Light Attenuation in the Experimental Lakes Area - 1982 Data

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Le titre exact paraît au haut du résumé de chaque rapport.

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ABSTRACT

Shearer, J.A., and E.R. DeBruyn. 1983. Light attenuation in the Experimental Lakes Area - 1982 data. Can. Data Rep. Fish. Aquat. Sci. 411: iv + 63 p.

Depth profiles of photosynthetically active radiation were measured periodically in nineteen lake basins of the Experimental Lakes Area during the ice-free season of 1982. These data are tabulated and plots of irradiance versus depth are presented. Mean attenuation coefficients have been calculated from the data.

Key words: light penetration, water transparency, limnological data.

RESUME

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Nous avons mesuré périodiquement, au cours de la saison sans glace de l'année 1982, les profils de profondeur de la radiation photosynthétique dans dix-neuf bassins des lacs situées dans la Région des Lacs Expérimentaux. Nous avons établi des tables de ces données et nous avons figuré graphiquement les émissions de radiations face à la profondeur. A partir de ces données, nous avons calculé les coefficients moyens d,atténuation.

Mots-clés: pénétration de la lumiére; transparence de l'eau; données limnologiques.

INTRODUCTION

This report presents irradiance versus depth data collected during 1982 for selected basins within the Experimental Lakes Area (ELA), northwestern Ontario (Johnson and Vallentyne 1971). These data were collected in conjunction with phytoplankton productivity studies (DeBruyn et al. 1983). The measured irradiances represent the quantum flux density in the 400-700 nm waveband and can be defined as photosynthetically active radiation (PAR).

The content and format of this report are similar to those found in the eight previous volumes of this annual series (Shearer 1976; Shearer and DeClercq 1976, 1977, 1978, 1979, 1980; Shearer and DeBruyn 1981, 1982). A brief description of methodology is provided and the attenuation data are presented both in tables and graphs.

DATA COLLECTION AND ANALYSIS

The vertical attenuation of PAR was monitored in nineteen lake basins during the ice-free season of 1982. These basins range in surface area from 1.3 to 56 hectares and in maximum depth from 0.8 to 33 meters.

Eight of these basins (114, 223, 226NE, 226SW, 227, 239, 302N, 302S) were surveyed at intervals of approximately two weeks, weather permitting. Most of the remaining basins (222, 224, 303, 304, 305, 382, 382 Bay, 661) were surveyed monthly. Lakes 93, 111 and 629 were surveyed on only a few occasions because of poor accessibility.

The separate basins of lakes 226, 302 and 382 are all maintained by means of reinforced plastic "sea curtains".

Lakes 114, 223, 302N and 302S were all undergoing some scheme of artificial acidification during 1982 (Schindler et al. 1980; Schindler and Turner 1982). Lake 227 was being fertilized with nitrogen and phosphorus (Schindler et al. 1971; Schindler 1975).

All profiling was carried out using a Li-Cor LI-192S cosine-response underwater quantum sensor and LI-185 meter. The sensor was suspended pointing vertically upward and lowered through the water column in this orientation.

Surface readings were taken in air above the surface and corrected for the sensor immersion factor. Care was taken to avoid either shading or reflections from the boat. Underwater readings were taken at 0.5 meter depth (sometimes also at 0.25 m) and then at 1 meter intervals from 1.0 meter depth until the underwater reading had dropped to less than 0.5% of the corrected surface value (or until bottom was reached).

Whenever possible, profiling was done under clear skies or under uniform overcast. When skies were clear, profiles were usually taken at intermediate solar angles (see Combs 1977). Calm conditions were also preferred.

The profiles included in this report are presented in two forms. Appendix 1 lists the measured values of irradiance versus depth. The underwater irradiance values have been converted to percentages of the coincident surface irradiance. Appendix 2 presents plots of these data along with fitted slopes calculated from the data. In both appendices the data are grouped by lake basin and listed chronologically.

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APPENDIX 1

This appendix lists the data for vertical light attenuation profiles taken at the ELA during 1982.

All times are local, i.e. Central Daylight Time (CDT).

Each attenuation coefficient is the negative slope of a linear regression of the natural logarithm of the percent surface irradiance on depth. R**2 (or r^2) is a measure of the goodness of fit of the above regression, wherein 1.00 would represent a perfect fit.

The depths are in meters. Irradiance values are actual, rather than fitted, and are given as percentages of the surface value (corrected for immersion effect).

LAKE 93

DATE: 26 MAY TIME: 1155 HOURS
ATTENUATION COEFFICIENT: .93 R**2: .9962

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	56.11	1.00	36.01	2.00	17.34	3.00	7.71
4.00	3.18	5.00	1.18	6.00	.44	7.00	.16	8.00	.05

DATE: 8 JUL TIME: 1145 HOURS
ATTENUATION COEFFICIENT: .92 R**2: .9930

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	58.07	1.00	35.73	2.00	16.53	3.00	7.41
4.00	3.31	5.00	1.07	6.00	.30				

DATE: 17 AUG TIME: 1040 HOURS
ATTENUATION COEFFICIENT: .90 R**2: .9967

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	57.14	1.00	35.43	2.00	16.00	3.00	7.14
4.00	2.86	5.00	.91						

LAKE 111

DATE: 26 MAY TIME: 1015 HOURS
ATTENUATION COEFFICIENT: .56 R**2: .9957

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	65.78	1.00	45.07	2.00	21.93	3.00	12.43
4.00	6.82	5.00	3.84	6.00	2.29	7.00	1.32	8.00	.79
9.00	.46	10.00	.29	11.00	.18	12.00	.11		

DATE: 8 JUL TIME: 0945 HOURS
ATTENUATION COEFFICIENT: .65 R**2: .9947

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	62.62	1.00	42.58	2.00	19.41	3.00	10.02
4.00	4.76	5.00	2.63	6.00	1.38	7.00	.83	8.00	.48
9.00	.28								

DATE: 17 AUG TIME: 0935 HOURS
ATTENUATION COEFFICIENT: .75 R**2: .9835

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	63.03	1.00	41.80	2.00	19.91	3.00	9.95
4.00	5.57	5.00	3.02	6.00	1.55	7.00	.72	8.00	.31
9.00	.06								

DATE: 29 SEP TIME: 0940 HOURS
ATTENUATION COEFFICIENT: .63 R**2: .9954

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	66.00	1.00	41.00	2.00	19.40	3.00	9.40
4.00	5.30	5.00	2.96	6.00	1.72	7.00	.94	8.00	.54
9.00	.29	10.00	.17						

LAKE 114

DATE: 4 MAY TIME: 0825 HOURS
ATTENUATION COEFFICIENT: 1.01 R**2: .9835

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	45.10	1.00	23.65	2.00	8.06	3.00	3.42
4.00	1.66								

DATE: 20 MAY TIME: 0945 HOURS
ATTENUATION COEFFICIENT: .91 R**2: .9668

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	40.07	1.00	21.29	2.00	8.52	3.00	4.26
4.00	2.24								

DATE: 4 JUN TIME: 0840 HOURS
ATTENUATION COEFFICIENT: .82 R**2: .9601

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	37.50	1.00	22.13	2.00	10.94	3.00	5.47
4.00	2.99								

DATE: 21 JUN TIME: 0930 HOURS
ATTENUATION COEFFICIENT: .71 R**2: .9476

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	45.96	1.00	25.64	2.00	13.06	3.00	8.08
4.00	5.03								

DATE: 1 JUL TIME: 1540 HOURS
ATTENUATION COEFFICIENT: .65 R**2: .9996

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	70.00	1.00	49.00	2.00	26.13	3.00	13.63
4.00	7.19								

DATE: 16 JUL TIME: 0955 HOURS
ATTENUATION COEFFICIENT: .91 R**2: .9957

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	53.60	1.00	31.00	2.00	13.24	3.00	5.89
4.00	2.39								

DATE: 4 AUG TIME: 1020 HOURS
ATTENUATION COEFFICIENT: .78 R**2: .9829

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	48.24	1.00	29.48	2.00	14.61	3.00	7.37
4.00	3.75								

DATE: 16 AUG TIME: 0825 HOURS
ATTENUATION COEFFICIENT: .94 R**2: .9797

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	43.55	1.00	22.11	2.00	9.41	3.00	4.41
4.00	1.98								

DATE: 28 AUG TIME: 1125 HOURS
ATTENUATION COEFFICIENT: .72 R**2: .9726

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	47.29	1.00	29.64	2.00	15.13	3.00	8.36
4.00	4.73								

LAKE 114

DATE: 13 SEP TIME: 0840 HOURS
ATTENUATION COEFFICIENT: .81 R**2: .9765

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	48.73	1.00	27.07	2.00	12.32	3.00	6.36
4.00	3.45								

DATE: 27 SEP TIME: 0950 HOURS
ATTENUATION COEFFICIENT: .67 R**2: .9892

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	60.91	1.00	41.24	2.00	19.84	3.00	11.31
4.00	6.67								

DATE: 11 OCT TIME: 0910 HOURS
ATTENUATION COEFFICIENT: .77 R**2: .9877

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	55.83	1.00	33.50	2.00	15.45	3.00	7.91
4.00	4.28								

DATE: 26 OCT TIME: 0920 HOURS
ATTENUATION COEFFICIENT: .71 R**2: .9882

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	69.96	1.00	40.81	2.00	18.89	3.00	10.35
4.00	6.13								

LAKE 222

DATE: 13 MAY TIME: 1645 HOURS
ATTENUATION COEFFICIENT: 1.45 R**2: .9944

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	32.89	1.00	15.04	2.00	3.84	3.00	1.10
4.00	.24								

DATE: 15 JUN TIME: 0920 HOURS
ATTENUATION COEFFICIENT: 1.24 R**2: .9973

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	40.32	1.00	21.09	2.00	5.83	3.00	1.92
4.00	.61	5.00	.16						

DATE: 12 JUL TIME: 0855 HOURS
ATTENUATION COEFFICIENT: 1.35 R**2: .9968

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	40.85	1.00	17.49	2.00	4.82	3.00	1.31
4.00	.43	5.00	.09						

DATE: 6 AUG TIME: 1600 HOURS
ATTENUATION COEFFICIENT: 1.58 R**2: .9511

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	41.66	1.00	18.58	2.00	5.41	3.00	1.80
4.00	.53	5.00	.01						

DATE: 3 SEP TIME: 1015 HOURS
ATTENUATION COEFFICIENT: 1.62 R**2: .9711

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	39.28	1.00	18.48	2.00	4.85	3.00	1.33
4.00	.36	5.00	.01						

DATE: 12 OCT TIME: 1025 HOURS
ATTENUATION COEFFICIENT: 1.80 R**2: .9931

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	26.29	1.00	10.09	2.00	2.17	3.00	.47
4.00	.05								

LAKE 223

DATE: 5 MAY TIME: 0845 HOURS
ATTENUATION COEFFICIENT: .47 R**2: .9967

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SUFF.
0.00	100.00	.50	68.43	1.00	52.74	2.00	31.36	3.00	19.67
4.00	13.11	5.00	8.41	6.00	5.36	7.00	3.54	8.00	2.31
9.00	1.40	10.00	.86	11.00	.50	12.00	.23		

DATE: 20 MAY TIME: 1105 HOURS
ATTENUATION COEFFICIENT: .45 R**2: .9938

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	78.55	1.00	58.91	2.00	39.28	3.00	26.92
4.00	17.33	5.00	11.21	6.00	7.39	7.00	4.97	8.00	3.35
9.00	2.29	10.00	1.37	11.00	.88	12.00	.44	13.00	.20

DATE: 4 JUN TIME: 1130 HOURS
ATTENUATION COEFFICIENT: .45 R**2: .9692

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	82.60	1.00	68.84	2.00	48.18	3.00	34.42
4.00	24.78	5.00	18.17	6.00	12.30	7.00	8.26	8.00	5.23
9.00	3.17	10.00	1.92	11.00	1.08	12.00	.45	13.00	.16

DATE: 25 JUN TIME: 1025 HOURS
ATTENUATION COEFFICIENT: .40 R**2: .9228

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	86.19	1.00	74.38	2.00	59.03	3.00	44.86
4.00	34.24	5.00	28.33	6.00	19.24	7.00	14.64	8.00	10.51
9.00	7.20	10.00	4.60	11.00	2.01	12.00	.63	13.00	.26

DATE: 14 JUL TIME: 0835 HOURS
ATTENUATION COEFFICIENT: .50 R**2: .8788

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	70.75	1.00	54.67	2.00	40.02	3.00	31.80
4.00	22.87	5.00	16.26	6.00	10.72	7.00	7.50	8.00	5.04
9.00	3.32	10.00	2.07	11.00	.92	12.00	.44	13.00	.02

DATE: 28 JUL TIME: 0945 HOURS
ATTENUATION COEFFICIENT: .56 R**2: .9299

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	73.70	1.00	62.31	2.00	47.57	3.00	34.04
4.00	24.66	5.00	18.36	6.00	11.93	7.00	6.50	8.00	4.33
9.00	2.41	10.00	1.23	11.00	.27	12.00	.09	13.00	.03

DATE: 10 AUG TIME: 0845 HOURS
ATTENUATION COEFFICIENT: .63 R**2: .9644

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	80.40	1.00	56.95	2.00	32.83	3.00	22.33
4.00	14.52	5.00	9.38	6.00	6.25	7.00	3.51	8.00	1.62
9.00	.85	10.00	.23	11.00	.09	12.00	.03		

DATE: 24 AUG TIME: 0925 HOURS
ATTENUATION COEFFICIENT: .73 R**2: .7812

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	62.63	1.00	43.70	2.00	28.55	3.00	20.68
4.00	14.42	5.00	9.23	6.00	6.23	7.00	2.88	8.00	1.40
9.00	.55	10.00	.00						

LAKE 223

DATE: 3 SEP TIME: 0945 HOURS
ATTENUATION COEFFICIENT: .60 R**2: .9883

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	67.00	1.00	50.92	2.00	28.14	3.00	15.01
4.00	8.71	5.00	5.03	6.00	3.15	7.00	1.96	8.00	1.26
9.00	.56	10.00	.21	11.00	.08				

DATE: 15 SEP TIME: 1700 HOURS
ATTENUATION COEFFICIENT: .61 R**2: .9787

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	63.28	1.00	52.11	2.00	29.22	3.00	16.94
4.00	9.68	5.00	5.58	6.00	3.37	7.00	2.03	8.00	1.23
9.00	.66	10.00	.20	11.00	.05				

DATE: 29 SEP TIME: 1415 HOURS
ATTENUATION COEFFICIENT: .70 R**2: .9518

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	63.98	1.00	38.03	2.00	21.73	3.00	11.71
4.00	6.04	5.00	3.50	6.00	1.96	7.00	1.11	8.00	.65
9.00	.37	10.00	.21	11.00	.06	12.00	.00		

DATE: 12 OCT TIME: 0905 HOURS
ATTENUATION COEFFICIENT: .70 R**2: .9962

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	55.28	1.00	33.50	2.00	16.58	3.00	9.05
4.00	4.91	5.00	2.60	6.00	1.36	7.00	.69	8.00	.31
9.00	.13								

DATE: 25 OCT TIME: 1505 HOURS
ATTENUATION COEFFICIENT: .66 R**2: .9954

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	63.95	1.00	40.61	2.00	18.48	3.00	9.03
4.00	4.67	5.00	2.38	6.00	1.28	7.00	.70	8.00	.39
9.00	.22	10.00	.13						

LAKE 224

DATE: 13 MAY
ATTENUATION COEFFICIENT: .27
TIME: 1405 HOURS
R**2: .9966

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	68.91	1.00	55.51	2.00	43.26	3.00	36.75
4.00	30.63	5.00	24.69	6.00	19.33	7.00	15.12	8.00	11.56
9.00	8.61	10.00	6.36	11.00	4.71	12.00	3.52	13.00	2.60
14.00	1.97	15.00	1.49	16.00	1.10	17.00	.84	18.00	.65
19.00	.48								

DATE: 27 MAY
ATTENUATION COEFFICIENT: .27
TIME: 1115 HOURS
R**2: .9974

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	85.04	1.00	72.15	2.00	56.69	3.00	43.81
4.00	34.02	5.00	27.62	6.00	21.13	7.00	17.21	8.00	13.30
9.00	10.20	10.00	7.73	11.00	5.88	12.00	4.23	13.00	3.04
14.00	2.24	15.00	1.63	16.00	1.21	17.00	.91	18.00	.69
19.00	.54								

DATE: 25 JUN
ATTENUATION COEFFICIENT: .27
TIME: 1000 HOURS
R**2: .9973

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	93.06	1.00	74.44	2.00	55.83	3.00	43.43
4.00	35.11	5.00	27.79	6.00	21.59	7.00	16.75	8.00	12.90
9.00	10.30	10.00	7.94	11.00	6.08	12.00	4.59	13.00	3.57
14.00	2.63	15.00	1.95	16.00	1.38	17.00	1.01	18.00	.73
19.00	.54								

DATE: 21 JUL
ATTENUATION COEFFICIENT: .28
TIME: 1625 HOURS
R**2: .9988

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	82.55	1.00	67.85	2.00	50.89	3.00	36.75
4.00	29.17	5.00	22.16	6.00	17.19	7.00	12.89	8.00	10.29
9.00	7.63	10.00	5.99	11.00	4.60	12.00	3.60	13.00	2.74
14.00	2.07	15.00	1.52	16.00	1.12	17.00	.83	18.00	.61
19.00	.42								

DATE: 10 AUG
ATTENUATION COEFFICIENT: .30
TIME: 0935 HOURS
R**2: .9980

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	81.84	1.00	65.80	2.00	52.16	3.00	37.71
4.00	29.69	5.00	22.95	6.00	16.69	7.00	12.84	8.00	9.55
9.00	7.29	10.00	5.41	11.00	4.35	12.00	3.24	13.00	2.34
14.00	1.64	15.00	1.17	16.00	.85	17.00	.59	18.00	.43
19.00	.30								

DATE: 3 SEP
ATTENUATION COEFFICIENT: .31
TIME: 0920 HOURS
R**2: .9954

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	69.54	1.00	56.50	2.00	42.01	3.00	32.59
4.00	22.45	5.00	17.38	6.00	13.47	7.00	11.01	8.00	8.84
9.00	6.52	10.00	4.71	11.00	3.55	12.00	2.67	13.00	1.85
14.00	1.31	15.00	.90	16.00	.62	17.00	.43	18.00	.30
19.00	.21								

DATE: 12 OCT
ATTENUATION COEFFICIENT: .27
TIME: 0945 HOURS
R**2: .9853

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	69.51	1.00	51.93	2.00	40.20	3.00	33.67
4.00	27.30	5.00	21.61	6.00	17.09	7.00	13.40	8.00	10.72
9.00	8.38	10.00	6.62	11.00	5.21	12.00	4.10	13.00	3.22
14.00	2.50	15.00	1.76	16.00	1.17	17.00	.79	18.00	.50
19.00	.28								

LAKE 226 NE

DATE: 6 MAY TIME: 1020 HOURS
ATTENUATION COEFFICIENT: .65 R**2: .9975

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	62.98	1.00	40.20	2.00	21.31	3.00	10.45
4.00	5.23	5.00	2.69	6.00	1.49	7.00	.85	8.00	.47
9.00	.26	10.00	.13						

DATE: 28 MAY TIME: 1145 HOURS
ATTENUATION COEFFICIENT: .70 R**2: .9996

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	67.00	1.00	42.59	2.00	23.45	3.00	11.87
4.00	5.84	5.00	2.78	6.00	1.48	7.00	.69	8.00	.34
9.00	.18								

DATE: 25 JUN TIME: 1130 HOURS
ATTENUATION COEFFICIENT: .71 R**2: .9984

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	68.91	1.00	48.81	2.00	26.80	3.00	14.26
4.00	6.99	5.00	3.52	6.00	1.64	7.00	.75	8.00	.33
9.00	.17								

DATE: 21 JUL TIME: 1545 HOURS
ATTENUATION COEFFICIENT: .77 R**2: .9993

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	62.25	1.00	42.20	2.00	20.89	3.00	10.23
4.00	4.71	5.00	2.24	6.00	1.03	7.00	.44	8.00	.18
9.00	.10								

DATE: 26 AUG TIME: 1050 HOURS
ATTENUATION COEFFICIENT: .73 R**2: .9860

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	57.43	1.00	35.99	2.00	19.40	3.00	10.97
4.00	6.38	5.00	3.47	6.00	1.76	7.00	.74	8.00	.24
9.00	.08								

DATE: 21 SEP TIME: 1105 HOURS
ATTENUATION COEFFICIENT: .75 R**2: .9881

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	64.52	1.00	45.29	2.00	22.21	3.00	11.66
4.00	6.15	5.00	3.40	6.00	1.80	7.00	.75	8.00	.24
9.00	.08								

DATE: 25 OCT TIME: 1425 HOURS
ATTENUATION COEFFICIENT: .85 R**2: .9937

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	48.10	1.00	27.49	2.00	10.48	3.00	4.29
4.00	1.89	5.00	.84	6.00	.40	7.00	.19	8.00	.09

LAKE 226 SW

DATE: 6 MAY TIME: 1000 HOURS
ATTENUATION COEFFICIENT: .68 R**2: .9981

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	62.26	1.00	43.31	2.00	21.39	3.00	10.42
4.00	5.48	5.00	3.02	6.00	1.65	7.00	.90	8.00	.43
9.00	.20	10.00	.08						

DATE: 28 MAY TIME: 1120 HOURS
ATTENUATION COEFFICIENT: .66 R**2: .9975

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	69.48	1.00	44.67	2.00	24.32	3.00	12.90
4.00	6.85	5.00	3.67	6.00	2.18	7.00	1.14	8.00	.56
9.00	.23	10.00	.11						

DATE: 25 JUN TIME: 1120 HOURS
ATTENUATION COEFFICIENT: .71 R**2: .9982

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	69.80	1.00	48.40	2.00	25.17	3.00	12.94
4.00	6.57	5.00	3.33	6.00	1.67	7.00	.83	8.00	.34
9.00	.15								

DATE: 21 JUL TIME: 1500 HOURS
ATTENUATION COEFFICIENT: .74 R**2: .9979

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	62.60	1.00	42.06	2.00	20.05	3.00	9.59
4.00	4.40	5.00	2.36	6.00	1.21	7.00	.63	8.00	.27
9.00	.10								

DATE: 26 AUG TIME: 1105 HOURS
ATTENUATION COEFFICIENT: .74 R**2: .9739

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	55.48	1.00	36.18	2.00	18.22	3.00	10.45
4.00	6.16	5.00	3.51	6.00	1.82	7.00	.80	8.00	.29
9.00	.05								

DATE: 21 SEP TIME: 1055 HOURS
ATTENUATION COEFFICIENT: .77 R**2: .9756

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	64.47	1.00	45.51	2.00	22.75	3.00	12.26
4.00	6.64	5.00	3.64	6.00	1.98	7.00	.72	8.00	.25
9.00	.05								

DATE: 25 OCT TIME: 1415 HOURS
ATTENUATION COEFFICIENT: .85 R**2: .9952

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	49.33	1.00	30.42	2.00	10.85	3.00	4.60
4.00	2.06	5.00	.92	6.00	.42	7.00	.20	8.00	.09

LAKE 227

DATE: 5 MAY TIME: 0950 HOURS
ATTENUATION COEFFICIENT: 1.28 R**2: .9963

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	41.78	1.00	20.17	2.00	5.04	3.00	1.58
4.00	.48	5.00	.15						

DATE: 17 MAY TIME: 1105 HOURS
ATTENUATION COEFFICIENT: 1.28 R**2: .9897

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	35.67	1.00	15.42	2.00	4.05	3.00	1.21
4.00	.41	5.00	.14						

DATE: 4 JUN TIME: 1050 HOURS
ATTENUATION COEFFICIENT: 1.59 R**2: .9938

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	39.88	1.00	19.67	2.00	4.47	3.00	.55
4.00	.13	5.00	.05						

DATE: 15 JUN TIME: 1040 HOURS
ATTENUATION COEFFICIENT: 1.42 R**2: .9873

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	51.97	1.00	28.84	2.00	9.27	3.00	2.10
4.00	.28								

DATE: 29 JUN TIME: 0955 HOURS
ATTENUATION COEFFICIENT: 1.47 R**2: .9937

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	49.76	1.00	25.44	2.00	7.86	3.00	2.01
4.00	.26	5.00	.07						

DATE: 12 JUL TIME: 0955 HOURS
ATTENUATION COEFFICIENT: 1.65 R**2: .9916

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	32.21	1.00	11.34	2.00	1.97	3.00	.59
4.00	.11								

DATE: 21 JUL TIME: 1150 HOURS
ATTENUATION COEFFICIENT: 1.97 R**2: .9584

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	20.15	1.00	4.35	2.00	.41	3.00	.10
4.00	.04								

DATE: 6 AUG TIME: 1445 HOURS
ATTENUATION COEFFICIENT: 2.18 R**2: .9249

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	22.65	.50	8.49	1.00	1.05	2.00	.11
3.00	.04	4.00	.01						

DATE: 22 AUG TIME: 1135 HOURS
ATTENUATION COEFFICIENT: 2.76 R**2: .9279

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	28.79	.50	10.78	1.00	1.57	1.50	.25
2.00	.08	3.00	.03						

LAKE 227

DATE: 3 SEP TIME: 1110 HOURS
ATTENUATION COEFFICIENT: 3.08 R**2: .9966

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	34.49	.50	14.48	1.00	2.96	1.50	.58
2.00	.15	3.00	.01						

DATE: 15 SEP TIME: 1610 HOURS
ATTENUATION COEFFICIENT: 3.10 R**2: .9971

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	27.22	.50	13.26	1.00	2.88	2.00	.15
3.00	.01								

DATE: 28 SEP TIME: 1050 HOURS
ATTENUATION COEFFICIENT: 1.80 R**2: .9963

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	46.61	.50	31.07	1.00	11.65	2.00	2.16
3.00	.39								

DATE: 13 OCT TIME: 0840 HOURS
ATTENUATION COEFFICIENT: 1.69 R**2: .9971

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	34.04	1.00	13.13	2.00	2.79	3.00	.63
4.00	.09								

DATE: 25 OCT TIME: 1105 HOURS
ATTENUATION COEFFICIENT: 1.84 R**2: .9944

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	26.26	1.00	8.87	2.00	1.61	3.00	.27
4.00	.05								

LAKE 239

DATE: 5 MAY TIME: 0915 HOURS
ATTENUATION COEFFICIENT: .58 R**2: .9891

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	56.35	1.00	32.94	2.00	17.64	3.00	9.63
4.00	5.22	5.00	2.88	6.00	1.77	7.00	.99	8.00	.67
9.00	.41	10.00	.25						

DATE: 12 MAY TIME: 1055 HOURS
ATTENUATION COEFFICIENT: .59 R**2: .9965

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	61.20	1.00	41.15	2.00	21.95	3.00	11.92
4.00	6.28	5.00	3.53	6.00	1.99	7.00	1.14	8.00	.65
9.00	.41	10.00	.24						

DATE: 31 MAY TIME: 0950 HOURS
ATTENUATION COEFFICIENT: .59 R**2: .9939

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	54.46	1.00	34.99	2.00	19.14	3.00	11.35
4.00	6.34	5.00	3.53	6.00	1.98	7.00	1.14	8.00	.69
9.00	.43								

DATE: 15 JUN TIME: 1130 HOURS
ATTENUATION COEFFICIENT: .60 R**2: .9987

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	68.85	1.00	44.36	2.00	26.34	3.00	14.51
4.00	7.76	5.00	4.25	6.00	2.36	7.00	1.30	8.00	.67
9.00	.42	10.00	.25						

DATE: 29 JUN TIME: 1600 HOURS
ATTENUATION COEFFICIENT: .61 R**2: .9993

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	66.46	1.00	47.17	2.00	25.73	3.00	14.26
4.00	7.72	5.00	4.23	6.00	2.40	7.00	1.30	8.00	.64
9.00	.37	10.00	.23						

DATE: 12 JUL TIME: 0915 HOURS
ATTENUATION COEFFICIENT: .74 R**2: .9987

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	58.55	1.00	36.91	2.00	18.58	3.00	7.99
4.00	3.84	5.00	1.93	6.00	.93	7.00	.45	8.00	.23
9.00	.12	10.00	.05						

DATE: 27 JUL TIME: 0910 HOURS
ATTENUATION COEFFICIENT: .67 R**2: .9934

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	60.30	1.00	38.86	2.00	17.42	3.00	8.58
4.00	4.42	5.00	2.41	6.00	1.26	7.00	.58	8.00	.32
9.00	.21	10.00	.14						

DATE: 10 AUG TIME: 1110 HOURS
ATTENUATION COEFFICIENT: .63 R**2: .9968

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	63.81	1.00	40.41	2.00	21.27	3.00	11.17
4.00	5.74	5.00	3.19	6.00	1.71	7.00	.90	8.00	.50
9.00	.30	10.00	.19						

LAKE 239

DATE: 16 AUG TIME: 1630 HOURS
ATTENUATION COEFFICIENT: .69 R**2: .9976

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	56.01	1.00	38.19	2.00	17.82	3.00	8.40
4.00	4.28	5.00	2.34	6.00	1.20	7.00	.60	8.00	.33
9.00	.17	10.00	.09						

DATE: 23 AUG TIME: 0910 HOURS
ATTENUATION COEFFICIENT: .78 R**2: .9951

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	68.00	1.00	40.00	2.00	20.00	3.00	10.00
4.00	4.72	5.00	2.32	6.00	1.16	7.00	.51	8.00	.21
9.00	.06								

DATE: 6 SEP TIME: 0935 HOURS
ATTENUATION COEFFICIENT: .64 R**2: .9985

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	60.52	1.00	41.30	2.00	21.13	3.00	12.10
4.00	6.34	5.00	3.41	6.00	1.92	7.00	1.01	8.00	.50
9.00	.24								

DATE: 20 SEP TIME: 0945 HOURS
ATTENUATION COEFFICIENT: .63 R**2: .9939

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	66.16	1.00	42.71	2.00	19.10	3.00	10.64
4.00	5.53	5.00	2.91	6.00	1.64	7.00	.99	8.00	.60
9.00	.34								

DATE: 11 OCT TIME: 1115 HOURS
ATTENUATION COEFFICIENT: .66 R**2: .9963

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	56.00	1.00	35.00	2.00	17.00	3.00	9.40
4.00	5.10	5.00	2.95	6.00	1.54	7.00	.82	8.00	.42
9.00	.20								

DATE: 26 OCT TIME: 1000 HOURS
ATTENUATION COEFFICIENT: .67 R**2: .9907

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	52.37	1.00	30.80	2.00	14.48	3.00	7.39
4.00	3.70	5.00	1.94	6.00	1.03	7.00	.58	8.00	.34
9.00	.20								

LAKE 302 N

DATE: 4 MAY TIME: 0915 HOURS
ATTENUATION COEFFICIENT: .63 R**2: .9934

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	57.50	1.00	38.01	2.00	19.98	3.00	11.60
4.00	7.07	5.00	4.14	6.00	2.29	7.00	1.27	8.00	.60
9.00	.27	10.00	.11						

DATE: 12 MAY TIME: 0820 HOURS
ATTENUATION COEFFICIENT: .72 R**2: .9972

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	67.00	1.00	39.75	2.00	16.97	3.00	8.22
4.00	4.27	5.00	2.19	6.00	1.15	7.00	.61	8.00	.31
9.00	.14	10.00	.05						

DATE: 12 MAY TIME: 0850 HOURS
ATTENUATION COEFFICIENT: .71 R**2: .9975

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	72.22	1.00	42.98	2.00	18.97	3.00	8.88
4.00	4.37	5.00	2.26	6.00	1.21	7.00	.65	8.00	.33
9.00	.15								

DATE: 20 MAY TIME: 1020 HOURS
ATTENUATION COEFFICIENT: .74 R**2: .9963

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	69.10	1.00	48.07	2.00	21.63	3.00	11.18
4.00	5.59	5.00	2.82	6.00	1.43	7.00	.75	8.00	.34
9.00	.12	10.00	.05						

DATE: 4 JUN TIME: 0915 HOURS
ATTENUATION COEFFICIENT: .70 R**2: .9964

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	67.68	1.00	47.37	2.00	24.36	3.00	13.54
4.00	7.58	5.00	3.72	6.00	1.81	7.00	.77	8.00	.35
9.00	.15								

DATE: 22 JUN TIME: 0830 HOURS
ATTENUATION COEFFICIENT: .72 R**2: .9900

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	66.09	1.00	46.54	2.00	23.54	3.00	12.91
4.00	6.86	5.00	3.73	6.00	1.90	7.00	.85	8.00	.34
9.00	.10								

DATE: 1 JUL TIME: 1500 HOURS
ATTENUATION COEFFICIENT: .71 R**2: .9770

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	67.91	1.00	45.97	2.00	28.84	3.00	16.42
4.00	9.53	5.00	5.18	6.00	2.72	7.00	1.18	8.00	.47
9.00	.19	10.00	.04						

DATE: 16 JUL TIME: 0930 HOURS
ATTENUATION COEFFICIENT: .76 R**2: .9681

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	55.39	1.00	36.33	2.00	19.06	3.00	11.20
4.00	5.78	5.00	3.04	6.00	1.55	7.00	.76	8.00	.29
9.00	.04								

LAKE 302 N

DATE: 4 AUG TIME: 0945 HOURS
ATTENUATION COEFFICIENT: .80 R**2: .9949

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SUFF.
0.00	100.00	.50	63.47	1.00	42.32	2.00	19.04	3.00	10.01
4.00	4.80	5.00	2.03	6.00	.96	7.00	.48	8.00	.18
9.00	.05								

DATE: 16 AUG TIME: 0915 HOURS
ATTENUATION COEFFICIENT: .81 R**2: .9848

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SUFF.
0.00	100.00	.50	75.59	1.00	53.26	2.00	26.11	3.00	13.06
4.00	6.70	5.00	3.35	6.00	1.37	7.00	.60	8.00	.19
9.00	.04								

DATE: 28 AUG TIME: 1105 HOURS
ATTENUATION COEFFICIENT: .72 R**2: .9664

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	65.53	1.00	48.91	2.00	27.39	3.00	14.48
4.00	9.49	5.00	5.48	6.00	2.66	7.00	1.10	8.00	.33
9.00	.07								

DATE: 13 SEP TIME: 0920 HOURS
ATTENUATION COEFFICIENT: .75 R**2: .9806

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	68.51	1.00	48.36	2.00	20.96	3.00	11.69
4.00	6.65	5.00	3.81	6.00	1.91	7.00	.77	8.00	.28
9.00	.06								

DATE: 27 SEP TIME: 0850 HOURS
ATTENUATION COEFFICIENT: .72 R**2: .9899

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	54.82	1.00	32.08	2.00	15.02	3.00	8.18
4.00	4.55	5.00	2.48	6.00	1.32	7.00	.65	8.00	.18

DATE: 11 OCT TIME: 0945 HOURS
ATTENUATION COEFFICIENT: .85 R**2: .9939

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	49.63	1.00	27.63	2.00	11.75	3.00	5.46
4.00	2.71	5.00	1.29	6.00	.60	7.00	.23	8.00	.07

DATE: 25 OCT TIME: 1625 HOURS
ATTENUATION COEFFICIENT: .87 R**2: .9909

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	57.95	1.00	26.08	2.00	9.96	3.00	3.88
4.00	1.70	5.00	.80	6.00	.38	7.00	.18	8.00	.09

LAKE 302 S

DATE: 4 MAY TIME: 0940 HOURS
ATTENUATION COEFFICIENT: .58 R**2: .9449

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	68.06	1.00	48.07	2.00	28.93	3.00	18.63
4.00	11.74	5.00	7.61	6.00	4.72	7.00	2.85	8.00	.40

DATE: 12 MAY TIME: 0835 HOURS
ATTENUATION COEFFICIENT: .58 R**2: .9982

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	67.00	1.00	50.76	2.00	27.41	3.00	16.24
4.00	9.85	5.00	5.85	6.00	2.96	7.00	1.58	8.00	.82

DATE: 20 MAY TIME: 1010 HOURS
ATTENUATION COEFFICIENT: .57 R**2: .9993

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	76.75	1.00	53.60	2.00	29.85	3.00	18.64
4.00	10.60	5.00	5.97	6.00	3.47	7.00	1.91	8.00	1.01

DATE: 4 JUN TIME: 0930 HOURS
ATTENUATION COEFFICIENT: .60 R**2: .9954

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	76.57	1.00	54.88	2.00	32.54	3.00	19.40
4.00	11.23	5.00	6.13	6.00	3.23	7.00	1.61	8.00	.71

DATE: 22 JUN TIME: 0810 HOURS
ATTENUATION COEFFICIENT: .63 R**2: .9848

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	66.41	1.00	50.25	2.00	28.18	3.00	18.33
4.00	11.13	5.00	6.23	6.00	3.41	7.00	1.45	8.00	.68
9.00	.22								

DATE: 1 JUL TIME: 1515 HOURS
ATTENUATION COEFFICIENT: .67 R**2: .9329

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	77.78	1.00	57.78	2.00	36.67	3.00	25.78
4.00	16.22	5.00	10.67	6.00	6.09	7.00	1.80	8.00	.59
9.00	.12								

DATE: 16 JUL TIME: 0940 HOURS
ATTENUATION COEFFICIENT: .67 R**2: .9428

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	63.59	1.00	45.42	2.00	28.16	3.00	19.53
4.00	13.40	5.00	8.45	6.00	4.59	7.00	1.45	8.00	.41
9.00	.11								

DATE: 4 AUG TIME: 0955 HOURS
ATTENUATION COEFFICIENT: .81 R**2: .9058

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	77.05	1.00	59.63	2.00	30.82	3.00	22.91
4.00	14.74	5.00	8.51	6.00	4.56	7.00	1.93	8.00	.59
9.00	.04	10.00	.01						

DATE: 16 AUG TIME: 0905 HOURS
ATTENUATION COEFFICIENT: .82 R**2: .8859

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	74.05	1.00	54.66	2.00	32.27	3.00	18.69
4.00	11.46	5.00	7.14	6.00	3.49	7.00	1.29	8.00	.33
9.00	.01								

LAKE 302 S

DATE: 27 AUG TIME: 0915 HOURS
ATTENUATION COEFFICIENT: .81 R**2: .8372

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	71.72	1.00	53.79	2.00	31.14	3.00	18.87
4.00	11.14	5.00	6.98	6.00	4.53	7.00	1.74	8.00	.52
9.00	.01								

DATE: 28 AUG TIME: 1055 HOURS
ATTENUATION COEFFICIENT: .77 R**2: .8390

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	80.79	1.00	57.15	2.00	33.99	3.00	20.69
4.00	13.01	5.00	8.38	6.00	5.32	7.00	2.34	8.00	.65
9.00	.01								

DATE: 13 SEP TIME: 1000 HOURS
ATTENUATION COEFFICIENT: .60 R**2: .9510

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	65.37	1.00	47.06	2.00	28.92	3.00	18.96
4.00	12.09	5.00	8.01	6.00	4.67	7.00	2.50	8.00	.93
8.50	.25								

DATE: 27 SEP TIME: 0910 HOURS
ATTENUATION COEFFICIENT: .50 R**2: .9931

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	58.18	1.00	40.55	2.00	23.63	3.00	15.52
4.00	10.14	5.00	6.38	6.00	4.09	7.00	2.50	8.00	1.50
9.00	.72								

DATE: 11 OCT TIME: 1000 HOURS
ATTENUATION COEFFICIENT: .53 R**2: .9935

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	61.66	1.00	35.35	2.00	20.72	3.00	12.50
4.00	7.65	5.00	4.77	6.00	2.96	7.00	1.81	8.00	1.10
9.00	.64	10.00	.36						

DATE: 25 OCT TIME: 1615 HOURS
ATTENUATION COEFFICIENT: .57 R**2: .9935

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	72.43	1.00	45.99	2.00	22.09	3.00	12.31
4.00	7.10	5.00	4.16	6.00	2.50	7.00	1.52	8.00	.94
9.00	.56								

LAKE 303

DATE: 20 MAY TIME: 0850 HOURS
ATTENUATION COEFFICIENT: .79 R**2: .9954

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	77.01	.50	64.69	1.00	40.82	2.00	20.33

DATE: 29 JUN TIME: 1455 HOURS
ATTENUATION COEFFICIENT: .63 R**2: .9999

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	72.43	1.00	52.97	2.00	28.52		

DATE: 20 JUL TIME: 0845 HOURS
ATTENUATION COEFFICIENT: .95 R**2: .9877

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	51.48	1.00	33.17	2.00	14.38		

DATE: 11 AUG TIME: 1655 HOURS
ATTENUATION COEFFICIENT: .99 R**2: .9856

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	50.43	1.00	26.94	2.00	11.96	2.50	7.92

DATE: 13 SEP TIME: 1130 HOURS
ATTENUATION COEFFICIENT: 1.08 R**2: .9872

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	48.17	1.00	27.48	2.00	11.03		

DATE: 13 OCT TIME: 1040 HOURS
ATTENUATION COEFFICIENT: 1.12 R**2: .9826

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	59.96	.50	44.52	1.00	24.98	2.00	9.77

LAKE 304

DATE: 20 MAY TIME: 0915 HOURS
ATTENUATION COEFFICIENT: 1.29 R**2: .9971

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	48.10	1.00	26.11	2.00	8.25	3.00	2.58
4.00	.60	5.00	.13						

DATE: 22 JUN TIME: 0925 HOURS
ATTENUATION COEFFICIENT: 1.36 R**2: .9448

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	55.95	1.00	31.77	2.00	12.57	3.00	4.42
4.00	1.20	5.00	.05						

DATE: 20 JUL TIME: 0920 HOURS
ATTENUATION COEFFICIENT: 1.92 R**2: .8794

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	47.16	1.00	26.20	2.00	9.43	3.00	2.62
4.00	.43	5.00	.00						

DATE: 11 AUG TIME: 1630 HOURS
ATTENUATION COEFFICIENT: 1.56 R**2: .8401

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	47.41	1.00	27.18	2.00	9.86	3.00	3.60
3.50	1.90	4.00	.04						

DATE: 13 SEP TIME: 1110 HOURS
ATTENUATION COEFFICIENT: 1.43 R**2: .9947

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	37.22	1.00	19.36	2.00	7.69	3.00	1.18
4.00	.33	5.00	.06						

DATE: 13 OCT TIME: 1010 HOURS
ATTENUATION COEFFICIENT: 1.34 R**2: .9886

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	35.31	1.00	14.68	2.00	4.04	3.00	1.32
4.00	.40								

LAKE 305

DATE: 27 MAY TIME: 0910 HOURS
ATTENUATION COEFFICIENT: .34 R**2: .9967

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	75.28	1.00	63.24	2.00	41.40	3.00	27.85
4.00	18.97	5.00	13.40	6.00	9.56	7.00	6.55	8.00	4.71
9.00	3.39	10.00	2.39	11.00	1.72	12.00	1.26	13.00	.93
14.00	.69	15.00	.53	16.00	.40				

DATE: 25 JUN TIME: 0835 HOURS
ATTENUATION COEFFICIENT: .34 R**2: .9970

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	69.16	1.00	56.19	2.00	39.77	3.00	27.15
4.00	17.98	5.00	12.71	6.00	9.25	7.00	6.48	8.00	4.63
9.00	3.41	10.00	2.40	11.00	1.73	12.00	1.28	13.00	.94
14.00	.68	15.00	.52	16.00	.39				

DATE: 21 JUL TIME: 1005 HOURS
ATTENUATION COEFFICIENT: .35 R**2: .9905

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	75.74	1.00	61.76	2.00	37.87	3.00	24.70
4.00	16.31	5.00	11.19	6.00	7.63	7.00	5.19	8.00	3.71
9.00	2.69	10.00	2.03	11.00	1.44	12.00	1.12	13.00	.85
14.00	.65	15.00	.49	16.00	.38				

DATE: 22 AUG TIME: 1105 HOURS
ATTENUATION COEFFICIENT: .35 R**2: .9923

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	84.98	1.00	65.37	2.00	39.22	3.00	27.78
4.00	19.61	5.00	13.62	6.00	9.59	7.00	6.43	8.00	4.25
9.00	2.96	10.00	2.11	11.00	1.55	12.00	1.18	13.00	.92
14.00	.71	15.00	.57	16.00	.44				

DATE: 15 SEP TIME: 1500 HOURS
ATTENUATION COEFFICIENT: .36 R**2: .9952

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	81.05	1.00	64.84	2.00	41.06	3.00	27.56
4.00	18.37	5.00	12.64	6.00	8.86	7.00	6.21	8.00	4.54
9.00	3.13	10.00	1.98	11.00	1.42	12.00	1.05	13.00	.78
14.00	.61	15.00	.47	16.00	.36				

DATE: 25 OCT TIME: 1105 HOURS
ATTENUATION COEFFICIENT: .38 R**2: .9941

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	69.31	1.00	53.14	2.00	32.81	3.00	21.26
4.00	14.32	5.00	9.47	6.00	6.58	7.00	4.55	8.00	3.10
9.00	2.19	10.00	1.57	11.00	1.13	12.00	.79	13.00	.58
14.00	.43	15.00	.32						

LAKE 382

DATE: 27 MAY TIME: 1000 HOURS
ATTENUATION COEFFICIENT: .67 R**2: .9994

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	66.35	1.00	46.83	2.00	22.77	3.00	11.58
4.00	5.72	5.00	2.93	6.00	1.48	7.00	.80	8.00	.42
9.00	.23	10.00	.11						

DATE: 25 JUN TIME: 0910 HOURS
ATTENUATION COEFFICIENT: .65 R**2: .9992

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	67.00	1.00	44.16	2.00	22.08	3.00	11.57
4.00	6.40	5.00	3.38	6.00	1.72	7.00	.92	8.00	.48
9.00	.25								

DATE: 21 JUL TIME: 1055 HOURS
ATTENUATION COEFFICIENT: .62 R**2: .9991

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	70.24	1.00	46.47	2.00	25.94	3.00	12.97
4.00	7.24	5.00	3.57	6.00	2.03	7.00	1.10	8.00	.65
9.00	.35	10.00	.19						

DATE: 23 AUG TIME: 0900 HOURS
ATTENUATION COEFFICIENT: .69 R**2: .9985

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	63.47	1.00	40.30	2.00	19.95	3.00	10.26
4.00	5.64	5.00	3.06	6.00	1.51	7.00	.77	8.00	.39
9.00	.19	10.00	.08						

DATE: 15 SEP TIME: 1530 HOURS
ATTENUATION COEFFICIENT: .69 R**2: .9972

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	59.28	1.00	38.29	2.00	21.00	3.00	10.74
4.00	5.74	5.00	3.15	6.00	1.69	7.00	.86	8.00	.37
9.00	.18	10.00	.07						

DATE: 25 OCT TIME: 0935 HOURS
ATTENUATION COEFFICIENT: .67 R**2: .9939

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	50.25	1.00	30.99	2.00	14.24	3.00	7.20
4.00	3.77	5.00	1.95	6.00	1.03	7.00	.57	8.00	.31
9.00	.17	10.00	.09						

LAKE 382 BAY

DATE: 27 MAY TIME: 1015 HOURS
ATTENUATION COEFFICIENT: 1.11 R**2: .9971

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	52.77	1.00	29.65	2.00	10.67		

DATE: 25 JUN TIME: 0920 HOURS
ATTENUATION COEFFICIENT: 1.08 R**2: .9922

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	46.79	1.00	27.08	2.00	8.93	3.00	3.72

DATE: 21 JUL TIME: 1115 HOURS
ATTENUATION COEFFICIENT: .94 R**2: .9947

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	55.74	1.00	32.16	2.00	13.29	3.00	5.85

DATE: 23 AUG TIME: 0930 HOURS
ATTENUATION COEFFICIENT: .90 R**2: .9978

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	61.91	1.00	36.47	2.00	15.27	3.00	6.78

DATE: 15 SEP TIME: 1545 HOURS
ATTENUATION COEFFICIENT: .83 R**2: .9987

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	62.98	1.00	39.53	2.00	18.09	3.00	8.11

DATE: 25 OCT TIME: 0950 HOURS
ATTENUATION COEFFICIENT: 1.14 R**2: .9834

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	38.57	1.00	20.92	2.00	7.62	3.00	2.88

LAKE 629

DATE: 26 MAY TIME: 1125 HOURS
ATTENUATION COEFFICIENT: .65 R**2: .9992

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	60.70	1.00	42.02	2.00	23.34	3.00	12.14
4.00	6.26	5.00	3.17	6.00	1.70	7.00	.89	8.00	.49
9.00	.26	10.00	.14						

DATE: 8 JUL TIME: 1110 HOURS
ATTENUATION COEFFICIENT: .66 R**2: .9982

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	69.48	1.00	44.67	2.00	22.33	3.00	11.91
4.00	6.75	5.00	3.47	6.00	1.89	7.00	.83		

DATE: 17 AUG TIME: 1010 HOURS
ATTENUATION COEFFICIENT: .75 R**2: .9883

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	59.83	1.00	43.08	2.00	21.54	3.00	10.89
4.00	5.74	5.00	2.87	6.00	1.39	7.00	.73	8.00	.31
9.00	.06								

DATE: 29 SEP TIME: 1010 HOURS
ATTENUATION COEFFICIENT: .62 R**2: .9972

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.50	57.43	1.00	37.52	2.00	19.14	3.00	10.45
4.00	5.74	5.00	3.02	6.00	1.68	7.00	.96	8.00	.52
9.00	.29	10.00	.16						

LAKE 661

DATE: 20 MAY TIME: 0830 HOURS
ATTENUATION COEFFICIENT: 2.15 R**2: .9640

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	42.88	.50	30.37	.75	18.76		

DATE: 29 JUN TIME: 1525 HOURS
ATTENUATION COEFFICIENT: 2.57 R**2: .9839

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	45.64	.50	27.67				

DATE: 20 JUL TIME: 0805 HOURS
ATTENUATION COEFFICIENT: 3.13 R**2: .9741

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	32.07	.50	16.72	.75	9.16		

DATE: 11 AUG TIME: 1720 HOURS
ATTENUATION COEFFICIENT: 2.97 R**2: .8991

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	23.77	.50	14.68	.75	9.89		

DATE: 13 SEP TIME: 1155 HOURS
ATTENUATION COEFFICIENT: 3.31 R**2: .9857

DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	36.81	.50	19.14				

DATE: 13 OCT TIME: 1330 HOURS
ATTENUATION COEFFICIENT: 2.81 R**2: .9894

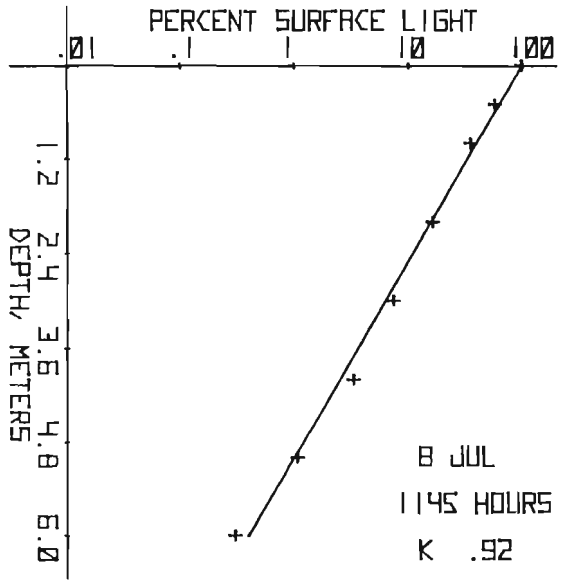
DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.	DEPTH	% SURF.
0.00	100.00	.25	43.65	.50	24.50				

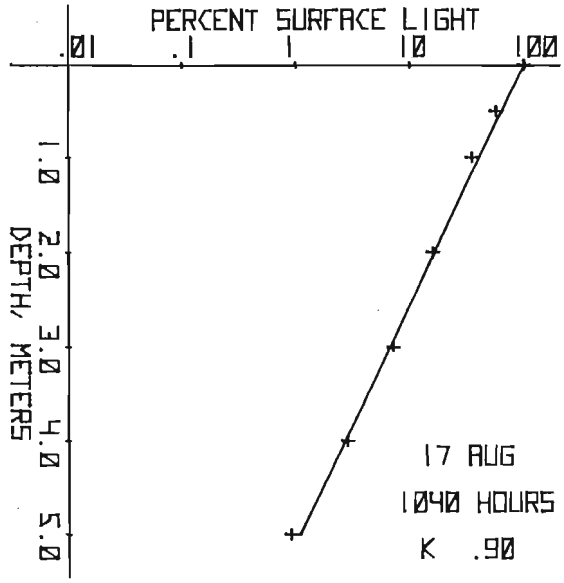
APPENDIX 2

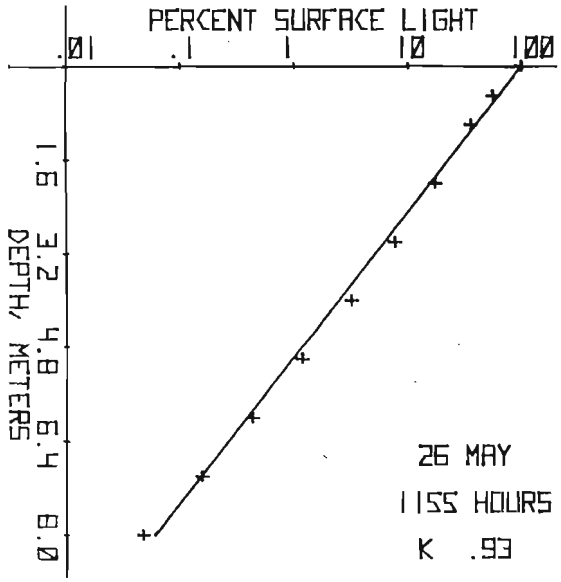
In this appendix, the measured irradiances (as percentages of surface irradiance) are plotted against depth (in meters). Percent surface light is plotted on a logarithmic scale, depth on a linear scale.

Each attenuation coefficient (K) is the negative slope of a regression of the natural logarithm of the percent surface light on depth. The solid line represents this regression and is an estimate of the percent surface light at depth, based on K. It has been drawn through 100% at 0 depth because this irradiance-depth relationship is fixed by definition.

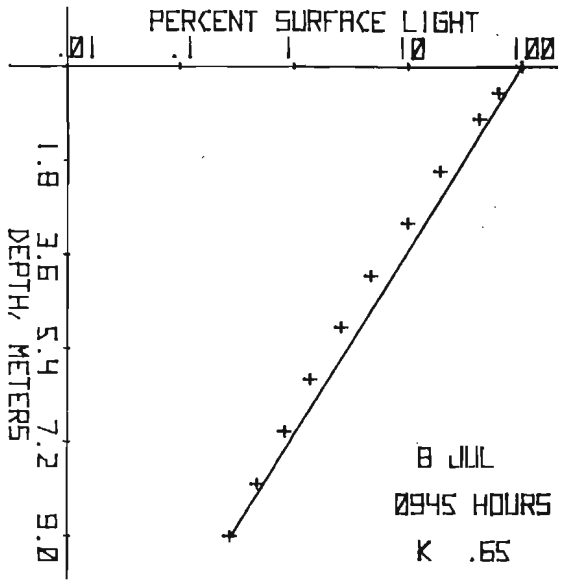
LAKE 93

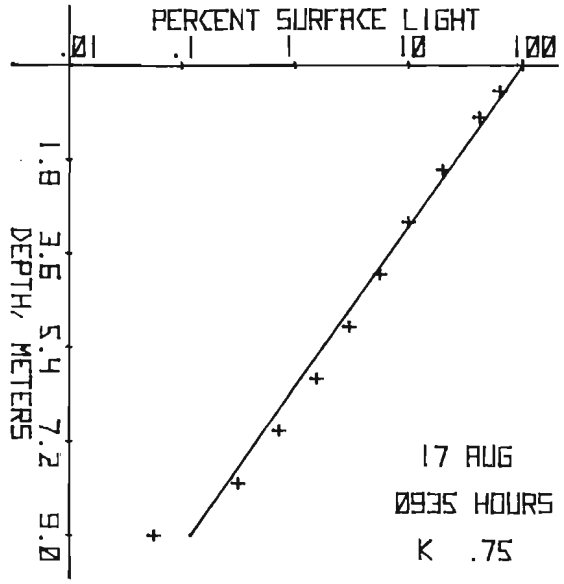

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.2
2.4
3.6
4.8
6.0
8 JUL
1145 HOURS
K .92

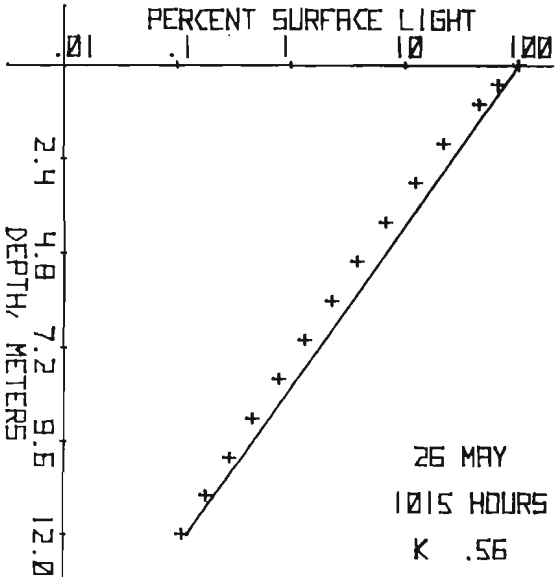

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
17 AUG
1040 HOURS
K .90

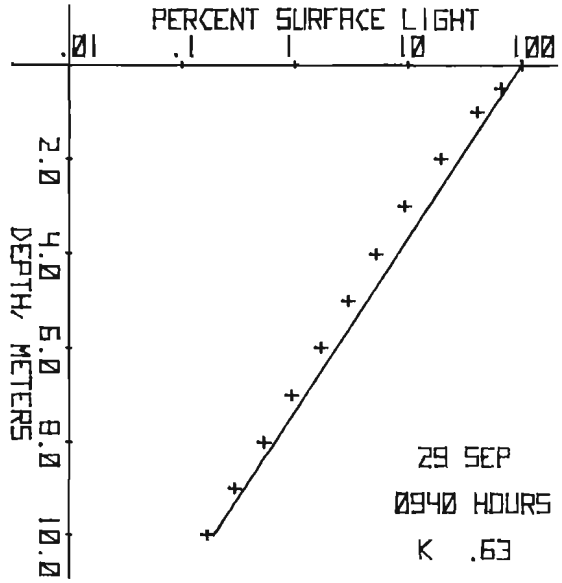

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.6
3.2
4.8
6.4
8.0
26 MAY
1155 HOURS
K .93

LAKE III

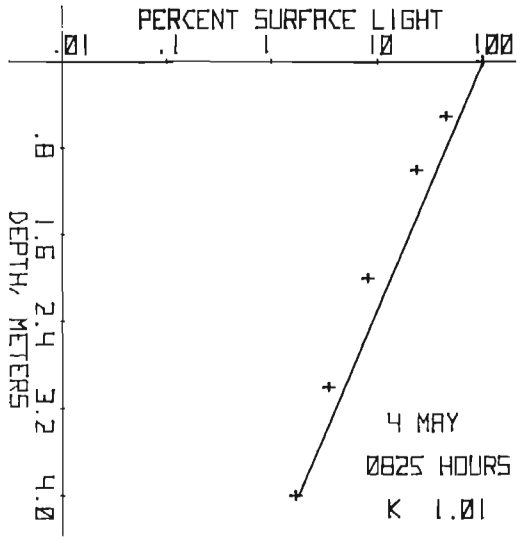

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
8 JUL
0945 HOURS
K .65

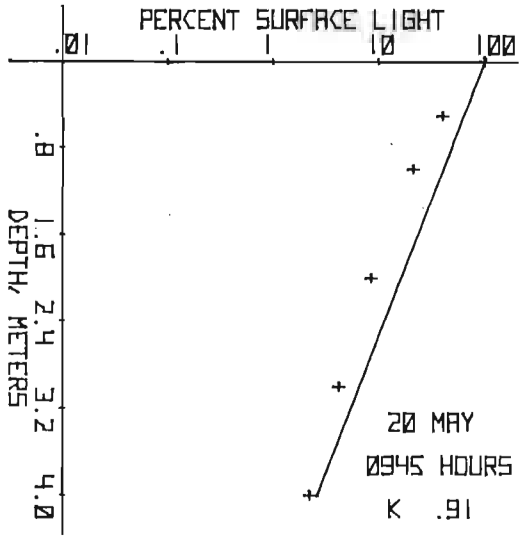

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
17 AUG
0935 HOURS
K .75

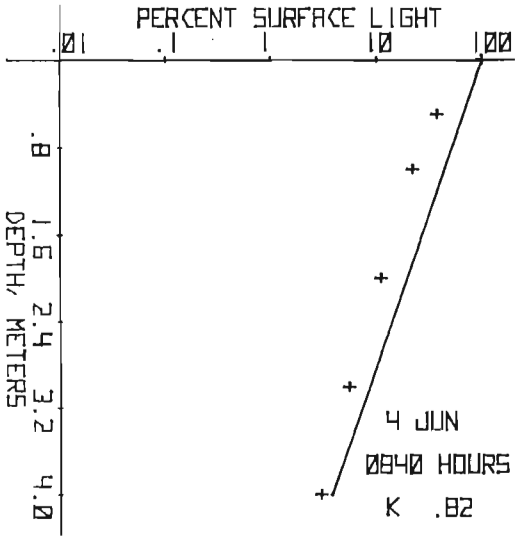

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.4
4.8
7.2
9.6
12.0
26 MAY
1015 HOURS
K .56

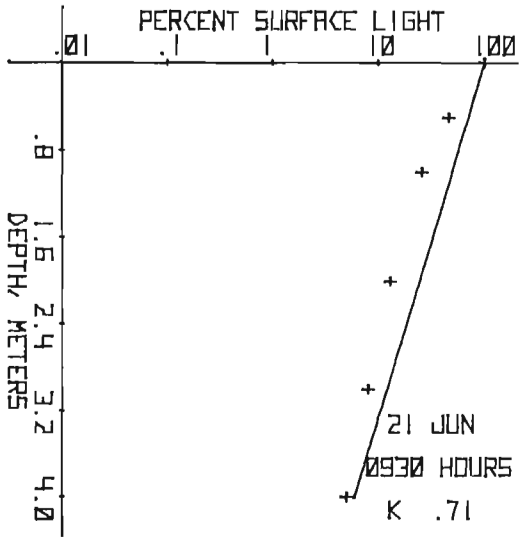

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
29 SEP
0940 HOURS
K .63

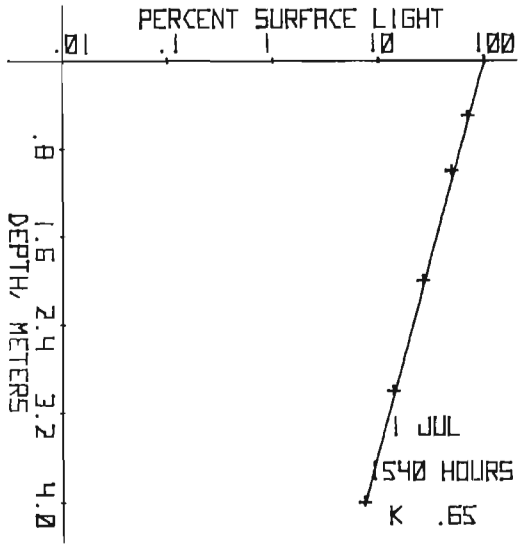
LAKE 114

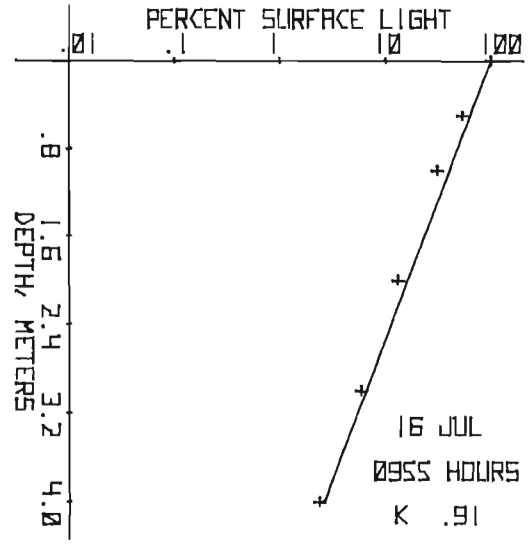

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.0
.8
1.6
2.4
3.2
4.0
4 MAY
0825 HOURS
K 1.01


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.0
.8
1.6
2.4
3.2
4.0
20 MAY
0945 HOURS
K .91

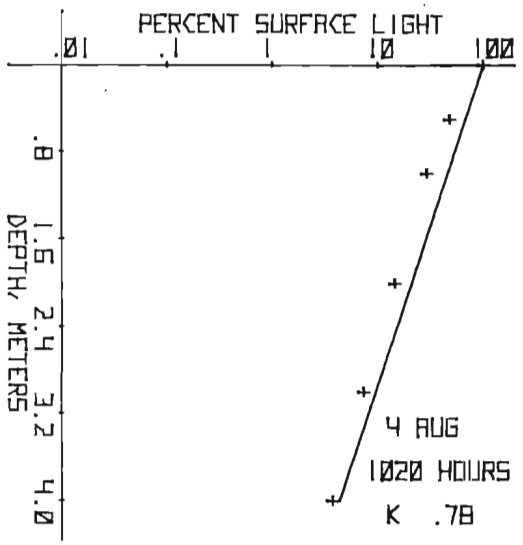

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.0
.8
1.6
2.4
3.2
4.0
4 JUN
0840 HOURS
K .82

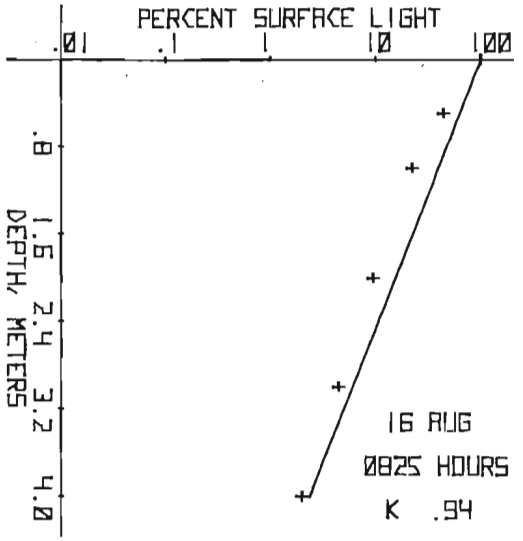

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.0
.8
1.6
2.4
3.2
4.0
21 JUN
0930 HOURS
K .71

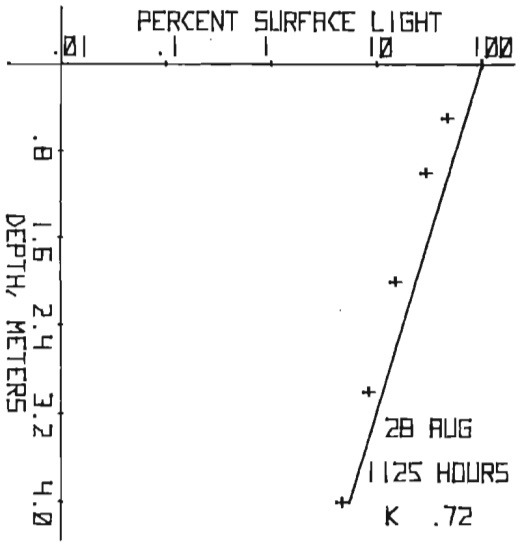

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.0
.8
1.6
2.4
3.2
4.0
1 JUL
1540 HOURS
K .65

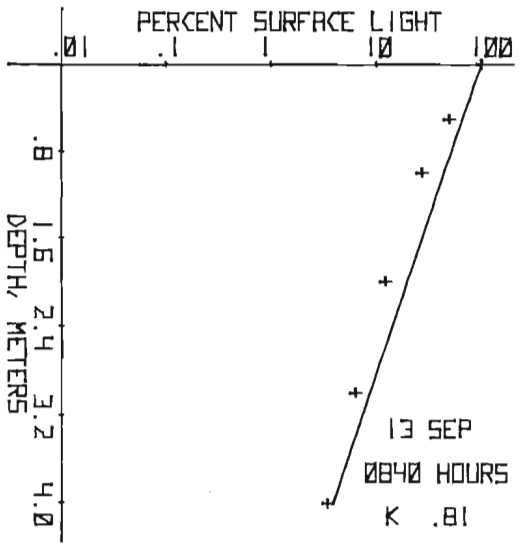

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.0
.8
1.6
2.4
3.2
4.0
16 JUL
0955 HOURS
K .91

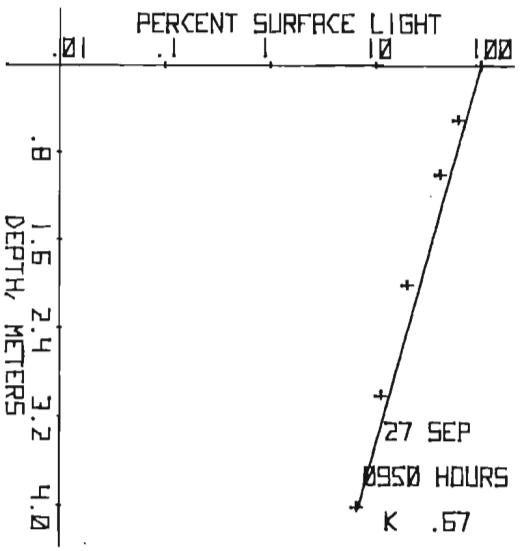
LAKE 114

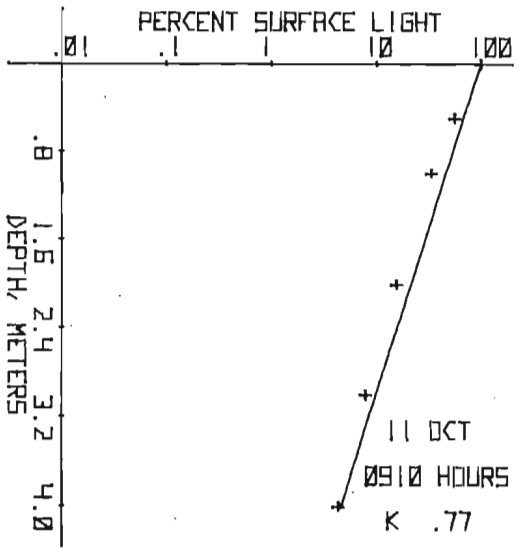

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.8 1.6 2.4 3.2 4.0
4 AUG
1020 HOURS
K .78


PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.8 1.6 2.4 3.2 4.0
16 AUG
0825 HOURS
K .94

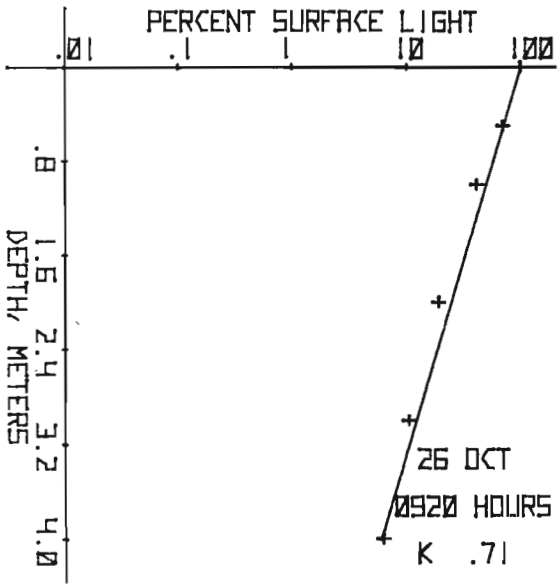

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.8 1.6 2.4 3.2 4.0
28 AUG
1125 HOURS
K .72


PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.8 1.6 2.4 3.2 4.0
13 SEP
0840 HOURS
K .81

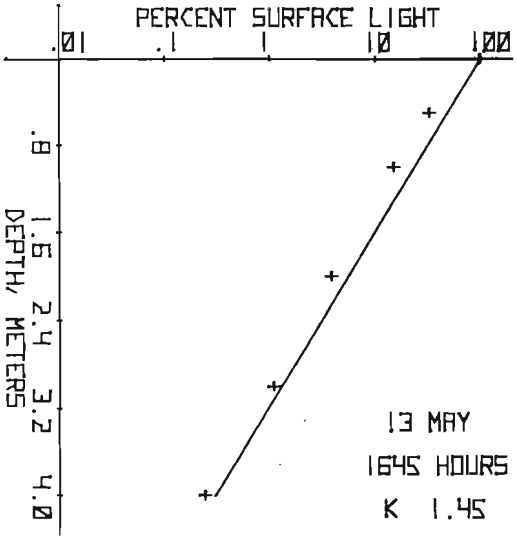

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.8 1.6 2.4 3.2 4.0
27 SEP
0950 HOURS
K .67

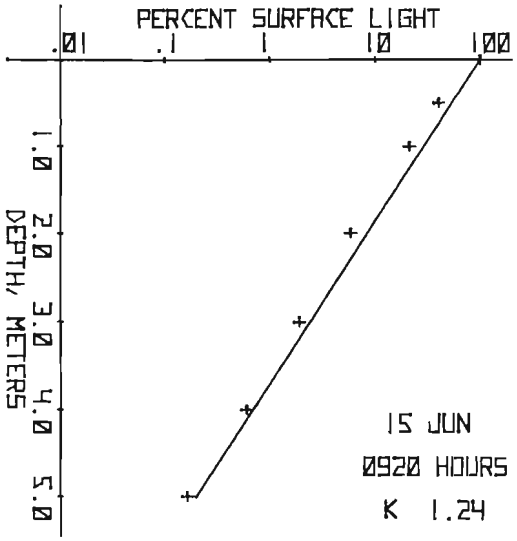

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.8 1.6 2.4 3.2 4.0
11 OCT
0910 HOURS
K .77

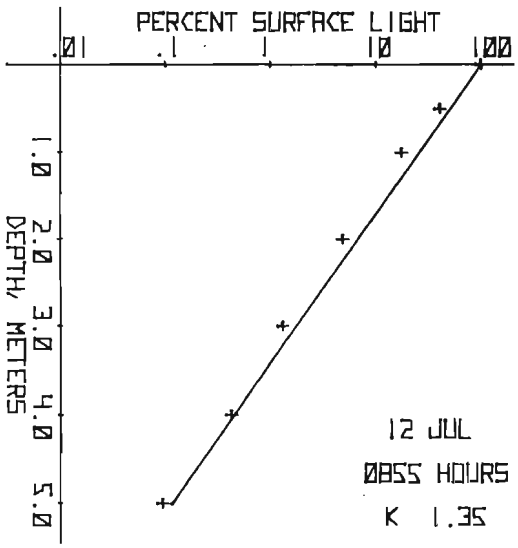
LAKE 114

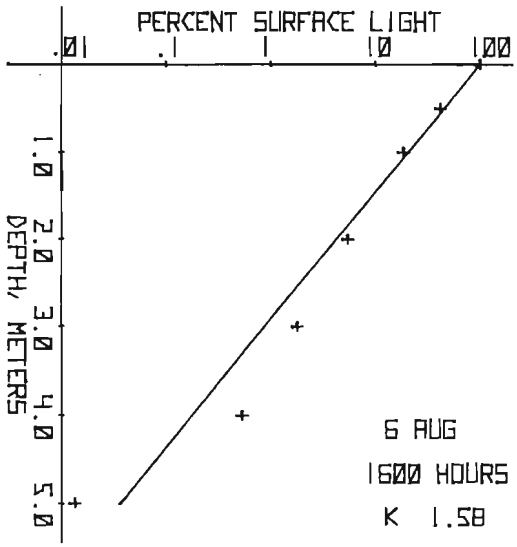

.01
.1
1
10
100
PERCENT SURFACE LIGHT
0.0
0.8
1.6
2.4
3.2
4.0
DEPTH, METERS
26 OCT
0920 HOURS
K .71

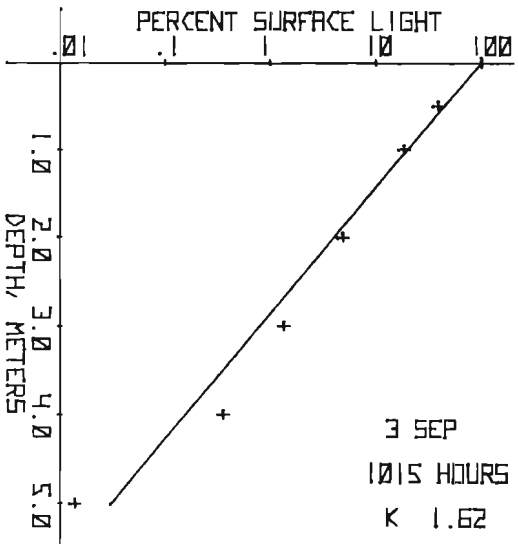
LAKE 222

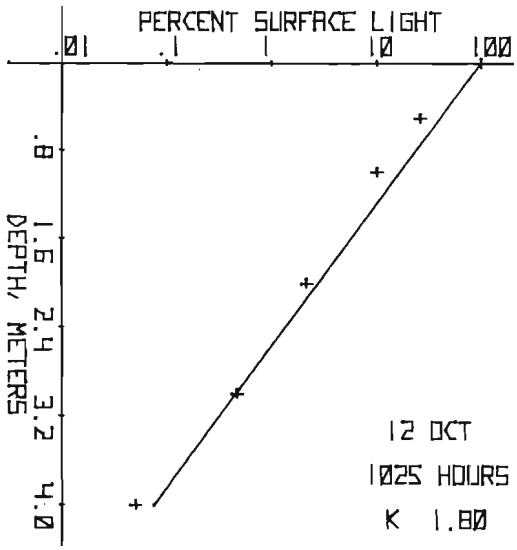

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.0
1.5
2.4
3.2
4.0
13 MAY
1645 HOURS
K 1.45


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
15 JUN
0920 HOURS
K 1.24

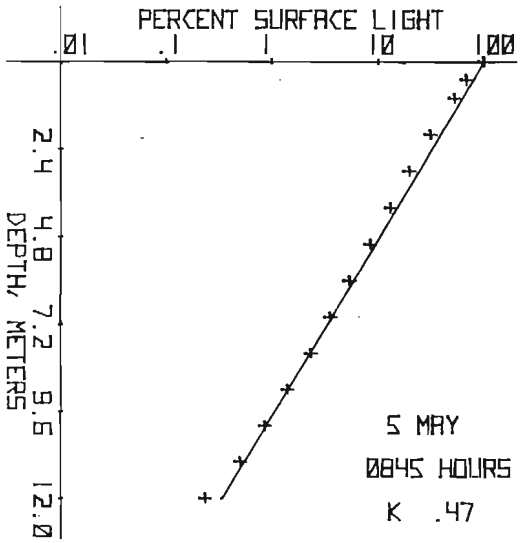

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
12 JUL
0855 HOURS
K 1.35

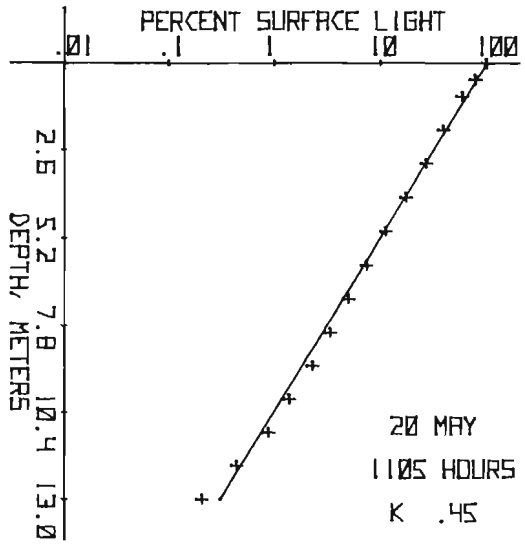

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
6 AUG
1600 HOURS
K 1.58

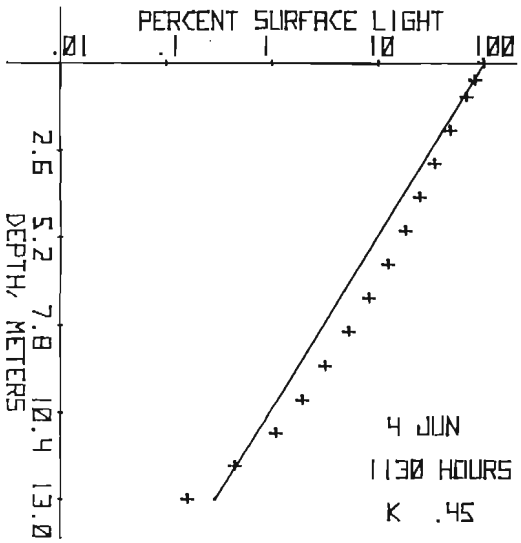

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
3 SEP
1015 HOURS
K 1.62

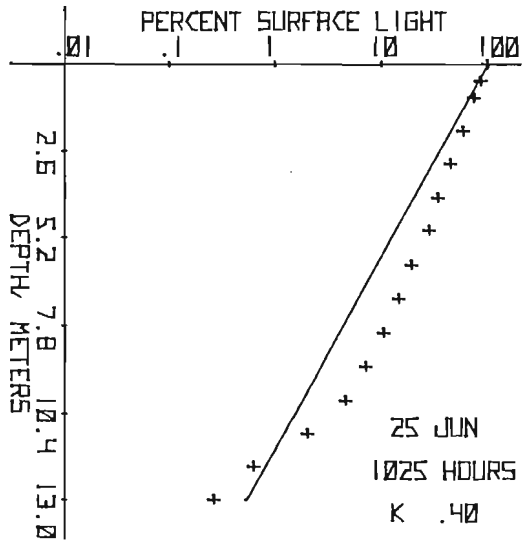

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.8
1.5
2.4
3.2
4.0
12 OCT
1025 HOURS
K 1.80

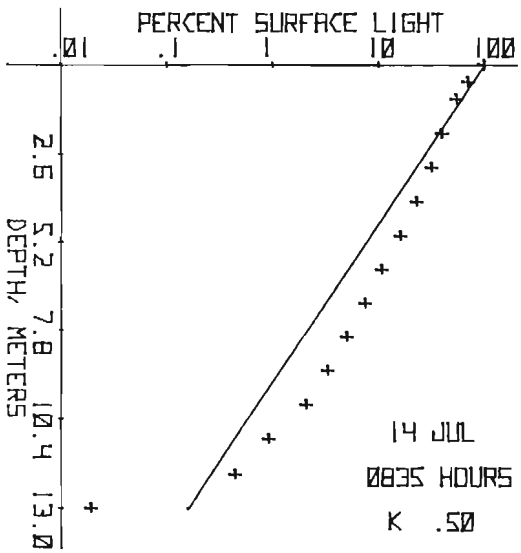
LAKE 223

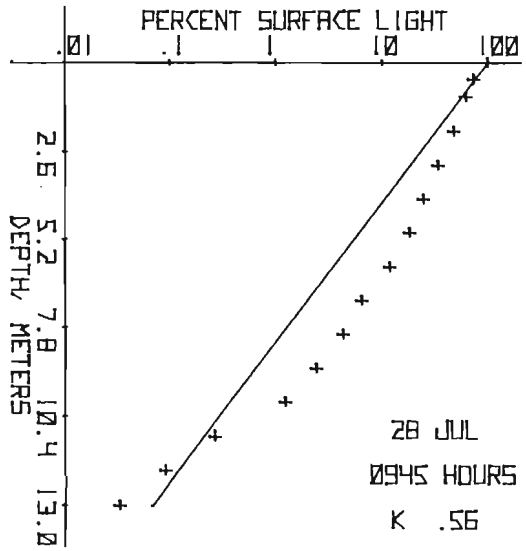

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.4
4.8
7.2
9.5
12.0
5 MAY
0845 HOURS
K .47


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.5
5.2
7.8
10.4
13.0
20 MAY
1105 HOURS
K .45

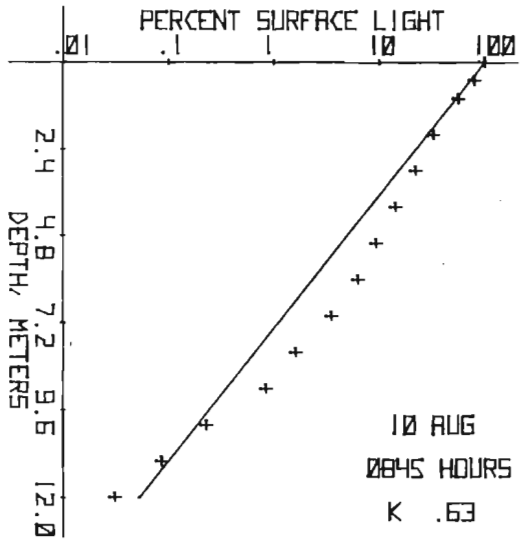

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.5
5.2
7.8
10.4
13.0
4 JUN
1130 HOURS
K .45

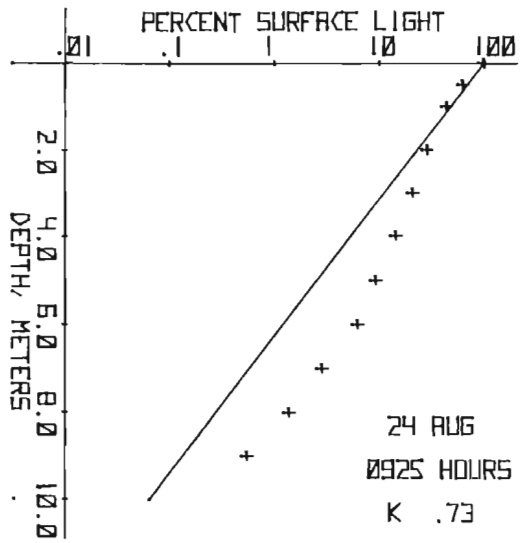

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.5
5.2
7.8
10.4
13.0
25 JUN
1025 HOURS
K .40

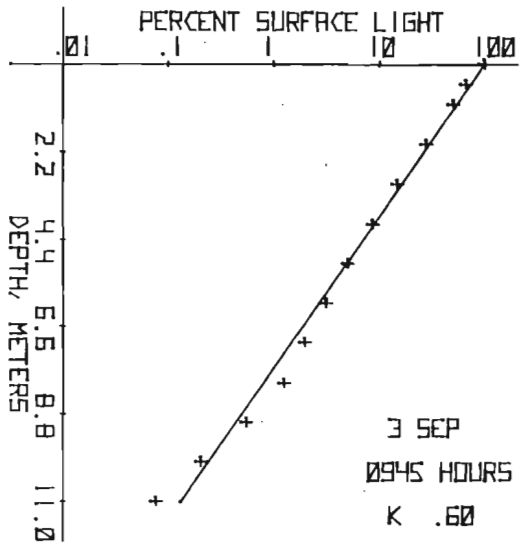

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.5
5.2
7.8
10.4
13.0
14 JUL
0835 HOURS
K .50

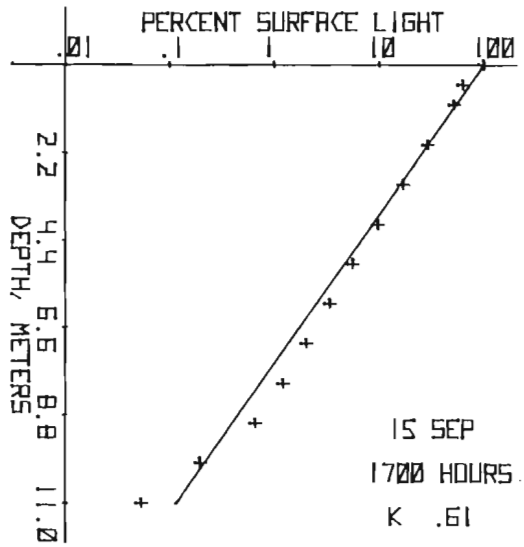

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.5
5.2
7.8
10.4
13.0
28 JUL
0945 HOURS
K .56

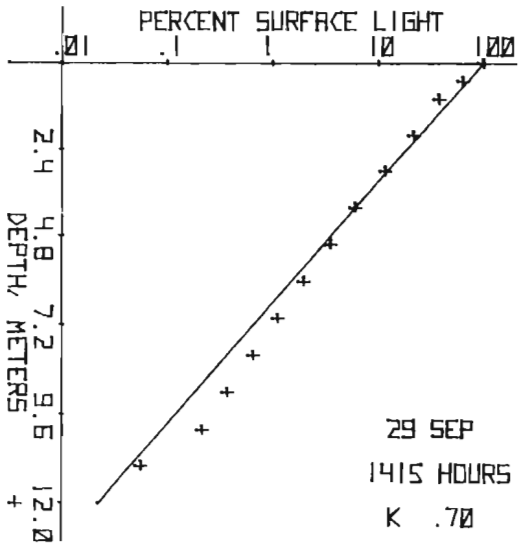
LAKE 223

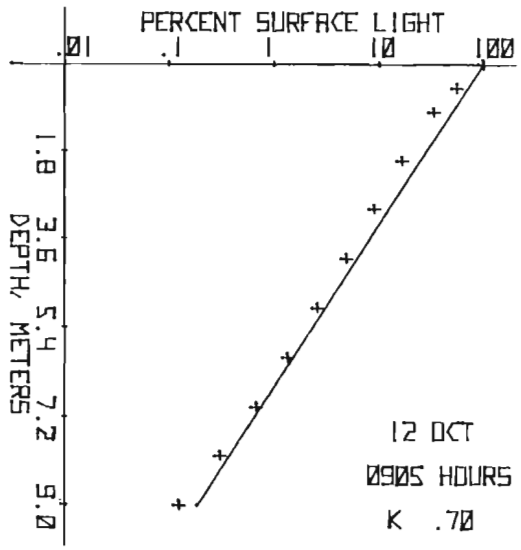

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.4
4.8
7.2
9.6
12.0
10 AUG
0845 HOURS
K .63


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.0
4.0
6.0
8.0
10.0
24 AUG
0925 HOURS
K .73

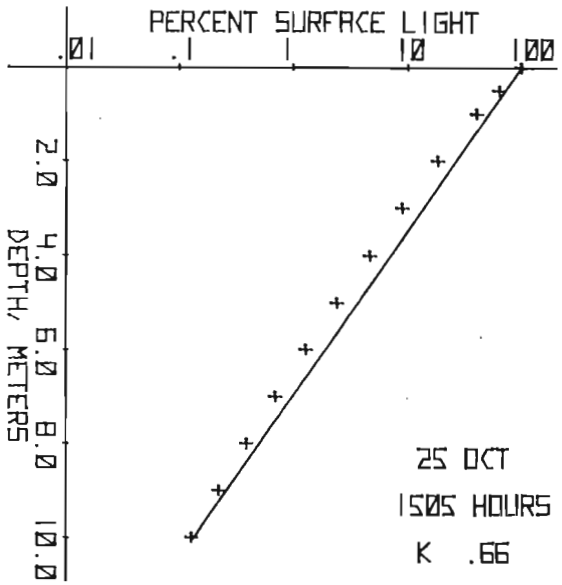

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.2
4.4
6.6
8.8
11.0
3 SEP
0945 HOURS
K .60


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.2
4.4
6.6
8.8
11.0
15 SEP
1700 HOURS
K .61

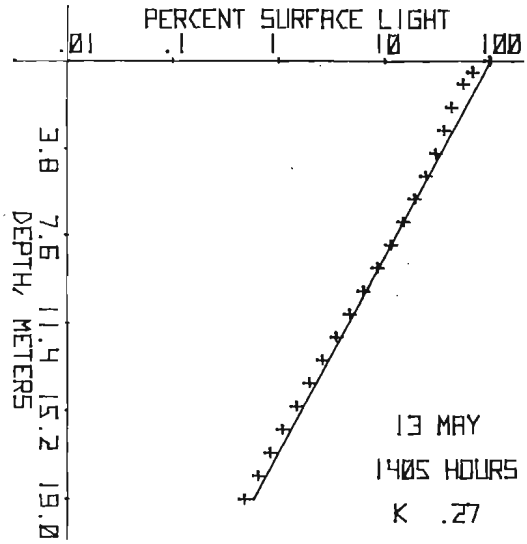

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.4
4.8
7.2
9.6
12.0
29 SEP
1415 HOURS
K .70

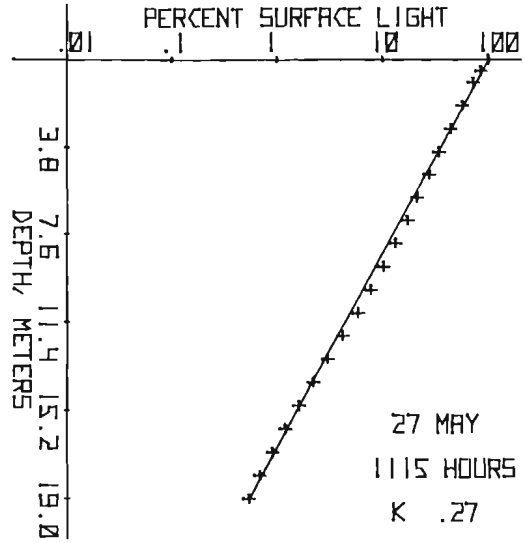

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.8
3.6
5.4
7.2
9.0
12 OCT
0905 HOURS
K .70

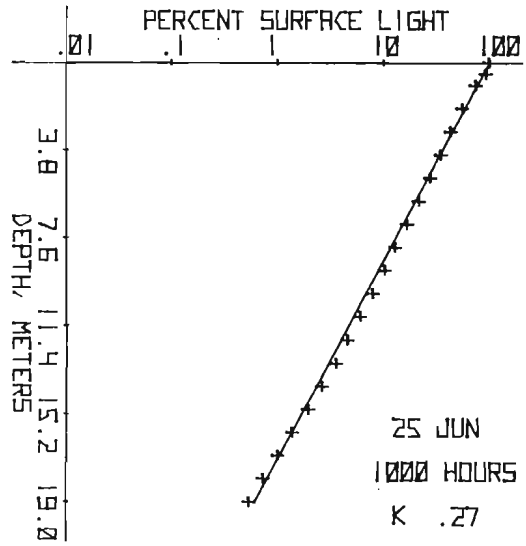
LAKE 223

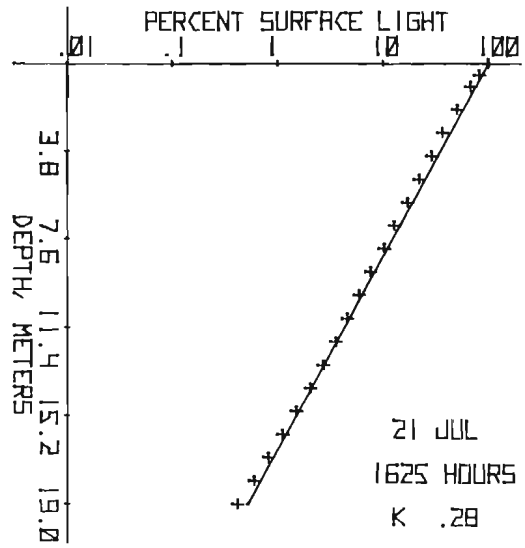

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.0
4.0
6.0
8.0
10.0
25 OCT
1505 HOURS
K .66

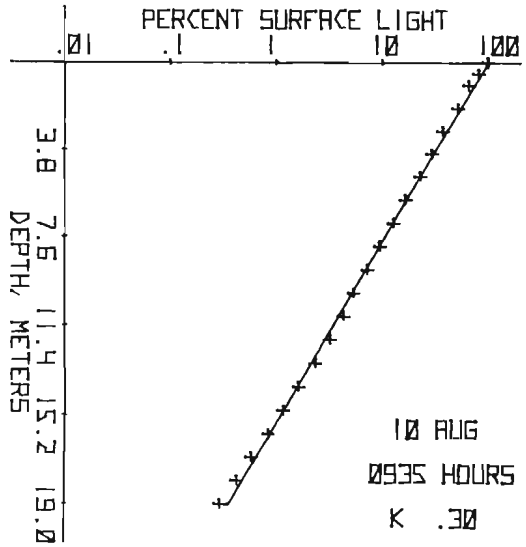
LAKE 224

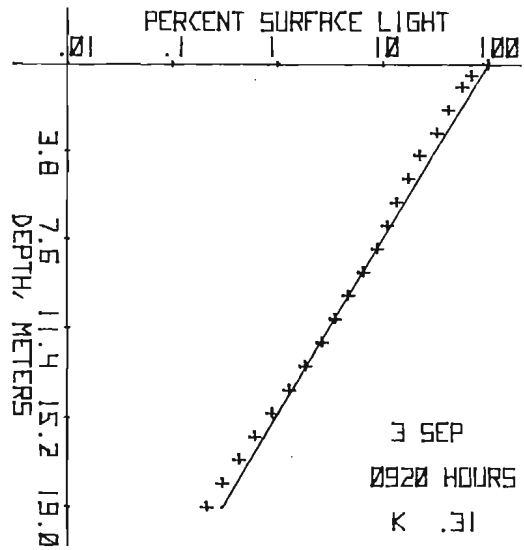

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
3.8
7.6
11.4
15.2
19.0
13 MAY
1405 HOURS
K .27


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
3.8
7.6
11.4
15.2
19.0
27 MAY
1115 HOURS
K .27

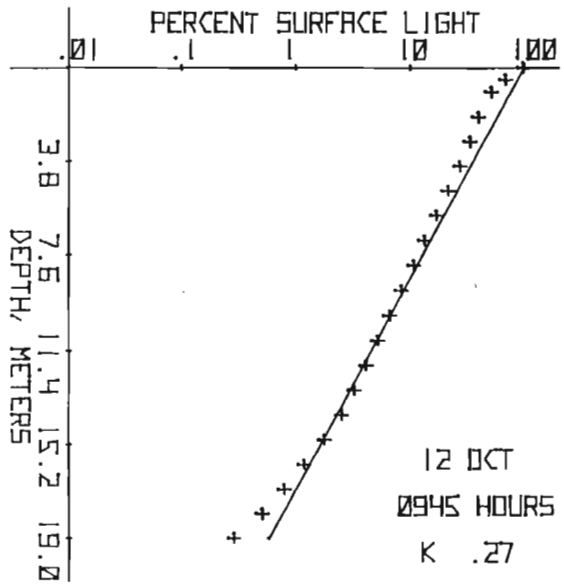

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
3.8
7.6
11.4
15.2
19.0
25 JUN
1000 HOURS
K .27


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
3.8
7.6
11.4
15.2
19.0
21 JUL
1625 HOURS
K .28

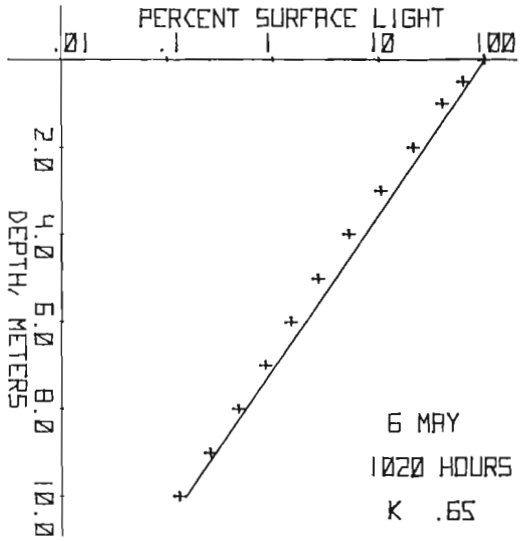

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
3.8
7.6
11.4
15.2
19.0
10 AUG
0935 HOURS
K .30

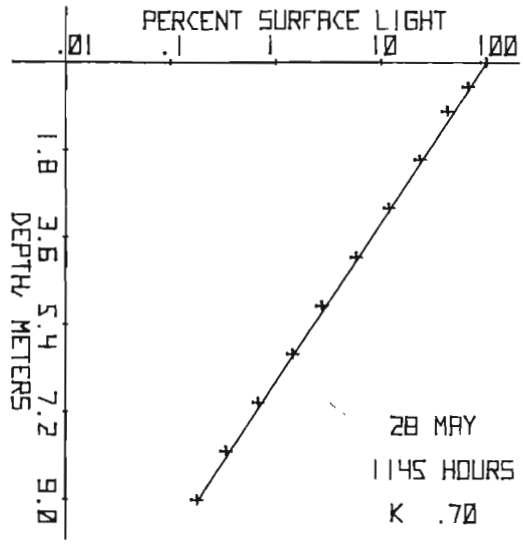

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
3.8
7.6
11.4
15.2
19.0
3 SEP
0920 HOURS
K .31

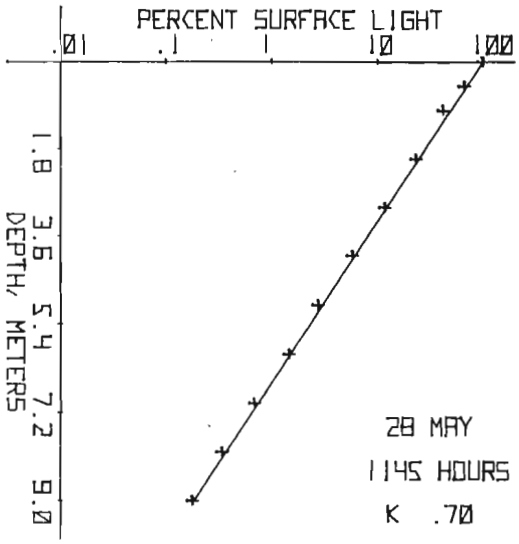
LAKE 224

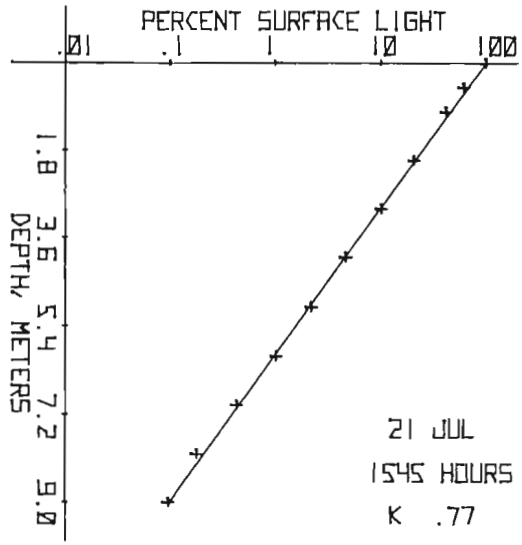

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0
3.8
7.6
11.4
15.2
19.0
12 OCT
0945 HOURS
K .27

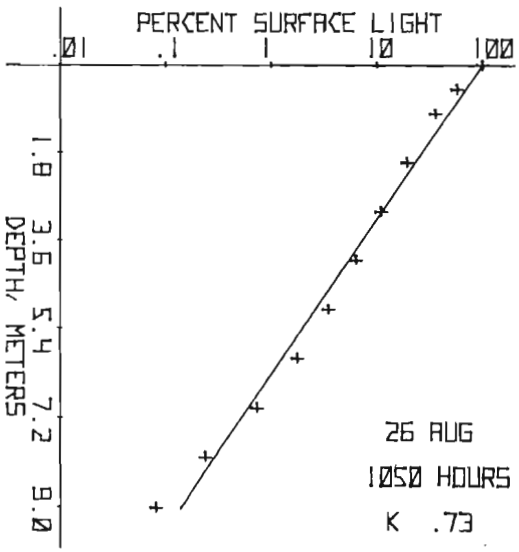
LAKE 226 NE

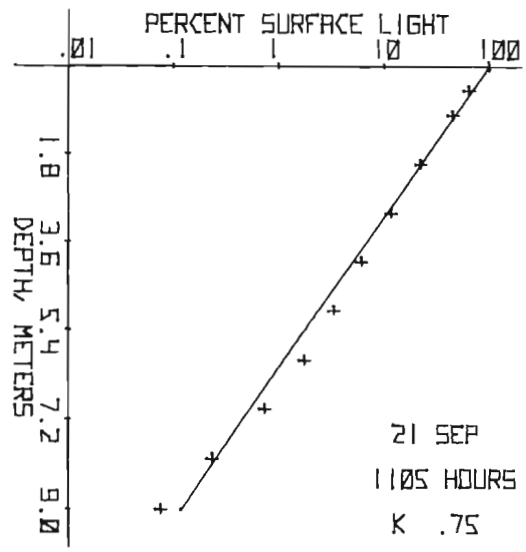

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
6 MAY
1020 HOURS
K .65


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
28 MAY
1145 HOURS
K .70

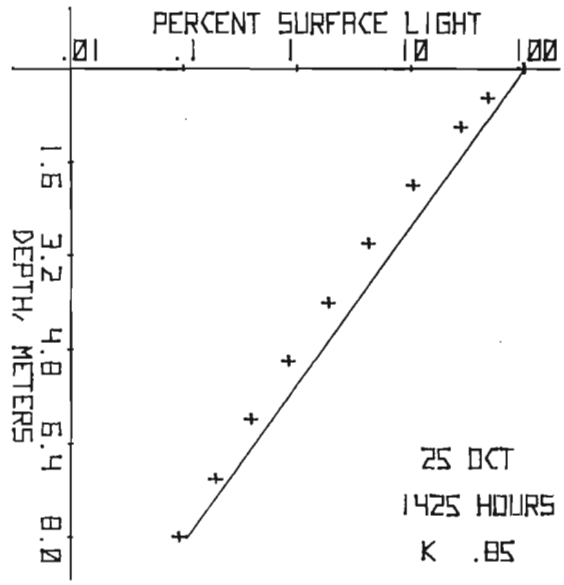

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
28 MAY
1145 HOURS
K .70


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
21 JUL
1545 HOURS
K .77

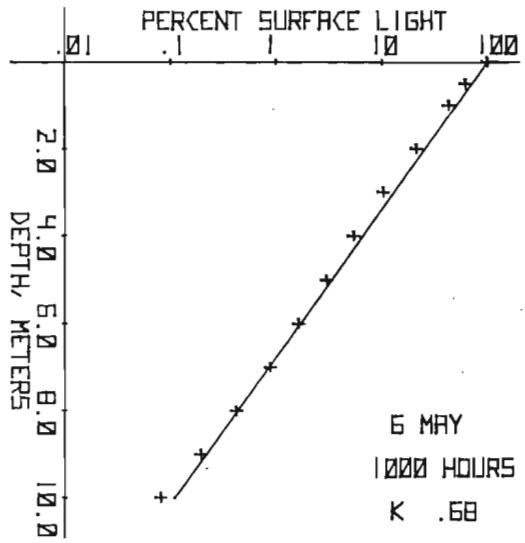

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
26 AUG
1050 HOURS
K .73

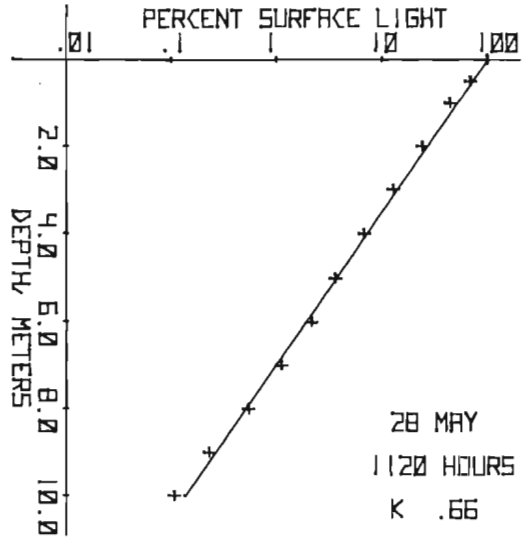

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
21 SEP
1105 HOURS
K .75

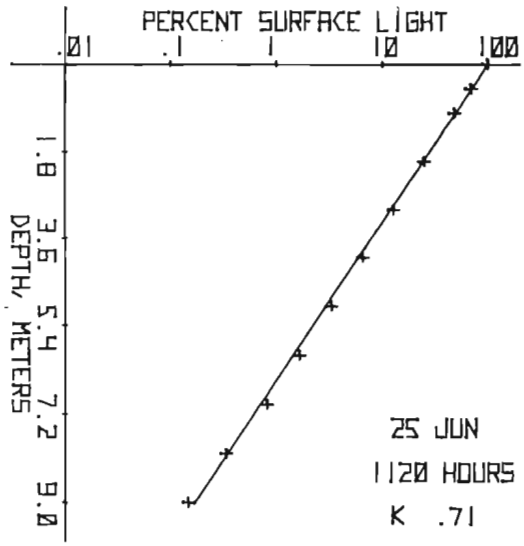
LAKE 226 NE

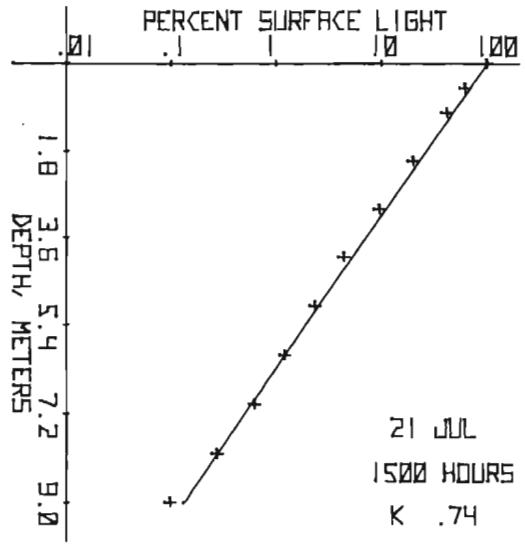

100
10
1
.1
.01
PERCENT SURFACE LIGHT
25 OCT
1425 HOURS
K .85
0.0
1.6
3.2
4.8
6.4
8.0
DEPTH, METERS

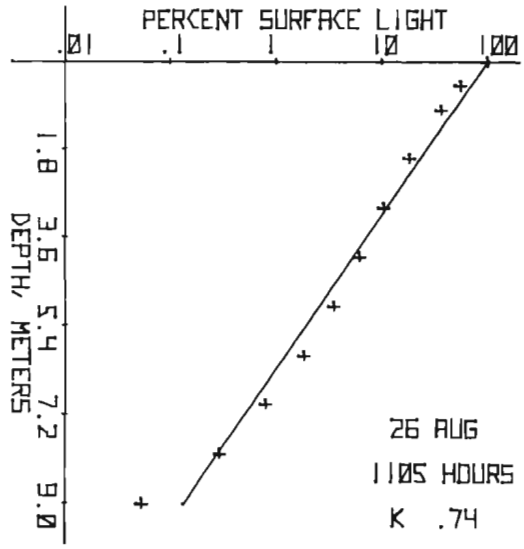
LAKE 226 SW

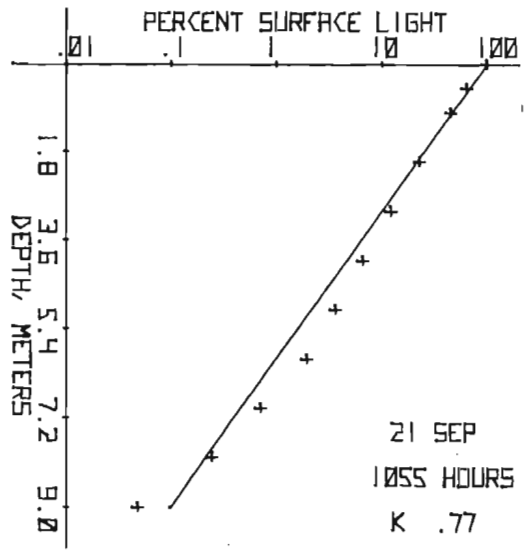

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
0.0 2.0 4.0 6.0 8.0 10.0
6 MAY
1000 HOURS
K .68


PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
0.0 2.0 4.0 6.0 8.0 10.0
28 MAY
1120 HOURS
K .66

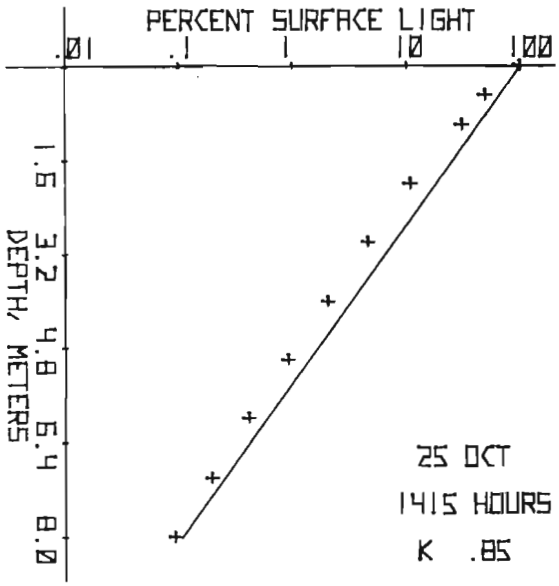

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
0.0 1.8 3.6 5.4 7.2 9.0
25 JUN
1120 HOURS
K .71


PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
0.0 1.8 3.6 5.4 7.2 9.0
21 JUL
1500 HOURS
K .74

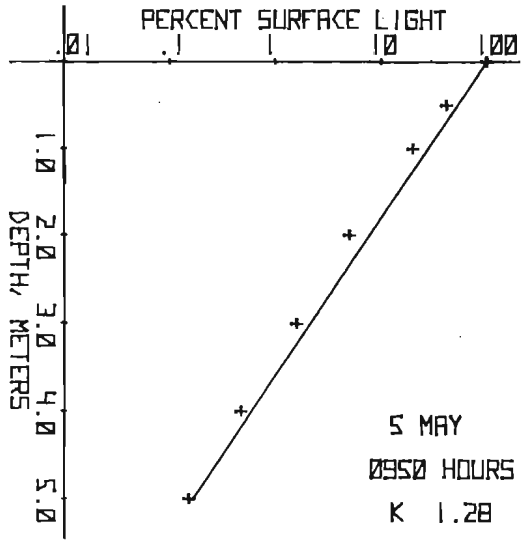

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
0.0 1.8 3.6 5.4 7.2 9.0
26 AUG
1105 HOURS
K .74

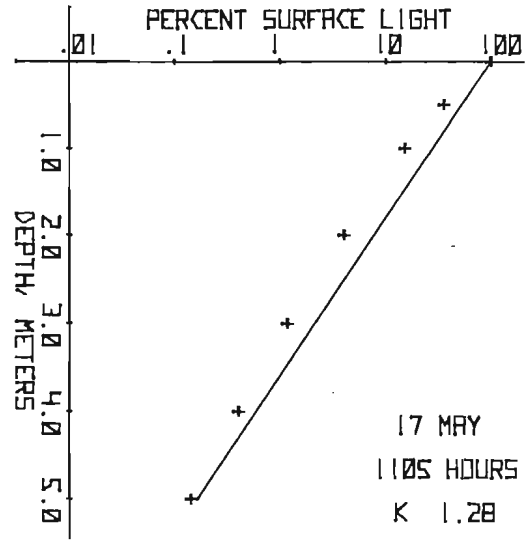

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
0.0 1.8 3.6 5.4 7.2 9.0
21 SEP
1055 HOURS
K .77

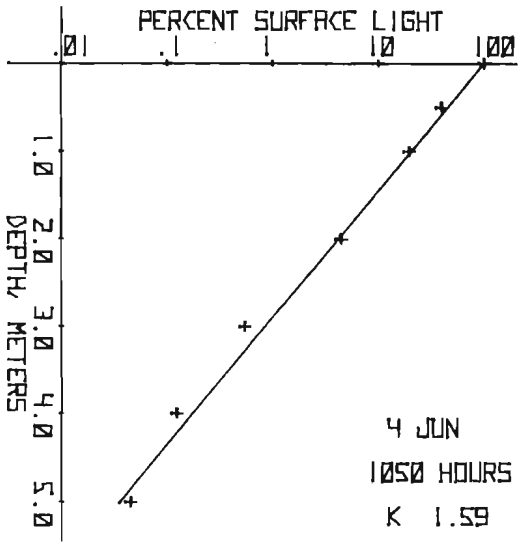
LAKE 226 SW

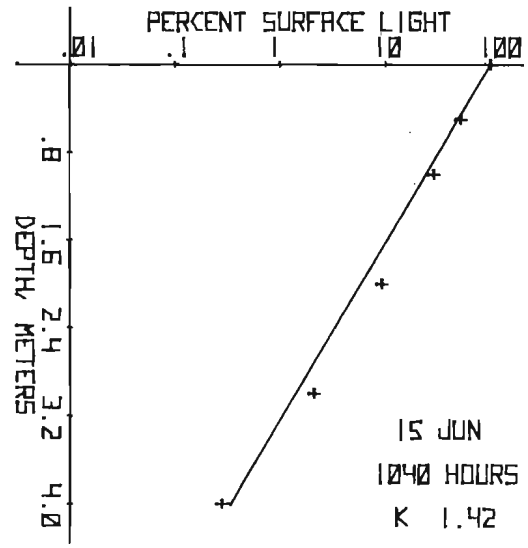

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.6
3.2
4.8
6.4
8.0
25 OCT
1415 HOURS
K .85

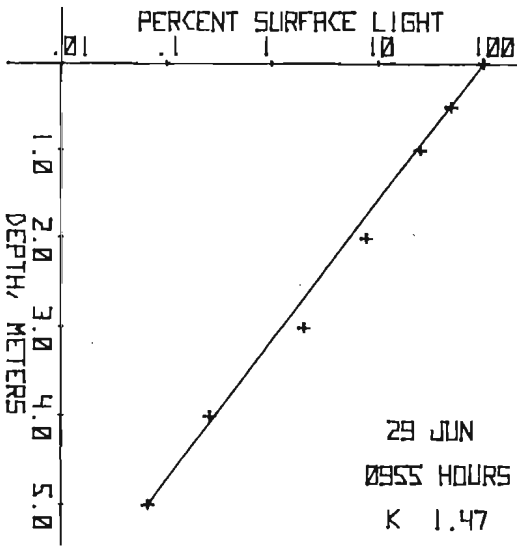
LAKE 227

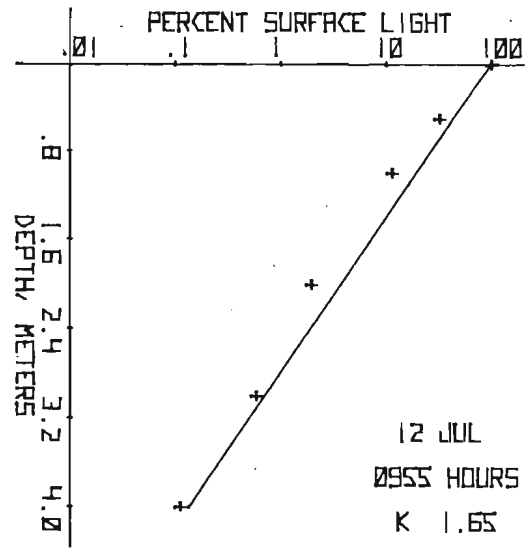

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
5 MAY
0950 HOURS
K 1.28


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
17 MAY
1105 HOURS
K 1.28

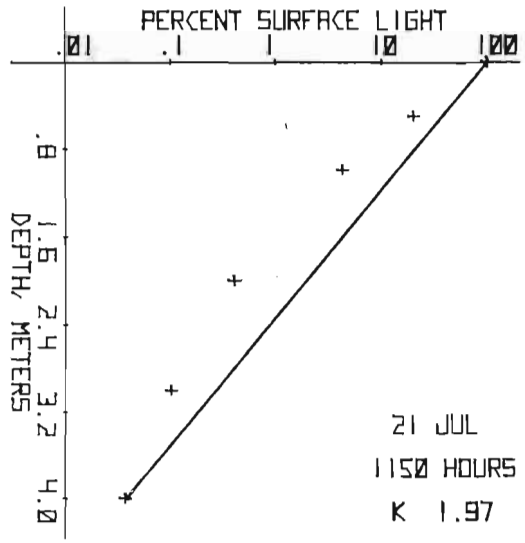

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
4 JUN
1050 HOURS
K 1.59

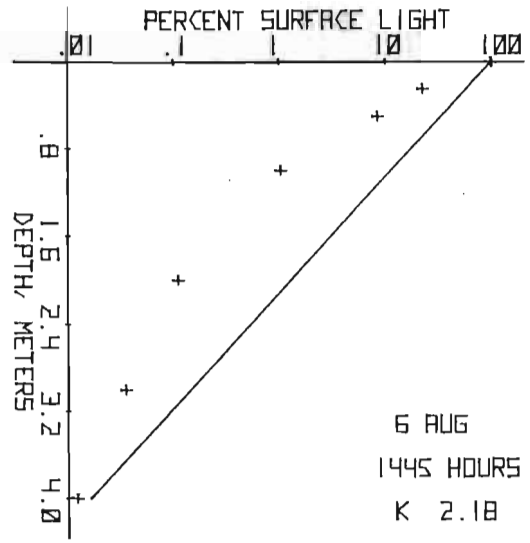

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.8
1.6
2.4
3.2
4.0
15 JUN
1040 HOURS
K 1.42

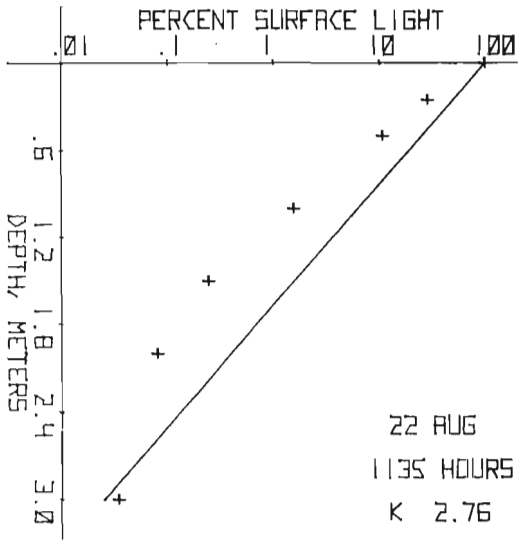

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
29 JUN
0955 HOURS
K 1.47

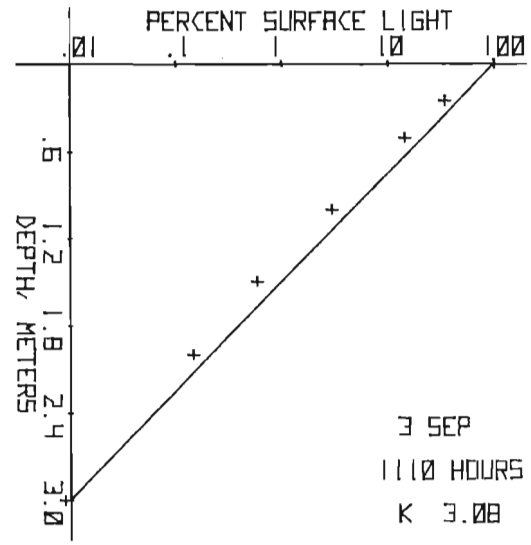

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.8
1.6
2.4
3.2
4.0
12 JUL
0955 HOURS
K 1.65

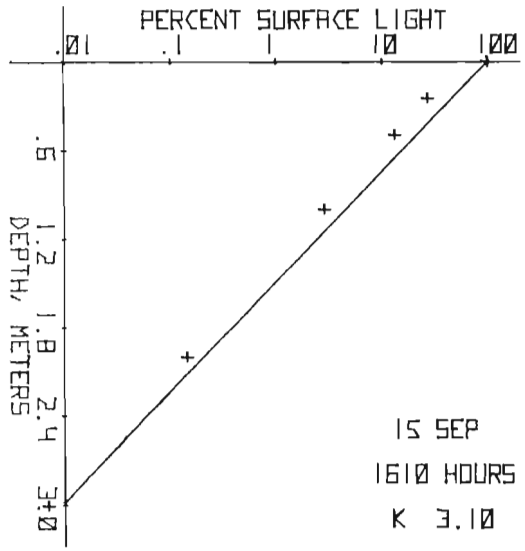
LAKE 227

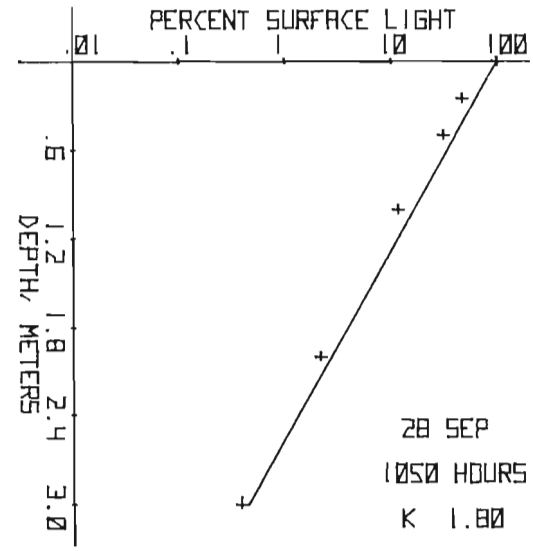

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.8
1.6
2.4
3.2
4.0
21 JUL
1150 HOURS
K 1.97


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.8
1.6
2.4
3.2
4.0
6 AUG
1445 HOURS
K 2.18

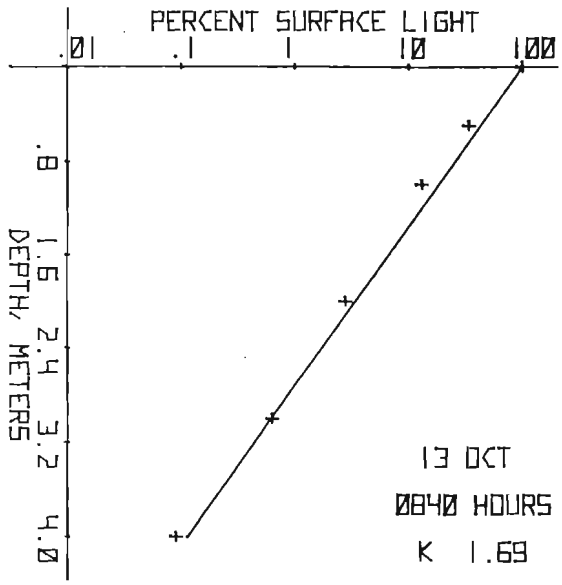

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.6
1.2
1.8
2.4
3.0
22 AUG
1135 HOURS
K 2.76


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.6
1.2
1.8
2.4
3.0
3 SEP
1110 HOURS
K 3.08

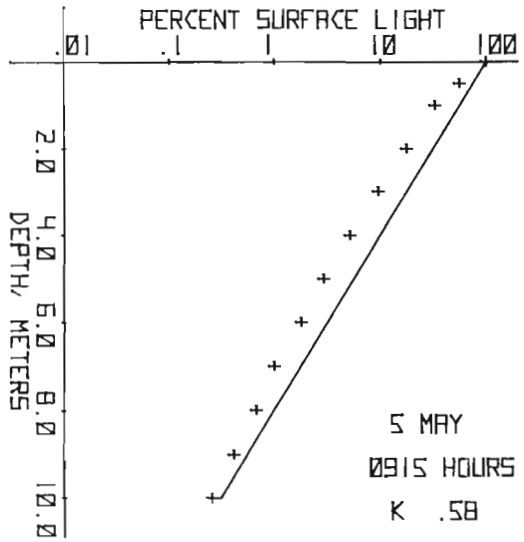

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.6
1.2
1.8
2.4
3.0
15 SEP
1610 HOURS
K 3.10

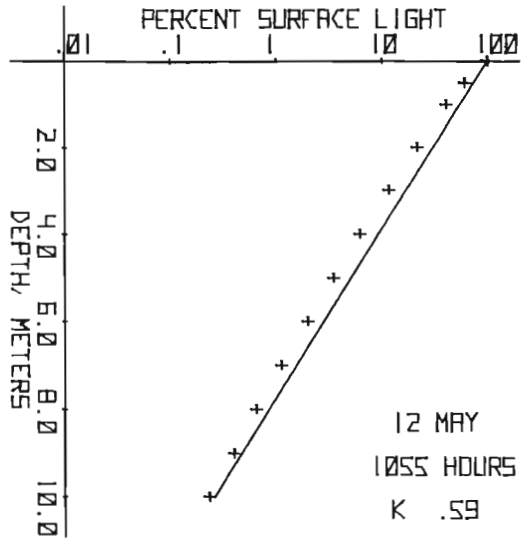

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.6
1.2
1.8
2.4
3.0
28 SEP
1050 HOURS
K 1.80

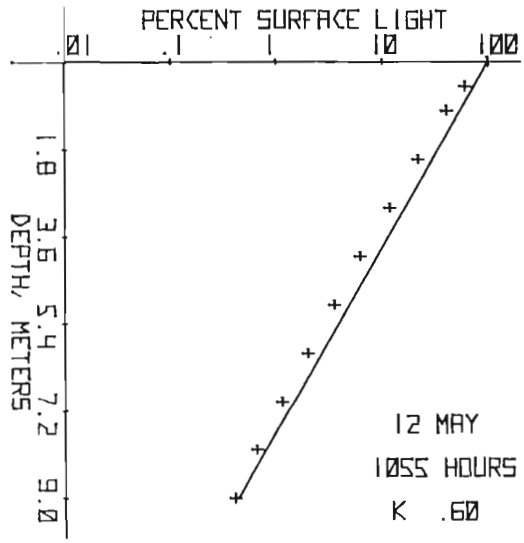
LAKE 227

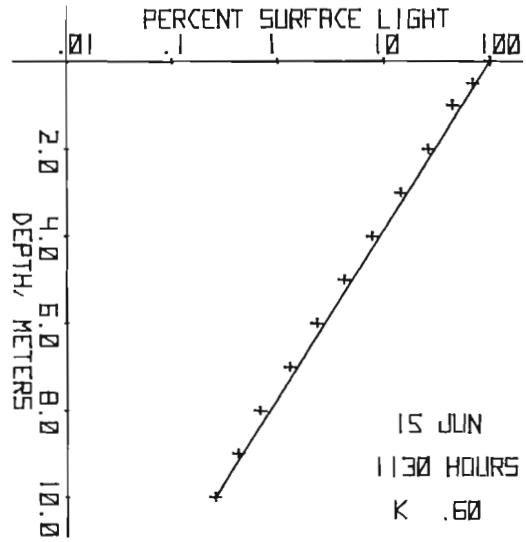

100
10
1
.1
.01
PERCENT SURFACE LIGHT
0.0
0.8
1.6
2.4
3.2
4.0
DEPTH, METERS
13 OCT
0840 HOURS
K 1.69

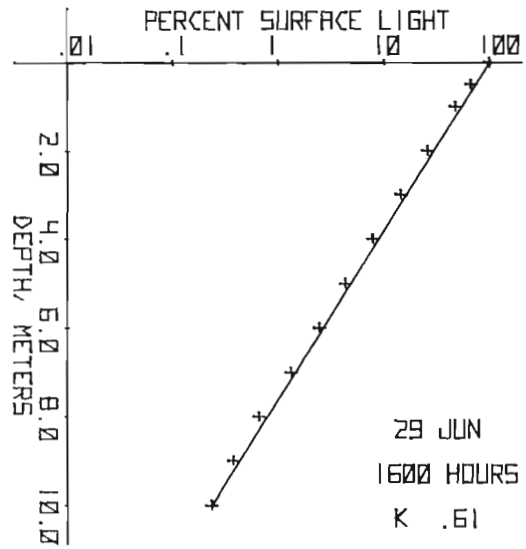
LAKE 239

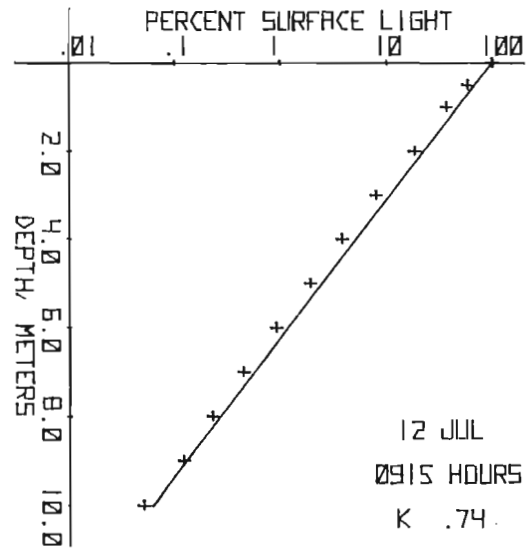

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
5 MAY
0915 HOURS
K .58


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
12 MAY
1055 HOURS
K .59

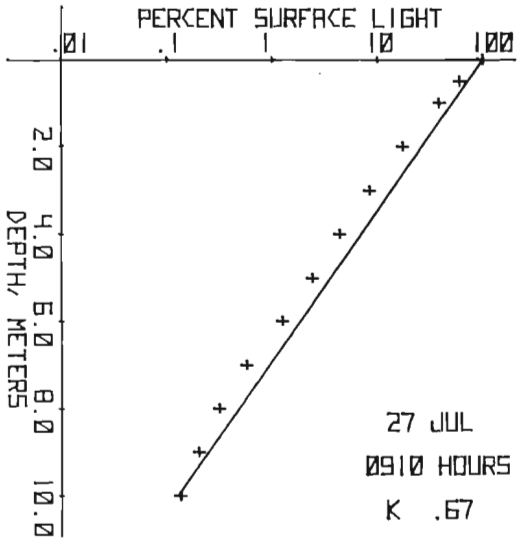

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
12 MAY
1055 HOURS
K .60

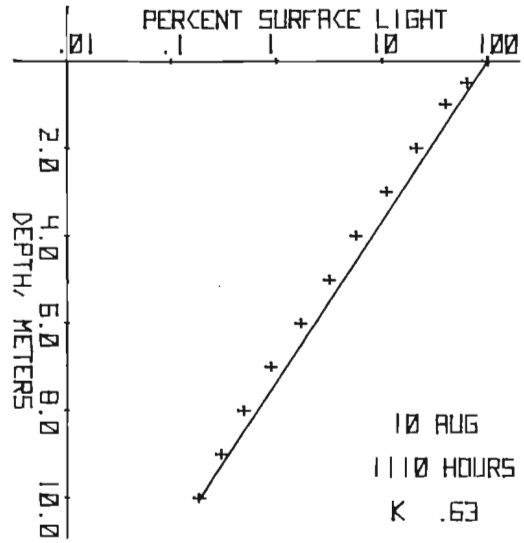

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
15 JUN
1130 HOURS
K .60

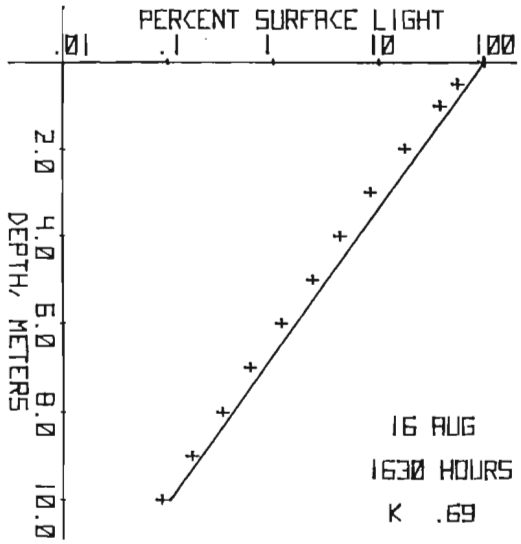

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
29 JUN
1600 HOURS
K .61

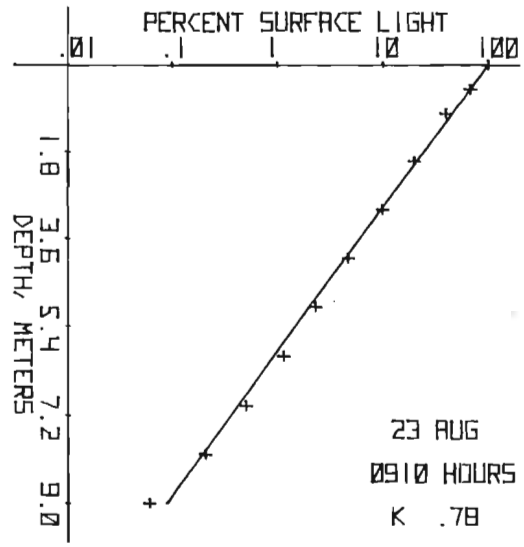

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
12 JUL
0915 HOURS
K .74

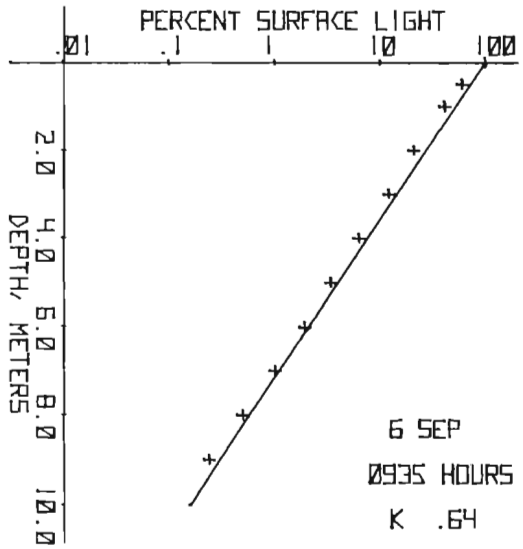
LAKE 239

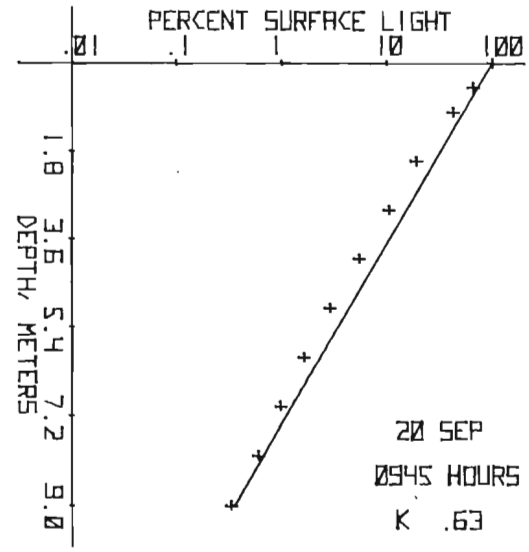

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.0
4.0
6.0
8.0
10.0
27 JUL
0910 HOURS
K .67


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.0
4.0
6.0
8.0
10.0
10 AUG
1110 HOURS
K .63

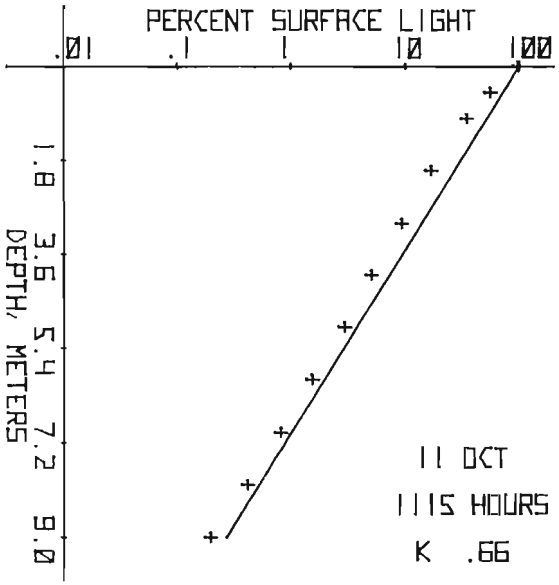

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.0
4.0
6.0
8.0
10.0
16 AUG
1630 HOURS
K .69

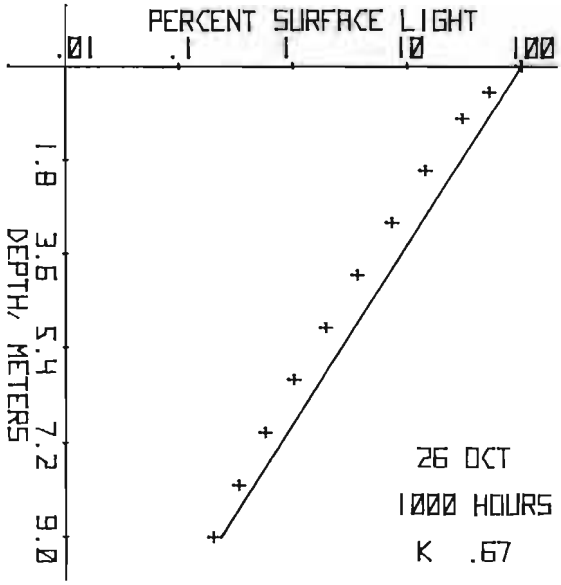

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.8
3.6
5.4
7.2
9.0
23 AUG
0910 HOURS
K .78


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.0
4.0
6.0
8.0
10.0
6 SEP
0935 HOURS
K .64

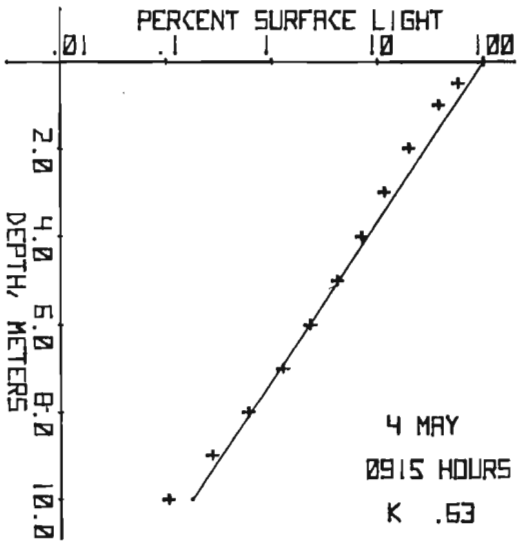

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.8
3.6
5.4
7.2
9.0
20 SEP
0945 HOURS
K .63

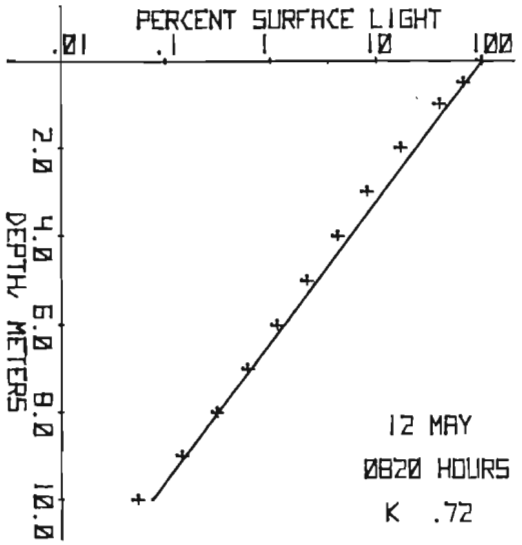
LAKE 239

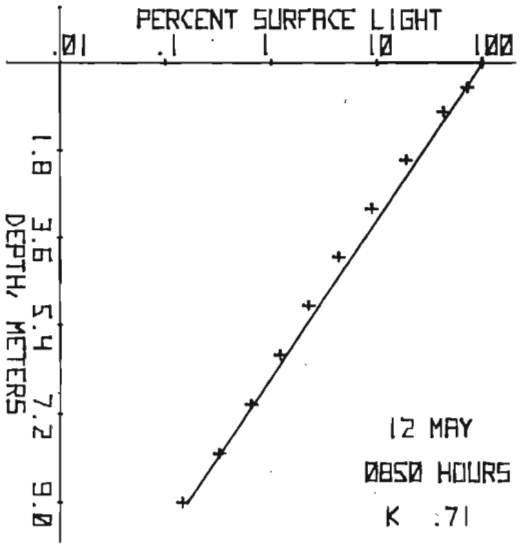

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
11 OCT
1115 HOURS
K .66

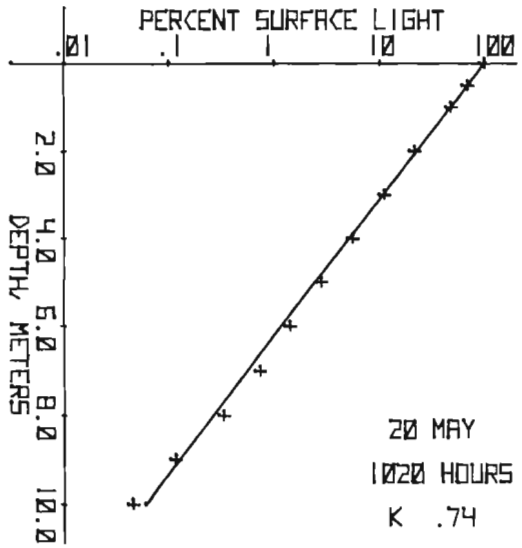

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
26 OCT
1000 HOURS
K .67

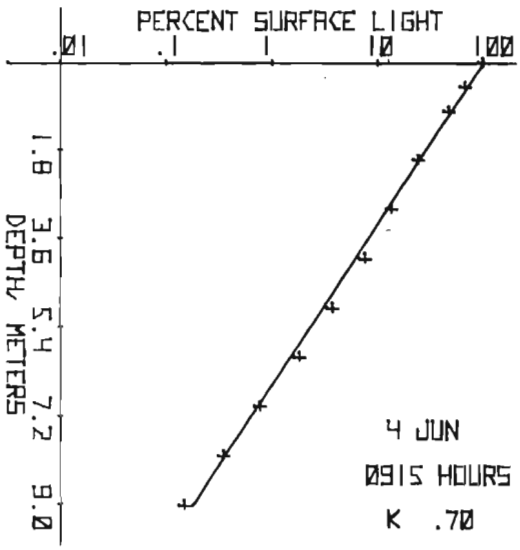
LAKE 302 N

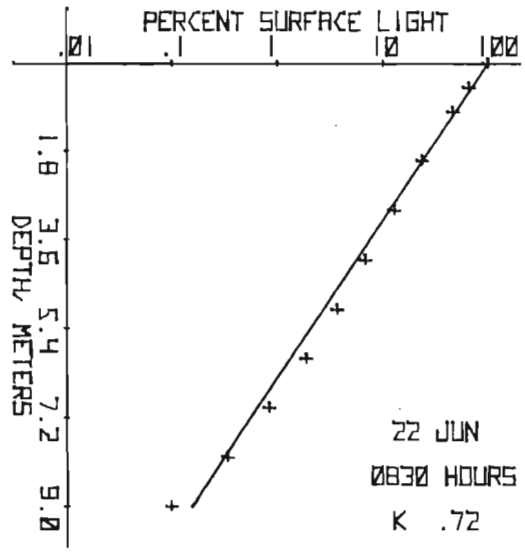

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
4 MAY
0915 HOURS
K .63


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
12 MAY
0820 HOURS
K .72

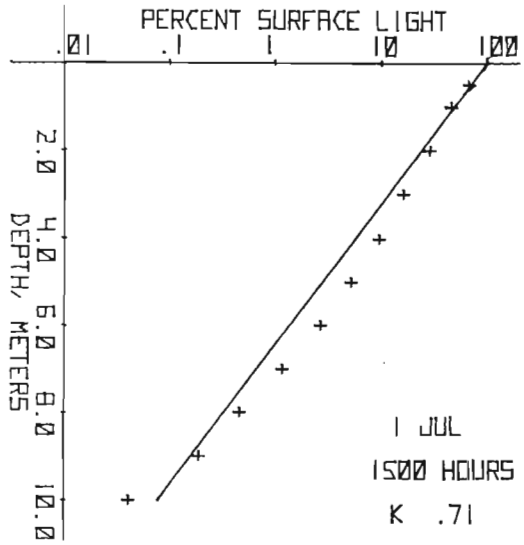

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
12 MAY
0850 HOURS
K .71

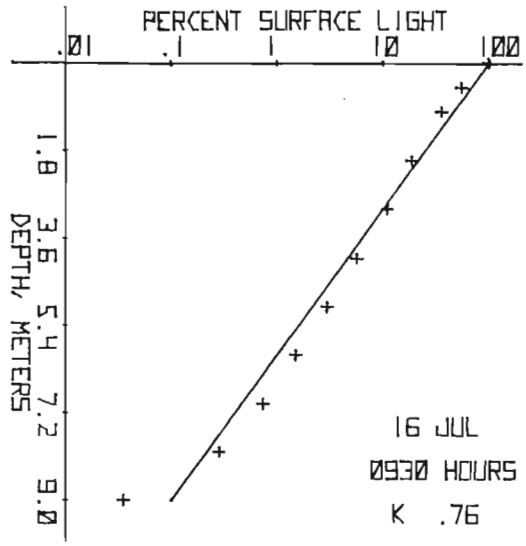

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
20 MAY
1020 HOURS
K .74

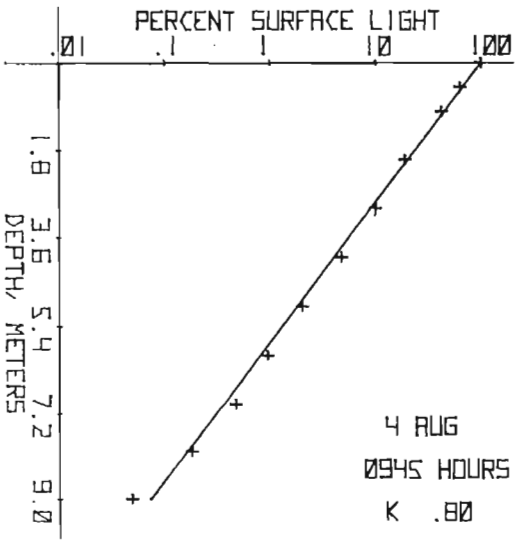

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
4 JUN
0915 HOURS
K .70

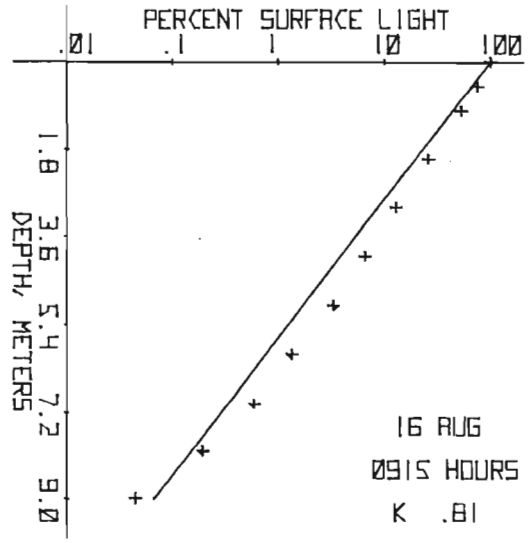

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
22 JUN
0830 HOURS
K .72

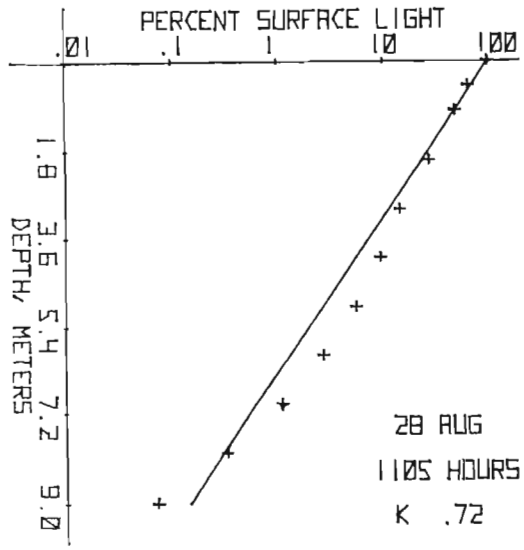
LAKE 302 N

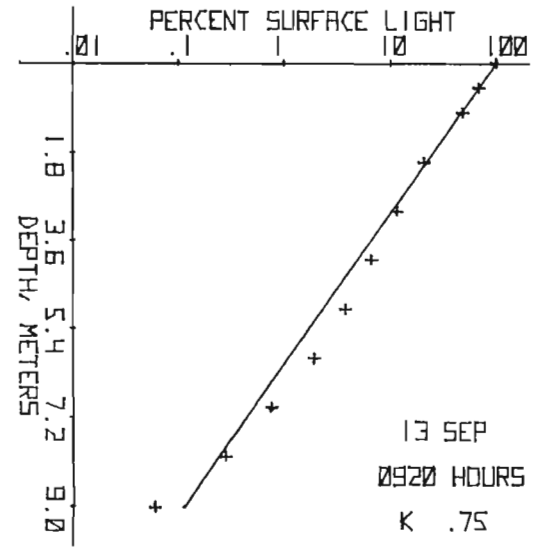

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.0
4.0
6.0
8.0
10.0
1 JUL
1500 HOURS
K .71


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.8
3.6
5.4
7.2
9.0
16 JUL
0930 HOURS
K .76

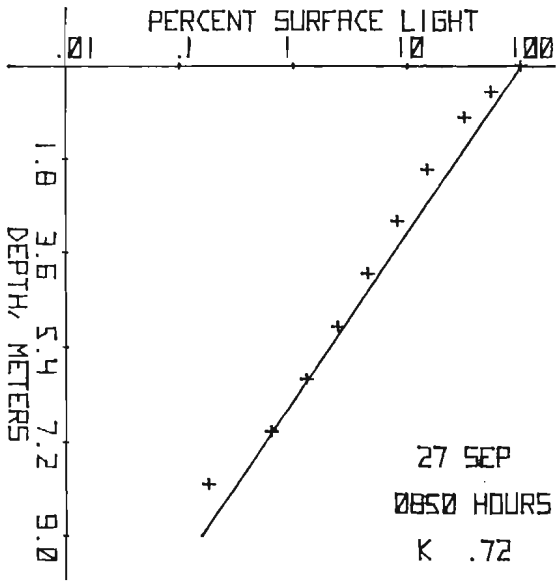

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.8
3.6
5.4
7.2
9.0
4 AUG
0945 HOURS
K .80

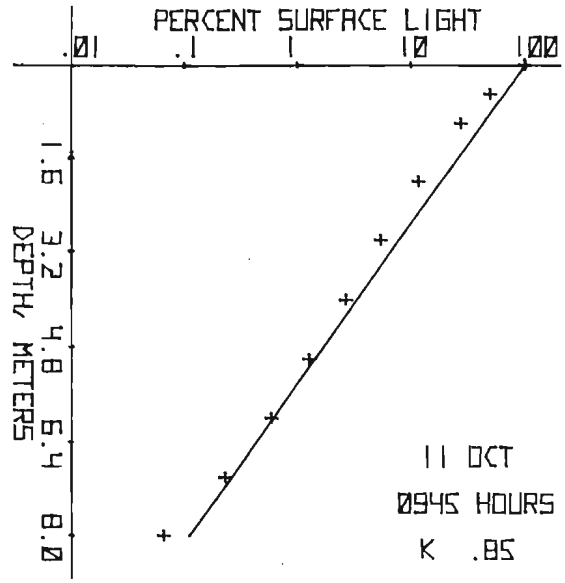

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.8
3.6
5.4
7.2
9.0
16 AUG
0915 HOURS
K .81

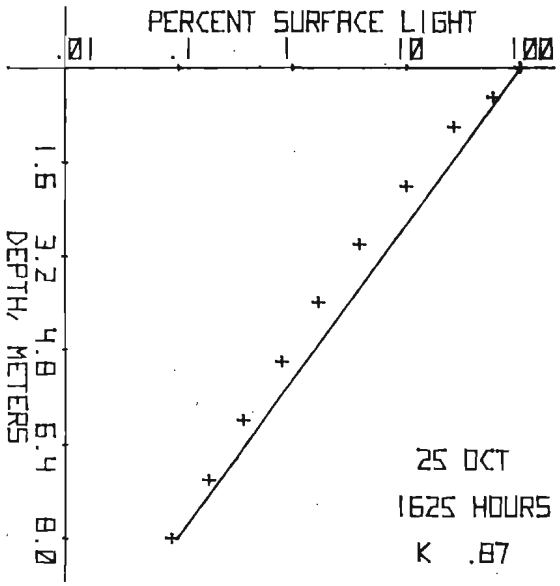

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.8
3.6
5.4
7.2
9.0
28 AUG
1105 HOURS
K .72


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.8
3.6
5.4
7.2
9.0
13 SEP
0920 HOURS
K .75

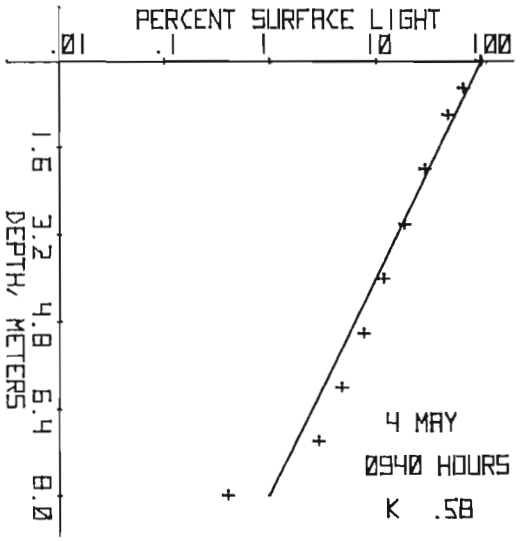
LAKE 302 N

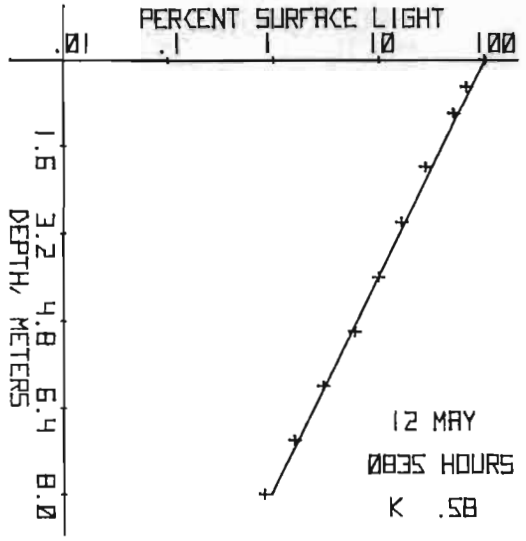

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.8
3.6
5.4
7.2
9.0
27 SEP
0850 HOURS
K .72

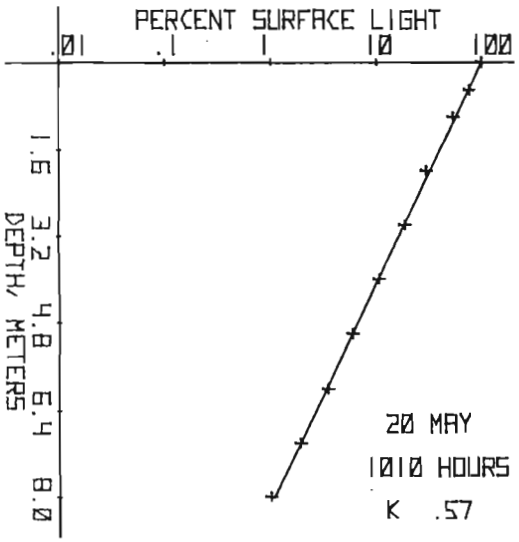

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.6
3.2
4.8
6.4
8.0
11 OCT
0945 HOURS
K .85

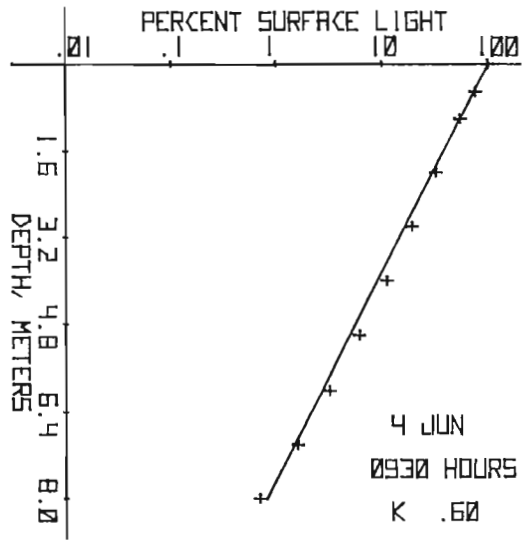

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.6
3.2
4.8
6.4
8.0
25 OCT
1625 HOURS
K .87

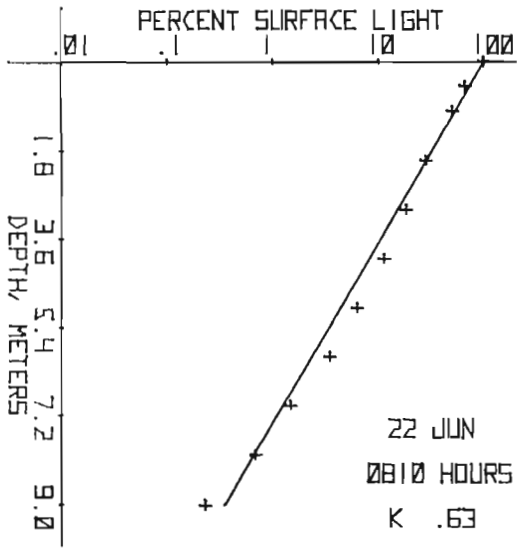
~LAKE 302 5

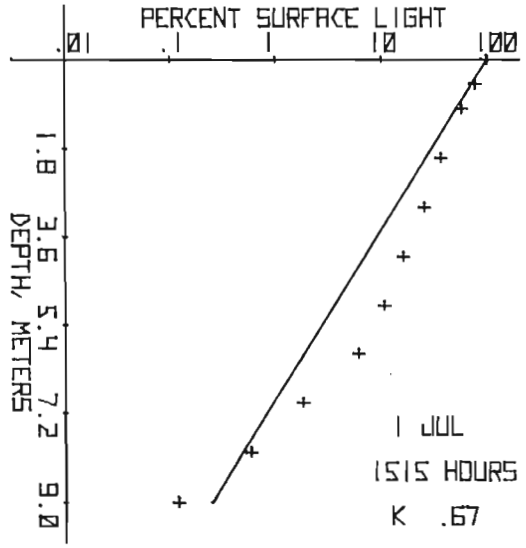

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.6
3.2
4.8
5.4
8.0
4 MAY
0940 HOURS
K .58


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.6
3.2
4.8
5.4
8.0
12 MAY
0835 HOURS
K .58

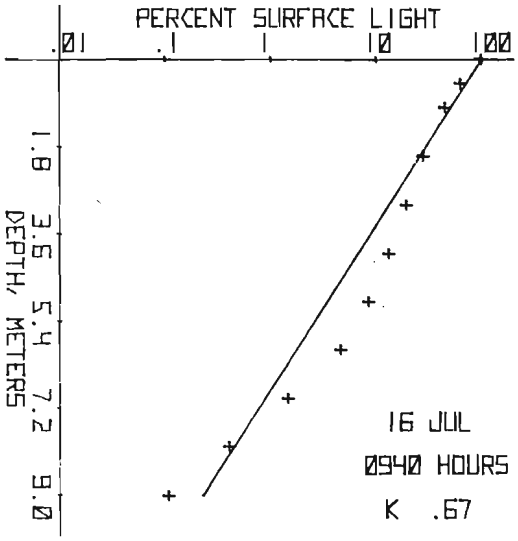

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.6
3.2
4.8
5.4
8.0
20 MAY
1010 HOURS
K .57

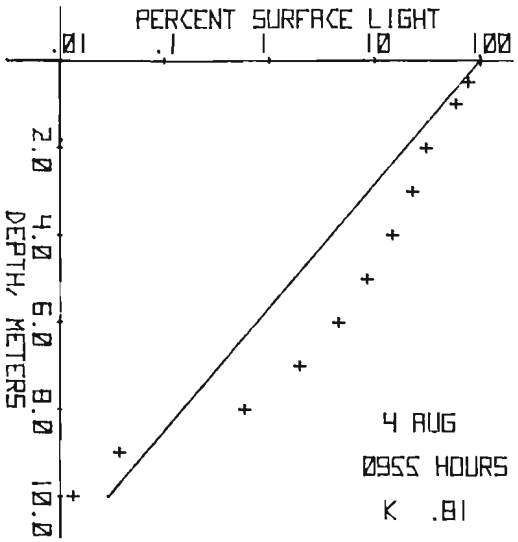

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.6
3.2
4.8
5.4
8.0
4 JUN
0930 HOURS
K .60

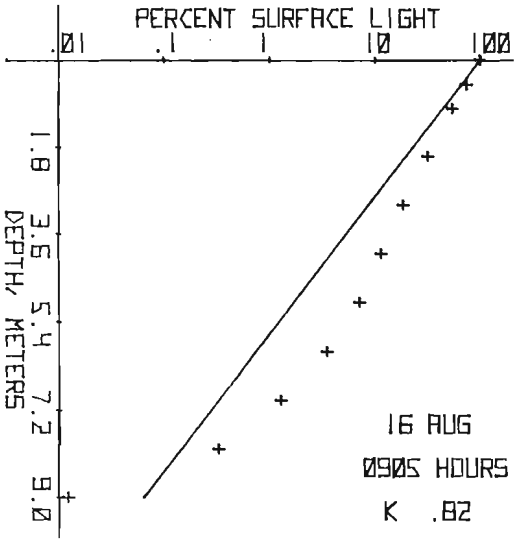

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
22 JUN
0810 HOURS
K .63

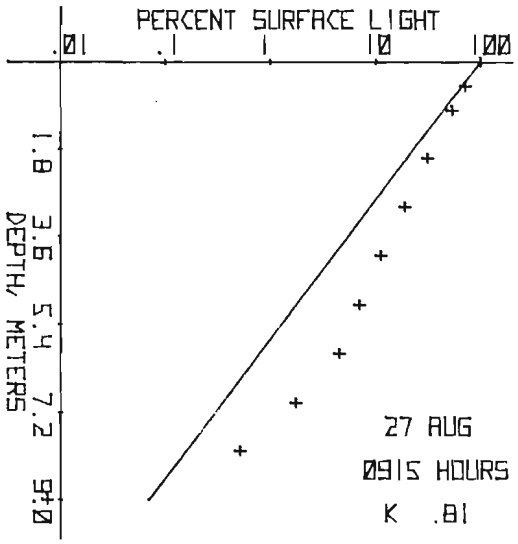

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
1 JUL
1515 HOURS
K .67

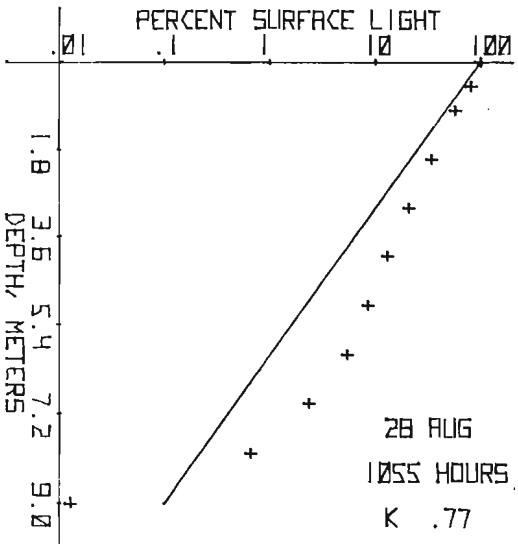
LAKE 302 5

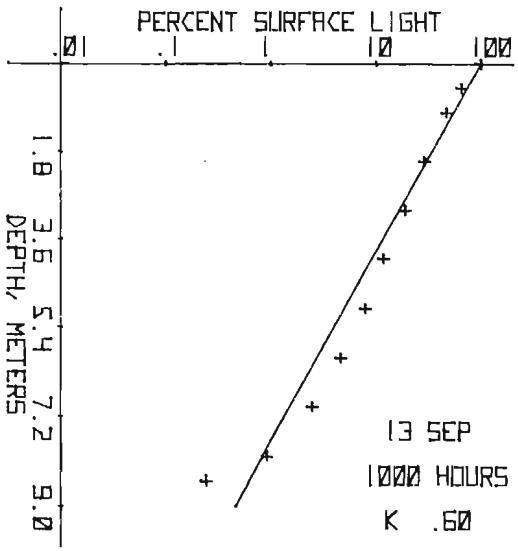

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
16 JUL
0940 HOURS
K .67


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
4 AUG
0955 HOURS
K .81

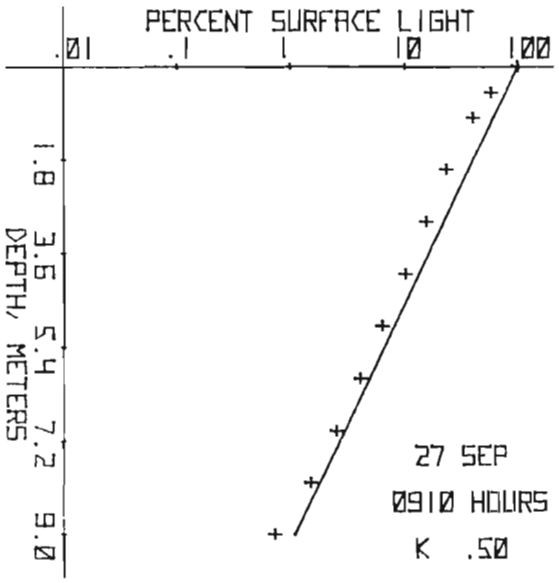

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
16 AUG
0905 HOURS
K .82

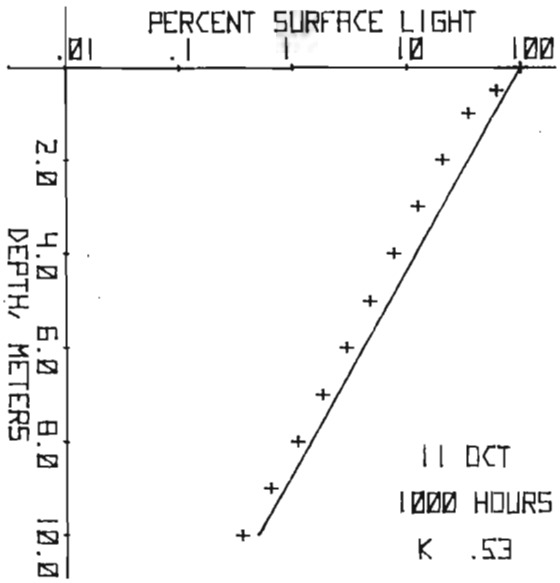

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
27 AUG
0915 HOURS
K .81

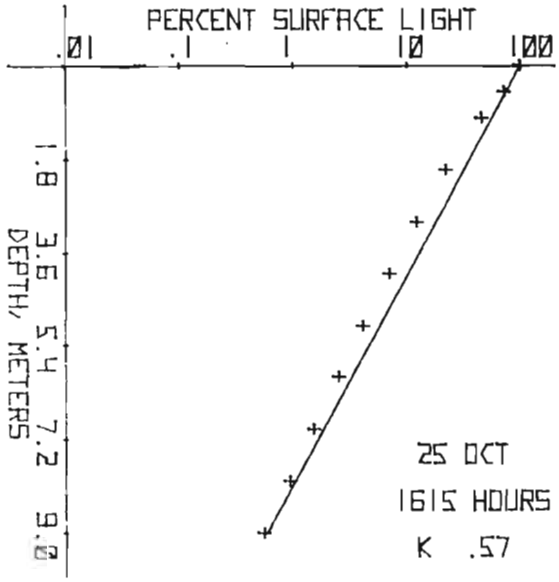

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
28 AUG
1055 HOURS
K .77


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
13 SEP
1000 HOURS
K .60

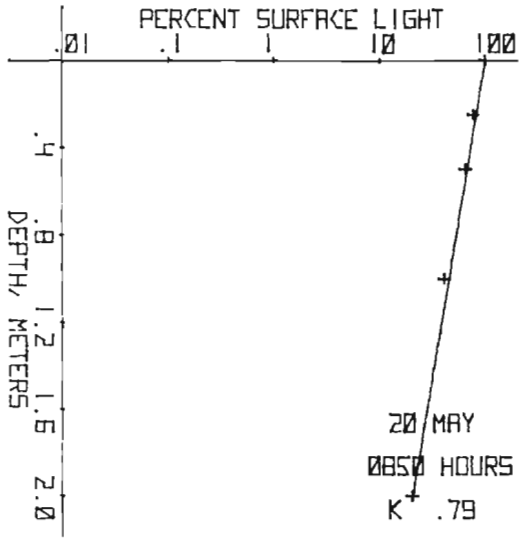
LAKE 302 5

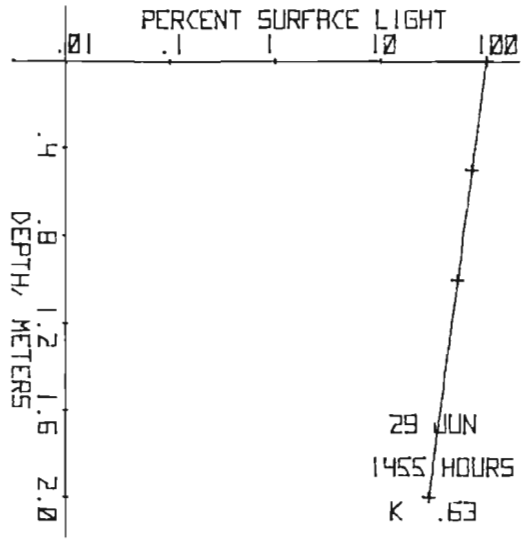

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
27 SEP
0910 HOURS
K .50

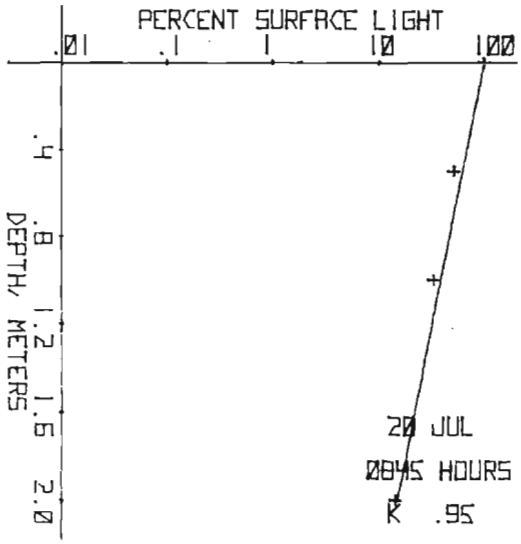

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
11 OCT
1000 HOURS
K .53

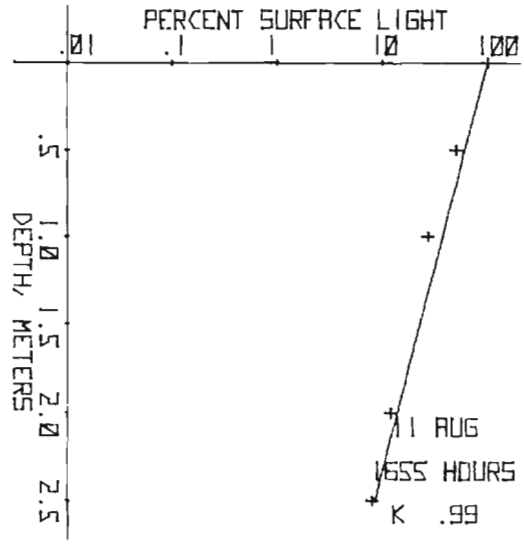

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
25 OCT
1615 HOURS
K .57

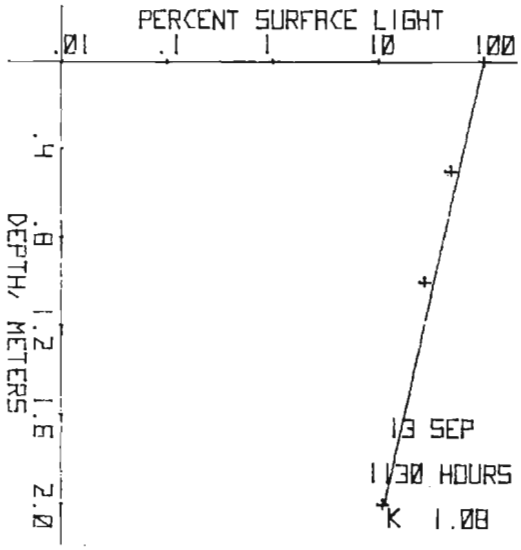
LAKE 303

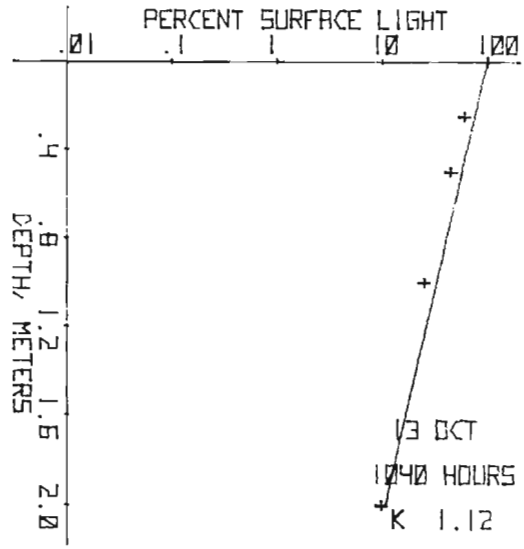

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.4 .8 1.2 1.6 2.0
20 MAY
0850 HOURS
K .79


PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.4 .8 1.2 1.6 2.0
29 JUN
1455 HOURS
K .63

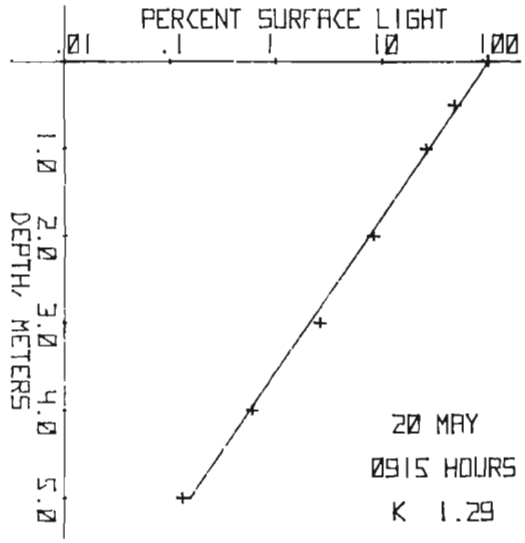

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.4 .8 1.2 1.6 2.0
20 JUL
0845 HOURS
K .95

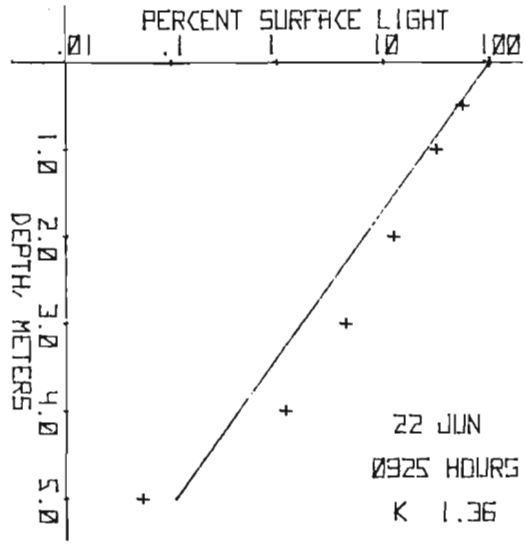

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.5 1.0 1.5 2.0 2.5
11 AUG
1655 HOURS
K .99

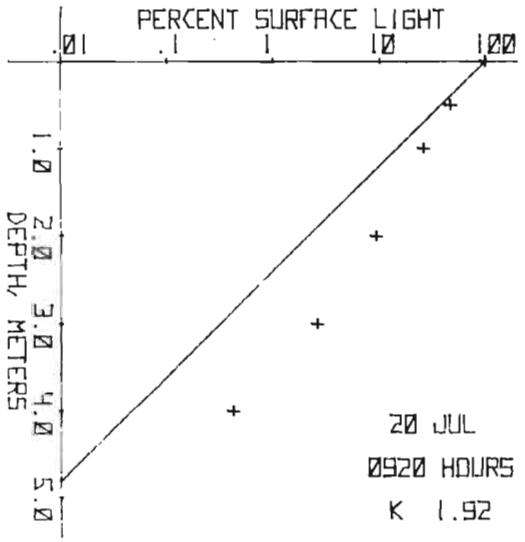

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.4 .8 1.2 1.6 2.0
13 SEP
1130 HOURS
K 1.08

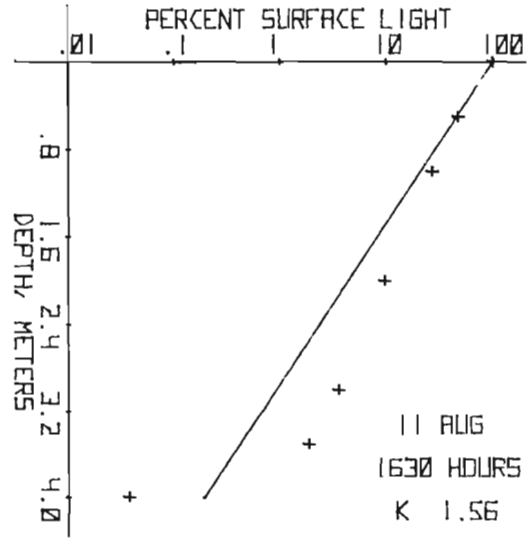

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.4 .8 1.2 1.6 2.0
13 OCT
1040 HOURS
K 1.12

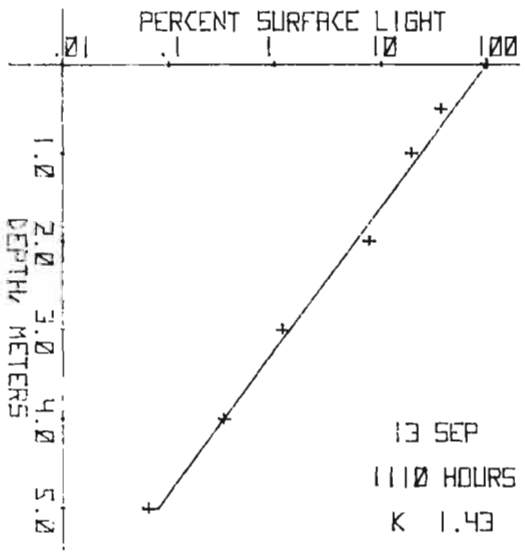
LAKE 304

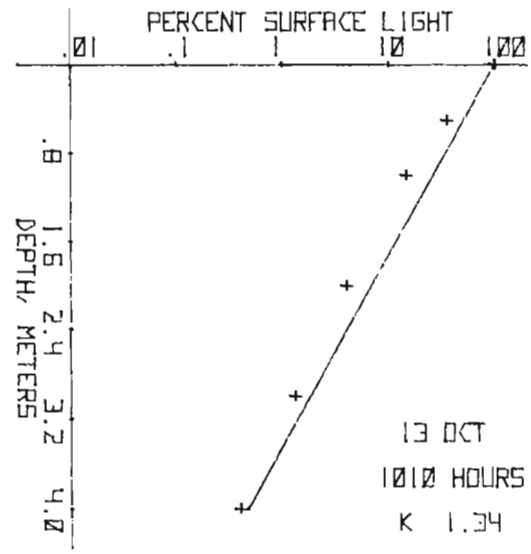

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
20 MAY
0915 HOURS
K 1.29


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
22 JUN
0925 HOURS
K 1.36

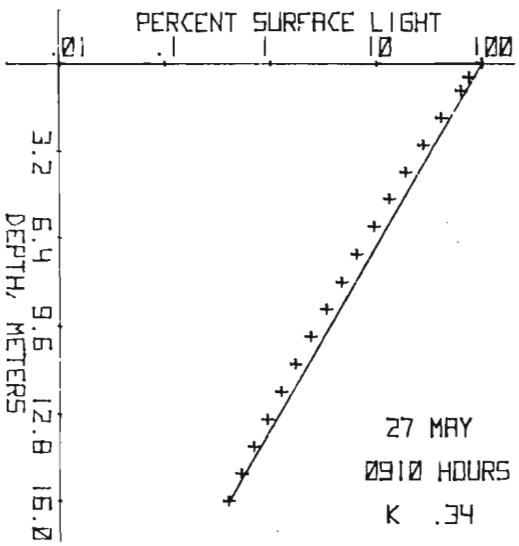

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
20 JUL
0920 HOURS
K 1.92

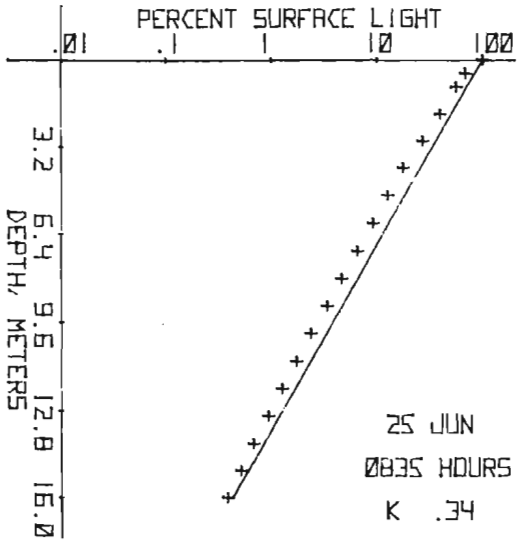

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.8
1.6
2.4
3.2
4.0
11 AUG
1630 HOURS
K 1.56

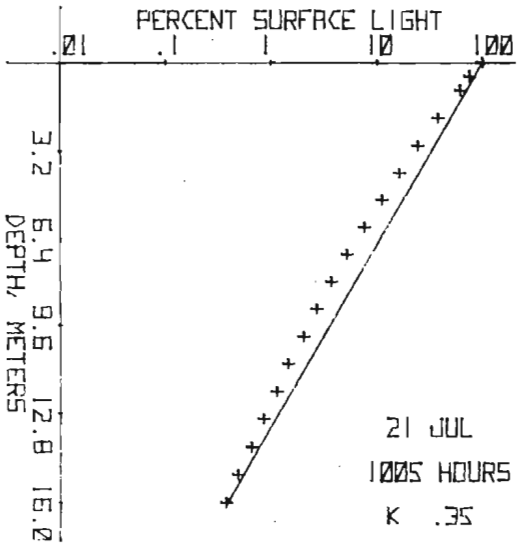

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.0
2.0
3.0
4.0
5.0
13 SEP
1110 HOURS
K 1.43

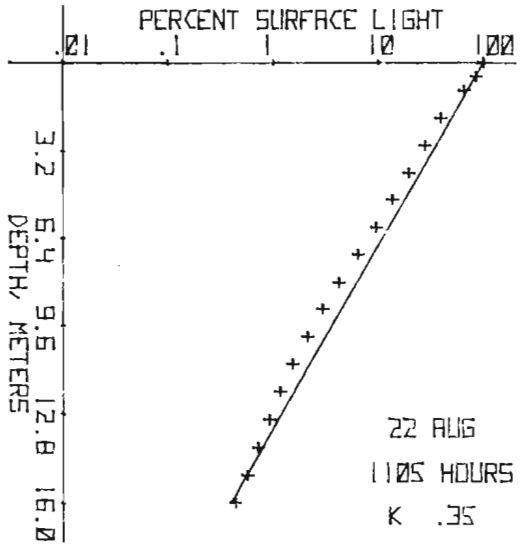

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.8
1.6
2.4
3.2
4.0
13 OCT
1010 HOURS
K 1.34

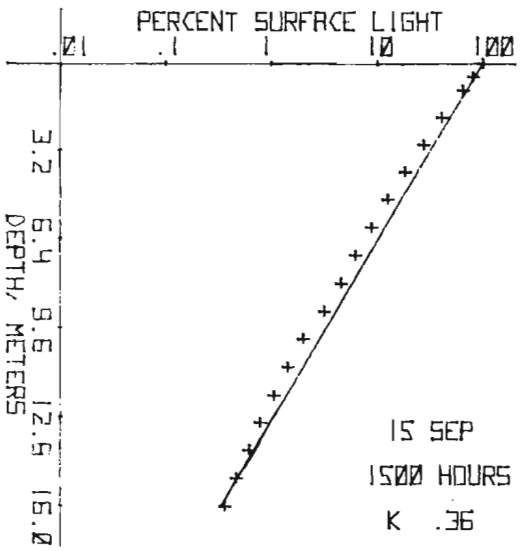
LAKE 305

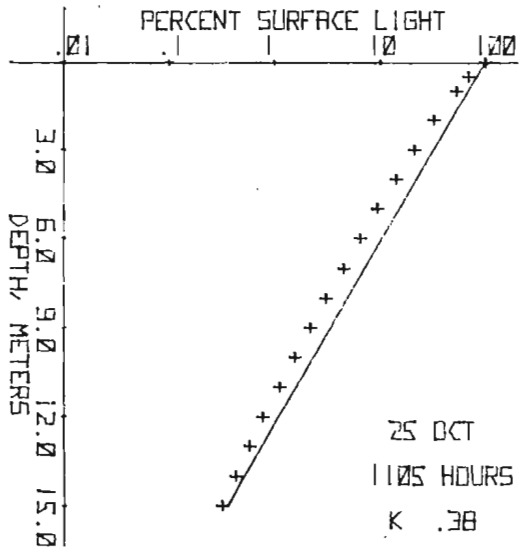

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
3.2
6.4
9.6
12.8
16.0
27 MAY
0910 HOURS
K .34


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
3.2
6.4
9.6
12.8
16.0
25 JUN
0835 HOURS
K .34

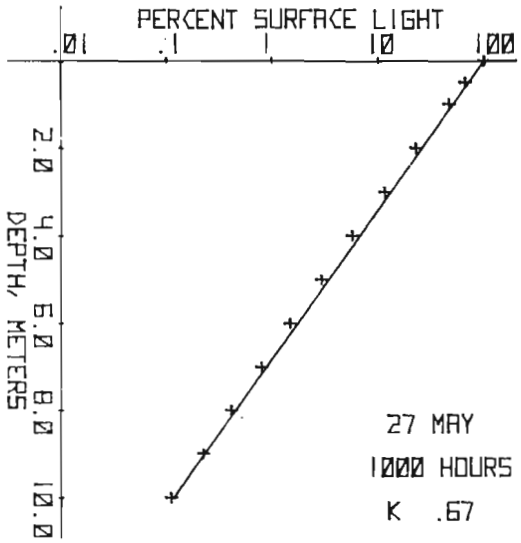

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
3.2
6.4
9.6
12.8
16.0
21 JUL
1005 HOURS
K .35

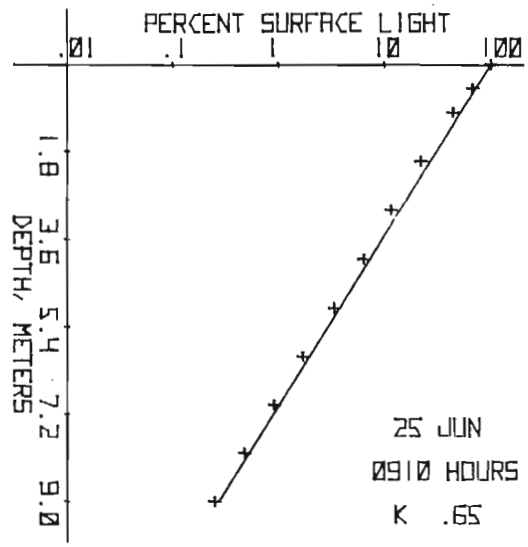

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
3.2
6.4
9.6
12.8
16.0
22 AUG
1105 HOURS
K .35

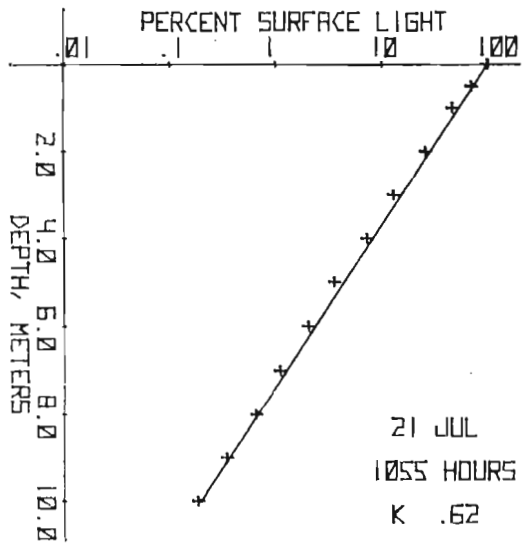

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
3.2
6.4
9.6
12.8
16.0
15 SEP
1500 HOURS
K .36

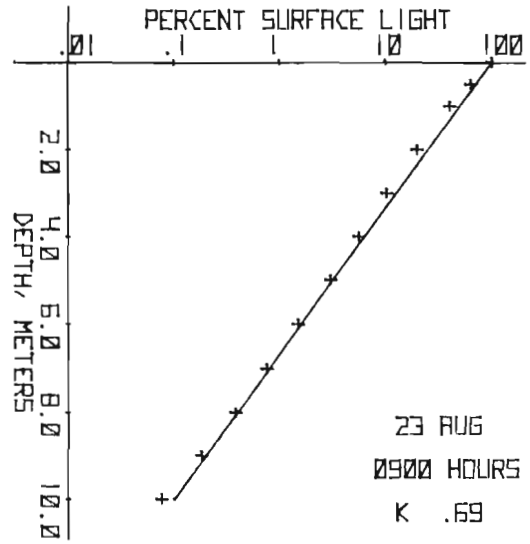

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
3.0
6.0
9.0
12.0
15.0
25 OCT
1105 HOURS
K .38

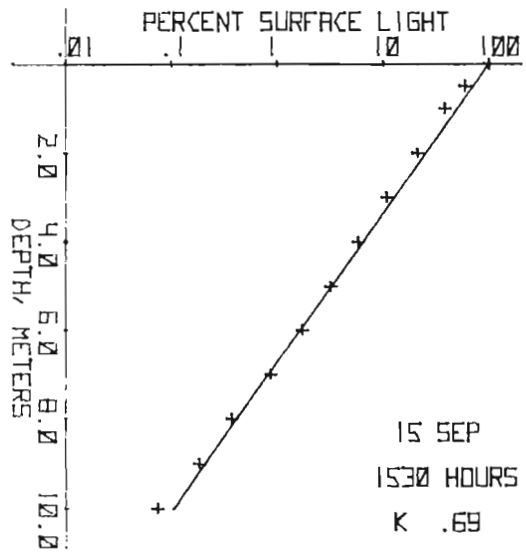
LAKE 382

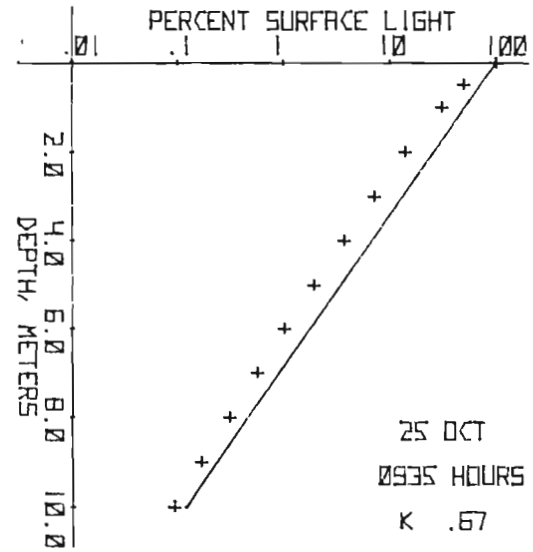

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
27 MAY
1000 HOURS
K .67


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
1.8
3.6
5.4
7.2
9.0
25 JUN
0910 HOURS
K .65

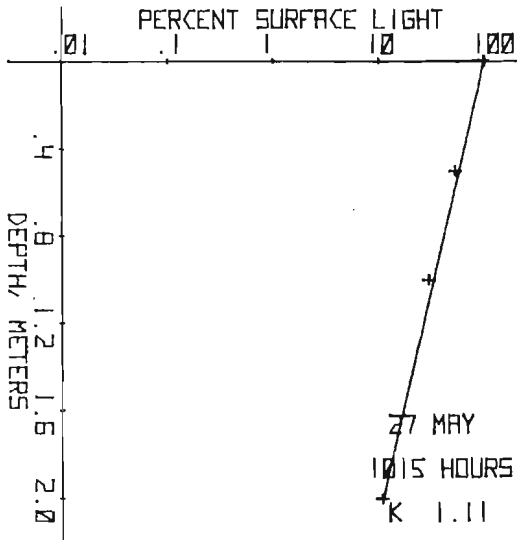

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
21 JUL
1055 HOURS
K .62

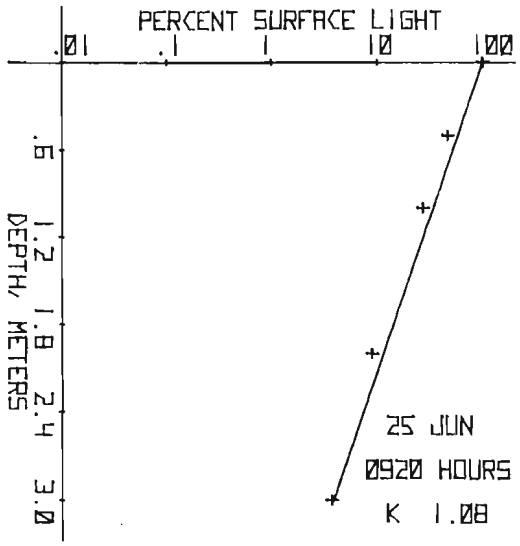

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
23 AUG
0900 HOURS
K .69

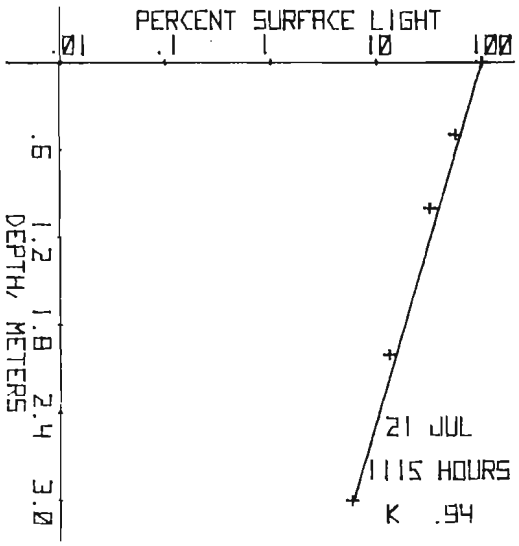

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
15 SEP
1530 HOURS
K .69

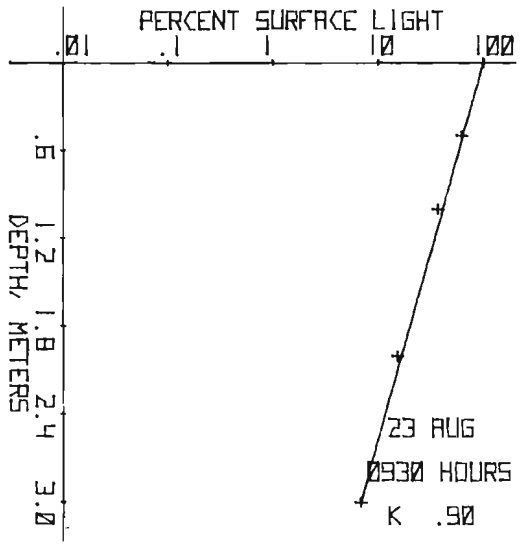

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
0.0
2.0
4.0
6.0
8.0
10.0
25 OCT
0935 HOURS
K .67

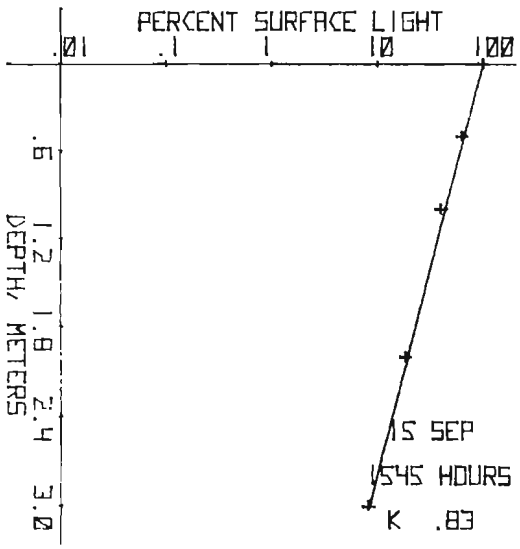
LAKE 382 BAY

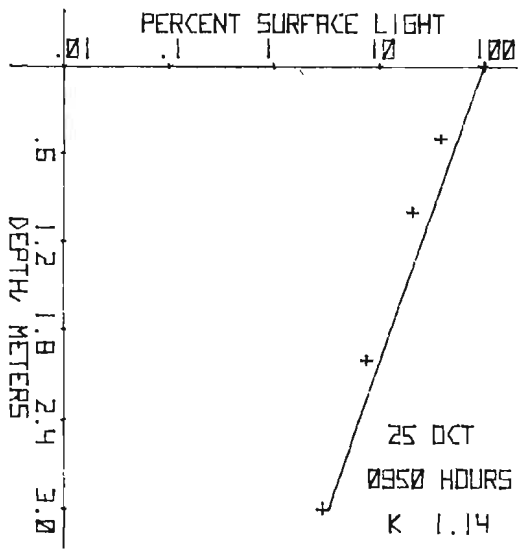

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.4 .8 1.2 1.6 2.0
27 MAY
1015 HOURS
K 1.11


PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.6 1.2 1.8 2.4 3.0
25 JUN
0920 HOURS
K 1.08

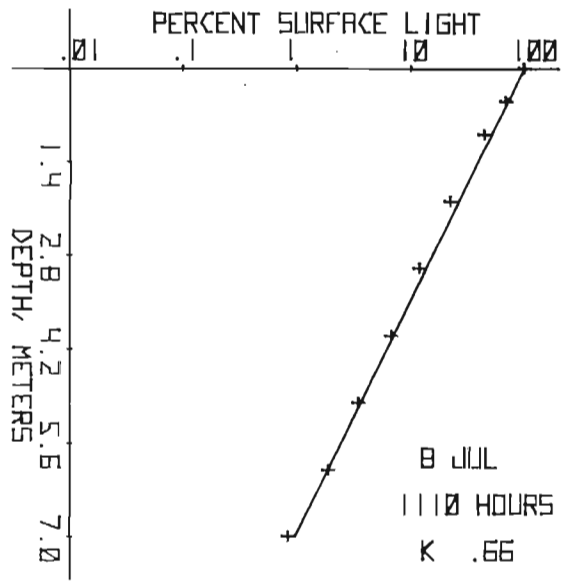

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.6 1.2 1.8 2.4 3.0
21 JUL
1115 HOURS
K .94

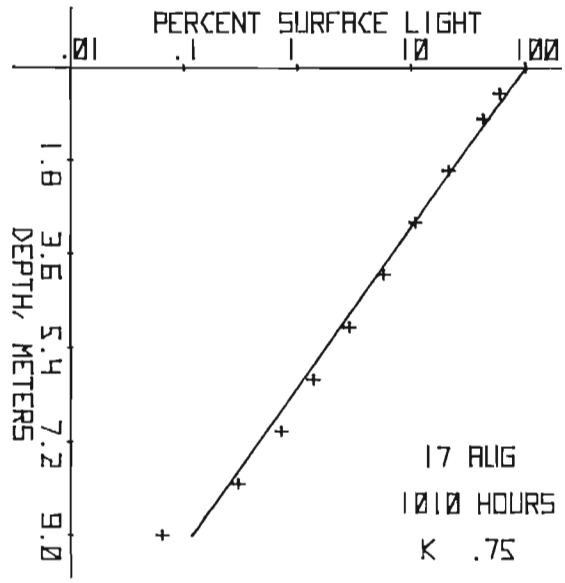

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.6 1.2 1.8 2.4 3.0
23 AUG
0930 HOURS
K .90

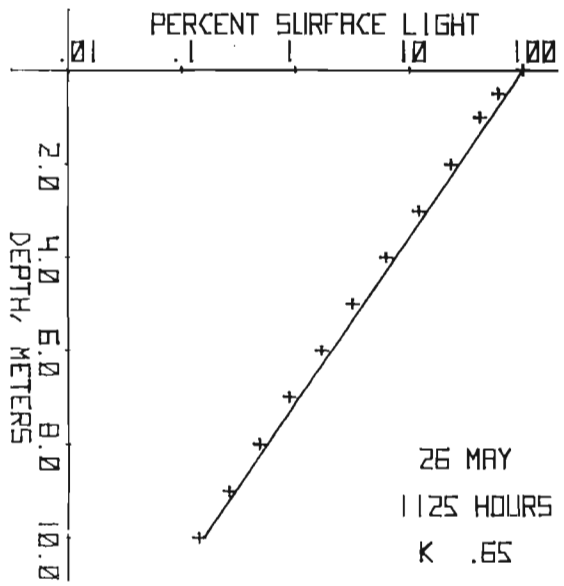

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.6 1.2 1.8 2.4 3.0
15 SEP
1545 HOURS
K .83

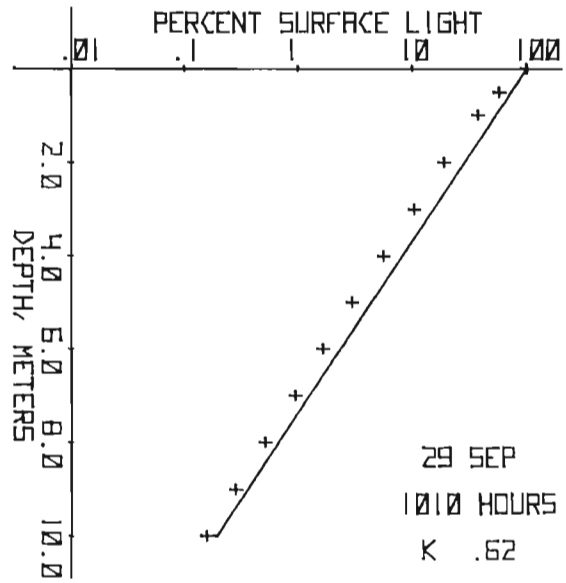

PERCENT SURFACE LIGHT
.01 .1 1 10 100
DEPTH, METERS
.6 1.2 1.8 2.4 3.0
25 OCT
0950 HOURS
K 1.14

LAKE 629

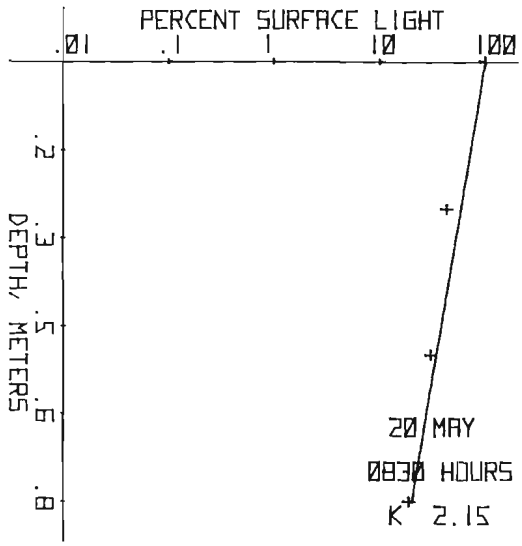

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.4
2.8
4.2
5.6
7.0
8 JUL
1110 HOURS
K .66

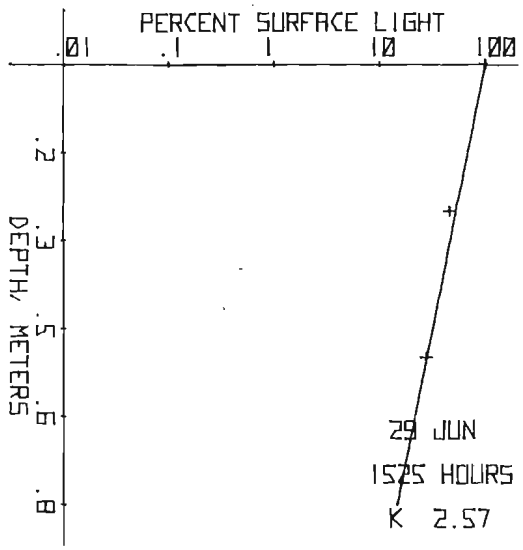

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
1.8
3.6
5.4
7.2
9.0
17 AUG
1010 HOURS
K .75

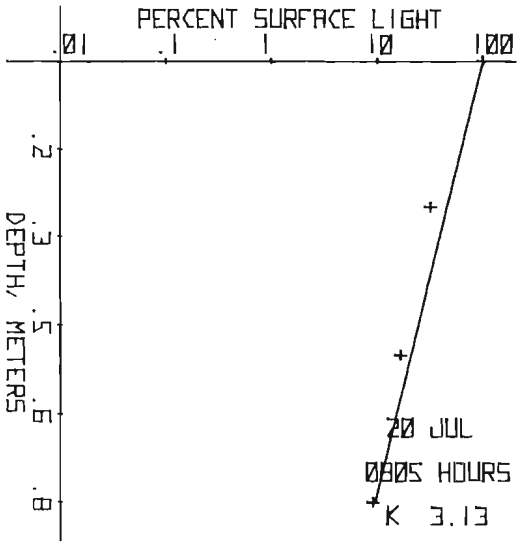

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.0
4.0
6.0
8.0
10.0
26 MAY
1125 HOURS
K .65

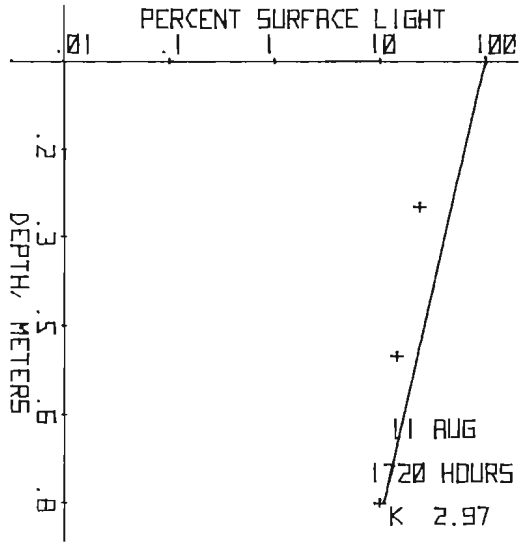

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
2.0
4.0
6.0
8.0
10.0
29 SEP
1010 HOURS
K .62

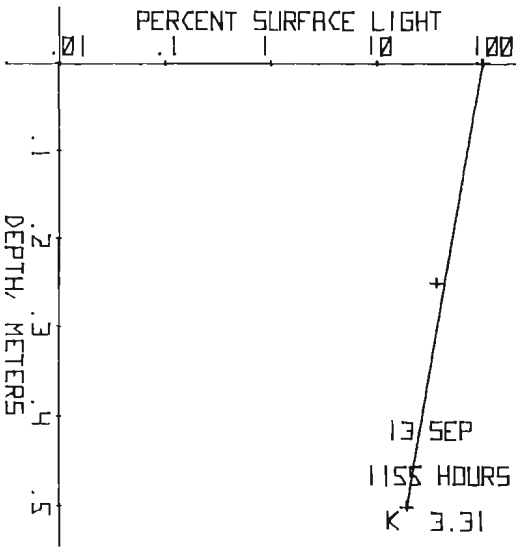
LAKE 661

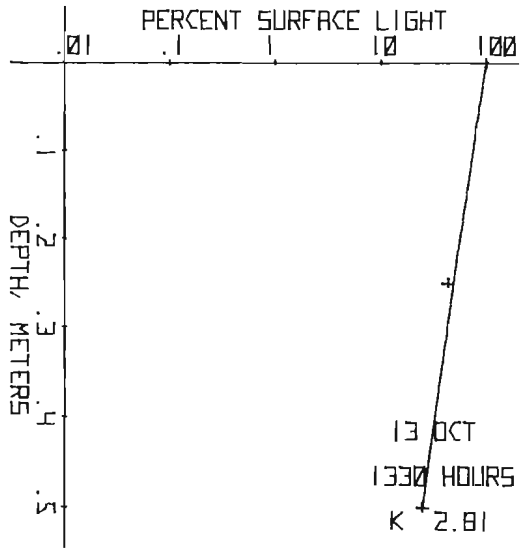

PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.2
.3
.5
.8
20 MAY
0830 HOURS
K 2.15


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.2
.3
.5
.8
29 JUN
1525 HOURS
K 2.57


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.2
.3
.5
.8
20 JUL
0805 HOURS
K 3.13


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.2
.3
.5
.8
11 AUG
1720 HOURS
K 2.97


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.1
.2
.3
.4
.5
13 SEP
1155 HOURS
K 3.31


PERCENT SURFACE LIGHT
.01
.1
1
10
100
DEPTH, METERS
.1
.2
.3
.4
.5
13 OCT
1330 HOURS
K 2.81