCE
3360	3,139.13	3,089.13	S	766.62	E	438.25	883.04
3370	3,147.43	3,097.43	S	771.72	E	440.52	888.60
3380	3,155.72	3,105.72	S	776.83	E	442.79	894.16
3390	3,164.00	3,114.00	S	781.95	E	445.07	899.74
3400	3,172.27	3,122.27	S	787.08	E	447.35	905.33
3410	3,180.54	3,130.54	S	792.22	E	449.64	910.93
3420	3,188.80	3,138.80	S	797.37	E	451.94	916.54
3430	3,197.05	3,147.05	S	802.53	E	454.23	922.16
3440	3,205.29	3,155.29	S	807.70	E	456.54	927.80
* 3442	3,206.94	3,156.94	S	808.74	E	457.00	928.93
3450	3,213.54	3,163.54	S	812.92	E	458.73	933.42
3460	3,221.79	3,171.79	S	818.14	E	460.89	939.03
3470	3,230.04	3,180.04	S	823.36	E	463.06	944.64
3480	3,238.29	3,188.29	S	828.58	E	465.22	950.25
3490	3,246.55	3,196.55	S	833.79	E	467.37	955.84
3500	3,254.81	3,204.81	S	838.99	E	469.53	961.44
3510	3,263.08	3,213.08	S	844.19	E	471.68	967.03
3520	3,271.35	3,221.35	S	849.39	E	473.83	972.61
3530	3,279.62	3,229.62	S	854.57	E	475.98	978.19
3540	3,287.90	3,237.90	S	859.76	E	478.13	983.77
3550	3,296.18	3,246.18	S	864.94	E	480.28	989.34
3560	3,304.46	3,254.46	S	870.11	E	482.42	994.90
3570	3,312.75	3,262.75	S	875.28	E	484.56	1,000.46
* 3577	3,318.56	3,268.56	S	878.90	E	486.06	1,004.35
3580	3,321.04	3,271.04	S	880.45	E	486.69	1,006.01
3590	3,329.34	3,279.34	S	885.63	E	488.78	1,011.56
3600	3,337.63	3,287.63	S	890.81	E	490.87	1,017.10
3610	3,345.94	3,295.94	S	895.98	E	492.96	1,022.64
3620	3,354.24	3,304.24	S	901.14	E	495.05	1,028.17
3630	3,362.55	3,312.55	S	906.31	E	497.13	1,033.70
3640	3,370.86	3,320.86	S	911.46	E	499.22	1,039.22
3650	3,379.17	3,329.17	S	916.62	E	501.30	1,044.74
3660	3,387.49	3,337.49	S	921.77	E	503.38	1,050.26
3670	3,395.81	3,345.81	S	926.91	E	505.46	1,055.77
3680	3,404.13	3,354.13	S	932.05	E	507.53	1,061.28
3690	3,412.45	3,362.45	S	937.19	E	509.61	1,066.78
3700	3,420.78	3,370.78	S	942.32	E	511.68	1,072.28
3710	3,429.12	3,379.12	S	947.44	E	513.75	1,077.77
3720	3,437.45	3,387.45	S	952.57	E	515.82	1,083.26
3730	3,445.79	3,395.79	S	957.68	E	517.89	1,088.75
* 3732	3,447.46	3,397.46	S	958.71	E	518.30	1,089.84
3740	3,454.13	3,404.13	S	962.81	E	519.92	1,094.22
3750	3,462.49	3,412.49	S	967.92	E	521.93	1,099.67
3760	3,470.85	3,420.85	S	973.02	E	523.94	1,105.11
3770	3,479.23	3,429.23	S	978.10	E	525.94	1,110.54

DIRECTIONAL SURVEY FOR WELL L016-13

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WELL FILE

WELL NO. Z28-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES				HORIZONTAL DISTANCE
PETROMAR							
GERENCIA DE DESARROLLO							
3780	3,487.61	3,437.61	S	983.18	E	527.94	1,115.96
3790	3,496.00	3,446.00	S	988.24	E	529.93	1,121.36
3800	3,504.41	3,454.41	S	993.28	E	531.92	1,126.74
3810	3,512.82	3,462.82	S	998.32	E	533.90	1,132.12
3820	3,521.23	3,471.23	S	1,003.34	E	535.88	1,137.48
3830	3,529.66	3,479.66	S	1,008.34	E	537.85	1,142.82
3840	3,538.10	3,488.10	S	1,013.34	E	539.82	1,148.15
3850	3,546.55	3,496.55	S	1,018.32	E	541.78	1,153.47
3860	3,555.00	3,505.00	S	1,023.29	E	543.74	1,158.78
3870	3,563.47	3,513.47	S	1,028.24	E	545.69	1,164.07
3880	3,571.94	3,521.94	S	1,033.18	E	547.64	1,169.35
* 3888	3,578.73	3,528.73	S	1,037.12	E	549.19	1,173.56
3890	3,580.42	3,530.42	S	1,038.12	E	549.54	1,174.61
3900	3,588.91	3,538.91	S	1,043.11	E	551.31	1,179.84
3910	3,597.40	3,547.40	S	1,048.09	E	553.08	1,185.07
3920	3,605.89	3,555.89	S	1,053.07	E	554.84	1,190.30
3930	3,614.38	3,564.38	S	1,058.04	E	556.60	1,195.52
3940	3,622.88	3,572.88	S	1,063.01	E	558.36	1,200.73
3950	3,631.39	3,581.39	S	1,067.97	E	560.11	1,205.94
3960	3,639.89	3,589.89	S	1,072.93	E	561.87	1,211.14
3970	3,648.40	3,598.40	S	1,077.88	E	563.62	1,216.34
3980	3,656.92	3,606.92	S	1,082.82	E	565.37	1,221.53
3990	3,665.44	3,615.44	S	1,087.76	E	567.12	1,226.72
4000	3,673.96	3,623.96	S	1,092.69	E	568.87	1,231.90
4010	3,682.48	3,632.48	S	1,097.62	E	570.61	1,237.08
* 4014	3,685.89	3,635.89	S	1,099.59	E	571.31	1,239.15
4020	3,691.01	3,641.01	S	1,102.59	E	572.23	1,242.23
4030	3,699.53	3,649.53	S	1,107.59	E	573.76	1,247.38
4040	3,708.06	3,658.06	S	1,112.59	E	575.28	1,252.52
4050	3,716.58	3,666.58	S	1,117.59	E	576.81	1,257.67
4060	3,725.10	3,675.10	S	1,122.59	E	578.34	1,262.81
4070	3,733.62	3,683.62	S	1,127.60	E	579.87	1,267.97
4080	3,742.14	3,692.14	S	1,132.61	E	581.41	1,273.12
4090	3,750.66	3,700.66	S	1,137.62	E	582.94	1,278.27
4100	3,759.18	3,709.18	S	1,142.63	E	584.47	1,283.43
4110	3,767.69	3,717.69	S	1,147.64	E	586.00	1,288.59
4120	3,776.21	3,726.21	S	1,152.65	E	587.53	1,293.76
4130	3,784.72	3,734.72	S	1,157.67	E	589.07	1,298.92
4140	3,793.24	3,743.24	S	1,162.69	E	590.60	1,304.09
4150	3,801.75	3,751.75	S	1,167.70	E	592.14	1,309.26
4160	3,810.26	3,760.26	S	1,172.72	E	593.67	1,314.43
4170	3,818.77	3,768.77	S	1,177.75	E	595.21	1,319.60
4180	3,827.28	3,777.28	S	1,182.77	E	596.74	1,324.78
4190	3,835.79	3,785.79	S	1,187.79	E	598.28	1,329.96
4200	3,844.29	3,794.29	S	1,192.82	E	599.81	1,335.14

DIRECTIONAL SURVEY FOR WELL L016-13

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WELL FILE

WELL NO. Z28-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES PETROMAR GERENCIA DE DESARROLLO		HORIZONTAL DISTANCE
4210	3,852.80	3,802.80	S 1,197.85	E 601.35	1,340.32
4220	3,861.31	3,811.31	S 1,202.88	E 602.89	1,345.51
4230	3,869.81	3,819.81	S 1,207.91	E 604.43	1,350.70
* 4234	3,873.21	3,823.21	S 1,209.92	E 605.04	1,352.77
4240	3,878.32	3,828.32	S 1,212.97	E 605.86	1,355.86
4250	3,886.83	3,836.83	S 1,218.04	E 607.22	1,361.00
4260	3,895.34	3,845.34	S 1,223.10	E 608.57	1,366.14
4270	3,903.87	3,853.87	S 1,228.15	E 609.93	1,371.27
4280	3,912.40	3,862.40	S 1,233.20	E 611.28	1,376.39
4290	3,920.93	3,870.93	S 1,238.23	E 612.63	1,381.50
4300	3,929.47	3,879.47	S 1,243.26	E 613.98	1,386.60
4310	3,938.01	3,888.01	S 1,248.28	E 615.32	1,391.70
4320	3,946.56	3,896.56	S 1,253.29	E 616.66	1,396.79
4330	3,955.12	3,905.12	S 1,258.29	E 618.00	1,401.87
4340	3,963.67	3,913.67	S 1,263.29	E 619.34	1,406.94
4350	3,972.24	3,922.24	S 1,268.27	E 620.68	1,412.01
4360	3,980.81	3,930.81	S 1,273.25	E 622.01	1,417.06
4370	3,989.39	3,939.39	S 1,278.22	E 623.34	1,422.11
4380	3,997.97	3,947.97	S 1,283.18	E 624.67	1,427.15
4390	4,006.55	3,956.55	S 1,288.13	E 626.00	1,432.19
4400	4,015.14	3,965.14	S 1,293.08	E 627.32	1,437.21
4410	4,023.74	3,973.74	S 1,298.01	E 628.65	1,442.23
4420	4,032.34	3,982.34	S 1,302.94	E 629.97	1,447.24
4430	4,040.95	3,990.95	S 1,307.86	E 631.28	1,452.24
4440	4,049.56	3,999.56	S 1,312.77	E 632.60	1,457.24
* 4449	4,057.31	4,007.31	S 1,317.18	E 633.78	1,461.72
4450	4,058.17	4,008.17	S 1,317.68	E 633.98	1,462.22
4460	4,066.79	4,016.79	S 1,322.66	E 634.85	1,467.12
4470	4,075.41	4,025.41	S 1,327.64	E 635.81	1,472.03
4480	4,084.03	4,034.03	S 1,332.61	E 636.78	1,476.94
4490	4,092.65	4,042.65	S 1,337.58	E 637.75	1,481.84
4500	4,101.28	4,051.28	S 1,342.56	E 638.71	1,486.75
4510	4,109.90	4,059.90	S 1,347.53	E 639.68	1,491.65
4520	4,118.52	4,068.52	S 1,352.49	E 640.65	1,496.55
4530	4,127.15	4,077.15	S 1,357.46	E 641.61	1,501.45
4540	4,135.78	4,085.78	S 1,362.42	E 642.58	1,506.35
4550	4,144.41	4,094.41	S 1,367.38	E 643.54	1,511.25
4560	4,153.04	4,103.04	S 1,372.34	E 644.50	1,516.15
4570	4,161.67	4,111.67	S 1,377.30	E 645.47	1,521.05
4580	4,170.30	4,120.30	S 1,382.26	E 646.43	1,525.94
4590	4,178.93	4,128.93	S 1,387.21	E 647.39	1,530.84
4600	4,187.57	4,137.57	S 1,392.16	E 648.36	1,535.73
4610	4,196.20	4,146.20	S 1,397.11	E 649.32	1,540.63
4620	4,204.84	4,154.84	S 1,402.06	E 650.28	1,545.52
* 4630	4,213.48	4,163.48	S 1,407.00	E 651.24	1,550.41

DIRECTIONAL SURVEY FOR WELL L016-13

10

WELL FILE

WELL NO. Z28-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
			PETROMAR		
			GERENCIA DE DESARROLLO		
4440	4,222.12	4,172.12	S 1,411.97	E 652.12	1,555.28
4450	4,230.75	4,180.75	S 1,416.93	E 652.99	1,560.16
4460	4,239.39	4,189.39	S 1,421.90	E 653.87	1,565.04
4470	4,248.02	4,198.02	S 1,426.87	E 654.74	1,569.92
4480	4,256.65	4,206.65	S 1,431.84	E 655.62	1,574.81
4490	4,265.28	4,215.28	S 1,436.82	E 656.50	1,579.70
4700	4,273.91	4,223.91	S 1,441.80	E 657.38	1,584.59
4710	4,282.54	4,232.54	S 1,446.78	E 658.25	1,589.48
4720	4,291.16	4,241.16	S 1,451.76	E 659.13	1,594.38
4730	4,299.79	4,249.79	S 1,456.74	E 660.01	1,599.29
4740	4,308.41	4,258.41	S 1,461.73	E 660.89	1,604.19
4750	4,317.03	4,267.03	S 1,466.72	E 661.77	1,609.10
4760	4,325.65	4,275.65	S 1,471.71	E 662.65	1,614.02
4770	4,334.27	4,284.27	S 1,476.71	E 663.53	1,618.93
4780	4,342.89	4,292.89	S 1,481.71	E 664.41	1,623.85
* 4785	4,347.19	4,297.19	S 1,484.20	E 664.85	1,626.31
4790	4,351.50	4,301.50	S 1,486.71	E 665.25	1,628.76
4800	4,360.11	4,310.11	S 1,491.73	E 666.05	1,633.67
4810	4,368.72	4,318.72	S 1,496.76	E 666.84	1,638.58
4820	4,377.33	4,327.33	S 1,501.79	E 667.64	1,643.50
4830	4,385.93	4,335.93	S 1,506.82	E 668.44	1,648.43
4840	4,394.53	4,344.53	S 1,511.86	E 669.23	1,653.36
4850	4,403.13	4,353.13	S 1,516.90	E 670.03	1,658.29
4860	4,411.73	4,361.73	S 1,521.95	E 670.83	1,663.24
4870	4,420.32	4,370.32	S 1,527.00	E 671.63	1,668.18
4880	4,428.91	4,378.91	S 1,532.06	E 672.43	1,673.13
4890	4,437.50	4,387.50	S 1,537.12	E 673.24	1,678.09
4900	4,446.08	4,396.08	S 1,542.19	E 674.04	1,683.06
4910	4,454.66	4,404.66	S 1,547.26	E 674.84	1,688.03
4920	4,463.24	4,413.24	S 1,552.34	E 675.65	1,693.00
4930	4,471.81	4,421.81	S 1,557.42	E 676.45	1,697.98
4940	4,480.39	4,430.39	S 1,562.51	E 677.26	1,702.97
* 4942	4,482.10	4,432.10	S 1,563.52	E 677.42	1,703.97
4950	4,488.96	4,438.96	S 1,567.59	E 678.06	1,707.96
4960	4,497.53	4,447.53	S 1,572.68	E 678.87	1,712.95
4970	4,506.10	4,456.10	S 1,577.77	E 679.67	1,717.94
4980	4,514.67	4,464.67	S 1,582.85	E 680.48	1,722.93
4990	4,523.24	4,473.24	S 1,587.94	E 681.28	1,727.92
5000	4,531.82	4,481.82	S 1,593.03	E 682.09	1,732.91
5010	4,540.39	4,490.39	S 1,598.12	E 682.90	1,737.91
5020	4,548.96	4,498.96	S 1,603.20	E 683.70	1,742.90
5030	4,557.53	4,507.53	S 1,608.29	E 684.51	1,747.90
5040	4,566.10	4,516.10	S 1,613.38	E 685.31	1,752.89
5050	4,574.67	4,524.67	S 1,618.46	E 686.12	1,757.89
5060	4,583.25	4,533.25	S 1,623.55	E 686.92	1,762.89

DIRECTIONAL SURVEY FOR WELL LO16-13

10

WELL FILE

WELL NO. Z28-42-B-D-LO16(LO16-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
			PETROMAR		
			GERENCIA DE DESARROLLO		
5070	4,591.82	4,541.82	S 1,628.64	E 687.73	1,767.89
5080	4,600.39	4,550.39	S 1,633.72	E 688.53	1,772.89
5090	4,608.96	4,558.96	S 1,638.81	E 689.34	1,777.89
5100	4,617.53	4,567.53	S 1,643.90	E 690.15	1,782.89
5110	4,626.11	4,576.11	S 1,648.98	E 690.95	1,787.89
5120	4,634.68	4,584.68	S 1,654.07	E 691.76	1,792.90
5130	4,643.25	4,593.25	S 1,659.16	E 692.56	1,797.90
5140	4,651.82	4,601.82	S 1,664.25	E 693.37	1,802.91
* 5145	4,656.11	4,606.11	S 1,666.79	E 693.77	1,805.41
5150	4,660.39	4,610.39	S 1,669.35	E 694.00	1,807.86
5160	4,668.97	4,618.97	S 1,674.48	E 694.44	1,812.77
5170	4,677.55	4,627.55	S 1,679.60	E 694.89	1,817.67
5180	4,686.13	4,636.13	S 1,684.71	E 695.34	1,822.57
5190	4,694.71	4,644.71	S 1,689.83	E 695.79	1,827.47
5200	4,703.29	4,653.29	S 1,694.94	E 696.23	1,832.36
5210	4,711.88	4,661.88	S 1,700.04	E 696.68	1,837.25
5220	4,720.47	4,670.47	S 1,705.14	E 697.13	1,842.14
5230	4,729.06	4,679.06	S 1,710.24	E 697.57	1,847.03
5240	4,737.66	4,687.66	S 1,715.33	E 698.02	1,851.91
5250	4,746.25	4,696.25	S 1,720.42	E 698.46	1,856.80
5260	4,754.85	4,704.85	S 1,725.50	E 698.91	1,861.68
5270	4,763.44	4,713.44	S 1,730.58	E 699.35	1,866.55
5280	4,772.06	4,722.06	S 1,735.66	E 699.80	1,871.43
5290	4,780.67	4,730.67	S 1,740.73	E 700.24	1,876.30
5300	4,789.28	4,739.28	S 1,745.80	E 700.68	1,881.17
5310	4,797.89	4,747.89	S 1,750.87	E 701.13	1,886.03
5320	4,806.50	4,756.50	S 1,755.93	E 701.57	1,890.89
5330	4,815.12	4,765.12	S 1,760.98	E 702.01	1,895.75
5340	4,823.74	4,773.74	S 1,766.04	E 702.45	1,900.61
5350	4,832.36	4,782.36	S 1,771.08	E 702.90	1,905.47
5360	4,840.98	4,790.98	S 1,776.13	E 703.34	1,910.32
5370	4,849.60	4,799.60	S 1,781.17	E 703.78	1,915.17
5380	4,858.23	4,808.23	S 1,786.20	E 704.22	1,920.01
5390	4,866.86	4,816.86	S 1,791.24	E 704.66	1,924.86
5400	4,875.50	4,825.50	S 1,796.27	E 705.10	1,929.70
5410	4,884.13	4,834.13	S 1,801.29	E 705.54	1,934.54
5420	4,892.77	4,842.77	S 1,806.31	E 705.98	1,939.37
* 5424	4,896.22	4,846.22	S 1,808.32	E 706.15	1,941.30
5430	4,901.41	4,851.41	S 1,811.34	E 706.21	1,944.14
5440	4,910.05	4,860.05	S 1,816.38	E 706.29	1,948.86
5450	4,918.68	4,868.68	S 1,821.41	E 706.38	1,953.59
5460	4,927.32	4,877.32	S 1,826.45	E 706.47	1,958.32
5470	4,935.96	4,885.96	S 1,831.49	E 706.56	1,963.05
5480	4,944.60	4,894.60	S 1,836.52	E 706.65	1,967.78
5490	4,953.24	4,903.24	S 1,841.56	E 706.73	1,972.52

DIRECTIONAL SURVEY FOR WELL L016-13

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WELL FILE

WELL NO. Z28-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES PETROMAR GERENCIA DE DESARROLLO		HORIZONTAL DISTANCE
5500	4,961.88	4,911.88	S 1,846.60	E 706.82	1,977.25
5510	4,970.51	4,920.51	S 1,851.63	E 706.91	1,981.99
5520	4,979.15	4,929.15	S 1,856.67	E 707.00	1,986.72
5530	4,987.79	4,937.79	S 1,861.71	E 707.09	1,991.46
5540	4,996.43	4,946.43	S 1,866.74	E 707.17	1,996.20
5550	5,005.07	4,955.07	S 1,871.78	E 707.26	2,000.95
5560	5,013.70	4,963.70	S 1,876.82	E 707.35	2,005.69
5570	5,022.34	4,972.34	S 1,881.86	E 707.44	2,010.43
* 5580	5,030.98	4,980.98	S 1,886.89	E 707.52	2,015.18
5590	5,039.62	4,989.62	S 1,891.93	E 707.61	2,019.93
5600	5,048.25	4,998.25	S 1,896.97	E 707.70	2,024.68
5610	5,056.89	5,006.89	S 1,902.02	E 707.79	2,029.44
5620	5,065.52	5,015.52	S 1,907.06	E 707.88	2,034.20
5630	5,074.15	5,024.15	S 1,912.11	E 707.96	2,038.97
5640	5,082.78	5,032.78	S 1,917.16	E 708.05	2,043.73
5650	5,091.41	5,041.41	S 1,922.22	E 708.14	2,048.51
5660	5,100.04	5,050.04	S 1,927.27	E 708.23	2,053.28
5670	5,108.67	5,058.67	S 1,932.33	E 708.32	2,058.06
5680	5,117.29	5,067.29	S 1,937.39	E 708.41	2,062.84
5690	5,125.91	5,075.91	S 1,942.45	E 708.49	2,067.63
5700	5,134.54	5,084.54	S 1,947.52	E 708.58	2,072.42
5710	5,143.16	5,093.16	S 1,952.58	E 708.67	2,077.21
5720	5,151.78	5,101.78	S 1,957.65	E 708.76	2,082.01
5730	5,160.39	5,110.39	S 1,962.72	E 708.85	2,086.80
5740	5,169.01	5,119.01	S 1,967.80	E 708.94	2,091.61
* 5742	5,170.73	5,120.73	S 1,968.81	E 708.95	2,092.57
5750	5,177.62	5,127.62	S 1,972.88	E 709.17	2,096.46
5760	5,186.23	5,136.23	S 1,977.96	E 709.43	2,101.34
5770	5,194.83	5,144.83	S 1,983.06	E 709.70	2,106.23
5780	5,203.42	5,153.42	S 1,988.17	E 709.97	2,111.13
5790	5,212.01	5,162.01	S 1,993.29	E 710.24	2,116.04
5800	5,220.59	5,170.59	S 1,998.41	E 710.51	2,120.96
5810	5,229.16	5,179.16	S 2,003.55	E 710.78	2,125.89
5820	5,237.73	5,187.73	S 2,008.70	E 711.04	2,130.84
5830	5,246.29	5,196.29	S 2,013.86	E 711.32	2,135.79
5840	5,254.85	5,204.85	S 2,019.03	E 711.59	2,140.76
5850	5,263.40	5,213.40	S 2,024.21	E 711.86	2,145.74
5860	5,271.94	5,221.94	S 2,029.40	E 712.13	2,150.72
5870	5,280.48	5,230.48	S 2,034.61	E 712.40	2,155.72
5880	5,289.01	5,239.01	S 2,039.82	E 712.68	2,160.73
5890	5,297.53	5,247.53	S 2,045.04	E 712.95	2,165.75
5900	5,306.05	5,256.05	S 2,050.27	E 713.22	2,170.78
5910	5,314.56	5,264.56	S 2,055.51	E 713.50	2,175.83
5920	5,323.06	5,273.06	S 2,060.77	E 713.77	2,180.88
5930	5,331.56	5,281.56	S 2,066.03	E 714.05	2,185.94

DIRECTIONAL SURVEY FOR WELL LD16-13

10

WELL FILE

WELL NO. Z28-42-8-D-LD16(LD16-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CD - ORDINATES		HORIZONTAL DISTANCE
PETROMAR					
GERENCIA DE DESARROLLO					
5940	5,340.05	5,290.05	S 2,071.30	E 714.33	2,191.02
5950	5,348.54	5,298.54	S 2,076.59	E 714.60	2,196.10
* 5958	5,355.32	5,305.32	S 2,080.82	E 714.82	2,200.18
5960	5,357.02	5,307.02	S 2,081.88	E 714.82	2,201.18
5970	5,365.56	5,315.56	S 2,087.09	E 714.82	2,206.11
5980	5,374.13	5,324.13	S 2,092.23	E 714.82	2,210.97
5990	5,382.75	5,332.75	S 2,097.30	E 714.82	2,215.77
6000	5,391.42	5,341.42	S 2,102.30	E 714.82	2,220.50
6010	5,400.12	5,350.12	S 2,107.22	E 714.82	2,225.16
6020	5,408.86	5,358.86	S 2,112.07	E 714.82	2,229.76
6030	5,417.65	5,367.65	S 2,116.85	E 714.82	2,234.28
6040	5,426.48	5,376.48	S 2,121.55	E 714.82	2,238.74
6050	5,435.34	5,385.34	S 2,126.18	E 714.82	2,243.12
6060	5,444.24	5,394.24	S 2,130.73	E 714.82	2,247.44
6070	5,453.19	5,403.19	S 2,135.21	E 714.82	2,251.69
6080	5,462.16	5,412.16	S 2,139.61	E 714.82	2,255.86
6090	5,471.18	5,421.18	S 2,143.94	E 714.82	2,259.97
6100	5,480.23	5,430.23	S 2,148.19	E 714.82	2,264.00
6110	5,489.32	5,439.32	S 2,152.36	E 714.82	2,267.96
6120	5,498.44	5,448.44	S 2,156.46	E 714.82	2,271.85
6130	5,507.59	5,457.59	S 2,160.48	E 714.82	2,275.67
6140	5,516.78	5,466.78	S 2,164.43	E 714.82	2,279.41
* 6150	5,526.01	5,476.01	S 2,168.30	E 714.82	2,283.09
6160	5,535.21	5,485.21	S 2,172.20	E 714.96	2,286.83
6170	5,544.41	5,494.41	S 2,176.13	E 715.10	2,290.61
6180	5,553.58	5,503.58	S 2,180.10	E 715.24	2,294.42
6190	5,562.75	5,512.75	S 2,184.10	E 715.38	2,298.27
6200	5,571.90	5,521.90	S 2,188.13	E 715.52	2,302.15
6210	5,581.03	5,531.03	S 2,192.20	E 715.66	2,306.06
6220	5,590.15	5,540.15	S 2,196.31	E 715.80	2,310.01
6230	5,599.25	5,549.25	S 2,200.45	E 715.95	2,313.99
6240	5,608.34	5,558.34	S 2,204.62	E 716.09	2,318.00
6250	5,617.41	5,567.41	S 2,208.82	E 716.24	2,322.05
6260	5,626.46	5,576.46	S 2,213.06	E 716.39	2,326.12
6270	5,635.50	5,585.50	S 2,217.33	E 716.54	2,330.24
6280	5,644.53	5,594.53	S 2,221.64	E 716.69	2,334.38
6290	5,653.54	5,603.54	S 2,225.98	E 716.84	2,338.56
6300	5,662.53	5,612.53	S 2,230.36	E 716.99	2,342.77
6310	5,671.50	5,621.50	S 2,234.76	E 717.15	2,347.01
6320	5,680.46	5,630.46	S 2,239.20	E 717.30	2,351.29
6330	5,689.40	5,639.40	S 2,243.68	E 717.46	2,355.60
6340	5,698.33	5,648.33	S 2,248.18	E 717.61	2,359.94
6350	5,707.24	5,657.24	S 2,252.73	E 717.77	2,364.31
6360	5,716.13	5,666.13	S 2,257.30	E 717.93	2,368.72
6370	5,725.00	5,675.00	S 2,261.91	E 718.09	2,373.16

DIRECTIONAL SURVEY FOR WELL LD16-13

10

WELL FILE

WELL NO. Z28-42-B-D-LD16(LD16-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES			HORIZONTAL DISTANCE
PETROMAR GERENCIA DE DESARROLLO						
6380	5,733.86	5,683.86	S 2,266.55	E 718.26	2,377.63	
6390	5,742.70	5,692.70	S 2,271.22	E 718.42	2,382.13	
6400	5,751.52	5,701.52	S 2,275.92	E 718.58	2,386.67	
6410	5,760.32	5,710.32	S 2,280.66	E 718.75	2,391.24	
6420	5,769.11	5,719.11	S 2,285.43	E 718.91	2,395.84	
6430	5,777.89	5,727.88	S 2,290.24	E 719.08	2,400.47	
6440	5,786.63	5,736.63	S 2,295.08	E 719.25	2,405.14	
6450	5,795.36	5,745.36	S 2,299.94	E 719.42	2,409.84	
6460	5,804.08	5,754.08	S 2,304.85	E 719.59	2,414.57	
6470	5,812.77	5,762.77	S 2,309.78	E 719.77	2,419.33	
6480	5,821.45	5,771.45	S 2,314.75	E 719.94	2,424.12	
6490	5,830.11	5,780.11	S 2,319.75	E 720.11	2,428.95	
6500	5,838.75	5,788.75	S 2,324.78	E 720.29	2,433.81	
6510	5,847.37	5,797.37	S 2,329.84	E 720.47	2,438.69	
6520	5,855.98	5,805.98	S 2,334.94	E 720.64	2,443.62	
6530	5,864.56	5,814.56	S 2,340.06	E 720.82	2,448.57	
6540	5,873.12	5,823.12	S 2,345.22	E 721.00	2,453.55	
6550	5,881.67	5,831.67	S 2,350.41	E 721.18	2,458.57	
6560	5,890.19	5,840.19	S 2,355.64	E 721.37	2,463.61	
6570	5,898.70	5,848.70	S 2,360.89	E 721.55	2,468.69	
6580	5,907.19	5,857.19	S 2,366.18	E 721.73	2,473.80	
6590	5,915.65	5,865.65	S 2,371.50	E 721.92	2,478.94	
6600	5,924.10	5,874.10	S 2,376.85	E 722.11	2,484.12	
6610	5,932.53	5,882.53	S 2,382.23	E 722.30	2,489.32	
6620	5,940.93	5,890.93	S 2,387.64	E 722.48	2,494.56	
6630	5,949.32	5,899.32	S 2,393.08	E 722.67	2,499.82	
6640	5,957.69	5,907.69	S 2,398.56	E 722.87	2,505.12	
6650	5,966.03	5,916.03	S 2,404.06	E 723.06	2,510.45	
6660	5,974.36	5,924.36	S 2,409.60	E 723.25	2,515.80	
6670	5,982.66	5,932.66	S 2,415.17	E 723.45	2,521.19	
6680	5,990.94	5,940.94	S 2,420.77	E 723.64	2,526.61	
6690	5,999.21	5,949.21	S 2,426.40	E 723.84	2,532.06	
6700	6,007.45	5,957.45	S 2,432.06	E 724.04	2,537.55	
6710	6,015.69	5,965.69	S 2,437.71	E 724.33	2,543.05	
6720	6,023.93	5,973.93	S 2,443.37	E 724.63	2,548.55	
6730	6,032.18	5,982.18	S 2,449.01	E 724.92	2,554.05	
6740	6,040.43	5,990.43	S 2,454.66	E 725.22	2,559.55	
6750	6,048.67	5,998.67	S 2,460.31	E 725.52	2,565.05	
6760	6,056.92	6,006.92	S 2,465.95	E 725.81	2,570.55	
6770	6,065.18	6,015.18	S 2,471.59	E 726.11	2,576.04	
6780	6,073.43	6,023.43	S 2,477.23	E 726.40	2,581.54	
6790	6,081.68	6,031.68	S 2,482.87	E 726.70	2,587.03	
6800	6,089.94	6,039.94	S 2,488.50	E 726.99	2,592.52	
6810	6,098.20	6,048.20	S 2,494.14	E 727.29	2,598.01	
6820	6,106.46	6,056.46	S 2,499.77	E 727.58	2,603.50	

DIRECTIONAL SURVEY FOR WELL LO16-13

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WELL FILE

WELL NO. Z38-42-B-D-LO16(LO16-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
			PETROMAR		
			GERENCIA DE DESARROLLO		
6830	6,114.72	6,064.72	S 2,505.39	E 727.88	2,608.99
6840	6,122.98	6,072.98	S 2,511.02	E 728.17	2,614.47
6850	6,131.24	6,081.24	S 2,516.64	E 728.47	2,619.95
6860	6,139.51	6,089.51	S 2,522.27	E 728.76	2,625.44
6870	6,147.78	6,097.78	S 2,527.89	E 729.06	2,630.92
6880	6,156.04	6,106.04	S 2,533.50	E 729.35	2,636.40
6890	6,164.31	6,114.31	S 2,539.12	E 729.65	2,641.87
6900	6,172.58	6,122.58	S 2,544.73	E 729.94	2,647.35
6910	6,180.86	6,130.86	S 2,550.34	E 730.23	2,652.83
6920	6,189.13	6,139.13	S 2,555.95	E 730.53	2,658.30
6930	6,197.41	6,147.41	S 2,561.56	E 730.82	2,663.77
6940	6,205.68	6,155.68	S 2,567.16	E 731.12	2,669.24
6950	6,213.96	6,163.96	S 2,572.76	E 731.41	2,674.71
6960	6,222.24	6,172.24	S 2,578.36	E 731.70	2,680.18
6970	6,230.52	6,180.52	S 2,583.96	E 732.00	2,685.64
6980	6,238.80	6,188.80	S 2,589.56	E 732.29	2,691.11
6990	6,247.09	6,197.09	S 2,595.15	E 732.58	2,696.57
7000	6,255.37	6,205.37	S 2,600.74	E 732.88	2,702.03
7010	6,263.66	6,213.66	S 2,606.33	E 733.17	2,707.49
7020	6,271.95	6,221.95	S 2,611.92	E 733.46	2,712.95
7030	6,280.24	6,230.24	S 2,617.50	E 733.75	2,718.40
7040	6,288.53	6,238.53	S 2,623.09	E 734.05	2,723.86
7050	6,296.82	6,246.82	S 2,628.67	E 734.34	2,729.31
7060	6,305.12	6,255.12	S 2,634.25	E 734.63	2,734.76
7070	6,313.42	6,263.42	S 2,639.82	E 734.92	2,740.21
7080	6,321.71	6,271.71	S 2,645.40	E 735.22	2,745.66
7090	6,330.01	6,280.01	S 2,650.97	E 735.51	2,751.11
7100	6,338.31	6,288.31	S 2,656.54	E 735.80	2,756.55
7110	6,346.61	6,296.61	S 2,662.10	E 736.09	2,762.00
7120	6,354.92	6,304.92	S 2,667.67	E 736.38	2,767.44
7130	6,363.22	6,313.22	S 2,673.23	E 736.67	2,772.88
7140	6,371.53	6,321.53	S 2,678.79	E 736.97	2,778.32
7150	6,379.83	6,329.83	S 2,684.35	E 737.26	2,783.76
7160	6,388.14	6,338.14	S 2,689.91	E 737.55	2,789.19
7170	6,396.45	6,346.45	S 2,695.46	E 737.84	2,794.63
7180	6,404.77	6,354.77	S 2,701.02	E 738.13	2,800.06
7190	6,413.08	6,363.08	S 2,706.57	E 738.42	2,805.49
* 7200	6,421.40	6,371.40	S 2,712.11	E 738.71	2,810.92
7210	6,429.71	6,379.71	S 2,717.65	E 739.00	2,816.39
7220	6,438.02	6,388.02	S 2,723.19	E 739.68	2,821.86
7230	6,446.33	6,396.33	S 2,728.73	E 740.17	2,827.33
7240	6,454.65	6,404.65	S 2,734.27	E 740.65	2,832.80
7250	6,462.96	6,412.96	S 2,739.81	E 741.13	2,838.28
7260	6,471.27	6,421.27	S 2,745.35	E 741.62	2,843.75
7270	6,479.57	6,429.57	S 2,750.89	E 742.10	2,849.23

DIRECTIONAL SURVEY FOR WELL L016-13

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WELL FILE

WELL NO. Z28-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 4

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CD - ORDINATES		HORIZONTAL DISTANCE
7280	6,487.88	6,437.88	S 2,756.44	E 742.59	2,854.71
7290	6,496.19	6,446.19	S 2,761.98	E 743.07	2,860.19
7300	6,504.50	6,454.50	S 2,767.53	E 743.56	2,865.68
7310	6,512.80	6,462.80	S 2,773.08	E 744.05	2,871.16
7320	6,521.11	6,471.11	S 2,778.63	E 744.53	2,876.65
7330	6,529.41	6,479.41	S 2,784.18	E 745.02	2,882.13
7340	6,537.71	6,487.71	S 2,789.73	E 745.50	2,887.62
7350	6,546.01	6,496.01	S 2,795.28	E 745.99	2,893.11
7360	6,554.32	6,504.32	S 2,800.84	E 746.47	2,898.61
7370	6,562.62	6,512.62	S 2,806.39	E 746.96	2,904.10
7380	6,570.92	6,520.92	S 2,811.95	E 747.45	2,909.59
7390	6,579.21	6,529.21	S 2,817.51	E 747.93	2,915.09
7400	6,587.51	6,537.51	S 2,823.07	E 748.42	2,920.58
7410	6,595.81	6,545.81	S 2,828.63	E 748.91	2,926.09
7420	6,604.10	6,554.10	S 2,834.19	E 749.39	2,931.59
7430	6,612.40	6,562.40	S 2,839.76	E 749.88	2,937.10
7440	6,620.69	6,570.69	S 2,845.32	E 750.37	2,942.60
7450	6,628.99	6,578.99	S 2,850.89	E 750.85	2,948.11
7460	6,637.28	6,587.28	S 2,856.45	E 751.34	2,953.61
7470	6,645.57	6,595.57	S 2,862.02	E 751.83	2,959.12
7480	6,653.86	6,603.86	S 2,867.59	E 752.31	2,964.63
* 7487	6,659.67	6,609.67	S 2,871.49	E 752.66	2,968.49
7490	6,662.15	6,612.15	S 2,873.16	E 752.80	2,970.15
7500	6,670.45	6,620.45	S 2,878.73	E 753.29	2,975.66
7510	6,678.74	6,628.74	S 2,884.30	E 753.78	2,981.17
7520	6,687.03	6,637.03	S 2,889.87	E 754.26	2,986.68
7530	6,695.32	6,645.32	S 2,895.44	E 754.75	2,992.20
7540	6,703.61	6,653.61	S 2,901.01	E 755.24	2,997.71
7550	6,711.90	6,661.90	S 2,906.58	E 755.73	3,003.22
7560	6,720.19	6,670.19	S 2,912.16	E 756.21	3,008.74
7570	6,728.48	6,678.48	S 2,917.73	E 756.70	3,014.25
7580	6,736.77	6,686.77	S 2,923.30	E 757.19	3,019.77
7590	6,745.06	6,695.06	S 2,928.87	E 757.68	3,025.28
7600	6,753.35	6,703.35	S 2,934.44	E 758.16	3,030.80
* 7609	6,760.81	6,710.81	S 2,939.45	E 758.60	3,035.76
7610	6,761.64	6,711.64	S 2,940.01	E 758.60	3,036.30
7620	6,769.92	6,719.92	S 2,945.62	E 758.60	3,041.73
7630	6,778.20	6,728.20	S 2,951.23	E 758.60	3,047.17
7640	6,786.46	6,736.46	S 2,956.86	E 758.60	3,052.62
7650	6,794.72	6,744.72	S 2,962.50	E 758.60	3,058.09
7660	6,802.97	6,752.97	S 2,968.15	E 758.60	3,063.56
7670	6,811.21	6,761.21	S 2,973.82	E 758.60	3,069.05
7680	6,819.44	6,769.44	S 2,979.50	E 758.60	3,074.55
7690	6,827.66	6,777.66	S 2,985.19	E 758.60	3,080.07
7700	6,835.88	6,785.88	S 2,990.89	E 758.60	3,085.59

DIRECTIONAL SURVEY FOR WELL L016-13

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WELL FILE

WELL NO. Z2B-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
PETROMAR					
GERENCIA DE DESARROLLO					
7710	6,844.09	6,794.09	S 2,996.60	E 758.60	3,091.13
7720	6,852.29	6,802.29	S 3,002.32	E 758.60	3,096.68
7730	6,860.48	6,810.48	S 3,008.06	E 758.60	3,102.24
7740	6,868.66	6,818.66	S 3,013.81	E 758.60	3,107.81
7750	6,876.84	6,826.84	S 3,019.57	E 758.60	3,113.40
7760	6,885.00	6,835.00	S 3,025.34	E 758.60	3,119.00
7770	6,893.16	6,843.16	S 3,031.12	E 758.60	3,124.61
7780	6,901.31	6,851.31	S 3,036.92	E 758.60	3,130.23
7790	6,909.45	6,859.45	S 3,042.72	E 758.60	3,135.87
7800	6,917.58	6,867.58	S 3,048.54	E 758.60	3,141.51
7810	6,925.71	6,875.71	S 3,054.37	E 758.60	3,147.17
7820	6,933.82	6,883.82	S 3,060.22	E 758.60	3,152.84
7830	6,941.93	6,891.93	S 3,066.07	E 758.60	3,158.52
7840	6,950.03	6,900.03	S 3,071.94	E 758.60	3,164.22
7850	6,958.12	6,908.12	S 3,077.82	E 758.60	3,169.92
7860	6,966.21	6,916.21	S 3,083.69	E 758.50	3,175.61
7870	6,974.30	6,924.30	S 3,089.57	E 758.40	3,181.29
7880	6,982.39	6,932.39	S 3,095.45	E 758.29	3,186.97
7890	6,990.48	6,940.48	S 3,101.32	E 758.19	3,192.66
7900	6,998.57	6,948.57	S 3,107.20	E 758.09	3,198.34
7910	7,006.66	6,956.66	S 3,113.08	E 757.99	3,204.03
7920	7,014.75	6,964.75	S 3,118.95	E 757.88	3,209.71
7930	7,022.84	6,972.84	S 3,124.83	E 757.78	3,215.40
7940	7,030.93	6,980.93	S 3,130.71	E 757.68	3,221.09
7950	7,039.02	6,989.02	S 3,136.58	E 757.58	3,226.78
7960	7,047.11	6,997.11	S 3,142.46	E 757.47	3,232.47
7970	7,055.20	7,005.20	S 3,148.34	E 757.37	3,238.15
7980	7,063.29	7,013.29	S 3,154.22	E 757.27	3,243.84
7990	7,071.38	7,021.38	S 3,160.09	E 757.16	3,249.54
8000	7,079.47	7,029.47	S 3,165.97	E 757.06	3,255.23
8010	7,087.56	7,037.56	S 3,171.85	E 756.96	3,260.92
8020	7,095.65	7,045.65	S 3,177.72	E 756.86	3,266.61
8030	7,103.74	7,053.74	S 3,183.60	E 756.75	3,272.31
8040	7,111.83	7,061.83	S 3,189.48	E 756.65	3,278.00
8050	7,119.93	7,069.93	S 3,195.35	E 756.55	3,283.70
8060	7,128.02	7,078.02	S 3,201.23	E 756.45	3,289.39
8070	7,136.11	7,086.11	S 3,207.11	E 756.34	3,295.09
8080	7,144.20	7,094.20	S 3,212.99	E 756.24	3,300.78
8090	7,152.29	7,102.29	S 3,218.86	E 756.14	3,306.48
8100	7,160.38	7,110.38	S 3,224.74	E 756.04	3,312.18
8110	7,168.47	7,118.47	S 3,230.62	E 755.93	3,317.88
8120	7,176.56	7,126.56	S 3,236.49	E 755.83	3,323.58
8130	7,184.65	7,134.65	S 3,242.37	E 755.73	3,329.28
8140	7,192.74	7,142.74	S 3,248.25	E 755.63	3,334.98
8150	7,200.83	7,150.83	S 3,254.12	E 755.52	3,340.68

DIRECTIONAL SURVEY FOR WELL L016-13

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WELL FILE

WELL NO. Z28-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES PETROMAR GERENCIA DE DESARROLLO		HORIZONTAL DISTANCE
8160	7,208.92	7,158.92	S 3,260.00	E 755.42	3,344.38
8170	7,217.01	7,167.01	S 3,265.88	E 755.32	3,352.08
8180	7,225.10	7,175.10	S 3,271.75	E 755.22	3,357.79
8190	7,233.19	7,183.19	S 3,277.63	E 755.11	3,363.49
8200	7,241.28	7,191.28	S 3,283.51	E 755.01	3,369.19
* 8202	7,242.90	7,192.90	S 3,284.68	E 754.99	3,370.33
8210	7,249.37	7,199.37	S 3,289.38	E 754.74	3,374.86
8220	7,257.45	7,207.45	S 3,295.26	E 754.44	3,380.52
8230	7,265.53	7,215.53	S 3,301.15	E 754.13	3,386.19
8240	7,273.60	7,223.60	S 3,307.04	E 753.82	3,391.87
8250	7,281.67	7,231.67	S 3,312.94	E 753.51	3,397.55
8260	7,289.74	7,239.74	S 3,318.84	E 753.20	3,403.24
8270	7,297.80	7,247.80	S 3,324.75	E 752.89	3,408.93
8280	7,305.85	7,255.85	S 3,330.67	E 752.58	3,414.64
8290	7,313.91	7,263.91	S 3,336.59	E 752.27	3,420.34
8300	7,321.96	7,271.96	S 3,342.52	E 751.96	3,426.06
8310	7,330.00	7,280.00	S 3,348.45	E 751.65	3,431.78
8320	7,338.04	7,288.04	S 3,354.39	E 751.34	3,437.50
8330	7,346.07	7,296.07	S 3,360.33	E 751.03	3,443.24
8340	7,354.10	7,304.10	S 3,366.28	E 750.71	3,448.98
8350	7,362.13	7,312.13	S 3,372.24	E 750.40	3,454.72
8360	7,370.15	7,320.15	S 3,378.20	E 750.09	3,460.48
8370	7,378.17	7,328.17	S 3,384.17	E 749.78	3,466.23
8380	7,386.18	7,336.18	S 3,390.14	E 749.46	3,472.00
8390	7,394.19	7,344.19	S 3,396.12	E 749.15	3,477.77
8400	7,402.20	7,352.20	S 3,402.11	E 748.84	3,483.55
8410	7,410.20	7,360.20	S 3,408.10	E 748.52	3,489.33
8420	7,418.20	7,368.20	S 3,414.10	E 748.21	3,495.12
8430	7,426.19	7,376.19	S 3,420.10	E 747.89	3,500.92
8440	7,434.17	7,384.17	S 3,426.11	E 747.58	3,506.72
8450	7,442.16	7,392.16	S 3,432.12	E 747.26	3,512.53
8460	7,450.14	7,400.14	S 3,438.14	E 746.95	3,518.35
8470	7,458.11	7,408.11	S 3,444.17	E 746.63	3,524.17
8480	7,466.08	7,416.08	S 3,450.20	E 746.32	3,530.00
8490	7,474.04	7,424.04	S 3,456.24	E 746.00	3,535.83
8500	7,482.01	7,432.01	S 3,462.28	E 745.68	3,541.67
8510	7,489.96	7,439.96	S 3,468.33	E 745.37	3,547.52
8520	7,497.91	7,447.91	S 3,474.39	E 745.05	3,553.37
8530	7,505.86	7,455.86	S 3,480.45	E 744.73	3,559.23
8540	7,513.81	7,463.81	S 3,486.51	E 744.41	3,565.10
8550	7,521.74	7,471.74	S 3,492.59	E 744.09	3,570.97
8560	7,529.68	7,479.68	S 3,498.66	E 743.78	3,576.85
8570	7,537.61	7,487.61	S 3,504.75	E 743.46	3,582.74
8580	7,545.54	7,495.54	S 3,510.84	E 743.14	3,588.63
8590	7,553.46	7,503.46	S 3,516.93	E 742.82	3,594.52

DIRECTIONAL SURVEY FOR WELL L016-13

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WELL FILE

WELL NO. Z29-42-B-D-L016(L016-13) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 373' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CD - ORDINATES PETROMAR GERENCIA DE DESARROLLO	HORIZONTAL DISTANCE
8600	7,561.37	7,511.37	S 3,523.03 E 742.50	3,600.43
8610	7,569.29	7,519.29	S 3,529.14 E 742.18	3,606.34
8620	7,577.19	7,527.19	S 3,535.25 E 741.86	3,612.25
8630	7,585.10	7,535.10	S 3,541.37 E 741.54	3,618.18
8640	7,593.00	7,543.00	S 3,547.50 E 741.22	3,624.10
8650	7,600.89	7,550.89	S 3,553.63 E 740.90	3,630.04
8660	7,608.78	7,558.78	S 3,559.76 E 740.57	3,635.98
8670	7,616.67	7,566.67	S 3,565.90 E 740.25	3,641.93
8680	7,624.55	7,574.55	S 3,572.05 E 739.93	3,647.88
* 8682	7,626.12	7,576.12	S 3,573.28 E 739.87	3,649.07