

DIRECTIONAL SURVEY FOR WELL LD16-14 PERUANA S.A. RAW DATA

THE CONDUCTOR IS VERTICAL

No.	MEASURED DEPTH	DEVIATION ANGLE	ORIENTATION
1	667	2.60	S - 39.20 - W
2	787	5.00	S - 42.50 - W
3	848	7.60	S - 43.09 - W
4	908	10.70	S - 47.40 - W
5	968	12.70	S - 45.79 - W
6	998	13.50	S - 50.20 - W
7	1028	14.30	S - 54.40 - W
8	1089	15.80	S - 56.00 - W
9	1119	16.50	S - 58.00 - W
10	1179	18.20	S - 62.90 - W
11	1209	19.20	S - 65.00 - W
12	1269	21.10	S - 70.59 - W
13	1300	22.10	S - 72.00 - W
14	1330	23.10	S - 75.50 - W
15	1390	25.80	S - 76.19 - W
16	1421	26.70	S - 76.19 - W
17	1482	28.40	S - 76.19 - W
18	1514	29.30	S - 76.90 - W
19	1576	31.60	S - 78.30 - W
20	1607	32.80	S - 79.70 - W
21	1670	34.80	S - 81.30 - W
22	1703	35.70	S - 81.09 - W
23	1733	36.60	S - 81.09 - W
24	1799	38.40	S - 81.09 - W
25	1828	38.90	S - 80.40 - W
26	1890	40.20	S - 79.90 - W
27	1921	40.60	S - 79.00 - W
28	2005	41.50	S - 75.00 - W
29	2169	41.80	S - 77.59 - W
30	2292	41.70	S - 77.59 - W
31	2385	41.70	S - 77.59 - W
32	2479	41.90	S - 78.30 - W
33	2573	42.00	S - 79.00 - W
34	2677	42.20	S - 79.00 - W
35	2760	42.50	S - 79.00 - W
36	2858	43.00	S - 79.00 - W
37	2948	43.20	S - 79.00 - W
38	3042	43.30	S - 79.69 - W
39	3134	43.70	S - 79.69 - W
40	3228	43.90	S - 79.69 - W
41	3365	43.50	S - 79.69 - W
42	3490	43.10	S - 79.69 - W
43	3616	42.90	S - 79.69 - W
44	3740	42.30	S - 79.69 - W
45	3928	41.30	S - 79.69 - W
46	4117	39.70	S - 79.69 - W
47	4241	38.60	S - 79.69 - W
48	4366	37.80	S - 79.69 - W
49	4493	36.70	S - 79.69 - W
50	4746	38.50	S - 81.90 - W
51	4868	40.30	S - 81.90 - W

PETRO-TECH SURVEY DATA FOR WELL LD16-14

PERUANA S.A. THE CONDUCTOR IS VERTICAL

No.	MEASURED DEPTH	DEVIATION ANGLE	ORIENTATION
52	4994	42.20	S - 82.80 - W
53	5119	44.30	S - 83.30 - W
54	5271	44.40	S - 83.30 - W
55	5395	43.90	S - 83.30 - W
56	5565	43.20	S - 84.00 - W
57	5913	42.90	S - 86.80 - W
58	5975	42.50	S - 87.50 - W
59	6131	42.50	S - 85.40 - W
60	6226	42.70	S - 82.59 - W
61	6422	42.50	S - 83.30 - W
62	6504	42.70	S - 84.00 - W
63	6661	42.70	S - 84.00 - W
64	6747	42.70	S - 84.69 - W
65	6840	42.50	S - 85.40 - W
66	6933	42.10	S - 86.09 - W
67	7057	41.60	S - 87.50 - W
68	7306	38.90	S - 82.59 - W
69	7399	39.60	S - 81.09 - W
70	7429	39.30	S - 80.40 - W
71	7492	39.40	S - 77.59 - W
72	7523	39.30	S - 77.59 - W
73	7584	38.80	S - 79.00 - W
74	7615	38.70	S - 79.69 - W
75	7677	36.40	S - 81.90 - W
76	7708	38.30	S - 80.00 - W
77	7800	38.10	S - 78.30 - W
78	7925	37.70	S - 81.09 - W
79	8049	36.90	S - 82.59 - W
80	8142	36.70	S - 83.40 - W
81	8235	36.40	S - 84.00 - W
82	8335	36.20	S - 84.00 - W
83	8490	35.70	S - 86.80 - W
84	8552	35.50	S - 88.19 - W
85	8801	36.00	N - 86.19 - W
86	8986	37.30	N - 82.00 - W
87	9086	38.43	N - 78.00 - W
88	9186	39.34	N - 76.40 - W
89	9286	39.74	N - 74.50 - W
90	9386	39.96	N - 72.50 - W
91	9486	41.04	N - 72.19 - W
92	9586	43.71	N - 72.30 - W
93	9686	44.53	N - 72.19 - W
94	9786	45.02	N - 71.00 - W
95	9886	44.76	N - 69.50 - W
96	9986	45.69	N - 69.30 - W
97	10086	46.32	N - 69.00 - W
98	10186	46.25	N - 69.00 - W
99	10286	45.79	N - 68.19 - W
100	10356	46.03	N - 68.50 - W

PERU-TECH

DIRECTIONAL SURVEY FOR WELL LD16-14

PERUANA S.A.

THE CONDUCTOR IS VERTICAL

No.	MEASURED DEPTH	DEVIATION ANGLE	ORIENTATION
52	4994	42.20	S - 82.80 - W
53	5119	44.30	S - 83.30 - W
54	5271	44.40	S - 83.30 - W
55	5395	43.90	S - 83.30 - W
56	5565	43.20	S - 84.00 - W
57	5913	42.90	S - 86.80 - W
58	5975	42.50	S - 87.50 - W
59	6131	42.50	S - 85.40 - W
60	6226	42.70	S - 82.59 - W
61	6422	42.50	S - 83.30 - W
62	6504	42.70	S - 84.00 - W
63	6661	42.70	S - 84.00 - W
64	6747	42.70	S - 84.69 - W
65	6840	42.50	S - 85.40 - W
66	6933	42.10	S - 86.09 - W
67	7057	41.60	S - 87.50 - W
68	7306	38.90	S - 82.59 - W
69	7399	39.60	S - 81.09 - W
70	7429	39.30	S - 80.40 - W
71	7492	39.40	S - 77.59 - W
72	7523	39.30	S - 77.59 - W
73	7584	38.80	S - 79.00 - W
74	7615	38.70	S - 79.69 - W
75	7677	36.40	S - 81.90 - W
76	7708	38.30	S - 80.00 - W
77	7800	38.10	S - 78.30 - W
78	7925	37.70	S - 81.09 - W
79	8049	36.90	S - 82.59 - W
80	8142	36.70	S - 83.40 - W
81	8235	36.40	S - 84.00 - W
82	8335	36.20	S - 84.00 - W
83	8490	35.70	S - 86.80 - W
84	8552	35.50	S - 88.19 - W
85	8801	36.00	N - 86.19 - W
86	8986	37.30	N - 82.00 - W
87	9086	38.43	N - 78.00 - W
88	9186	39.34	N - 76.40 - W
89	9286	39.74	N - 74.50 - W
90	9386	39.96	N - 72.50 - W
91	9486	41.04	N - 72.19 - W
92	9586	43.71	N - 72.30 - W
93	9686	44.53	N - 72.19 - W
94	9786	45.02	N - 71.00 - W
95	9886	44.76	N - 69.50 - W
96	9986	45.69	N - 69.30 - W
97	10086	46.32	N - 69.00 - W
98	10186	46.25	N - 69.00 - W
99	10286	45.79	N - 68.19 - W
%100	10356	46.03	N - 68.50 - W



DIRECTIONAL SURVEY FOR WELL LD16-14
RAW DATA

THE CONDUCTOR IS VERTICAL

No.	MEASURED DEPTH	DEVIATION ANGLE	ORIENTATION
1	667	2.60	S - 39.20 - W
2	787	5.00	S - 42.50 - W
3	848	7.60	S - 43.09 - W
4	908	10.70	S - 47.40 - W
5	968	12.70	S - 45.79 - W
6	998	13.50	S - 50.20 - W
7	1028	14.30	S - 54.40 - W
8	1089	15.80	S - 56.00 - W
9	1119	16.50	S - 58.00 - W
10	1179	18.20	S - 62.90 - W
11	1209	19.20	S - 65.00 - W
12	1269	21.10	S - 70.59 - W
13	1300	22.10	S - 72.00 - W
14	1330	23.10	S - 75.50 - W
15	1390	25.80	S - 76.19 - W
16	1421	26.70	S - 76.19 - W
17	1482	28.40	S - 76.19 - W
18	1514	29.30	S - 76.90 - W
19	1576	31.60	S - 78.30 - W
20	1607	32.80	S - 79.70 - W
21	1670	34.80	S - 81.30 - W
22	1703	35.70	S - 81.09 - W
23	1733	36.60	S - 81.09 - W
24	1799	38.40	S - 81.09 - W
25	1828	38.90	S - 80.40 - W
26	1890	40.20	S - 79.90 - W
27	1921	40.60	S - 79.00 - W
28	2005	41.50	S - 75.00 - W
29	2169	41.80	S - 77.59 - W
30	2292	41.70	S - 77.59 - W
31	2385	41.70	S - 77.59 - W
32	2479	41.90	S - 78.30 - W
33	2573	42.00	S - 79.00 - W
34	2677	42.20	S - 79.00 - W
35	2760	42.50	S - 79.00 - W
36	2858	43.00	S - 79.00 - W
37	2948	43.20	S - 79.00 - W
38	3042	43.30	S - 79.69 - W
39	3134	43.70	S - 79.69 - W
40	3228	43.90	S - 79.69 - W
41	3365	43.50	S - 79.69 - W
42	3490	43.10	S - 79.69 - W
43	3616	42.90	S - 79.69 - W
44	3740	42.30	S - 79.69 - W
45	3928	41.30	S - 79.69 - W
46	4117	39.70	S - 79.69 - W
47	4241	38.60	S - 79.69 - W
48	4366	37.80	S - 79.69 - W
49	4493	36.70	S - 79.69 - W
50	4746	38.50	S - 81.90 - W
51	4868	40.30	S - 81.90 - W



100

DIRECTIONAL SURVEY FOR WELL LD16-14

WELL NO. Z-28-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 15

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

	MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE	
*	9486	7,504.31	7,454.31	S 660.82	W 5,353.20	5,393.83	*
	9500	7,514.81	7,464.81	S 658.01	W 5,362.02	5,402.25	
*	9586	7,576.98	7,526.98	S 639.94	W 5,418.64	5,456.29	*
	9600	7,587.08	7,537.08	S 636.98	W 5,427.87	5,465.11	
*	9686	7,648.39	7,598.39	S 618.53	W 5,485.28	5,520.05	*
	9700	7,658.36	7,608.36	S 615.33	W 5,494.58	5,528.93	
*	9786	7,719.15	7,669.15	S 595.52	W 5,552.10	5,583.94	*
	9800	7,729.05	7,679.05	S 592.05	W 5,561.36	5,592.79	
*	9886	7,790.12	7,740.12	S 570.85	W 5,618.08	5,647.01	*
	9900	7,800.04	7,750.04	S 567.35	W 5,627.33	5,655.86	
*	9986	7,860.11	7,810.11	S 545.60	W 5,684.89	5,711.01	*
	10000	7,869.88	7,819.88	S 542.01	W 5,694.26	5,720.00	
*	10086	7,929.27	7,879.27	S 519.72	W 5,752.32	5,775.75	*
	10100	7,938.94	7,888.94	S 516.09	W 5,761.77	5,784.84	
*	10186	7,998.41	7,948.41	S 493.82	W 5,819.77	5,840.68	*
	10200	8,008.10	7,958.10	S 490.07	W 5,829.15	5,849.71	
*	10286	8,068.07	8,018.07	S 467.17	W 5,886.38	5,904.89	*
	10300	8,077.83	8,027.83	S 463.49	W 5,895.72	5,913.91	
*	10356	8,116.71	8,066.71	S 448.71	W 5,933.22	5,950.16	*

WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA PO.

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE
7200	5,697.26	5,647.26	S 659.56	W 3,975.93	4,030.26
7300	5,775.02	5,725.02	S 667.67	W 4,038.28	4,093.11
* 7306	5,779.69	5,729.69	S 668.16	W 4,042.02	4,096.87 *
* 7399	5,851.34	5,801.34	S 677.34	W 4,100.58	4,156.15 *
7400	5,852.11	5,802.11	S 677.45	W 4,101.21	4,156.79
* 7429	5,874.56	5,824.56	S 680.51	W 4,119.32	4,175.16 *
* 7492	5,923.24	5,873.24	S 689.10	W 4,158.38	4,215.09 *
7500	5,929.42	5,879.42	S 690.19	W 4,163.33	4,220.16
* 7523	5,947.22	5,897.22	S 693.32	W 4,177.56	4,234.70 *
* 7584	5,994.76	5,944.76	S 700.62	W 4,215.08	4,272.91 *
7600	6,007.24	5,957.24	S 702.41	W 4,224.93	4,282.92
* 7615	6,018.95	5,968.95	S 704.09	W 4,234.16	4,292.30 *
* 7677	6,068.85	6,018.85	S 709.27	W 4,270.58	4,329.08 *
7700	6,087.02	6,037.02	S 711.72	W 4,284.47	4,343.18
* 7708	6,093.30	6,043.30	S 712.58	W 4,289.35	4,348.14 *
* 7800	6,165.70	6,115.70	S 724.10	W 4,344.94	4,404.86 *
7900	6,244.74	6,194.74	S 733.59	W 4,405.46	4,466.12
* 7925	6,264.52	6,214.52	S 735.96	W 4,420.57	4,481.41 *
8000	6,324.24	6,274.24	S 741.81	W 4,465.55	4,526.74
* 8049	6,363.43	6,313.43	S 745.60	W 4,494.72	4,556.14 *
8100	6,404.27	6,354.27	S 749.11	W 4,525.06	4,586.65
* 8142	6,437.95	6,387.95	S 752.00	W 4,550.00	4,611.72 *
8200	6,484.56	6,434.56	S 755.61	W 4,584.32	4,646.17
* 8235	6,512.73	6,462.73	S 757.78	W 4,604.97	4,666.90 *
8300	6,565.14	6,515.14	S 761.80	W 4,643.21	4,705.29
* 8335	6,593.38	6,543.38	S 763.96	W 4,663.77	4,725.93 *
8400	6,645.98	6,595.98	S 766.09	W 4,701.91	4,763.91
* 8490	6,719.06	6,669.06	S 769.03	W 4,754.35	4,816.14 *
8500	6,727.19	6,677.19	S 769.21	W 4,760.17	4,821.92
* 8552	6,769.52	6,719.52	S 770.16	W 4,790.35	4,851.87 *
8600	6,808.53	6,758.53	S 768.31	W 4,818.23	4,879.10
8700	6,889.66	6,839.66	S 764.42	W 4,876.59	4,936.14
8800	6,970.57	6,920.57	S 760.51	W 4,935.24	4,993.49
* 8801	6,971.38	6,921.38	S 760.47	W 4,935.82	4,994.06 *
8900	7,050.76	7,000.76	S 752.24	W 4,994.41	5,050.74
* 8986	7,119.17	7,069.17	S 744.98	W 5,046.01	5,100.71 *
9000	7,130.28	7,080.28	S 743.21	W 5,054.34	5,108.69
* 9086	7,197.65	7,147.65	S 732.10	W 5,106.63	5,158.84 *
9100	7,208.60	7,158.60	S 730.05	W 5,115.11	5,166.94
* 9186	7,275.11	7,225.11	S 717.23	W 5,168.10	5,217.63 *
9200	7,285.93	7,235.93	S 714.85	W 5,176.66	5,225.78
* 9286	7,352.06	7,302.06	S 700.16	W 5,229.64	5,276.30 *
9300	7,362.82	7,312.82	S 697.47	W 5,238.18	5,284.41
* 9386	7,428.74	7,378.74	S 680.86	W 5,290.85	5,334.48 *
9400	7,439.45	7,389.45	S 678.10	W 5,299.44	5,342.65



PERUVIANA S.A.

100

WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 100

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
4500	3,697.14	3,647.14	S 477.39	W 2,174.07	2,225.86
4600	3,776.51	3,726.51	S 485.96	W 2,234.28	2,286.52
4700	3,855.13	3,805.13	S 494.67	W 2,295.47	2,348.16
* 4746	3,891.13	3,841.13	S 498.71	W 2,323.82	2,376.73
4800	3,932.92	3,882.92	S 503.53	W 2,357.67	2,410.84
* 4868	3,984.78	3,934.78	S 509.73	W 2,401.22	2,454.72
4900	4,009.01	3,959.01	S 512.35	W 2,421.95	2,475.55
* 4974	4,078.65	4,028.65	S 520.26	W 2,484.60	2,538.48
5000	4,083.09	4,033.09	S 520.73	W 2,488.61	2,542.50
5100	4,155.04	4,105.04	S 528.84	W 2,557.57	2,611.68
* 5119	4,168.64	4,118.64	S 530.38	W 2,570.75	2,624.90
5200	4,226.56	4,176.56	S 536.99	W 2,626.99	2,681.31
* 5271	4,277.29	4,227.29	S 542.79	W 2,676.33	2,730.81
5300	4,298.05	4,248.05	S 545.15	W 2,696.44	2,750.99
* 5395	4,366.50	4,316.50	S 552.84	W 2,761.86	2,816.64
5400	4,370.11	4,320.11	S 553.20	W 2,765.30	2,820.10
5500	4,442.69	4,392.69	S 560.39	W 2,833.72	2,888.60
* 5565	4,490.07	4,440.07	S 565.05	W 2,877.97	2,932.92
5600	4,515.60	4,465.60	S 566.38	W 2,901.88	2,956.64
5700	4,588.63	4,538.63	S 570.20	W 2,970.08	3,024.32
5800	4,661.77	4,611.77	S 574.01	W 3,038.17	3,091.92
5900	4,735.01	4,685.01	S 577.81	W 3,106.15	3,159.43
* 5913	4,744.54	4,694.54	S 578.30	W 3,114.98	3,168.21
* 5975	4,790.25	4,740.25	S 580.13	W 3,156.83	3,209.69
6000	4,808.68	4,758.68	S 581.49	W 3,173.66	3,226.50
6100	4,882.41	4,832.41	S 586.91	W 3,241.00	3,293.72
* 6131	4,905.26	4,855.26	S 588.59	W 3,261.88	3,314.56
6200	4,956.02	4,906.02	S 594.62	W 3,308.23	3,361.25
* 6226	4,975.13	4,925.13	S 596.89	W 3,325.72	3,378.86
6300	5,029.58	4,979.58	S 602.74	W 3,375.49	3,428.88
6400	5,103.28	5,053.28	S 610.62	W 3,442.61	3,496.35
* 6422	5,119.50	5,069.50	S 612.36	W 3,457.37	3,511.18
6500	5,176.83	5,126.83	S 617.89	W 3,509.97	3,563.94
* 6504	5,179.77	5,129.77	S 618.17	W 3,512.67	3,566.65
6600	5,250.32	5,200.32	S 624.98	W 3,577.41	3,631.60
* 6661	5,295.15	5,245.15	S 629.30	W 3,618.55	3,672.87
6700	5,323.82	5,273.82	S 631.75	W 3,644.89	3,699.23
* 6747	5,358.36	5,308.36	S 634.70	W 3,676.62	3,731.01
6800	5,397.38	5,347.38	S 637.58	W 3,712.37	3,766.73
* 6840	5,426.87	5,376.87	S 639.75	W 3,739.31	3,793.64
6900	5,471.29	5,421.29	S 642.50	W 3,779.55	3,833.77
* 6933	5,495.78	5,445.78	S 644.01	W 3,801.62	3,855.79
7000	5,545.70	5,495.70	S 645.96	W 3,846.26	3,900.13
* 7057	5,588.33	5,538.33	S 647.61	W 3,884.07	3,937.69
7100	5,620.71	5,570.71	S 651.26	W 3,912.12	3,965.96

100

WELL NO. Z-2B-21-006-L016 (L016-14) ELEVATION: 50 FEET NUMBER OF DATA PD

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471 MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
* 2005	1,833.69	1,783.69	S 166.60	W 546.54	571.37 *
* 2169	1,955.95	1,905.95	S 190.10	W 653.30	680.39 *
2200	1,979.07	1,929.07	S 194.53	W 673.47	701.00
* 2292	2,047.76	1,997.76	S 207.69	W 733.24	762.08 *
2300	2,053.73	2,003.73	S 208.83	W 738.43	767.40
* 2385	2,117.19	2,067.19	S 220.99	W 793.66	823.85 *
2400	2,128.39	2,078.39	S 223.01	W 803.43	833.81
* 2479	2,187.19	2,137.19	S 233.71	W 855.10	886.46 *
2500	2,202.82	2,152.82	S 236.39	W 868.87	900.45
* 2573	2,257.07	2,207.07	S 245.71	W 916.82	949.17 *
2600	2,277.11	2,227.11	S 249.16	W 934.57	967.21
* 2677	2,334.16	2,284.16	S 259.03	W 985.34	1,018.82 *
2700	2,351.17	2,301.17	S 261.98	W 1,000.53	1,034.26
* 2760	2,395.41	2,345.41	S 269.72	W 1,040.32	1,074.72 *
2800	2,424.81	2,374.81	S 274.90	W 1,066.95	1,101.79
* 2858	2,467.22	2,417.22	S 282.44	W 1,105.78	1,141.28 *
2900	2,497.89	2,447.89	S 287.92	W 1,133.94	1,169.93
* 2948	2,532.89	2,482.89	S 294.19	W 1,166.20	1,202.73 *
3000	2,570.76	2,520.76	S 300.57	W 1,201.26	1,238.29
* 3042	2,601.32	2,551.32	S 305.72	W 1,229.59	1,267.03 *
3100	2,643.36	2,593.36	S 312.88	W 1,268.91	1,306.91
* 3134	2,667.94	2,617.94	S 317.08	W 1,292.02	1,330.36 *
3200	2,715.55	2,665.55	S 325.26	W 1,337.00	1,375.99
* 3228	2,735.72	2,685.72	S 328.74	W 1,356.10	1,395.38 *
3300	2,787.79	2,737.79	S 337.64	W 1,405.03	1,445.03
* 3365	2,834.94	2,784.94	S 345.65	W 1,449.05	1,489.70 *
3400	2,860.37	2,810.37	S 349.95	W 1,472.70	1,513.71
* 3490	2,926.09	2,876.09	S 360.96	W 1,533.20	1,575.12 *
3500	2,933.39	2,883.39	S 362.18	W 1,539.92	1,581.94
3600	3,006.61	2,956.61	S 374.37	W 1,606.93	1,649.96
* 3616	3,018.34	2,968.34	S 376.32	W 1,617.64	1,660.84 *
3700	3,080.27	3,030.27	S 386.48	W 1,673.47	1,717.52
* 3740	3,109.86	3,059.86	S 391.30	W 1,699.95	1,744.41 *
3800	3,154.46	3,104.46	S 398.48	W 1,739.44	1,784.50
3900	3,229.42	3,179.42	S 410.33	W 1,804.56	1,850.63
* 3928	3,250.45	3,200.45	S 413.64	W 1,822.75	1,869.09 *
4000	3,305.05	3,255.05	S 422.04	W 1,868.93	1,915.99
4100	3,381.83	3,331.83	S 433.51	W 1,931.96	1,980.00
* 4117	3,394.91	3,344.91	S 435.45	W 1,942.65	1,990.85 *
4200	3,459.44	3,409.44	S 444.79	W 1,994.00	2,043.00
* 4241	3,491.49	3,441.49	S 449.37	W 2,019.16	2,068.56 *
4300	3,537.84	3,487.84	S 455.91	W 2,055.07	2,105.04
* 4366	3,589.99	3,539.99	S 463.15	W 2,094.87	2,145.46 *
4400	3,616.96	3,566.96	S 466.85	W 2,115.24	2,166.15
* 4493	3,691.53	3,641.53	S 476.80	W 2,169.92	2,221.69 *



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WELL NO. Z-2B-21-00B-L016 (L016-14) ELEVATION: 50 FEET NUMBER OF DATA PO

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471 MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
* 471	471.00	421.00	N	0.00 E 0.00	0.00 *
500	500.00	450.00	S	0.15 W 0.12	0.19
600	599.95	549.95	S	2.47 W 2.01	3.18
* 667	666.89	616.89	S	4.82 W 3.93	6.22 *
700	699.83	649.83	S	6.20 W 5.20	8.09
* 787	786.50	736.50	S	11.79 W 10.32	15.67 *
800	799.44	749.44	S	12.71 W 11.18	16.93
* 848	847.02	797.02	S	17.35 W 15.52	23.28 *
900	898.18	848.18	S	23.63 W 22.35	32.53
* 908	906.04	856.04	S	24.64 W 23.45	34.01 *
* 968	964.58	914.58	S	33.84 W 32.90	47.20 *
1000	995.68	945.68	S	38.64 W 38.66	54.66
* 998	993.74	943.74	S	38.34 W 38.30	54.19 *
* 1028	1,022.81	972.81	S	42.65 W 44.33	61.52 *
1100	1,092.00	1,042.00	S	53.80 W 60.85	81.22
* 1087	1,081.41	1,031.41	S	52.12 W 58.37	78.25 *
* 1117	1,110.18	1,060.18	S	56.64 W 65.59	86.66 *
1200	1,186.86	1,136.86	S	68.53 W 88.83	112.19
* 1179	1,166.91	1,116.91	S	65.54 W 82.99	105.75 *
* 1209	1,195.24	1,145.24	S	69.71 W 91.93	115.37 *
1300	1,279.57	1,229.57	S	81.08 W 124.19	148.31
* 1269	1,250.64	1,200.64	S	77.37 W 113.67	137.50 *
* 1300	1,279.37	1,229.37	S	80.97 W 124.76	148.73 *
1400	1,369.68	1,319.68	S	91.73 W 166.34	189.95
* 1330	1,305.29	1,255.29	S	84.85 W 139.75	163.49 *
* 1390	1,359.31	1,309.31	S	91.08 W 165.11	188.56 *
1500	1,455.52	1,405.52	S	103.81 W 216.88	240.45
* 1421	1,384.94	1,334.94	S	95.34 W 182.41	205.82 *
* 1482	1,438.60	1,388.60	S	102.26 W 210.59	234.10 *
1600	1,538.98	1,488.98	S	116.33 W 271.01	294.92
* 1514	1,463.98	1,413.98	S	106.79 W 230.02	253.60 *
* 1576	1,516.79	1,466.79	S	113.38 W 261.83	285.32 *
1700	1,616.60	1,566.60	S	126.53 W 334.23	357.38
* 1607	1,538.42	1,488.42	S	117.52 W 284.66	307.97 *
* 1670	1,590.16	1,540.16	S	122.96 W 320.20	343.00 *
1800	1,692.11	1,642.11	S	135.46 W 399.88	422.20
* 1703	1,613.34	1,563.34	S	126.69 W 343.96	366.55 *
* 1733	1,637.43	1,587.43	S	129.46 W 361.63	384.10 *
1900	1,763.17	1,713.17	S	146.48 W 470.20	492.49
* 1799	1,684.01	1,634.01	S	136.77 W 408.23	430.53 *
* 1828	1,706.58	1,656.58	S	139.80 W 426.18	448.53 *
2000	1,833.38	1,783.38	S	160.19 W 540.59	563.83
* 1890	1,749.36	1,699.36	S	147.73 W 470.70	493.33 *
* 1921	1,772.90	1,722.90	S	151.58 W 490.50	513.39 *
2100	1,904.84	1,854.84	S	182.90 W 607.35	634.29

DIRECTIONAL SURVEY FOR WELL L016-14

THE CONDUCTOR IS VERTICAL

No.	MEASURED DEPTH	DEVIATION ANGLE	ORIENTATION
1	667	2.60	S - 39.20 - W
2	787	5.00	S - 42.50 - W
3	848	7.60	S - 43.09 - W
4	908	10.70	S - 47.40 - W
5	968	12.70	S - 45.79 - W
6	998	13.50	S - 50.20 - W
7	1028	14.30	S - 54.40 - W
8	1089	15.80	S - 56.00 - W
9	1119	16.50	S - 58.00 - W
10	1179	18.20	S - 62.90 - W
11	1209	19.20	S - 65.00 - W
12	1269	21.10	S - 70.59 - W
13	1300	22.10	S - 72.00 - W
14	1330	23.10	S - 75.50 - W
15	1390	25.80	S - 76.19 - W
16	1421	26.70	S - 76.19 - W
17	1482	28.40	S - 76.19 - W
18	1514	29.30	S - 76.90 - W
19	1576	31.60	S - 78.30 - W
20	1607	32.80	S - 79.70 - W
21	1670	34.80	S - 81.30 - W
22	1703	35.70	S - 81.09 - W
23	1733	36.60	S - 81.09 - W
24	1799	38.40	S - 81.09 - W
25	1828	38.90	S - 80.40 - W
26	1890	40.20	S - 79.90 - W
27	1921	40.60	S - 79.00 - W
28	2005	41.50	S - 75.00 - W
29	2169	41.80	S - 77.59 - W
30	2292	41.70	S - 77.59 - W
31	2385	41.70	S - 77.59 - W
32	2479	41.90	S - 78.30 - W
33	2573	42.00	S - 79.00 - W
34	2677	42.20	S - 79.00 - W
35	2760	42.50	S - 79.00 - W
36	2858	43.00	S - 79.00 - W
37	2948	43.20	S - 79.00 - W
38	3042	43.30	S - 79.69 - W
39	3134	43.70	S - 79.69 - W
40	3228	43.90	S - 79.69 - W
41	3365	43.50	S - 79.69 - W
42	3490	43.10	S - 79.69 - W
43	3616	42.90	S - 79.69 - W
44	3740	42.30	S - 79.69 - W
45	3928	41.30	S - 79.69 - W
46	4117	39.70	S - 79.69 - W
47	4241	38.60	S - 79.69 - W
48	4366	37.80	S - 79.69 - W
49	4493	36.70	S - 79.69 - W
50	4746	38.50	S - 81.90 - W
51	4868	40.30	S - 81.90 - W

PETRO-TECH DIRECTIONAL SURVEY FOR WELL L016-14 DATA THE CONDUCTOR IS VERTICAL **PERUANA S.A.**

No.	MEASURED DEPTH	DEVIATION ANGLE	ORIENTATION
52	4994	42.20	S - 82.80 - W
53	5119	44.30	S - 83.30 - W
54	5271	44.40	S - 83.30 - W
55	5395	43.90	S - 83.30 - W
56	5565	43.20	S - 84.00 - W
57	5913	42.90	S - 86.80 - W
58	5975	42.50	S - 87.50 - W
59	6131	42.50	S - 85.40 - W
60	6226	42.70	S - 82.59 - W
61	6422	42.50	S - 83.30 - W
62	6504	42.70	S - 84.00 - W
63	6661	42.70	S - 84.00 - W
64	6747	42.70	S - 84.69 - W
65	6840	42.50	S - 85.40 - W
66	6933	42.10	S - 86.09 - W
67	7057	41.60	S - 87.50 - W
68	7306	38.90	S - 82.59 - W
69	7399	39.60	S - 81.09 - W
70	7429	39.30	S - 80.40 - W
71	7492	39.40	S - 77.59 - W
72	7523	39.30	S - 77.59 - W
73	7584	38.80	S - 79.00 - W
74	7615	38.70	S - 79.69 - W
75	7677	36.40	S - 81.90 - W
76	7708	38.30	S - 80.00 - W
77	7800	38.10	S - 78.30 - W
78	7925	37.70	S - 81.09 - W
79	8049	36.90	S - 82.59 - W
80	8142	36.70	S - 83.40 - W
81	8235	36.40	S - 84.00 - W
82	8335	36.20	S - 84.00 - W
83	8490	35.70	S - 86.80 - W
84	8552	35.50	S - 88.19 - W
85	8801	36.00	N - 86.19 - W
86	8986	37.30	N - 82.00 - W
87	9086	38.43	N - 78.00 - W
88	9186	39.34	N - 76.40 - W
89	9286	39.74	N - 74.50 - W
90	9386	39.96	N - 72.50 - W
91	9486	41.04	N - 72.19 - W
92	9586	43.71	N - 72.30 - W
93	9686	44.53	N - 72.19 - W
94	9786	45.02	N - 71.00 - W
95	9886	44.76	N - 69.50 - W
96	9986	45.69	N - 69.30 - W
97	10086	46.32	N - 69.00 - W
98	10186	46.25	N - 69.00 - W
99	10286	45.79	N - 68.19 - W
100	10356	46.03	N - 68.50 - W

WELL NO. Z-2B-21-008-L016 (L016-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 1

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
* 471	471.00	421.00	N	0.00 E 0.00	0.00 *
480	480.00	430.00	S	0.01 W 0.01	0.02
490	490.00	440.00	S	0.05 W 0.04	0.06
500	500.00	450.00	S	0.10 W 0.08	0.13
510	510.00	460.00	S	0.17 W 0.14	0.22
520	520.00	470.00	S	0.26 W 0.21	0.33
530	530.00	480.00	S	0.36 W 0.30	0.47
540	540.00	490.00	S	0.49 W 0.40	0.63
550	549.99	499.99	S	0.63 W 0.51	0.81
560	559.99	509.99	S	0.79 W 0.64	1.02
570	569.99	519.99	S	0.97 W 0.79	1.25
580	579.99	529.99	S	1.16 W 0.95	1.50
590	589.98	539.98	S	1.38 W 1.12	1.78
600	599.98	549.98	S	1.61 W 1.31	2.07
610	609.97	559.97	S	1.86 W 1.51	2.40
620	619.97	569.97	S	2.12 W 1.73	2.74
630	629.96	579.96	S	2.41 W 1.97	3.11
640	639.95	589.95	S	2.71 W 2.21	3.50
650	649.94	599.94	S	3.03 W 2.47	3.91
660	659.93	609.93	S	3.37 W 2.75	4.35
* 667	666.93	616.93	S	3.62 W 2.95	4.67 *
670	669.92	619.92	S	3.72 W 3.05	4.81
680	679.91	629.91	S	4.09 W 3.38	5.31
690	689.90	639.90	S	4.48 W 3.74	5.84
700	699.88	649.88	S	4.90 W 4.13	6.41
710	709.86	659.86	S	5.35 W 4.53	7.01
720	719.84	669.84	S	5.82 W 4.97	7.65
730	729.82	679.82	S	6.31 W 5.42	8.32
740	739.80	689.80	S	6.84 W 5.90	9.03
750	749.77	699.77	S	7.38 W 6.40	9.77
760	759.74	709.74	S	7.96 W 6.93	10.55
770	769.70	719.70	S	8.56 W 7.48	11.36
780	779.67	729.67	S	9.18 W 8.05	12.21
* 787	786.64	736.64	S	9.63 W 8.46	12.82 *
790	789.63	739.63	S	9.83 W 8.64	13.09
800	799.58	749.58	S	10.53 W 9.30	14.05
810	809.53	759.53	S	11.29 W 10.02	15.10
820	819.47	769.47	S	12.11 W 10.78	16.21
830	829.39	779.39	S	12.98 W 11.59	17.40
840	839.31	789.31	S	13.90 W 12.45	18.66
* 848	847.24	797.24	S	14.67 W 13.18	19.72 *
850	849.23	799.23	S	14.85 W 13.37	19.99
860	859.12	809.12	S	15.82 W 14.43	21.41
870	869.01	819.01	S	16.85 W 15.54	22.93
880	878.88	828.88	S	17.94 W 16.73	24.53

PETRO-TECH

DIRECTIONAL SURVEY FOR WELL LD16-14
PERUANA S.A.

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WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA PD.

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE
890	888.73	838.73	S	19.09 W	26.22
900	898.57	848.57	S	20.30 W	28.00
* 908	906.43	856.43	S	21.30 W	29.48 *
910	908.40	858.40	S	21.56 W	29.86
920	918.21	868.21	S	22.90 W	31.78
930	928.01	878.01	S	24.29 W	33.76
940	937.80	887.80	S	25.71 W	35.80
950	947.58	897.58	S	27.17 W	37.90
960	957.34	907.34	S	28.67 W	40.05
* 968	965.15	915.15	S	29.90 W	41.81 *
970	967.10	917.10	S	30.18 W	42.25
980	976.84	926.84	S	31.62 W	44.49
990	986.58	936.58	S	33.09 W	46.78
* 998	994.35	944.35	S	34.29 W	48.64 *
1000	996.30	946.30	S	34.56 W	49.10
1010	1,006.01	956.01	S	35.95 W	51.46
1020	1,015.71	965.71	S	37.37 W	53.87
* 1028	1,023.46	973.46	S	38.52 W	55.82 *
1030	1,025.40	975.40	S	38.80 W	56.31
1040	1,035.08	985.08	S	40.21 W	58.80
1050	1,044.74	994.74	S	41.64 W	61.33
1060	1,054.40	1,004.40	S	43.09 W	63.90
1070	1,064.04	1,014.04	S	44.57 W	66.52
1080	1,073.67	1,023.67	S	46.07 W	69.18
* 1089	1,082.33	1,032.33	S	47.44 W	71.61 *
1090	1,083.30	1,033.30	S	47.59 W	71.87
1100	1,092.91	1,042.91	S	49.05 W	74.60
1110	1,102.50	1,052.50	S	50.54 W	77.38
* 1119	1,111.13	1,061.13	S	51.90 W	79.90 *
1120	1,112.09	1,062.09	S	52.03 W	80.18
1130	1,121.67	1,071.67	S	53.34 W	83.00
1140	1,131.22	1,081.22	S	54.68 W	85.86
1150	1,140.77	1,090.77	S	56.04 W	88.78
1160	1,150.30	1,100.30	S	57.42 W	91.75
1170	1,159.81	1,109.81	S	58.83 W	94.77
* 1179	1,168.36	1,118.36	S	60.11 W	97.53 *
1180	1,169.31	1,119.31	S	60.24 W	97.83
1190	1,178.79	1,128.79	S	61.59 W	100.94
1200	1,188.25	1,138.25	S	62.96 W	104.10
* 1209	1,196.75	1,146.75	S	64.21 W	107.00 *
1210	1,197.69	1,147.69	S	64.32 W	107.31
1220	1,207.12	1,157.12	S	65.43 W	110.51
1230	1,216.52	1,166.52	S	66.56 W	113.76
1240	1,225.91	1,175.91	S	67.70 W	117.08
1250	1,235.27	1,185.27	S	68.87 W	120.45

DIRECTIONAL SURVEY FOR WELL LD16-14

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WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 10

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD -	ORDINATES	HORIZONTAL DISTANCE
1260	1,244.62	1,194.62	S	70.03	W 102.17	123.55
* 1269	1,253.02	1,203.02	S	71.13	W 105.23	127.01 *
1270	1,253.95	1,203.95	S	71.24	W 105.57	127.36
1280	1,263.26	1,213.26	S	72.37	W 109.05	130.88
1290	1,272.54	1,222.54	S	73.51	W 112.58	134.45
* 1300	1,281.81	1,231.81	S	74.68	W 116.15	138.09 *
1310	1,291.05	1,241.05	S	75.63	W 119.85	141.72
1320	1,300.27	1,250.27	S	76.60	W 123.60	145.41
* 1330	1,309.47	1,259.47	S	77.58	W 127.39	149.16 *
1340	1,318.64	1,268.64	S	78.54	W 131.27	152.97
1350	1,327.77	1,277.77	S	79.51	W 135.22	156.87
1360	1,336.88	1,286.88	S	80.50	W 139.24	160.84
1370	1,345.95	1,295.95	S	81.50	W 143.33	164.88
1380	1,354.99	1,304.99	S	82.52	W 147.49	169.01
* 1390	1,363.99	1,313.99	S	83.56	W 151.72	173.21 *
1400	1,372.97	1,322.97	S	84.61	W 155.99	177.46
1410	1,381.93	1,331.93	S	85.67	W 160.30	181.76
1420	1,390.86	1,340.86	S	86.74	W 164.66	186.11
* 1421	1,391.76	1,341.76	S	86.85	W 165.10	186.55 *
1430	1,399.78	1,349.78	S	87.83	W 169.06	190.51
1440	1,408.67	1,358.67	S	88.92	W 173.50	194.96
1450	1,417.54	1,367.54	S	90.02	W 177.99	199.46
1460	1,426.39	1,376.39	S	91.13	W 182.51	204.00
1470	1,435.21	1,385.21	S	92.26	W 187.08	208.59
1480	1,444.01	1,394.01	S	93.39	W 191.69	213.23
* 1482	1,445.77	1,395.77	S	93.62	W 192.62	214.16 *
1490	1,452.80	1,402.80	S	94.49	W 196.35	217.90
1500	1,461.55	1,411.55	S	95.58	W 201.06	222.62
1510	1,470.28	1,420.28	S	96.69	W 205.81	227.39
* 1514	1,473.77	1,423.77	S	97.13	W 207.71	229.30 *
1520	1,478.99	1,428.99	S	97.73	W 210.61	232.18
1530	1,487.66	1,437.66	S	98.74	W 215.49	237.03
1540	1,496.30	1,446.30	S	99.76	W 220.42	241.95
1550	1,504.90	1,454.90	S	100.80	W 225.41	246.92
1560	1,513.47	1,463.47	S	101.84	W 230.46	251.96
1570	1,522.01	1,472.01	S	102.90	W 235.55	257.05
* 1576	1,527.12	1,477.12	S	103.53	W 238.63	260.13 *
1580	1,530.52	1,480.52	S	103.91	W 240.70	262.18
1590	1,538.99	1,488.99	S	104.86	W 245.94	267.36
1600	1,547.42	1,497.42	S	105.82	W 251.23	272.61
* 1607	1,553.30	1,503.30	S	106.50	W 254.96	276.31 *
1610	1,555.82	1,505.82	S	106.75	W 256.57	277.89
1620	1,564.19	1,514.19	S	107.58	W 261.99	283.21
1630	1,572.52	1,522.52	S	108.41	W 267.45	288.58
1640	1,580.83	1,530.83	S	109.26	W 272.95	294.01

PETRO-TECH

SURVEY FOR WELL LD16-14

PERUANA S.A.

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WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 30

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD -	ORDINATES	HORIZONTAL DISTANCE
1650	1,589.10	1,539.10	S	110.11	W 278.50	299.48
1660	1,597.35	1,547.35	S	110.96	W 284.10	305.00
* 1670	1,605.56	1,555.56	S	111.83	W 289.74	310.57 *
1680	1,613.74	1,563.74	S	112.72	W 295.42	316.19
1690	1,621.90	1,571.90	S	113.61	W 301.13	321.85
1700	1,630.03	1,580.03	S	114.51	W 306.89	327.55
* 1703	1,632.47	1,582.47	S	114.78	W 308.61	329.27 *
1710	1,638.14	1,588.14	S	115.42	W 312.67	333.29
1720	1,646.20	1,596.20	S	116.34	W 318.51	339.09
1730	1,654.24	1,604.24	S	117.26	W 324.38	344.93
* 1733	1,656.65	1,606.65	S	117.53	W 326.15	346.68 *
1740	1,662.26	1,612.26	S	118.18	W 330.29	350.80
1750	1,670.24	1,620.24	S	119.12	W 336.25	356.72
1760	1,678.19	1,628.19	S	120.06	W 342.24	362.69
1770	1,686.11	1,636.11	S	121.00	W 348.27	368.69
1780	1,694.00	1,644.00	S	121.95	W 354.33	374.73
1790	1,701.86	1,651.86	S	122.91	W 360.44	380.82
* 1799	1,708.92	1,658.92	S	123.78	W 365.96	386.33 *
1800	1,709.70	1,659.70	S	123.88	W 366.57	386.94
1810	1,717.52	1,667.52	S	124.92	W 372.72	393.10
1820	1,725.32	1,675.32	S	125.96	W 378.90	399.29
* 1828	1,731.54	1,681.54	S	126.80	W 383.85	404.25 *
1830	1,733.10	1,683.10	S	127.02	W 385.09	405.50
1840	1,740.85	1,690.85	S	128.13	W 391.30	411.75
1850	1,748.58	1,698.58	S	129.24	W 397.55	418.03
1860	1,756.29	1,706.29	S	130.36	W 403.82	424.34
1870	1,763.98	1,713.98	S	131.48	W 410.12	430.68
1880	1,771.64	1,721.64	S	132.61	W 416.44	437.05
* 1890	1,779.28	1,729.28	S	133.74	W 422.80	443.45 *
1900	1,786.90	1,736.90	S	134.98	W 429.15	449.88
1910	1,794.51	1,744.51	S	136.21	W 435.52	456.32
1920	1,802.10	1,752.10	S	137.46	W 441.91	462.79
* 1921	1,802.86	1,752.86	S	137.58	W 442.55	463.44 *
1930	1,809.69	1,759.69	S	139.10	W 448.21	469.30
1940	1,817.26	1,767.26	S	140.79	W 454.53	475.83
1950	1,824.81	1,774.81	S	142.49	W 460.85	482.38
1960	1,832.36	1,782.36	S	144.18	W 467.19	488.93
1970	1,839.89	1,789.89	S	145.89	W 473.54	495.51
1980	1,847.41	1,797.41	S	147.59	W 479.91	502.09
1990	1,854.92	1,804.92	S	149.30	W 486.29	508.69
2000	1,862.42	1,812.42	S	151.02	W 492.68	515.31
* 2005	1,866.16	1,816.16	S	151.87	W 495.88	518.62 *
2010	1,869.91	1,819.91	S	152.59	W 499.12	521.92
2020	1,877.39	1,827.39	S	154.01	W 505.59	528.53
2030	1,884.88	1,834.88	S	155.44	W 512.07	535.14

PETRO-TECH


SURVEY FOR WELL LD16-14

PERUANA S.A.

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WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 47

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471 MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE
2040	1,892.36	1,842.36	S	156.96 W	518.55
2050	1,899.84	1,849.84	S	158.29 W	525.03
2060	1,907.32	1,857.32	S	159.72 W	531.52
2070	1,914.79	1,864.79	S	161.14 W	538.00
2080	1,922.27	1,872.27	S	162.57 W	544.49
2090	1,929.74	1,879.74	S	164.00 W	550.98
2100	1,937.21	1,887.21	S	165.43 W	557.48
2110	1,944.67	1,894.67	S	166.86 W	563.97
2120	1,952.14	1,902.14	S	168.29 W	570.47
2130	1,959.60	1,909.60	S	169.72 W	576.97
2140	1,967.06	1,917.06	S	171.15 W	583.47
2150	1,974.52	1,924.52	S	172.58 W	589.98
2160	1,981.98	1,931.98	S	174.01 W	596.49
* 2169	1,988.69	1,938.69	S	175.30 W	602.34
2170	1,989.43	1,939.43	S	175.45 W	603.00
2180	1,996.89	1,946.89	S	176.88 W	609.50
2190	2,004.35	1,954.35	S	178.31 W	616.01
2200	2,011.80	1,961.80	S	179.74 W	622.52
2210	2,019.26	1,969.26	S	181.17 W	629.02
2220	2,026.72	1,976.72	S	182.60 W	635.53
2230	2,034.18	1,984.18	S	184.04 W	642.03
2240	2,041.65	1,991.65	S	185.47 W	648.53
2250	2,049.11	1,999.11	S	186.90 W	655.03
2260	2,056.57	2,006.57	S	188.33 W	661.53
2270	2,064.04	2,014.04	S	189.76 W	668.03
2280	2,071.50	2,021.50	S	191.19 W	674.53
2290	2,078.97	2,028.97	S	192.62 W	681.03
* 2292	2,080.46	2,030.46	S	192.90 W	682.33
2300	2,086.43	2,036.43	S	194.05 W	687.52
2310	2,093.90	2,043.90	S	195.48 W	694.02
2320	2,101.37	2,051.37	S	196.91 W	700.52
2330	2,108.83	2,058.83	S	198.34 W	707.01
2340	2,116.30	2,066.30	S	199.77 W	713.51
2350	2,123.77	2,073.77	S	201.20 W	720.01
2360	2,131.23	2,081.23	S	202.63 W	726.50
2370	2,138.70	2,088.70	S	204.06 W	733.00
2380	2,146.17	2,096.17	S	205.49 W	739.50
* 2385	2,149.90	2,099.90	S	206.20 W	742.75
2390	2,153.63	2,103.63	S	206.88 W	746.00
2400	2,161.09	2,111.09	S	208.23 W	752.52
2410	2,168.55	2,118.55	S	209.58 W	759.04
2420	2,176.01	2,126.01	S	210.93 W	765.57
2430	2,183.47	2,133.47	S	212.28 W	772.09
2440	2,190.92	2,140.92	S	213.63 W	778.62
2450	2,198.37	2,148.37	S	214.98 W	785.15

PETRO-TECH


SURVEY FOR WELL LD16-14

PERUANA S.A.

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WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA PD.

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE
2460	2,205.82	2,155.82	S	216.34 W 791.69	820.71
2470	2,213.26	2,163.26	S	217.69 W 798.22	827.38
* 2479	2,219.96	2,169.96	S	218.91 W 804.11	833.37 *
2480	2,220.71	2,170.71	S	219.04 W 804.77	834.04
2490	2,228.15	2,178.15	S	220.31 W 811.32	840.70
2500	2,235.59	2,185.59	S	221.59 W 817.88	847.37
2510	2,243.03	2,193.03	S	222.86 W 824.44	854.03
2520	2,250.47	2,200.47	S	224.14 W 831.00	860.70
2530	2,257.91	2,207.91	S	225.41 W 837.56	867.37
2540	2,265.34	2,215.34	S	226.69 W 844.13	874.04
2550	2,272.77	2,222.77	S	227.97 W 850.69	880.71
2560	2,280.21	2,230.21	S	229.24 W 857.26	887.38
2570	2,287.64	2,237.64	S	230.52 W 863.83	894.06
* 2573	2,289.87	2,239.87	S	230.90 W 865.80	896.06 *
2580	2,295.07	2,245.07	S	231.80 W 870.40	900.73
2590	2,302.50	2,252.50	S	233.07 W 876.97	907.41
2600	2,309.92	2,259.92	S	234.35 W 883.54	914.10
2610	2,317.35	2,267.35	S	235.63 W 890.12	920.78
2620	2,324.77	2,274.77	S	236.91 W 896.70	927.47
2630	2,332.19	2,282.19	S	238.19 W 903.28	934.16
2640	2,339.60	2,289.60	S	239.47 W 909.87	940.85
2650	2,347.02	2,297.02	S	240.75 W 916.45	947.55
2660	2,354.43	2,304.43	S	242.03 W 923.04	954.25
2670	2,361.84	2,311.84	S	243.31 W 929.64	960.95
* 2677	2,367.02	2,317.02	S	244.21 W 934.25	965.64 *
2680	2,369.25	2,319.25	S	244.59 W 936.23	967.65
2690	2,376.65	2,326.65	S	245.88 W 942.83	974.36
2700	2,384.05	2,334.05	S	247.16 W 949.43	981.08
2710	2,391.44	2,341.44	S	248.45 W 956.04	987.80
2720	2,398.83	2,348.83	S	249.73 W 962.66	994.52
2730	2,406.22	2,356.22	S	251.02 W 969.27	1,001.25
2740	2,413.60	2,363.60	S	252.31 W 975.90	1,007.98
2750	2,420.98	2,370.98	S	253.59 W 982.52	1,014.72
* 2760	2,428.35	2,378.35	S	254.88 W 989.16	1,021.47 *
2770	2,435.72	2,385.72	S	256.17 W 995.79	1,028.22
2780	2,443.08	2,393.08	S	257.47 W 1,002.44	1,034.97
2790	2,450.43	2,400.43	S	258.76 W 1,009.09	1,041.74
2800	2,457.78	2,407.78	S	260.05 W 1,015.75	1,048.51
2810	2,465.12	2,415.12	S	261.35 W 1,022.41	1,055.28
2820	2,472.46	2,422.46	S	262.65 W 1,029.08	1,062.07
2830	2,479.79	2,429.79	S	263.94 W 1,035.76	1,068.86
2840	2,487.11	2,437.11	S	265.24 W 1,042.44	1,075.66
2850	2,494.43	2,444.43	S	266.54 W 1,049.13	1,082.46
* 2858	2,500.28	2,450.28	S	267.58 W 1,054.49	1,087.91 *
2860	2,501.75	2,451.75	S	267.84 W 1,055.82	1,089.27

PETRO-TECH


SURVEY FOR WELL LD16-14

PERUANA S.A.

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WELL NO. Z-2B-21-00B-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 32

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471 MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE
2870	2,509.06	2,459.06	S	269.15 W 1,062.52	1,096.08
2880	2,516.36	2,466.36	S	270.45 W 1,069.22	1,102.90
2890	2,523.67	2,473.67	S	271.75 W 1,075.93	1,109.71
2900	2,530.97	2,480.97	S	273.06 W 1,082.63	1,116.54
2910	2,538.27	2,488.27	S	274.36 W 1,089.34	1,123.36
2920	2,545.57	2,495.57	S	275.67 W 1,096.05	1,130.19
2930	2,552.86	2,502.86	S	276.97 W 1,102.77	1,137.02
2940	2,560.16	2,510.16	S	278.28 W 1,109.49	1,143.85
* 2948	2,565.99	2,515.99	S	279.32 W 1,114.86	1,149.32 *
2950	2,567.45	2,517.45	S	279.57 W 1,116.21	1,150.69
2960	2,574.73	2,524.73	S	280.79 W 1,122.94	1,157.52
2970	2,582.02	2,532.02	S	282.02 W 1,129.68	1,164.35
2980	2,589.31	2,539.31	S	283.24 W 1,136.42	1,171.19
2990	2,596.59	2,546.59	S	284.47 W 1,143.16	1,178.02
3000	2,603.87	2,553.87	S	285.70 W 1,149.90	1,184.86
3010	2,611.16	2,561.16	S	286.92 W 1,156.65	1,191.70
3020	2,618.44	2,568.44	S	288.15 W 1,163.39	1,198.54
3030	2,625.72	2,575.72	S	289.38 W 1,170.14	1,205.39
3040	2,632.99	2,582.99	S	290.61 W 1,176.88	1,212.23
* 3042	2,634.45	2,584.45	S	290.85 W 1,178.23	1,213.60 *
3050	2,640.27	2,590.27	S	291.83 W 1,183.63	1,219.08
3060	2,647.54	2,597.54	S	293.06 W 1,190.39	1,225.94
3070	2,654.80	2,604.80	S	294.29 W 1,197.15	1,232.80
3080	2,662.06	2,612.06	S	295.52 W 1,203.92	1,239.66
3090	2,669.31	2,619.31	S	296.76 W 1,210.70	1,246.53
3100	2,676.56	2,626.56	S	297.99 W 1,217.47	1,253.41
3110	2,683.80	2,633.80	S	299.22 W 1,224.26	1,260.30
3120	2,691.04	2,641.04	S	300.46 W 1,231.05	1,267.18
3130	2,698.27	2,648.27	S	301.70 W 1,237.84	1,274.08
* 3134	2,701.16	2,651.16	S	302.19 W 1,240.56	1,276.84 *
3140	2,705.50	2,655.50	S	302.93 W 1,244.64	1,280.98
3150	2,712.72	2,662.72	S	304.17 W 1,251.44	1,287.88
3160	2,719.95	2,669.95	S	305.41 W 1,258.25	1,294.78
3170	2,727.17	2,677.17	S	306.65 W 1,265.05	1,301.69
3180	2,734.39	2,684.39	S	307.89 W 1,271.86	1,308.60
3190	2,741.60	2,691.60	S	309.12 W 1,278.67	1,315.51
3200	2,748.81	2,698.81	S	310.36 W 1,285.49	1,322.43
3210	2,756.02	2,706.02	S	311.60 W 1,292.31	1,329.34
3220	2,763.23	2,713.23	S	312.85 W 1,299.13	1,336.26
* 3228	2,769.00	2,719.00	S	313.84 W 1,304.58	1,341.80 *
3230	2,770.44	2,720.44	S	314.09 W 1,305.95	1,343.19
3240	2,777.65	2,727.65	S	315.33 W 1,312.77	1,350.11
3250	2,784.86	2,734.86	S	316.57 W 1,319.58	1,357.02
3260	2,792.08	2,742.08	S	317.81 W 1,326.39	1,363.93
3270	2,799.30	2,749.30	S	319.04 W 1,333.20	1,370.84

PETRO-TECH

PERUANA S.A.

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WELL NO. Z-2B-21-008-L016 (L016-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 37

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE
3280	2,806.52	2,756.52	S	320.28 W 1,340.00	1,377.74
3290	2,813.75	2,763.75	S	321.52 W 1,346.80	1,384.65
3300	2,820.98	2,770.98	S	322.76 W 1,353.60	1,391.54
3310	2,828.21	2,778.21	S	323.99 W 1,360.39	1,398.44
3320	2,835.45	2,785.45	S	325.23 W 1,367.18	1,405.33
3330	2,842.69	2,792.69	S	326.46 W 1,373.96	1,412.21
3340	2,849.94	2,799.94	S	327.69 W 1,380.74	1,419.10
3350	2,857.19	2,807.19	S	328.93 W 1,387.52	1,425.98
3360	2,864.44	2,814.44	S	330.16 W 1,394.29	1,432.85
* 3365	2,868.07	2,818.07	S	330.78 W 1,397.68	1,436.29 *
3370	2,871.69	2,821.69	S	331.39 W 1,401.07	1,439.72
3380	2,878.95	2,828.95	S	332.62 W 1,407.83	1,446.59
3390	2,886.22	2,836.22	S	333.85 W 1,414.59	1,453.46
3400	2,893.49	2,843.49	S	335.08 W 1,421.35	1,460.32
3410	2,900.76	2,850.76	S	336.31 W 1,428.11	1,467.17
3420	2,908.03	2,858.03	S	337.54 W 1,434.86	1,474.02
3430	2,915.31	2,865.31	S	338.77 W 1,441.60	1,480.87
3440	2,922.59	2,872.59	S	339.99 W 1,448.35	1,487.72
3450	2,929.88	2,879.88	S	341.22 W 1,455.08	1,494.56
3460	2,937.17	2,887.17	S	342.44 W 1,461.82	1,501.39
3470	2,944.46	2,894.46	S	343.67 W 1,468.55	1,508.23
3480	2,951.76	2,901.76	S	344.89 W 1,475.28	1,515.05
* 3490	2,959.06	2,909.06	S	346.12 W 1,482.00	1,521.88 *
3500	2,966.37	2,916.37	S	347.34 W 1,488.72	1,528.70
3510	2,973.67	2,923.67	S	348.56 W 1,495.44	1,535.52
3520	2,980.98	2,930.98	S	349.78 W 1,502.15	1,542.34
3530	2,988.29	2,938.29	S	351.00 W 1,508.87	1,549.16
3540	2,995.60	2,945.60	S	352.23 W 1,515.58	1,555.97
3550	3,002.91	2,952.91	S	353.45 W 1,522.29	1,562.78
3560	3,010.23	2,960.23	S	354.67 W 1,529.00	1,569.59
3570	3,017.54	2,967.54	S	355.89 W 1,535.70	1,576.40
3580	3,024.86	2,974.86	S	357.11 W 1,542.41	1,583.21
3590	3,032.18	2,982.18	S	358.33 W 1,549.11	1,590.01
3600	3,039.51	2,989.51	S	359.55 W 1,555.81	1,596.82
3610	3,046.83	2,996.83	S	360.76 W 1,562.51	1,603.62
* 3616	3,051.23	3,001.23	S	361.50 W 1,566.53	1,607.70 *
3620	3,054.16	3,004.16	S	361.98 W 1,569.21	1,610.42
3630	3,061.49	3,011.49	S	363.20 W 1,575.89	1,617.21
3640	3,068.83	3,018.83	S	364.42 W 1,582.58	1,623.99
3650	3,076.18	3,026.18	S	365.63 W 1,589.25	1,630.77
3660	3,083.53	3,033.53	S	366.84 W 1,595.92	1,637.54
3670	3,090.88	3,040.88	S	368.06 W 1,602.59	1,644.31
3680	3,098.24	3,048.24	S	369.27 W 1,609.25	1,651.07
3690	3,105.61	3,055.61	S	370.48 W 1,615.90	1,657.82
3700	3,112.99	3,062.99	S	371.69 W 1,622.54	1,664.57

PERUANA S.A.

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WELL NO. Z-2B-21-00B-LO16 (LO16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 10

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471 MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
3710	3,120.37	3,070.37	S	372.89 W 1,629.18	1,671.31
3720	3,127.75	3,077.75	S	374.10 W 1,635.82	1,678.05
3730	3,135.14	3,085.14	S	375.31 W 1,642.44	1,684.78
* 3740	3,142.54	3,092.54	S	376.51 W 1,649.07	1,691.50 *
3750	3,149.94	3,099.94	S	377.72 W 1,655.68	1,698.22
3760	3,157.35	3,107.35	S	378.92 W 1,662.29	1,704.93
3770	3,164.76	3,114.76	S	380.12 W 1,668.89	1,711.63
3780	3,172.19	3,122.19	S	381.32 W 1,675.48	1,718.33
3790	3,179.61	3,129.61	S	382.52 W 1,682.07	1,725.02
3800	3,187.05	3,137.05	S	383.71 W 1,688.65	1,731.70
3810	3,194.49	3,144.49	S	384.91 W 1,695.23	1,738.37
3820	3,201.93	3,151.93	S	386.10 W 1,701.79	1,745.04
3830	3,209.39	3,159.39	S	387.30 W 1,708.35	1,751.71
3840	3,216.84	3,166.84	S	388.49 W 1,714.91	1,758.36
3850	3,224.31	3,174.31	S	389.68 W 1,721.45	1,765.01
3860	3,231.78	3,181.78	S	390.87 W 1,727.99	1,771.65
3870	3,239.26	3,189.26	S	392.06 W 1,734.53	1,778.28
3880	3,246.74	3,196.74	S	393.25 W 1,741.05	1,784.91
3890	3,254.23	3,204.23	S	394.43 W 1,747.57	1,791.53
3900	3,261.73	3,211.73	S	395.62 W 1,754.08	1,798.15
3910	3,269.23	3,219.23	S	396.80 W 1,760.59	1,804.75
3920	3,276.73	3,226.73	S	397.98 W 1,767.09	1,811.35
* 3928	3,282.75	3,232.75	S	398.93 W 1,772.28	1,816.63 *
3930	3,284.25	3,234.25	S	399.17 W 1,773.58	1,817.95
3940	3,291.77	3,241.77	S	400.34 W 1,780.06	1,824.53
3950	3,299.31	3,249.31	S	401.52 W 1,786.53	1,831.10
3960	3,306.85	3,256.85	S	402.70 W 1,792.99	1,837.66
3970	3,314.40	3,264.40	S	403.87 W 1,799.44	1,844.20
3980	3,321.97	3,271.97	S	405.04 W 1,805.87	1,850.74
3990	3,329.54	3,279.54	S	406.21 W 1,812.30	1,857.27
4000	3,337.12	3,287.12	S	407.38 W 1,818.71	1,863.78
4010	3,344.71	3,294.71	S	408.54 W 1,825.12	1,870.28
4020	3,352.32	3,302.32	S	409.70 W 1,831.51	1,876.77
4030	3,359.93	3,309.93	S	410.87 W 1,837.89	1,883.26
4040	3,367.55	3,317.55	S	412.02 W 1,844.26	1,889.72
4050	3,375.18	3,325.18	S	413.18 W 1,850.62	1,896.18
4060	3,382.82	3,332.82	S	414.34 W 1,856.97	1,902.63
4070	3,390.47	3,340.47	S	415.49 W 1,863.30	1,909.07
4080	3,398.13	3,348.13	S	416.64 W 1,869.63	1,915.49
4090	3,405.80	3,355.80	S	417.79 W 1,875.94	1,921.90
4100	3,413.47	3,363.47	S	418.94 W 1,882.25	1,928.31
4110	3,421.16	3,371.16	S	420.08 W 1,888.54	1,934.70
* 4117	3,426.55	3,376.55	S	420.88 W 1,892.94	1,939.16 *
4120	3,428.86	3,378.86	S	421.22 W 1,894.82	1,941.08
4130	3,436.56	3,386.56	S	422.36 W 1,901.09	1,947.45

WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 10

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471 MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
4140	3,444.28	3,394.28	S 423.50	W 1,907.35	1,953.60
4150	3,452.01	3,402.01	S 424.64	W 1,913.60	1,960.14
4160	3,459.74	3,409.74	S 425.77	W 1,919.83	1,966.48
4170	3,467.49	3,417.49	S 426.91	W 1,926.05	1,972.80
4180	3,475.25	3,425.25	S 428.04	W 1,932.26	1,979.10
4190	3,483.01	3,433.01	S 429.16	W 1,938.46	1,985.40
4200	3,490.79	3,440.79	S 430.29	W 1,944.65	1,991.68
4210	3,498.57	3,448.57	S 431.41	W 1,950.82	1,997.95
4220	3,506.37	3,456.37	S 432.53	W 1,956.98	2,004.21
4230	3,514.17	3,464.17	S 433.65	W 1,963.14	2,010.46
4240	3,521.99	3,471.99	S 434.77	W 1,969.27	2,016.70
* 4241	3,522.77	3,472.77	S 434.88	W 1,969.89	2,017.32 *
4250	3,529.81	3,479.81	S 435.88	W 1,975.41	2,022.92
4260	3,537.64	3,487.64	S 437.00	W 1,981.53	2,029.14
4270	3,545.47	3,495.47	S 438.11	W 1,987.64	2,035.35
4280	3,553.31	3,503.31	S 439.22	W 1,993.74	2,041.55
4290	3,561.16	3,511.16	S 440.33	W 1,999.84	2,047.74
4300	3,569.02	3,519.02	S 441.44	W 2,005.93	2,053.93
4310	3,576.88	3,526.88	S 442.54	W 2,012.01	2,060.10
4320	3,584.75	3,534.75	S 443.65	W 2,018.08	2,066.27
4330	3,592.63	3,542.63	S 444.75	W 2,024.14	2,072.42
4340	3,600.51	3,550.51	S 445.85	W 2,030.19	2,078.57
4350	3,608.40	3,558.40	S 446.95	W 2,036.23	2,084.71
4360	3,616.30	3,566.30	S 448.05	W 2,042.27	2,090.84
* 4366	3,621.04	3,571.04	S 448.71	W 2,045.89	2,094.51 *
4370	3,624.20	3,574.20	S 449.15	W 2,048.30	2,096.96
4380	3,632.12	3,582.12	S 450.24	W 2,054.31	2,103.07
4390	3,640.04	3,590.04	S 451.33	W 2,060.31	2,109.17
4400	3,647.97	3,597.97	S 452.42	W 2,066.30	2,115.25
4410	3,655.92	3,605.92	S 453.51	W 2,072.28	2,121.32
4420	3,663.87	3,613.87	S 454.59	W 2,078.25	2,127.38
4430	3,671.83	3,621.83	S 455.68	W 2,084.20	2,133.43
4440	3,679.80	3,629.80	S 456.76	W 2,090.14	2,139.47
4450	3,687.78	3,637.78	S 457.84	W 2,096.07	2,145.49
4460	3,695.77	3,645.77	S 458.92	W 2,101.99	2,151.51
4470	3,703.76	3,653.76	S 459.99	W 2,107.90	2,157.51
4480	3,711.77	3,661.77	S 461.06	W 2,113.80	2,163.50
4490	3,719.78	3,669.78	S 462.13	W 2,119.68	2,169.47
* 4493	3,722.19	3,672.19	S 462.45	W 2,121.44	2,171.26 *
4500	3,727.80	3,677.80	S 463.04	W 2,125.59	2,175.44
4510	3,735.80	3,685.80	S 463.89	W 2,131.52	2,181.42
4520	3,743.80	3,693.80	S 464.73	W 2,137.47	2,187.40
4530	3,751.79	3,701.79	S 465.58	W 2,143.42	2,193.40
4540	3,759.77	3,709.77	S 466.43	W 2,149.38	2,199.41
4550	3,767.75	3,717.75	S 467.28	W 2,155.35	2,205.43

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WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 10

CONDUCTOR IS VERTICAL CONDUCTOR DATA: 471 MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
4560	3,775.72	3,725.72	S	468.13 W 2,161.34	2,211.45
4570	3,783.68	3,733.68	S	468.99 W 2,167.33	2,217.49
4580	3,791.63	3,741.63	S	469.84 W 2,173.33	2,223.54
4590	3,799.58	3,749.58	S	470.70 W 2,179.34	2,229.59
4600	3,807.51	3,757.51	S	471.55 W 2,185.36	2,235.66
4610	3,815.44	3,765.44	S	472.41 W 2,191.40	2,241.74
4620	3,823.37	3,773.37	S	473.27 W 2,197.44	2,247.82
4630	3,831.28	3,781.28	S	474.13 W 2,203.49	2,253.92
4640	3,839.19	3,789.19	S	475.00 W 2,209.55	2,260.03
4650	3,847.09	3,797.09	S	475.86 W 2,215.62	2,266.14
4660	3,854.98	3,804.98	S	476.72 W 2,221.70	2,272.27
4670	3,862.86	3,812.86	S	477.59 W 2,227.79	2,278.40
4680	3,870.74	3,820.74	S	478.46 W 2,233.89	2,284.55
4690	3,878.61	3,828.61	S	479.33 W 2,239.99	2,290.71
4700	3,886.47	3,836.47	S	480.20 W 2,246.11	2,296.87
4710	3,894.33	3,844.33	S	481.07 W 2,252.24	2,303.05
4720	3,902.17	3,852.17	S	481.95 W 2,258.38	2,309.23
4730	3,910.01	3,860.01	S	482.82 W 2,264.53	2,315.43
4740	3,917.84	3,867.84	S	483.70 W 2,270.68	2,321.63
* 4746	3,922.54	3,872.54	S	484.22 W 2,274.38	2,325.36 *
4750	3,925.67	3,875.67	S	484.58 W 2,276.85	2,327.84
4760	3,933.47	3,883.47	S	485.46 W 2,283.04	2,334.08
4770	3,941.26	3,891.26	S	486.34 W 2,289.25	2,340.34
4780	3,949.03	3,899.03	S	487.23 W 2,295.48	2,346.62
4790	3,956.78	3,906.78	S	488.12 W 2,301.73	2,352.92
4800	3,964.52	3,914.52	S	489.01 W 2,308.00	2,359.24
4810	3,972.24	3,922.24	S	489.91 W 2,314.29	2,365.58
4820	3,979.95	3,929.95	S	490.80 W 2,320.60	2,371.94
4830	3,987.64	3,937.64	S	491.70 W 2,326.93	2,378.31
4840	3,995.31	3,945.31	S	492.61 W 2,333.28	2,384.71
4850	4,002.97	3,952.97	S	493.51 W 2,339.65	2,391.13
4860	4,010.61	3,960.61	S	494.42 W 2,346.04	2,397.57
* 4868	4,016.71	3,966.71	S	495.15 W 2,351.16	2,402.73 *
4870	4,018.24	3,968.24	S	495.32 W 2,352.44	2,404.02
4880	4,025.84	3,975.84	S	496.13 W 2,358.88	2,410.49
4890	4,033.43	3,983.43	S	496.95 W 2,365.34	2,416.98
4900	4,041.00	3,991.00	S	497.76 W 2,371.82	2,423.49
4910	4,048.56	3,998.56	S	498.59 W 2,378.32	2,430.02
4920	4,056.10	4,006.10	S	499.41 W 2,384.84	2,436.57
4930	4,063.62	4,013.62	S	500.24 W 2,391.38	2,443.14
4940	4,071.12	4,021.12	S	501.06 W 2,397.94	2,449.73
4950	4,078.60	4,028.60	S	501.90 W 2,404.52	2,456.34
4960	4,086.07	4,036.07	S	502.73 W 2,411.12	2,462.97
4970	4,093.52	4,043.52	S	503.57 W 2,417.74	2,469.62
4980	4,100.96	4,050.96	S	504.40 W 2,424.37	2,476.29

PETRO-TECH**PERUANA S.A.**

DIRECTIONAL SURVEY FOR WELL LO16-14

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WELL NO. Z-2B-21-008-LO16 (LO16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 39

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA		TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE
4990	4,108.37	4,058.37	S	505.24	W 2,431.03	2,482.98
* 4994	4,111.33	4,061.33	S	505.58	W 2,433.70	2,485.66 *
5000	4,115.77	4,065.77	S	506.05	W 2,437.71	2,489.69
5010	4,123.15	4,073.15	S	506.84	W 2,444.41	2,496.40
5020	4,130.51	4,080.51	S	507.63	W 2,451.14	2,503.15
5030	4,137.84	4,087.84	S	508.42	W 2,457.89	2,509.92
5040	4,145.16	4,095.16	S	509.22	W 2,464.66	2,516.71
5050	4,152.46	4,102.46	S	510.02	W 2,471.45	2,523.52
5060	4,159.73	4,109.73	S	510.82	W 2,478.26	2,530.36
5070	4,166.99	4,116.99	S	511.62	W 2,485.09	2,537.21
5080	4,174.23	4,124.23	S	512.43	W 2,491.95	2,544.09
5090	4,181.44	4,131.44	S	513.23	W 2,498.82	2,550.99
5100	4,188.64	4,138.64	S	514.04	W 2,505.72	2,557.90
5110	4,195.81	4,145.81	S	514.86	W 2,512.64	2,564.84
* 5119	4,202.25	4,152.25	S	515.59	W 2,518.88	2,571.11 *
5120	4,202.97	4,152.97	S	515.67	W 2,519.57	2,571.80
5130	4,210.13	4,160.13	S	516.49	W 2,526.51	2,578.76
5140	4,217.28	4,167.28	S	517.30	W 2,533.45	2,585.72
5150	4,224.44	4,174.44	S	518.12	W 2,540.39	2,592.69
5160	4,231.59	4,181.59	S	518.93	W 2,547.33	2,599.65
5170	4,238.74	4,188.74	S	519.75	W 2,554.27	2,606.61
5180	4,245.90	4,195.90	S	520.56	W 2,561.21	2,613.58
5190	4,253.05	4,203.05	S	521.38	W 2,568.15	2,620.54
5200	4,260.20	4,210.20	S	522.20	W 2,575.09	2,627.51
5210	4,267.35	4,217.35	S	523.01	W 2,582.04	2,634.48
5220	4,274.50	4,224.50	S	523.83	W 2,588.98	2,641.44
5230	4,281.64	4,231.64	S	524.64	W 2,595.93	2,648.41
5240	4,288.79	4,238.79	S	525.46	W 2,602.88	2,655.38
5250	4,295.94	4,245.94	S	526.28	W 2,609.82	2,662.36
5260	4,303.08	4,253.08	S	527.09	W 2,616.77	2,669.33
5270	4,310.23	4,260.23	S	527.91	W 2,623.72	2,676.30
* 5271	4,310.94	4,260.94	S	527.99	W 2,624.41	2,677.00 *
5280	4,317.38	4,267.38	S	528.73	W 2,630.66	2,683.27
5290	4,324.53	4,274.53	S	529.54	W 2,637.60	2,690.23
5300	4,331.69	4,281.69	S	530.36	W 2,644.54	2,697.19
5310	4,338.85	4,288.85	S	531.17	W 2,651.47	2,704.15
5320	4,346.02	4,296.02	S	531.98	W 2,658.39	2,711.10
5330	4,353.20	4,303.20	S	532.80	W 2,665.31	2,718.04
5340	4,360.38	4,310.38	S	533.61	W 2,672.22	2,724.98
5350	4,367.56	4,317.56	S	534.42	W 2,679.13	2,731.91
5360	4,374.75	4,324.75	S	535.23	W 2,686.04	2,738.84
5370	4,381.94	4,331.94	S	536.04	W 2,692.94	2,745.77
5380	4,389.14	4,339.14	S	536.85	W 2,699.83	2,752.69
5390	4,396.34	4,346.34	S	537.66	W 2,706.72	2,759.60
* 5395	4,399.95	4,349.95	S	538.07	W 2,710.15	2,763.06 *

PERUANA S.A.

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WELL NO. Z-2B-21-008-LO16 (LO16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 10

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 4711 MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE
5400	4,403.55	4,353.55	S	538.43 W 2,713.61	2,766.51
5410	4,410.76	4,360.76	S	539.15 W 2,720.50	2,773.41
5420	4,417.98	4,367.98	S	539.88 W 2,727.38	2,780.30
5430	4,425.20	4,375.20	S	540.60 W 2,734.26	2,787.19
5440	4,432.43	4,382.43	S	541.32 W 2,741.13	2,794.07
5450	4,439.67	4,389.67	S	542.04 W 2,748.00	2,800.95
5460	4,446.90	4,396.90	S	542.77 W 2,754.86	2,807.82
5470	4,454.15	4,404.15	S	543.49 W 2,761.72	2,814.69
5480	4,461.39	4,411.39	S	544.21 W 2,768.57	2,821.55
5490	4,468.65	4,418.65	S	544.93 W 2,775.42	2,828.41
5500	4,475.90	4,425.90	S	545.65 W 2,782.26	2,835.26
5510	4,483.17	4,433.17	S	546.36 W 2,789.10	2,842.11
5520	4,490.43	4,440.43	S	547.08 W 2,795.93	2,848.95
5530	4,497.71	4,447.71	S	547.80 W 2,802.75	2,855.78
5540	4,504.98	4,454.98	S	548.52 W 2,809.57	2,862.62
5550	4,512.27	4,462.27	S	549.23 W 2,816.39	2,869.44
5560	4,519.55	4,469.55	S	549.95 W 2,823.20	2,876.27
* 5565	4,523.20	4,473.20	S	550.31 W 2,826.60	2,879.67 *
5570	4,526.84	4,476.84	S	550.50 W 2,830.02	2,883.07
5580	4,534.14	4,484.14	S	550.88 W 2,836.85	2,889.85
5590	4,541.43	4,491.43	S	551.26 W 2,843.69	2,896.63
5600	4,548.72	4,498.72	S	551.64 W 2,850.52	2,903.40
5610	4,556.02	4,506.02	S	552.03 W 2,857.35	2,910.18
5620	4,563.31	4,513.31	S	552.41 W 2,864.18	2,916.96
5630	4,570.61	4,520.61	S	552.79 W 2,871.00	2,923.74
5640	4,577.90	4,527.90	S	553.17 W 2,877.83	2,930.51
5650	4,585.20	4,535.20	S	553.55 W 2,884.65	2,937.29
5660	4,592.50	4,542.50	S	553.94 W 2,891.48	2,944.06
5670	4,599.80	4,549.80	S	554.32 W 2,898.30	2,950.83
5680	4,607.10	4,557.10	S	554.70 W 2,905.12	2,957.61
5690	4,614.41	4,564.41	S	555.08 W 2,911.95	2,964.38
5700	4,621.71	4,571.71	S	555.46 W 2,918.76	2,971.15
5710	4,629.02	4,579.02	S	555.84 W 2,925.58	2,977.92
5720	4,636.32	4,586.32	S	556.23 W 2,932.40	2,984.69
5730	4,643.63	4,593.63	S	556.61 W 2,939.22	2,991.46
5740	4,650.94	4,600.94	S	556.99 W 2,946.03	2,998.22
5750	4,658.24	4,608.24	S	557.37 W 2,952.85	3,004.99
5760	4,665.55	4,615.55	S	557.75 W 2,959.66	3,011.76
5770	4,672.87	4,622.87	S	558.13 W 2,966.47	3,018.52
5780	4,680.18	4,630.18	S	558.51 W 2,973.28	3,025.29
5790	4,687.49	4,637.49	S	558.89 W 2,980.09	3,032.05
5800	4,694.80	4,644.80	S	559.27 W 2,986.90	3,038.81
5810	4,702.12	4,652.12	S	559.65 W 2,993.71	3,045.57
5820	4,709.44	4,659.44	S	560.04 W 3,000.52	3,052.33
5830	4,716.75	4,666.75	S	560.42 W 3,007.32	3,059.09

WELL NO. Z-2B-21-008-LO16 (LO16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 47

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471 MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE
5840	4,724.07	4,674.07	S	560.80 W 3,014.13	3,065.85
5850	4,731.39	4,681.39	S	561.18 W 3,020.93	3,072.61
5860	4,738.71	4,688.71	S	561.56 W 3,027.73	3,079.37
5870	4,746.03	4,696.03	S	561.94 W 3,034.53	3,086.13
5880	4,753.35	4,703.35	S	562.32 W 3,041.33	3,092.89
5890	4,760.68	4,710.68	S	562.70 W 3,048.13	3,099.64
5900	4,768.00	4,718.00	S	563.08 W 3,054.93	3,106.39
5910	4,775.33	4,725.33	S	563.46 W 3,061.73	3,113.14
* 5913	4,777.52	4,727.52	S	563.57 W 3,063.77	3,115.17 *
5920	4,782.66	4,732.66	S	563.78 W 3,068.52	3,119.89
5930	4,789.99	4,739.99	S	564.08 W 3,075.31	3,126.61
5940	4,797.34	4,747.34	S	564.37 W 3,082.09	3,133.34
5950	4,804.69	4,754.69	S	564.67 W 3,088.86	3,140.05
5960	4,812.06	4,762.06	S	564.96 W 3,095.62	3,146.75
5970	4,819.42	4,769.42	S	565.26 W 3,102.37	3,153.45
* 5975	4,823.11	4,773.11	S	565.41 W 3,105.75	3,156.80 *
5980	4,826.80	4,776.80	S	565.68 W 3,109.12	3,160.16
5990	4,834.17	4,784.17	S	566.22 W 3,115.85	3,166.88
6000	4,841.54	4,791.54	S	566.76 W 3,122.58	3,173.60
6010	4,848.92	4,798.92	S	567.30 W 3,129.32	3,180.32
6020	4,856.29	4,806.29	S	567.85 W 3,136.05	3,187.05
6030	4,863.66	4,813.66	S	568.39 W 3,142.79	3,193.77
6040	4,871.04	4,821.04	S	568.93 W 3,149.52	3,200.49
6050	4,878.41	4,828.41	S	569.47 W 3,156.25	3,207.22
6060	4,885.78	4,835.78	S	570.01 W 3,162.99	3,213.94
6070	4,893.15	4,843.15	S	570.56 W 3,169.72	3,220.66
6080	4,900.53	4,850.53	S	571.10 W 3,176.46	3,227.39
6090	4,907.90	4,857.90	S	571.64 W 3,183.19	3,234.11
6100	4,915.27	4,865.27	S	572.18 W 3,189.93	3,240.84
6110	4,922.65	4,872.65	S	572.72 W 3,196.66	3,247.56
6120	4,930.02	4,880.02	S	573.27 W 3,203.39	3,254.28
6130	4,937.39	4,887.39	S	573.81 W 3,210.13	3,261.01
* 6131	4,938.13	4,888.13	S	573.86 W 3,210.80	3,261.68 *
6140	4,944.76	4,894.76	S	574.65 W 3,216.83	3,267.76
6150	4,952.13	4,902.13	S	575.52 W 3,223.54	3,274.51
6160	4,959.50	4,909.50	S	576.39 W 3,230.24	3,281.27
6170	4,966.86	4,916.86	S	577.26 W 3,236.95	3,288.03
6180	4,974.22	4,924.22	S	578.14 W 3,243.67	3,294.79
6190	4,981.58	4,931.58	S	579.01 W 3,250.38	3,301.55
6200	4,988.94	4,938.94	S	579.88 W 3,257.10	3,308.32
6210	4,996.29	4,946.29	S	580.76 W 3,263.82	3,315.09
6220	5,003.64	4,953.64	S	581.63 W 3,270.54	3,321.86
* 6226	5,008.05	4,958.05	S	582.16 W 3,274.58	3,325.92 *
6230	5,010.99	4,960.99	S	582.47 W 3,277.27	3,328.63
6240	5,018.34	4,968.34	S	583.27 W 3,284.01	3,335.40

PETRO-TECH

SURVEY FOR WELL LD16-14

PERUANA S.A.

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WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 10

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE
6250	5,025.69	4,975.69	S	584.06 W 3,290.74	3,342.17
6260	5,033.05	4,983.05	S	584.85 W 3,297.47	3,348.93
6270	5,040.40	4,990.40	S	585.64 W 3,304.20	3,355.70
6280	5,047.76	4,997.76	S	586.43 W 3,310.93	3,362.46
6290	5,055.11	5,005.11	S	587.22 W 3,317.65	3,369.22
6300	5,062.47	5,012.47	S	588.01 W 3,324.38	3,375.98
6310	5,069.83	5,019.83	S	588.80 W 3,331.10	3,382.74
6320	5,077.19	5,027.19	S	589.59 W 3,337.83	3,389.50
6330	5,084.55	5,034.55	S	590.38 W 3,344.55	3,396.25
6340	5,091.92	5,041.92	S	591.17 W 3,351.27	3,403.01
6350	5,099.28	5,049.28	S	591.96 W 3,357.99	3,409.76
6360	5,106.65	5,056.65	S	592.75 W 3,364.70	3,416.52
6370	5,114.01	5,064.01	S	593.54 W 3,371.42	3,423.27
6380	5,121.38	5,071.38	S	594.33 W 3,378.14	3,430.02
6390	5,128.75	5,078.75	S	595.12 W 3,384.85	3,436.77
6400	5,136.12	5,086.12	S	595.90 W 3,391.56	3,443.52
6410	5,143.49	5,093.49	S	596.69 W 3,398.27	3,450.26
6420	5,150.86	5,100.86	S	597.48 W 3,404.98	3,457.01
* 6422	5,152.34	5,102.34	S	597.64 W 3,406.33	3,458.36 *
6430	5,158.23	5,108.23	S	598.20 W 3,411.70	3,463.75
6440	5,165.60	5,115.60	S	598.91 W 3,418.43	3,470.50
6450	5,172.97	5,122.97	S	599.62 W 3,425.15	3,477.24
6460	5,180.33	5,130.33	S	600.33 W 3,431.89	3,484.00
6470	5,187.69	5,137.69	S	601.03 W 3,438.62	3,490.75
6480	5,195.04	5,145.04	S	601.74 W 3,445.36	3,497.51
6490	5,202.40	5,152.40	S	602.45 W 3,452.10	3,504.27
6500	5,209.75	5,159.75	S	603.16 W 3,458.84	3,511.04
* 6504	5,212.69	5,162.69	S	603.44 W 3,461.54	3,513.74 *
6510	5,217.10	5,167.10	S	603.87 W 3,465.58	3,517.80
6520	5,224.45	5,174.45	S	604.58 W 3,472.33	3,524.57
6530	5,231.79	5,181.79	S	605.29 W 3,479.07	3,531.33
6540	5,239.14	5,189.14	S	606.00 W 3,485.82	3,538.10
6550	5,246.49	5,196.49	S	606.70 W 3,492.56	3,544.87
6560	5,253.84	5,203.84	S	607.41 W 3,499.31	3,551.63
6570	5,261.19	5,211.19	S	608.12 W 3,506.05	3,558.40
6580	5,268.54	5,218.54	S	608.83 W 3,512.79	3,565.16
6590	5,275.89	5,225.89	S	609.54 W 3,519.54	3,571.93
6600	5,283.24	5,233.24	S	610.25 W 3,526.28	3,578.70
6610	5,290.59	5,240.59	S	610.96 W 3,533.03	3,585.46
6620	5,297.94	5,247.94	S	611.67 W 3,539.77	3,592.23
6630	5,305.29	5,255.29	S	612.38 W 3,546.52	3,599.00
6640	5,312.63	5,262.63	S	613.09 W 3,553.26	3,605.76
6650	5,319.98	5,269.98	S	613.79 W 3,560.00	3,612.53
6660	5,327.33	5,277.33	S	614.50 W 3,566.75	3,619.30
* 6661	5,328.07	5,278.07	S	614.57 W 3,567.42	3,619.97 *

PETRO-TECH


DIRECTIAL SURVEY FOR WELL LD16-14

PERUANA S.A.

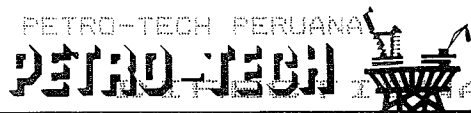
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WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
6670	5,334.68	5,284.68	S	615.14 W 3,573.50	3,626.06
6680	5,342.03	5,292.03	S	615.77 W 3,580.25	3,632.82
6690	5,349.38	5,299.38	S	616.40 W 3,587.01	3,639.58
6700	5,356.73	5,306.73	S	617.02 W 3,593.76	3,646.34
6710	5,364.08	5,314.08	S	617.65 W 3,600.51	3,653.10
6720	5,371.43	5,321.43	S	618.28 W 3,607.26	3,659.86
6730	5,378.78	5,328.78	S	618.91 W 3,614.02	3,666.63
6740	5,386.13	5,336.13	S	619.53 W 3,620.77	3,673.39
* 6747	5,391.27	5,341.27	S	619.97 W 3,625.49	3,678.12 *
6750	5,393.48	5,343.48	S	620.14 W 3,627.52	3,680.15
6760	5,400.83	5,350.83	S	620.68 W 3,634.28	3,686.90
6770	5,408.18	5,358.18	S	621.22 W 3,641.03	3,693.65
6780	5,415.54	5,365.54	S	621.77 W 3,647.78	3,700.39
6790	5,422.90	5,372.90	S	622.31 W 3,654.53	3,707.14
6800	5,430.26	5,380.26	S	622.85 W 3,661.27	3,713.88
6810	5,437.63	5,387.63	S	623.40 W 3,668.02	3,720.61
6820	5,445.00	5,395.00	S	623.94 W 3,674.76	3,727.35
6830	5,452.37	5,402.37	S	624.48 W 3,681.49	3,734.08
* 6840	5,459.74	5,409.74	S	625.02 W 3,688.23	3,740.81 *
6850	5,467.12	5,417.12	S	625.48 W 3,694.96	3,747.53
6860	5,474.50	5,424.50	S	625.94 W 3,701.69	3,754.24
6870	5,481.89	5,431.89	S	626.40 W 3,708.41	3,760.95
6880	5,489.28	5,439.28	S	626.86 W 3,715.13	3,767.65
6890	5,496.68	5,446.68	S	627.32 W 3,721.84	3,774.34
6900	5,504.08	5,454.08	S	627.78 W 3,728.55	3,781.03
6910	5,511.49	5,461.49	S	628.24 W 3,735.25	3,787.72
6920	5,518.90	5,468.90	S	628.70 W 3,741.95	3,794.40
6930	5,526.32	5,476.32	S	629.15 W 3,748.64	3,801.07
* 6933	5,528.55	5,478.55	S	629.29 W 3,750.65	3,803.07 *
6940	5,533.75	5,483.75	S	629.49 W 3,755.33	3,807.73
6950	5,541.17	5,491.17	S	629.79 W 3,762.02	3,814.37
6960	5,548.61	5,498.61	S	630.08 W 3,768.70	3,821.01
6970	5,556.04	5,506.04	S	630.37 W 3,775.38	3,827.65
6980	5,563.48	5,513.48	S	630.66 W 3,782.06	3,834.28
6990	5,570.93	5,520.93	S	630.95 W 3,788.72	3,840.90
7000	5,578.38	5,528.38	S	631.24 W 3,795.39	3,847.52
7010	5,585.84	5,535.84	S	631.54 W 3,802.04	3,854.14
7020	5,593.30	5,543.30	S	631.83 W 3,808.70	3,860.75
7030	5,600.77	5,550.77	S	632.12 W 3,815.34	3,867.35
7040	5,608.24	5,558.24	S	632.41 W 3,821.99	3,873.95
7050	5,615.71	5,565.71	S	632.70 W 3,828.62	3,880.55
* 7057	5,620.94	5,570.94	S	632.90 W 3,833.26	3,885.16 *
7060	5,623.19	5,573.19	S	633.16 W 3,835.24	3,887.15
7070	5,630.68	5,580.68	S	634.01 W 3,841.80	3,893.77
7080	5,638.19	5,588.19	S	634.86 W 3,848.36	3,900.37



SURVEY FOR WELL LO16-14

PERUANA S.A.

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WELL NO. Z-28-21-008-LO16 (LO16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 47

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
7090	5,645.71	5,595.71	S	635.71 W 3,854.89	3,906.96
7100	5,653.24	5,603.24	S	636.56 W 3,861.42	3,913.53
7110	5,660.79	5,610.79	S	637.41 W 3,867.92	3,920.09
7120	5,668.34	5,618.34	S	638.25 W 3,874.42	3,926.64
7130	5,675.91	5,625.91	S	639.10 W 3,880.90	3,933.17
7140	5,683.49	5,633.49	S	639.94 W 3,887.37	3,939.69
7150	5,691.09	5,641.09	S	640.78 W 3,893.82	3,946.19
7160	5,698.69	5,648.69	S	641.61 W 3,900.26	3,952.68
7170	5,706.31	5,656.31	S	642.45 W 3,906.68	3,959.15
7180	5,713.94	5,663.94	S	643.28 W 3,913.09	3,965.61
7190	5,721.58	5,671.58	S	644.11 W 3,919.48	3,972.06
7200	5,729.24	5,679.24	S	644.95 W 3,925.87	3,978.49
7210	5,736.91	5,686.91	S	645.77 W 3,932.23	3,984.91
7220	5,744.58	5,694.58	S	646.60 W 3,938.58	3,991.31
7230	5,752.28	5,702.28	S	647.42 W 3,944.92	3,997.69
7240	5,759.98	5,709.98	S	648.25 W 3,951.24	4,004.07
7250	5,767.70	5,717.70	S	649.07 W 3,957.55	4,010.43
7260	5,775.42	5,725.42	S	649.89 W 3,963.85	4,016.77
7270	5,783.16	5,733.16	S	650.70 W 3,970.13	4,023.10
7280	5,790.91	5,740.91	S	651.52 W 3,976.39	4,029.41
7290	5,798.68	5,748.68	S	652.33 W 3,982.64	4,035.71
7300	5,806.45	5,756.45	S	653.14 W 3,988.88	4,042.00
* 7306	5,811.12	5,761.12	S	653.63 W 3,992.61	4,045.76 *
7310	5,814.23	5,764.23	S	654.02 W 3,995.10	4,048.28
7320	5,822.01	5,772.01	S	654.99 W 4,001.31	4,054.57
7330	5,829.77	5,779.77	S	655.97 W 4,007.54	4,060.87
7340	5,837.52	5,787.52	S	656.95 W 4,013.78	4,067.19
7350	5,845.27	5,795.27	S	657.93 W 4,020.03	4,073.51
7360	5,853.01	5,803.01	S	658.91 W 4,026.29	4,079.85
7370	5,860.74	5,810.74	S	659.89 W 4,032.55	4,086.19
7380	5,868.46	5,818.46	S	660.87 W 4,038.83	4,092.55
7390	5,876.17	5,826.17	S	661.86 W 4,045.12	4,098.91
* 7399	5,883.10	5,833.10	S	662.75 W 4,050.79	4,104.65 *
7400	5,883.88	5,833.88	S	662.86 W 4,051.42	4,105.28
7410	5,891.59	5,841.59	S	663.92 W 4,057.69	4,111.64
7420	5,899.32	5,849.32	S	664.97 W 4,063.94	4,117.99
* 7429	5,906.29	5,856.29	S	665.93 W 4,069.56	4,123.69 *
7430	5,907.06	5,857.06	S	666.06 W 4,070.18	4,124.32
7440	5,914.80	5,864.80	S	667.42 W 4,076.37	4,130.65
7450	5,922.53	5,872.53	S	668.79 W 4,082.56	4,136.98
7460	5,930.26	5,880.26	S	670.15 W 4,088.75	4,143.31
7470	5,938.00	5,888.00	S	671.51 W 4,094.95	4,149.64
7480	5,945.72	5,895.72	S	672.88 W 4,101.14	4,155.98
7490	5,953.45	5,903.45	S	674.24 W 4,107.34	4,162.31
* 7492	5,955.00	5,905.00	S	674.51 W 4,108.58	4,163.58 *

PETRO-TECH**PERUANA S.A.**

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SURVEY FOR WELL L016-14

WELL NO. Z-2B-21-008-L016 (L016-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 10

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE		
7500	5,961.18	5,911.18	S	675.60	W 4,113.54	4,168.65	
7510	5,968.92	5,918.92	S	676.97	W 4,119.73	4,174.98	
7520	5,976.65	5,926.65	S	678.33	W 4,125.92	4,181.31	
* 7523	5,978.97	5,928.97	S	678.74	W 4,127.77	4,183.20	*
7530	5,984.40	5,934.40	S	679.58	W 4,132.12	4,187.63	
7540	5,992.15	5,942.15	S	680.79	W 4,138.32	4,193.94	
7550	5,999.91	5,949.91	S	681.99	W 4,144.51	4,200.24	
7560	6,007.68	5,957.68	S	683.19	W 4,150.68	4,206.53	
7570	6,015.47	5,965.47	S	684.39	W 4,156.85	4,212.81	
7580	6,023.26	5,973.26	S	685.58	W 4,163.00	4,219.08	
* 7584	6,026.37	5,976.37	S	686.06	W 4,165.47	4,221.59	*
7590	6,031.05	5,981.05	S	686.74	W 4,169.16	4,225.34	
7600	6,038.85	5,988.85	S	687.86	W 4,175.32	4,231.60	
7610	6,046.65	5,996.65	S	688.98	W 4,181.47	4,237.85	
* 7615	6,050.55	6,000.55	S	689.53	W 4,184.55	4,240.98	*
7620	6,054.47	6,004.47	S	689.97	W 4,187.63	4,244.09	
7630	6,062.33	6,012.33	S	690.84	W 4,193.75	4,250.27	
7640	6,070.24	6,020.24	S	691.71	W 4,199.81	4,256.39	
7650	6,078.18	6,028.18	S	692.56	W 4,205.82	4,262.46	
7660	6,086.16	6,036.16	S	693.41	W 4,211.79	4,268.48	
7670	6,094.19	6,044.19	S	694.25	W 4,217.70	4,274.45	
* 7677	6,099.82	6,049.82	S	694.84	W 4,221.81	4,278.61	*
7680	6,102.23	6,052.23	S	695.15	W 4,223.57	4,280.39	
7690	6,110.19	6,060.19	S	696.20	W 4,229.52	4,286.44	
7700	6,118.09	6,068.09	S	697.26	W 4,235.56	4,292.57	
* 7708	6,124.37	6,074.37	S	698.12	W 4,240.44	4,297.53	*
7710	6,125.94	6,075.94	S	698.38	W 4,241.66	4,298.77	
7720	6,133.79	6,083.79	S	699.63	W 4,247.72	4,304.96	
7730	6,141.65	6,091.65	S	700.89	W 4,253.79	4,311.14	
7740	6,149.50	6,099.50	S	702.14	W 4,259.85	4,317.32	
7750	6,157.36	6,107.36	S	703.40	W 4,265.90	4,323.50	
7760	6,165.22	6,115.22	S	704.65	W 4,271.96	4,329.68	
7770	6,173.08	6,123.08	S	705.90	W 4,278.01	4,335.85	
7780	6,180.95	6,130.95	S	707.16	W 4,284.05	4,342.03	
7790	6,188.81	6,138.81	S	708.41	W 4,290.10	4,348.19	
* 7800	6,196.68	6,146.68	S	709.66	W 4,296.14	4,354.36	*
7810	6,204.56	6,154.56	S	710.62	W 4,302.23	4,360.52	
7820	6,212.43	6,162.43	S	711.57	W 4,308.32	4,366.69	
7830	6,220.31	6,170.31	S	712.52	W 4,314.40	4,372.84	
7840	6,228.20	6,178.20	S	713.48	W 4,320.48	4,379.00	
7850	6,236.08	6,186.08	S	714.43	W 4,326.55	4,385.14	
7860	6,243.97	6,193.97	S	715.38	W 4,332.62	4,391.29	
7870	6,251.87	6,201.87	S	716.33	W 4,338.69	4,397.43	
7880	6,259.76	6,209.76	S	717.28	W 4,344.75	4,403.56	
7890	6,267.66	6,217.66	S	718.23	W 4,350.81	4,409.69	

DIRECTIONAL SURVEY FOR WELL LD16-14

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WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 32

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE
7900	6,275.57	6,225.57	S 719.18	W 4,356.86	4,415.82
7910	6,283.48	6,233.48	S 720.13	W 4,362.91	4,421.94
7920	6,291.39	6,241.39	S 721.08	W 4,368.95	4,428.06
* 7925	6,295.34	6,245.34	S 721.55	W 4,371.97	4,431.11 *
7930	6,299.30	6,249.30	S 721.94	W 4,375.00	4,434.17
7940	6,307.22	6,257.22	S 722.73	W 4,381.05	4,440.27
7950	6,315.15	6,265.15	S 723.52	W 4,387.09	4,446.35
7960	6,323.09	6,273.09	S 724.30	W 4,393.13	4,452.44
7970	6,331.03	6,281.03	S 725.09	W 4,399.15	4,458.51
7980	6,338.98	6,288.98	S 725.87	W 4,405.17	4,464.57
7990	6,346.94	6,296.94	S 726.65	W 4,411.17	4,470.62
8000	6,354.90	6,304.90	S 727.43	W 4,417.17	4,476.67
8010	6,362.87	6,312.87	S 728.21	W 4,423.16	4,482.70
8020	6,370.85	6,320.85	S 728.99	W 4,429.14	4,488.73
8030	6,378.83	6,328.83	S 729.76	W 4,435.11	4,494.75
8040	6,386.83	6,336.83	S 730.54	W 4,441.07	4,500.76
* 8049	6,394.02	6,344.02	S 731.24	W 4,446.43	4,506.16 *
8050	6,394.82	6,344.82	S 731.31	W 4,447.03	4,506.76
8060	6,402.82	6,352.82	S 732.00	W 4,452.99	4,512.75
8070	6,410.82	6,360.82	S 732.68	W 4,458.95	4,518.74
8080	6,418.83	6,368.83	S 733.37	W 4,464.90	4,524.73
8090	6,426.83	6,376.83	S 734.06	W 4,470.85	4,530.72
8100	6,434.84	6,384.84	S 734.75	W 4,476.80	4,536.70
8110	6,442.85	6,392.85	S 735.44	W 4,482.75	4,542.68
8120	6,450.87	6,400.87	S 736.13	W 4,488.69	4,548.65
8130	6,458.88	6,408.88	S 736.81	W 4,494.63	4,554.63
8140	6,466.90	6,416.90	S 737.50	W 4,500.57	4,560.60
* 8142	6,468.50	6,418.50	S 737.64	W 4,501.76	4,561.79 *
8150	6,474.92	6,424.92	S 738.14	W 4,506.51	4,566.56
8160	6,482.94	6,432.94	S 738.76	W 4,512.44	4,572.52
8170	6,490.97	6,440.97	S 739.39	W 4,518.38	4,578.47
8180	6,499.00	6,449.00	S 740.01	W 4,524.30	4,584.42
8190	6,507.03	6,457.03	S 740.63	W 4,530.22	4,590.37
8200	6,515.07	6,465.07	S 741.25	W 4,536.14	4,596.31
8210	6,523.11	6,473.11	S 741.88	W 4,542.05	4,602.24
8220	6,531.16	6,481.16	S 742.50	W 4,547.96	4,608.17
8230	6,539.20	6,489.20	S 743.12	W 4,553.87	4,614.10
* 8235	6,543.23	6,493.23	S 743.43	W 4,556.82	4,617.06 *
8240	6,547.25	6,497.25	S 743.74	W 4,559.77	4,620.02
8250	6,555.31	6,505.31	S 744.36	W 4,565.66	4,625.94
8260	6,563.36	6,513.36	S 744.98	W 4,571.56	4,631.86
8270	6,571.42	6,521.42	S 745.60	W 4,577.45	4,637.78
8280	6,579.47	6,529.47	S 746.22	W 4,583.34	4,643.69
8290	6,587.53	6,537.53	S 746.83	W 4,589.23	4,649.60
8300	6,595.60	6,545.60	S 747.45	W 4,595.11	4,655.50

PERUANA S.A.

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DIRECTIONAL SURVEY FOR WELL LD16-14

WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 10

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471 MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - COORDINATES	HORIZONTAL DISTANCE
8310	6,603.66	6,553.66	S 748.07	W 4,600.99	4,661.41
8320	6,611.73	6,561.73	S 748.69	W 4,606.87	4,667.31
8330	6,619.80	6,569.80	S 749.31	W 4,612.74	4,673.21
* 8335	6,623.83	6,573.83	S 749.62	W 4,615.68	4,676.15 *
8340	6,627.87	6,577.87	S 749.78	W 4,618.63	4,679.09
8350	6,635.94	6,585.94	S 750.11	W 4,624.52	4,684.96
8360	6,644.02	6,594.02	S 750.44	W 4,630.40	4,690.82
8370	6,652.10	6,602.10	S 750.77	W 4,636.28	4,696.68
8380	6,660.19	6,610.19	S 751.10	W 4,642.16	4,702.53
8390	6,668.27	6,618.27	S 751.43	W 4,648.03	4,708.38
8400	6,676.36	6,626.36	S 751.75	W 4,653.90	4,714.22
8410	6,684.46	6,634.46	S 752.08	W 4,659.76	4,720.06
8420	6,692.56	6,642.56	S 752.41	W 4,665.62	4,725.90
8430	6,700.66	6,650.66	S 752.74	W 4,671.47	4,731.73
8440	6,708.76	6,658.76	S 753.06	W 4,677.32	4,737.56
8450	6,716.87	6,666.87	S 753.39	W 4,683.17	4,743.38
8460	6,724.98	6,674.98	S 753.72	W 4,689.01	4,749.20
8470	6,733.10	6,683.10	S 754.04	W 4,694.84	4,755.01
8480	6,741.21	6,691.21	S 754.37	W 4,700.67	4,760.82
* 8490	6,749.33	6,699.33	S 754.70	W 4,706.50	4,766.62 *
8500	6,757.46	6,707.46	S 754.88	W 4,712.33	4,772.41
8510	6,765.59	6,715.59	S 755.06	W 4,718.15	4,778.18
8520	6,773.72	6,723.72	S 755.23	W 4,723.97	4,783.96
8530	6,781.85	6,731.85	S 755.43	W 4,729.78	4,789.73
8540	6,789.99	6,739.99	S 755.62	W 4,735.59	4,795.50
8550	6,798.13	6,748.13	S 755.80	W 4,741.40	4,801.26
* 8552	6,799.76	6,749.76	S 755.84	W 4,742.56	4,802.41 *
8560	6,806.27	6,756.27	S 755.53	W 4,747.19	4,806.94
8570	6,814.41	6,764.41	S 755.14	W 4,752.99	4,812.61
8580	6,822.54	6,772.54	S 754.75	W 4,758.80	4,818.28
8590	6,830.67	6,780.67	S 754.37	W 4,764.60	4,823.95
8600	6,838.81	6,788.81	S 753.98	W 4,770.41	4,829.63
8610	6,846.94	6,796.94	S 753.59	W 4,776.22	4,835.30
8620	6,855.06	6,805.06	S 753.21	W 4,782.03	4,840.99
8630	6,863.19	6,813.19	S 752.82	W 4,787.85	4,846.67
8640	6,871.31	6,821.31	S 752.43	W 4,793.67	4,852.36
8650	6,879.43	6,829.43	S 752.04	W 4,799.49	4,858.05
8660	6,887.55	6,837.55	S 751.65	W 4,805.31	4,863.75
8670	6,895.67	6,845.67	S 751.27	W 4,811.14	4,869.44
8680	6,903.78	6,853.78	S 750.88	W 4,816.97	4,875.15
8690	6,911.90	6,861.90	S 750.49	W 4,822.81	4,880.85
8700	6,920.01	6,870.01	S 750.10	W 4,828.64	4,886.56
8710	6,928.12	6,878.12	S 749.71	W 4,834.48	4,892.27
8720	6,936.22	6,886.22	S 749.32	W 4,840.32	4,897.98
8730	6,944.33	6,894.33	S 748.93	W 4,846.17	4,903.70

PERUANA S.A.

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WELL NO. Z-2B-21-008-LO16 (LO16-14) ELEVATION: 50 FEET NUMBER OF DATA PD:

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
8740	6,952.43	6,902.43	S	748.54 W 4,852.01	4,909.42
8750	6,960.53	6,910.53	S	748.15 W 4,857.86	4,915.14
8760	6,968.63	6,918.63	S	747.76 W 4,863.72	4,920.86
8770	6,976.73	6,926.73	S	747.37 W 4,869.57	4,926.59
8780	6,984.82	6,934.82	S	746.98 W 4,875.43	4,932.32
8790	6,992.91	6,942.91	S	746.59 W 4,881.29	4,938.06
8800	7,001.00	6,951.00	S	746.20 W 4,887.16	4,943.80
* 8801	7,001.81	6,951.81	S	746.16 W 4,887.75	4,944.37 *
8810	7,009.09	6,959.09	S	745.43 W 4,892.99	4,949.45
8820	7,017.17	6,967.17	S	744.60 W 4,898.83	4,955.10
8830	7,025.23	6,975.23	S	743.78 W 4,904.68	4,960.76
8840	7,033.30	6,983.30	S	742.96 W 4,910.54	4,966.43
8850	7,041.35	6,991.35	S	742.13 W 4,916.41	4,972.10
8860	7,049.40	6,999.40	S	741.31 W 4,922.29	4,977.79
8870	7,057.44	7,007.44	S	740.48 W 4,928.17	4,983.49
8880	7,065.47	7,015.47	S	739.65 W 4,934.07	4,989.20
8890	7,073.50	7,023.50	S	738.82 W 4,939.98	4,994.92
8900	7,081.52	7,031.52	S	737.99 W 4,945.90	5,000.65
8910	7,089.53	7,039.53	S	737.16 W 4,951.82	5,006.39
8920	7,097.53	7,047.53	S	736.32 W 4,957.76	5,012.14
8930	7,105.53	7,055.53	S	735.49 W 4,963.71	5,017.90
8940	7,113.51	7,063.51	S	734.65 W 4,969.66	5,023.67
8950	7,121.50	7,071.50	S	733.81 W 4,975.63	5,029.45
8960	7,129.47	7,079.47	S	732.97 W 4,981.61	5,035.24
8970	7,137.44	7,087.44	S	732.13 W 4,987.59	5,041.04
8980	7,145.40	7,095.40	S	731.29 W 4,993.59	5,046.85
* 8986	7,150.17	7,100.17	S	730.78 W 4,997.19	5,050.34 *
8990	7,153.35	7,103.35	S	730.28 W 4,999.56	5,052.61
9000	7,161.29	7,111.29	S	729.01 W 5,005.51	5,058.32
9010	7,169.21	7,119.21	S	727.74 W 5,011.47	5,064.04
9020	7,177.13	7,127.13	S	726.47 W 5,017.45	5,069.77
9030	7,185.03	7,135.03	S	725.20 W 5,023.45	5,075.52
9040	7,192.92	7,142.92	S	723.92 W 5,029.46	5,081.29
9050	7,200.80	7,150.80	S	722.64 W 5,035.48	5,087.07
9060	7,208.66	7,158.66	S	721.35 W 5,041.52	5,092.87
9070	7,216.52	7,166.52	S	720.07 W 5,047.58	5,098.68
9080	7,224.36	7,174.36	S	718.78 W 5,053.65	5,104.51
* 9086	7,229.06	7,179.06	S	718.00 W 5,057.30	5,108.01 *
9090	7,232.19	7,182.19	S	717.42 W 5,059.71	5,110.32
9100	7,240.01	7,190.01	S	715.95 W 5,065.77	5,116.12
9110	7,247.82	7,197.82	S	714.48 W 5,071.84	5,121.92
9120	7,255.62	7,205.62	S	713.01 W 5,077.93	5,127.74
9130	7,263.41	7,213.41	S	711.54 W 5,084.02	5,133.57
9140	7,271.19	7,221.19	S	710.06 W 5,090.13	5,139.41
9150	7,278.96	7,228.96	S	708.58 W 5,096.24	5,145.27

PETRO-TECH


SURVEY FOR WELL LO16-14

PERUANA S.A.

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WELL NO. Z-2B-21-008-LO16 (LO16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 100

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
9160	7,286.72	7,236.72	S 707.10	W 5,102.37	5,151.14
9170	7,294.47	7,244.47	S 705.61	W 5,108.52	5,157.02
9180	7,302.21	7,252.21	S 704.12	W 5,114.67	5,162.91
* 9186	7,306.85	7,256.85	S 703.23	W 5,118.37	5,166.45 *
9190	7,309.94	7,259.94	S 702.55	W 5,120.81	5,168.78
9200	7,317.67	7,267.67	S 700.85	W 5,126.93	5,174.61
9210	7,325.40	7,275.40	S 699.15	W 5,133.05	5,180.44
9220	7,333.11	7,283.11	S 697.45	W 5,139.17	5,186.29
9230	7,340.83	7,290.83	S 695.75	W 5,145.31	5,192.13
9240	7,348.54	7,298.54	S 694.05	W 5,151.44	5,197.99
9250	7,356.24	7,306.24	S 692.35	W 5,157.58	5,203.85
9260	7,363.94	7,313.94	S 690.64	W 5,163.73	5,209.71
9270	7,371.64	7,321.64	S 688.94	W 5,169.88	5,215.59
9280	7,379.33	7,329.33	S 687.23	W 5,176.04	5,221.46
* 9286	7,383.95	7,333.95	S 686.20	W 5,179.74	5,224.99 *
9290	7,387.02	7,337.02	S 685.44	W 5,182.18	5,227.31
9300	7,394.71	7,344.71	S 683.51	W 5,188.28	5,233.11
9310	7,402.39	7,352.39	S 681.59	W 5,194.38	5,238.91
9320	7,410.07	7,360.07	S 679.66	W 5,200.49	5,244.71
9330	7,417.75	7,367.75	S 677.74	W 5,206.60	5,250.52
9340	7,425.43	7,375.43	S 675.81	W 5,212.71	5,256.34
9350	7,433.10	7,383.10	S 673.88	W 5,218.83	5,262.15
9360	7,440.77	7,390.77	S 671.95	W 5,224.94	5,267.97
9370	7,448.44	7,398.44	S 670.02	W 5,231.06	5,273.80
9380	7,456.11	7,406.11	S 668.09	W 5,237.19	5,279.63
* 9386	7,460.71	7,410.71	S 666.93	W 5,240.86	5,283.13 *
9390	7,463.77	7,413.77	S 666.14	W 5,243.31	5,285.46
9400	7,471.42	7,421.42	S 664.17	W 5,249.44	5,291.29
9410	7,479.06	7,429.06	S 662.20	W 5,255.59	5,297.15
9420	7,486.68	7,436.68	S 660.22	W 5,261.75	5,303.01
9430	7,494.29	7,444.29	S 658.24	W 5,267.93	5,308.89
9440	7,501.89	7,451.89	S 656.25	W 5,274.12	5,314.79
9450	7,509.48	7,459.48	S 654.25	W 5,280.32	5,320.70
9460	7,517.05	7,467.05	S 652.26	W 5,286.53	5,326.62
9470	7,524.61	7,474.61	S 650.26	W 5,292.76	5,332.56
9480	7,532.16	7,482.16	S 648.25	W 5,299.01	5,338.51
* 9486	7,536.69	7,486.69	S 647.05	W 5,302.76	5,342.09 *
9490	7,539.70	7,489.70	S 646.24	W 5,305.26	5,344.48
9500	7,547.20	7,497.20	S 644.23	W 5,311.57	5,350.49
9510	7,554.67	7,504.67	S 642.21	W 5,317.90	5,356.54
9520	7,562.11	7,512.11	S 640.18	W 5,324.27	5,362.62
9530	7,569.51	7,519.51	S 638.14	W 5,330.67	5,368.73
9540	7,576.99	7,526.99	S 636.08	W 5,337.10	5,374.88
9550	7,584.23	7,534.23	S 634.02	W 5,343.57	5,381.05
9560	7,591.54	7,541.54	S 631.94	W 5,350.07	5,387.26

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WELL NO. Z-2B-21-008-LO16 (LO16-14) ELEVATION: 50 FEET NUMBER OF DATA PD

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
9570	7,598.82	7,548.82	S	629.86 W 5,356.60	5,393.50
9580	7,606.07	7,556.07	S	627.77 W 5,363.16	5,399.78
* 9586	7,610.41	7,560.41	S	626.50 W 5,367.11	5,403.56 *
9590	7,613.30	7,563.30	S	625.66 W 5,369.75	5,406.07
9600	7,620.51	7,570.51	S	623.54 W 5,376.34	5,412.38
9610	7,627.72	7,577.72	S	621.42 W 5,382.94	5,418.69
9620	7,634.91	7,584.91	S	619.30 W 5,389.55	5,425.02
9630	7,642.10	7,592.10	S	617.17 W 5,396.18	5,431.36
9640	7,649.27	7,599.27	S	615.04 W 5,402.81	5,437.70
9650	7,656.44	7,606.44	S	612.90 W 5,409.45	5,444.06
9660	7,663.59	7,613.59	S	610.77 W 5,416.10	5,450.43
9670	7,670.74	7,620.74	S	608.63 W 5,422.76	5,456.81
9680	7,677.87	7,627.87	S	606.48 W 5,429.43	5,463.20
* 9686	7,682.15	7,632.15	S	605.20 W 5,433.44	5,467.04 *
9690	7,685.00	7,635.00	S	604.28 W 5,436.09	5,469.58
9700	7,692.12	7,642.12	S	602.00 W 5,442.73	5,475.92
9710	7,699.24	7,649.24	S	599.71 W 5,449.38	5,482.28
9720	7,706.34	7,656.34	S	597.42 W 5,456.03	5,488.64
9730	7,713.45	7,663.45	S	595.13 W 5,462.68	5,495.00
9740	7,720.54	7,670.54	S	592.83 W 5,469.34	5,501.38
9750	7,727.63	7,677.63	S	590.54 W 5,476.01	5,507.76
9760	7,734.72	7,684.72	S	588.24 W 5,482.68	5,514.15
9770	7,741.80	7,691.80	S	585.94 W 5,489.36	5,520.53
9780	7,748.87	7,698.87	S	583.64 W 5,496.05	5,526.95
* 9786	7,753.11	7,703.11	S	582.26 W 5,500.06	5,530.79 *
9790	7,755.94	7,705.94	S	581.26 W 5,502.71	5,533.33
9800	7,763.01	7,713.01	S	578.79 W 5,509.33	5,539.65
9810	7,770.09	7,720.09	S	576.31 W 5,515.95	5,545.98
9820	7,777.17	7,727.17	S	573.84 W 5,522.56	5,552.30
9830	7,784.25	7,734.25	S	571.37 W 5,529.18	5,558.62
9840	7,791.34	7,741.34	S	568.90 W 5,535.79	5,564.94
9850	7,798.42	7,748.42	S	566.43 W 5,542.39	5,571.26
9860	7,805.52	7,755.52	S	563.96 W 5,549.00	5,577.58
9870	7,812.61	7,762.61	S	561.49 W 5,555.60	5,583.90
9880	7,819.71	7,769.71	S	559.02 W 5,562.19	5,590.21
* 9886	7,823.97	7,773.97	S	557.54 W 5,566.15	5,594.00 *
9890	7,826.81	7,776.81	S	556.55 W 5,568.79	5,596.53
9900	7,833.89	7,783.89	S	554.05 W 5,575.39	5,602.85
9910	7,840.97	7,790.97	S	551.55 W 5,582.00	5,609.18
9920	7,848.03	7,798.03	S	549.05 W 5,588.62	5,615.53
9930	7,855.08	7,805.08	S	546.54 W 5,595.26	5,621.89
9940	7,862.12	7,812.12	S	544.03 W 5,601.90	5,628.26
9950	7,869.15	7,819.15	S	541.52 W 5,608.56	5,634.64
9960	7,876.16	7,826.16	S	539.00 W 5,615.22	5,641.03
9970	7,883.17	7,833.17	S	536.48 W 5,621.90	5,647.44

PETRO-TECH


SURVEY FOR WELL LD16-14

PERUANA S.A.

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WELL NO. Z-2B-21-008-LD16 (LD16-14) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 35

CONDUCTOR IS VERTICAL

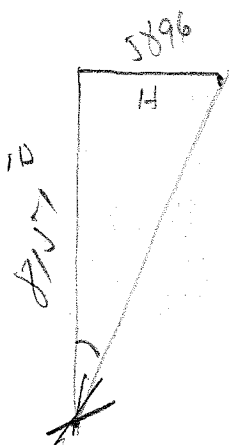
CONDUCTOR DATA: 471' MD

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD - ORDINATES	HORIZONTAL DISTANCE		
9980	7,890.16	7,840.16	S	533.95	W 5,628.59	5,653.86	
* 9986	7,894.35	7,844.35	S	532.43	W 5,632.60	5,657.71	*
9990	7,897.14	7,847.14	S	531.40	W 5,635.28	5,660.28	
10000	7,904.12	7,854.12	S	528.84	W 5,641.97	5,666.70	
10010	7,911.08	7,861.08	S	526.27	W 5,648.66	5,673.13	
10020	7,918.04	7,868.04	S	523.69	W 5,655.37	5,679.56	
10030	7,924.99	7,874.99	S	521.12	W 5,662.08	5,686.01	
10040	7,931.94	7,881.94	S	518.54	W 5,668.80	5,692.47	
10050	7,938.87	7,888.87	S	515.95	W 5,675.53	5,698.93	
10060	7,945.80	7,895.80	S	513.37	W 5,682.26	5,705.40	
10070	7,952.72	7,902.72	S	510.78	W 5,689.00	5,711.88	
10080	7,959.63	7,909.63	S	508.19	W 5,695.75	5,718.37	
* 10086	7,963.77	7,913.77	S	506.64	W 5,699.80	5,722.27	*
10090	7,966.53	7,916.53	S	505.60	W 5,702.50	5,724.87	
10100	7,973.44	7,923.44	S	503.01	W 5,709.25	5,731.36	
10110	7,980.35	7,930.35	S	500.42	W 5,716.00	5,737.86	
10120	7,987.26	7,937.26	S	497.83	W 5,722.75	5,744.36	
10130	7,994.17	7,944.17	S	495.24	W 5,729.49	5,750.86	
10140	8,001.08	7,951.08	S	492.65	W 5,736.24	5,757.36	
10150	8,007.99	7,957.99	S	490.06	W 5,742.99	5,763.86	
10160	8,014.91	7,964.91	S	487.47	W 5,749.73	5,770.36	
10170	8,021.82	7,971.82	S	484.88	W 5,756.48	5,776.86	
10180	8,028.73	7,978.73	S	482.29	W 5,763.22	5,783.37	
* 10186	8,032.88	7,982.88	S	480.73	W 5,767.27	5,787.27	*
10190	8,035.65	7,985.65	S	479.66	W 5,769.95	5,789.85	
10200	8,042.57	7,992.57	S	476.98	W 5,776.65	5,796.31	
10210	8,049.50	7,999.50	S	474.30	W 5,783.34	5,802.76	
10220	8,056.44	8,006.44	S	471.62	W 5,790.03	5,809.21	
10230	8,063.38	8,013.38	S	468.95	W 5,796.72	5,815.66	
10240	8,070.33	8,020.33	S	466.28	W 5,803.40	5,822.10	
10250	8,077.28	8,027.28	S	463.61	W 5,810.07	5,828.54	
10260	8,084.24	8,034.24	S	460.94	W 5,816.74	5,834.97	
10270	8,091.20	8,041.20	S	458.27	W 5,823.40	5,841.40	
10280	8,098.17	8,048.17	S	455.61	W 5,830.06	5,847.83	
* 10286	8,102.35	8,052.35	S	454.01	W 5,834.05	5,851.69	*
10290	8,105.14	8,055.14	S	452.96	W 5,836.72	5,854.27	
10300	8,112.11	8,062.11	S	450.33	W 5,843.39	5,860.72	
10310	8,119.07	8,069.07	S	447.70	W 5,850.07	5,867.18	
10320	8,126.03	8,076.03	S	445.07	W 5,856.75	5,873.64	
10330	8,132.98	8,082.98	S	442.43	W 5,863.44	5,880.11	
10340	8,139.93	8,089.93	S	439.80	W 5,870.13	5,886.58	
10350	8,146.88	8,096.88	S	437.16	W 5,876.82	5,893.06	
* 10356	8,151.04	8,101.04	S	435.58	W 5,880.84	5,896.95	*

DIRECTIONAL SURVEY FOR WELL LD16-14
 RAW DATA

THE CONDUCTOR IS VERTICAL

No.	MEASURED DEPTH	DEVIATION ANGLE	ORIENTATION
1	667	2.60	S - 39.20 - W
2	787	5.00	S - 42.50 - W
3	848	7.60	S - 43.09 - W
4	908	10.70	S - 47.40 - W
5	968	12.70	S - 45.79 - W
6	998	13.50	S - 50.20 - W
7	1028	14.30	S - 54.40 - W
8	1089	15.80	S - 56.00 - W
9	1119	16.50	S - 58.00 - W
10	1179	18.20	S - 62.90 - W
11	1209	19.20	S - 65.00 - W
12	1269	21.10	S - 70.59 - W
13	1300	22.10	S - 72.00 - W
14	1330	23.10	S - 75.50 - W
15	1390	25.80	S - 76.19 - W
16	1421	26.70	S - 76.19 - W
17	1482	28.40	S - 76.19 - W
18	1514	29.30	S - 76.90 - W
19	1576	31.60	S - 78.30 - W
20	1607	32.80	S - 79.70 - W
21	1670	34.80	S - 81.30 - W
22	1703	35.70	S - 81.09 - W
23	1733	36.60	S - 81.09 - W
24	1799	38.40	S - 81.09 - W
25	1828	38.90	S - 80.40 - W
26	1890	40.20	S - 79.90 - W
27	1921	40.60	S - 79.00 - W
28	2005	41.50	S - 75.00 - W
29	2169	41.80	S - 77.59 - W
30	2292	41.70	S - 77.59 - W
31	2385	41.70	S - 77.59 - W
32	2479	41.90	S - 78.30 - W
33	2573	42.00	S - 79.00 - W
34	2677	42.20	S - 79.00 - W
35	2760	42.50	S - 79.00 - W
36	2858	43.00	S - 79.00 - W
37	2948	43.20	S - 79.00 - W
38	3042	43.30	S - 79.69 - W
39	3134	43.70	S - 79.69 - W
40	3228	43.90	S - 79.69 - W
41	3365	43.50	S - 79.69 - W
42	3490	43.10	S - 79.69 - W
43	3616	42.90	S - 79.69 - W
44	3740	42.30	S - 79.69 - W
45	3928	41.30	S - 79.69 - W
46	4117	39.70	S - 79.69 - W
47	4241	38.60	S - 79.69 - W
48	4366	37.80	S - 79.69 - W
49	4493	36.70	S - 79.69 - W
50	4746	38.50	S - 81.90 - W
51	4868	40.30	S - 81.90 - W



DIRECTIONAL SURVEY FOR WELL LD16-14 PETRO-TECH DATA PERUANA S.A. THE CONDUCTOR IS VERTICAL

No.	MEASURED DEPTH	DEVIATION ANGLE	ORIENTATION
52	4994	42.20	S - 82.80 - W
53	5119	44.30	S - 83.30 - W
54	5271	44.40	S - 83.30 - W
55	5395	43.90	S - 83.30 - W
56	5565	43.20	S - 84.00 - W
57	5913	42.90	S - 86.80 - W
58	5975	42.50	S - 87.50 - W
59	6131	42.50	S - 85.40 - W
60	6226	42.70	S - 82.59 - W
61	6422	42.50	S - 83.30 - W
62	6504	42.70	S - 84.00 - W
63	6661	42.70	S - 84.00 - W
64	6747	42.70	S - 84.69 - W
65	6840	42.50	S - 85.40 - W
66	6933	42.10	S - 86.09 - W
67	7057	41.60	S - 87.50 - W
68	7306	38.90	S - 82.59 - W
69	7399	39.60	S - 81.09 - W
70	7429	39.30	S - 80.40 - W
71	7492	39.40	S - 77.59 - W
72	7523	39.30	S - 77.59 - W
73	7584	38.80	S - 79.00 - W
74	7615	38.70	S - 79.69 - W
75	7677	36.40	S - 81.90 - W
76	7708	38.30	S - 80.00 - W
77	7800	38.10	S - 78.30 - W
78	7925	37.70	S - 81.09 - W
79	8049	36.90	S - 82.59 - W
80	8142	36.70	S - 83.40 - W
81	8235	36.40	S - 84.00 - W
82	8335	36.20	S - 84.00 - W
83	8490	35.70	S - 86.80 - W
84	8552	35.50	S - 88.19 - W
85	8801	36.00	N - 86.19 - W
86	8986	37.30	N - 82.00 - W
87	9086	38.43	N - 78.00 - W
88	9186	39.34	N - 76.40 - W
89	9286	39.74	N - 74.50 - W
90	9386	39.96	N - 72.50 - W
91	9486	41.04	N - 72.19 - W
92	9586	43.71	N - 72.30 - W
93	9686	44.53	N - 72.19 - W
94	9786	45.02	N - 71.00 - W
95	9886	44.76	N - 69.50 - W
96	9986	45.69	N - 69.30 - W
97	10086	46.32	N - 69.00 - W
98	10186	46.25	N - 69.00 - W
99	10286	45.79	N - 68.19 - W
%100	10356	46.03	N - 68.50 - W