

DIRECTIONAL SURVEY FOR WELL L06-21
RAW DATA

WELL No. Z2A-21-575-D-L06(L06-21) ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

THE CONDUCTOR IS VERTICAL

No.	MEASURED DEPTH	DEVIATION ANGLE	ORIENTATION
1	778	1.75	N - 32.00 - E
2	885	2.50	S - 34.00 - E
3	949	5.00	S - 39.00 - E
4	1059	11.50	S - 40.00 - E
5	1186	15.25	S - 37.00 - E
6	1310	20.50	S - 36.00 - E
7	1372	23.00	S - 35.00 - E
8	1621	24.00	S - 33.00 - E
9	1838	23.50	S - 33.00 - E
10	2053	22.25	S - 31.00 - E
11	2270	25.50	S - 32.00 - E
12	2491	25.50	S - 33.00 - E
13	2802	26.00	S - 28.00 - E
14	3050	27.50	S - 25.00 - E
15	3299	26.75	S - 27.00 - E
16	3548	26.00	S - 22.00 - E
17	3862	25.50	S - 18.00 - E
18	4073	26.00	S - 20.00 - E
19	4319	23.75	S - 19.00 - E
20	4605	24.00	S - 22.00 - E
21	4823	24.00	S - 16.00 - E
22	5193	25.00	S - 8.00 - E
23	5503	26.00	S - 7.00 - E

DIRECTIONAL SURVEY FOR WELL L06-21

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-575-D-L06(L06-21)

ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 400' MD.

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES	HORIZONTAL DISTANCE
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* 400	400.00	350.00	N 0.00 E 0.00	0.00 *
410	409.99	359.99	N 0.00 E 0.00	0.00
420	419.99	369.99	N 0.02 E 0.01	0.02
430	429.99	379.99	N 0.04 E 0.02	0.04
440	439.99	389.99	N 0.06 E 0.04	0.08
450	449.99	399.99	N 0.10 E 0.06	0.12
460	459.99	409.99	N 0.14 E 0.08	0.16
470	469.99	419.99	N 0.19 E 0.11	0.22
480	479.99	429.99	N 0.24 E 0.15	0.29
490	489.99	439.99	N 0.30 E 0.19	0.36
500	499.99	449.99	N 0.37 E 0.23	0.44
510	509.99	459.99	N 0.45 E 0.28	0.53
520	519.99	469.99	N 0.53 E 0.33	0.63
530	529.99	479.99	N 0.62 E 0.38	0.73
540	539.99	489.99	N 0.71 E 0.44	0.84
550	549.99	499.99	N 0.82 E 0.51	0.96
560	559.99	509.99	N 0.93 E 0.58	1.09
570	569.99	519.99	N 1.04 E 0.65	1.23
580	579.99	529.99	N 1.17 E 0.73	1.38
590	589.99	539.99	N 1.30 E 0.81	1.53
600	599.99	549.99	N 1.43 E 0.89	1.69
610	609.98	559.98	N 1.58 E 0.98	1.86
620	619.98	569.98	N 1.73 E 1.08	2.04
630	629.98	579.98	N 1.89 E 1.18	2.23
640	639.98	589.98	N 2.05 E 1.28	2.42
650	649.98	599.98	N 2.22 E 1.39	2.62
660	659.97	609.97	N 2.40 E 1.50	2.83
670	669.97	619.97	N 2.59 E 1.61	3.05
680	679.97	629.97	N 2.78 E 1.73	3.28
690	689.97	639.97	N 2.98 E 1.86	3.51
700	699.96	649.96	N 3.18 E 1.99	3.75
710	709.96	659.96	N 3.39 E 2.12	4.00
720	719.96	669.96	N 3.61 E 2.26	4.26
730	729.95	679.95	N 3.84 E 2.40	4.53
740	739.95	689.95	N 4.07 E 2.54	4.80
750	749.95	699.95	N 4.31 E 2.69	5.09
760	759.94	709.94	N 4.56 E 2.85	5.38
770	769.94	719.94	N 4.81 E 3.00	5.67
* 778	777.93	727.93	N 5.02 E 3.13	5.92 *
780	779.93	729.93	N 4.97 E 3.17	5.89
790	789.93	739.93	N 4.70 E 3.35	5.77
800	799.92	749.92	N 4.43 E 3.53	5.67
810	809.92	759.92	N 4.14 E 3.73	5.57
820	819.91	769.91	N 3.85 E 3.93	5.50
830	829.90	779.90	N 3.54 E 4.13	5.44

DIRECTIONAL SURVEY FOR WELL L06-21

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-575-D-L06(L06-21)

ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 400' MD.

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES			HORIZONTAL DISTANCE
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840	839.90	789.90	N	3.22	E	4.35	5.41
850	849.89	799.89	N	2.90	E	4.57	5.41
860	859.88	809.88	N	2.56	E	4.79	5.44
870	869.87	819.87	N	2.22	E	5.03	5.49
880	879.86	829.86	N	1.86	E	5.27	5.59
* 885	884.86	834.86	N	1.68	E	5.39	5.64 *
890	889.85	839.85	N	1.49	E	5.54	5.74
900	899.84	√ 849.84	N	1.08	E	5.87	5.97 √
910	909.82	859.82	N	0.61	E	6.26	6.29
920	919.80	869.80	N	0.08	E	6.68	6.68
930	929.77	879.77	S	0.49	E	7.15	7.17
940	939.74	889.74	S	1.12	E	7.66	7.74
* 949	948.70	898.70	S	1.73	E	8.15	8.33 *
950	949.70	899.70	S	1.79	E	8.21	8.40
960	959.65	909.65	S	2.55	E	8.84	9.20
970	969.59	919.59	S	3.38	E	9.54	10.12
980	979.52	929.52	S	4.29	E	10.30	11.16
990	989.43	939.43	S	5.28	E	11.14	12.33
1000	999.34	949.34	S	6.35	E	12.03	13.61
1010	1,009.22	959.22	S	7.49	E	12.99	15.00
1020	1,019.10	969.10	S	8.72	E	14.02	16.51
1030	1,028.95	978.95	S	10.02	E	15.11	18.14
1040	1,038.79	988.79	S	11.40	E	16.27	19.87
1050	1,048.60	998.60	S	12.86	E	17.49	21.71
* 1059	1,057.42	1,007.42	S	14.23	E	18.65	23.46 *
1060	1,058.40	1,008.40	S	14.39	E	18.77	23.65
1070	1,068.19	1,018.19	S	16.03	E	20.00	26.63
1080	1,077.97	1,027.97	S	17.71	E	21.26	27.67
1090	1,087.73	1,037.73	S	19.42	E	22.56	29.77
1100	1,097.49	√ 1,047.49	S	21.18	E	23.88	31.92 √
1110	1,107.23	1,057.23	S	22.98	E	25.24	34.13
1120	1,116.96	1,066.96	S	24.81	E	26.62	36.40
1130	1,126.68	1,076.68	S	26.69	E	28.04	38.71
1140	1,136.39	1,086.39	S	28.61	E	29.48	41.08
1150	1,146.09	1,096.09	S	30.57	E	30.96	43.51
1160	1,155.77	1,105.77	S	32.56	E	32.46	45.98
1170	1,165.44	1,115.44	S	34.60	E	34.00	48.51
1180	1,175.09	1,125.09	S	36.68	E	35.56	51.09
* 1186	1,180.88	1,130.88	S	37.94	E	36.51	52.66 *
1190	1,184.74	1,134.74	S	38.80	E	37.14	53.71
1200	1,194.36	1,144.36	S	41.01	E	38.74	56.42
1210	1,203.96	1,153.96	S	43.27	E	40.39	59.19
1220	1,213.54	1,163.54	S	45.60	E	42.07	62.05
1230	1,223.09	1,173.09	S	47.98	E	43.80	64.97
1240	1,232.63	1,182.63	S	50.42	E	45.58	67.96

DIRECTIONAL SURVEY FOR WELL L06-21

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-575-D-L06(L06-21)

ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 400' MD.

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES				HORIZONTAL DISTANCE
1250	1,242.14	1,192.14	S	52.91	E	47.39	71.03
1260	1,251.63	1,201.63	S	55.46	E	49.24	74.17
1270	1,261.10	1,211.10	S	58.07	E	51.14	77.38
1280	1,270.54	1,220.54	S	60.73	E	53.07	80.66
1290	1,279.96	1,229.96	S	63.45	E	55.05	84.01
1300	1,289.35	1,239.35	S	66.23	E	57.07	87.43
* 1310	1,298.72	1,248.72	S	69.07	E	59.13	90.92 ✓ *
1320	1,308.06	1,258.06	S	71.99	E	61.17	94.47
1330	1,317.38	1,267.38	S	74.96	E	63.26	98.09
1340	1,326.67	1,276.67	S	77.99	E	65.38	101.77
1350	1,335.93	1,285.93	S	81.08	E	67.54	105.52
1360	1,345.17	1,295.17	S	84.21	E	69.73	109.34
1370	1,354.38	1,304.38	S	87.40	E	71.97	113.22
* 1372	1,356.22	1,306.22	S	88.04	E	72.42	114.00 *
1380	1,363.58	1,313.58	S	90.67	E	74.12	117.11
1390	1,372.78	1,322.78	S	93.96	E	76.25	121.01
1400	1,381.98	1,331.98	S	97.25	E	78.39	124.91
1410	1,391.17	1,341.17	S	100.55	E	80.53	128.82
1420	1,400.37	1,350.37	S	103.85	E	82.68	132.74
1430	1,409.56	1,359.56	S	107.16	E	84.83	136.67
1440	1,418.74	1,368.74	S	110.47	E	86.98	140.61
1450	1,427.93	1,377.93	S	113.79	E	89.13	144.55
1460	1,437.11	1,387.11	S	117.11	E	91.29	148.50
1470	1,446.28	1,396.28	S	120.44	E	93.46	152.45
1480	1,455.46	1,405.46	S	123.78	E	95.62	156.41
1490	1,464.63	1,414.63	S	127.12	E	97.79	160.39
1500	1,473.80	1,423.80	S	130.47	E	99.96	164.36
1510	1,482.97	1,432.97	S	133.82	E	102.14	168.35
1520	1,492.13	1,442.13	S	137.18	E	104.32	172.34
1530	1,501.29	1,451.29	S	140.54	E	106.50	176.34 ✓
1540	1,510.45	1,460.45	S	143.90	E	108.69	180.34
1550	1,519.61	1,469.61	S	147.28	E	110.88	184.35
1560	1,528.76	1,478.76	S	150.66	E	113.08	188.37
1570	1,537.91	1,487.91	S	154.04	E	115.27	192.40
1580	1,547.06	1,497.06	S	157.43	E	117.47	196.43
1590	1,556.20	1,506.20	S	160.82	E	119.68	200.47
1600	1,565.34	1,515.34	S	164.22	E	121.89	204.52
1610	1,574.48	1,524.48	S	167.63	E	124.10	208.57
1620	1,583.62	1,533.62	S	171.04	E	126.31	212.63
* 1621	1,584.53	1,534.53	S	171.38	E	126.53	213.03 *
1630	1,592.75	1,542.75	S	174.45	E	128.53	216.68
1640	1,601.89	1,551.89	S	177.85	E	130.74	220.74
1650	1,611.03	1,561.03	S	181.26	E	132.95	224.79
1660	1,620.17	1,570.17	S	184.65	E	135.15	228.83
1670	1,629.32	1,579.32	S	188.05	E	137.36	232.88

DIRECTIONAL SURVEY FOR WELL L06-21

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-575-D-L06(L06-21)

ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 400' MD.

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES			HORIZONTAL DISTANCE	
1680	1,638.46	1,588.46	S	191.44	E	139.56	236.92
1690	1,647.61	1,597.61	S	194.83	E	141.76	240.95
1700	1,656.76	1,606.76	S	198.22	E	143.96	244.99
1710	1,665.91	1,615.91	S	201.60	E	146.16	249.02
1720	1,675.06	1,625.06	S	204.99	E	148.36	253.04
1730	1,684.21	1,634.21	S	208.36	E	150.55	257.06
1740	1,693.37	1,643.37	S	211.74	E	152.74	261.08
1750	1,702.52	✓1,652.52	S	215.11	E	154.93	265.10✓
1760	1,711.68	1,661.68	S	218.48	E	157.12	269.11
1770	1,720.84	1,670.84	S	221.84	E	159.30	273.12
1780	1,730.00	1,680.00	S	225.20	E	161.49	277.12
1790	1,739.17	1,689.17	S	228.56	E	163.67	281.12
1800	1,748.33	1,698.33	S	231.92	E	165.85	285.12
1810	1,757.50	1,707.50	S	235.27	E	168.03	289.11
1820	1,766.66	1,716.66	S	238.62	E	170.20	293.10
1830	1,775.83	1,725.83	S	241.97	E	172.37	297.09
* 1838	1,783.17	1,733.17	S	244.64	E	174.11	300.28 *
1840	1,785.00	1,735.00	S	245.33	E	174.52	301.07
1850	1,794.18	1,744.18	S	248.74	E	176.57	305.04
1860	1,803.36	1,753.36	S	252.14	E	178.61	308.99
1870	1,812.54	1,762.54	S	255.53	E	180.65	312.94
1880	1,821.73	1,771.73	S	258.91	E	182.69	316.88
1890	1,830.92	1,780.92	S	262.29	E	184.71	320.81
1900	1,840.12	1,790.12	S	265.66	E	186.74	324.72
1910	1,849.32	1,799.32	S	269.02	E	188.76	328.64
1920	1,858.52	1,808.52	S	272.37	E	190.77	332.54
1930	1,867.73	1,817.73	S	275.71	E	192.78	336.43
1940	1,876.94	1,826.94	S	279.05	E	194.79	340.31
1950	1,886.15	1,836.15	S	282.38	E	196.79	344.19
1960	1,895.37	✓1,845.37	S	285.70	E	198.78	348.05✓
1970	1,904.60	1,854.60	S	289.01	E	200.77	351.91
1980	1,913.82	1,863.82	S	292.32	E	202.76	355.75
1990	1,923.05	1,873.05	S	295.61	E	204.74	359.59
2000	1,932.29	1,882.29	S	298.90	E	206.71	363.42
2010	1,941.53	1,891.53	S	302.18	E	208.68	367.24
2020	1,950.77	1,900.77	S	305.45	E	210.65	371.05
2030	1,960.02	1,910.02	S	308.72	E	212.61	374.85
2040	1,969.27	1,919.27	S	311.97	E	214.57	378.64
2050	1,978.52	1,928.52	S	315.22	E	216.52	382.42
* 2053	1,981.30	1,931.30	S	316.20	E	217.10	383.56 *
2060	1,987.77	1,937.77	S	318.45	E	218.52	386.22
2070	1,997.01	1,947.01	S	321.70	E	220.54	390.04
2080	2,006.24	1,956.24	S	324.97	E	222.58	393.89
2090	2,015.46	1,965.46	S	328.25	E	224.64	397.76
2100	2,024.67	1,974.67	S	331.56	E	226.71	401.66

DIRECTIONAL SURVEY FOR WELL L06-21

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-575-D-L06(L06-21)

ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 400' MD.

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES				HORIZONTAL DISTANCE
2110	2,033.86	1,983.86	S	334.89	E	228.78	405.58
2120	2,043.05	1,993.05	S	338.24	E	230.88	409.52
2130	2,052.23	2,002.23	S	341.60	E	232.98	413.49
2140	2,061.40	2,011.40	S	344.99	E	235.10	417.48
2150	2,070.55	2,020.55	S	348.40	E	237.23	421.50
2160	2,079.70	2,029.70	S	351.83	E	239.37	425.54
2170	2,088.83	2,038.83	S	355.28	E	241.53	429.61
2180	2,097.96	✓ 2,047.96	S	358.75	E	243.70	433.70 ✓
2190	2,107.07	2,057.07	S	362.24	E	245.88	437.81
2200	2,116.18	2,066.18	S	365.75	E	248.07	441.94
2210	2,125.27	2,075.27	S	369.28	E	250.28	446.10
2220	2,134.35	2,084.35	S	372.83	E	252.49	450.29
2230	2,143.42	2,093.42	S	376.40	E	254.73	454.50
2240	2,152.48	2,102.48	S	379.99	E	256.97	458.73
2250	2,161.53	2,111.53	S	383.60	E	259.23	462.98
2260	2,170.56	2,120.56	S	387.24	E	261.50	467.26
* 2270	2,179.59	2,129.59	S	390.89	E	263.78	471.56 *
2280	2,188.62	2,138.62	S	394.50	E	266.12	475.87
2290	2,197.64	2,147.64	S	398.11	E	268.47	480.17
2300	2,206.67	2,156.67	S	401.72	E	270.81	484.48
2310	2,215.69	2,165.69	S	405.33	E	273.16	488.78
2320	2,224.72	2,174.72	S	408.94	E	275.50	493.09
2330	2,233.75	2,183.75	S	412.55	E	277.84	497.39
2340	2,242.77	2,192.77	S	416.16	E	280.19	501.70
2350	2,251.80	2,201.80	S	419.77	E	282.53	506.00
2360	2,260.82	2,210.82	S	423.38	E	284.88	510.30
2370	2,269.85	2,219.85	S	426.99	E	287.22	514.61
2380	2,278.87	2,228.87	S	430.60	E	289.57	518.91
2390	2,287.90	2,237.90	S	434.21	E	291.91	523.22
2400	2,296.93	✓ 2,246.93	S	437.82	E	294.26	527.52 ✓
2410	2,305.95	2,255.95	S	441.43	E	296.60	531.83
2420	2,314.98	2,264.98	S	445.05	E	298.95	536.13
2430	2,324.00	2,274.00	S	448.66	E	301.29	540.44
2440	2,333.03	2,283.03	S	452.27	E	303.64	544.74
2450	2,342.06	2,292.06	S	455.88	E	305.98	549.05
2460	2,351.08	2,301.08	S	459.49	E	308.33	553.35
2470	2,360.11	2,310.11	S	463.10	E	310.67	557.65
2480	2,369.13	2,319.13	S	466.71	E	313.02	561.96
2490	2,378.16	2,328.16	S	470.32	E	315.36	566.26
* 2491	2,379.06	2,329.06	S	470.68	E	315.60	566.69 *
2500	2,387.18	2,337.18	S	474.10	E	317.42	570.55
2510	2,396.21	2,346.21	S	477.91	E	319.44	574.84
2520	2,405.23	2,355.23	S	481.72	E	321.46	579.13
2530	2,414.25	2,364.25	S	485.53	E	323.49	583.42
2540	2,423.27	2,373.27	S	489.34	E	325.52	587.72

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ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 400' MD.

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL	CD -	ORDINATES	HORIZONTAL DISTANCE
2550	2,432.29	2,382.29	S	493.15	E 327.54	592.02
2560	2,441.31	2,391.31	S	496.97	E 329.57	596.32
2570	2,450.32	2,400.32	S	500.79	E 331.60	600.63
2580	2,459.34	2,409.34	S	504.61	E 333.64	604.93
2590	2,468.35	2,418.35	S	508.43	E 335.67	609.24
2600	2,477.36	2,427.36	S	512.26	E 337.70	613.56
2610	2,486.38	2,436.38	S	516.09	E 339.74	617.87
2620	2,495.39	2,445.39	S	519.92	E 341.77	622.19
2630	2,504.40	2,454.40	S	523.75	E 343.81	626.51
2640	2,513.40	2,463.40	S	527.58	E 345.85	630.84
2650	2,522.41	2,472.41	S	531.42	E 347.89	635.17
2660	2,531.42	2,481.42	S	535.26	E 349.93	639.50
2670	2,540.42	2,490.42	S	539.10	E 351.97	643.83
2680	2,549.42	2,499.42	S	542.94	E 354.02	648.17
2690	2,558.42	2,508.42	S	546.79	E 356.06	652.50
2700	2,567.42	2,517.42	S	550.64	E 358.11	656.84
2710	2,576.42	2,526.42	S	554.49	E 360.16	661.19
2720	2,585.42	2,535.42	S	558.34	E 362.20	665.53
2730	2,594.42	2,544.42	S	562.19	E 364.25	669.88
2740	2,603.41	2,553.41	S	566.05	E 366.30	674.24
2750	2,612.41	2,562.41	S	569.91	E 368.36	678.59
2760	2,621.40	2,571.40	S	573.77	E 370.41	682.95
2770	2,630.39	2,580.39	S	577.63	E 372.46	687.31
2780	2,639.38	2,589.38	S	581.50	E 374.52	691.67
2790	2,648.37	2,598.37	S	585.37	E 376.58	696.04
2800	2,657.36	2,607.36	S	589.24	E 378.63	700.40
* 2802	2,659.16	2,609.16	S	590.01	E 378.04	701.28 *
2810	2,666.35	2,616.35	S	593.20	E 380.53	704.76
2820	2,675.33	2,625.33	S	597.18	E 382.39	709.12
2830	2,684.30	2,634.30	S	601.18	E 384.25	713.49
2840	2,693.27	2,643.27	S	605.19	E 386.12	717.87
2850	2,702.24	2,652.24	S	609.20	E 387.99	722.27
2860	2,711.20	2,661.20	S	613.22	E 389.87	726.67
2870	2,720.15	2,670.15	S	617.26	E 391.75	731.08
2880	2,729.11	2,679.11	S	621.29	E 393.63	735.50
2890	2,738.05	2,688.05	S	625.34	E 395.52	739.93
2900	2,746.99	2,696.99	S	629.40	E 397.41	744.37
2910	2,755.93	2,705.93	S	633.47	E 399.31	748.82
2920	2,764.86	2,714.86	S	637.54	E 401.21	753.28
2930	2,773.79	2,723.79	S	641.62	E 403.11	757.75
2940	2,782.72	2,732.72	S	645.71	E 405.02	762.23
2950	2,791.63	2,741.63	S	649.81	E 406.93	766.72
2960	2,800.55	2,750.55	S	653.92	E 408.85	771.22
2970	2,809.46	2,759.46	S	658.04	E 410.77	775.72
2980	2,818.36	2,768.36	S	662.16	E 412.69	780.24

DIRECTIONAL SURVEY FOR WELL L06-21

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-575-D-L06(L06-21)

ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 400' MD.

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES			HORIZONTAL DISTANCE	
2990	2,827.26	2,777.26	S	666.30	E	414.62	784.77
3000	2,836.15	2,786.15	S	670.44	E	416.55	789.31
3010	2,845.04	2,795.04	S	674.59	E	418.48	793.86
3020	2,853.93	2,803.93	S	678.75	E	420.42	798.41
3030	2,862.81	2,812.81	S	682.92	E	422.37	802.98
3040	2,871.68	2,821.68	S	687.10	E	424.32	807.56
* 3050	2,880.55	2,830.55	S	691.28	E	426.27	812.14
3060	2,889.43	2,839.43	S	695.39	E	428.36	816.74
3070	2,898.30	2,848.30	S	699.50	E	430.45	821.33
3080	2,907.18	2,857.18	S	703.60	E	432.54	825.92
3090	2,916.06	2,866.06	S	707.70	E	434.63	830.51
3100	2,924.94	2,874.94	S	711.79	E	436.72	835.09
3110	2,933.82	2,883.82	S	715.88	E	438.80	839.66
3120	2,942.71	2,892.71	S	719.96	E	440.88	844.23
3130	2,951.60	2,901.60	S	724.04	E	442.96	848.80
3140	2,960.49	2,910.49	S	728.12	E	445.04	853.36
3150	2,969.39	2,919.39	S	732.19	E	447.11	857.92
3160	2,978.28	2,928.28	S	736.26	E	449.19	862.47
3170	2,987.18	2,937.18	S	740.33	E	451.26	867.02
3180	2,996.08	2,946.08	S	744.39	E	453.33	871.56
3190	3,004.99	2,954.99	S	748.44	E	455.39	876.10
3200	3,013.89	2,963.89	S	752.49	E	457.46	880.63
3210	3,022.80	2,972.80	S	756.54	E	459.52	885.16
3220	3,031.71	2,981.71	S	760.58	E	461.58	889.69
3230	3,040.63	2,990.63	S	764.62	E	463.64	894.21
3240	3,049.54	2,999.54	S	768.66	E	465.69	898.73
3250	3,058.46	3,008.46	S	772.69	E	467.75	903.24
3260	3,067.38	3,017.38	S	776.72	E	469.80	907.75
3270	3,076.30	3,026.30	S	780.74	E	471.85	912.25
3280	3,085.23	3,035.23	S	784.76	E	473.90	916.75
3290	3,094.16	3,044.16	S	788.77	E	475.94	921.24
* 3299	3,102.19	3,052.19	S	792.38	E	477.78	925.28
3300	3,103.09	3,053.09	S	792.80	E	477.95	925.73
3310	3,112.02	3,062.02	S	796.97	E	479.63	930.17
3320	3,120.95	3,070.95	S	801.13	E	481.32	934.60
3330	3,129.89	3,079.89	S	805.29	E	483.00	939.03
3340	3,138.83	3,088.83	S	809.45	E	484.68	943.46
3350	3,147.77	3,097.77	S	813.60	E	486.35	947.88
3360	3,156.72	3,106.72	S	817.74	E	488.03	952.30
3370	3,165.66	3,115.66	S	821.89	E	489.70	956.72
3380	3,174.61	3,124.61	S	826.02	E	491.37	961.13
3390	3,183.56	3,133.56	S	830.16	E	493.04	965.53
3400	3,192.52	3,142.52	S	834.29	E	494.71	969.94
3410	3,201.47	3,151.47	S	838.41	E	496.38	974.34
3420	3,210.43	3,160.43	S	842.53	E	498.04	978.73

DIRECTIONAL SURVEY FOR WELL L06-21

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-575-D-L06(L06-21)

ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 400' MD.

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES			HORIZONTAL DISTANCE
3430	3,219.39	3,169.39	S	846.65	E 499.71	983.12
3440	3,228.35	3,178.35	S	850.76	E 501.37	987.50
3450	3,237.32	3,187.32	S	854.87	E 503.03	991.89
3460	3,246.29	3,196.29	S	858.97	E 504.68	996.26
3470	3,255.26	3,205.26	S	863.07	E 506.34	1,000.64
3480	3,264.23	3,214.23	S	867.16	E 507.99	1,005.00
3490	3,273.20	3,223.20	S	871.25	E 509.65	1,009.37
3500	3,282.18	3,232.18	S	875.34	E 511.30	1,013.73
3510	3,291.16	3,241.16	S	879.42	E 512.95	1,018.09
3520	3,300.14	3,250.14	S	883.50	E 514.59	1,022.44
3530	3,309.13	3,259.13	S	887.57	E 516.24	1,026.78
3540	3,318.11	3,268.11	S	891.64	E 517.88	1,031.13
* 3548	3,325.30	3,275.30	S	894.89	E 519.20	1,034.60 *
3550	3,327.10	3,277.10	S	895.72	E 519.47	1,035.46
3560	3,336.09	3,286.09	S	899.89	E 520.82	1,039.74
3570	3,345.08	3,295.08	S	904.05	E 522.17	1,044.02
3580	3,354.07	3,304.07	S	908.21	E 523.53	1,048.30
3590	3,363.06	3,313.06	S	912.37	E 524.88	1,052.58
3600	3,372.06	3,322.06	S	916.53	E 526.23	1,056.86
3610	3,381.05	3,331.05	S	920.68	E 527.58	1,061.13
3620	3,390.05	3,340.05	S	924.84	E 528.93	1,065.41
3630	3,399.05	3,349.05	S	928.99	E 530.28	1,069.68
3640	3,408.05	3,358.05	S	933.13	E 531.62	1,073.95
3650	3,417.05	3,367.05	S	937.28	E 532.97	1,078.22
3660	3,426.05	3,376.05	S	941.42	E 534.32	1,082.48
3670	3,435.05	3,385.05	S	945.56	E 535.66	1,086.75
3680	3,444.06	3,394.06	S	949.70	E 537.01	1,091.01
3690	3,453.06	3,403.06	S	953.83	E 538.35	1,095.27
3700	3,462.07	3,412.07	S	957.97	E 539.69	1,099.53
3710	3,471.08	3,421.08	S	962.10	E 541.03	1,103.79
3720	3,480.08	3,430.08	S	966.23	E 542.38	1,108.05
3730	3,489.09	3,439.09	S	970.35	E 543.72	1,112.30
3740	3,498.11	3,448.11	S	974.48	E 545.06	1,116.55
3750	3,507.12	3,457.12	S	978.60	E 546.39	1,120.80
3760	3,516.13	3,466.13	S	982.72	E 547.73	1,125.05
3770	3,525.15	3,475.15	S	986.83	E 549.07	1,129.30
3780	3,534.16	3,484.16	S	990.95	E 550.41	1,133.55
3790	3,543.18	3,493.18	S	995.06	E 551.74	1,137.79
3800	3,552.20	3,502.20	S	999.17	E 553.08	1,142.03
3810	3,561.22	3,511.22	S	1,003.27	E 554.41	1,146.27
3820	3,570.24	3,520.24	S	1,007.38	E 555.75	1,150.51
3830	3,579.26	3,529.26	S	1,011.48	E 557.08	1,154.74
3840	3,588.28	3,538.28	S	1,015.58	E 558.41	1,158.98
3850	3,597.31	3,547.31	S	1,019.68	E 559.74	1,163.21
3860	3,606.33	3,556.33	S	1,023.77	E 561.07	1,167.44

DIRECTIONAL SURVEY FOR WELL L06-21

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-575-D-L06(L06-21)

ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 400' MD.

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
* 3862	3,608.14	3,558.14	S 1,024.59	E 561.34	1,168.29 *
3870	3,615.36	3,565.36	S 1,027.83	E 562.52	1,171.69
3880	3,624.38	3,574.38	S 1,031.88	E 563.99	1,175.95
3890	3,633.40	3,583.40	S 1,035.94	E 565.47	1,180.22
3900	3,642.42	3,592.42	S 1,040.00	E 566.95	1,184.49
3910	3,651.44	3,601.44	S 1,044.06	E 568.42	1,188.77
3920	3,660.45	3,610.45	S 1,048.12	E 569.90	1,193.05
3930	3,669.47	3,619.47	S 1,052.19	E 571.39	1,197.33
3940	3,678.48	3,628.48	S 1,056.27	E 572.87	1,201.61
3950	3,687.49	3,637.49	S 1,060.34	E 574.35	1,205.91
3960	3,696.50	3,646.50	S 1,064.42	E 575.84	1,210.20
3970	3,705.50	3,655.50	S 1,068.50	E 577.32	1,214.50
3980	3,714.51	3,664.51	S 1,072.59	E 578.81	1,218.80
3990	3,723.51	3,673.51	S 1,076.68	E 580.30	1,223.11
4000	3,732.51	3,682.51	S 1,080.78	E 581.79	1,227.42
4010	3,741.51	3,691.51	S 1,084.87	E 583.28	1,231.73
4020	3,750.51	3,700.51	S 1,088.97	E 584.77	1,236.05
4030	3,759.51	3,709.51	S 1,093.08	E 586.27	1,240.38
4040	3,768.50	3,718.50	S 1,097.19	E 587.76	1,244.70
4050	3,777.49	3,727.49	S 1,101.30	E 589.26	1,249.03
4060	3,786.48	3,736.48	S 1,105.41	E 590.76	1,253.37
4070	3,795.47	3,745.47	S 1,109.53	E 592.25	1,257.71
* 4073	3,798.17	3,748.17	S 1,110.77	E 592.70	1,259.01 *
4080	3,804.46	3,754.46	S 1,113.66	E 593.70	1,262.03
4090	3,813.46	3,763.46	S 1,117.78	E 595.12	1,266.34
4100	3,822.47	3,772.47	S 1,121.89	E 596.53	1,270.63
4110	3,831.48	3,781.48	S 1,125.99	E 597.94	1,274.91
4120	3,840.50	3,790.50	S 1,130.07	E 599.35	1,279.17
4130	3,849.53	3,799.53	S 1,134.13	E 600.75	1,283.42
4140	3,858.56	3,808.56	S 1,138.19	E 602.15	1,287.66
4150	3,867.61	3,817.61	S 1,142.23	E 603.54	1,291.88
4160	3,876.65	3,826.65	S 1,146.25	E 604.92	1,296.09
4170	3,885.71	3,835.71	S 1,150.27	E 606.31	1,300.28
4180	3,894.77	3,844.77	S 1,154.27	E 607.68	1,304.46
4190	3,903.84	3,853.84	S 1,158.25	E 609.05	1,308.63
4200	3,912.91	3,862.91	S 1,162.22	E 610.42	1,312.78
4210	3,922.00	3,872.00	S 1,166.18	E 611.79	1,316.92
4220	3,931.08	3,881.08	S 1,170.13	E 613.14	1,321.04
4230	3,940.18	3,890.18	S 1,174.06	E 614.50	1,325.15
4240	3,949.28	3,899.28	S 1,177.97	E 615.85	1,329.24
4250	3,958.39	3,908.39	S 1,181.88	E 617.19	1,333.33
4260	3,967.50	3,917.50	S 1,185.77	E 618.53	1,337.39
4270	3,976.62	3,926.62	S 1,189.64	E 619.86	1,341.45
4280	3,985.75	3,935.75	S 1,193.50	E 621.19	1,345.49
4290	3,994.89	3,944.89	S 1,197.35	E 622.52	1,349.51

DIRECTIONAL SURVEY FOR WELL L06-21

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-575-D-L06(L06-21)

ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 400' MD.

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
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4300	4,004.03	3,954.03	S 1,201.19	E 623.84	1,353.52
4310	4,013.17	3,963.17	S 1,205.01	E 625.15	1,357.52
* 4319	4,021.41	3,971.41	S 1,208.43	E 626.33	1,361.11 *
4320	4,022.33	3,972.33	S 1,208.81	E 626.48	1,361.51
4330	4,031.48	3,981.48	S 1,212.54	E 627.99	1,365.52
4340	4,040.63	3,990.63	S 1,216.28	E 629.50	1,369.53
4350	4,049.78	3,999.78	S 1,220.02	E 631.01	1,373.55
4360	4,058.93	4,008.93	S 1,223.76	E 632.52	1,377.56
4370	4,068.08	4,018.08	S 1,227.50	E 634.04	1,381.58
4380	4,077.23	4,027.23	S 1,231.24	E 635.55	1,385.60
4390	4,086.38	4,036.38	S 1,234.98	E 637.06	1,389.62
4400	4,095.53	√ 4,045.53	S 1,238.73	E 638.57	1,393.64 √
4410	4,104.68	4,054.68	S 1,242.47	E 640.09	1,397.66
4420	4,113.82	4,063.82	S 1,246.22	E 641.60	1,401.69
4430	4,122.97	4,072.97	S 1,249.97	E 643.12	1,405.71
4440	4,132.12	4,082.12	S 1,253.72	E 644.63	1,409.74
4450	4,141.26	4,091.26	S 1,257.47	E 646.15	1,413.77
4460	4,150.41	4,100.41	S 1,261.22	E 647.66	1,417.80
4470	4,159.55	4,109.55	S 1,264.98	E 649.18	1,421.83
4480	4,168.69	4,118.69	S 1,268.73	E 650.70	1,425.87
4490	4,177.84	4,127.84	S 1,272.49	E 652.21	1,429.90
4500	4,186.98	4,136.98	S 1,276.25	E 653.73	1,433.94
4510	4,196.12	4,146.12	S 1,280.01	E 655.25	1,437.97
4520	4,205.26	4,155.26	S 1,283.77	E 656.77	1,442.01
4530	4,214.40	4,164.40	S 1,287.53	E 658.29	1,446.06
4540	4,223.54	4,173.54	S 1,291.29	E 659.81	1,450.10
4550	4,232.68	4,182.68	S 1,295.05	E 661.33	1,454.14
4560	4,241.82	4,191.82	S 1,298.82	E 662.85	1,458.19
4570	4,250.95	4,200.95	S 1,302.59	E 664.37	1,462.23
4580	4,260.09	4,210.09	S 1,306.35	E 665.90	1,466.28
4590	4,269.23	4,219.23	S 1,310.12	E 667.42	1,470.33
4600	4,278.36	4,228.36	S 1,313.89	E 668.94	1,474.38
* 4605	4,282.93	4,232.93	S 1,315.78	E 669.70	1,476.41 *
4610	4,287.50	4,237.50	S 1,317.73	E 670.26	1,478.41
4620	4,296.63	√ 4,246.63	S 1,321.64	E 671.39	1,482.40 √
4630	4,305.77	4,255.77	S 1,325.55	E 672.51	1,486.39
4640	4,314.90	4,264.90	S 1,329.46	E 673.63	1,490.39
4650	4,324.04	4,274.04	S 1,333.37	E 674.75	1,494.38
4660	4,333.18	4,283.18	S 1,337.28	E 675.87	1,498.38
4670	4,342.31	4,292.31	S 1,341.19	E 676.99	1,502.37
4680	4,351.45	4,301.45	S 1,345.10	E 678.11	1,506.37
4690	4,360.58	4,310.58	S 1,349.01	E 679.23	1,510.36
4700	4,369.72	4,319.72	S 1,352.92	E 680.35	1,514.36
4710	4,378.85	4,328.85	S 1,356.83	E 681.48	1,518.36
4720	4,387.99	4,337.99	S 1,360.74	E 682.60	1,522.35

DIRECTIONAL SURVEY FOR WELL L06-21

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-575-D-L06(L06-21)

ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 400' MD.

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES		HORIZONTAL DISTANCE
4730	4,397.12	4,347.12	S 1,364.65	E 683.72	1,526.35
4740	4,406.26	4,356.26	S 1,368.56	E 684.84	1,530.35
4750	4,415.39	4,365.39	S 1,372.47	E 685.96	1,534.35
4760	4,424.53	4,374.53	S 1,376.38	E 687.08	1,538.35
4770	4,433.67	4,383.67	S 1,380.29	E 688.20	1,542.35
4780	4,442.80	4,392.80	S 1,384.20	E 689.32	1,546.35
4790	4,451.94	4,401.94	S 1,388.11	E 690.44	1,550.35
4800	4,461.07	4,411.07	S 1,392.02	E 691.57	1,554.35
4810	4,470.21	4,420.21	S 1,395.93	E 692.69	1,558.35
4820	4,479.34	4,429.34	S 1,399.84	E 693.81	1,562.35
* 4823	4,482.08	4,432.08	S 1,401.01	E 694.14	1,563.55 *
4830	4,488.48	4,438.48	S 1,403.83	E 694.54	1,566.25
4840	4,497.61	V 4,447.61	S 1,407.87	E 695.11	1,570.12 ✓
4850	4,506.74	4,456.74	S 1,411.91	E 695.68	1,573.99
4860	4,515.87	4,465.87	S 1,415.95	E 696.24	1,577.87
4870	4,524.99	4,474.99	S 1,420.00	E 696.81	1,581.76
4880	4,534.12	4,484.12	S 1,424.05	E 697.38	1,585.65
4890	4,543.24	4,493.24	S 1,428.11	E 697.95	1,589.54
4900	4,552.36	4,502.36	S 1,432.17	E 698.52	1,593.44
4910	4,561.48	4,511.48	S 1,436.23	E 699.09	1,597.34
4920	4,570.60	4,520.60	S 1,440.30	E 699.67	1,601.25
4930	4,579.71	4,529.71	S 1,444.38	E 700.24	1,605.17
4940	4,588.83	4,538.83	S 1,448.45	E 700.81	1,609.09
4950	4,597.94	4,547.94	S 1,452.54	E 701.39	1,613.01
4960	4,607.05	4,557.05	S 1,456.62	E 701.96	1,616.94
4970 ✓	4,616.15	4,566.15	S 1,460.71	E 702.53	1,620.88
4980	4,625.26	4,575.26	S 1,464.81	E 703.11	1,624.82
4990	4,634.36	4,584.36	S 1,468.91	E 703.69	1,628.76
5000	4,643.46	4,593.46	S 1,473.01	E 704.26	1,632.71
5010	4,652.56	4,602.56	S 1,477.12	E 704.84	1,636.67
5020	4,661.66	4,611.66	S 1,481.23	E 705.42	1,640.63
5030	4,670.75	4,620.75	S 1,485.34	E 706.00	1,644.59
5040	4,679.85	4,629.85	S 1,489.46	E 706.58	1,648.56
5050	4,688.94	4,638.94	S 1,493.59	E 707.16	1,652.54
5060	4,698.03	V 4,648.03	S 1,497.72	E 707.74	1,656.52 ✓
5070	4,707.12	4,657.12	S 1,501.85	E 708.32	1,660.50
5080	4,716.20	4,666.20	S 1,505.99	E 708.90	1,664.49
5090	4,725.28	4,675.28	S 1,510.13	E 709.48	1,668.49
5100 ✓	4,734.37	4,684.37	S 1,514.27	E 710.06	1,672.49
5110	4,743.45	4,693.45	S 1,518.42	E 710.65	1,676.50
5120	4,752.52	4,702.52	S 1,522.58	E 711.23	1,680.51
5130	4,761.60	4,711.60	S 1,526.74	E 711.81	1,684.52
5140	4,770.67	4,720.67	S 1,530.90	E 712.40	1,688.54
5150	4,779.74	4,729.74	S 1,535.07	E 712.98	1,692.57
5160	4,788.81	4,738.81	S 1,539.24	E 713.57	1,696.60

DIRECTIONAL SURVEY FOR WELL L06-21

COMPUTATIONS AT 10 FEET INCREMENTS

WELL NO. Z2A-21-575-D-L06(L06-21)

ELEVATION: 50 FEET NUMBER OF DATA POINTS: 23

CONDUCTOR IS VERTICAL

CONDUCTOR DATA: 400' MD.

MEASURED DEPTH	VERTICAL DEPTH	TRUE SUB-SEA	TOTAL CO - ORDINATES			HORIZONTAL DISTANCE
5170	4,797.88	4,747.88	S 1,543.41	E 714.16		1,700.63
5180	4,806.95	4,756.95	S 1,547.59	E 714.75		1,704.67
5190	4,816.01	4,766.01	S 1,551.78	E 715.33		1,708.72
* 5193	4,818.73	4,768.73	S 1,553.03	E 715.51		1,709.93 *
5200	4,825.07	4,775.07	S 1,555.97	E 715.87		1,712.75
5210	4,834.13	4,784.13	S 1,560.17	E 716.39		1,716.79
5220	4,843.19	4,793.19	S 1,564.38	E 716.90		1,720.83
5230	4,852.24	4,802.24	S 1,568.60	E 717.42		1,724.87
5240	4,861.29	4,811.29	S 1,572.81	E 717.94		1,728.93
5250	4,870.34	4,820.34	S 1,577.04	E 718.46		1,732.98
5260	4,879.39	4,829.39	S 1,581.27	E 718.98		1,737.05
5270	4,888.44	4,838.44	S 1,585.50	E 719.50		1,741.12
5280	4,897.48	4,847.48	S 1,589.74	E 720.02		1,745.19
5290	4,906.52	4,856.52	S 1,593.98	E 720.54		1,749.27
5300	4,915.55	4,865.55	S 1,598.23	E 721.06		1,753.36
5310	4,924.59	4,874.59	S 1,602.48	E 721.58		1,757.45
5320	4,933.62	4,883.62	S 1,606.74	E 722.10		1,761.55
5330	4,942.65	4,892.65	S 1,611.01	E 722.63		1,765.66
5340	4,951.68	4,901.68	S 1,615.28	E 723.15		1,769.77
5350	4,960.71	4,910.71	S 1,619.55	E 723.68		1,773.88
5360	4,969.73	4,919.73	S 1,623.83	E 724.20		1,778.00
5370	4,978.75	4,928.75	S 1,628.11	E 724.73		1,782.13
5380	4,987.77	4,937.77	S 1,632.40	E 725.26		1,786.26
5390	4,996.78	4,946.78	S 1,636.70	E 725.78		1,790.40
5400	5,005.80	4,955.80	S 1,641.00	E 726.31		1,794.55
5410	5,014.81	4,964.81	S 1,645.30	E 726.84		1,798.70
5420	5,023.82	4,973.82	S 1,649.61	E 727.37		1,802.85
5430	5,032.82	4,982.82	S 1,653.92	E 727.90		1,807.02
5440	5,041.82	4,991.82	S 1,658.24	E 728.43		1,811.18
5450	5,050.83	5,000.83	S 1,662.57	E 728.96		1,815.36
5460	5,059.82	5,009.82	S 1,666.90	E 729.49		1,819.54
5470	5,068.82	5,018.82	S 1,671.23	E 730.02		1,823.72
5480	5,077.81	5,027.81	S 1,675.57	E 730.56		1,827.91
5490	5,086.80	5,036.80	S 1,679.92	E 731.09		1,832.11
5500	5,095.79	5,045.79	S 1,684.27	E 731.62		1,836.31
* 5503	5,098.49	5,048.49	S 1,685.57	E 731.78		1,837.57 *