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**sperry-sun**  
OF CANADA LTD

78X-03  
DIRECTIONAL SURVEY REPORT  
for  
CYPRUS ANVIL MINING CORPORATION



Edmonton (403) 436-9602, Calgary (403) 264-6702

# sperry-sun

## DIRECTIONAL SURVEY REPORT

FOR

CYPRUS ANVIL MINING CORPORATION



TYPE OF SURVEY: SURWEL GYROSCOPIC

SURVEY DEPTH: FROM 0 FT. TO 2800 FT.

LEASE: 78X03

FIELD:/AREA: FARO

PROVINCE: YUKON TERRITORY JOB NO. SU1.75-E-166-1

DATE OF SURVEY: MAY 15, 1978

OFFICE: EDMONTON, ALBERTA

\*CUSTOMER RUN SINGLE SHOT SURVEYS INCLUDED

SPERRY-SUN OF CANADA  
GYROSCOPIC DIRECTIONAL SURVEY

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CYPRUS ANVIL MINING CORPORATION  
78X03

SU1.75-E-166-1  
05/15/78

TOTAL DEPTH	DIRECTION DEG MIN	ANGLE DEG MIN	VERTICAL DEPTH	LATITUDE FEET	DEPARTURE FEET	VERTICAL SECTION	DOG LEG
	N E		.00	.00 N	.00 E	.00	.00
100	N 8 8 W	1 15	99.99	1.08 N	.15 W	1.00	1.25
200	N 28 57 W	2 50	199.93	4.32 N	1.50 W	3.79	1.72
300	N 33 54 W	5 30	299.65	10.46 N	5.37 W	8.72	2.69
400	N 32 29 W	7	399.06	19.58 N	11.32 W	15.98	1.51
500	N 35 27 W	8	498.20	30.39 N	18.63 W	24.53	1.07
600	N 39 58 W	9 35	597.02	42.44 N	28.01 W	33.75	1.73
700	N 43 13 W	10 30	695.49	55.46 N	39.60 W	43.32	1.08
800	N 42 8 W	11 30	793.65	69.50 N	52.52 W	53.53	1.02
900	N 43 15 W	11 30	891.64	84.15 N	66.04 W	64.19	.22
1000	N 46 45 W	10 35	989.79	97.70 N	79.56 W	73.78	1.13
1100	N 47 59 W	10 15	1088.14	109.95 N	92.86 W	82.17	.40
1200	N 46 28 W	10	1186.58	121.89 N	105.76 W	90.36	.36
1300	N 47 6 W	10 40	1284.96	134.17 N	118.84 W	98.84	.68
1400	N 42 45 W	10 30	1383.26	147.16 N	131.80 W	108.03	.81
1500	N 44 10 W	10	1481.66	160.08 N	144.04 W	117.34	.56
1600	N 44 5 W	11	1579.98	173.16 N	156.72 W	126.70	1.00
1700	N 35 51 W	12	1677.98	188.44 N	169.45 W	138.16	1.92
1800	N 26 22 W	12	1775.81	206.18 N	180.16 W	152.53	1.97
1900	N 32 59 W	14	1873.24	225.65 N	191.36 W	168.43	2.49
2000	N 35 48 W	16 25	1969.73	247.26 N	206.21 W	185.46	2.53
2100	N 40 24 W	18	2065.26	270.48 N	224.50 W	203.16	2.09
2200	N 43 42 W	18	2160.37	293.42 N	245.19 W	219.97	1.02
2300	N 47 41 W	18 40	2255.29	315.37 N	267.70 W	235.34	1.42
2400	N 52 45 W	18	2350.22	335.49 N	291.83 W	248.53	1.73
2500	N 58 11 W	18 30	2445.20	353.21 N	317.61 W	258.97	1.77
2600	N 65 29 W	19	2539.90	368.33 N	345.91 W	266.25	2.39
2700	N 72 31 W	19	2634.47	379.97 N	376.25 W	269.65	2.29
2800	N 76 8 W	18 30	2729.16	388.67 N	407.18 W	270.03	1.26

THE DOGLEG SEVERITY IS IN DEGREES PER ONE HUNDRED FEET.  
THE VERTICAL SECTION WAS COMPUTED ALONG N 15 E.

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS, THE BOTTOM HOLE  
DISPLACEMENT IS 562.90 FEET, IN THE DIRECTION OF N 46 20 W.

\* BOTTOM HOLE DISPLACEMENT CALCULATED FROM WELLHEAD.

SPERRY-SUN OF CANADA  
 CUSTOMER: RUN SINGLE SHOT SURVEYS

CYPRUS ANVIL MINING CORPORATION  
 78X03

SS  
 05/19/78

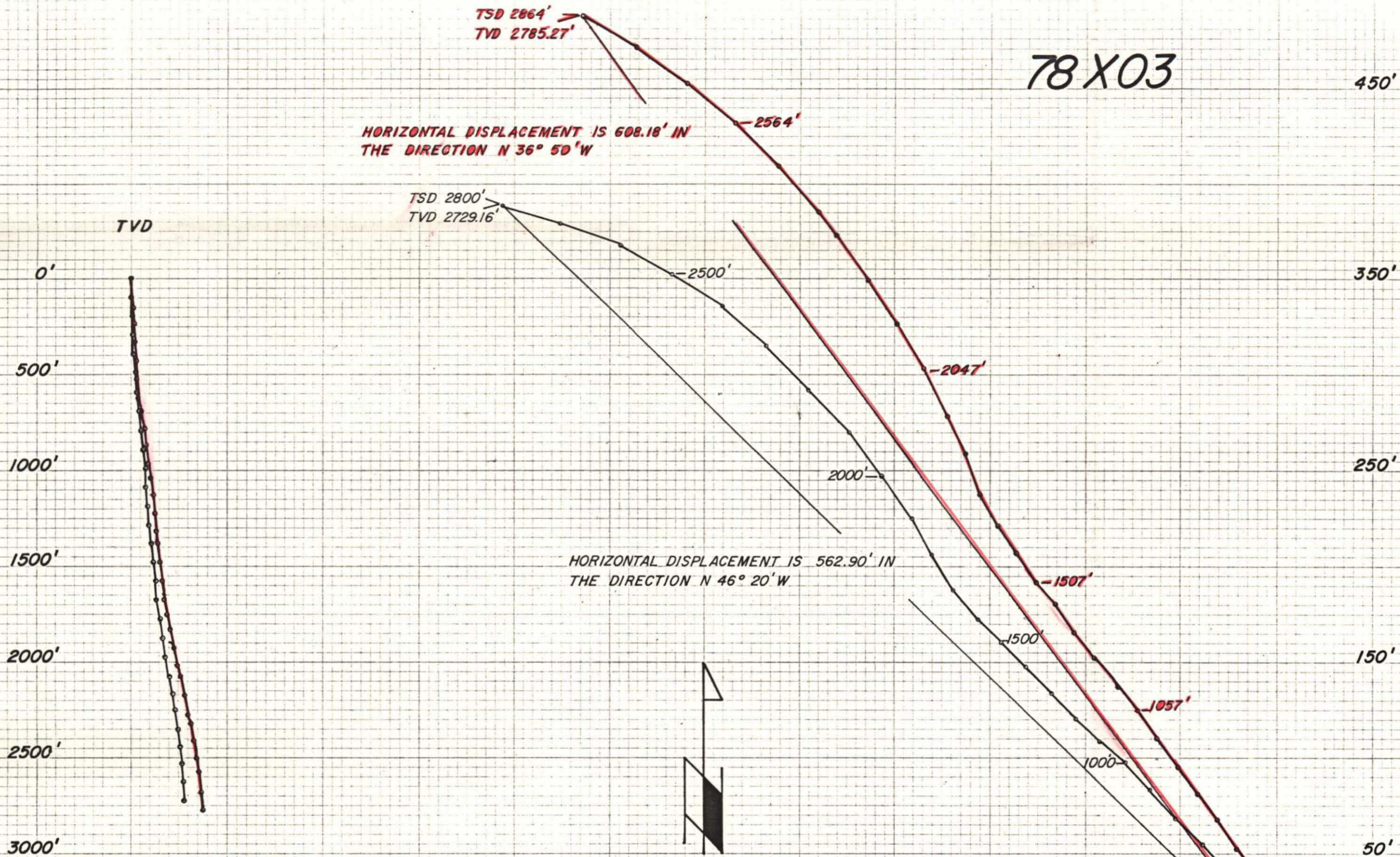
TOTAL DEPTH	DIRECTION		ANGLE	VERTICAL	LATITUDE	DEPARTURE	VERTICAL	DOG
	DEC	MIN	DEC MIN	DEPTH	FEET	FEET	SECTION	LEG
	N		E	.00	.00 N	.00 E	.00	.00
157	N	2	W 3 30	156.90	4.79 N	.17 W	4.58	2.23
247	N	10	W 4 40	246.67	11.14 N	.90 W	10.53	1.44
337	N	20	W 6 10	336.27	19.29 N	3.19 W	17.81	1.96
427	N	25	W 8	425.58	29.51 N	7.49 W	26.57	2.15
517	N	27	W 9	514.59	41.46 N	13.33 W	36.60	1.16
607	N	37	W 10	603.36	53.97 N	21.23 W	46.64	2.14
697	N	35	W 11	691.85	67.25 N	30.86 W	56.97	1.18
787	N	37	W 11 20	780.15	81.34 N	41.11 W	67.93	.57
877	N	36	W 11 30	868.36	95.66 N	51.70 W	79.02	.29
967	N	35	W 11 50	956.50	110.48 N	62.27 W	90.60	.43
1057	N	37	W 11 20	1044.67	125.10 N	72.88 W	101.98	.71
1147	N	42	W 11	1132.97	138.55 N	83.95 W	112.10	1.14
1237	N	37	W 11 30	1221.24	152.09 N	95.09 W	122.30	1.22
1327	N	39	W 11 30	1309.43	166.23 N	106.14 W	133.09	.44
1417	N	35	W 10 50	1397.73	180.13 N	116.64 W	143.80	1.14
1507	N	37	W 11	1486.10	193.92 N	126.66 W	154.53	.46
1597	N	37	W 11	1574.44	207.63 N	136.99 W	165.10	.00
1687	N	34	W 11	1662.79	221.61 N	146.96 W	176.02	.64
1777	N	22	W 14	1750.66	235.83 N	155.84 W	190.35	4.39
1867	N	20	W 14	1837.99	250.15 N	163.64 W	207.96	.54
1957	N	27	W 15	1925.12	279.76 N	172.66 W	225.54	2.24
2047	N	27	W 17 40	2011.48	302.31 N	184.14 W	244.35	2.96
2137	N	34	W 18	2097.17	326.01 N	198.12 W	263.62	2.41
2227	N	35	W 19	2182.52	349.54 N	214.30 W	282.16	1.17
2317	N	37	W 19	2267.61	373.24 N	231.52 W	300.60	.72
2364	N	39	W 19	2312.05	385.29 N	240.94 W	309.80	1.39
2464	N	42	W 18 30	2406.75	409.74 N	261.80 W	328.01	1.09
2564	N	48	W 19 30	2501.31	432.70 N	284.82 W	344.23	2.19
2664	N	52	W 19	2595.72	453.89 N	310.06 W	358.17	1.41
2764	N	62	W 18 30	2690.44	471.36 N	336.90 W	368.10	3.25
2864	N	60	W 18 30	2785.27	486.74 N	364.65 W	375.78	.63

THE DOGLEC SEVERITY IS IN DEGREES PER ONE HUNDRED FEET.  
 THE VERTICAL SECTION WAS COMPUTED ALONG: N 15 E.

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS. THE BOTTOM HOLE  
 DISPLACEMENT IS 608.18 FEET, IN THE DIRECTION OF N 36 50 W.

\* BOTTOM HOLE DISPLACEMENT CALCULATED FROM WELLHEAD.

78X03



VERTICAL SECTION  
SCALE 1" = 500'

HORIZONTAL PROJECTION  
SCALE 1" = 50'

0' 500' 400' 300' 200' 100' 0'

Sperry-Sun of Canada Ltd. 05/15/78 tin

Sperry-Sun Gyroscopic Survey  
Customer Run Single Shot Surveys

