

DIRECTIONAL SURVEY FOR WELL L06-9X RAW DATA

PAH
Comp P. Dorante
21-03-80

WELL No. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

No.	MEASURED DEPTH	DEVIATION ANGLE	ORIENTATION
1	400	14.00	S - 60.00 - W
2	868	27.00	S - 65.00 - W
3	1002	29.00	S - 53.00 - W
4	1095	28.50	S - 47.00 - W
5	1188	29.00	S - 41.00 - W
6	1339	32.00	S - 42.50 - W
7	1496	37.00	S - 49.00 - W
8	1590	40.50	S - 53.00 - W
9	1771	40.00	S - 51.50 - W
10	1895	39.00	S - 41.00 - W
11	2087	39.00	S - 38.00 - W
12	2212	39.00	S - 39.00 - W
13	2430	41.00	S - 41.00 - W
14	2686	42.75	S - 42.50 - W
15	2842	42.50	S - 44.00 - W
16	3028	42.00	S - 46.50 - W
17	3215	42.00	S - 48.50 - W
18	3498	40.75	S - 50.50 - W
19	3808	37.00	S - 53.00 - W
20	4025	35.00	S - 54.50 - W
21	4362	34.50	S - 58.00 - W
22	4516	38.00	S - 62.00 - W
23	4700	38.75	S - 68.00 - W
24	4855	39.00	S - 74.00 - W
25	4947	38.00	S - 68.00 - W
26	5008	38.00	S - 60.00 - W
27	5118	38.00	S - 58.00 - W
28	5397	38.75	S - 62.00 - W
29	5707	39.00	S - 66.00 - W
30	5989	39.75	S - 70.00 - W
31	6116	38.00	S - 60.00 - W
32	6395	39.75	S - 59.00 - W
33	6674	40.00	S - 62.00 - W
34	7083	42.00	S - 66.00 - W
35	7703	38.00	S - 81.00 - W
36	8110	34.00	S - 87.50 - W
37	8860	20.00	N - 77.50 - W
38	9064	21.00	N - 74.00 - W

PETRO-TECH PERUANA S.A.
GEOLOGIST WELL FILE

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

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	MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO -	ORDINATES	HORIZONTAL DISTANCE	
*	385	373.56	323.56	S	49.39	W 78.96	93.13	*
	390	378.41	328.41	S	50.00	W 80.00	94.34	
*	400	388.11	338.11	S	51.21	W 82.10	96.76	*
	410	397.80	347.80	S	52.25	W 84.33	99.21	
	420	407.48	357.48	S	53.31	W 86.61	101.71	
	430	417.15	367.15	S	54.39	W 88.93	104.25	
	440	426.80	376.80	S	55.50	W 91.29	106.84	
	450	436.45	386.45	S	56.62	W 93.70	109.48	
	460	446.07	396.07	S	57.76	W 96.15	112.16	
	470	455.69	405.69	S	58.92	W 98.64	114.90	
	480	465.29	415.29	S	60.10	W 101.17	117.68	
	490	474.88	424.88	S	61.30	W 103.74	120.50	
	500	484.45	434.45	S	62.52	W 106.36	123.38	
	510	494.01	444.01	S	63.76	W 109.02	126.30	
	520	503.56	453.56	S	65.02	W 111.72	129.26	
	530	513.09	463.09	S	66.30	W 114.46	132.28	
	540	522.61	472.61	S	67.60	W 117.24	135.34	
	550	532.11	482.11	S	68.91	W 120.07	138.44	
	560	541.60	491.60	S	70.25	W 122.94	141.59	
	570	551.07	501.07	S	71.61	W 125.85	144.79	
	580	560.52	510.52	S	72.98	W 128.80	148.04	
	590	569.96	519.96	S	74.38	W 131.79	151.33	
	600	579.38	529.38	S	75.79	W 134.82	154.67	
	610	588.79	538.79	S	77.23	W 137.90	158.05	
	620	598.18	548.18	S	78.68	W 141.01	161.48	
	630	607.55	557.55	S	80.15	W 144.17	164.95	
	640	616.91	566.91	S	81.64	W 147.37	168.48	
	650	626.25	576.25	S	83.15	W 150.61	172.04	
	660	635.57	585.57	S	84.68	W 153.89	175.65	
	670	644.88	594.88	S	86.23	W 157.21	179.31	
	680	654.16	604.16	S	87.80	W 160.57	183.01	
	690	663.43	613.43	S	89.39	W 163.98	186.76	
	700	672.68	622.68	S	90.99	W 167.42	190.55	
	710	681.91	631.91	S	92.62	W 170.91	194.39	
	720	691.13	641.13	S	94.26	W 174.43	198.27	
	730	700.32	650.32	S	95.92	W 178.00	202.20	
	740	709.49	659.49	S	97.61	W 181.60	206.17	
	750	718.65	668.65	S	99.31	W 185.25	210.19	
	760	727.78	677.78	S	101.03	W 188.93	214.25	
	770	736.90	686.90	S	102.76	W 192.66	218.36	
	780	745.99	695.99	S	104.52	W 196.43	222.51	
	790	755.07	705.07	S	106.29	W 200.23	226.70	
	800	764.13	714.13	S	108.09	W 204.08	230.94	
	810	773.16	723.16	S	109.90	W 207.97	235.22	
	820	782.17	732.17	S	111.73	W 211.89	239.55	

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

	MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES				HORIZONTAL DISTANCE
	830	791.16	741.16	S	113.58	W	215.86	243.92
	840	800.14	750.14	S	115.45	W	219.86	248.33
	850	809.08	759.08	S	117.33	W	223.90	252.79
	860	818.01	768.01	S	119.24	W	227.99	257.29
*	868	825.14	775.14	S	120.77	W	231.28	260.92 *
	870	826.92	776.92	S	121.32	W	232.01	261.81
	880	835.82	785.82	S	124.07	W	235.65	266.32
	890	844.70	794.70	S	126.83	W	239.32	270.85
	900	853.57	803.57	S	129.61	W	243.00	275.41
	910	862.43	812.43	S	132.40	W	246.71	279.99
	920	871.28	821.28	S	135.20	W	250.43	284.60
	930	880.12	830.12	S	138.02	W	254.17	289.23
	940	888.94	838.94	S	140.85	W	257.93	293.88
	950	897.75	847.75	S	143.70	W	261.71	298.56
	960	906.55	856.55	S	146.56	W	265.50	303.27
	970	915.34	865.34	S	149.43	W	269.31	308.00
	980	924.11	874.11	S	152.32	W	273.15	312.75
	990	932.87	882.87	S	155.22	W	277.00	317.52
	1000	941.62	891.62	S	158.14	W	280.86	322.32
*	1002	943.37	893.37	S	158.72	W	281.64	323.29 *
	1010	950.37	900.37	S	161.36	W	284.47	327.05
	1020	959.12	909.12	S	164.66	W	288.01	331.75
	1030	967.88	917.88	S	167.95	W	291.53	336.45
	1040	976.65	926.65	S	171.23	W	295.06	341.15
	1050	985.41	935.41	S	174.51	W	298.57	345.84
	1060	994.19	944.19	S	177.79	W	302.09	350.52
	1070	1,002.96	952.96	S	181.05	W	305.59	355.20
	1080	1,011.74	961.74	S	184.32	W	309.09	359.88
	1090	1,020.53	970.53	S	187.57	W	312.58	364.54
*	1095	1,024.92	974.92	S	189.20	W	314.33	366.88 *
	1100	1,029.32	979.32	S	191.00	W	315.89	369.15
	1110	1,038.10	988.10	S	194.61	W	319.03	373.71
	1120	1,046.88	996.88	S	198.23	W	322.18	378.28
	1130	1,055.65	1,005.65	S	201.85	W	325.32	382.86
	1140	1,064.42	1,014.42	S	205.48	W	328.48	387.46
	1150	1,073.18	1,023.18	S	209.12	W	331.64	392.07
	1160	1,081.94	1,031.94	S	212.76	W	334.81	396.69
	1170	1,090.69	1,040.69	S	216.41	W	337.98	401.33
	1180	1,099.44	1,049.44	S	220.06	W	341.15	405.97
*	1188	1,106.44	1,056.44	S	222.99	W	343.70	409.70 *
	1190	1,108.19	1,058.19	S	223.70	W	344.35	410.64
	1200	1,116.91	1,066.91	S	227.31	W	347.65	415.37
	1210	1,125.62	1,075.62	S	230.93	W	350.97	420.13
	1220	1,134.32	1,084.32	S	234.57	W	354.31	424.93
	1230	1,142.99	1,092.99	S	238.24	W	357.67	429.76

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	MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES			HORIZONTAL DISTANCE
	1240	1,151.65	1,101.65	S	241.93	W 361.06	434.62
	1250	1,160.29	1,110.29	S	245.65	W 364.46	439.51
	1260	1,168.91	1,118.91	S	249.38	W 367.88	444.44
	1270	1,177.51	1,127.51	S	253.14	W 371.32	449.40
	1280	1,186.10	1,136.10	S	256.91	W 374.78	454.39
	1290	1,194.67	1,144.67	S	260.71	W 378.27	459.41
	1300	1,203.22	1,153.22	S	264.54	W 381.77	464.47
	1310	1,211.76	1,161.76	S	268.38	W 385.29	469.55
	1320	1,220.27	1,170.27	S	272.25	W 388.83	474.67
	1330	1,228.77	1,178.77	S	276.13	W 392.39	479.82
*	1339	1,236.40	1,186.40	S	279.65	W 395.62	484.48 *
	1340	1,237.25	1,187.25	S	280.00	W 396.02	485.01
	1350	1,245.70	1,195.70	S	283.51	W 400.06	490.33
	1360	1,254.11	1,204.11	S	287.05	W 404.13	495.70
	1370	1,262.50	1,212.50	S	290.62	W 408.24	501.12
	1380	1,270.86	1,220.86	S	294.22	W 412.38	506.59
	1390	1,279.19	1,229.19	S	297.86	W 416.56	512.10
	1400	1,287.48	1,237.48	S	301.52	W 420.78	517.66
	1410	1,295.75	1,245.75	S	305.21	W 425.02	523.26
	1420	1,303.98	1,253.98	S	308.94	W 429.31	528.91
	1430	1,312.18	1,262.18	S	312.69	W 433.63	534.61
	1440	1,320.35	1,270.35	S	316.47	W 437.98	540.35
	1450	1,328.49	1,278.49	S	320.29	W 442.36	546.14
	1460	1,336.60	1,286.60	S	324.13	W 446.78	551.98
	1470	1,344.67	1,294.67	S	328.00	W 451.24	557.86
	1480	1,352.71	1,302.71	S	331.90	W 455.73	563.78
	1490	1,360.71	1,310.71	S	335.83	W 460.25	569.75
*	1496	1,365.51	1,315.51	S	338.20	W 462.97	573.35 *
	1500	1,368.69	1,318.69	S	339.66	W 464.90	575.76
	1510	1,376.62	1,326.62	S	343.32	W 469.77	581.85
	1520	1,384.52	1,334.52	S	347.02	W 474.67	587.99
	1530	1,392.37	1,342.37	S	350.74	W 479.62	594.19
	1540	1,400.18	1,350.18	S	354.50	W 484.61	600.43
	1550	1,407.95	1,357.95	S	358.29	W 489.63	606.72
	1560	1,415.68	1,365.68	S	362.11	W 494.70	613.07
	1570	1,423.37	1,373.37	S	365.96	W 499.81	619.46
	1580	1,431.01	1,381.01	S	369.84	W 504.95	625.91
*	1590	1,438.62	1,388.62	S	373.75	W 510.14	632.40 *
	1600	1,446.22	1,396.22	S	377.79	W 515.22	638.89
	1610	1,453.83	1,403.83	S	381.82	W 520.30	645.37
	1620	1,461.45	1,411.45	S	385.86	W 525.37	651.85
	1630	1,469.06	1,419.06	S	389.89	W 530.44	658.32
	1640	1,476.68	1,426.68	S	393.93	W 535.51	664.80
	1650	1,484.31	1,434.31	S	397.95	W 540.58	671.26
	1660	1,491.93	1,441.93	S	401.98	W 545.64	677.73

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MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES			HORIZONTAL DISTANCE
1670	1,499.56	1,449.56	S	406.01	W 550.70	684.19
1680	1,507.19	1,457.19	S	410.03	W 555.76	690.65
1690	1,514.83	1,464.83	S	414.05	W 560.81	697.10
1700	1,522.47	1,472.47	S	418.07	W 565.86	703.55
1710	1,530.11	1,480.11	S	422.08	W 570.91	709.99
1720	1,537.75	1,487.75	S	426.09	W 575.95	716.44
1730	1,545.40	1,495.40	S	430.11	W 581.00	722.88
1740	1,553.05	1,503.05	S	434.11	W 586.04	729.31
1750	1,560.71	1,510.71	S	438.12	W 591.07	735.74
1760	1,568.36	1,518.36	S	442.12	W 596.11	742.17
1770	1,576.02	1,526.02	S	446.13	W 601.14	748.60
* 1771	1,576.79	1,526.79	S	446.53	W 601.64	749.24 *
1780	1,583.69	1,533.69	S	450.89	W 605.43	754.88
1790	1,591.37	1,541.37	S	455.72	W 609.63	761.14
1800	1,599.05	1,549.05	S	460.55	W 613.83	767.40
1810	1,606.75	1,556.75	S	465.37	W 618.02	773.64
1820	1,614.46	1,564.46	S	470.18	W 622.20	779.88
1830	1,622.17	1,572.17	S	474.98	W 626.38	786.10
1840	1,629.89	1,579.89	S	479.78	W 630.54	792.32
1850	1,637.62	1,587.62	S	484.56	W 634.71	798.53
1860	1,645.36	1,595.36	S	489.34	W 638.86	804.74
1870	1,653.11	1,603.11	S	494.11	W 643.01	810.93
1880	1,660.87	1,610.87	S	498.87	W 647.15	817.11
1890	1,668.64	1,618.64	S	503.63	W 651.28	823.29
* 1895	1,672.52	1,622.52	S	506.00	W 653.34	826.38 *
1900	1,676.41	1,626.41	S	508.48	W 655.28	829.43
1910	1,684.18	1,634.18	S	513.44	W 659.15	835.53
1920	1,691.95	1,641.95	S	518.40	W 663.03	841.63
1930	1,699.72	1,649.72	S	523.36	W 666.90	847.74
1940	1,707.49	1,657.49	S	528.32	W 670.78	853.85
1950	1,715.27	1,665.27	S	533.28	W 674.65	859.97
1960	1,723.04	1,673.04	S	538.24	W 678.53	866.08
1970	1,730.81	1,680.81	S	543.20	W 682.40	872.20
1980	1,738.58	1,688.58	S	548.16	W 686.28	878.32
1990	1,746.35	1,696.35	S	553.11	W 690.15	884.45
2000	1,754.12	1,704.12	S	558.07	W 694.02	890.57
2010	1,761.89	1,711.89	S	563.03	W 697.90	896.70
2020	1,769.67	1,719.67	S	567.99	W 701.77	902.83
2030	1,777.44	1,727.44	S	572.95	W 705.65	908.96
2040	1,785.21	1,735.21	S	577.91	W 709.52	915.10
2050	1,792.98	1,742.98	S	582.87	W 713.40	921.24
2060	1,800.75	1,750.75	S	587.83	W 717.27	927.37
2070	1,808.52	1,758.52	S	592.79	W 721.15	933.52
2080	1,816.30	1,766.30	S	597.75	W 725.02	939.66
* 2087	1,821.74	1,771.74	S	601.22	W 727.73	943.96 *

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	MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES				HORIZONTAL DISTANCE
	2090	1,824.07	1,774.07	S	602.69	W	728.92	945.81
	2100	1,831.84	1,781.84	S	607.58	W	732.88	951.98
	2110	1,839.61	1,789.61	S	612.47	W	736.84	958.15
	2120	1,847.38	1,797.38	S	617.36	W	740.80	964.32
	2130	1,855.15	1,805.15	S	622.25	W	744.76	970.50
	2140	1,862.92	1,812.92	S	627.14	W	748.72	976.67
	2150	1,870.70	1,820.70	S	632.03	W	752.68	982.85
	2160	1,878.47	1,828.47	S	636.92	W	756.64	989.03
	2170	1,886.24	1,836.24	S	641.81	W	760.60	995.21
	2180	1,894.01	1,844.01	S	646.70	W	764.56	1,001.39
	2190	1,901.78	1,851.78	S	651.59	W	768.52	1,007.57
	2200	1,909.55	1,859.55	S	656.48	W	772.49	1,013.76
	2210	1,917.32	1,867.32	S	661.37	W	776.45	1,019.94
*	2212	1,918.88	1,868.88	S	662.35	W	777.24	1,021.18 *
	2220	1,925.09	1,875.09	S	666.16	W	780.55	1,026.17
	2230	1,932.84	1,882.84	S	670.92	W	784.69	1,032.42
	2240	1,940.59	1,890.59	S	675.70	W	788.84	1,038.67
	2250	1,948.32	1,898.32	S	680.49	W	793.00	1,044.95
	2260	1,956.04	1,906.04	S	685.28	W	797.17	1,051.23
	2270	1,963.75	1,913.75	S	690.08	W	801.34	1,057.53
	2280	1,971.46	1,921.46	S	694.90	W	805.53	1,063.84
	2290	1,979.15	1,929.15	S	699.72	W	809.72	1,070.17
	2300	1,986.83	1,936.83	S	704.55	W	813.92	1,076.50
	2310	1,994.50	1,944.50	S	709.39	W	818.13	1,082.86
	2320	2,002.16	1,952.16	S	714.24	W	822.34	1,089.22
	2330	2,009.82	1,959.82	S	719.10	W	826.57	1,095.59
	2340	2,017.46	1,967.46	S	723.97	W	830.80	1,101.98
	2350	2,025.09	1,975.09	S	728.85	W	835.04	1,108.39
	2360	2,032.71	1,982.71	S	733.74	W	839.29	1,114.80
	2370	2,040.32	1,990.32	S	738.63	W	843.55	1,121.23
	2380	2,047.92	1,997.92	S	743.54	W	847.81	1,127.67
	2390	2,055.50	2,005.50	S	748.45	W	852.08	1,134.12
	2400	2,063.08	2,013.08	S	753.38	W	856.36	1,140.59
	2410	2,070.65	2,020.65	S	758.31	W	860.65	1,147.07
	2420	2,078.21	2,028.21	S	763.25	W	864.95	1,153.56
*	2430	2,085.76	2,035.76	S	768.20	W	869.25	1,160.06 *
	2440	2,093.30	2,043.30	S	773.05	W	873.69	1,166.59
	2450	2,100.83	2,050.83	S	777.90	W	878.13	1,173.14
	2460	2,108.35	2,058.35	S	782.75	W	882.59	1,179.69
	2470	2,115.87	2,065.87	S	787.62	W	887.04	1,186.25
	2480	2,123.37	2,073.37	S	792.49	W	891.50	1,192.82
	2490	2,130.87	2,080.87	S	797.36	W	895.97	1,199.40
	2500	2,138.37	2,088.37	S	802.25	W	900.45	1,205.99
	2510	2,145.85	2,095.85	S	807.14	W	904.93	1,212.59
	2520	2,153.33	2,103.33	S	812.03	W	909.42	1,219.20

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES				HORIZONTAL DISTANCE
2530	2,160.79	2,110.79	S	816.94	W	913.91	1,225.81
2540	2,168.26	2,118.26	S	821.85	W	918.41	1,232.44
2550	2,175.71	2,125.71	S	826.76	W	922.91	1,239.07
2560	2,183.15	2,133.15	S	831.68	W	927.42	1,245.72
2570	2,190.59	2,140.59	S	836.61	W	931.94	1,252.37
2580	2,198.02	2,148.02	S	841.55	W	936.46	1,259.04
2590	2,205.44	2,155.44	S	846.49	W	940.99	1,265.71
2600	2,212.85	2,162.85	S	851.44	W	945.53	1,272.39
2610	2,220.25	2,170.25	S	856.40	W	950.07	1,279.08
2620	2,227.65	2,177.65	S	861.36	W	954.61	1,285.78
2630	2,235.04	2,185.04	S	866.33	W	959.17	1,292.49
2640	2,242.42	2,192.42	S	871.30	W	963.72	1,299.21
2650	2,249.79	2,199.79	S	876.28	W	968.29	1,305.93
2660	2,257.16	2,207.16	S	881.27	W	972.86	1,312.67
2670	2,264.51	2,214.51	S	886.26	W	977.44	1,319.41
2680	2,271.86	2,221.86	S	891.27	W	982.02	1,326.17
* 2686	2,276.27	2,226.27	S	894.27	W	984.77	1,330.22 *
2690	2,279.20	2,229.20	S	896.22	W	986.66	1,332.93
2700	2,286.55	2,236.55	S	901.10	W	991.37	1,339.70
2710	2,293.90	2,243.90	S	905.98	W	996.08	1,346.47
2720	2,301.25	2,251.25	S	910.86	W	1,000.79	1,353.24
2730	2,308.60	2,258.60	S	915.74	W	1,005.50	1,360.00
2740	2,315.95	2,265.95	S	920.61	W	1,010.21	1,366.77
2750	2,323.31	2,273.31	S	925.48	W	1,014.91	1,373.53
2760	2,330.66	2,280.66	S	930.36	W	1,019.62	1,380.29
2770	2,338.02	2,288.02	S	935.23	W	1,024.32	1,387.04
2780	2,345.39	2,295.39	S	940.10	W	1,029.02	1,393.80
2790	2,352.75	2,302.75	S	944.96	W	1,033.72	1,400.55
2800	2,360.11	2,310.11	S	949.83	W	1,038.42	1,407.30
2810	2,367.48	2,317.48	S	954.69	W	1,043.12	1,414.05
2820	2,374.85	2,324.85	S	959.56	W	1,047.82	1,420.80
2830	2,382.22	2,332.22	S	964.42	W	1,052.51	1,427.55
2840	2,389.59	2,339.59	S	969.28	W	1,057.21	1,434.29
* 2842	2,391.07	2,341.07	S	970.25	W	1,058.14	1,435.64 *
2850	2,396.97	2,346.97	S	973.97	W	1,062.06	1,441.04
2860	2,404.34	2,354.34	S	978.61	W	1,066.96	1,447.79
2870	2,411.73	2,361.73	S	983.26	W	1,071.85	1,454.54
2880	2,419.11	2,369.11	S	987.90	W	1,076.74	1,461.28
2890	2,426.50	2,376.50	S	992.54	W	1,081.63	1,468.02
2900	2,433.89	2,383.89	S	997.18	W	1,086.52	1,474.75
2910	2,441.28	2,391.28	S	1,001.81	W	1,091.40	1,481.48
2920	2,448.68	2,398.68	S	1,006.44	W	1,096.28	1,488.21
2930	2,456.08	2,406.08	S	1,011.07	W	1,101.16	1,494.93
2940	2,463.49	2,413.49	S	1,015.70	W	1,106.04	1,501.66
2950	2,470.89	2,420.89	S	1,020.32	W	1,110.91	1,508.37

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
2960	2,478.30	2,428.30	S 1,024.95	W 1,115.78	1,515.09
2970	2,485.72	2,435.72	S 1,029.57	W 1,120.65	1,521.80
2980	2,493.13	2,443.13	S 1,034.18	W 1,125.52	1,528.50
2990	2,500.55	2,450.55	S 1,038.80	W 1,130.38	1,535.21
3000	2,507.97	2,457.97	S 1,043.41	W 1,135.24	1,541.91
3010	2,515.40	2,465.40	S 1,048.02	W 1,140.10	1,548.61
3020	2,522.83	2,472.83	S 1,052.63	W 1,144.95	1,555.30
* 3028	2,528.77	2,478.77	S 1,056.31	W 1,148.84	1,560.65 *
3030	2,530.26	2,480.26	S 1,057.20	W 1,149.84	1,561.99
3040	2,537.69	2,487.69	S 1,061.63	W 1,154.85	1,568.68
3050	2,545.12	2,495.12	S 1,066.07	W 1,159.86	1,575.37
3060	2,552.56	2,502.56	S 1,070.50	W 1,164.87	1,582.06
3070	2,559.99	2,509.99	S 1,074.94	W 1,169.89	1,588.75
3080	2,567.42	2,517.42	S 1,079.37	W 1,174.90	1,595.44
3090	2,574.85	2,524.85	S 1,083.80	W 1,179.91	1,602.13
3100	2,582.28	2,532.28	S 1,088.24	W 1,184.92	1,608.82
3110	2,589.71	2,539.71	S 1,092.67	W 1,189.93	1,615.51
3120	2,597.14	2,547.14	S 1,097.10	W 1,194.94	1,622.20
3130	2,604.58	2,554.58	S 1,101.54	W 1,199.95	1,628.89
3140	2,612.01	2,562.01	S 1,105.97	W 1,204.97	1,635.58
3150	2,619.44	2,569.44	S 1,110.41	W 1,209.98	1,642.27
3160	2,626.87	2,576.87	S 1,114.84	W 1,214.99	1,648.96
3170	2,634.30	2,584.30	S 1,119.27	W 1,220.00	1,655.65
3180	2,641.73	2,591.73	S 1,123.71	W 1,225.01	1,662.34
3190	2,649.16	2,599.16	S 1,128.14	W 1,230.02	1,669.03
3200	2,656.60	2,606.60	S 1,132.57	W 1,235.03	1,675.72
3210	2,664.03	2,614.03	S 1,137.01	W 1,240.05	1,682.41
* 3215	2,667.74	2,617.74	S 1,139.23	W 1,242.55	1,685.76 *
3220	2,671.46	2,621.46	S 1,141.35	W 1,245.13	1,689.10
3230	2,678.90	2,628.90	S 1,145.60	W 1,250.29	1,695.77
3240	2,686.34	2,636.34	S 1,149.85	W 1,255.44	1,702.44
3250	2,693.79	2,643.79	S 1,154.09	W 1,260.59	1,709.10
3260	2,701.25	2,651.25	S 1,158.33	W 1,265.73	1,715.76
3270	2,708.71	2,658.71	S 1,162.57	W 1,270.87	1,722.41
3280	2,716.17	2,666.17	S 1,166.80	W 1,276.00	1,729.05
3290	2,723.64	2,673.64	S 1,171.03	W 1,281.13	1,735.69
3300	2,731.12	2,681.12	S 1,175.26	W 1,286.26	1,742.33
3310	2,738.60	2,688.60	S 1,179.48	W 1,291.38	1,748.95
3320	2,746.08	2,696.08	S 1,183.70	W 1,296.50	1,755.58
3330	2,753.57	2,703.57	S 1,187.91	W 1,301.61	1,762.19
3340	2,761.07	2,711.07	S 1,192.12	W 1,306.72	1,768.80
3350	2,768.57	2,718.57	S 1,196.33	W 1,311.82	1,775.41
3360	2,776.08	2,726.08	S 1,200.53	W 1,316.92	1,782.01
3370	2,783.59	2,733.59	S 1,204.73	W 1,322.01	1,788.60
3380	2,791.10	2,741.10	S 1,208.93	W 1,327.10	1,795.19

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

	MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
	3390	2,798.62	2,748.62	S 1,213.12	W 1,332.19	1,801.77
	3400	2,806.15	2,756.15	S 1,217.31	W 1,337.27	1,808.35
	3410	2,813.68	2,763.68	S 1,221.49	W 1,342.35	1,814.92
	3420	2,821.22	2,771.22	S 1,225.67	W 1,347.42	1,821.49
	3430	2,828.76	2,778.76	S 1,229.85	W 1,352.49	1,828.05
	3440	2,836.30	2,786.30	S 1,234.02	W 1,357.55	1,834.60
	3450	2,843.86	2,793.86	S 1,238.19	W 1,362.61	1,841.15
	3460	2,851.41	2,801.41	S 1,242.36	W 1,367.66	1,847.69
	3470	2,858.97	2,808.97	S 1,246.52	W 1,372.71	1,854.23
	3480	2,866.54	2,816.54	S 1,250.68	W 1,377.76	1,860.76
	3490	2,874.11	2,824.11	S 1,254.83	W 1,382.80	1,867.28
*	3498	2,880.17	2,830.17	S 1,258.16	W 1,386.83	1,872.50 *
	3500	2,881.69	2,831.69	S 1,258.94	W 1,387.87	1,873.80
	3510	2,889.28	2,839.28	S 1,262.86	W 1,393.07	1,880.28
	3520	2,896.89	2,846.89	S 1,266.77	W 1,398.25	1,886.74
	3530	2,904.51	2,854.51	S 1,270.66	W 1,403.42	1,893.19
	3540	2,912.14	2,862.14	S 1,274.55	W 1,408.58	1,899.63
	3550	2,919.79	2,869.79	S 1,278.43	W 1,413.73	1,906.05
	3560	2,927.45	2,877.45	S 1,282.30	W 1,418.86	1,912.45
	3570	2,935.12	2,885.12	S 1,286.16	W 1,423.98	1,918.84
	3580	2,942.81	2,892.81	S 1,290.00	W 1,429.09	1,925.21
	3590	2,950.51	2,900.51	S 1,293.84	W 1,434.18	1,931.56
	3600	2,958.22	2,908.22	S 1,297.67	W 1,439.27	1,937.90
	3610	2,965.95	2,915.95	S 1,301.49	W 1,444.34	1,944.22
	3620	2,973.69	2,923.69	S 1,305.30	W 1,449.39	1,950.53
	3630	2,981.45	2,931.45	S 1,309.10	W 1,454.43	1,956.82
	3640	2,989.21	2,939.21	S 1,312.89	W 1,459.46	1,963.09
	3650	2,997.00	2,947.00	S 1,316.67	W 1,464.48	1,969.35
	3660	3,004.79	2,954.79	S 1,320.44	W 1,469.48	1,975.59
	3670	3,012.60	2,962.60	S 1,324.20	W 1,474.47	1,981.81
	3680	3,020.42	2,970.42	S 1,327.95	W 1,479.45	1,988.02
	3690	3,028.25	2,978.25	S 1,331.69	W 1,484.41	1,994.22
	3700	3,036.10	2,986.10	S 1,335.42	W 1,489.36	2,000.39
	3710	3,043.96	2,993.96	S 1,339.14	W 1,494.30	2,006.55
	3720	3,051.83	3,001.83	S 1,342.85	W 1,499.22	2,012.70
	3730	3,059.72	3,009.72	S 1,346.56	W 1,504.14	2,018.82
	3740	3,067.62	3,017.62	S 1,350.25	W 1,509.03	2,024.93
	3750	3,075.53	3,025.53	S 1,353.93	W 1,513.92	2,031.03
	3760	3,083.46	3,033.46	S 1,357.60	W 1,518.79	2,037.10
	3770	3,091.39	3,041.39	S 1,361.26	W 1,523.64	2,043.16
	3780	3,099.34	3,049.34	S 1,364.91	W 1,528.49	2,049.21
	3790	3,107.31	3,057.31	S 1,368.55	W 1,533.32	2,055.24
	3800	3,115.28	3,065.28	S 1,372.18	W 1,538.14	2,061.25
*	3808	3,121.67	3,071.67	S 1,375.07	W 1,541.98	2,066.05 *
	3810	3,123.27	3,073.27	S 1,375.77	W 1,542.96	2,067.24

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
3820	3,131.27	3,081.27	S 1,379.26	W 1,547.85	2,073.21
3830	3,139.28	3,089.28	S 1,382.74	W 1,552.72	2,079.16
3840	3,147.29	3,097.29	S 1,386.21	W 1,557.59	2,085.11
3850	3,155.32	3,105.32	S 1,389.67	W 1,562.45	2,091.04
3860	3,163.36	3,113.36	S 1,393.13	W 1,567.29	2,096.95
3870	3,171.40	3,121.40	S 1,396.58	W 1,572.13	2,102.86
3880	3,179.46	3,129.46	S 1,400.02	W 1,576.95	2,108.75
3890	3,187.52	3,137.52	S 1,403.45	W 1,581.76	2,114.63
3900	3,195.60	3,145.60	S 1,406.88	W 1,586.56	2,120.49
3910	3,203.68	3,153.68	S 1,410.29	W 1,591.36	2,126.35
3920	3,211.78	3,161.78	S 1,413.70	W 1,596.14	2,132.19
3930	3,219.88	3,169.88	S 1,417.11	W 1,600.91	2,138.02
3940	3,227.99	3,177.99	S 1,420.50	W 1,605.67	2,143.83
3950	3,236.11	3,186.11	S 1,423.89	W 1,610.42	2,149.63
3960	3,244.24	3,194.24	S 1,427.27	W 1,615.16	2,155.42
3970	3,252.38	3,202.38	S 1,430.64	W 1,619.89	2,161.20
3980	3,260.53	3,210.53	S 1,434.01	W 1,624.60	2,166.96
3990	3,268.69	3,218.69	S 1,437.37	W 1,629.31	2,172.71
4000	3,276.86	3,226.86	S 1,440.72	W 1,634.01	2,178.45
4010	3,285.04	3,235.04	S 1,444.06	W 1,638.69	2,184.18
4020	3,293.23	3,243.23	S 1,447.39	W 1,643.37	2,189.89
* 4025	3,297.32	3,247.32	S 1,449.06	W 1,645.70	2,192.74 *
4030	3,301.42	3,251.42	S 1,450.58	W 1,648.14	2,195.57
4040	3,309.60	3,259.60	S 1,453.62	W 1,653.01	2,201.24
4050	3,317.78	3,267.78	S 1,456.67	W 1,657.89	2,206.92
4060	3,325.96	3,275.96	S 1,459.72	W 1,662.77	2,212.60
4070	3,334.13	3,284.13	S 1,462.78	W 1,667.66	2,218.29
4080	3,342.30	3,292.30	S 1,465.84	W 1,672.55	2,223.99
4090	3,350.46	3,300.46	S 1,468.90	W 1,677.45	2,229.69
4100	3,358.62	3,308.62	S 1,471.96	W 1,682.36	2,235.40
4110	3,366.77	3,316.77	S 1,475.03	W 1,687.27	2,241.11
4120	3,374.92	3,324.92	S 1,478.10	W 1,692.18	2,246.84
4130	3,383.06	3,333.06	S 1,481.18	W 1,697.10	2,252.56
4140	3,391.20	3,341.20	S 1,484.25	W 1,702.03	2,258.30
4150	3,399.34	3,349.34	S 1,487.34	W 1,706.96	2,264.04
4160	3,407.47	3,357.47	S 1,490.42	W 1,711.90	2,269.79
4170	3,415.60	3,365.60	S 1,493.51	W 1,716.84	2,275.55
4180	3,423.72	3,373.72	S 1,496.60	W 1,721.79	2,281.31
4190	3,431.83	3,381.83	S 1,499.69	W 1,726.74	2,287.08
4200	3,439.95	3,389.95	S 1,502.79	W 1,731.70	2,292.85
4210	3,448.06	3,398.06	S 1,505.89	W 1,736.66	2,298.63
4220	3,456.16	3,406.16	S 1,509.00	W 1,741.63	2,304.42
4230	3,464.26	3,414.26	S 1,512.11	W 1,746.60	2,310.22
4240	3,472.35	3,422.35	S 1,515.22	W 1,751.58	2,316.02
4250	3,480.44	3,430.44	S 1,518.33	W 1,756.57	2,321.83

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

	MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
	4260	3,488.53	3,438.53	S 1,521.45	W 1,761.56	2,327.64
	4270	3,496.61	3,446.61	S 1,524.57	W 1,766.55	2,333.46
	4280	3,504.69	3,454.69	S 1,527.70	W 1,771.55	2,339.29
	4290	3,512.76	3,462.76	S 1,530.83	W 1,776.56	2,345.12
	4300	3,520.82	3,470.82	S 1,533.96	W 1,781.57	2,350.97
	4310	3,528.89	3,478.89	S 1,537.09	W 1,786.59	2,356.81
	4320	3,536.94	3,486.94	S 1,540.23	W 1,791.61	2,362.67
	4330	3,545.00	3,495.00	S 1,543.37	W 1,796.64	2,368.53
	4340	3,553.05	3,503.05	S 1,546.52	W 1,801.67	2,374.39
	4350	3,561.09	3,511.09	S 1,549.67	W 1,806.71	2,380.27
	4360	3,569.13	3,519.13	S 1,552.82	W 1,811.75	2,386.15
*	4362	3,570.74	3,520.74	S 1,553.45	W 1,812.76	2,387.32 *
	4370	3,577.16	3,527.16	S 1,555.69	W 1,816.97	2,391.98
	4380	3,585.18	3,535.18	S 1,558.49	W 1,822.24	2,397.81
	4390	3,593.19	3,543.19	S 1,561.30	W 1,827.53	2,403.65
	4400	3,601.19	3,551.19	S 1,564.12	W 1,832.83	2,409.51
	4410	3,609.18	3,559.18	S 1,566.94	W 1,838.14	2,415.38
	4420	3,617.16	3,567.16	S 1,569.77	W 1,843.46	2,421.27
	4430	3,625.13	3,575.13	S 1,572.61	W 1,848.79	2,427.17
	4440	3,633.09	3,583.09	S 1,575.45	W 1,854.14	2,433.08
	4450	3,641.04	3,591.04	S 1,578.30	W 1,859.50	2,439.01
	4460	3,648.98	3,598.98	S 1,581.15	W 1,864.87	2,444.95
	4470	3,656.91	3,606.91	S 1,584.01	W 1,870.25	2,450.90
	4480	3,664.82	3,614.82	S 1,586.88	W 1,875.64	2,456.87
	4490	3,672.73	3,622.73	S 1,589.76	W 1,881.05	2,462.86
	4500	3,680.63	3,630.63	S 1,592.64	W 1,886.46	2,468.85
	4510	3,688.51	3,638.51	S 1,595.52	W 1,891.89	2,474.86
*	4516	3,693.24	3,643.24	S 1,597.26	W 1,895.15	2,478.48 *
	4520	3,696.39	3,646.39	S 1,598.18	W 1,897.44	2,480.82
	4530	3,704.27	3,654.27	S 1,600.49	W 1,903.15	2,486.68
	4540	3,712.14	3,662.14	S 1,602.80	W 1,908.87	2,492.54
	4550	3,720.00	3,670.00	S 1,605.11	W 1,914.60	2,498.42
	4560	3,727.86	3,677.86	S 1,607.43	W 1,920.33	2,504.30
	4570	3,735.72	3,685.72	S 1,609.75	W 1,926.07	2,510.18
	4580	3,743.57	3,693.57	S 1,612.07	W 1,931.81	2,516.08
	4590	3,751.42	3,701.42	S 1,614.39	W 1,937.56	2,521.98
	4600	3,759.26	3,709.26	S 1,616.71	W 1,943.31	2,527.89
	4610	3,767.10	3,717.10	S 1,619.04	W 1,949.06	2,533.80
	4620	3,774.94	3,724.94	S 1,621.37	W 1,954.83	2,539.72
	4630	3,782.77	3,732.77	S 1,623.70	W 1,960.59	2,545.65
	4640	3,790.59	3,740.59	S 1,626.03	W 1,966.37	2,551.58
	4650	3,798.41	3,748.41	S 1,628.36	W 1,972.14	2,557.52
	4660	3,806.23	3,756.23	S 1,630.70	W 1,977.93	2,563.47
	4670	3,814.04	3,764.04	S 1,633.04	W 1,983.71	2,569.43
	4680	3,821.85	3,771.85	S 1,635.38	W 1,989.51	2,575.39

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

	MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
	4690	3,829.65	3,779.65	S 1,637.72	W 1,995.31	2,581.35
*	4700	3,837.45	3,787.45	S 1,640.07	W 2,001.11	2,587.33 *
	4710	3,845.25	3,795.25	S 1,641.79	W 2,007.13	2,593.08
	4720	3,853.04	3,803.04	S 1,643.52	W 2,013.15	2,598.83
	4730	3,860.84	3,810.84	S 1,645.24	W 2,019.17	2,604.59
	4740	3,868.63	3,818.63	S 1,646.97	W 2,025.20	2,610.36
	4750	3,876.42	3,826.42	S 1,648.70	W 2,031.23	2,616.12
	4760	3,884.21	3,834.21	S 1,650.43	W 2,037.25	2,621.90
	4770	3,891.99	3,841.99	S 1,652.16	W 2,043.29	2,627.67
	4780	3,899.78	3,849.78	S 1,653.89	W 2,049.32	2,633.45
	4790	3,907.56	3,857.56	S 1,655.62	W 2,055.36	2,639.24
	4800	3,915.34	3,865.34	S 1,657.35	W 2,061.39	2,645.03
	4810	3,923.12	3,873.12	S 1,659.08	W 2,067.43	2,650.82
	4820	3,930.90	3,880.90	S 1,660.82	W 2,073.48	2,656.62
	4830	3,938.67	3,888.67	S 1,662.55	W 2,079.52	2,662.42
	4840	3,946.45	3,896.45	S 1,664.28	W 2,085.57	2,668.23
	4850	3,954.22	3,904.22	S 1,666.02	W 2,091.61	2,674.04
*	4855	3,958.11	3,908.11	S 1,666.88	W 2,094.64	2,676.94 *
	4860	3,962.00	3,912.00	S 1,668.06	W 2,097.55	2,679.96
	4870	3,969.78	3,919.78	S 1,670.41	W 2,103.37	2,685.97
	4880	3,977.59	3,927.59	S 1,672.75	W 2,109.17	2,691.97
	4890	3,985.40	3,935.40	S 1,675.09	W 2,114.96	2,697.96
	4900	3,993.22	3,943.22	S 1,677.43	W 2,120.73	2,703.93
	4910	4,001.06	3,951.06	S 1,679.75	W 2,126.49	2,709.89
	4920	4,008.91	3,958.91	S 1,682.07	W 2,132.23	2,715.84
	4930	4,016.77	3,966.77	S 1,684.39	W 2,137.97	2,721.78
	4940	4,024.64	3,974.64	S 1,686.70	W 2,143.68	2,727.70
*	4947	4,030.16	3,980.16	S 1,688.31	W 2,147.68	2,731.84 *
	4950	4,032.52	3,982.52	S 1,689.24	W 2,149.28	2,733.67
	4960	4,040.40	3,990.40	S 1,692.32	W 2,154.61	2,739.76
	4970	4,048.28	3,998.28	S 1,695.39	W 2,159.94	2,745.86
	4980	4,056.16	4,006.16	S 1,698.47	W 2,165.27	2,751.95
	4990	4,064.04	4,014.04	S 1,701.55	W 2,170.61	2,758.05
	5000	4,071.92	4,021.92	S 1,704.63	W 2,175.94	2,764.14
*	5008	4,078.23	4,028.23	S 1,707.09	W 2,180.20	2,769.02 *
	5010	4,079.80	4,029.80	S 1,707.74	W 2,181.25	2,770.24
	5020	4,087.68	4,037.68	S 1,711.01	W 2,186.47	2,776.36
	5030	4,095.56	4,045.56	S 1,714.27	W 2,191.69	2,782.49
	5040	4,103.44	4,053.44	S 1,717.53	W 2,196.91	2,788.61
	5050	4,111.32	4,061.32	S 1,720.79	W 2,202.13	2,794.73
	5060	4,119.20	4,069.20	S 1,724.06	W 2,207.35	2,800.86
	5070	4,127.08	4,077.08	S 1,727.32	W 2,212.57	2,806.98
	5080	4,134.96	4,084.96	S 1,730.58	W 2,217.80	2,813.10
	5090	4,142.84	4,092.84	S 1,733.84	W 2,223.02	2,819.22
	5100	4,150.72	4,100.72	S 1,737.11	W 2,228.24	2,825.35

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

	MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
	5110	4,158.60	4,108.60	S 1,740.37	W 2,233.46	2,831.47
*	5118	4,164.91	4,114.91	S 1,742.98	W 2,237.64	2,836.37 *
	5120	4,166.48	4,116.48	S 1,743.56	W 2,238.72	2,837.58
	5130	4,174.36	4,124.36	S 1,746.45	W 2,244.16	2,843.65
	5140	4,182.23	4,132.23	S 1,749.34	W 2,249.61	2,849.73
	5150	4,190.10	4,140.10	S 1,752.24	W 2,255.05	2,855.80
	5160	4,197.97	4,147.97	S 1,755.14	W 2,260.50	2,861.89
	5170	4,205.84	4,155.84	S 1,758.04	W 2,265.95	2,867.97
	5180	4,213.70	4,163.70	S 1,760.94	W 2,271.41	2,874.06
	5190	4,221.56	4,171.56	S 1,763.84	W 2,276.87	2,880.15
	5200	4,229.42	4,179.42	S 1,766.75	W 2,282.33	2,886.25
	5210	4,237.27	4,187.27	S 1,769.65	W 2,287.80	2,892.35
	5220	4,245.12	4,195.12	S 1,772.56	W 2,293.27	2,898.46
	5230	4,252.97	4,202.97	S 1,775.47	W 2,298.74	2,904.57
	5240	4,260.81	4,210.81	S 1,778.38	W 2,304.22	2,910.68
	5250	4,268.65	4,218.65	S 1,781.29	W 2,309.70	2,916.80
	5260	4,276.49	4,226.49	S 1,784.21	W 2,315.18	2,922.92
	5270	4,284.33	4,234.33	S 1,787.13	W 2,320.66	2,929.05
	5280	4,292.16	4,242.16	S 1,790.04	W 2,326.15	2,935.17
	5290	4,299.99	4,249.99	S 1,792.96	W 2,331.64	2,941.31
	5300	4,307.82	4,257.82	S 1,795.89	W 2,337.14	2,947.45
	5310	4,315.64	4,265.64	S 1,798.81	W 2,342.64	2,953.59
	5320	4,323.46	4,273.46	S 1,801.74	W 2,348.14	2,959.73
	5330	4,331.28	4,281.28	S 1,804.66	W 2,353.64	2,965.88
	5340	4,339.10	4,289.10	S 1,807.59	W 2,359.15	2,972.04
	5350	4,346.91	4,296.91	S 1,810.52	W 2,364.66	2,978.19
	5360	4,354.72	4,304.72	S 1,813.45	W 2,370.18	2,984.35
	5370	4,362.53	4,312.53	S 1,816.39	W 2,375.70	2,990.52
	5380	4,370.33	4,320.33	S 1,819.32	W 2,381.22	2,996.69
	5390	4,378.13	4,328.13	S 1,822.26	W 2,386.74	3,002.86
*	5397	4,383.59	4,333.59	S 1,824.32	W 2,390.61	3,007.18 *
	5400	4,385.93	4,335.93	S 1,825.08	W 2,392.33	3,009.01
	5410	4,393.73	4,343.73	S 1,827.63	W 2,398.04	3,015.10
	5420	4,401.53	4,351.53	S 1,830.17	W 2,403.76	3,021.20
	5430	4,409.32	4,359.32	S 1,832.72	W 2,409.49	3,027.29
	5440	4,417.12	4,367.12	S 1,835.27	W 2,415.21	3,033.39
	5450	4,424.91	4,374.91	S 1,837.82	W 2,420.93	3,039.49
	5460	4,432.70	4,382.70	S 1,840.37	W 2,426.66	3,045.59
	5470	4,440.50	4,390.50	S 1,842.92	W 2,432.38	3,051.69
	5480	4,448.29	4,398.29	S 1,845.47	W 2,438.11	3,057.80
	5490	4,456.08	4,406.08	S 1,848.02	W 2,443.84	3,063.90
	5500	4,463.87	4,413.87	S 1,850.57	W 2,449.56	3,070.01
	5510	4,471.66	4,421.66	S 1,853.12	W 2,455.29	3,076.12
	5520	4,479.45	4,429.45	S 1,855.67	W 2,461.02	3,082.23
	5530	4,487.23	4,437.23	S 1,858.22	W 2,466.76	3,088.35

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
5540	4,495.02	4,445.02	S 1,860.77	W 2,472.49	3,094.46
5550	4,502.80	4,452.80	S 1,863.32	W 2,478.22	3,100.58
5560	4,510.59	4,460.59	S 1,865.88	W 2,483.96	3,106.69
5570	4,518.37	4,468.37	S 1,868.43	W 2,489.69	3,112.81
5580	4,526.15	4,476.15	S 1,870.99	W 2,495.43	3,118.94
5590	4,533.94	4,483.94	S 1,873.54	W 2,501.17	3,125.06
5600	4,541.72	4,491.72	S 1,876.09	W 2,506.90	3,131.18
5610	4,549.50	4,499.50	S 1,878.65	W 2,512.64	3,137.31
5620	4,557.28	4,507.28	S 1,881.21	W 2,518.38	3,143.44
5630	4,565.06	4,515.06	S 1,883.76	W 2,524.12	3,149.57
5640	4,572.83	4,522.83	S 1,886.32	W 2,529.87	3,155.70
5650	4,580.61	4,530.61	S 1,888.88	W 2,535.61	3,161.83
5660	4,588.38	4,538.38	S 1,891.43	W 2,541.36	3,167.97
5670	4,596.16	4,546.16	S 1,893.99	W 2,547.10	3,174.10
5680	4,603.93	4,553.93	S 1,896.55	W 2,552.85	3,180.24
5690	4,611.71	4,561.71	S 1,899.11	W 2,558.59	3,186.38
5700	4,619.48	4,569.48	S 1,901.67	W 2,564.34	3,192.52
* 5707	4,624.92	4,574.92	S 1,903.46	W 2,568.37	3,196.82 *
5710	4,627.25	4,577.25	S 1,904.11	W 2,570.14	3,198.63
5720	4,635.02	4,585.02	S 1,906.26	W 2,576.06	3,204.67
5730	4,642.78	4,592.78	S 1,908.42	W 2,581.98	3,210.71
5740	4,650.54	4,600.54	S 1,910.57	W 2,587.91	3,216.76
5750	4,658.30	4,608.30	S 1,912.73	W 2,593.83	3,222.81
5760	4,666.06	4,616.06	S 1,914.89	W 2,599.77	3,228.87
5770	4,673.81	4,623.81	S 1,917.05	W 2,605.70	3,234.93
5780	4,681.56	4,631.56	S 1,919.21	W 2,611.64	3,240.99
5790	4,689.31	4,639.31	S 1,921.37	W 2,617.58	3,247.06
5800	4,697.05	4,647.05	S 1,923.54	W 2,623.53	3,253.14
5810	4,704.79	4,654.79	S 1,925.70	W 2,629.47	3,259.21
5820	4,712.53	4,662.53	S 1,927.87	W 2,635.43	3,265.30
5830	4,720.27	4,670.27	S 1,930.04	W 2,641.38	3,271.38
5840	4,728.00	4,678.00	S 1,932.20	W 2,647.34	3,277.47
5850	4,735.73	4,685.73	S 1,934.37	W 2,653.30	3,283.57
5860	4,743.46	4,693.46	S 1,936.55	W 2,659.27	3,289.67
5870	4,751.18	4,701.18	S 1,938.72	W 2,665.24	3,295.77
5880	4,758.90	4,708.90	S 1,940.89	W 2,671.21	3,301.88
5890	4,766.62	4,716.62	S 1,943.07	W 2,677.18	3,308.00
5900	4,774.33	4,724.33	S 1,945.24	W 2,683.16	3,314.11
5910	4,782.05	4,732.05	S 1,947.42	W 2,689.15	3,320.23
5920	4,789.75	4,739.75	S 1,949.60	W 2,695.13	3,326.36
5930	4,797.46	4,747.46	S 1,951.78	W 2,701.12	3,332.49
5940	4,805.16	4,755.16	S 1,953.96	W 2,707.11	3,338.63
5950	4,812.86	4,762.86	S 1,956.14	W 2,713.11	3,344.77
5960	4,820.56	4,770.56	S 1,958.32	W 2,719.11	3,350.91
5970	4,828.25	4,778.25	S 1,960.51	W 2,725.11	3,357.06

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

	MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
	5980	4,835.95	4,785.95	S 1,962.70	W 2,731.12	3,363.21
*	5989	4,842.86	4,792.86	S 1,964.66	W 2,736.52	3,368.75 *
	5990	4,843.63	4,793.63	S 1,964.98	W 2,737.08	3,369.39
	6000	4,851.34	4,801.34	S 1,968.17	W 2,742.60	3,375.73
	6010	4,859.06	4,809.06	S 1,971.35	W 2,748.10	3,382.05
	6020	4,866.80	4,816.80	S 1,974.52	W 2,753.59	3,388.36
	6030	4,874.55	4,824.55	S 1,977.68	W 2,759.06	3,394.65
	6040	4,882.31	4,832.31	S 1,980.83	W 2,764.52	3,400.92
	6050	4,890.09	4,840.09	S 1,983.97	W 2,769.96	3,407.17
	6060	4,897.89	4,847.89	S 1,987.10	W 2,775.38	3,413.40
	6070	4,905.70	4,855.70	S 1,990.22	W 2,780.79	3,419.61
	6080	4,913.53	4,863.53	S 1,993.33	W 2,786.18	3,425.81
	6090	4,921.37	4,871.37	S 1,996.43	W 2,791.55	3,431.98
	6100	4,929.23	4,879.23	S 1,999.53	W 2,796.91	3,438.14
	6110	4,937.10	4,887.10	S 2,002.61	W 2,802.25	3,444.28
*	6116	4,941.83	4,891.83	S 2,004.46	W 2,805.45	3,447.96 *
	6120	4,944.98	4,894.98	S 2,005.73	W 2,807.56	3,450.41
	6130	4,952.85	4,902.85	S 2,008.90	W 2,812.85	3,456.56
	6140	4,960.71	4,910.71	S 2,012.09	W 2,818.14	3,462.72
	6150	4,968.57	4,918.57	S 2,015.27	W 2,823.45	3,468.89
	6160	4,976.42	4,926.42	S 2,018.46	W 2,828.76	3,475.06
	6170	4,984.26	4,934.26	S 2,021.66	W 2,834.07	3,481.25
	6180	4,992.10	4,942.10	S 2,024.86	W 2,839.40	3,487.44
	6190	4,999.93	4,949.93	S 2,028.06	W 2,844.73	3,493.64
	6200	5,007.75	4,957.75	S 2,031.27	W 2,850.07	3,499.85
	6210	5,015.57	4,965.57	S 2,034.48	W 2,855.41	3,506.07
	6220	5,023.38	4,973.38	S 2,037.70	W 2,860.77	3,512.30
	6230	5,031.18	4,981.18	S 2,040.92	W 2,866.13	3,518.53
	6240	5,038.98	4,988.98	S 2,044.14	W 2,871.50	3,524.78
	6250	5,046.77	4,996.77	S 2,047.37	W 2,876.87	3,531.03
	6260	5,054.55	5,004.55	S 2,050.61	W 2,882.26	3,537.29
	6270	5,062.32	5,012.32	S 2,053.85	W 2,887.65	3,543.56
	6280	5,070.09	5,020.09	S 2,057.09	W 2,893.05	3,549.84
	6290	5,077.85	5,027.85	S 2,060.34	W 2,898.45	3,556.12
	6300	5,085.61	5,035.61	S 2,063.59	W 2,903.86	3,562.42
	6310	5,093.35	5,043.35	S 2,066.85	W 2,909.28	3,568.72
	6320	5,101.10	5,051.10	S 2,070.11	W 2,914.71	3,575.04
	6330	5,108.83	5,058.83	S 2,073.37	W 2,920.14	3,581.36
	6340	5,116.56	5,066.56	S 2,076.64	W 2,925.58	3,587.69
	6350	5,124.28	5,074.28	S 2,079.92	W 2,931.03	3,594.03
	6360	5,131.99	5,081.99	S 2,083.19	W 2,936.49	3,600.37
	6370	5,139.69	5,089.69	S 2,086.48	W 2,941.95	3,606.73
	6380	5,147.39	5,097.39	S 2,089.76	W 2,947.42	3,613.09
	6390	5,155.09	5,105.09	S 2,093.06	W 2,952.90	3,619.46
*	6395	5,158.93	5,108.93	S 2,094.70	W 2,955.64	3,622.65 *

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
6400	5,162.77	5,112.77	S 2,096.20	W 2,958.46	3,625.82
6410	5,170.46	5,120.46	S 2,099.21	W 2,964.11	3,632.17
6420	5,178.15	5,128.15	S 2,102.21	W 2,969.76	3,638.51
6430	5,185.83	5,135.83	S 2,105.21	W 2,975.41	3,644.86
6440	5,193.52	5,143.52	S 2,108.22	W 2,981.06	3,651.21
6450	5,201.20	5,151.20	S 2,111.22	W 2,986.71	3,657.56
6460	5,208.88	5,158.88	S 2,114.23	W 2,992.36	3,663.91
6470	5,216.56	5,166.56	S 2,117.23	W 2,998.02	3,670.26
6480	5,224.24	5,174.24	S 2,120.24	W 3,003.67	3,676.61
6490	5,231.92	5,181.92	S 2,123.25	W 3,009.33	3,682.97
6500	5,239.60	5,189.60	S 2,126.26	W 3,014.99	3,689.33
6510	5,247.27	5,197.27	S 2,129.27	W 3,020.64	3,695.68
6520	5,254.95	5,204.95	S 2,132.27	W 3,026.30	3,702.04
6530	5,262.63	5,212.63	S 2,135.28	W 3,031.96	3,708.40
6540	5,270.30	5,220.30	S 2,138.29	W 3,037.62	3,714.76
6550	5,277.97	5,227.97	S 2,141.30	W 3,043.29	3,721.13
6560	5,285.64	5,235.64	S 2,144.32	W 3,048.95	3,727.49
6570	5,293.31	5,243.31	S 2,147.33	W 3,054.61	3,733.86
6580	5,300.98	5,250.98	S 2,150.34	W 3,060.28	3,740.23
6590	5,308.65	5,258.65	S 2,153.35	W 3,065.95	3,746.59
6600	5,316.32	5,266.32	S 2,156.37	W 3,071.61	3,752.97
6610	5,323.99	5,273.99	S 2,159.38	W 3,077.28	3,759.34
6620	5,331.65	5,281.65	S 2,162.40	W 3,082.95	3,765.71
6630	5,339.32	5,289.32	S 2,165.41	W 3,088.62	3,772.08
6640	5,346.98	5,296.98	S 2,168.43	W 3,094.30	3,778.46
6650	5,354.65	5,304.65	S 2,171.44	W 3,099.97	3,784.84
6660	5,362.31	5,312.31	S 2,174.46	W 3,105.64	3,791.21
6670	5,369.97	5,319.97	S 2,177.48	W 3,111.32	3,797.59
* 6674	5,373.03	5,323.03	S 2,178.68	W 3,113.59	3,800.15 *
6680	5,377.63	5,327.63	S 2,180.25	W 3,117.11	3,803.93
6690	5,385.28	5,335.28	S 2,182.87	W 3,122.99	3,810.26
6700	5,392.92	5,342.92	S 2,185.49	W 3,128.88	3,816.58
6710	5,400.57	5,350.57	S 2,188.12	W 3,134.78	3,822.92
6720	5,408.20	5,358.20	S 2,190.74	W 3,140.68	3,829.26
6730	5,415.83	5,365.83	S 2,193.37	W 3,146.58	3,835.61
6740	5,423.45	5,373.45	S 2,196.01	W 3,152.49	3,841.96
6750	5,431.07	5,381.07	S 2,198.64	W 3,158.41	3,848.32
6760	5,438.69	5,388.69	S 2,201.28	W 3,164.33	3,854.69
6770	5,446.29	5,396.29	S 2,203.92	W 3,170.26	3,861.07
6780	5,453.90	5,403.90	S 2,206.56	W 3,176.20	3,867.45
6790	5,461.49	5,411.49	S 2,209.21	W 3,182.14	3,873.84
6800	5,469.08	5,419.08	S 2,211.85	W 3,188.09	3,880.23
6810	5,476.67	5,426.67	S 2,214.50	W 3,194.04	3,886.63
6820	5,484.25	5,434.25	S 2,217.16	W 3,200.00	3,893.04
6830	5,491.82	5,441.82	S 2,219.81	W 3,205.96	3,899.46

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
6840	5,499.39	5,449.39	S 2,222.47	W 3,211.93	3,905.88
6850	5,506.95	5,456.95	S 2,225.13	W 3,217.91	3,912.31
6860	5,514.51	5,464.51	S 2,227.80	W 3,223.89	3,918.75
6870	5,522.06	5,472.06	S 2,230.46	W 3,229.88	3,925.19
6880	5,529.61	5,479.61	S 2,233.13	W 3,235.88	3,931.64
6890	5,537.15	5,487.15	S 2,235.80	W 3,241.88	3,938.09
6900	5,544.68	5,494.68	S 2,238.48	W 3,247.88	3,944.56
6910	5,552.21	5,502.21	S 2,241.15	W 3,253.89	3,951.03
6920	5,559.74	5,509.74	S 2,243.83	W 3,259.91	3,957.50
6930	5,567.26	5,517.26	S 2,246.51	W 3,265.93	3,963.98
6940	5,574.77	5,524.77	S 2,249.20	W 3,271.96	3,970.47
6950	5,582.28	5,532.28	S 2,251.89	W 3,278.00	3,976.97
6960	5,589.78	5,539.78	S 2,254.58	W 3,284.04	3,983.47
6970	5,597.27	5,547.27	S 2,257.27	W 3,290.09	3,989.98
6980	5,604.76	5,554.76	S 2,259.96	W 3,296.14	3,996.50
6990	5,612.25	5,562.25	S 2,262.66	W 3,302.20	4,003.02
7000	5,619.73	5,569.73	S 2,265.36	W 3,308.26	4,009.55
7010	5,627.20	5,577.20	S 2,268.06	W 3,314.33	4,016.09
7020	5,634.67	5,584.67	S 2,270.77	W 3,320.41	4,022.63
7030	5,642.13	5,592.13	S 2,273.48	W 3,326.49	4,029.18
7040	5,649.58	5,599.58	S 2,276.19	W 3,332.58	4,035.73
7050	5,657.03	5,607.03	S 2,278.90	W 3,338.67	4,042.29
7060	5,664.48	5,614.48	S 2,281.62	W 3,344.77	4,048.86
7070	5,671.92	5,621.92	S 2,284.33	W 3,350.88	4,055.44
7080	5,679.35	5,629.35	S 2,287.05	W 3,356.99	4,062.02
* 7083	5,681.58	5,631.58	S 2,287.87	W 3,358.82	4,064.00 *
7090	5,686.79	5,636.79	S 2,288.60	W 3,363.45	4,068.23
7100	5,694.23	5,644.23	S 2,289.65	W 3,370.04	4,074.27
7110	5,701.68	5,651.68	S 2,290.69	W 3,376.63	4,080.31
7120	5,709.14	5,659.14	S 2,291.73	W 3,383.21	4,086.34
7130	5,716.61	5,666.61	S 2,292.77	W 3,389.78	4,092.36
7140	5,724.08	5,674.08	S 2,293.81	W 3,396.34	4,098.38
7150	5,731.56	5,681.56	S 2,294.85	W 3,402.89	4,104.39
7160	5,739.05	5,689.05	S 2,295.89	W 3,409.44	4,110.40
7170	5,746.55	5,696.55	S 2,296.92	W 3,415.97	4,116.40
7180	5,754.05	5,704.05	S 2,297.96	W 3,422.50	4,122.39
7190	5,761.57	5,711.57	S 2,298.99	W 3,429.02	4,128.38
7200	5,769.08	5,719.08	S 2,300.02	W 3,435.53	4,134.37
7210	5,776.61	5,726.61	S 2,301.05	W 3,442.04	4,140.35
7220	5,784.14	5,734.14	S 2,302.08	W 3,448.53	4,146.32
7230	5,791.69	5,741.69	S 2,303.11	W 3,455.02	4,152.28
7240	5,799.23	5,749.23	S 2,304.13	W 3,461.50	4,158.24
7250	5,806.79	5,756.79	S 2,305.16	W 3,467.97	4,164.20
7260	5,814.35	5,764.35	S 2,306.18	W 3,474.43	4,170.15
7270	5,821.92	5,771.92	S 2,307.20	W 3,480.88	4,176.09

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
7280	5,829.50	5,779.50	S 2,308.22	W 3,487.32	4,182.03
7290	5,837.09	5,787.09	S 2,309.24	W 3,493.76	4,187.96
7300	5,844.68	5,794.68	S 2,310.26	W 3,500.19	4,193.88
7310	5,852.28	5,802.28	S 2,311.28	W 3,506.61	4,199.80
7320	5,859.89	5,809.89	S 2,312.29	W 3,513.02	4,205.71
7330	5,867.50	5,817.50	S 2,313.31	W 3,519.42	4,211.62
7340	5,875.12	5,825.12	S 2,314.32	W 3,525.81	4,217.52
7350	5,882.75	5,832.75	S 2,315.33	W 3,532.20	4,223.41
7360	5,890.39	5,840.39	S 2,316.34	W 3,538.58	4,229.30
7370	5,898.03	5,848.03	S 2,317.35	W 3,544.94	4,235.18
7380	5,905.68	5,855.68	S 2,318.36	W 3,551.30	4,241.06
7390	5,913.34	5,863.34	S 2,319.36	W 3,557.66	4,246.92
7400	5,921.01	5,871.01	S 2,320.37	W 3,564.00	4,252.79
7410	5,928.68	5,878.68	S 2,321.37	W 3,570.33	4,258.64
7420	5,936.36	5,886.36	S 2,322.37	W 3,576.66	4,264.49
7430	5,944.05	5,894.05	S 2,323.37	W 3,582.98	4,270.34
7440	5,951.74	5,901.74	S 2,324.37	W 3,589.28	4,276.18
7450	5,959.44	5,909.44	S 2,325.37	W 3,595.58	4,282.01
7460	5,967.15	5,917.15	S 2,326.37	W 3,601.88	4,287.83
7470	5,974.87	5,924.87	S 2,327.36	W 3,608.16	4,293.65
7480	5,982.59	5,932.59	S 2,328.36	W 3,614.43	4,299.46
7490	5,990.32	5,940.32	S 2,329.35	W 3,620.70	4,305.27
7500	5,998.06	5,948.06	S 2,330.34	W 3,626.96	4,311.07
7510	6,005.80	5,955.80	S 2,331.33	W 3,633.20	4,316.86
7520	6,013.56	5,963.56	S 2,332.32	W 3,639.44	4,322.65
7530	6,021.31	5,971.31	S 2,333.30	W 3,645.68	4,328.43
7540	6,029.08	5,979.08	S 2,334.29	W 3,651.90	4,334.20
7550	6,036.85	5,986.85	S 2,335.27	W 3,658.11	4,339.97
7560	6,044.63	5,994.63	S 2,336.26	W 3,664.32	4,345.73
7570	6,052.42	6,002.42	S 2,337.24	W 3,670.51	4,351.48
7580	6,060.21	6,010.21	S 2,338.22	W 3,676.70	4,357.23
7590	6,068.01	6,018.01	S 2,339.20	W 3,682.88	4,362.97
7600	6,075.82	6,025.82	S 2,340.17	W 3,689.05	4,368.70
7610	6,083.64	6,033.64	S 2,341.15	W 3,695.21	4,374.43
7620	6,091.46	6,041.46	S 2,342.12	W 3,701.37	4,380.15
7630	6,099.29	6,049.29	S 2,343.10	W 3,707.51	4,385.86
7640	6,107.13	6,057.13	S 2,344.07	W 3,713.65	4,391.57
7650	6,114.97	6,064.97	S 2,345.04	W 3,719.77	4,397.27
7660	6,122.82	6,072.82	S 2,346.01	W 3,725.89	4,402.96
7670	6,130.68	6,080.68	S 2,346.98	W 3,732.00	4,408.65
7680	6,138.54	6,088.54	S 2,347.94	W 3,738.10	4,414.33
7690	6,146.41	6,096.41	S 2,348.91	W 3,744.20	4,420.00
7700	6,154.29	6,104.29	S 2,349.87	W 3,750.28	4,425.66
* 7703	6,156.65	6,106.65	S 2,350.16	W 3,752.10	4,427.36 *
7710	6,162.18	6,112.18	S 2,350.35	W 3,756.40	4,431.11

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CO - ORDINATES	HORIZONTAL DISTANCE
7720	6,170.07	6,120.07	S 2,350.62	W 3,762.53	4,436.44
7730	6,177.98	6,127.98	S 2,350.88	W 3,768.64	4,441.77
7740	6,185.90	6,135.90	S 2,351.15	W 3,774.75	4,447.09
7750	6,193.83	6,143.83	S 2,351.41	W 3,780.83	4,452.40
7760	6,201.77	6,151.77	S 2,351.68	W 3,786.91	4,457.70
7770	6,209.72	6,159.72	S 2,351.94	W 3,792.97	4,462.99
7780	6,217.68	6,167.68	S 2,352.21	W 3,799.01	4,468.26
7790	6,225.65	6,175.65	S 2,352.47	W 3,805.04	4,473.53
7800	6,233.63	6,183.63	S 2,352.73	W 3,811.06	4,478.79
7810	6,241.63	6,191.63	S 2,353.00	W 3,817.07	4,484.04
7820	6,249.63	6,199.63	S 2,353.26	W 3,823.06	4,489.28
7830	6,257.64	6,207.64	S 2,353.52	W 3,829.04	4,494.51
7840	6,265.66	6,215.66	S 2,353.78	W 3,835.00	4,499.73
7850	6,273.70	6,223.70	S 2,354.04	W 3,840.95	4,504.93
7860	6,281.74	6,231.74	S 2,354.30	W 3,846.89	4,510.13
7870	6,289.79	6,239.79	S 2,354.56	W 3,852.81	4,515.32
7880	6,297.85	6,247.85	S 2,354.82	W 3,858.72	4,520.50
7890	6,305.93	6,255.93	S 2,355.07	W 3,864.62	4,525.66
7900	6,314.01	6,264.01	S 2,355.33	W 3,870.50	4,530.82
7910	6,322.11	6,272.11	S 2,355.59	W 3,876.36	4,535.97
7920	6,330.21	6,280.21	S 2,355.84	W 3,882.22	4,541.10
7930	6,338.32	6,288.32	S 2,356.10	W 3,888.06	4,546.23
7940	6,346.45	6,296.45	S 2,356.35	W 3,893.88	4,551.34
7950	6,354.58	6,304.58	S 2,356.60	W 3,899.70	4,556.45
7960	6,362.72	6,312.72	S 2,356.86	W 3,905.49	4,561.54
7970	6,370.88	6,320.88	S 2,357.11	W 3,911.28	4,566.63
7980	6,379.04	6,329.04	S 2,357.36	W 3,917.05	4,571.70
7990	6,387.22	6,337.22	S 2,357.61	W 3,922.80	4,576.76
8000	6,395.40	6,345.40	S 2,357.86	W 3,928.54	4,581.81
8010	6,403.59	6,353.59	S 2,358.11	W 3,934.27	4,586.85
8020	6,411.80	6,361.80	S 2,358.36	W 3,939.99	4,591.88
8030	6,420.01	6,370.01	S 2,358.61	W 3,945.69	4,596.90
8040	6,428.23	6,378.23	S 2,358.86	W 3,951.37	4,601.91
8050	6,436.46	6,386.46	S 2,359.11	W 3,957.04	4,606.91
8060	6,444.71	6,394.71	S 2,359.35	W 3,962.70	4,611.89
8070	6,452.96	6,402.96	S 2,359.60	W 3,968.34	4,616.87
8080	6,461.22	6,411.22	S 2,359.85	W 3,973.97	4,621.83
8090	6,469.49	6,419.49	S 2,360.09	W 3,979.59	4,626.79
8100	6,477.77	6,427.77	S 2,360.34	W 3,985.19	4,631.73
* 8110	6,486.06	6,436.06	S 2,360.58	W 3,990.78	4,636.66 *
8120	6,494.37	6,444.37	S 2,359.38	W 3,996.21	4,640.73
8130	6,502.70	6,452.70	S 2,358.18	W 4,001.61	4,644.78
8140	6,511.04	6,461.04	S 2,356.98	W 4,006.99	4,648.81
8150	6,519.40	6,469.40	S 2,355.80	W 4,012.35	4,652.82
8160	6,527.78	6,477.78	S 2,354.62	W 4,017.68	4,656.82

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
8170	6,536.18	6,486.18	S 2,353.44	W 4,022.98	4,660.80
8180	6,544.60	6,494.60	S 2,352.27	W 4,028.25	4,664.76
8190	6,553.03	6,503.03	S 2,351.11	W 4,033.50	4,668.71
8200	6,561.48	6,511.48	S 2,349.95	W 4,038.71	4,672.63
8210	6,569.95	6,519.95	S 2,348.80	W 4,043.91	4,676.55
8220	6,578.43	6,528.43	S 2,347.66	W 4,049.07	4,680.44
8230	6,586.94	6,536.94	S 2,346.52	W 4,054.21	4,684.31
8240	6,595.46	6,545.46	S 2,345.38	W 4,059.32	4,688.17
8250	6,603.99	6,553.99	S 2,344.26	W 4,064.41	4,692.01
8260	6,612.55	6,562.55	S 2,343.14	W 4,069.47	4,695.83
8270	6,621.12	6,571.12	S 2,342.02	W 4,074.50	4,699.64
8280	6,629.71	6,579.71	S 2,340.91	W 4,079.50	4,703.42
8290	6,638.31	6,588.31	S 2,339.81	W 4,084.48	4,707.19
8300	6,646.93	6,596.93	S 2,338.71	W 4,089.42	4,710.94
8310	6,655.57	6,605.57	S 2,337.62	W 4,094.34	4,714.67
8320	6,664.22	6,614.22	S 2,336.54	W 4,099.24	4,718.39
8330	6,672.89	6,622.89	S 2,335.46	W 4,104.10	4,722.08
8340	6,681.58	6,631.58	S 2,334.38	W 4,108.94	4,725.76
8350	6,690.28	6,640.28	S 2,333.32	W 4,113.75	4,729.41
8360	6,698.99	6,648.99	S 2,332.26	W 4,118.53	4,733.05
8370	6,707.73	6,657.73	S 2,331.20	W 4,123.29	4,736.67
8380	6,716.48	6,666.48	S 2,330.15	W 4,128.02	4,740.27
8390	6,725.24	6,675.24	S 2,329.11	W 4,132.72	4,743.85
8400	6,734.02	6,684.02	S 2,328.08	W 4,137.39	4,747.41
8410	6,742.82	6,692.82	S 2,327.05	W 4,142.03	4,750.96
8420	6,751.63	6,701.63	S 2,326.02	W 4,146.65	4,754.48
8430	6,760.46	6,710.46	S 2,325.01	W 4,151.23	4,757.99
8440	6,769.30	6,719.30	S 2,324.00	W 4,155.79	4,761.47
8450	6,778.16	6,728.16	S 2,322.99	W 4,160.32	4,764.94
8460	6,787.03	6,737.03	S 2,321.99	W 4,164.83	4,768.38
8470	6,795.92	6,745.92	S 2,321.00	W 4,169.30	4,771.81
8480	6,804.82	6,754.82	S 2,320.02	W 4,173.75	4,775.21
8490	6,813.74	6,763.74	S 2,319.04	W 4,178.17	4,778.60
8500	6,822.67	6,772.67	S 2,318.06	W 4,182.56	4,781.97
8510	6,831.62	6,781.62	S 2,317.10	W 4,186.92	4,785.31
8520	6,840.58	6,790.58	S 2,316.14	W 4,191.25	4,788.64
8530	6,849.56	6,799.56	S 2,315.18	W 4,195.56	4,791.95
8540	6,858.55	6,808.55	S 2,314.23	W 4,199.83	4,795.23
8550	6,867.55	6,817.55	S 2,313.29	W 4,204.08	4,798.50
8560	6,876.57	6,826.57	S 2,312.36	W 4,208.30	4,801.75
8570	6,885.60	6,835.60	S 2,311.43	W 4,212.49	4,804.97
8580	6,894.65	6,844.65	S 2,310.51	W 4,216.65	4,808.18
8590	6,903.71	6,853.71	S 2,309.59	W 4,220.78	4,811.36
8600	6,912.78	6,862.78	S 2,308.68	W 4,224.88	4,814.53
8610	6,921.87	6,871.87	S 2,307.78	W 4,228.96	4,817.67

DIRECTIONAL SURVEY FOR WELL L06-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-L06 (L06-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
8620	6,930.97	6,880.97	S 2,306.88	W 4,233.00	4,820.79
8630	6,940.08	6,890.08	S 2,305.99	W 4,237.02	4,823.89
8640	6,949.21	6,899.21	S 2,305.11	W 4,241.01	4,826.97
8650	6,958.35	6,908.35	S 2,304.23	W 4,244.97	4,830.03
8660	6,967.51	6,917.51	S 2,303.36	W 4,248.89	4,833.07
8670	6,976.68	6,926.68	S 2,302.49	W 4,252.79	4,836.09
8680	6,985.86	6,935.86	S 2,301.63	W 4,256.67	4,839.08
8690	6,995.05	6,945.05	S 2,300.78	W 4,260.51	4,842.06
8700	7,004.26	6,954.26	S 2,299.94	W 4,264.32	4,845.01
8710	7,013.47	6,963.47	S 2,299.10	W 4,268.10	4,847.95
8720	7,022.70	6,972.70	S 2,298.27	W 4,271.86	4,850.86
8730	7,031.95	6,981.95	S 2,297.44	W 4,275.58	4,853.75
8740	7,041.20	6,991.20	S 2,296.62	W 4,279.28	4,856.61
8750	7,050.47	7,000.47	S 2,295.81	W 4,282.94	4,859.46
8760	7,059.75	7,009.75	S 2,295.00	W 4,286.58	4,862.29
8770	7,069.05	7,019.05	S 2,294.20	W 4,290.19	4,865.09
8780	7,078.35	7,028.35	S 2,293.41	W 4,293.76	4,867.87
8790	7,087.67	7,037.67	S 2,292.62	W 4,297.31	4,870.63
8800	7,097.00	7,047.00	S 2,291.84	W 4,300.83	4,873.37
8810	7,106.34	7,056.34	S 2,291.07	W 4,304.32	4,876.08
8820	7,115.69	7,065.69	S 2,290.30	W 4,307.77	4,878.77
8830	7,125.05	7,075.05	S 2,289.54	W 4,311.20	4,881.44
8840	7,134.42	7,084.42	S 2,288.79	W 4,314.60	4,884.09
8850	7,143.81	7,093.81	S 2,288.04	W 4,317.97	4,886.72
* 8860	7,153.21	7,103.21	S 2,287.30	W 4,321.31	4,889.32 *
8870	7,162.60	7,112.60	S 2,286.36	W 4,324.61	4,891.80
8880	7,171.99	7,121.99	S 2,285.41	W 4,327.91	4,894.27
8890	7,181.38	7,131.38	S 2,284.46	W 4,331.22	4,896.76
8900	7,190.77	7,140.77	S 2,283.51	W 4,334.54	4,899.25
8910	7,200.15	7,150.15	S 2,282.56	W 4,337.86	4,901.75
8920	7,209.53	7,159.53	S 2,281.60	W 4,341.20	4,904.26
8930	7,218.90	7,168.90	S 2,280.64	W 4,344.54	4,906.77
8940	7,228.28	7,178.28	S 2,279.68	W 4,347.89	4,909.29
8950	7,237.65	7,187.65	S 2,278.72	W 4,351.25	4,911.82
8960	7,247.01	7,197.01	S 2,277.75	W 4,354.61	4,914.35
8970	7,256.38	7,206.38	S 2,276.79	W 4,357.98	4,916.89
8980	7,265.74	7,215.74	S 2,275.82	W 4,361.36	4,919.44
8990	7,275.10	7,225.10	S 2,274.85	W 4,364.75	4,921.99
9000	7,284.45	7,234.45	S 2,273.87	W 4,368.15	4,924.55
9010	7,293.81	7,243.81	S 2,272.90	W 4,371.55	4,927.12
9020	7,303.15	7,253.15	S 2,271.92	W 4,374.96	4,929.70
9030	7,312.50	7,262.50	S 2,270.94	W 4,378.38	4,932.28
9040	7,321.84	7,271.84	S 2,269.96	W 4,381.81	4,934.87
9050	7,331.18	7,281.18	S 2,268.97	W 4,385.24	4,937.47
9060	7,340.52	7,290.52	S 2,267.98	W 4,388.68	4,940.07

DIRECTIONAL SURVEY FOR WELL LO6-9X

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-629-XD-LO6 (LO6-9X) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 38

CONDUCTOR DATA: 385' MD. DEVIATION: 14.00 DEGREES ORIENTATION: S - 57.97 - W

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
* 9064	7,344.26	7,294.26	S 2,267.59	W 4,390.06	4,941.12 *

PETRO-TECH PERUANA S.A.
GEOLOGIST WELL FILE