SUSITNA
HYDROELECTRIC PROJECT

FEDERAL ENERGY REGULATORY COMMISSION
PROJECT No. 7114

GLACIAL LAKE PHYSICAL LIMNOLOGY STUDIES: EKLUTNA LAKE, ALASKA

VOLUME 2 - APPENDICES

PREPARED BY

R&M CONSULTANTS, INC.
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FINAL REPORT

UNDER CONTRACT TO

HARZA-EBASCO
SUSITNA JOINT VENTURE

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SUSITNA HYDROELECTRIC PROJECT

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VOLUME 2 - APPENDICES

Report by
R&M Consultants, Inc.

Under Contract to
Harza-Ebasco Susitna Joint Venture

Prepared for
Alaska Power Authority

Final Report
February 1986

NOTICE

ANY QUESTIONS OR COMMENTS CONCERNING
THIS REPORT SHOULD BE DIRECTED TO
THE ALASKA POWER AUTHORITY
SUSITNA PROJECT OFFICE

GLACIAL LAKE PHYSICAL LIMNOLOGY STUDIES
SUSITNA HYDROELECTRIC PROJECT

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APPENDIX A

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APPENDIX A

SUMMARY OF DATA COLLECTED IN EKLUTNA LAKE

TABLE A.1

SUMMARY OF DATA COLLECTED AT EKLUTNA LAKE
December 10, 1982 to November 26, 1984

Date	Personnel	Sample Stations and Depth of Sample: Temp. & Cond	Secchi Disk	Turbidity	TSS	Quantum	Remarks
12/10/82							Pickup Ryans from lake
01/11/83	JBJ, CL						
01/13/83	BJ, CL	5, 9 & 11					
02/15/83	RFB, CL						
02/18/83		5, 9 & 11					Ice = 0.8 m thick @ Sta. 13 on 3/29/83 (no temp. or cond. profile).
03/21/83	JBJ						
03/29/83	JBJ					13	
04/30/83	JBJ						
05/14/83	JBJ, RFB	5 & 9	5 & 9				
06/01/83	JBJ, LF						
06/02/83	JBJ, LF	2, 5, 7, 9, 10, 11, 13 & 15	2, 5, 7, 9, 10, 11, 13 & 15			7	Installed Ryans at Sta 9
06/17/83	JBJ						
07/05/83	JBJ, LF						
07/06/83	JBJ, LF	2, 3, 5, 7, 9, 11, 13 & 15	2, 3, 5, 7, 9, 11 & 13				
08/02/83	RFB, JBJ	2, 5, 7, 9, 10	2, 7 & 11			2, 7 & 11	
08/03/83	RFB, JBJ	11 & 15					
09/07/83	RFB, LF	2, 5, 7, 8, 9, 10, 11 & 15	2, 7, 9, 11 & 15			15	
09/08/83	RFB, LF						
10/05/83	RFB, JC	2, 5, 7, 8, 9, 11 & 15	2, 5, 7, 8, 9, 11 & 15				
10/06/83	RFB, JC						
11/01/83	RFB, LS	2, 5, 7, 9, 11 & 15	2, 5, 7, 9, 11 & 15				
12/03/83	JC						Ice Obsv.
12/04/83							
12/06/83	JC, LS	15	15				Ice Obsv.
01/12/84	JC, LS						Ice Obsv.
01/16/84	JC, LS	5, 9 & 15					
02/16/84	RFB, LS	5, 9 & 15					Ice Obsv.
03/23/84	RFB, BCP	2, 5, 9 & 15					

NOTE: Percent transmittance was measured at Station 13 on March 29, 1983.

TABLE A.1, cont.

SUMMARY OF DATA COLLECTED AT EKLUTNA LAKE
December 10, 1982 to November 26, 1984

Date	Personnel	Sample Stations and Depth of Sample: Temp. & Cond	Secchi Disk	Turbidity	TSS	Quantum	Remarks
04/20/84	JC, WSA	11, 15	11, 15	11 1 & 5m 15 2 & 24m	11 1 & 5m 15 2 & 24m	11, 15	
05/17/84	JC, WSA	5, 9, 15	5, 9, 15	5 2 & 20m 9 4 & 20m 15 4m	5 2 & 20m 9 4 & 20m 15 4m	5, 9, 15	
06/05/84	RFB, BCP	2, 5, 9, 11, 15	2, 5, 9, 11, 15	2 0 & 13.5m 5 0 & 9m 9 0 & 13m 11 0 & 3m 15 0m	2 0 & 13.5m 5 0 & 9m 9 0 & 13m 11 0 & 3m 15 0m		Installed Ryan string
06/21/84	JC, SB	1, 2, 3, 9, 15	1, 2, 3, 9, 15	1 11m 2 10,14,20m 3 2,7,12,20m 9 2,6,20m 15 4m	1 11m 2 10,14,20m 3 2,7,12,20, 9 2,6,20m 15 4m	1, 2, 3, 9 15	
07/05/84	JC, SG	1, 2, 3, 9, 15	1, 2, 3, 9, 15	1 20m 2 4,9,20m 3 2,8,16,24m 9 2,14,32m 15 4m	1 20m 2 4,9,20m 3 2,8,16,24m 9 2,14,32m 15 4m	1, 2, 3, 9 15	
07/19/84	WSA, SG	1, 2, 3, 9, 15	1, 2, 3, 9, 15	1 2,6m 2 6,10,16,28m 3 2,8,16,28m 9 4,16,36m 15 4m	1 2,6, 2 6,10,16,28m 3 2,8,16,28m 9 4,16,36m 15 4m	1, 2, 3, 9 15	
08/03/84	WSA, MD	1, 2, 3, 9, 15	1, 2, 3, 9, 15	1 1,3m 2 4,8,16,32m 3 2,8,16,28m 9 6,28m 15 4m	1 1,3 2 4,8,16,32 3 2,8,16,28 9 6,28 15 4m	1, 2, 3, 9 15	
08/16/84	WSA, SG	15	15	15 Profile	15 6m	15	
08/17/84	WSA, SG	10, 11, 12, 13 14	10, 11, 12, 13 14	10 Profile 11 Profile 12 Profile 13 Profile 14 Profile	10 3m 11 6,16,36m 12 2,16m 13 2,12,24m 14 2,10,20m	10, 11, 12 13, 14	

NOTE: Percent transmittance was measured at Stations 1, 2, 3, 9, and 15 on August 3, 1984 and at Station 15 on August 16, 1984 and Stations 10, 11, 12, 13, and 14 on August 17, 1984.

TABLE A.1, cont.
SUMMARY OF DATA COLLECTED AT EKLUTNA LAKE
December 10, 1982 to November 26, 1984

Date	Personnel	Sample Stations and Depth of Sample: Temp. & Cond	Secchi Disk	Turbidity	TSS	Quantum	Remarks
08/18/84	SG, WSA	9	9	9 Profile	9 6,16,44m	9	
08/19/84	SF, WSA	5, 6, 7, 8	5, 6, 7, 8	5 Profile 6 Profile 7 Profile 8 Profile	5 4,24,44m 6 2,20,44m 7 6,20,40m 8 24,44m	5, 6, 7, 8	Quantum meas. at 5&6 suspect.
08/20/84	SF, WSA	1, 2, 3, 4	1, 2, 3, 4	1 Profile 2 Profile 3 0,20,44m 4 Profile	1 6,12m 2 2,16,36m 3 6,20m 4 8,24,44m		Quantum sensor not working
09/03/84	SG, WSA	1, 2, 3, 9, 15	1, 2, 3, 9, 15	1 Profile 2 Profile 3 Profile 9 Profile 15 Profile	1 6,12,24m 2 4,24,44m 3 0,20,44m 9 4,20,44m 15 4m		No Quantum meas. instru. being recalibrat.
09/15/84	SG, WSA	1, 2, 3, 9, 15	1, 2, 3, 9, 15	1 1m 2 2,10,20m 3 1,10,28m 9 Profile 15 Profile	1 1m 2 2,10,20m 3 1,10,28m 9 6,20,56m 15 6m	1, 2, 3, 9 15	
10/01/84	JC, SG	1, 2, 3, 9, 15	1, 2, 3, 9	1 Profile 2 Profile 3 Profile 9 Profile 15 4m	1 2m 2 4.20m 3 4,16,28m 9 4,24,48,56m 15 4m	1, 2, 3, 9	No Sta. 15 Quantum & secchi, too dark
10/15/84	WSA, SG	1, 2, 3, 9, 15	1, 2, 3, 9, 15	1 1m 2 4,12,24,44m 3 1,6,16,36m 9 10,20,40,56m 15 2,12m	1 1m 2 4,12,24,44m 3 1,6,16,36m 9 10,20,40,56m 15 2,12m	1, 2, 3, 9	Pump did not work
10/29/84	SG, DS	1, 2, 3, 9 15	1, 2, 3, 9, 15	1 1m 2 4,12,28,40m 3 4,16,32,44m 9 6,20,36,52m 15 2,12m	1 1m 2 4,12,28,40m 3 4,16,32,44m 9 6,20,36,52m 15 2,12m	1, 2, 3, 9 15	Pump did not work
11/12/84	SG, RFB	1, 2, 3, 9, 15	1, 2, 3, 9, 15	1 1m 2 4,16,28,40m 3 4,16,28,40m 9 4,16,32,48m 15 1,12m	1 1m 2 4,16,40m 3 4,16,40m 9 4,16,48m 15 1m	1, 2, 3, 9 15	Too cold to run nepher-meter.

NOTE: Percent transmittance was measured at Stations 9 on August 18, 1984; 5, 6, 7 and 8 on August 19, 1984; and 1, 2, 3, and 9 on August 20, 1984.

TABLE A.1, cont.
SUMMARY OF DATA COLLECTED AT EKLUTNA LAKE
December 10, 1982 to November 26, 1984

Date	Personnel	Sample Stations and Depth of Sample: Temp. & Cond	Secchi Disk	Turbidity	TSS	Quantum	Remarks
11/26/84	SG, WSA	1, 2, 3, 9, 15	1, 2, 3, 9, 15	1 1m 2 4,12,40m 3 4,20,40m 9 2,16,32,52m 15 10m	1 1m 2 4,12,40m 3 4,20,40m 9 2,16,32,52m 15 10m	1, 2, 3, 9 15	Pulled Ryans. Too cold to run nephelometer.

APPENDIX B

APPENDIX B

WEATHER DATA SUMMARIES

TABLE B.1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA WEATHER STATION
DATA TAKEN DURING December, 1982

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-12.6	-15.3	-14.0	131	.5	.7	356	3.2	SE	**	*****	****	348	1
2	-14.1	-26.1	-20.1	143	.6	.7	142	2.5	SSE	**	*****	****	340	2
3	-21.1	-27.0	-24.1	149	.8	.9	156	2.5	SSE	**	*****	****	338	3
4	1.0	-26.7	-12.9	138	.7	.7	138	5.7	SE	**	*****	****	335	4
5	5.1	-.2	2.5	138	3.6	3.7	117	8.9	SE	**	*****	****	200	5
6	6.0	1.8	3.9	144	2.8	3.3	157	12.7	SE	**	*****	****	273	6
7	6.0	2.4	4.2	148	5.6	5.7	149	15.2	SSE	**	*****	****	328	7
8	7.0	.1	3.6	144	2.3	3.2	145	11.4	SE	**	*****	****	315	8
9	.6	-12.3	-5.9	332M	.7M	.8M	273M	1.9M	N (M)	**	*****	****	468	9
10	-7.6	-15.0	-11.3	***	****	****	***	****	***	**	*****	****	405	10
11	-3.2	-8.4	-5.8	***	****	****	***	****	***	**	*****	****	450	11
12	2.8	-8.1	-2.7	142M	.7M	.9M	125M	5.7M	SE (M)	**	*****	****	338	12
13	4.2	-.6	1.8	146	2.1	2.6	085	10.2	SSE	**	*****	****	278	13
14	1.9	-2.8	-.5	109	.3	.8	327	2.5	ESE	**	*****	****	425	14
15	6.1	-1.7	2.2	146	.7	1.1	123	5.7	SSE	**	*****	****	410	15
16	5.9	.5	3.2	136	2.0	2.3	136	9.5	SE	**	*****	****	290	16
17	6.0	-8.6	-1.3	130	.9	1.4	136	6.3	SE	**	*****	****	360	17
18	-6.1	-12.6	-9.4	145	.6	.6	172	1.9	SE	**	*****	****	460	18
19	3.9	-10.9	-3.5	124	1.0	1.5	117	6.3	SE	**	*****	****	438	19
20	1.4	-8.5	-3.6	052	.4	1.0	128	8.9	NNE	**	*****	****	425	20
21	-7.0	-16.9	-12.0	149	.7	.7	203	2.5	SSE	**	*****	****	453	21
22	-14.6	-19.4	-17.0	149	.6	.6	162	1.9	SSE	**	*****	****	438	22
23	-12.4	-20.2	-16.3	144	.6	.6	117	1.9	SE	**	*****	****	443	23
24	-8.4	-15.2	-11.8	135M	.5M	.5M	155M	1.9M	SE (M)	**	*****	****	438	24
25	3.4	-17.0	-6.8	143M	1.3M	1.4M	145M	9.5M	SE (M)	**	*****	****	425	25
26	6.2	2.6	4.4	149	8.0	8.0	150	16.5	SSE	**	*****	****	143	26
27	6.8	3.5	5.2	142	7.5	7.6	146	18.4	SE	**	*****	****	120	27
28	7.9	2.7	5.3	145	7.0	7.0	140	19.7	SE	**	*****	****	188	28
29	6.2	-1.1	2.6	143	4.8	5.2	140	19.7	SE	**	*****	****	180	29
30	-.7	-7.5	-4.1	097	.3	.7	049	3.8	SE	**	*****	****	478	30
31	-3.2	-8.4	-5.8	123	.5	.6	155	2.5	ESE	**	*****	****	395	31
MONTH	7.9	-27.0	-4.8	143M	2.1M	2.4M	140M	19.7M	SE (M)	**	*****	****	10918	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 16.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 14.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 17.1
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 14.6

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

FIGURE B.1

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA WEATHER STATION

December, 1982

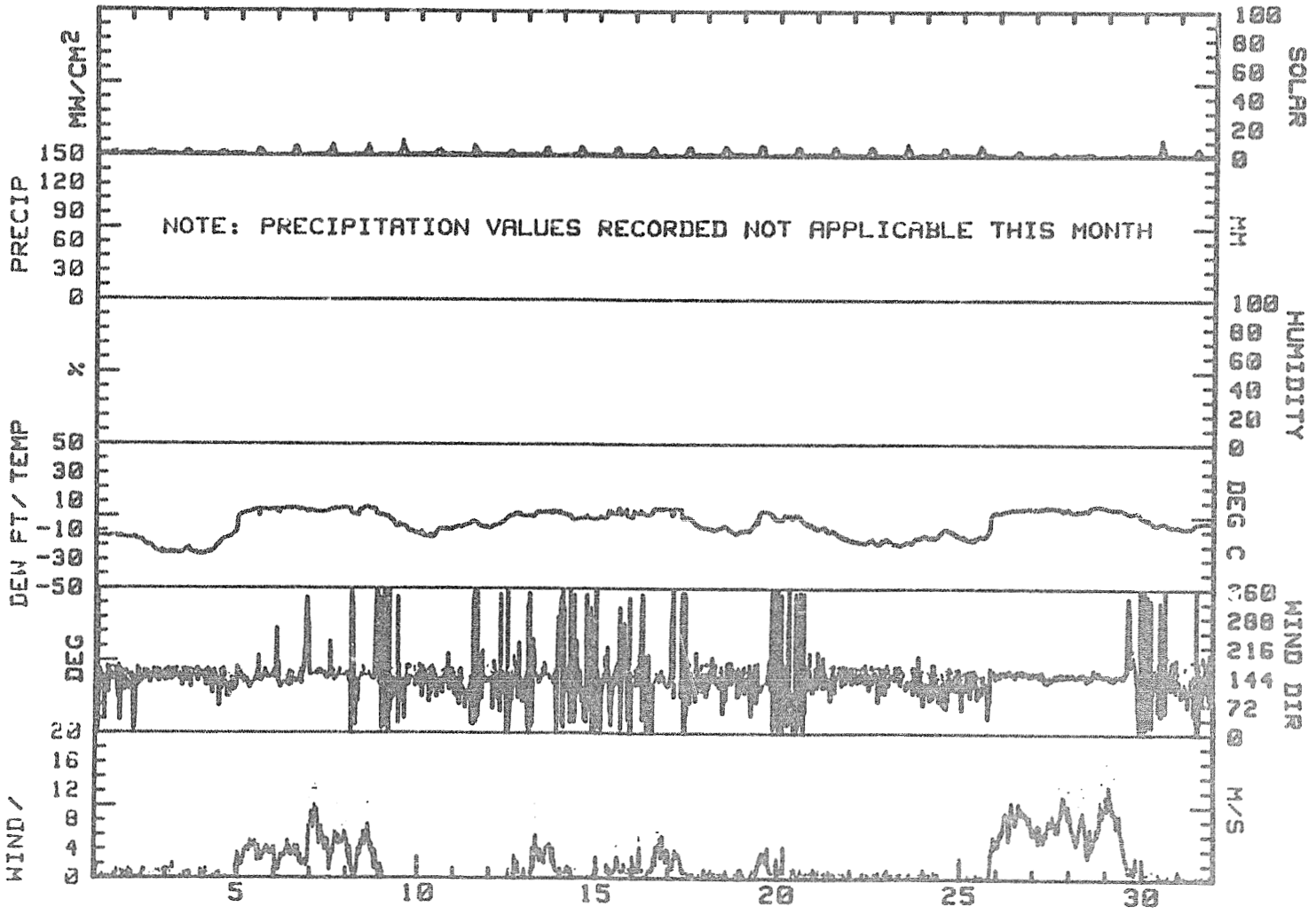


TABLE B.2

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

NTHLY SUMMARY FOR EKLUTNA LAKE WEATHER STATION
TA TAKEN DURING January, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-1.9	-3.5	-2.7	119	.3	.6	351	2.5	SSE			****	373	1
2	-2.3	-5.5	-3.9	133	.5	.7	143	3.2	SE			****	398	2
3	-5.0	-7.9	-6.5	090	.2	.5	144	1.9	SE			****	413	3
4	-5.0	-7.9	-6.5	090	.2	.5	144	1.9	SE			****	413	4
5	-17.2	-26.8	-22.0	139M	.4M	.4M	170M	1.9M	SSE(M)			****	343	5
6	-17.3	-28.0	-22.7	003M	.9M	.9M	000M	2.5M	N (M)			****	318	6
7	-18.6	-29.1	-23.9	021	.3	.5	352	2.5	N			****	313	7
8	-29.4M	-32.6M	-31.0M	136M	.4M	.4M	154M	1.9M	SE(M)			****	329M	8
9	-32.1M	-32.1M	-32.1M	107M	.2M	.2M	107M	.6M	ESE(M)	**	*****	****	0M	9
10	-22.2M	-26.4M	-24.3M	350M	.2M	.2M	350M	1.3M	N (M)	**	*****	****	249M	10
11	-22.4M	-27.8M	-25.1M	142M	.5M	.5M	073M	1.9M	SSE(M)	72M	-28.0M	****	213M	11
12	-20.2	-29.5	-24.9	130	.4	.5	154	2.5	SSE	73	-27.3	****	393	12
13	-18.4	-27.8	-23.1	118	.3	.4	174	1.9	SE	72	-29.7	****	118	13
14	-13.9	-22.3	-18.1	120	.3	.4	147	1.9	ESE	77	-21.6	****	460	14
15	.9	-13.6	-6.4	100	.5	.8	059	3.8	ESE	82	-8.0	****	293	15
16	3.3	-3.9	-.3	042	.3	1.0	059	7.0	SE			****	259	16
17	-3.4	-9.2	-6.3	114	.2	.3	155	1.3	SSE	**	*****	****	250	17
18	4.2	-6.7	-1.3	156	1.0	1.3	148	6.3	SE	97	.2	****	188	18
19	3.7	-5.9	-1.1	125	1.1	2.8	153	8.3	SSE	71	-5.9	****	428	19
20	3.4	-4.9	-.8	136	1.5	2.5	123	7.6	SE	52	-8.6	****	698	20
21	6.2	-9.0	-1.4	139	1.5	2.6	142	10.8	SE	39	-13.2	****	775	21
22	-9.4	-18.9	-14.2	142	.6	.8	070	3.2	SSE	79	-16.8	****	649	22
23	-14.1	-20.2	-17.2	136	.6	.7	158	2.5	SSE	82	-19.8	****	595	23
24	-6.7	-20.5	-13.6	142	.6	.7	159	3.2	SSE	84	-16.3	****	398	24
25	-7.3	-11.1	-9.2	141	.6	.8	126	2.5	SSE	89	-10.2	****	568	25
26	7.7	-8.1	-.2	146	1.5	2.0	143	8.9	SSE	78	.1	****	383	26
27	2.6	-6.0	-1.7	135	.6	.7	117	2.5	SSE			****	660	27
28	-3.1	-12.9	-8.0	142	.5	.6	183	2.5	SSE			****	695	28
29	-10.1	-16.2	-13.2	139	.4	.4	151	1.9	SE	91	-14.1	****	660	29
30	.9	-14.2	-6.7	062	.2	.9	343	3.8	ESE	92	-4.6	****	515	30
31	6.4	0.0	3.2	144	2.1	2.8	147	10.2	SE			****	558	31
MONTH	7.7M	-32.6M	-11.8M	133M	.6M	1.0M	142M	10.9M	SE(M)	61M	-16.5M	****	13185M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 6.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 7.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 8.3

TE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

x. SEE NOTES AT THE BACK OF THIS REPORT ****

FIGURE B.2

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA LAKE WEATHER STATION

January, 1983

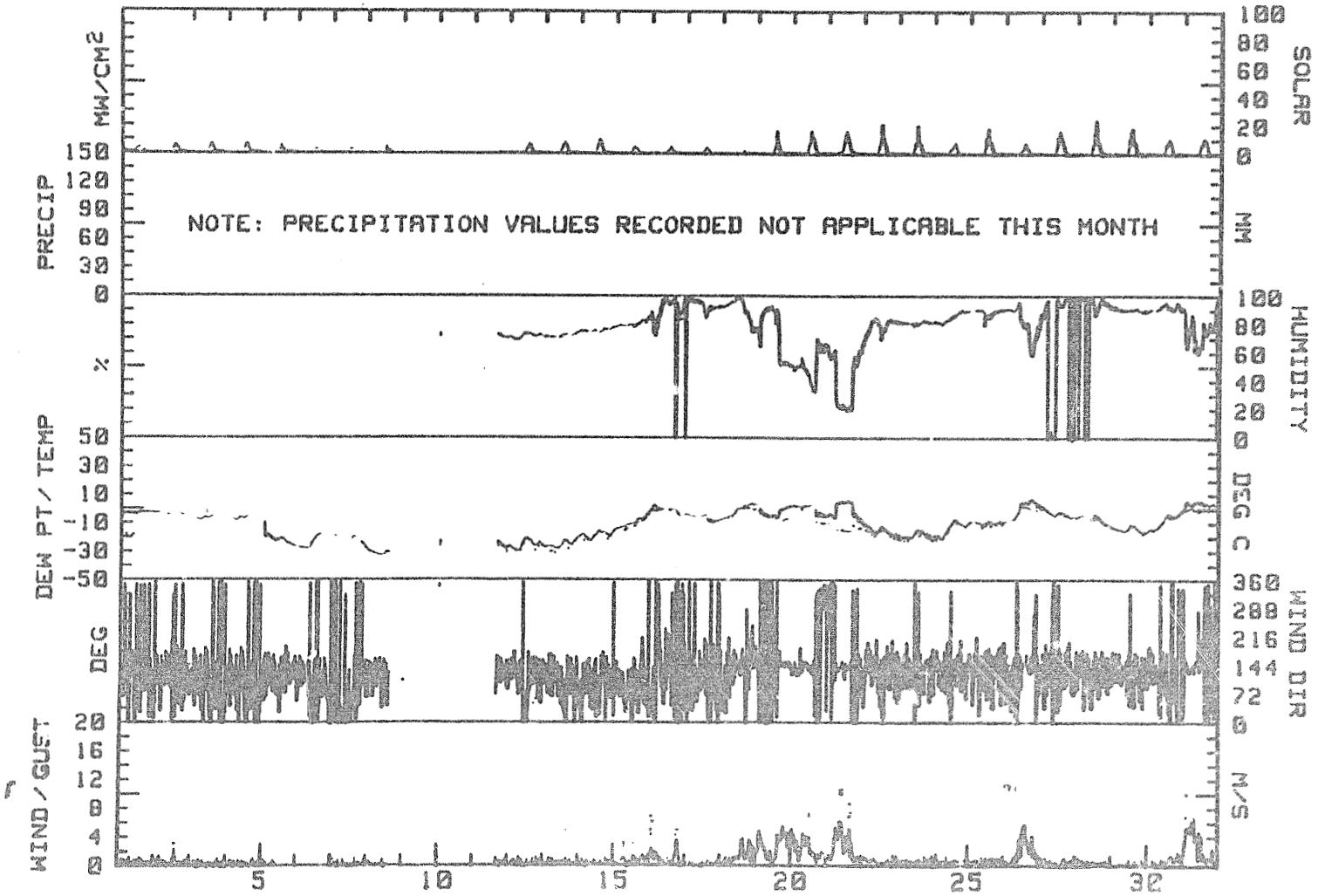


TABLE B.3

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THLY SUMMARY FOR EKLUTNA LAKE WEATHER STATION
TAKEN DURING February, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY- WH/SQM	DAY
1	7.7	.4	4.1	149	1.7	2.1	158	11.4	SSE			****	760	1
2	5.9	.9	3.4	148	3.0	3.5	144	11.4	SSE			****	633	2
3	4.8	.4	2.6	155	1.1	1.6	132	8.9	SSE			****	645	3
4	5.1	-.7	2.2	149	1.2	1.9	159	11.4	SSE			****	950	4
5	4.3	-3.4	.5	151	1.2	1.8	155	8.3	SSE			****	578	5
6	.2	-3.3	-1.6	040 M	.2M	.4M	159M	1.9M	N (M)		*****	****	273	6
7	-2.3	-4.4	-3.4	152M	.5M	.4M	162M	2.5M	SSE(M)			****	358	7
8	-2.1	-7.2	-4.7	144M	.4M	.4M	169M	2.5M	SSE(M)			****	288	8
9	-7.7M	-23.9M	-15.8M	315M	.3M	.2M	297M	1.3M	NW (M)	**	*****	****	643M	9
10	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	10
11	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	11
12	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	12
13	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	13
14	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	14
15	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	15
16	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	16
17	-18.2M	-23.6M	-20.9M	138M	.3M	.5M	259M	1.9M	SSE(M)	**	*****	****	436M	17
18	-7.3M	-11.9M	-9.6M	010M	.3M	.9M	176M	3.2M	N (M)			****	144M	18
19	3.4	-10.1	-3.4	134	.6	1.2	125	8.3	SE			****	1643	19
20	1.4	-8.8	-3.3	012	.5	1.1	002	4.4	N			****	1250	20
21	7.8	-5.8	.6	138	1.7	2.1	149	8.9	SE			****	1823	21
22	6.5	-5.9	.3	138	.4	1.1	142	7.8	SE	66	-3.6	****	2190	22
23	5.3	-7.7	-1.2	042	.2	.8	358	3.8	N	86	-4.5	****	1455	23
24	7.1	-11.4	-2.2	139	2.2	2.5	131	8.9	SE			****	1953	24
25	-2.5	-16.7	-9.6	119	.3	.6	112	2.5	SSE	83	-10.5	****	2200	25
26	7.7	-6.4	.7	118	.9	1.6	138	7.0	SE	68	-3.0	****	2193	26
27	.9	-7.8	-3.1	077	.1	.6	349	2.5	SSE			****	1105	27
28	2.9	-9.2	-3.2	113	.2	.5	148	1.9	ESE			****	1723	28
MONTH	7.7M	-23.9M	-3.2M	139M	.8M	1.3M	158M	11.4M	SSE(M)	M	M	****	23231M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.2

: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
SEE NOTES AT THE BACK OF THIS REPORT ****

FIGURE B.3

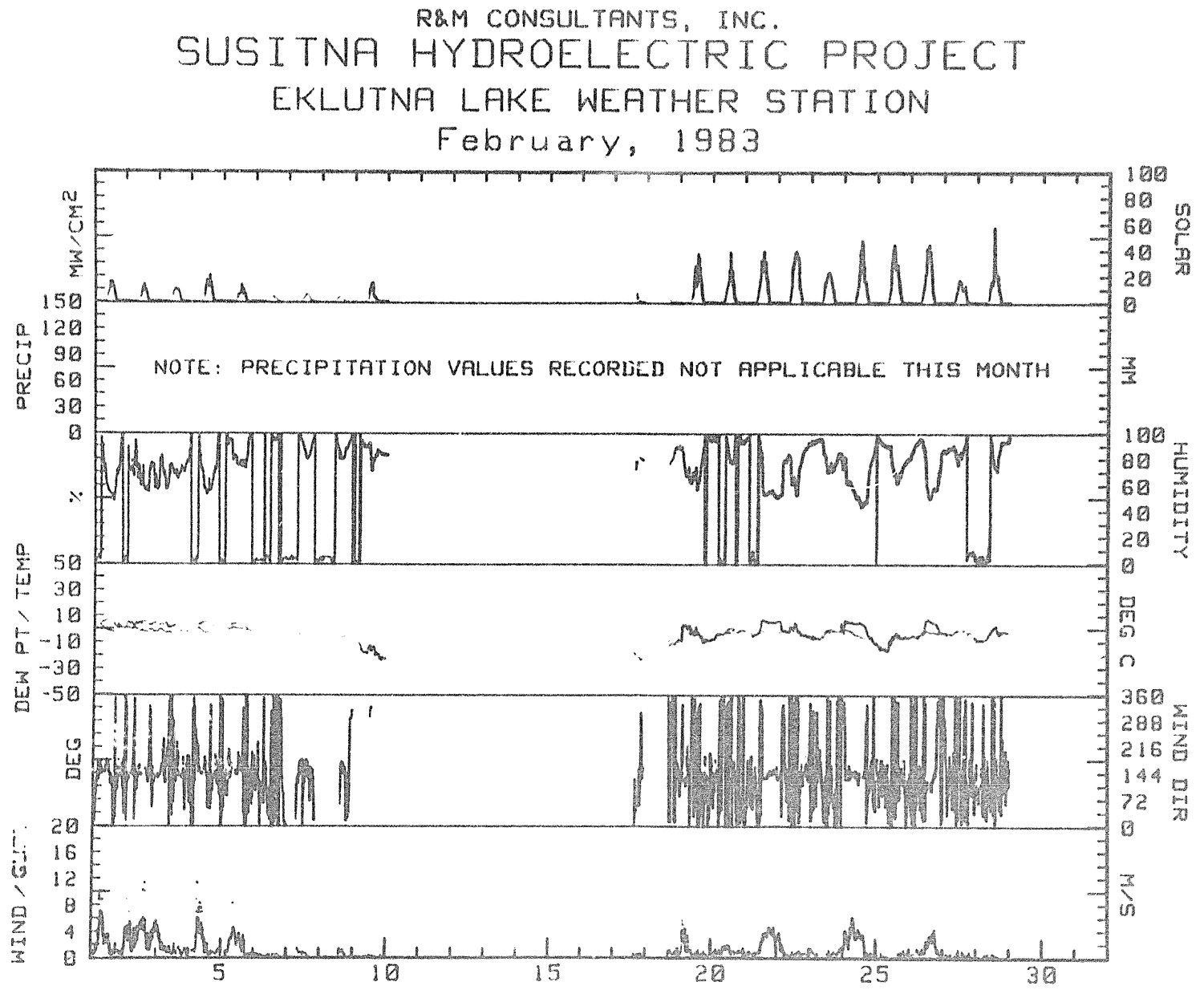

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
EKLUTNA LAKE WEATHER STATION
February, 1983
SOLAR
MW/CM2
100
80
60
40
20
0
PRECIP
150
120
90
60
30
0
NOTE: PRECIPITATION VALUES RECORDED NOT APPLICABLE THIS MONTH
MM
HUMIDITY
%
100
80
60
40
20
0
DEW PT / TEMP
50
30
10
-10
-30
-50
DEG C
WIND DIR
DEG
360
288
216
144
72
0
WIND / GUST
20
16
12
8
4
0
M/S
5
10
15
20
25
30

TABLE B.4

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA LAKE WEATHER STATION
DATA TAKEN DURING March, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	2.9	-5.0	-1.1	174	.6	.9	201	3.8	S			****	2533	1
2	-.8	-17.1	-9.0	142	.2	.6	160	1.9	SSE			****	3038	2
3	-1.5	-21.1	-11.3	128	.2	.5	144	1.9	SSE	89	-18.7	****	2938	3
4	2.2	-17.5	-7.7	102	.2	.6	145	3.8	SE	69	-12.5	****	2653	4
5	2.4	-10.0	-3.8	087	.1	.6	144	1.9	N	66	-8.2	****	3123	5
6	2.9	-13.9	-5.5	124	.3	.6	176	1.9	SSE	82	-10.1	****	2973	6
7	2.8	-16.2	-6.7	122	.3	.5	166	1.9	SSE	83	-13.6	****	3130	7
8	2.1	-19.4	-8.7	136	.3	.6	175	2.5	SE	89	-17.9	****	3335	8
9	.9	-23.8	-10.3	133	.3	.6	188	2.5	SE	58	-14.4	****	3339	9
10	-1.2	-14.2	-7.7	024	.2	.7	288	2.5	N	73	-11.2	****	2928	10
11	6.8	-11.5	-2.4	014	.4	.9	328	5.7	N	73	-5.4	****	2883	11
12	9.1	-3.7	2.7	127	.7	1.3	145	6.3	SE			****	2863	12
13	9.9	-4.1	2.9	109	.2	.6	164	1.9	SSE			****	3368	13
14	9.2	-3.3	3.0	095	.2	.5	028	1.9	ESE			****	3040	14
15	7.3	-5.3	1.0	137	1.6	1.8	149	7.0	SE			****	2923	15
16	6.2	-5.9	.2	104	.2	.6	158	5.1	SE			****	2948	16
17	5.9	-9.4	-1.8	096	.2	.6	226	2.5	SSE			****	4133	17
18	5.1	-13.2	-4.1	128	.2	.6	148	2.5	SSE			****	4273	18
19	4.3	-13.3	-4.5	126	.2	.7	169	2.5	SSE	70	-10.5	****	4298	19
20	5.7	-11.5	-2.9	119	.2	.6	343	2.5	S	69	-7.3	****	3430	20
21	4.6	-9.8	-2.6	090	.1	.5	349	3.2	SSE	58	-6.6	****	4013	21
22	5.7	-11.6	-3.0	086	.1	.6	163	1.9	NNW			****	4508	22
23	6.3M	-14.3M	-4.0M	077	.2	.6	095	2.5	SSE	37	-10.5	****	4688M	23
24	4.8	-5.9	-.6	077	.1	.6	357	1.9	SE	57	-4.9	****	3408	24
25	6.1	-8.8	-1.4	109	.4	1.0	135	5.1	SSE			****	2743	25
26	8.1	-3.8	2.2	073	.2	.7	164	3.2	NNE	82	-3.6	****	3418	26
27	8.5	-6.2	1.2	145	1.7	2.2	155	9.5	SSE			****	4648	27
28	8.5	-3.4	2.6	140	.9	1.4	143	6.3	SE	48	-5.4	****	4183	28
29	6.0	-7.6	-.8	020	.2	.7	005	3.2	N			****	4870	29
30	6.0	-9.3	-1.7	034	.1	.6	357	3.2	N			****	5163	30
31	7.4	-3.7	1.9	032	.1	.8	353	3.2	SE			****	4623	31
MONTH	9.9M	-21.1M	-2.7M	123	.3	.8	155	9.5	SSE	M	M	****	109934M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 7.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.0

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

FIGURE B.4

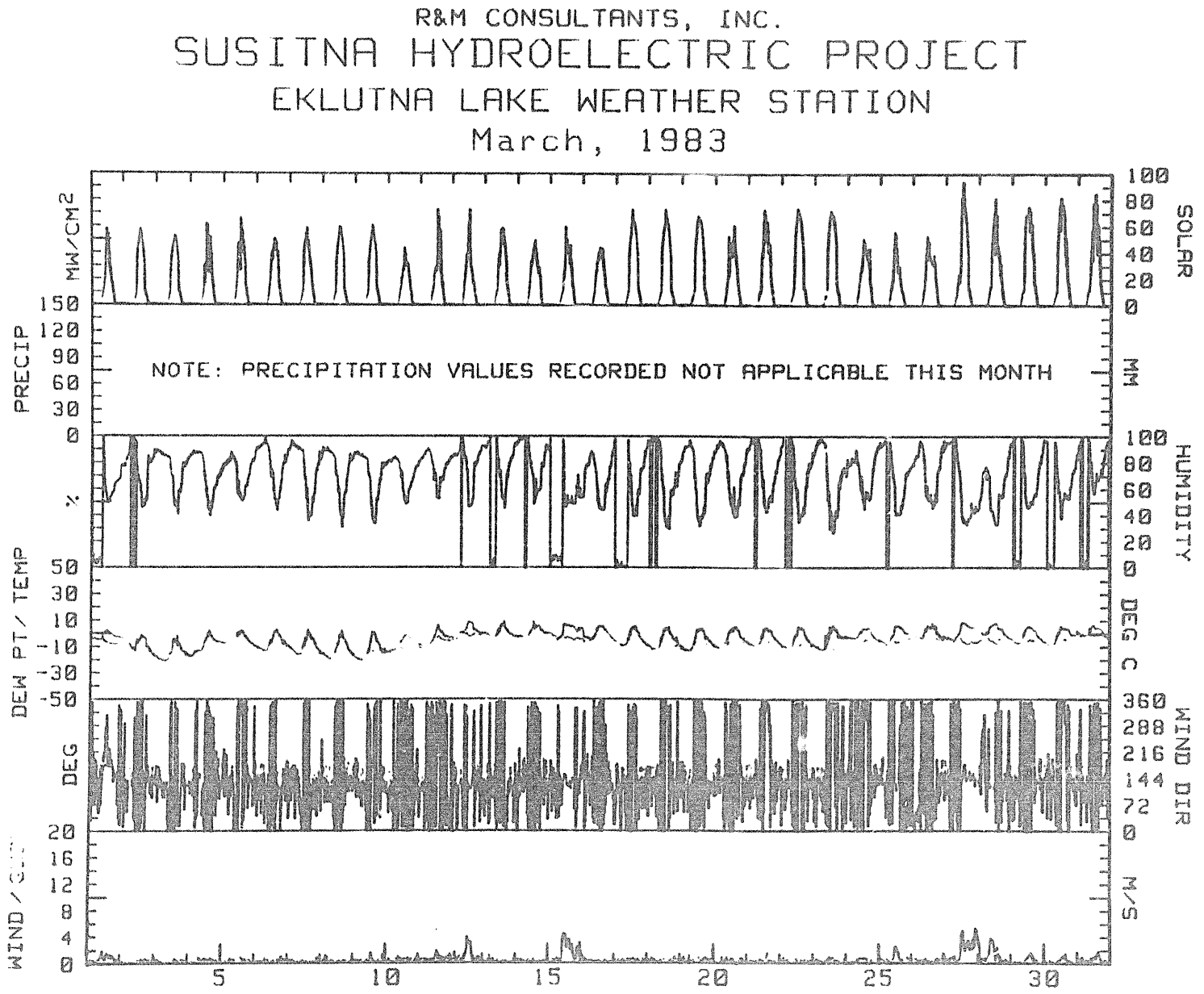

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
EKLUTNA LAKE WEATHER STATION
March, 1983
SOLAR MW/CM2
100
80
60
40
20
0
PRECIP
150
120
90
60
30
0
MM
NOTE: PRECIPITATION VALUES RECORDED NOT APPLICABLE THIS MONTH
HUMIDITY
%
DEW PT/ TEMP
50
30
10
-10
-30
-50
DEG C
WIND DIR
DEG
360
288
216
144
72
0
WIND
20
16
12
8
4
0
M/S
5
10
15
20
25
30

TABLE B.5

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA LAKE WEATHER STATION
DATA TAKEN DURING April, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	8.5	-5.4	1.6	126	.3	1.1	139	7.0	SSE			0.0	5225	1
2	7.1	-7.2	-.1	087	.1	.6	131	1.9	SSE			0.0	5608	2
3	7.8	-6.5	.7	150	2.5	2.7	160	10.2	SSE			4.0	5010	3
4	3.6	.1	1.9	119	.5	1.3	153	8.3	NNE			8.2	1243	4
5	7.0	.1	3.6	151	4.1	4.2	159	10.2	SSE	56	-4.2	11.2	5628	5
6	5.7	-4.4	.7	146	1.6	2.0	157	8.9	SSE	48	-7.4	0.0	5385	6
7	6.0	-7.9	-1.0	029	.1	.8	136	2.5	SSE			0.0	5840	7
8	3.4	-5.4	-1.0	358	.5	1.2	359	4.4	N	67	-4.8	0.0	6550	8
9	.7	-4.5	-1.9	353	.4	1.0	345	3.2	NNW			0.0	3323	9
10	4.1	-7.7	-1.8	026	.3	1.0	000	3.8	SE			0.0	6503	10
11	4.0	-10.8	-3.4	151	3.8	4.2	161	13.3	SSE	60	-5.9	0.0	3253	11
12	5.6	-1.7	2.0	102M	.3M	2.4M	152M	8.3M	SSE(M)			0.0	4605	12
13	3.4	-4.8	-.7	017M	.2M	.3M	006M	1.3M	N (M)			6.0	3105	13
14	8.4	-1.2	3.6	143	3.0	3.4	154	11.4	SE			.4	5160	14
15	5.2	.9	3.1	139	5.1	5.2	147	12.1	SE	57	-3.3	0.0	2873	15
16	4.3	-1.8	1.3	341	.4	.8	001	3.8	NNW			.4	4540	16
17	5.1	-1.6	1.8	347	1.1	1.3	306	5.1	N			0.0	5470	17
18	6.0	-1.6	2.2	144	3.7	3.9	156	8.9	SE			0.0	5978	18
19	5.8	-1.2	2.3	146	1.9	2.5	168	10.8	SSE			0.0	5893	19
20	6.2	-1.4	2.4	152	1.0	1.3	135	5.7	SSE			0.0	5488	20
21	7.8	-1.1	3.4	130	1.5	1.8	134	6.3	SE	55	-2.9	0.0	4565	21
22	10.6	-.5	5.1	144	2.5	2.9	146	8.3	SSE	54	-1.8	0.0	6578	22
23	11.7	-1.7	5.0	154	.9	2.0	163	7.6	SSE	51	-2.3	0.0	3898	23
24	12.4	-3.7	4.4	035	.1	1.0	359	3.2	SSE			0.0	7723	24
25	17.0	-2.2	7.4	139	.5	1.3	166	7.0	SSE			0.0	7735	25
26	10.9	-2.9	4.0	360	.3	1.0	341	3.2	NNW			0.0	7725	26
27	12.0	-.9	5.6	002	.4	1.1	354	3.8	NNW			0.0	7625	27
28	6.6	-1.5	2.6	357	.2	.7	156	2.5	N			.2	3203	28
29	5.8	1.6	3.7	347	.4	.7	343	3.2	N			4.8	3520	29
30	12.0	-.8	5.6	346	.3	1.0	200	3.2	N			2.6	8774	30
MONTH	17.0	-10.8	2.1	140M	1.0M	1.8M	161M	13.3M	SSE(M)	M	M	37.8	158021	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.8

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

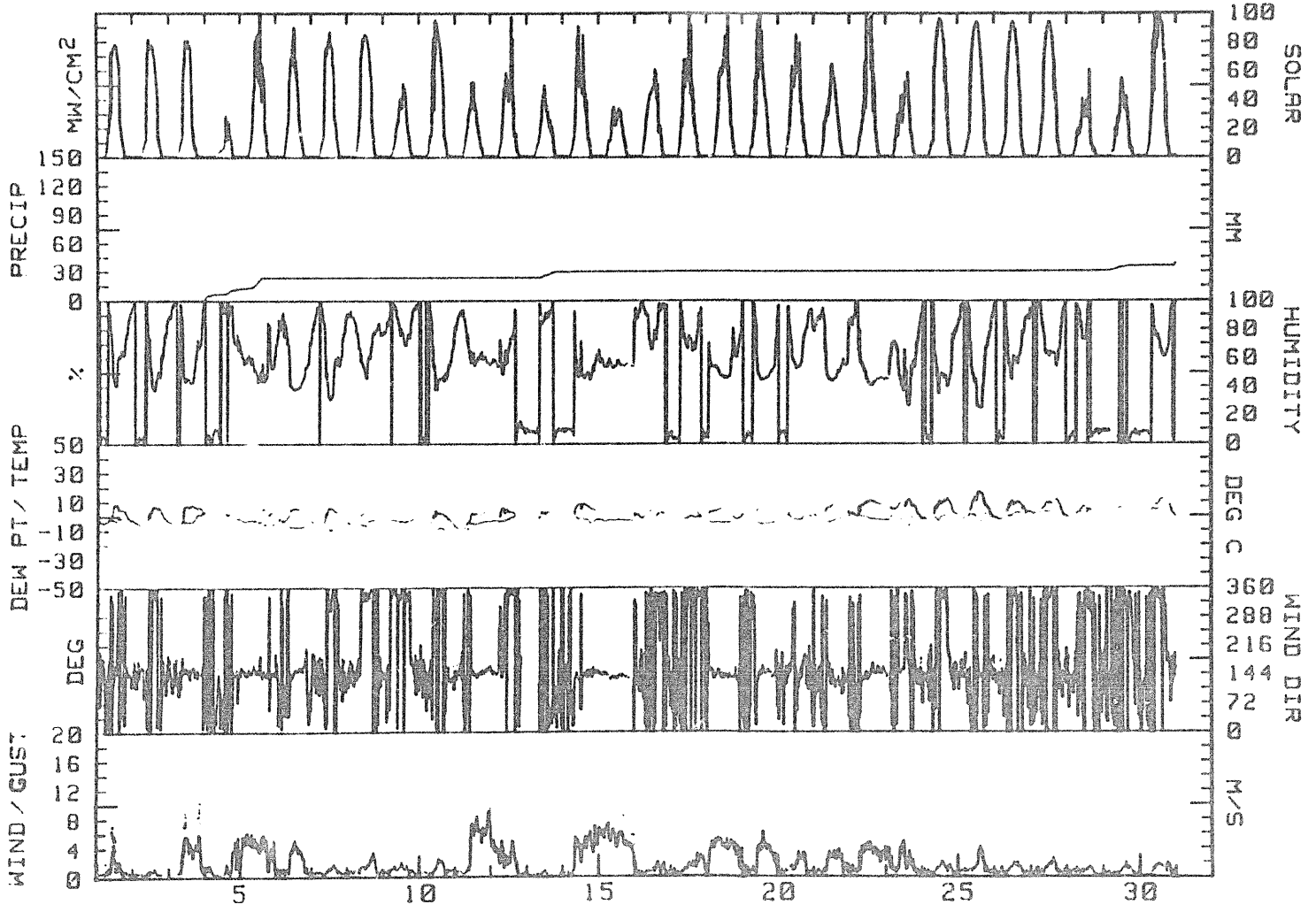
FIGURE B.5

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA LAKE WEATHER STATION

April, 1983



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA LAKE WEATHER STATION
DATA TAKEN DURING May, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	11.5M	-2.3M	4.6M	346	.7	1.3	215	5.1	NNW			0.0	7384 M	1
2	5.6	1.2	3.4	352	.8	1.2	347	5.7	NNW			0.0	4258	2
3	6.3	.4	3.4	353	.8	1.0	001	3.8	N			0.0	6965	3
4	8.2	-.7	3.8	140	1.3	1.8	135	7.6	SE			0.0	5798	4
5	9.4	-1.2	4.1	132	.6	1.3	153	5.7	SSE			0.0	5958	5
6	10.8	-2.5	4.2	146	.6	1.4	123	5.1	SSE			0.0	5456M	6
7	12.5M	-2.8M	4.9M	355M	.3M	1.0M	347 M	3.8M	NNW(M)			0.0	7946 M	7
8	13.2	-1.7	5.8	003	.6	1.1	037	5.7	N			.2	7028	8
9	13.3	-1.6	5.9	148	2.8	3.1	153	8.3	SSE			0.0	8307	9
10	12.9	1.9	7.4	148	2.5	2.9	151	8.3	SSE	29	-9.2	0.0	6903	10
11	13.6	1.0	7.3	158	1.1	1.6	156	6.3	S	33	-5.1	0.0	5358	11
12	13.0	3.1	8.1	148	1.8	2.0	149	7.0	SSE	44	-.1	0.0	6588	12
13	17.1	3.1	10.1	159	.8	1.8	155	7.0	SSE	49	1.3	0.0	8268	13
14	14.4	3.6	9.0	154	1.6	2.1	153	7.6	SSE			.4	6555	14
15	14.4	.1	7.3	150	2.8	3.1	152	9.5	SSE			0.0	8858	15
16	11.1	4.6	7.9	146	3.3	3.5	147	10.2	SE	46	-1.0	0.0	2270	16
17	13.8	2.7	8.3	137	2.5	3.0	140	9.5	SE			0.0	7940	17
18	11.5	-.8	5.4	146	2.4	2.6	139	7.0	SE	51	-.9	0.0	7005	18
19	13.2M	-2.5M	5.4M	007	.7	1.3	351	5.1	N			0.0	7510M	19
20	15.5	-.2	7.7	011	.7	1.3	023	4.4	N			0.0	8253	20
21	10.6	1.5	6.1	356	1.0	1.4	353	5.7	N			0.0	5893	21
22	12.4	4.2	8.3	057	.3	1.6	161	7.6	NNW			0.0	6285	22
23	10.6	5.3	8.0	146	2.8	3.3	143	9.5	SE			0.0	4245	23
24	12.7	6.4	9.6	148	1.4	2.1	145	7.0	SSE	53	.5	0.0	6828	24
25	12.7	4.6	8.7	006	.5	1.1	262	5.1	N			0.0	5551M	25
26	12.6	6.2	9.4	146	3.1	3.2	158	8.3	SE			0.0	7148	26
27	11.9	2.2	7.1	175	.2	.9	204	4.4	SSE			.4	5962	27
28	16.3	2.6	9.5	145	2.1	2.4	156	8.3	SSE			0.0	7384M	28
29	19.0	8.9	14.0	147	2.2	2.5	152	8.9	SSE	52	5.9	0.0	6760	29
30	19.6	9.6	14.6	129	.6	1.6	158	7.6	SE			3.2	3720	30
31	13.6	8.2	10.9	148	2.3	2.5	146	10.2	SSE			1.0	4764M	31
MONTH	19.6M	-2.8M	7.4M	141M	1.1M	2.0M	147M	10.2M	SSE(M)	M	M	5.2	199142M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.0

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THA ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

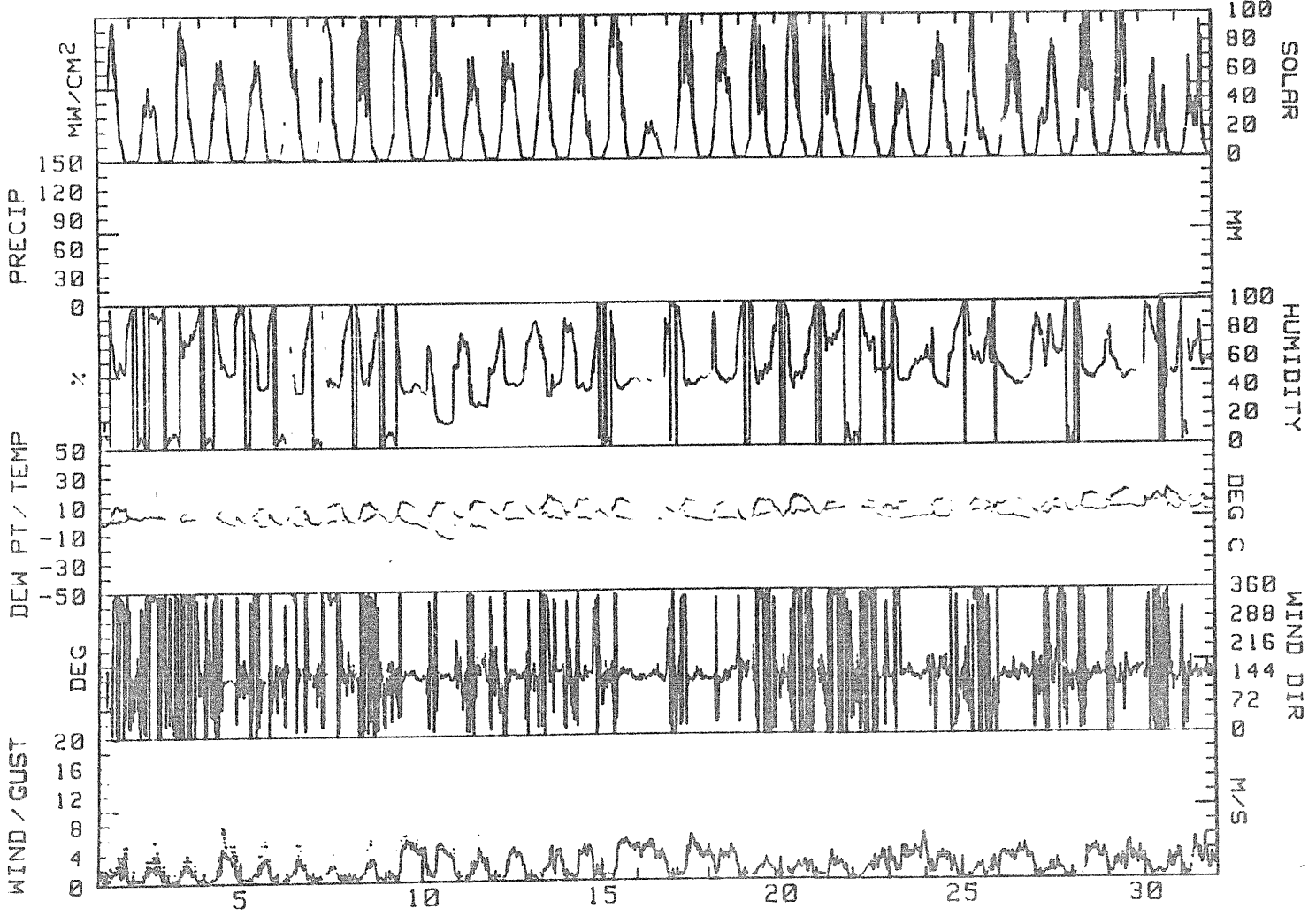
FIGURE B.6

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA LAKE WEATHER STATION

May, 1983



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA LAKE WEATHER STATION
DATA TAKEN DURING June, 1983

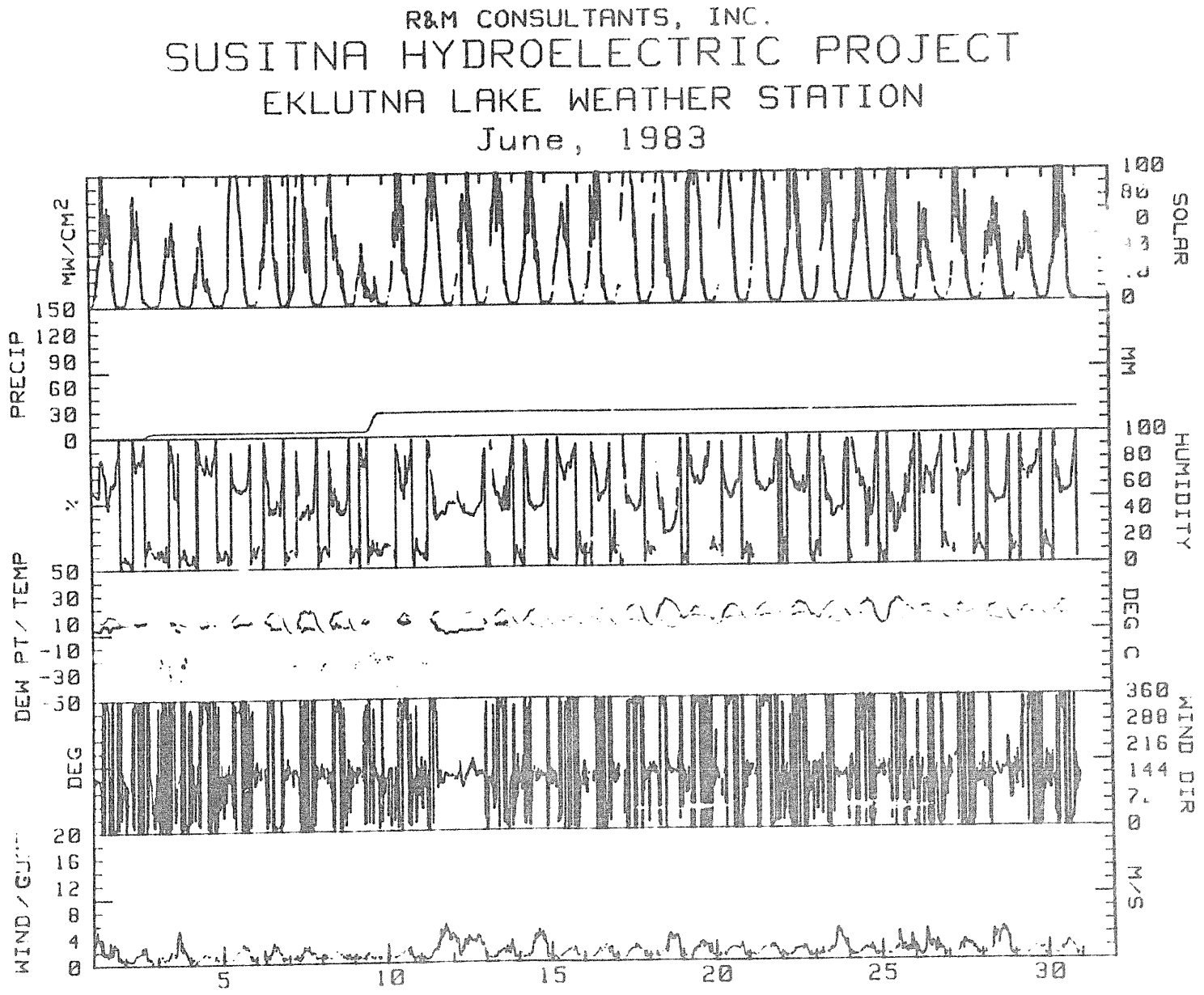
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	14.4	6.7	10.6	075M	.7M	2.1M	143M	8.3M	N (M)			0.0	7374	1
2	11.8	6.7	9.3	359M	.7M	.9M	001M	4.4M	N (M)			4.4	5239	2
3	12.3	6.0	9.2	035M	.6M	1.5M	139M	7.0M	N (M)			.2	4557	3
4	10.7	5.3	8.0	002M	.4M	.7M	353M	2.5M	N (M)			0.0	3567	4
5	15.9	3.7	9.8	353M	.7M	1.1M	359M	4.4M	N (M)			0.0	10490	5
6	16.4M	1.1M	8.8M	016M	.6M	1.2M	008M	4.4M	N (M)			0.0	9061M	6
7	17.9M	-.1M	8.9M	008M	.5M	1.1M	000M	3.8M	N (M)			0.0	9549M	7
8	17.0M	-.3M	8.4M	050M	.1M	.9M	339M	2.5M	S (M)			0.0	6973M	8
9	10.8	1.2	6.0	142M	.2M	.7M	356M	3.2M	SSE (M)			21.6	2677	9
10	15.8M	3.0M	9.4M	019M	.3M	.9M	338M	3.8M	NNW (M)			.2	8365M	10
11	16.4M	6.3M	11.4M	141M	1.7M	2.4M	138M	8.9M	SE (M)			.2	9913M	11
12	15.4M	8.8M	12.1M	153M	2.6M	2.7M	135M	6.3M	SSE (M)			0.0	8225M	12
13	17.3M	5.7M	11.5M	031M	.5M	1.1M	136M	5.1M	N (M)			0.0	9731M	13
14	17.0M	4.0M	10.5M	147M	1.6M	2.0M	168M	7.6M	SSE (M)			0.0	8784M	14
15	14.5M	4.1M	9.3M	358M	.7M	.9M	006M	3.2M	N (M)			0.0	7005M	15
16	17.4M	5.4M	11.4M	007M	.7M	1.1M	320M	5.1M	N (M)			0.0	8687M	16
17	20.9M	3.6M	12.3M	357M	.7M	1.1M	346M	3.8M	N (M)			0.0	12080M	17
18	24.2M	3.3M	13.8M	159M	1.1M	1.8M	182M	7.0M	SSE (M)			0.0	10379M	18
19	18.4M	6.9M	12.7M	360M	1.1M	1.4M	359M	4.4M	N (M)			0.0	11924M	19
20	19.8M	3.5M	11.7M	003M	.8M	1.2M	011M	4.4M	N (M)			0.0	11534M	20
21	20.4M	4.3M	12.4M	359M	.9M	1.2M	004M	3.8M	N (M)			0.0	10722M	21
22	21.5	9.0	15.3	358M	.5M	1.0M	335M	3.8M	NNW (M)			0.0	9400	22
23	20.6M	7.4M	14.0M	137M	1.2M	1.9M	138M	7.0M	SE (M)			0.0	8546M	23
24	23.3M	5.5M	14.4M	357M	.5M	1.0M	333M	3.8M	NNW (M)			0.0	9345M	24
25	23.4M	3.4M	13.4M	101M	.5M	1.5M	140M	7.6M	SE (M)			0.0	7605M	25
26	17.8M	8.2M	13.0M	063M	.6M	1.5M	141M	7.0M	N (M)			0.0	5333M	26
27	19.4M	6.8M	13.1M	019M	.8M	1.4M	096M	6.3M	N (M)			0.0	8075M	27
28	18.1M	6.1M	12.1M	148M	2.0M	2.2M	134M	7.6M	SSE (M)			0.0	6738M	28
29	16.8M	4.9M	10.9M	002M	.6M	1.0M	350M	3.2M	N (M)			0.0	5291M	29
30	20.4	8.2	14.3	009M	.8M	1.1M	005M	4.4M	N (M)			0.0	9450	30
MONTH	24.2M	-.3M	11.2M	069M	.3M	1.4M	138M	8.9M	N (M)	M	M	26.6	246621	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS	7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL	6.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL	7.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS	7.6

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

FIGURE B.7


R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
EKLUTNA LAKE WEATHER STATION
June, 1983
SOLAR
MW/CM2
100
80
60
40
20
0
PRECIP
MM
150
120
90
60
30
0
HUMIDITY
%
100
80
60
40
20
0
DEW PT / TEMP
DEG C
50
30
10
-10
-30
-50
WIND DIR
DEG
360
288
216
144
72
0
WIND / GUST
M/S
20
16
12
8
4
0
5
10
15
20
25
30

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA LAKE WEATHER STATION
DATA TAKEN DURING July, 1983

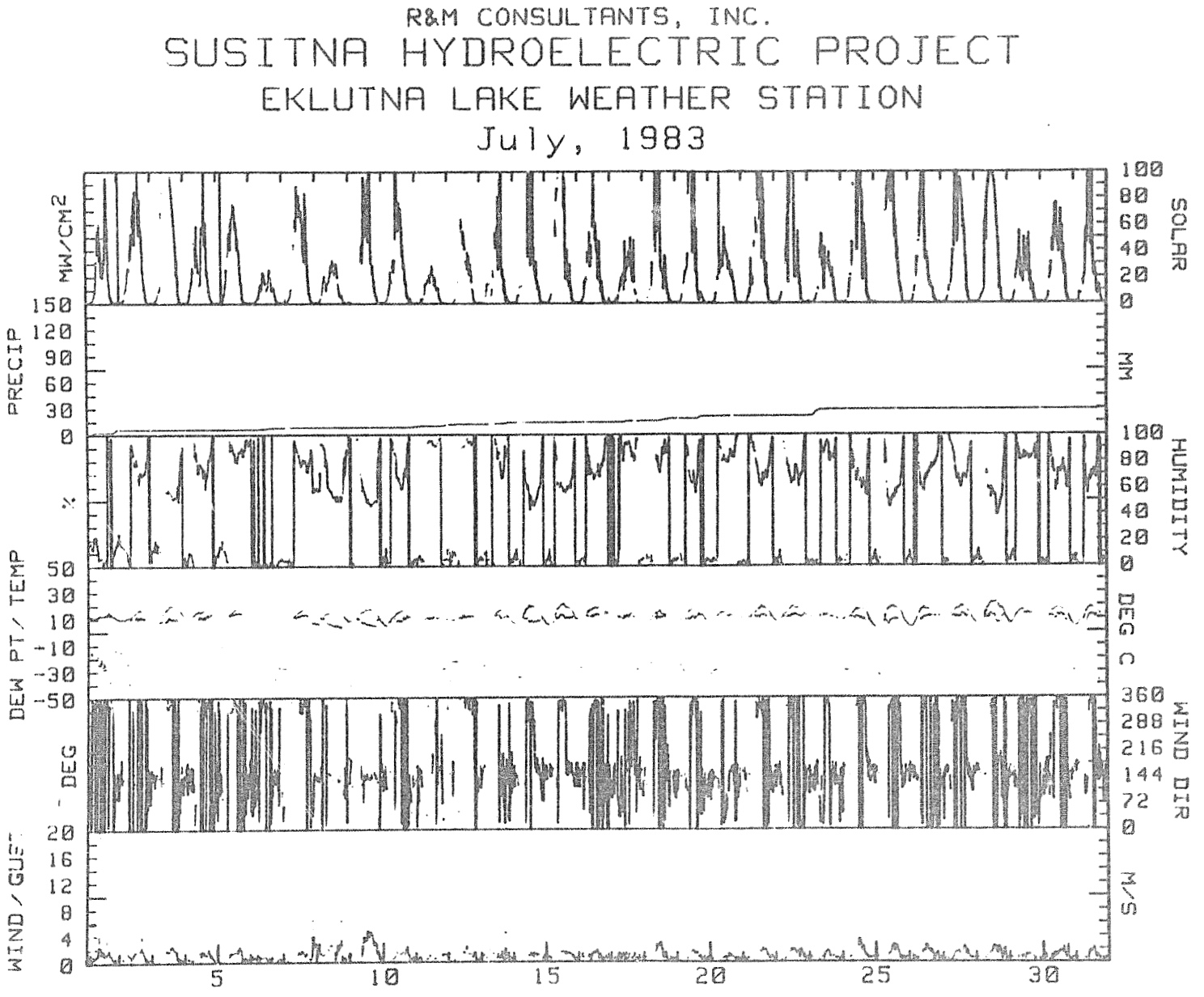
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	15.4M	10.1M	12.8M	355M	.8M	1.0M	060M	4.4M	N (M)			6.0	4549M	1
2	18.1M	9.7M	13.9M	007M	.8M	1.1M	005M	3.8M	N (M)			.2	7960M	2
3	20.6M	8.0M	14.3M	002M	.7M	1.1M	344M	3.8M	N (M)			0.0	10365M	3
4	18.3M	10.2M	14.3M	005M	.5M	.9M	000M	3.2M	N (M)			0.0	4894M	4
5	18.1M	11.6M	14.9M	356M	.6M	.9M	000M	3.8M	N (M)			0.0	5697M	5
6	13.8M	10.4M	12.1M	039M	.1M	.6M	178M	2.5M	NNW (M)			1.8	2059M	6
7	18.4M	10.4M	14.4M	023M	.3M	1.2M	146M	6.3M	NNW (M)			.4M	6729M	7
8	15.1M	8.6M	11.9M	139M	1.4M	1.6M	136M	6.3M	SE (M)			0.0	2860M	8
9	18.0M	7.6M	12.8M	144M	2.4M	2.4M	145M	8.3M	SE (M)			0.0	6634M	9
10	16.6M	4.7M	10.7M	003M	.6M	.9M	353M	4.4M	N (M)			.8	6209M	10
11	12.2M	9.1M	10.7M	147M	.2M	.7M	025M	2.5M	SSE (M)			2.0M	2062M	11
12	13.2M	7.5M	10.4M	352M	.8M	.9M	350M	3.8M	N (M)			.8	4344M	12
13	17.0M	4.7M	10.9M	142M	.4M	.8M	165M	4.4M	S (M)			1.6M	4459M	13
14	20.3M	4.4M	12.4M	182M	.2M	.9M	349M	3.8M	SSE (M)			.2M	7823M	14
15	21.6M	4.6M	13.1M	162M	.2M	1.0M	351M	3.2M	SSE (M)			0.0	8420M	15
16	18.7M	7.4M	13.1M	028M	.1M	.8M	004M	3.2M	N (M)			0.0M	5358M	16
17	14.7M	9.3M	12.0M	128M	.1M	.7M	038M	2.5M	SSE (M)			1.6M	3223M	17
18	15.9M	7.4M	11.7M	011M	.6M	1.1M	355M	4.4M	N (M)			2.8	6816M	18
19	18.9M	8.5M	13.7M	015M	.4M	.9M	348M	3.2M	N (M)			2.8M	7271M	19
20	15.4M	9.5M	12.5M	131M	.4M	.6M	157M	2.5M	SSE (M)			.2M	4478M	20
21	20.0M	8.8M	14.4M	004M	.5M	1.0M	000M	3.8M	N (M)			0.0	6840M	21
22	19.7M	6.8M	13.3M	002M	.7M	1.1M	008M	3.8M	N (M)			0.0	7335M	22
23	14.2M	8.5M	11.4M	107M	.2M	.7M	346M	3.2M	SSE (M)			7.4	3537M	23
24	18.5M	4.5M	11.5M	356M	.5M	1.2M	000M	5.1M	N (M)			0.0	9394M	24
25	19.2M	1.4M	10.3M	004M	.6M	1.2M	003M	4.4M	N (M)			0.0	9396M	25
26	18.8M	3.3M	11.1M	011M	.6M	1.1M	354M	3.8M	N (M)			0.0	5997M	26
27	20.0M	8.0M	14.0M	347M	.3M	1.0M	358M	4.4M	SSE (M)			0.0	8186M	27
28	22.9M	4.8M	13.9M	007M	.2M	1.2M	349M	4.4M	SSE (M)			0.0	9094M	28
29	17.0M	6.1M	11.6M	002M	.3M	.7M	327M	2.5M	NNW (M)			0.0M	3875M	29
30	18.1M	4.9M	11.5M	007M	.3M	1.0M	002M	3.8M	N (M)			0.0	5533M	30
31	18.9M	3.6M	11.3M	041M	.1M	.9M	000M	3.8M	SSE (M)			.8	6161M	31
MONTH	22.9M	1.4M	12.5M	026M	.3M	1.0M	145M	8.3M	N (M)	M	M	29.4M	187559M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS	6.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL	7.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL	7.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS	7.0

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

FIGURE B.8


R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
EKLUTNA LAKE WEATHER STATION
July, 1983
SOLAR
MW/CM2
100
80
60
40
20
0
PRECIP
MM
150
120
90
60
30
0
HUMIDITY
%
100
80
60
40
20
0
DEW PT / TEMP
DEG C
50
30
10
-10
-30
-50
WIND DIR
DEG
360
288
216
144
72
0
WIND / GUST
M/S
20
16
12
8
4
0
5
10
15
20
25
30

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA LAKE WEATHER STATION
DATA TAKEN DURING August, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	19.5M	8.9M	14.2M	165M	.3M	.7M	278M	3.2M	SE (M)			1.8	5384M	1
2	21.1M	7.4M	14.3M	011M	.6M	1.1M	005M	5.1M	N (M)			.2	7353M	2
3	23.4M	4.3M	13.9M	014M	.1M	1.1M	169M	4.3M	SSE(M)			0.0	8511M	3
4	16.7M	9.1M	12.9M	116M	.5M	1.7M	139M	9.5M	SE (M)			0.0	2625M	4
5	14.9M	9.4M	12.2M	074M	.2M	.7M	148M	4.4M	N (M)			1.6	2583M	5
6	18.7M	8.0M	13.4M	141M	2.1M	2.3M	145M	8.0M	SE (M)			.4	5643M	6
7	18.0M	12.4M	15.2M	141M	4.1M	4.2M	140M	13.3M	SE (M)			1.0	3521M	7
8	19.6M	11.1M	15.4M	147M	4.6M	5.1M	147M	14.0M	SSE(M)			4.6	4393M	9
9	15.2M	9.7M	12.5M	346M	.4M	.7M	323M	4.9M	N (M)			.2	3653M	9
10	17.0M	6.5M	11.8M	048M	.2M	.8M	357M	3.8M	SSE(M)			0.0	5308M	10
11	18.5M	1.8M	10.2M	017M	.5M	1.0M	356M	3.3M	N (M)			.2	6309M	11
12	15.5M	8.8M	12.2M	009M	.5M	.9M	357M	4.4M	N (M)			.6	4438M	12
13	13.6M	6.0M	9.8M	354M	.2M	.8M	359M	2.5M	NNW(M)			1.0	4060M	13
14	14.0M	1.2M	7.6M	139M	.2M	1.1M	354M	3.8M	SSE(M)			7.8	5122M	14
15	14.8M	2.5M	8.7M	067M	.2M	.9M	358M	4.4M	SE (M)			2.6	5520M	15
16	16.9M	5.6M	11.3M	349M	.6M	1.1M	324M	3.2M	NNW(M)			0.0	10389M	16
17	15.0M	6.9M	11.0M	021M	.7M	1.1M	001M	4.4M	N (M)			0.0	5513M	17
18	18.8M	1.8M	10.3M	007M	.3M	1.1M	348M	4.4M	SSE(M)			0.0	6490M	18
19	18.9M	1.1M	10.0M	001M	.2M	1.0M	353M	3.8M	SSE(M)			0.0	7541M	19
20	15.7M	6.1M	10.9M	148M	2.5M	2.6M	143M	9.4M	SSE(M)			.2	2313M	20
21	13.0M	7.2M	10.1M	025M	.2M	.6M	356M	3.2M	E (M)			7.2	2840M	21
22	15.3M	6.8M	11.1M	039M	.2M	.8M	002M	3.8M	SSE(M)			.4	4795M	22
23	14.0M	3.1M	11.1M	032M	.2M	.7M	353M	4.5M	ESE(M)			8.0	3666M	23
24	11.9M	7.0M	9.5M	008M	.2M	.7M	165M	2.5M	NNW(M)			1.8M	3009M	24
25	8.3	3.1	5.7	156	.5	.6	138	2.5	SSE.			14.8	1445	25
26	15.2	3.5	9.4	045	.2	.8	359	3.8	SSE			.4	5303	26
27	18.2	4.0	11.1	012	.1	.8	001	3.2	SSE			0.0	6438	27
28	18.7	2.6	10.7	119	.2	.8	325	2.5	SSE			0.0	5560	28
29	17.3	3.1	10.2	151	1.5	1.9	158	8.3	SSE			0.0	2443	29
30	16.3	8.5	12.4	034	.6	1.2	155	7.0	N			3.6	3295	30
31	11.9	4.2	8.1	125	.2	.6	342	2.5	SE			.8	2845	31
MONTH	23.4M	1.1M	11.2M	127M	.5M	1.3M	147M	14.0M	SSE(M)			69.2M	148302M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 13.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.1

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

FIGURE B.9

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA LAKE WEATHER STATION

August, 1983

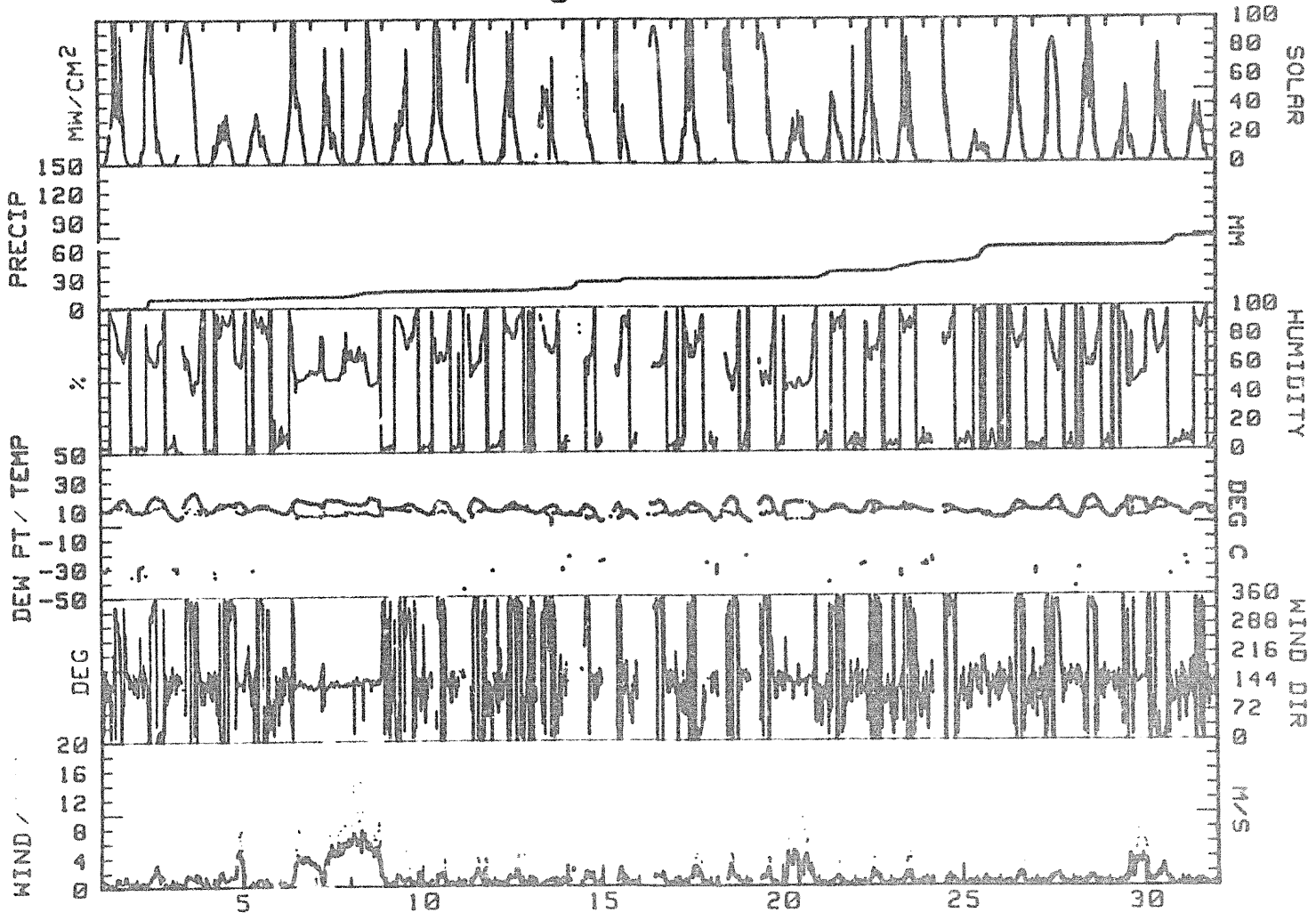


TABLE B.10

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THLY SUMMARY FOR EKLUTNA LAKE WEATHER STATION
A TAKEN DURING September, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	11.8	4.4	8.1	117	.2	.6	167	1.9	SSE			.8	2330	1
2	13.7	2.0	7.9	006	.5	1.0	311	4.4	N			1.4	5618	2
3	11.5	4.0	7.8	047	.4	1.0	029	4.4	SSE			8.6	3250	3
4	9.9	-1.2	4.4	113	.3	.7	004	3.8	SE			2.0	2820	4
5	12.7	-1.4	5.7	029	.3	1.1	356	4.4	SSE			0.0	5840	5
6	14.0	-2.8	5.6	344	.1	1.0	007	4.4	SSE			0.0	5518	6
7	14.4	-3.2	5.6	102	.1	.8	347	3.2	SSE			0.0	4800	7
8	13.5M	-1.5M	6.0M	089M	.3M	1.0M	133M	5.7M	SSE(M)			0.0M	4187M	8
9	11.9M	4.8M	8.4M	133M	.3M	.4M	319M	1.3M	SE (M)	**	*****	.2M	706M	9
10	12.8	-.5	6.2	163	.2	.6	324	2.5	S			0.0	3423	10
11	12.9	-.2	6.4	058	.0	.7	354	3.2	SSE			0.0	3218	11
12	14.0	-1.7	6.2	144	2.0	2.1	156	7.6	SSE			0.0	3280	12
13	13.3	9.3	11.3	134	3.0	3.1	138	9.5	SE	49	.8	0.0	3953	13
14	9.1	3.2	6.2	351	.7	1.0	347	3.9	N			6.8	1868	14
15	8.5	-1.6	3.5	276	.0	.8	325	2.5	SSE			.8	3403	15
16	11.1	-3.6	3.8	343	.1	.9	336	3.2	NNW			0.0	4688	16
17	12.7	-4.0	4.4	168	.2	.8	322	2.5	SSE			0.0	4570	17
18	12.8	-3.8	4.5	148	1.9	2.1	148	9.5	SSE			0.0	2385	18
19	12.8	5.9	9.4	139	2.2	2.5	141	10.2	SE			1.8	1520	19
20	13.2	3.6	8.4	108	.2	.8	124	5.7	SSE			8.6	1215	20
21	9.4	3.1	6.3	145	.3	.5	150	1.9	SSE			11.8	1083	21
22	10.4	.5	5.5	029	.3	1.0	036	7.0	ESE			17.4	2050	22
23	1.5	-2.9	-.7	014	1.5	1.8	020	5.7	N			1.0	638	23
24	- 3	-8.4	-4.4	358	1.2	1.8	028	5.1	NNE	69	-8.1	.6	1595	24
25	.9	-10.0	-4.6	151	.7	1.0	234	3.2	SE	68	-9.1	1.0	4790	25
26	3.2	-11.8	-4.3	153	.9	1.1	268	3.2	SSE	62	-9.9	1.2	4175	26
27	7.9	-9.3	-.7	145	.9	2.1	148	8.9	SSE	63	-3.6	.8	2558	27
28	11.7	2.9	7.3	335	1.0	2.1	136	9.5	NNW	72	1.1	0.0	1160	28
29	13.6	6.8	10.2	137	6.6	6.7	145	15.9	SE	67	5.5	26.8	1173	29
30	12.7	4.3	8.5	130	1.0	1.8	130	8.9	SE			0.0	1663	30
MONTH	14.4M	-11.8M	5.1M	126M	.6M	1.5M	145M	15.9M	SE(M)	M	M	91.6M	89413M	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 14.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 14.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 14.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.7

E: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

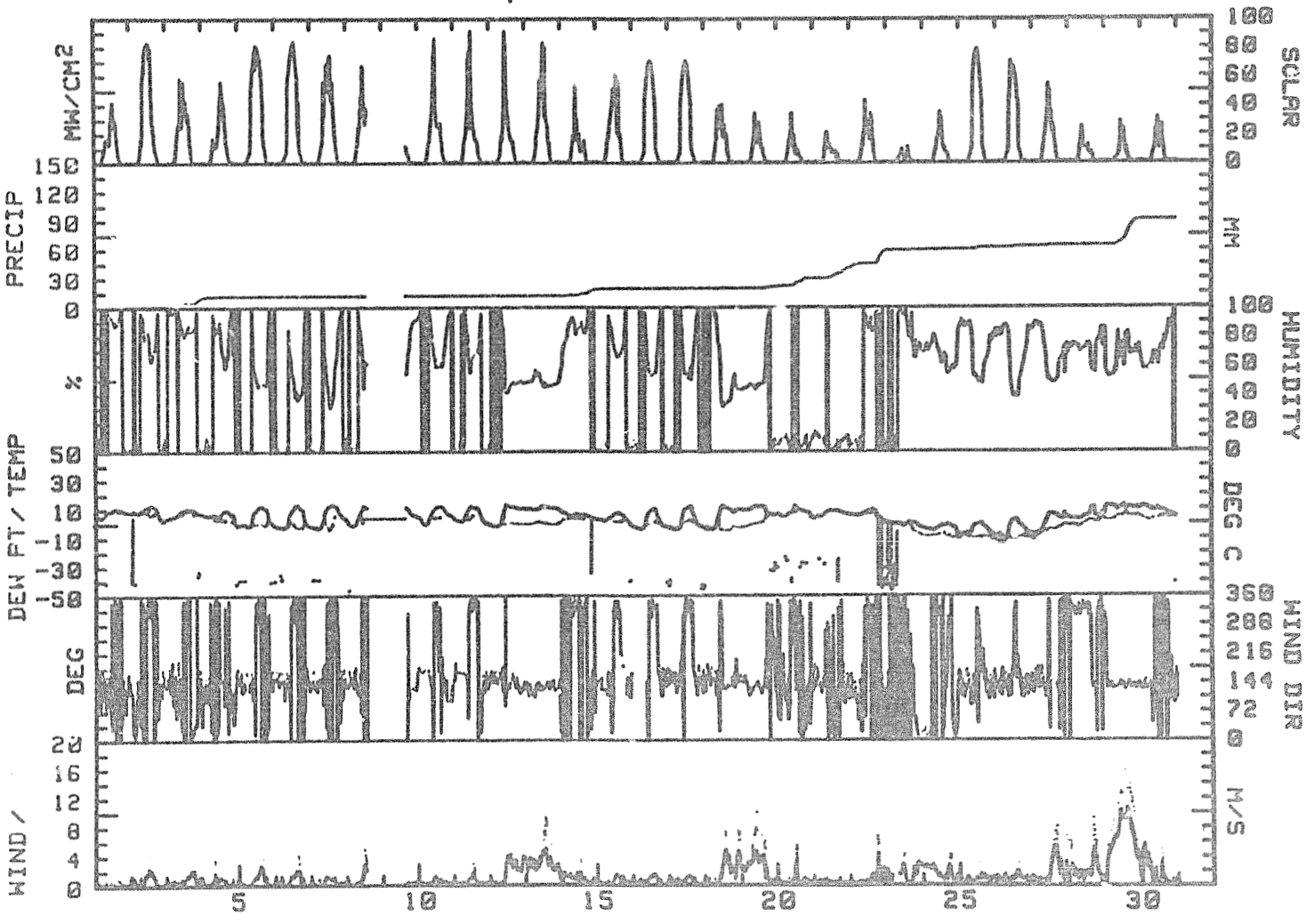
FIGURE B.10

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA LAKE WEATHER STATION

September, 1983



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA LAKE WEATHER STATION
DATA TAKEN DURING October, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	9.9	1.6	5.8	141	1.2	1.5	138	8.3	SE	54	-1.6	0.0	1118	1
2	10.2	1.6	5.9	334	.5	1.4	130	7.6	NNW	63	.6	.4	2038	2
3	6.2	-3.4	1.4	049	.1	1.1	026	5.1	SSE	47	-6.7	0.0	2513	3
4	6.3	-6.3	0.0	154	.5	1.0	359	3.8	SSE	61	-7.6	0.0	3043	4
5	8.7	-3.2	2.8	159	.5	.8	168	2.5	SSE	55	-5.3	.4	1900	5
6	5.1	-6.1	-.5	358	.5	1.5	015	8.3	SSE	56	-7.2	3.4	2218	6
7	2.6	-8.5	-3.0	133	.2	1.1	357	4.4	SSE	57	-11.2	0.0	3113	7
8	2.6	-11.0	-4.2	141	.1	1.0	354	5.1	SSE	49	-13.4	0.0	2615	8
9	8.8	-2.0	3.4	140	2.2	2.9	132	11.4	SE	70	-.4	2.8	455	9
10	12.9	2.6	7.8	141	6.6	6.7	147	14.6	SE	60	2.1	25.0	593	10
11	11.5	2.3	6.9	141	2.5	2.9	138	12.1	SE	55	.5	2.4	1118	11
12	7.6	-.6	3.5	094	.1	1.0	355	4.4	SE	74	.0	.2	2033	12
13	6.2	-5.0	.6	159	.6	1.0	176	3.8	S	62	-4.2	0.0	2525	13
14	8.1	-7.4	.4	165	.4	.8	315	2.5	SSE	60	-8.8	0.0	2403	14
15	7.0	-5.8	.6	160	.6	.9	167	4.4	SSE	58	-6.8	0.0	1805	15
16	3.3	-6.7	-1.7	095	.1	.9	332	3.8	SE	69	-5.7	0.0	1225	16
17	7.1	-1.1	3.0	140	.5	.9	146	4.4	SSE	76	-.5	0.0	960	17
18	9.3	-4.3	2.5	185	.2	1.0	322	3.2	SSE	72	-2.0	0.0	1888	18
19	4.7	-5.8	-.6	139	.4	.8	341	3.8	SSE	85	-2.8	0.0	1088	19
20	6.8	-1.6	2.6	150	.2	1.1	132	5.7	SE	82	-.5	0.0	945	20
21	7.6	.1	3.9	117	.2	.9	337	3.8	SE	77	-.1	0.0	1005	21
22	7.7	-4.7	1.5	143	1.6	1.7	130	8.3	SE	51	-7.5	0.0	1690	22
23	2.3	-5.9	-1.8	144	.6	.9	156	4.4	SE	66	-8.4	0.0	748	23
24	1.3	-5.0	-1.9	160	.1	1.0	324	4.4	SSE	68	-6.4	0.0	1175	24
25	-1.9	-6.0	-4.0	354	1.0	1.3	349	4.4	NNW	70	-8.7	0.0	478	25
26	-1.6	-10.1	-5.9	019	.5	1.1	343	4.4	N	83	-7.7	0.0	203	26
27	-.1	-6.7	-3.4	159	.4	.7	338	4.4	SSE	83	-6.5	0.0	135	27
28	1.0	-6.0	-2.5	332	.4	.9	328	5.1	SSE	86	-2.4	.2	220	28
29	1.3	-6.8	-2.8	327	.2	.8	204	3.8	S	88	-2.8	.2	265	29
30	.5	-5.1	-2.3	354	1.2	.9	350	5.1	N	85	-3.3	0.0	172	30
31	-1.2	-10.2	-5.7	***	***	.8	***	5.1	***	89	-3.7	0.0	50	31
MONTH	12.9	-11.0	.4	138	.6	1.3	147	14.6	SSE	66	-4.5	35.0	41730	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 14.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 13.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 13.3

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.11

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA LAKE WEATHER STATION

October, 1983

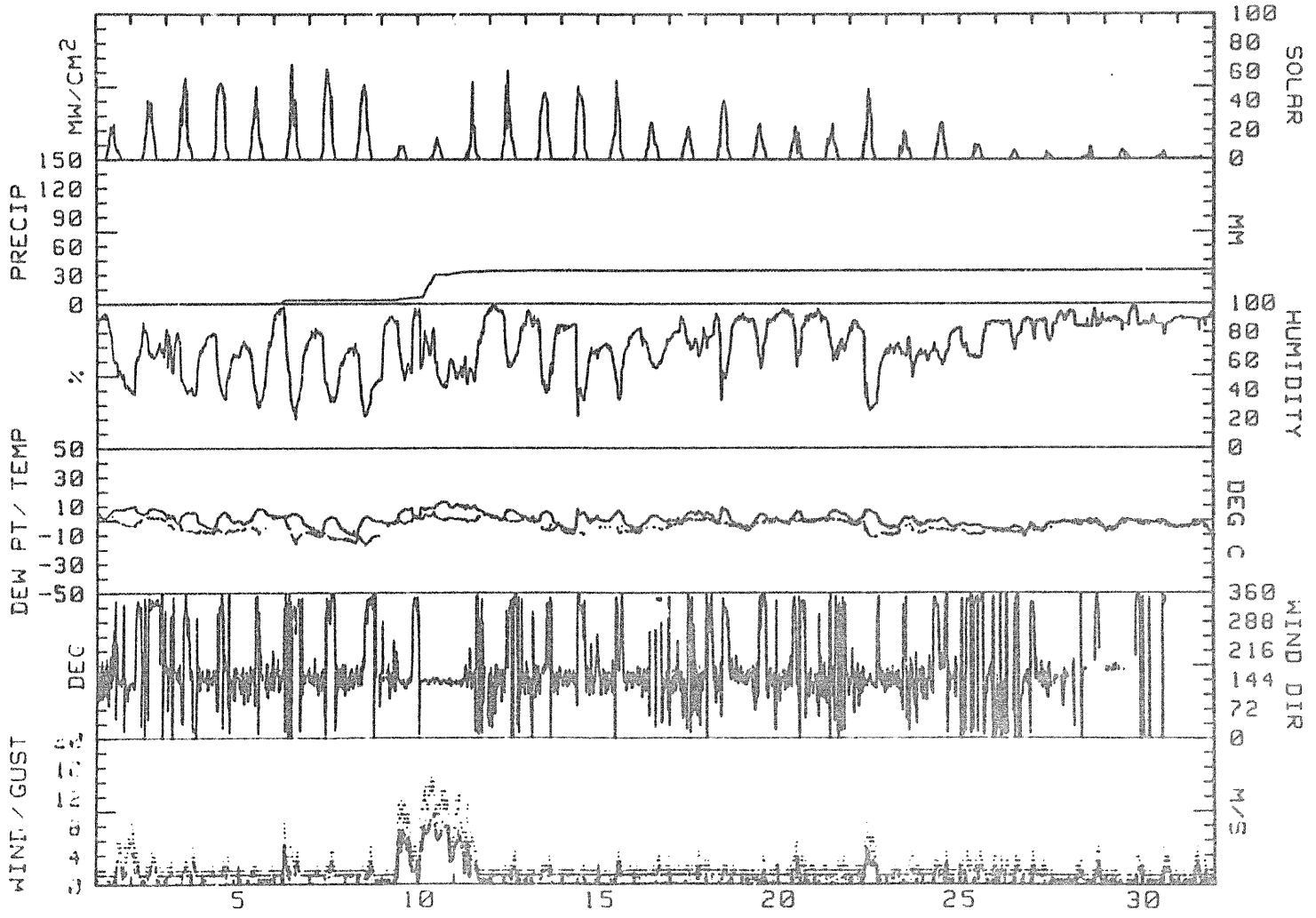


TABLE B.12

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA LAKE WEATHER STATION
DATA TAKEN DURING November, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-1.2	-10.0	-5.6	118	1.0	.7	***	2.5	ESE	87	-5.6	****	373	1
2	7.5	-3.4	2.1	140	2.2	2.1	142	10.8	SE	61	-2.8	****	1158	2
3	4.0	-5.2	-.6	152	.5	.9	070	2.5	SSE	85	-3.1	****	830	3
4	1.1	-9.2	-4.1	151	.5	.8	351	3.2	SSE	87	-7.3	****	585	4
5	-2.0	-5.4	-3.7	157	.8	.9	178	2.5	SSE	91	-5.3	****	345	5
6	-2.9	-13.4	-8.2	159	1.0	1.0	038	3.8	SSE	88	-10.3	****	433	6
7	7.4	-6.2	.6	146	6.0	6.3	140	15.9	SSE	39	-8.1	****	303	7
8	8.8	-2.8	3.0	138	2.9	3.3	142	12.1	SE	46	-6.1	****	440	8
9	8.5	-5.9	1.3	149	1.5	1.7	144	7.6	SSE	56	-8.0	****	1070	9
10	7.4	.6	4.0	146	1.0	1.5	126	7.6	SE	63	-2.4	****	585	10
11	6.5	-3.1	1.7	157	.4	.9	266	3.2	SSE	74	-3.8	****	665	11
12	2.2	-5.1	-1.5	150	.8	.9	141	2.5	SSE	76	-6.0	****	778	12
13	-3.4	-12.2	-7.8	155	1.0	1.0	163	2.5	SSE	83	-11.1	****	663	13
14	-3.6	-11.4	-7.5	156	.8	.9	161	2.5	SSE	87	-10.1	****	453	14
15	3.0	-9.2	-3.1	148	.6	1.0	343	5.7	SSE	88	-4.3	****	318	15
16	-.6	-11.5	-6.1	338	1.2	.9	334	3.8	WNW	88	-7.7	****	423	16
17	-1.8	-11.8	-6.8	***	****	.8	***	2.5	***	88	-9.2	****	355	17
18	-6.6	-14.2	-10.4	***	****	.8	***	1.9	***	84	-13.3	****	410	18
19	-5.5	-16.6	-11.1	***	****	.8	***	1.9	***	84	-13.6	****	355	19
20	5.3	-17.4	-6.1	140	6.7	5.1	138	14.6	SE	47	-9.0	****	278	20
21	6.1	1.2	3.7	141	4.9	5.4	143	14.6	SE	53	-3.9	****	343	21
22	7.0	-1.6	2.7	132	1.0	1.4	130	7.0	ESE	60	-3.7	****	525	22
23	.2	-2.4	-1.1	340	.8	1.4	343	3.8	NNW	92	-2.2	****	165	23
24	-1.8	-9.4	-5.6	157	.2	1.1	343	5.1	SSE	84	-7.0	****	168	24
25	-3.0	-10.8	-6.9	153	.7	.8	173	2.5	SSE	85	-9.8	****	258	25
26	-.8	-5.8	-3.3	155	.6	.8	321	4.4	SSE	89	-5.0	****	235	26
27	7.0	-4.8	1.1	146	1.3	1.6	130	9.5	SSE	66	-4.2	****	230	27
28	8.2	5.4	6.8	147	7.3	7.3	143	17.1	SSE	42	-4.8	****	318	28
29	10.6	7.6	9.1	150	5.8	6.2	***	15.9	SSE	**	*****	****	540	29
30	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	30
MONTH	10.6	-17.4	-2.2	146	1.8	2.0	143	17.1	SSE	67	-6.7	****	13595	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 13.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 14.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 15.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 14.6

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.12

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA LAKE WEATHER STATION

November, 1983

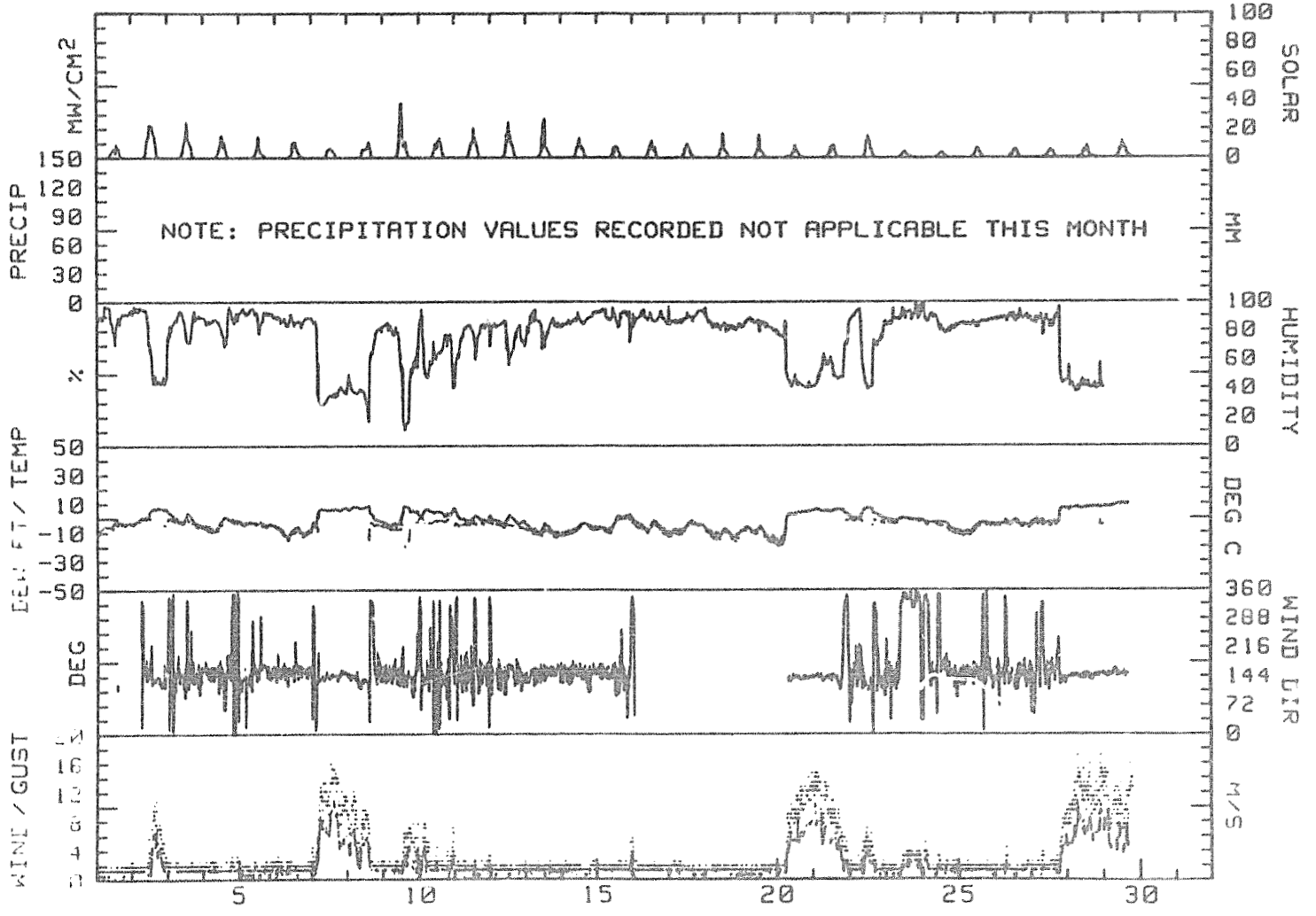


TABLE B.13

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA LAKE WEATHER STATION
DATA TAKEN DURING December, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	1
2	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	2
3	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	3
4	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	4
5	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	5
6	-7.0	-10.1	-8.6	152	.9	.9	154	2.5	SSE	93	-9.9	****	0	6
7	-7.5	-12.0	-9.8	157	.9	.9	157	2.5	SSE	90	-11.2	****	135	7
8	-10.6	-14.3	-12.5	155	.9	.9	160	1.9	SSE	90	-13.9	****	140	8
9	-5.0	-15.8	-10.4	139	.4	.7	333	3.2	SSE	90	-10.8	****	110	9
10	-6.2	-9.8	-8.0	002	.4	.7	329	4.4	NNW	91	-9.1	****	65	10
11	-4.8	-13.0	-8.9	128	.5	.6	033	2.5	SSE	91	-9.3	****	150	11
12	-7.0	-13.1	-10.1	142	.6	.7	036	2.5	SSE	91	-11.5	****	100	12
13	-6.1	-10.6	-8.4	075	.1	.4	140	1.9	NNW	94	-9.5	****	5	13
14	-9.8	-22.1	-16.0	***	****	****	***	****	E	89	-14.3	****	30	14
15	-18.2	-25.4	-21.8	***	****	****	***	****	SE	79	-26.2	****	65	15
16	-8.0	-17.3	-12.7	092	.2	.3	082	1.9	SE	87	-16.4	****	35	16
17	-6.0	-11.1	-8.6	059	.1	.3	038	1.9	ESE	92	-8.8	****	15	17
18	-9.9	-18.1	-14.0	***	****	****	***	****	SE	89	-16.4	****	55	18
19	-5.9	-18.4	-12.2	128	.3	.3	144	2.5	SE	85	-19.6	****	40	19
20	-2.3	-6.0	-4.2	118	.2	.2	085	1.9	SE	95	-5.9	****	5	20
21	-2.3	-13.2	-7.8	116	.2	.2	120	1.3	SE	93	-8.6	****	50	21
22	-13.4	-18.5	-16.0	***	****	****	***	****	SE	87	-17.5	****	50	22
23	-17.4	-19.7	-18.6	***	****	****	***	****	SE	83	-21.1	****	50	23
24	-15.1	-19.2	-17.2	130	.3	.3	151	1.3	SE	84	-19.5	****	40	24
25	-10.9	-15.2	-13.1	128	.4	.4	124	1.3	SE	**	*****	****	35	25
26	-13.4	-17.7	-15.6	131	.2	.2	117	1.3	ESE	87	-17.5	****	35	26
27	-16.7	-19.4	-18.1	***	****	****	***	****	SE	84	-20.0	****	30	27
28	-18.7	-21.7	-20.2	***	****	****	***	****	SE	81	-22.5	****	30	28
29	-21.0	-23.9	-22.5	***	****	****	***	****	SE	80	-25.0	****	30	29
30	-10.9	-24.1	-17.5	125	.1	.1	137	1.3	SE	80	-23.9	****	30	30
31	-8.8	-12.9	-10.9	124	.2	.2	143	1.3	ESE	91	-12.5	****	35	31
MONTH	-2.3	-25.4	-13.2	136	.3	.5	329	4.4	SE	86	-15.2	****	1365	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 3.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 3.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 2.5

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.13

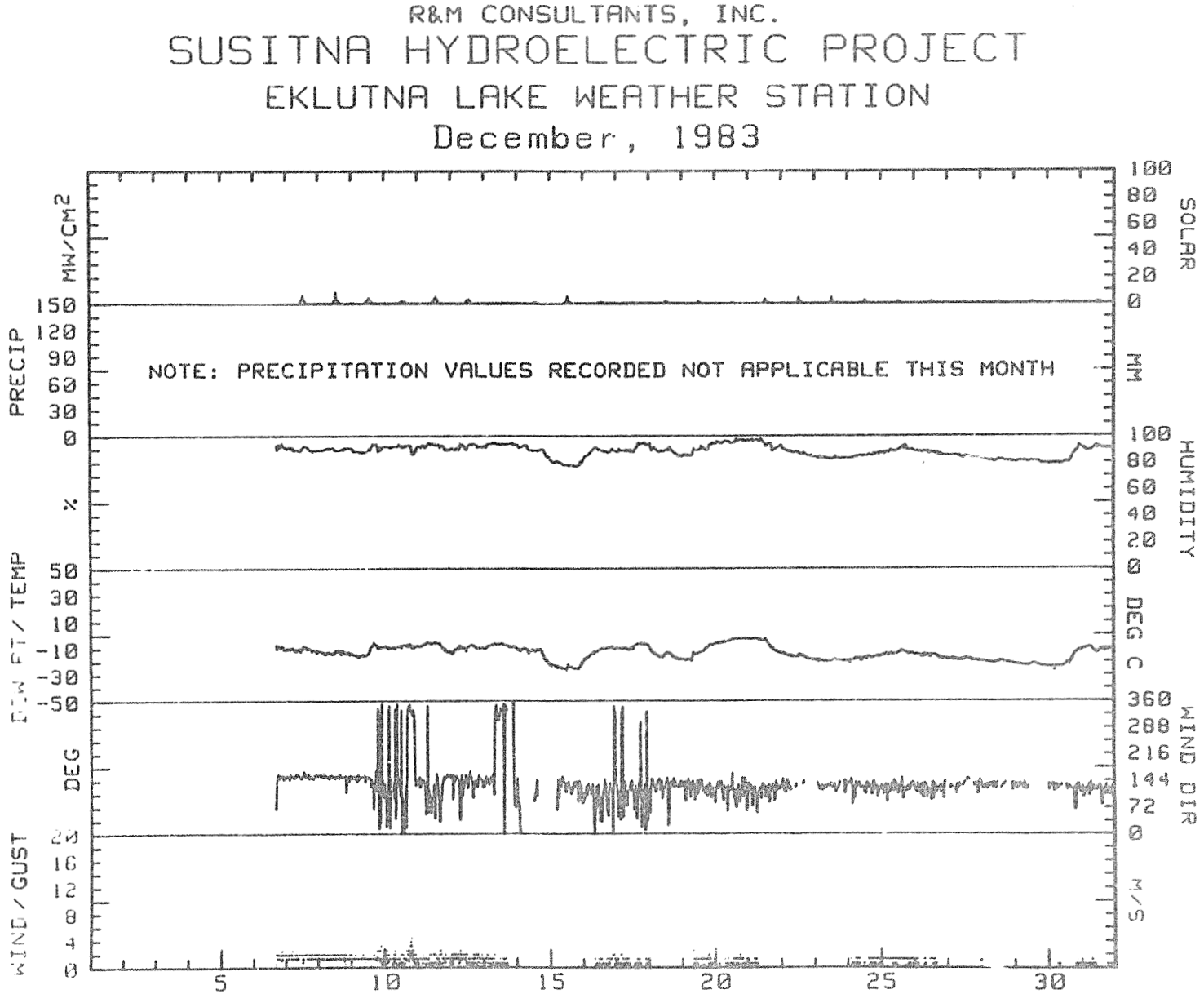

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
EKLUTNA LAKE WEATHER STATION
December, 1983
SOLAR
MW/CM2
100
80
60
40
20
0
PRECIP
MM
150
120
90
60
30
0
NOTE: PRECIPITATION VALUES RECORDED NOT APPLICABLE THIS MONTH
HUMIDITY
%
100
80
60
40
20
0
DEW PT / TEMP
DEG C
50
30
10
-10
-30
-50
WIND DIR
DEG
360
288
216
144
72
0
WIND / GUST
M/S
20
16
12
8
4
0
5
10
15
20
25
30

TABLE D-14

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA WEATHER STATION
DATA TAKEN DURING January, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-1.6	-11.7	-6.7	121	.1	.1	143	1.3	ESE	96	-3.3	****	25	1
2	7.5	-2.9	2.3	140	5.5	5.6	135	12.7	SE	73	-1.7	****	195	2
3	6.9	-1.2	2.9	134	3.6	4.3	139	11.4	SE	60	-2.5	****	135	3
4	-1.6	-27.9	-14.8	350	1.4	1.8	358	5.7	NNW	89	-10.1	****	110	4
5	-6.7	-32.0	-19.4	169	.3	1.0	336	5.1	SSE	83	-16.9	****	130	5
6	-9.5	-16.2	-12.9	160	.8	.8	225	3.2	SSE	94	-11.7	****	160	6
7	-13.6	-21.6	-17.6	152	.5	.6	159	1.9	SSE	85	-20.6	****	165	7
8	0.0	-22.6	-11.3	***	****	****	***	****	SSE	85	-19.8	****	175	8
9	-1.2	-14.6	-7.9	***	****	****	***	****	SSE	93	-10.0	****	120	9
10	6.4	-3.3	1.6	144	1.1	1.8	136	8.3	SSE	83	-.6	****	90	10
11	5.6	-4.5	.6	138	4.4	5.0	138	16.5	SE	70	-2.1	****	180	11
12	7.5	4.4	6.0	141	8.3	8.4	142	17.8	SE	66	.1	****	130	12
13	7.2	-.6	3.3	141	2.8	3.0	141	12.1	SE	58	-2.7	****	185	13
14	.7	-2.9	-1.1	128	.5	.6	145	2.5	SE	89	-2.3	****	95	14
15	-2.6	-19.9	-11.3	***	****	****	***	****	***	82	-15.0	****	120	15
16	-7.9	-20.2	-14.1	***	****	****	***	****	***	81	-16.7	****	85	16
17	-4.1	-10.9	-7.5	***	****	****	***	****	***	86	-8.8	****	45	17
18	-3.5	-6.2	-4.9	***	****	****	***	****	***	86	-7.1	****	65	18
19	-6.2	-19.6	-12.9	***	****	****	***	****	***	84	-12.9	****	45	19
20	-17.1	-24.6	-20.9	***	****	****	***	****	***	76	-24.5	****	145	20
21	-16.3	-27.1	-21.7	***	****	****	***	****	***	74	-25.7	****	135	21
22	-15.4	-30.4	-22.9	***	****	****	***	****	***	75	-25.1	****	75	22
23	-29.6	-35.2	-32.4	***	****	****	***	****	***	65	-37.0	****	165	23
24	-30.0	-37.8	-33.9	***	****	****	***	****	***	61	-40.2	****	195	24
25	-19.0	-36.9	-28.0	***	****	****	***	****	***	65	-34.8	****	130	25
26	-13.7	-23.2	-18.5	***	****	****	***	****	***	75	-21.4	****	160	26
27	-10.1	-20.7	-15.4	***	****	****	***	****	***	79	-17.1	****	75	27
28	2.7	-27.0	-12.2	145	5.0	5.0	137	12.1	SE	73	-19.0	****	85	28
29	5.6	1.8	3.7	142	5.4	5.5	146	14.0	SE	49	-6.0	****	420	29
30	5.1	-2.8	1.2	132	1.1	1.7	131	8.3	SE	50	-7.2	****	410	30
31	-1.7	-11.4	-6.6	170	.3	.5	185	2.5	S	81	-6.7	****	345	31
MONTH	7.5	-37.8	-10.7	139	2.4	2.9	142	17.8	SE	75	-13.8	****	4595	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 16.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 14.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 17.8
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 17.8

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.14

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA WEATHER STATION

January, 1984

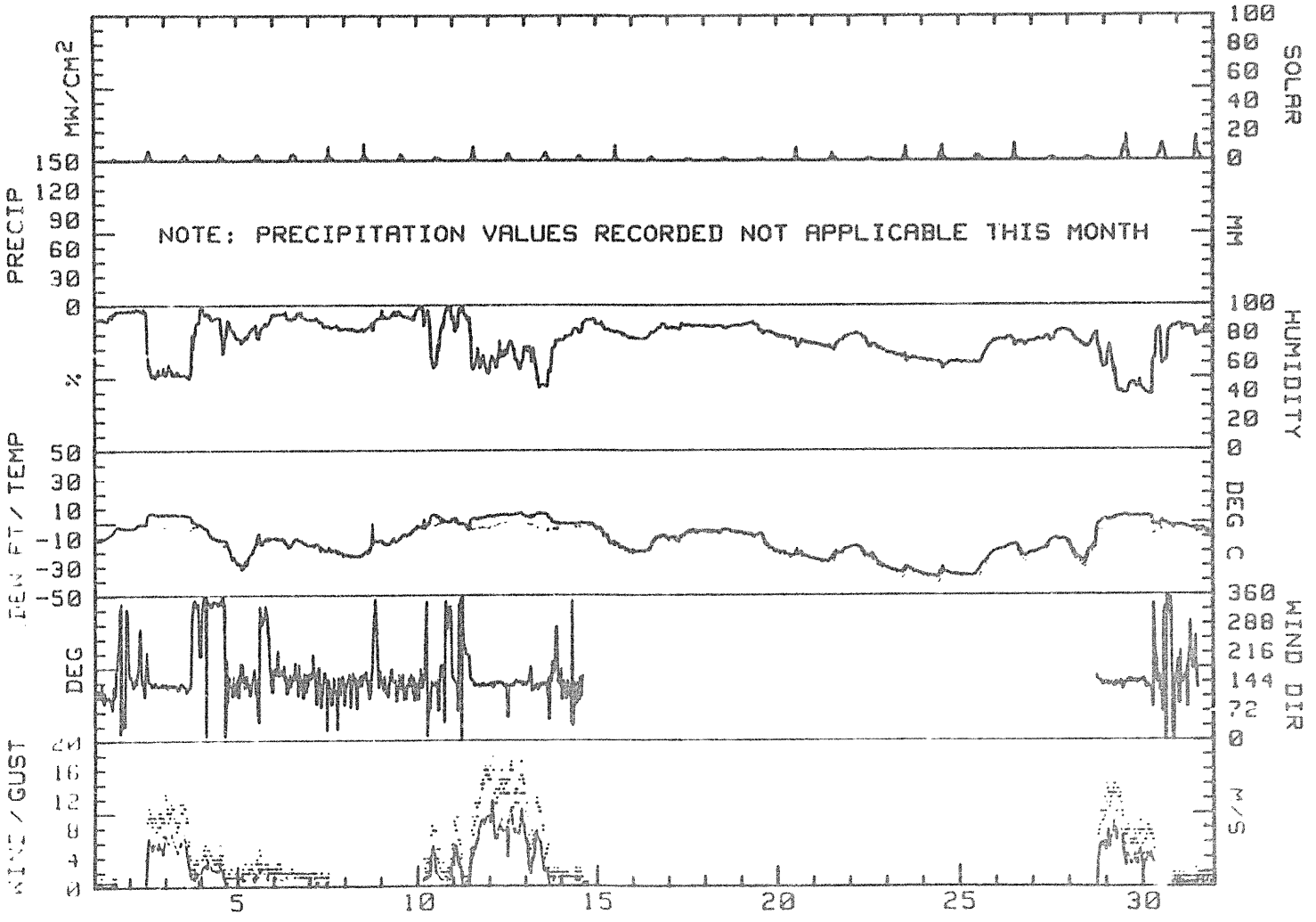


TABLE B.15

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA WEATHER STATION
DATA TAKEN DURING February, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-4.2	-17.5	-10.9	***	****	.5	***	1.9	***	82	-13.0	****	200	1
2	-5.4	-10.1	-7.8	***	****	.4	***	1.9	***	**	*****	****	200	2
3	-7.4	-12.5	-10.0	***	****	.4	***	1.9	***	**	*****	****	130	3
4	3.1	-8.3	-2.6	092	.6	2.6	155	10.8	NNW	76	-7.5	****	600	4
5	-8.1	-15.1	-11.6	005	.2	.8	349	3.8	SSE	81	-12.8	****	190	5
6	.7	-17.6	-8.5	150	.7	1.1	144	8.9	ESE	59	-13.4	****	185	6
7	-6.5	-12.9	-9.7	347	1.3	1.2	340	7.0	NNW	80	-11.9	****	135	7
8	-11.7	-27.7	-19.7	093	.1	.5	356	3.2	SSE	80	-14.5	****	360	8
9	-22.1	-32.9	-27.5	145	.2	.4	160	1.9	SSE	**	*****	****	505	9
10	-13.6	-33.8	-23.7	090	.1	.5	178	2.5	SSE	**	*****	****	210	10
11	-9.2	-22.2	-15.7	160	.3	.5	160	2.5	SSE	81	-17.8	****	550	11
12	-9.4	-21.7	-15.6	133	.3	.6	153	1.9	SE	80	-18.4	****	535	12
13	-8.9	-20.9	-14.9	***	****	.5	***	1.9	***	**	*****	****	350	13
14	-4.5	-17.5	-11.0	***	****	.9	***	5.1	***	76	-10.8	****	390	14
15	-8.6	-21.9	-15.3	***	****	.5	***	2.5	***	83	-13.1	****	415	15
16	1.4	-10.4	-4.5	213	.3	1.2	259	7.6	SE	74	-5.7	****	176	16
17	4.3	-1.8	1.3	140	1.6	2.4	128	9.5	SE	**	*****	****	900	17
18	1.0	-5.9	-2.5	148	.1	.7	125	9.5	NW	**	*****	****	165	18
19	-5.1	-14.3	-9.7	334	.6	.7	335	3.8	NNW	**	*****	****	155	19
20	-12.5	-21.6	-17.1	023	.5	.6	022	2.5	NNE	**	*****	****	205	20
21	2.1	-20.3	-9.1	139	2.4	2.6	150	13.3	SE	**	*****	****	1365	21
22	.8	-8.9	-4.1	000	.4	.8	071	5.1	NNE	**	*****	****	1360	22
23	-7.3	-20.3	-13.8	131	.2	.5	156	2.5	SSE	**	*****	****	2020	23
24	-5.1	-22.1	-13.6	151	.4	.7	143	2.5	SE	**	*****	****	1460	24
25	-.3	-9.2	-4.8	144	.1	.7	334	2.5	SSE	**	*****	****	1790	25
26	1.2	-11.0	-4.9	140	.1	.5	146	1.9	SSE	**	*****	****	2290	26
27	-.5	-11.4	-6.0	116	.1	.6	314	2.5	SE	**	*****	****	1765	27
28	.6	-13.4	-6.4	111	.2	.6	134	1.9	SE	**	*****	****	2625	28
29	-2.1	-16.2	-9.2	136	.5	.7	129	2.5	SSE	**	*****	****	1615	29
MONTH	4.3	-33.8	-10.6	125	.3	.8	150	13.3	SE	75	-12.6	****	22846	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.2

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.15

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA WEATHER STATION

February, 1984

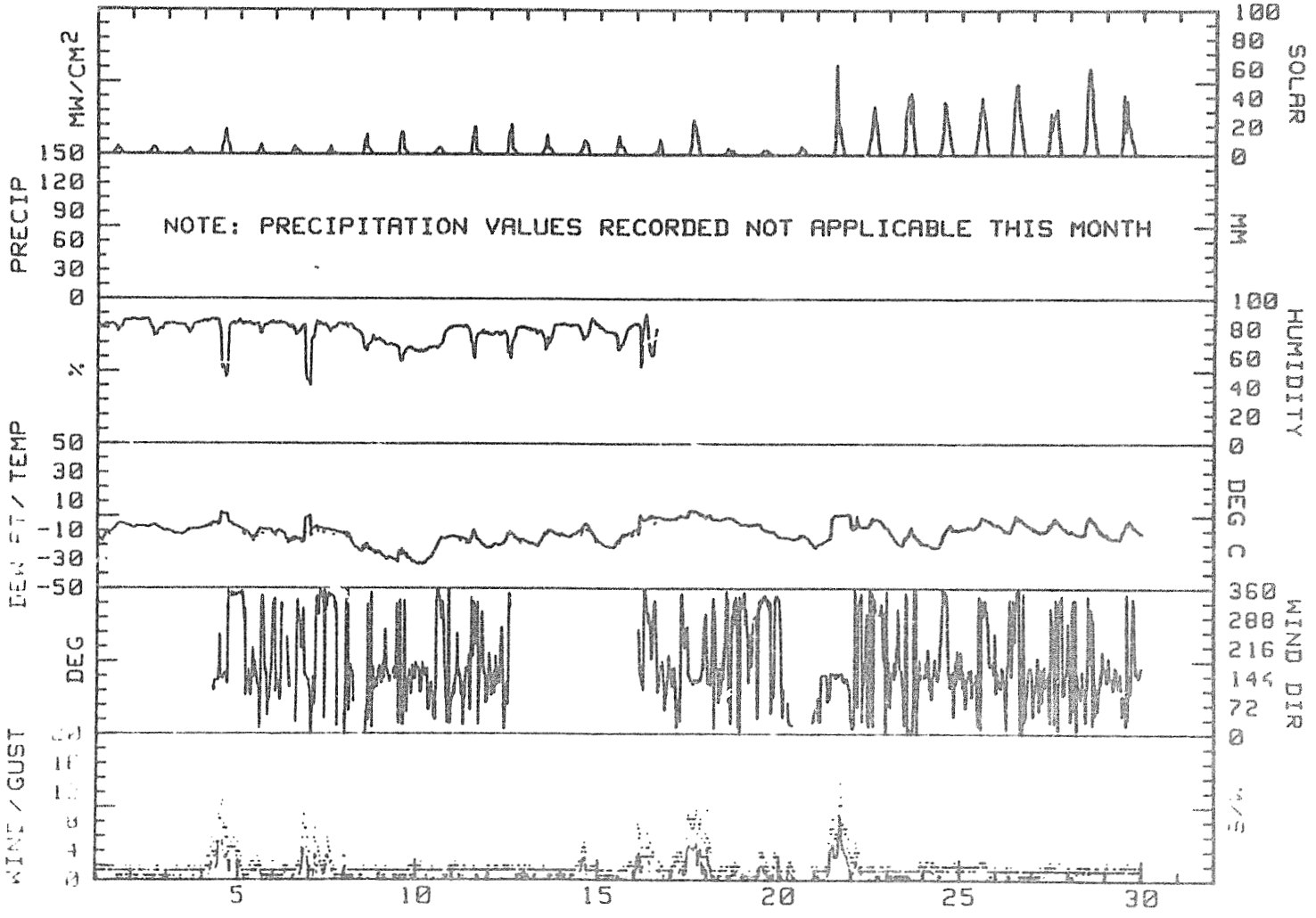


TABLE 5.16

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA WEATHER STATION
DATA TAKEN DURING March, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	1.6	-15.4	-6.9	155	.2	.5	346	2.5	SSE	**	*****	****	1885	1
2	3.5	-17.7	-7.1	155	.5	1.2	147	11.4	SE	**	*****	****	2000	2
3	6.6	-.7	3.0	141	4.6	4.9	162	17.1	SE	**	*****	****	1355	3
4	8.8	1.0	4.9	134	4.7	5.0	139	15.2	SE	**	*****	****	1690	4
5	11.1	.9	6.0	136	2.6	3.6	138	10.8	SE	**	*****	****	1505	5
6	9.6	-2.0	3.8	140	.9	1.3	134	7.6	SE	**	*****	****	2870	6
7	9.8	.7	5.3	164	.2	.8	332	4.4	SE	**	*****	****	2580	7
8	10.5	-.7	4.9	142	.8	1.5	354	7.6	SE	**	*****	****	715	8
9	10.7	2.1	6.4	137	1.1	2.1	135	10.2	SE	**	*****	****	2230	9
10	10.5	1.6	6.1	140	1.4	1.9	142	8.9	SE	**	*****	****	2840	10
11	11.0	-1.7	4.7	149	.2	.8	334	3.8	SE	**	*****	****	2510	11
12	5.5	-5.2	.2	141	.2	.6	161	1.9	SSE	**	*****	****	3545	12
13	6.1	-7.0	-.5	182	.3	.7	192	2.5	SSE	**	*****	****	3360	13
14	5.3	-6.3	-.5	154	.3	.7	327	2.5	SSE	**	*****	****	3585	14
15	7.3	-6.1	.6	144	1.4	1.7	129	6.3	SSE	**	*****	****	3260	15
16	6.0	-3.7	1.2	116	.1	.7	145	1.9	SE	**	*****	****	3870	16
17	5.2	-5.8	-.3	138	.1	.7	347	3.2	NNW	**	*****	****	3970	17
18	3.8	-9.6	-2.9	192	.1	.7	343	2.5	SSE	**	*****	****	3935	18
19	4.1	-10.9	-3.4	150	.3	.7	141	2.5	SSE	**	*****	****	4080	19
20	4.2	-8.1	-2.0	132	.2	.9	357	3.2	SSE	**	*****	****	3155	20
21	3.5	-9.8	-3.2	167	.1	.7	329	2.5	SSE	**	*****	****	4370	21
22	4.9	-11.2	-3.2	202	.1	.7	338	3.2	SSE	**	*****	****	4410	22
23	2.4	-11.2	-4.4	216	.1	.8	155	2.5	SSE	**	*****	****	4505	23
24	4.4	-11.6	-3.6	184	.1	1.0	332	3.8	SSE	**	*****	****	4065	24
25	4.0	-2.1	1.0	317	.2	.7	341	3.2	NW	**	*****	****	3655	25
26	7.4	-1.9	2.8	147	1.8	1.8	137	8.3	SSE	**	*****	****	3020	26
27	7.2	-2.7	2.3	143	3.0	3.2	145	8.3	SE	**	*****	****	4675	27
28	7.6	-6.7	.5	135	1.2	1.7	138	8.3	SE	**	*****	****	4875	28
29	3.7	-1.6	1.1	169	1.0	1.3	149	7.0	S	**	*****	****	2150	29
30	.9	-2.6	-.9	333	.4	.5	338	1.9	NNW	**	*****	****	1565	30
31	7.4	-7.4	0.0	142	3.4	2.6	145	10.2	SE	**	*****	****	3965	31
MONTH	11.1	-17.7	.5	142	.9	.8	162	17.1	SE	**	*****	****	96195	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.1
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 4.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 15.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 14.0

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.16

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA WEATHER STATION

March, 1984

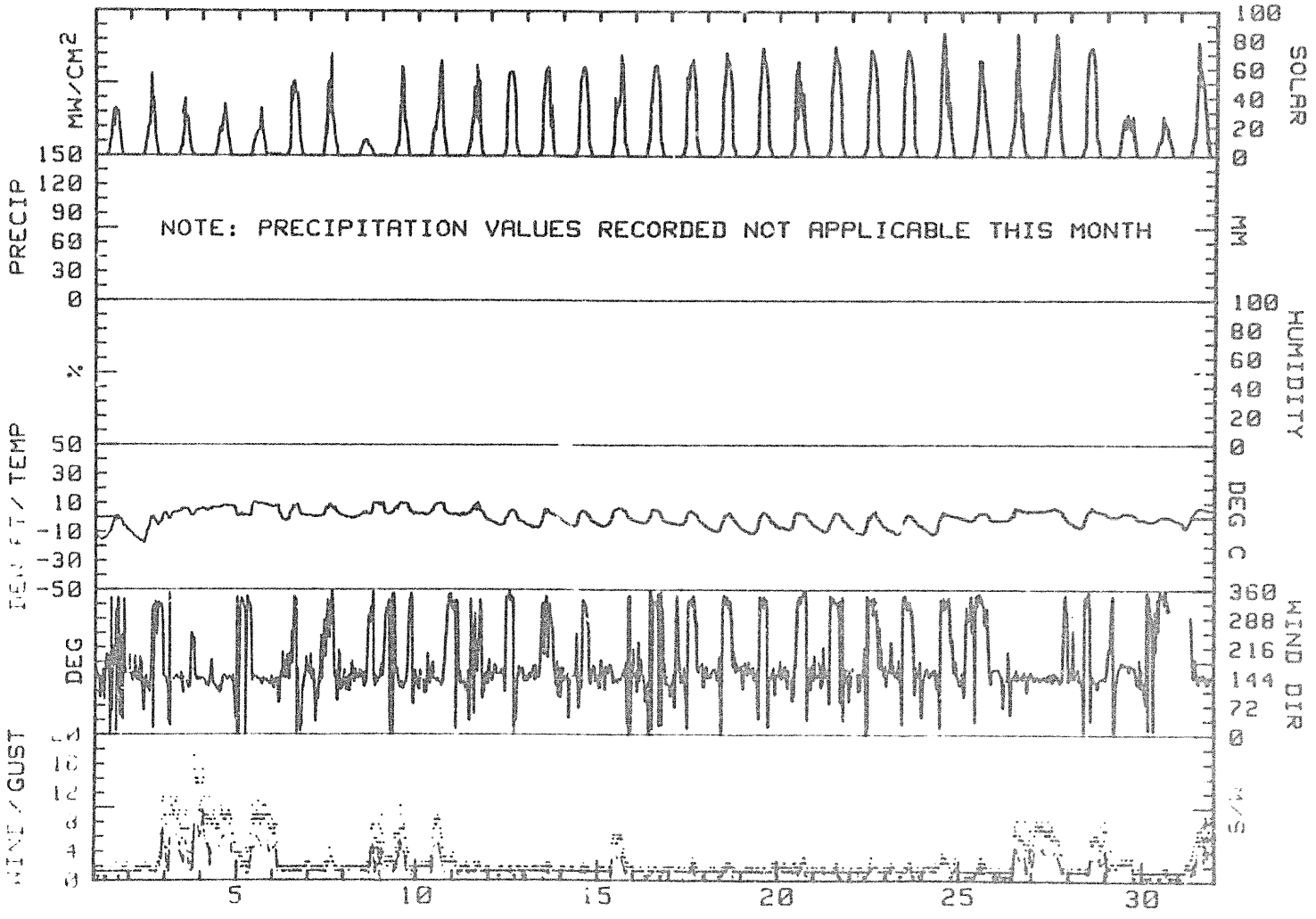


TABLE B.17

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

ONTHLY SUMMARY FOR EKLUTNA WEATHER STATION
ATA TAKEN DURING April, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY MM/SQM	DAY
1	6.9	.1	3.5	115	.8	1.7	127	8.3	SE	**	*****	3.4	4530	1
2	4.6	-1.4	1.6	336	.7	.7	344	3.2	NNW	**	*****	4.4	4790	2
3	4.1	-2.4	.9	350	.3	.7	345	3.8	NNW	**	*****	0.0	4610	3
4	8.8	-6.5	1.2	096	.4	1.1	126	5.7	ESE	**	*****	0.0	4960	4
5	8.2	-1.6	3.3	093	.5	1.8	130	8.9	SE	**	*****	0.0	4645	5
6	2.8	-8.2	-2.7	338	.8	.8	348	3.2	NNW	**	*****	1.8	5485	6
7	3.8	-2.8	0.0	338	.8	1.0	334	4.4	NNW	**	*****	0.0	5325	7
8	5.8	-5.4	.2	137	1.5	2.0	138	8.3	SE	**	*****	.2	5500	8
9	6.8	-2.4	2.2	221	.2	1.0	244	3.2	SE	**	*****	0.0	3950	9
10	2.2	-3.0	-.4	332	.9	1.2	343	4.4	NNW	**	*****	0.0	4935	10
11	3.0	-4.5	-.8	343	.5	.8	335	3.2	NNW	**	*****	3.2	5940	11
12	7.4	-6.6	.4	010	.3	.9	062	5.1	NNW	**	*****	0.0	5740	12
13	8.3	-3.8	2.3	147	1.2	1.5	138	8.3	SSE	**	*****	.2	3800	13
14	6.8	-3.5	1.7	332	.4	1.1	339	3.8	NNW	**	*****	0.0	6220	14
15	3.2	-4.0	-.4	343	.7	1.3	342	5.7	NNW	**	*****	0.0	5220	15
16	.2	-3.9	-1.9	340	.7	.8	346	3.8	NNW	**	*****	3.0	1595	16
17	2.1	-3.3	-.6	335	.7	.5	329	1.9	NNW	**	*****	6.6	3445	17
18	3.9	-3.6	.2	315	.4	.9	174	3.8	NNW	**	*****	6.6	4715	18
19	6.8	-7.3	-.3	343	.1	.8	347	3.8	NNW	**	*****	0.0	5725	19
20	7.4	-1.1	3.2	148	.2	.9	021	8.3	SSE	**	*****	4.8	4250	20
21	6.5	-2.5	2.0	159	1.1	2.0	140	7.0	SSE	**	*****	4.0	3630	21
22	2.5	-5.0	-1.3	329	.6	1.3	346	5.1	NNW	**	*****	2.6	7605	22
23	5.5	-9.6	-2.1	152	.3	1.2	144	5.1	SSE	**	*****	0.0	7790	23
24	6.7	-5.3	.7	159	1.4	1.8	151	7.6	SSE	**	*****	0.0	7950	24
25	7.0	-7.5	-.3	142	2.3	2.6	135	8.3	SE	**	*****	0.0	7940	25
26	7.2	2.4	4.8	124	3.2	3.4	126	7.6	SE	**	*****	0.0	4410	26
27	10.6	.9	5.8	103	.9	2.0	121	10.2	SE	**	*****	0.0	4585	27
28	11.7	3.6	7.7	128	3.8	4.0	132	10.8	SE	**	*****	0.0	6640	28
29	10.4	3.8	7.1	097	.8	2.2	130	7.6	SE	**	*****	0.0	4365	29
30	11.9	2.6	7.3	138	2.9	3.1	130	8.3	SE	**	*****	0.0	6255	30
MONTH	11.9	-9.6	1.5	122	.5	1.5	132	10.8	RNW	**	*****	40.8	156550	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.2
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.6

OTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.17

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA WEATHER STATION

April, 1984

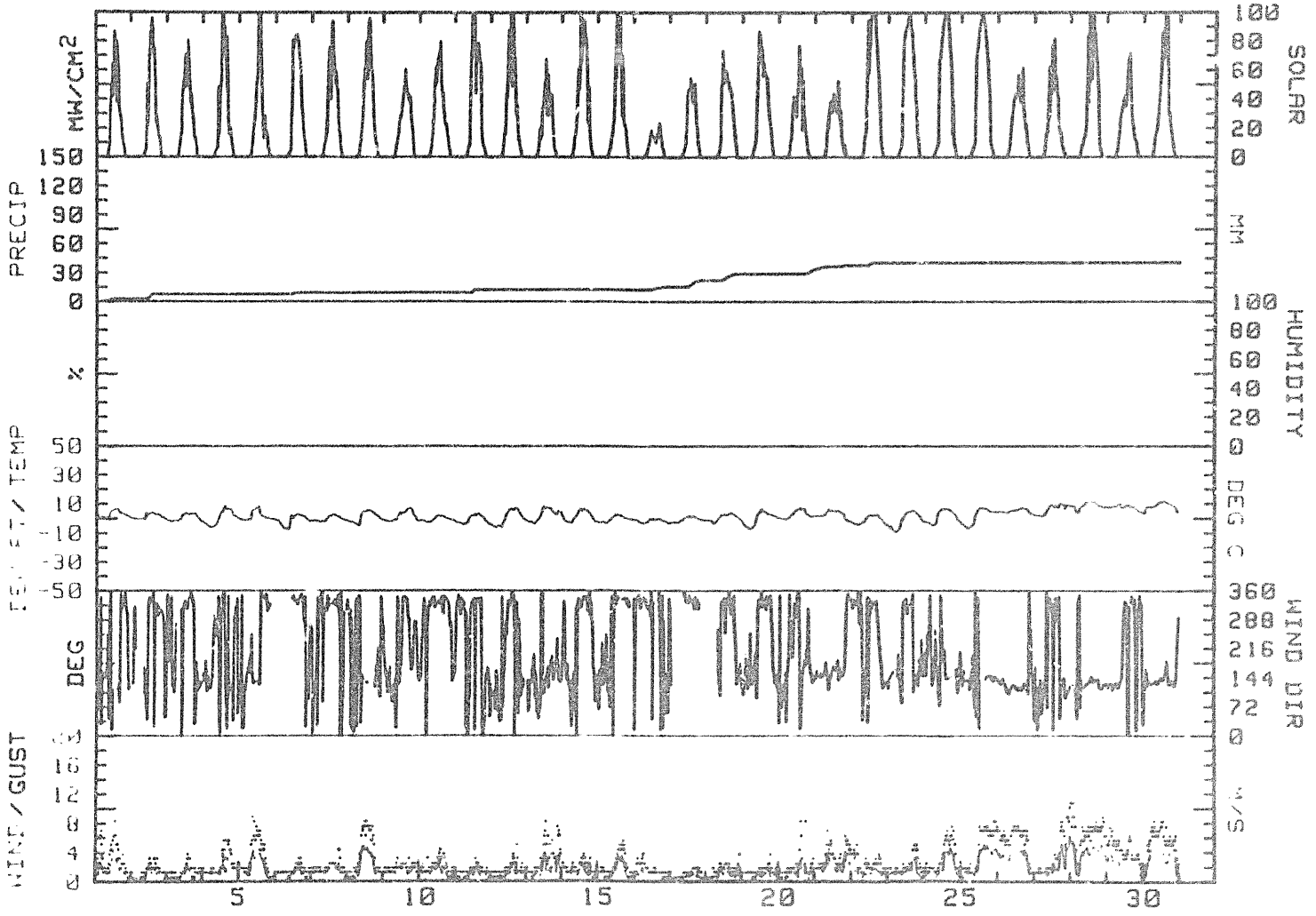


TABLE 8.18

P & M CONSULTANTS INC.

SUSSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA WEATHER STATION
DATA TAKEN DURING May, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	10.8	.8	5.8	040	.6	1.7	129	7.0	NNW	**	*****	0.0	5870	1
2	8.8	-2.1	3.4	140	..5	2.1	136	7.6	SE	**	*****	0.0	7555	2
3	8.7	-2.0	3.4	139	1.0	1.9	313	7.6	SE	**	*****	0.9	7225	3
4	9.4	-1.6	3.9	142	1.1	2.0	121	7.6	SE	**	*****	0.0	6570	4
5	9.3	-1.7	3.8	058	.2	1.8	142	6.3	SSE	**	*****	0.0	9285	5
6	9.6	-5.0	2.3	131	.9	1.8	151	7.0	SSE	**	*****	0.0	9275	6
7	12.5	-3.2	4.6	276	.2	1.2	339	3.8	SSE	**	*****	0.0	8545	7
8	16.1	-3.5	6.3	228	.3	1.3	293	4.4	SSE	**	*****	0.0	8910	8
9	15.3	-1.2	7.1	331	.4	1.3	346	4.4	SSE	**	*****	0.0	8795	9
10	14.2	-1.8	6.2	341	.5	1.2	341	3.8	NNW	**	*****	0.0	8095	10
11	11.1	-2.1	4.5	342	1.0	1.7	344	6.3	NNW	**	*****	0.0	8515	11
12	11.4	-3.9	3.8	335	.5	1.3	337	3.8	SSE	**	*****	0.0	7595	12
13	13.1	-2.5	5.3	342	.4	1.3	343	3.8	SSE	**	*****	0.0	7685	13
14	15.6	-2.4	6.6	153	.9	1.8	152	7.0	SSE	**	*****	0.0	9145	14
15	14.7	-.8	7.0	141	2.0	2.3	160	7.0	SE	**	*****	0.0	8260	15
16	16.1	4.2	10.2	161	1.0	1.8	141	5.7	SSE	**	*****	0.0	8950	16
17	16.7	-.2	8.3	135	1.9	2.8	147	10.8	SE	**	*****	0.0	8320	17
18	15.5	6.1	10.8	135	2.4	3.0	128	8.9	SE	**	*****	0.0	8265	18
19	13.4	4.6	9.0	349	.6	1.1	352	5.1	NNW	**	*****	.2	6030	19
20	16.3	2.9	9.6	131	.9	1.6	134	6.3	SSE	**	*****	0.0	5540	20
21	13.2	6.3	9.8	129	.9	1.8	133	7.0	SE	**	*****	0.0	4965	21
22	11.1	.9	6.0	345	.7	1.1	347	5.1	NNW	**	*****	0.0	5870	22
23	17.0	-2.2	7.4	153	.5	1.6	168	6.3	SSE	**	*****	0.0	8320	23
24	13.8	.5	7.2	352	1.0	1.6	348	5.1	NNW	**	*****	0.0	9810	24
25	14.1	.8	8.5	358	.4	1.0	339	4.4	SSE	**	*****	0.0	6170	25
26	17.3	.6	9.0	***	****	****	***	****	***	**	*****	0.0	7310	26
27	18.8	-3.3	7.8	***	****	****	***	****	***	**	*****	0.0	9870	27
28	21.2	-6.5	7.4	***	****	****	***	****	***	**	*****	0.0	9513	28
29	15.1	-3.3	5.9	***	****	****	***	****	***	**	*****	3.6	3780	29
30	13.7	-.2	6.8	***	****	****	***	****	***	**	*****	1.2	5640	30
31	15.3	1.0	8.2	***	****	****	***	****	***	**	*****	.8	7075	31
MONTH	21.2	-6.5	6.6	125	.4	1.7	147	10.8	SSE	**	*****	5.8	233853	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 9.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.5

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.18

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA WEATHER STATION

May, 1984

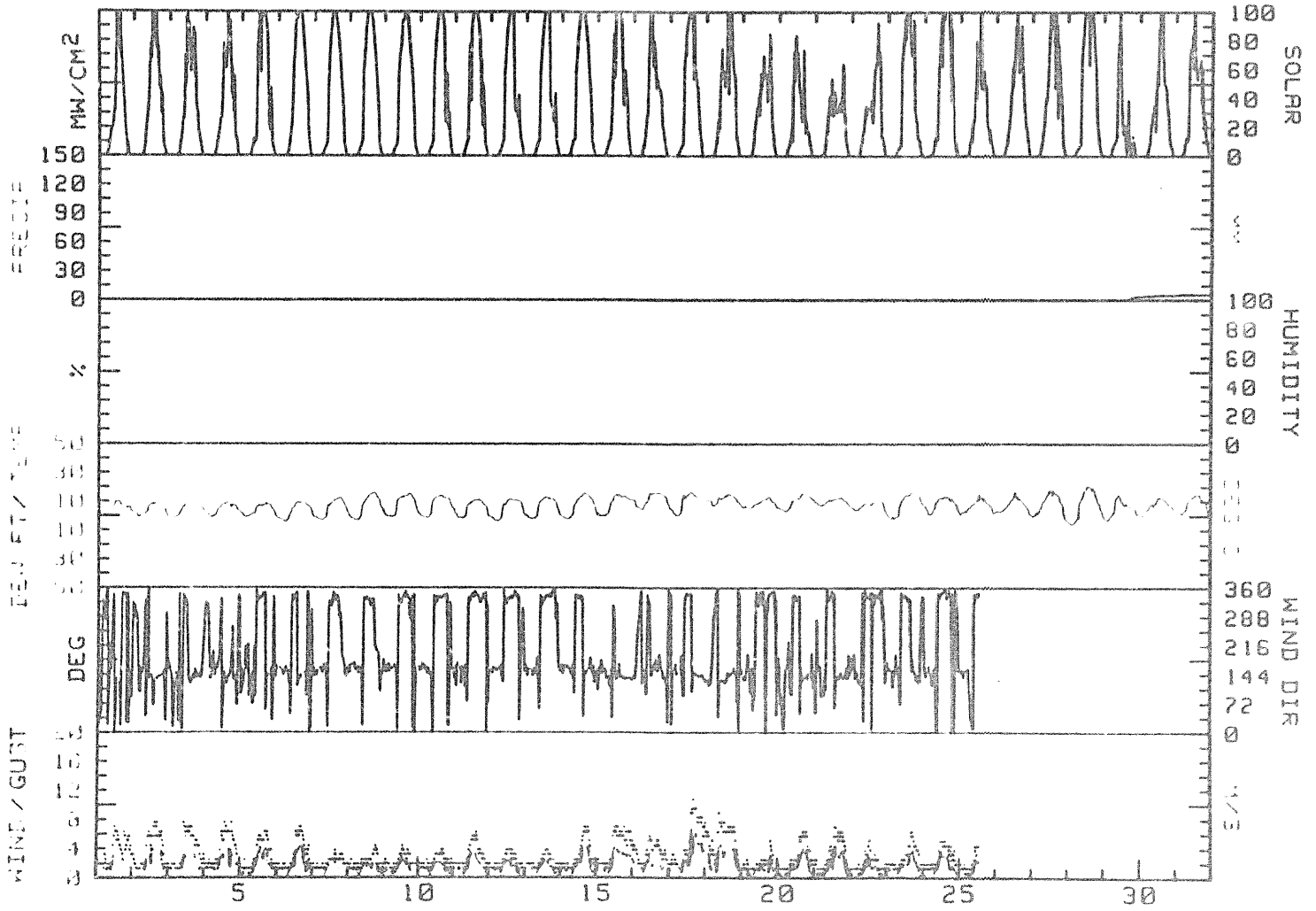


TABLE B.19

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA WEATHER STATION
DATA TAKEN DURING June, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	19.6	-1.9	8.9	090	.4	1.4	333	3.8	SE	**	*****	0.0	7660	1
2	19.5	-.4	9.6	348	.4	1.1	012	3.8	ESE	**	*****	0.0	10130	2
3	19.0	.1	9.6	006	.3	1.3	333	5.1	SE	**	*****	0.0	9125	3
4	20.4	.5	10.5	345	.2	1.2	329	5.1	ESE	**	*****	0.0	10595	4
5	24.0	1.6	12.8	346	.2	1.0	194	4.4	ESE	**	*****	.6	8795	5
6	13.0	3.9	8.5	020	.4	1.2	043	5.1	NNW	**	*****	6.2	4510	6
7	15.3	-.4	7.5	000	.5	1.3	000	5.7	N	**	*****	0.0	7235	7
8	16.2	5.9	11.1	352	.8	1.1	002	4.4	N	**	*****	.2	6785	8
9	15.6	5.1	10.4	350	.6	1.2	352	5.1	N	**	*****	.6	8955	9
10	17.4	4.1	10.8	001	.7	1.2	359	3.8	N	**	*****	0.0	9300	10
11	16.1	6.1	11.1	350	.5	.9	137	4.4	NNW	**	*****	0.0	6960	11
12	14.9	8.9	11.9	107	.2	.7	043	2.5	SE	**	*****	2.8	3565	12
13	15.1	6.9	11.0	147	1.2	1.7	138	7.0	SSE	**	*****	0.0	5660	13
14	14.6	3.1	8.9	156	1.1	1.5	163	7.0	SSE	**	*****	1.8	4995	14
15	10.4	6.0	8.2	350	.4	.9	002	4.4	N	**	*****	7.0	4625	15
16	10.3	7.4	8.9	347	.4	.9	358	3.2	N	**	*****	6.0	3325	16
17	16.3	7.8	12.1	355	.8	1.2	000	3.8	N	**	*****	1.2	11130	17
18	20.2	4.3	12.3	355	.3	1.0	358	3.2	NNW	**	*****	0.0	9905	18
19	19.1	3.8	11.5	348	.3	1.0	354	3.8	S	**	*****	0.0	10455	19
20	20.1	4.1	12.1	353	.6	1.1	359	4.4	NNW	**	*****	0.0	9575	20
21	19.4	4.6	12.0	354	.5	1.0	346	3.8	NNW	**	*****	0.0	10545	21
22	21.2	3.4	12.3	318	.1	1.0	348	3.8	S	**	*****	0.0	9060	22
23	19.7	3.9	11.8	154	1.1	1.9	160	7.0	SSE	**	*****	0.0	7355	23
24	18.2	8.3	13.3	157	2.1	2.3	148	8.3	SSE	**	*****	0.0	6275	24
25	17.8	10.2	14.0	154	2.2	2.3	139	7.0	SSE	**	*****	0.0	5770	25
26	15.3	8.7	12.0	002	.3	.9	121	4.4	NNW	**	*****	.4	4905	26
27	12.0	6.0	9.0	015	.9	1.2	028	4.4	N	**	*****	3.4	3885	27
28	19.7	4.6	12.2	149	1.0	2.0	157	8.9	SSE	**	*****	0.0	8795	28
29	18.9	13.6	16.3	148	3.9	4.0	131	8.3	SSE	**	*****	0.0	9875	29
30	17.8	9.2	13.5	033	.5	1.3	148	5.7	N	**	*****	0.0	6670	30
MONTH	24.0	-1.9	11.1	107	.2	1.4	157	8.9	SSE	**	*****	30.2	226410	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 7.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.6

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.19

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA WEATHER STATION

June, 1984

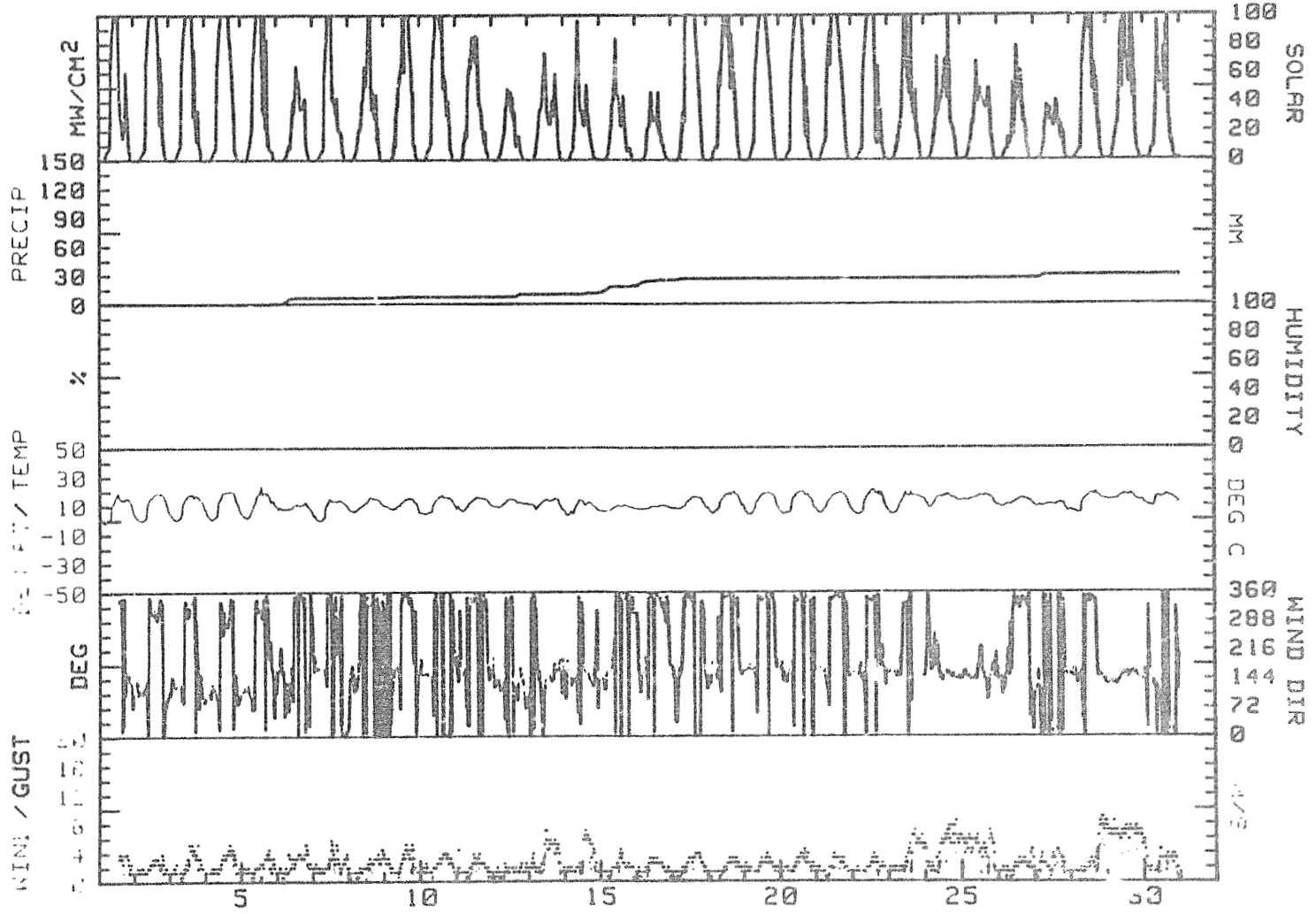


TABLE B.20

P & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

ONTHLY SUMMARY FOR EKLUTNA WEATHER STATION
ATA TAKEN DURING July, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	12.5	9.6	11.1	354	.4	.7	357	3.2	NNW	**	*****	1.6	2830	1
2	14.6	8.1	11.4	351	.3	.7	354	3.2	NNW	**	*****	1.2	6090	2
3	14.9	9.2	12.1	176	.3	.7	176	2.5	SSE	**	*****	.2	3655	3
4	21.5	8.3	14.9	353	.5	1.0	359	4.4	N	**	*****	0.0	9700	4
5	22.0	10.7	16.4	017	.2	1.0	013	4.4	NNW	**	*****	.2	7595	5
6	22.3	8.7	15.5	002	.4	1.0	002	3.8	N	**	*****	.2	7735	6
7	21.0	7.1	14.1	009	.3	1.2	000	5.1	N	**	*****	0.0	9645	7
8	13.3	8.8	11.1	163	.1	.8	350	3.2	SSE	**	*****	4.0	3150	8
9	16.7	7.6	12.2	359	.4	1.1	359	4.4	N	**	*****	1.4	7610	9
10	15.2	7.5	11.4	143	1.0	1.6	145	6.3	SSE	**	*****	3.4	4640	10
11	18.9	6.8	12.9	135	.9	1.9	142	5.1	SSE	**	*****	0.0	9665	11
12	19.9	4.1	12.0	026	.3	1.1	091	5.1	SSE	**	*****	.2	6990	12
13	17.8	8.9	13.4	033	.1	1.0	013	5.7	SSE	**	*****	6.0	8015	13
14	12.9	3.4	8.2	173	.1	.7	336	1.9	SSE	**	*****	1.4	3655	14
15	19.8	3.1	11.1	312	.2	.9	347	3.2	NNW	**	*****	0.0	7665	15
16	13.4	10.0	11.7	019	.4	.8	351	3.2	N	**	*****	1.4	2695	16
17	12.5	9.4	11.0	046	.2	.7	354	3.2	N	**	*****	1.0	1200	17
18	13.0	8.4	10.7	353	.4	.8	351	3.2	N	**	*****	.6	3700	18
19	14.7	9.4	12.1	[illegible]	.3	.8	013	4.4	NNW	**	*****	0.0	3990	19
20	[illegible]	9.1	11.3		.3	.7	359	3.2	NNW	**	*****	.4	2460	20
21	[illegible].4	8.5	13.[illegible]	[illegible]	.5	1.1	000	4.4	N	**	*****	0.0	7185	21
22	16.4	8.8	12.6	338	.1	.8	327	2.5	NNW	**	*****	0.0	4080	22
23	20.0	11.1	15.6	335	.4	.8	003	3.8	NNW	**	*****	0.0	6405	23
24	18.7	11.0	14.9	007	.2	.8	359	3.2	N	**	*****	0.0	4970	24
25	14.9	10.6	12.8	358	.2	.6	338	2.5	NNW	**	*****	2.6	3580	25
26	15.0	9.3	12.2	204	.1	.7	334	2.5	SSE	**	*****	1.0	4545	26
27	17.0	9.3	13.2	203	.1	.7	170	1.9	SSE	**	*****	0.0	3575	27
28	16.3	10.8	13.6	188	.2	.9	242	2.5	S	**	*****	.2	3600	28
29	16.2	9.4	12.8	006	.7	1.2	000	5.1	N	**	*****	.6	5230	29
30	19.4	7.5	[illegible]	354	.5	1.0	349	3.8	NNW	**	*****	0.0	6410	30
31	17.8	9.1	[illegible]	000	1.0	1.3	359	4.4	N	**	*****	.4	6030	31
MONTH	22.3	3.1		012	.2	.3	145	6.3	SSE	**	*****	28.0	168285	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.1
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 5.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 5.1

OTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.20

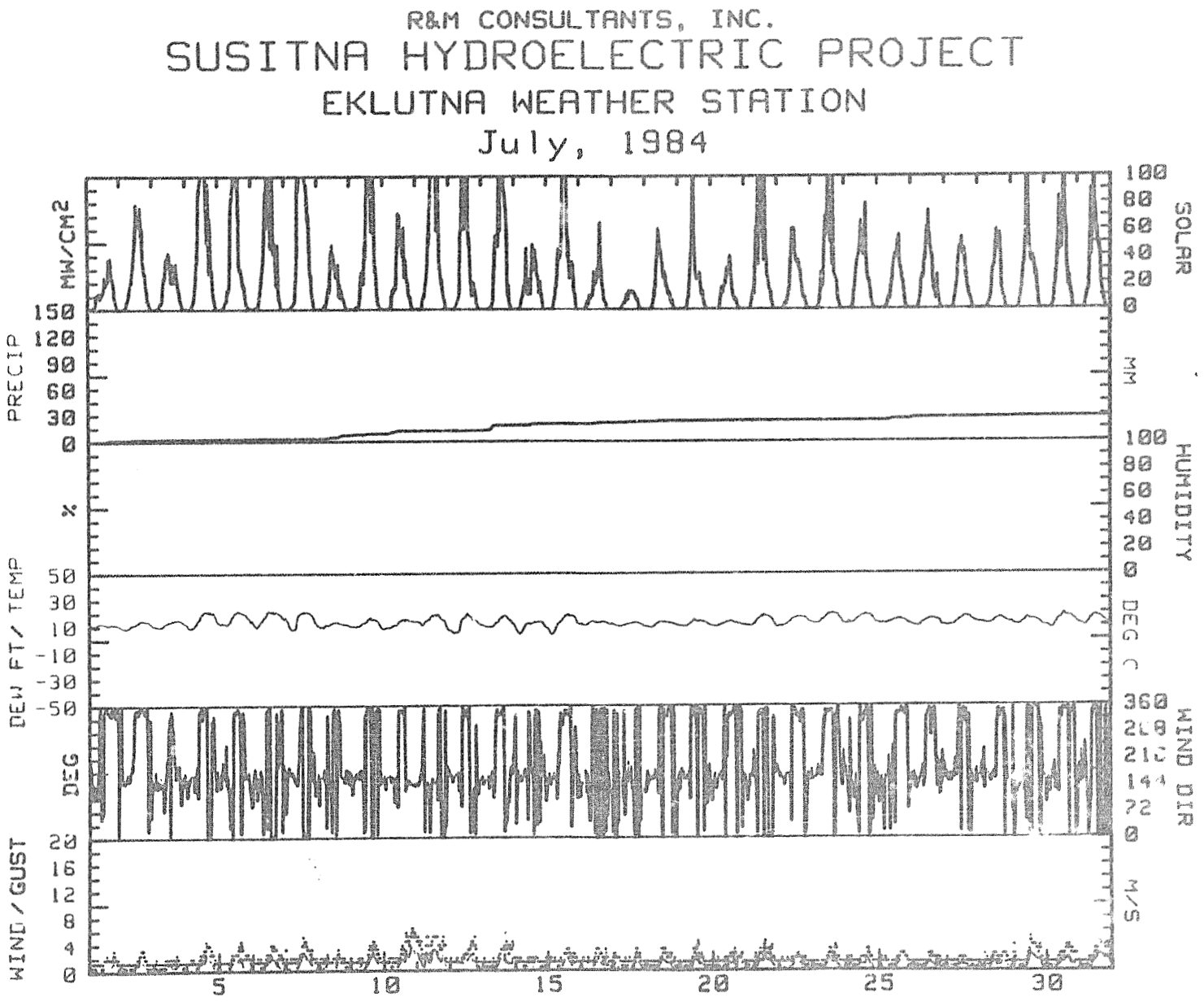

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
EKLUTNA WEATHER STATION
July, 1984
SOLAR
MW/CM2
100
80
60
40
20
0
PRECIP
MM
150
120
90
60
30
0
HUMIDITY
%
100
80
60
40
20
0
DEW PT / TEMP
DEG C
50
30
10
-10
-30
-50
WIND DIR
DEG
360
270
180
90
0
WIND / GUST
M/S
20
16
12
8
4
0
5
10
15
20
25
30

TABLE B.21

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA WEATHER STATION
DATA TAKEN DURING August, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL. DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	15.6	10.3	13.0	351	.4	.8	357	3.2	NNW	**	*****	0.0	4130	1
2	17.8	9.6	13.7	353	.3	.9	354	3.2	NNW	**	*****	0.0	4235	2
3	18.7	12.1	15.4	330	.2	.8	357	3.8	SSE	**	*****	.2	4160	3
4	20.7	11.3	16.0	179	.2	1.0	339	3.2	SSE	**	*****	0.0	6640	4
5	16.4	11.6	14.0	196	.1	.7	076	2.5	S	**	*****	4.8	2765	5
6	17.4	8.8	13.1	286	.1	.8	346	2.5	NNW	**	*****	.4	3905	6
7	20.7	5.7	13.2	313	.1	.9	350	3.2	S	**	*****	0.0	6480	7
8	17.2	11.5	14.4	332	.1	.8	040	2.5	SSE	**	*****	.4	3350	8
9	17.4	9.0	13.2	152	.2	.9	001	4.4	S	**	*****	10.6	5150	9
10	19.0	8.4	13.7	177	.4	.7	167	2.5	S	**	*****	5.4	3025	10
11	19.2	8.2	13.7	175	.3	.7	323	2.5	S	**	*****	1.0	5285	11
12	20.2	3.1	11.7	351	.1	1.1	000	5.1	S	**	*****	0.0	7730	12
13	20.2	2.9	11.6	218	.2	1.0	340	3.8	S	**	*****	0.0	7505	13
14	21.7	2.5	12.1	134	.1	1.0	356	4.4	S	**	*****	0.0	7300	14
15	21.7	3.4	12.6	208	.1	.9	350	3.2	S	**	*****	0.0	7220	15
16	21.1	6.0	13.6	193	.2	.8	354	3.2	S	**	*****	0.0	5850	16
17	18.0	4.4	11.2	096	.4	1.7	149	7.6	N	**	*****	0.0	5940	17
18	15.9	11.3	13.6	150	2.1	2.8	160	10.2	SSE	**	*****	0.0	1605	18
19	15.4	10.1	12.8	084	.2	1.6	161	8.3	NNW	**	*****	.6	3860	19
20	17.0	9.3	13.2	359	.8	1.1	035	5.1	NNW	**	*****	.2	5960	20
21	16.1	8.9	12.5	153	2.8	3.1	162	8.3	SSE	**	*****	0.0	3190	21
22	15.7	9.5	12.6	039	.4	1.2	142	6.3	N	**	*****	.8	2625	22
23	13.7	6.9	10.3	184	.1	.5	262	1.9	SSE	**	*****	1.2	2540	23
24	16.5	7.5	12.0	148	1.8	2.1	150	9.5	SSE	**	*****	7.0	1500	24
25	11.4	6.0	8.7	026	.9	1.5	356	9.5	NNE	**	*****	10.0	1575	25
26	12.1	-1.5	5.3	016	1.8	2.1	357	7.0	NE	**	*****	3.2	5560	26
27	12.8	-3.6	4.6	302	.2	1.0	322	4.4	SSE	**	*****	0.0	6415	27
28	12.4	-4.7	3.9	341	.1	.9	339	3.2	S	**	*****	0.0	5800	28
29	12.6	-3.6	4.5	004	.2	1.1	356	4.4	S	**	*****	0.0	5265	29
30	12.3	-3.0	4.7	194	.1	.9	345	3.2	S	**	*****	0.0	5385	30
31	11.1	-4.4	3.4	007	.2	1.0	359	5.1	S	**	*****	0.0	5210	31
MONTH	21.7	-4.7	11.2	116	.2	1.2	160	10.2	S	**	*****	45.8	147660	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS	9.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL	8.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL	7.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS	7.0

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.21

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA WEATHER STATION

August, 1984

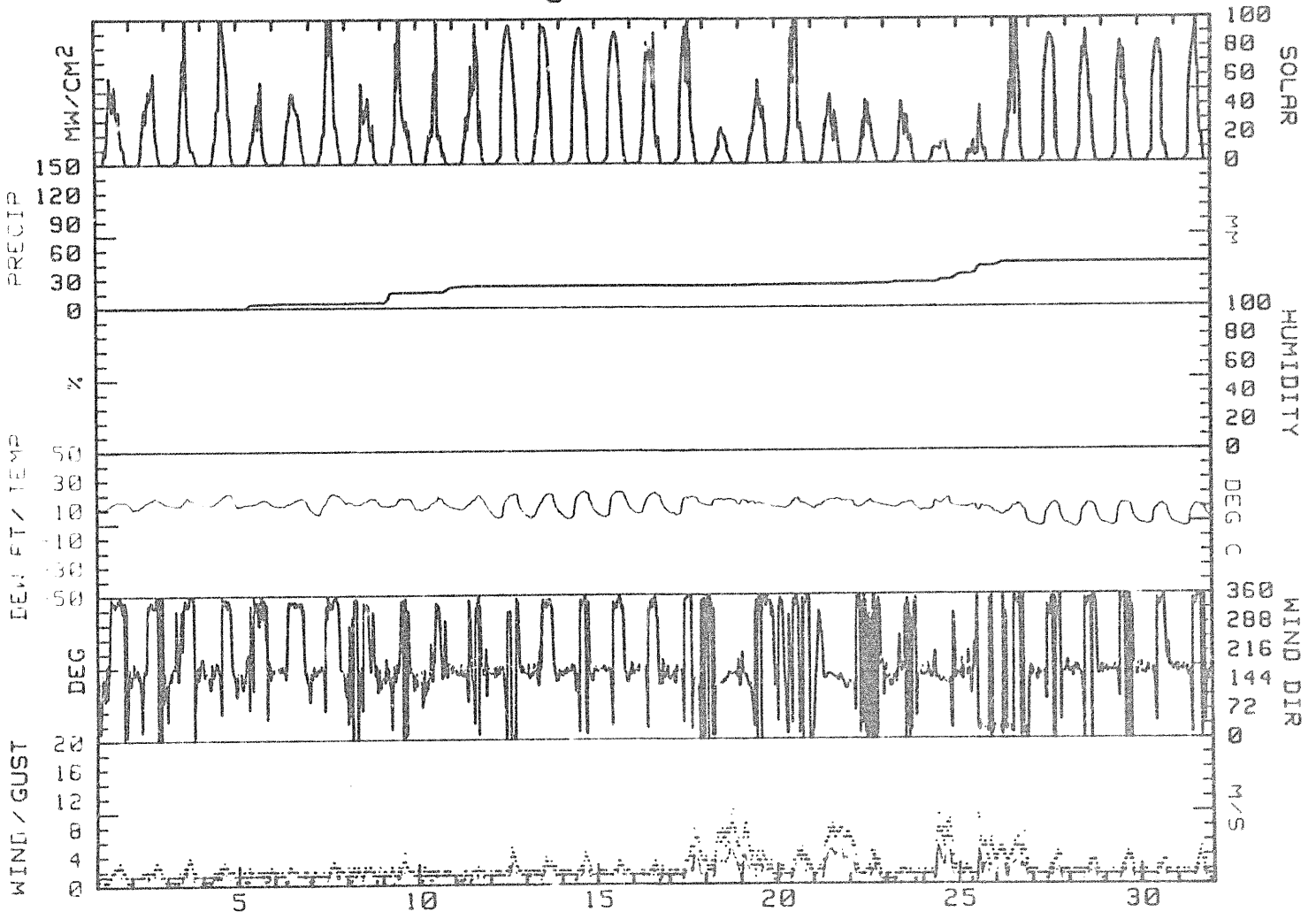


TABLE B.22

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

ONTHLY SUMMARY FOR EKLUTNA WEATHER STATION
ATA TAKEN DURING September, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	14.6	-.5	7.1	201	.2	.8	338	2.5	S	**	*****	0.0	4960	1
2	15.6	-2.0	6.8	189	.3	.9	358	3.8	S	**	*****	0.0	5335	2
3	16.1	-2.2	7.0	205	.2	.8	335	2.5	S	**	*****	0.0	4985	3
4	10.8	.3	5.6	158	.6	.6	165	1.9	SSE	**	*****	0.0	3426	4
5	14.4	-1.9	6.3	207	.1	.8	343	3.2	SSE	49	1.7	0.0	4870	5
6	15.6	-2.0	6.8	126	.7	1.5	128	6.3	SSE	41	-1.0	0.0	4160	6
7	15.2	1.8	8.5	149	1.2	1.5	141	5.7	SE	40	-.9	0.0	3515	7
8	16.9	1.9	9.4	143	1.3	1.4	144	5.7	SSE	29	-3.7	0.0	4635	8
9	16.0	-.8	7.6	196	.1	.7	322	2.5	SSE	41	.9	0.0	4265	9
10	15.8	-1.1	7.4	190	.2	.8	339	3.2	SSE	52	3.7	0.0	4790	10
11	14.2	-.9	6.7	173	.3	.8	214	6.3	SSE	54	2.7	0.0	3210	11
12	14.3	.2	7.3	117	.6	1.5	131	5.7	SSE	45	.7	0.0	3930	12
13	14.1	7.4	10.8	150	1.2	1.6	123	7.6	SE	41	-1.1	.2	1990	13
14	11.1	5.9	8.5	165	.4	.9	215	3.8	SE	62	.9	6.6	1615	14
15	13.6	1.8	7.7	149	1.1	1.1	136	5.7	SSE	48	1.3	.4	1815	15
16	14.4	.6	7.5	202	.1	.8	335	3.8	SSE	58	4.0	0.0	3360	16
17	12.5	4.4	8.5	355	.1	.7	336	3.8	SSE	63	2.9	0.6	1965	17
18	11.3	3.4	7.4	007	.1	1.0	349	4.4	SSE	40	-5.0	2.2	1975	18
19	11.9	1.1	6.5	023	.6	1.4	006	8.3	SSE	62	.1	11.0	3670	19
20	8.3	-1.2	3.6	163	.3	.9	337	3.8	SSE	80	1.3	3.2	3230	20
21	11.7	-2.9	4.4	244	.1	.9	323	2.5	SSE	64	-.4	.2	3930	21
22	13.7	-3.4	5.2	172	.3	.9	330	3.2	SSE	58	-3.0	0.0	3315	22
23	14.3	2.6	9.5	144	2.5	2.5	158	8.3	SE	22	-10.5	0.0	1355	23
24	13.0	8.1	10.6	125	3.6	3.7	126	8.3	SE	26	-7.7	0.0	1070	24
25	12.7	4.9	8.8	212	.1	1.4	124	5.7	WNW	52	-.7	.4	2105	25
26	12.3	-1.6	5.4	185	.3	1.0	319	4.4	SSE	68	.4	0.0	3175	26
27	12.2	-1.0	5.6	189	.4	.9	276	3.2	SSE	66	-1.0	0.0	2350	27
28	12.8	2.6	7.7	138	.6	.9	131	6.3	SE	53	-.3	0.0	1120	28
29	10.7	6.4	8.6	330	.4	.9	211	4.4	WNW	67	2.8	24.8	550	29
30	12.6	3.2	7.9	143	1.9	2.1	146	10.8	SE	65	1.1	4.2	1385	30
MONTH	16.9	-3.4	7.3	144	.6	1.2	146	10.8	SSE	48	-.4	52.6	92056	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.6

OTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.22

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA WEATHER STATION

September, 1984

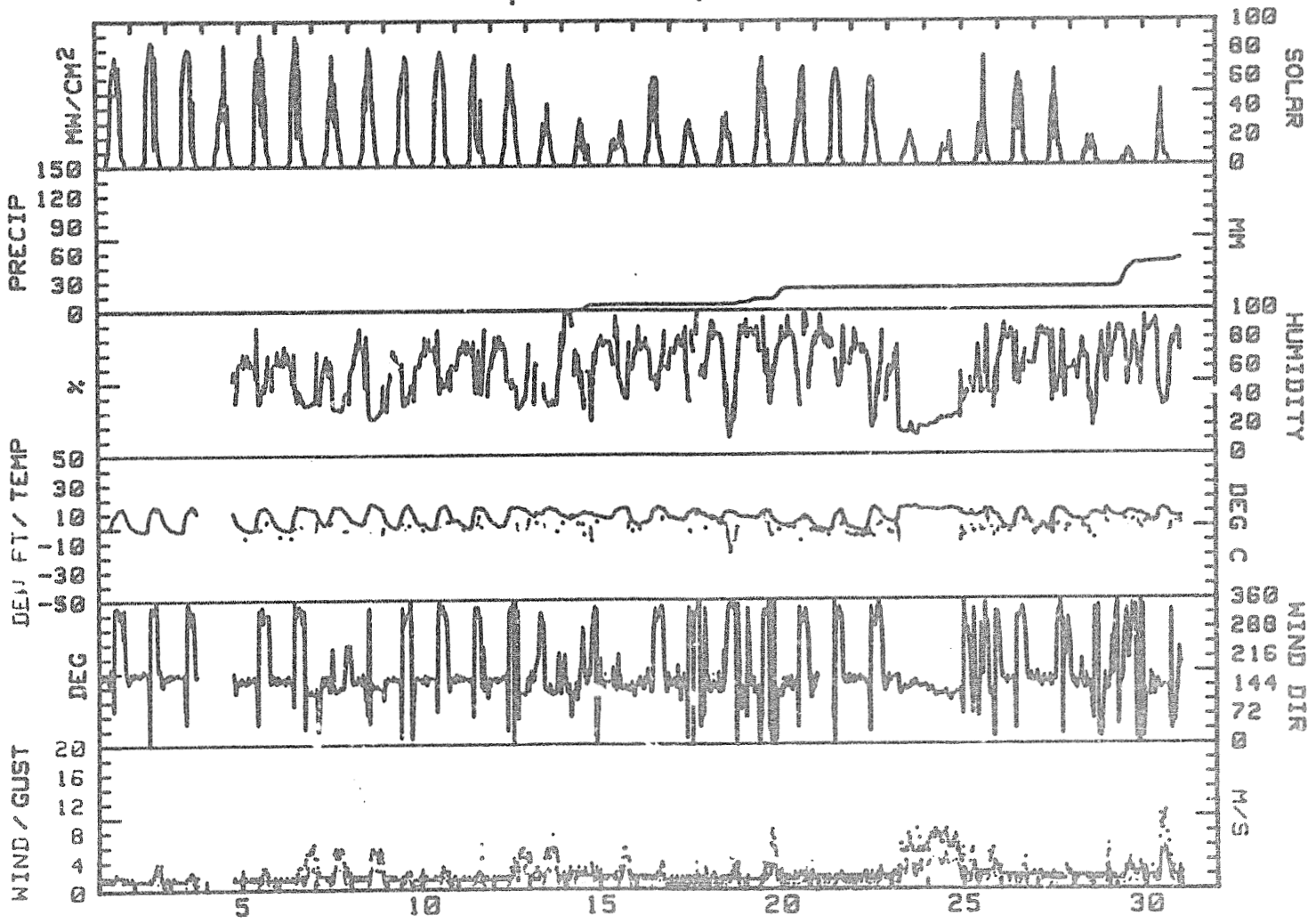


TABLE B.23

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

ONTHLY SUMMARY FOR EKLUTNA WEATHER STATION
ATA TAKEN DURING October, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY W-H/SQM	DAY
1	12.8	4.9	8.9	127	1.5	1.8	142	6.3	SE	58	2.1	.2	1920	1
2	12.6	6.3	9.5	134	2.4	2.6	128	7.6	SE	46	-1.1	.4	2780	2
3	12.2	-2.5	4.9	160	.8	1.1	167	5.1	SSE	52	-2.9	0.0	2670	3
4	10.0	-4.9	2.6	176	.4	.9	152	2.5	SSE	62	-6.0	0.0	2900	4
5	11.6	.7	6.2	156	1.1	1.6	131	7.6	S	46	-2.5	.6	1330	5
6	11.8	2.6	7.2	133	1.8	1.9	109	7.6	SE	56	.2	.2	1750	6
7	7.8	2.6	5.2	183	.1	.7	340	3.2	SSE	67	.3	.8	1305	7
8	4.7	2.1	3.4	078	.9	.9	346	3.8	SSE	72	-.3	11.6	500	8
9	6.8	-2.2	2.3	158	.4	.8	168	2.5	SSE	75	-1.6	0.0	2285	9
10	5.0	-3.7	.7	167	.7	.8	170	1.9	SSE	71	-6.1	0.0	1560	10
11	3.9	-4.7	-.5	165	.7	.8	165	2.5	SSE	74	-4.7	1.0	1150	11
12	7.0	-3.5	1.8	176	.4	.8	145	2.5	SSE	59	-5.3	0.0	2365	12
13	6.0	-5.5	.3	184	.6	.9	160	2.5	SSE	63	-6.3	0.0	2380	13
14	2.9	-7.5	-2.3	306	.3	1.0	336	3.2	SSE	66	-8.4	0.0	2295	14
15	3.4	-8.5	-2.6	168	.5	.9	183	2.5	SSE	67	-9.2	0.0	1295	15
16	6.1	-7.5	-.7	172	.9	1.0	159	2.5	SSE	64	-9.6	0.0	2255	16
17	4.8	-9.9	-2.6	168	1.0	1.1	175	3.2	SSE	56	-12.8	0.0	2385	17
18	2.4	-10.3	-4.0	168	.9	1.0	158	3.2	SSE	63	-12.9	0.0	1185	18
19	4.0	-4.0	0.0	161	.6	.8	173	2.5	SSE	59	-8.2	0.0	775	19
20	1.8	-.8	.5	162	.5	.5	181	1.9	SSE	**	*****	1.6	595	20
21	9.9	-.1	4.9	351	.4	1.9	161	9.5	NNW	67	-1.5	7.2	930	21
22	11.3	1.9	6.6	139	3.6	4.7	148	13.3	SSE	55	-1.3	6.4	935	22
23	1.7	-6.0	-2.2	358	.8	1.4	019	4.4	NNW	76	-4.2	2.6	775	23
24	-1.4	-9.2	-5.3	175	.8	.9	167	2.5	S	72	-10.5	0.0	960	24
25	.1	-10.9	-5.4	157	1.1	1.1	168	3.2	SSE	67	-12.4	0.0	1545	25
26	-1.1	-12.7	-6.9	170	1.0	1.1	***	3.2	SSE	67	-14.1	0.0	1560	26
27	-1.0	-13.3	-7.2	178	.9	1.1	***	2.5	S	69	-13.8	0.0	1405	27
28	-.6	-13.9	-7.3	182	1.0	1.1	187	2.5	S	69	-14.8	0.0	1430	28
29	-2.4	-16.7	-9.6	205	.6	1.1	***	2.5	W	66	-17.5	0.0	1370	29
30	-.3	-12.0	-6.2	248	.3	1.1	338	4.4	S	35	-11.3	0.0	705	30
31	5.0	-8.0	-1.5	142	3.1	2.3	139	7.6	SE	39	-10.2	0.0	940	31
MONTH	12.8	-16.7	.8	148	.8	1.3	148	13.3	SSE	62	-6.9	32.6	48315	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.5

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B 23

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA WEATHER STATION

October, 1984

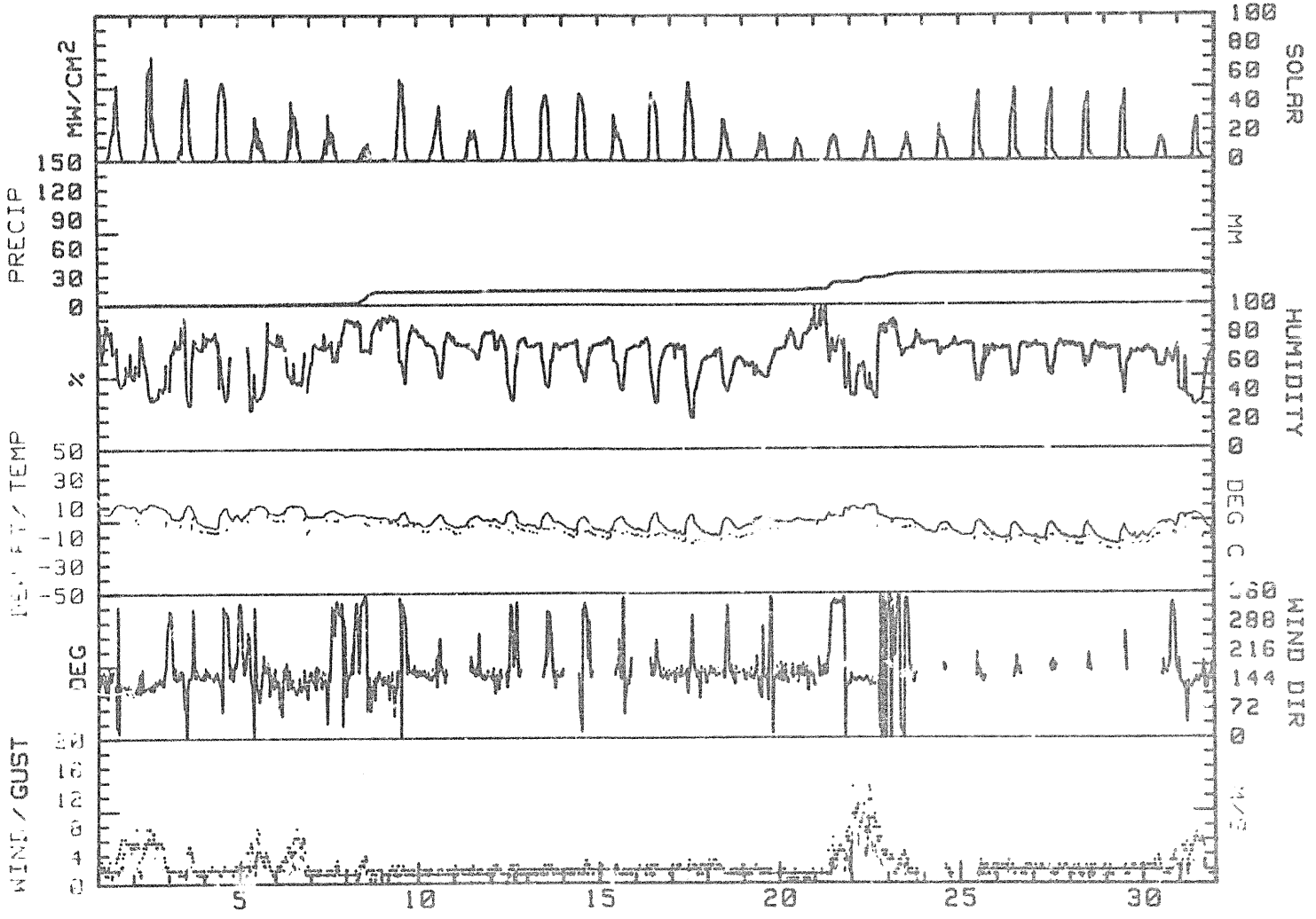


TABLE B.24

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

LY SUMMARY FOR EKLUTNA WEATHER STATION
TAKEN DURING November, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-1.5	-13.7	-7.6	167	1.1	1.1	159	2.5	SSE	67	-15.0	****	1205	1
2	-4.3	-15.1	-9.7	167	1.1	1.1	169	2.5	SSE	68	-18.1	****	1032	2
3	-2.2	-13.7	-8.0	165	1.2	1.2	169	3.2	SSE	62	-15.6	****	1210	3
4	-1.2	-13.4	-7.3	168	1.1	1.1	170	3.2	SSE	66	-14.0	****	1110	4
5	6.5	-4.2	1.2	106	.4	1.7	121	7.0	NNW	53	-6.7	****	395	5
6	3.7	-1.3	1.2	145	.2	.9	023	3.2	SSE	58	-5.8	****	985	6
7	1.3	-5.9	-2.3	149	.2	.8	116	3.2	SSE	63	-5.9	****	425	7
8	-1.8	-12.5	-7.2	162	.8	.9	150	1.9	SSE	70	-13.6	****	490	8
9	-6.9	-15.4	-11.2	167	1.0	1.0	170	1.9	SSE	68	-16.8	****	670	9
10	-6.8	-15.7	-11.3	168	1.0	1.0	169	2.5	SSE	69	-17.2	****	470	10
11	-9.8	-18.6	-13.7	162	1.1	1.1	177	3.2	SSE	68	-19.3	****	605	11
12	-12.2	-21.4	-16.8	165	1.2	1.2	160	2.5	SSE	66	-22.1	****	590	12
13	-12.9	-22.5	-17.7	166	1.2	1.2	179	2.5	SSE	64	-23.8	****	470	13
14	-4.5	-21.1	-12.8	222	.2	1.3	334	4.4	SSE	64	-17.8	****	295	14
15	-2.7	-6.8	-4.8	323	.2	1.3	337	5.1	SSE	63	-11.2	****	365	15
16	-4.1	-11.4	-7.8	167	.9	.9	167	2.5	SSE	72	-12.1	****	355	16
17	-3.3	-11.3	-7.3	168	.8	.8	167	2.5	SSE	71	-10.8	****	365	17
18	-5.6	-10.3	-8.0	169	.8	.9	160	2.5	SSE	72	-12.4	****	165	18
19	6.3	-12.3	-3.0	157	1.8	1.9	154	12.1	SSE	52	-9.9	****	390	19
20	6.4	2.4	4.4	150	4.5	4.9	144	14.6	SE	54	-4.8	****	130	20
21	6.0	-.2	2.9	135	1.2	1.6	134	8.9	SE	59	-3.9	****	65	21
22	.1	-7.9	-3.9	***	****	.6	***	1.9	***	82	-4.7	****	95	22
23	-2.4	-5.9	-4.2	***	****	.6	***	2.5	***	71	-8.1	****	115	23
24	-4.2	-7.5	-5.9	***	****	.9	***	3.2	***	71	-9.5	****	55	24
25	-7.7	-18.6	-13.2	***	****	.9	***	2.5	***	70	-18.4	****	100	25
26	-10.8	-18.9	-14.9	***	****	.8	***	2.5	***	68	-21.1	****	70	26
27	-10.5	-15.3	-12.9	***	****	.8	***	1.9	***	70	-16.5	****	80	27
28	-6.1	-12.0	-9.1	***	****	.6	***	1.9	***	72	-15.1	****	85	28
29	-7.0	-13.4	-10.2	***	****	.5	***	1.9	***	73	-13.1	****	85	29
30	3.7	-10.5	-3.9	***	****	.6	***	5.1	***	72	-7.6	****	115	30
MONTH	6.5	-22.5	-7.5	160	1.0	1.1	144	14.6	SSE	65	-13.0	****	12567	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 13.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.1

RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.24

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EKLUTNA WEATHER STATION

November, 1984

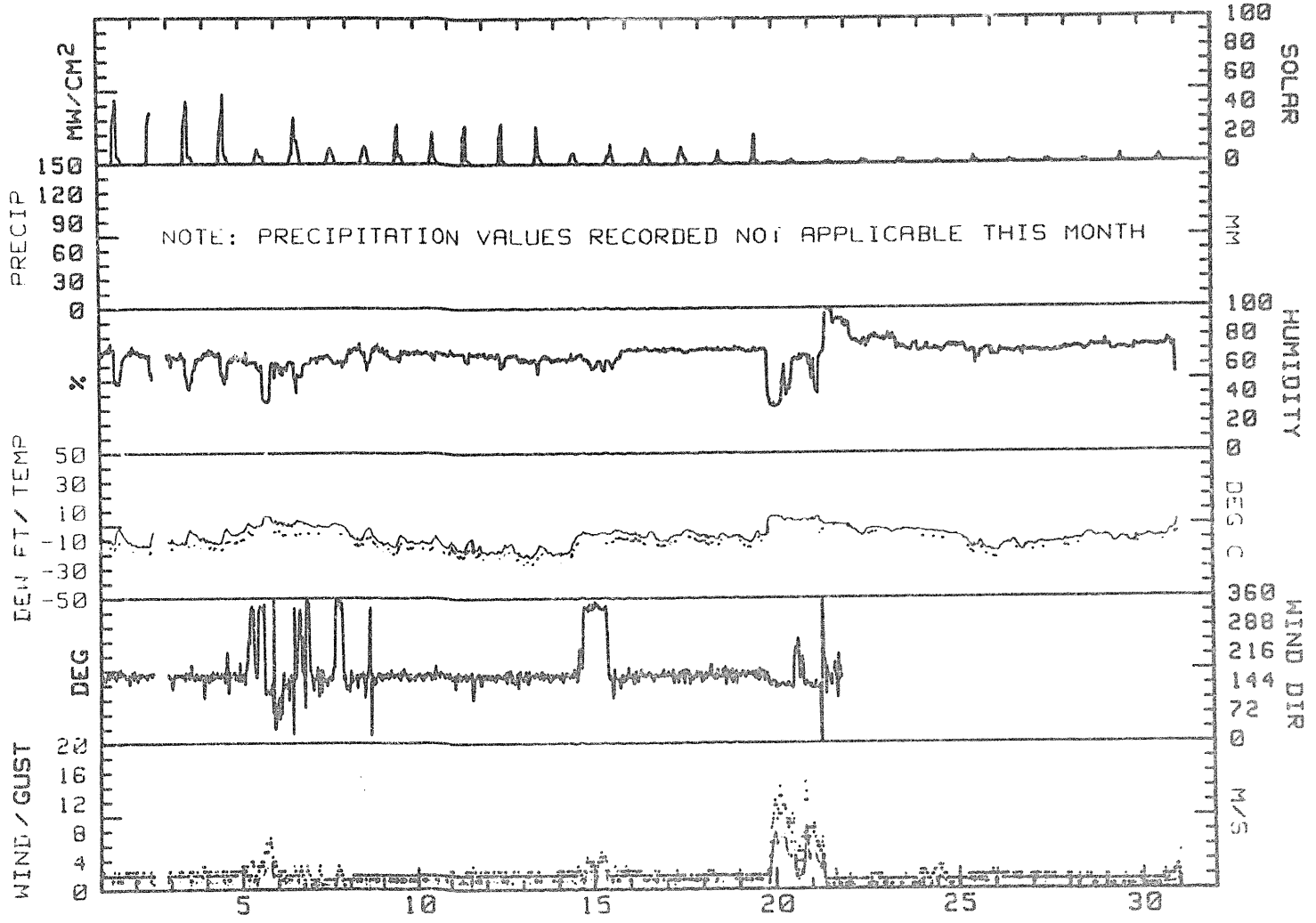


TABLE B.25

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR EKLUTNA WEATHER STATION
DATA TAKEN DURING December, 1984

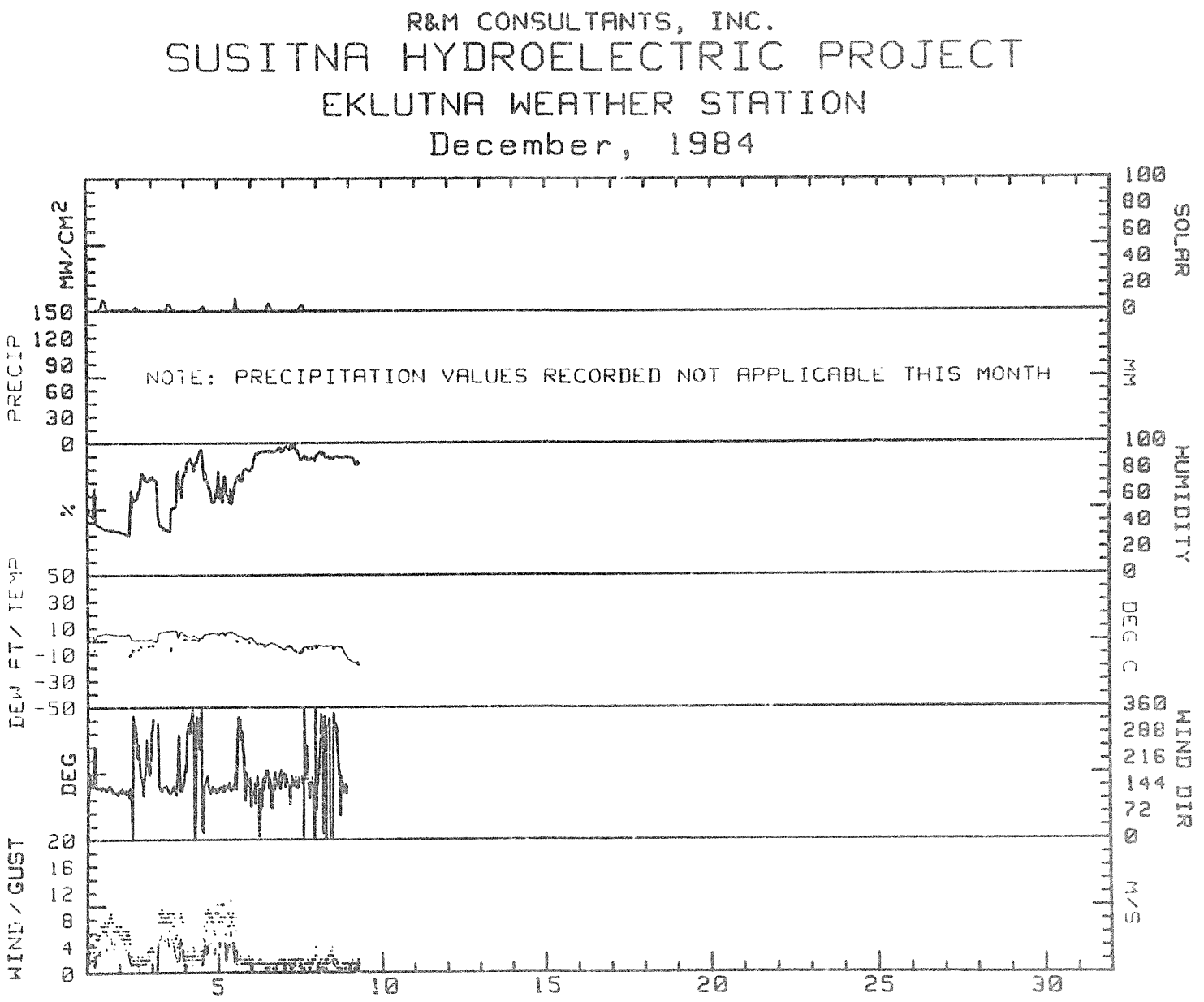
DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	5.7	-.9	2.4	139	3.2	3.3	148	8.9	SE	38	-8.9	****	370	1
2	5.1	-.1	2.5	147	.9	1.6	126	7.0	SE	49	-8.0	****	145	2
3	7.9	-.8	3.6	143	3.4	3.4	131	9.5	SE	50	-3.7	****	230	3
4	6.3	1.7	4.0	138	1.4	2.5	136	10.2	SE	75	.1	****	100	4
5	7.2	.7	4.0	143	2.2	2.6	133	10.8	SE	65	-.7	****	160	5
6	1.8	-7.0	-2.6	150	.5	.6	121	1.9	SSE	95	-5.4	****	165	6
7	-3.3	-9.3	-6.3	152	.5	.7	356	3.8	SSE	92	-6.7	****	155	7
8	-3.6	-14.9	-9.3	339	.4	.7	004	3.8	NW	89	-5.6	****	15	8
9	-14.8	-17.7	-16.3	***	****	.6	***	1.9	***	85	-17.8	****	3	9
10	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	10
11	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	11
12	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	12
13	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	13
14	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	14
15	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	15
16	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	16
17	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	17
18	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	18
19	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	19
20	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	20
21	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	21
22	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	22
23	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	23
24	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	24
25	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	25
26	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	26
27	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	27
28	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	28
29	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	29
30	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	30
31	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	31
MONTH	7.9	-17.7	-2.0	142	1.5	1.9	133	10.8	SE	59	-6.3	****	1340	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.6
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 8.3

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

FIGURE B.25


R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
EKLUTNA WEATHER STATION
December, 1984
SOLAR
MW/CM2
100
80
60
40
20
0
PRECIP
150
120
90
60
30
0
MM
NOTE: PRECIPITATION VALUES RECORDED NOT APPLICABLE THIS MONTH
HUMIDITY
%
100
80
60
40
20
0
DEW PT / TEMP
DEG C
50
30
10
-10
-30
-50
WIND DIR
DEG
360
288
216
144
72
0
WIND / GUST
M/S
20
16
12
8
4
0
5
10
15
20
25
30

APPENDIX C

APPENDIX C

ICE OBSERVATIONS AND FIELD WEATHER OBSERVATIONS

Ice Conditions at Eklutna Lake - Winter of 1983-84

With the importance of the ice cover to the winter energy balance (and thus to the DYRESM modelling), special efforts were made to document the timing, extent, and characteristics of the lake freeze-up and breakup processes. Sources of information were field observations by R&M staff, Chugach State Park Rangers, and USGS personnel, and information published in an Anchorage newspaper. The following is a summary of freezeup and breakup lake observations.

The various field observations from the period of advanced fall overturn in November, through freeze-up and winter ice cover, to final disappearance of the lake ice in May are listed in Table 1. Important aspects worthy of note are:

- The temperature of outflow (at the powerhouse) first dropped to 4°C on November 22, 1983, indicating the water in the lake at the north end may have cooled sufficiently to begin cooling and freezing the surface water.

- The first ice on the lake was observed December 3 and December 4, 1983. A bridge had apparently formed across the narrow part of the lake near Station 10. Once the bridge forms, movement of surface waves along the lake is inhibited, which will enhance the freeze-up process.

- The north half of the lake was essentially ice covered on December 8, 1983. The south end was still open on December 9, 1983.

- The south half of the lake had developed its ice cover by December 12 - December 14, 1983.

- The ice thickness was approximately 30 cm at Station 15 on January 1, 1984.

- The snow on the lake melted during a rainy thaw period around January 12, 1984, but the surface had re-frozen solidly by January 16. 1984. The ice thickness on January 16, 1984 averaged 28 cm at 3 stations.

- The ice thickness on February 16 averaged 36 cm at 3 stations.

- Pain fell at the lake in early March.

- The March 23, 1984 ice thickness averaged 41 cm at 4 stations.

- The area near the power intake was the first to melt open, starting to lose its ice cover by April 15, 1984.

- The lake was still covered with ice and snow on April 20, 1984, but overflow and rainfall that day probably saturated all the snow and reduced its insulation effectiveness.

- The open area near the power intake had grown by May 6, 1984, and there may have been a continuous open lead up the whole length of the lake by then.

- The lake was completely open on May 17, 1984.

TABLE C.1

Summary of Eklutna Lake Ice Observations, Winter of 1983-84

Date	Source of Information	Description
11/01/83	R&M Field Trip	Lake profiles taken. Lake isothermal at 5-6°C (a little cooler at North end).
11/22/83	Ak Power Admin.	Outflow temperature first drops to 4°C (back up to 5°C the next day).
12/03/83	R&M Observation	No ice on lake as far as visible from north end except for small (180 m^2) free-floating piece. May be continuous ice cover further south, starting near Station 10. Ice along north shore in very small, local pockets. Ground at lake level is about 5% snow-covered, 100% snow-covered above 900 m level. Took photos.
12/04/83	R&M Observation	Ice in place along SW shore at 10:30 a.m. near Stations 11 and 12 but broken up by SE wind by 12:30 p.m. Climbed up hill to north of lake and observed ice bridge across lake near Station 10. Ice stayed intact through wind. Lake surface was open further south.
12/06/83	R&M Field Trip	Ice sheet across lake near Station 10 (see Figure 1). Area covered was about 50 ha. Ice thickness ranged from 3-10 cm,

TABLE C.1, cont.

		thicker further south. Water temperature ranged from 1.4° at the surface to 3.5°C at the bottom (21m) at Station 15. Later in the day, cold temperatures and calm winds allowed formation of a skim of ice on the southwest half of the open water from Station 10 to the northwest end of the lake. Noted that sun never shone on north half of lake at all (blocked by mountains). Took photos.
12/08/83	R&M Observation, QUADRA Surveyor	North half of lake is frozen completely except for 2 small open areas, one about 1 ha and the other about 100 m^2. Heard from surveyor working in the area that large area had frozen up since yesterday: a 30 m wide corridor along the northeast shore from the northwest tip of the lake to almost Station 11 (roughly 10 ha, total).
12/09/83	Chugach State Park (CSP)	Ranger returned from a glacier trip today. No ice at south end of lake. The north end is frozen.
12/12 - 12/14/83	CSP Ranger	Lake frozen completely, except at the edges (observation made sometime in 12/12-12/14 period).
12/17/83	Newspaper Report	Anchorage Daily News started weekly feature of reporting snow and weather conditions for local recreation areas Reports

TABLE C.1,

		obtained from Chugach State Park rangers. Reported 20 cm snowfall this week, unknown accumulation after settling. Lake frozen but ice questionable.
12/24/83	Newspaper Report	Surface condition unknown, likely hardpack around lake. No new snow; accumulation about 4 cm. Lake partially frozen; use caution.
12/26/83	CSP Ranger	Snowmachines on lake, people running around. Two inches snow cover and surface hoar on lake.
12/31/83	Newspaper Report	No new snow in past week, accumulation about 4 cm. Lake partially frozen.
01/01/84	R&M Observation	Ice thickness = 30 cm near Station 15. Depth of snow and surface hoar frost on ice is 3-5 cm. Weather has been cold and calm the past few days. Freezing rain today, about -3°C. Noted transverse line of rough ice across lake between Stations 9 and 5 (which were both marked with buoys), probably due to ice being stacked up by wind and waves from the southeast prior to freeze-up.
01/03/84	USGS	Went up to maintain lake level recorder. Weather was very warm and quite windy. Quite a bit of overflow and lots of water on the ice.

TABLE C.1, cont.

01/05/84	CSP Ranger	Total snow accumulation of 20 cm.
01/12/84	R&M Field Trip	Strong, warm southeast wind over lake, air temperature = 6°C at 10:00 a.m. Much ponded water on lake and patches of open water along the shore. Took photos.
01/15/84	R&M Observation	Clear, calm, and very cold (-18°C at 5:00 p.m.). Sharp contrast to today's weather in Anchorage (which is wet, foggy, about 0°C all day). Eklutna had low-level fog over most of the lake. There was 10 cm of fresh, light snow on the lake, which had probably fallen yesterday (when it snowed in Anchorage also). No evidence of snow thawing after it fell. Skiers who went to near Station 10 or 9 reported no open water.
01/16/84	R&M Field Trip	Clear, calm and cold (0°F) at the lake. Ice thicknesses of 29 cm, 28 cm, and 24 cm at Stations 15, 9 and 5 respectively. Three inches of fresh, light snow at each station.
01/21/84	Newspaper Report	Lake well frozen, 5-9 cm snow over glare ice. Area open to snowmachines.
01/27/84	USGS	Lake frozen, about 5 cm snow on ice.
01/28/84	Newspaper Report	Six inches of powder remains on the lake.

TABLE C.1, cont.

02/04/84	Newspaper Report	Trace of new snow, 7-10 cm old snow on lake.
02/16/84	R&M Field Trip	Overcast, slight breeze, snowing, about 15°F. Ice thicknesses of 41 cm, 36 cm, and 33 cm at Stations 15, 9, and 5, respectively. Snow depths (same order) were 9 cm, 24 cm, 28 cm. Encountered overflow 8-10 cm deep just to north of Station 5.
02/18/84	Newspaper Report	Settled powder, ski conditions good on the road. New snow data unavailable; base about 30-36 cm settled. Snowmachining good on the lake with areas of overflow at far end (south end) of lake.
02/25/84	Newspaper Report	Powder; skiing excellent. No new snow. Snowmachining excellent.
03/03/84	R&M Observation	Mostly clear sky, moderate south breeze, heavy clouds to south (over mountains and glaciers), 1°C. Sun shone on entire lake today from fairly high angle - probably has been shining onto whole lake for several weeks.
03/03/84	Newspaper Report	Trace of new snow, settled accumulation about 40 cm.
03/10/84	Newspaper Report	Hard-packed and icy. Rain in recent days. Settled accumulation about 20-25

TABLE C.1, cont.

		cm. Snowmachining discouraged on lake due to overflow.
03/23/84	R&M Field Trip	Clear sky, no wind all day, temperature = 3°C at 1445 AST at weather station. Ice thicknesses of 45 cm, 45 cm, 40 cm, and 35 cm at Stations 15, 9, 5, and 2, respectively. Lake clear of snow. All overflow on lake frozen. Lots of cracking of ice today. Lots of snow on hills above 600 m elevation, almost bare below 600 m.
04/15/84	R&M Observation	Lake still ice-covered except for open water area (approximately 100 m long, 50 m wide) next to shore at power plant intake and small open lead (approximately 2 m x 4 m) at mouth of stream flowing out of north end parking lot. Parking lot stream is still ice-covered. No snow or overflow on top of lake ice. Snow almost completely gone from hills around lake except on north-facing slopes. Ice thickness of 38 cm at Station 15. Weather: overcast but clearing at 10:30 a.m. Light and steady north wind, snow flurries, approximately 4°C.
04/20/84	R&M Field Trip	High overcast with 8-12 m/sec wind from southeast. It has snowed several nights this week already (storm on April 15 left 15 cm wet snow in the Anchorage bowl, up to 20 cm on Anchorage hillside. Anchorage weather today is snowing ,

TABLE C.1, cont.

		calm, 0°C, 2 cm snow accumulated overnight). Weather at lake (weather station) at 1600 AST = overcast, light drizzle , light wind variable between southeast and northwest, temperature = 7.1°C. Encountered rain/sleet and strong southeast wind after that, which made snow on lake surface all wet. Ice thicknesses of 36 cm and 34 cm at Stations 15, and 11, respectively. Lake has snow over entire surface but 1.5 km or so at south end has overflow within the snow - flow is apparently coming from mouth of stream or that vicinity.
05/06/84	R&M Observation	Still mostly ice-covered, with large open-water area along NE shore up to near Station 10 (approximately 5 km long by 0.2 km = 1.0 square km). The rest of the ice on the lake is dark, obviously floating and saturated. Distinct difference in color between floating (dark) and grounded (white) ice. Weather: clear, calm, nearly dark at 10:00 p.m. AST, approximately 3°C. The open water along the shore is probably due to solar melting. The solar effects are probably stronger at the south end of the lake, so it may also be open.
05/06/84	CSP Ranger	Lake ice is pretty broken up - suspect there's open water continuous from end to end.

TABLE C.1, cont.

05/17/84	R&M Field Trip	Lake complete open. Clear, sunny day, moderate breeze form northwest, air temperature approximately 15°C. Lake surface (water) temperature was 6-7°C, bottom temperature about 4°C.

Summary of Eklutna Lake Freeze-Up Observations
November through December, 1984

Special efforts were again undertaken in the late fall of 1984 to observe ice formation on Eklutna Lake. All observations were taken by R&M personnel during lake profiling and ice observation trips.

- The first ice was observed on Eklutna Lake near the mouth of Eklutna Creek on November 12. Shelf ice had formed at the shore of the lake near the streams mouth and frazil collected in the immediate area. Water temperatures at the inflow stream previous week (11/9) ranged from 0.0 °C to 0.1 °C. Lake temperatures at sampling stations ranged from a low of 3.0 °C on the surface at Station 1 to 4.6 °C throughout Station 9.

- Drifting frazil ice covered approximately 8% of the lake surface during the profiling trip of November 26. The ice was confined mainly to the center of the of the lake between Stations 7 and 8 in the coves of the SW shore. The lake had overturned with bottom temperatures at around 3.5 °C, being warmer than those at the surface generally 2.5 °C.

- On November 30 the entire southern section of the lake had frozen comprising 75% of the lake surface area. The ice was thickest (12 cm near the shore) at the narrowest section, and thinner farther south (2 cm near the shore). Drifting ice was seen in the northern open section.

- A Chinook wind blew warm weather and rain into the area between November 30 and December 3. On December 3 the same areas of the lake were frozen as on November 30. No frazil ice was seen, and there was water over the ice on the southern section. Ice thickness measurements near the same location as the previous trip indicated that the ice was thicker at 3 cm.

- Falling temperatures and continued cold weather caused the lake to be 90% frozen by December 7. Large areas of drifting ice covered much of the northern end of the lake.

- By December 10 the lake was 99% frozen. The only open portion was an area approximately 4,000 square meters along 80 meters of the southern shore in the northern part of the lake.

- On December 14th the lake was 100% frozen.

Attached is a tabulation of weather observations made during field trips since the start of the glacial lake study at Eklutna Lake in May 1982.

Three types of observations are included in the list. The source of each observation is also identified in the list. The types are:

1. Observations by R&M crews during data-collection trips to the lake;

2. Notes by visitors to the cabin at the south end of the lake, transcribed from the cabin logbook; and

3. Observations made by USGS personnel during installation or maintenance of their lake level recorder since June 1983.

s4/ff1

TABLE C.2
EKLUTNA LAKE WEATHER OBSERVATIONS
May 1982 Through January 1984

Date	Time	Source	Observation
5-16-82		2	Clear, calm, snow and ice on road
5-25-82		1	Cloudy
5-29-82		2	Windy from North
5-30-82		2	Clear
6-8-82		1	Clear, windy
6-10-82		2	Light rain, warm
6-12-82		2	Cloudy, high winds
6-17-82	1100	1	Partly sunny, light breeze from SE, 11.5°C
6-24-82		2	Clear, hot
6-25-82		1,2	Clear, calm, 60+°F
7-1-82		1	Strong wind from SE, 55°F
7-9-82		1	Overcast, 55-60°F
7-14-82		1	Clear, wind from NW starting at 1245
7-15-82		1	Partly cloudy, calm in AM
7-20-82		2	Windy at noon, calm in PM
7-24-82		2	Raining
7-27-82		1	Clear, light NW wind, 70+°F
7-28-82	0900	1	80 percent cloud cover, calm, 60°F
7-31-82		2	Clear, calm
8-5-82		2	Clear, calm
8-8-82		2	Intermittent rain and sun
8-10-82		1	Overcast, wind in afternoon, snow at 5000 ft
8-11-82		1	Overcast, rain all night stopped in AM, strong wind
8-12-82		1	Calm, 48-50°F in AM, SE breeze at noon, NW in evening
8-24-82		1	Partly cloudy, wind from NW
8-25-82		1	Overcast, calm, 15°C, light rain starting at noon.
8-29-82		2	Rain, snow in mountains
9-9-82	AM	1	Partly cloudy, calm 17°C
	1000	1	Clear, SE, wind, 19°C
9-18-82		2	Windy
9-19-82		2	Raining
9-21-82	AM	1	SE winds
	Noon	1	Calm, downpour
	evening	1	Clear, NW wind
9-30-82		2	Snow, wind

1) R&M field observations; 2) notes from cabin log at S end of lake.
3) USGS field notes.

TABLE C.2, cont.
EKLUTNA LAKE WEATHER OBSERVATIONS
May 1982 Through January 1984
(cont')

Date	Time	Source	Observation
10-4-82		2	Calm, rainy
10-5-82		2	Clear, calm
10-8-82		1,2	6-10 inches new snow
10-9-82	0000-1700	1	Snowing, 9 inches new snow, 33°F
10-14-82	AM	1	Snowing, slight wind from N, 0°C
	noon	1	Clearing, 2.4°C
10-30-82		2	Clear
10-31-82		2	22°F, 6-12 inches snow on ground, no ice on lake
11-1-82		2	Raining
11-3-82		2	Snowing, mid 20°, no ice on lake
11-4-82		1	Overcast, snow flurries, variable N breeze, 26°F
11-6-82		2	Overcast, some snow
11-7-82		2	Clear
11-23-82		2	Cloudy, 25°F, 6-10 inches snow on ground Thin layer of ice on lake
12-23-82		2	Clear, windy, -8°F
12-24-82		2	Partly cloudy
1-11-83		1	Clear, calm, cold, variable winds
1-15-83		2	Cloudy and mild
1-29-83		2	Clear and calm
2-11-83		2	-10°F
2-15-83		1	Clear, calm, -22°C
2-18-83		1	Overcast, calm, -6°C
2-20-83		2	Clear, calm
2-21-83		2	Partly sunny, 1" new snow
3-3-83		2	Clear, calm, 30°F
3-4-83		2	Clear
3-18-83		2	Clear, calm, 30+°F
3-22-83		2	Clear, 40°F
3-23-83		1	Clear, calm
3-27-83		2	Clear

1) R&M field observations; 2) notes from cabin log at S end of lake.
3) USGS field notes.

TABLE C.2, cont.
EKLUTNA LAKE WEATHER OBSERVATIONS
May 1982 Through January 1984
(cont')

Date	Time	Source	Observation
4-17-83		2	Overcast
4-24-83		2	Clear
5-8-83	AM	2	Few clouds, temperature 51°F
5-14-83	1045	1	Overcast, slight wind from S, 55°F
5-22-83		2	Rainy
5-27-83		2	Clear, windy
5-28-83		2	Windy
5-30-83		2	Overcast, drizzling
6-1-83	0830	1	Broken overcast, wind from N, 50°F
	1200	1	Clear, east wind
	1800	1	Clear, north wind
6-2-83		1	Overcast and drizzle, wind from N
6-4-83		2	Cloudy, cool
6-12-83		2	Cloudy
6-17-83		1,2,3	Clear and hot
6-18-83		2	Clear and hot
6-21-83		1,2	Clear and hot
6-22-83		2,3	Clear, windy
6-29-83		2	Windy
7-2-83		2	Light rain
7-5-83		1	Partly sunny, light N wind, 60°F
7-6-83	1100	1	Overcast, drizzle, 11°C
	1500	1	Rain stopped
7-9-83		2	Windy
7-24-83		2	Cloudy
8-2-83		1,3	Clear and calm
8-3-83	1000	1	Clear, calm
	1500	1	Wind from N
8-6-83		2	Light rain
8-19-83		2	Light rain
8-21-83	1340	2	Cloudy, occasional light rain, light winds, 58°F
8-22-83		2	Rained all night
8-23-83		3	Partly sunny, calm

1) R&M field observations; 2) notes from cabin log at S end of lake.
3) USGS field notes.

TABLE C.2, cont.
EKLUTNA LAKE WEATHER OBSERVATIONS
May 1982 Through January 1984
(cont')

Date	Time	Source	Observation
9-3-83		2	Cloudy, 50°F
9-4-83		2	Rainy, fog, 40°F
9-5-83		2	Nice day
9-7-83		1,2	Partly sunny, calm, 50°F
9-8-83		3	Cloudy, slight mist, drizzle
9-17-83		2	Sunny and glorious
9-27-83		2	Rainy evening
10-5-83	AM	1	Partly cloudy, high thin clouds, S wind, 40°
	1200	1	N breeze, 7.4°C
10-6-83	AM	1	Cloudy, rain changing to snow, wind from W, 40°F temperature dropped from 36 to 33°F between 0700 and 0800, stopped snowing and blowing at 0900. Clearing toward noon with slight breeze from W
11-1-83		1	Partly cloudy, calm, 10 inches new snow on ground
12-3-83		1	Clear, calm, 20°F
12-4-83		1	Overcast, wind from SE, 30°F
12-5-83		2,3	Clear, shore ice on lake, open in center
12-6-83		1	Clear, calm, 20°F
12-7-83		2	Clear
12-8-83	1145	1,2	Clear calm, 17°F at N end of lake northern ½ of lake almost 100% ice covered
12-9-83		2	Clear
12-10-83		2	Light snow last night, +6°F
12-21-83		2	Clear
12-22-83		2	Clear
12-26-83		2	Nice

1) R&M field observations; 2) notes from cabin log at S end of lake.
3) USGS field notes.

TABLE C.2, cont.
EKLUTNA LAKE WEATHER OBSERVATIONS
May 1982 Through January 1984
(cont')

Date	Time	Source	Observation
1-1-84	1145	1	Overcast, snowing, calm, 18°F
	1330	1	Raining, calm, 25°F, 2inches snow at S end
	1530	1	Light drizzle, 26°F
1-6-84		2	Clear, cold
1-7-84		2	Clear, cold
1-12-84		1	Overcast, raining, strong SE wind, 42°F
1-15-84	1700	1	Clear, calm, 0°F at N end of lake
1-16-84	AM	1	Clear, calm, 0°F, 3 inches new snow
	1600	1	Overcast, calm
1-27-84		3	Lake frozen, about 2 inches snow on ice

1) R&M field observations; 2) notes from cabin log at S end of lake.
3) USGS field notes.

APPENDIX D

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APPENDIX D

INFLOW WATER QUALITY DATA - EAST FORK AND GLACIER FORK

TABLE D.1

EAST FORK

TABLE D.1

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MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: May, 1984

3. INFLOW/OUTFLOW DATA
(East Fork)

Date	Time AST	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C(umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
5/18	[illegible]	EF	2.43	77	65	5.7	153	N/A	2.9	3.7	Gaging stations installed Q's from measurements
5/22	N/A	EF	2.48	73	73	5.6	140	N/A	3.2	2.2	
5/25	N/A	EF	2.49	74	74	4.4	N/A	N/A	N/A	2.3	
5/29	N/A	EF	2.47	71	71	2.0	132	N/A	2.7	0.8	

NOTE: Abbreviations used - N/A Not Available, EF = East Fork, GF = Glacier fork, TR = Tailrace, TSS = Total Suspended Solids.

TABLE D.1 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (East Fork) Month: June, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
06/01/84	1200	2.43	87	7.1	N/A	N/A	83	4.8	3.2	
06/05/84	1128	2.73	162	6.4	120	N/A	162	12	12	
06/08/84	1245	2.71	165	5.6	123	N/A	155	12	4.0	
06/12/84	1130	2.80	187	5.1	110	1.5	187	2.4	12	
06/15/84	1255	2.78	179	4.8	108	1.5	179	21	6	
06/19/84	1050	2.92	261	6.2	104	1.1	237	34	26	
06/22/84	1050	2.97	304	5.9	91	0.5	261	78	77	
06/26/84	1045	3.09	346	4.1	86	0.3	327	290	257	
06/29/84	1000	2.99	310	5.5	80	0.5	271	130	83	

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

TABLE D.1 (cont.)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

A.
INFLOW/OUTFLOW DATA
(East Fork)

MONTH: July 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @25°C(Umho/cm)	Secchi Disk (ft)	Instant Q (cfs)	Turbidity (NTU	TSS (mg/l)	Remarks
7/3/84	1045	2.90	170	4.9	85	0.5	170	110	48	
7/6/84	0920	3.26	371	6.4	N/A	0.2	321	180	156	Temp at 1110 AST Secchi from LB d/S of bridge
7/10/84	1119	3.27	331	6.0	78	0.5	326	110	72.5	Temp,turb, TSS, Cond & Secchi from LB 10m d/s of bridge
7/13/84	1056	3.11	248	5.0	75	0.5	261	80	53	T=Tryan + 0.5°C
7/17/84	0953	3.06	235	4.6	76	0.5	227	82	50	
7/20/84	1600	3.08	223	6.1	75	0.8	235	98	45	
	1800	3.09		5.6	74	0.7	240	110	61	
	2000	3.09		5.6	73	0.7	240	110	64	
	2200	3.08		5.6	73	0.6	235	108	50	
	2400	3.07		5.0	73	N/A	231	108	50	
7/21/84	0200	3.06	261	5.0	74	N/A	227	105	45	
	0400	3.06		4.4	78	0.7	227	107	42	
	0545	3.06		4.4	78	0.7	227	83	38	
	0830	3.05		5.3	82	0.8	223	83	46	
	1030	3.07		6.4	71	0.7	231	91	45	
	1230	3.12		8.3	69	0.5	252	128	73	
	1430	3.16		8.9	69	0.5	271	155	102	
	1630	3.21		8.9	61	0.4	295	200	188	
7/24/84	1010	3.20	321	5.8	62	N/A	290	196	132	
7/27/84	1010	3.11	275	5.6	67	0.5	248	44	53	All cond. & turb. values for 8/27 & 8/31 are from Chem/Geo.
7/31/84	1025	3.16	280	6.1	56	0.6	271	50	58	

NOTE: Abbreviations used - N/A = Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Soilds, Chem/Geo = Chemical & Geological Laboratories of Alaska, Inc.

TABLE D.1 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (East Fork) Month: August, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
08/03/84	1134	N/A	476	7.0	N/A	N/A	N/A	70	126	Mean daily Q is estimated for East Fork.
08/07/84	1030	3.36	483	6.5	50	0.3	527	85	143	Mean daily Q is estimated for East Fork.
08/10/84	1121	3.28	493	5.1	N/A	0.6	460	55	75	
08/14/84	1015	3.10	365	4.7	65	0.6	333	76	44	
	1200	3.13		6.2	61	0.6	352	84	89	
	1400	3.17		7.5	60	0.6	379	104	56	
	1600	3.20		7.5	57	0.6	400	96	82	
	1800	3.24		6.8	55	0.5	429	132	123	
	1930	3.25		5.9	58	0.4	436	120	110	
	2300	3.24		4.5	64	N/A	429	116	N/A	
	2400	3.22		4.4	61	N/A	414	108	78	
08/15/84	0200	3.18	392	4.1	64	N/A	385	120	96	
	0430	3.16		4.0	61	N/A	372	96	66	
	0600	3.14		3.9	64	0.5	359	80	51	
	0800	3.12		3.9	64	0.5	346	88	48	
	1000	3.12		4.6	72	0.6	346	66	51	
	1200	3.14		6.5	113	0.6	359	72	48	
08/17/84	1130	N/A	421	5.8	N/A	N/A	N/A	100	64	
08/21/84	1035	3.12	392	4.8	N/A	0.7	346	110	91	
08/24/84	1110	3.06	519	5.0	N/A	1.0	310	53	76	
08/28/84	1030	2.86	219	3.7	N/A	0.9	211	27	18	Q Inst. from discharge measurement.

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

TABLE D.1 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (East Fork) Month: September, 1984

Date	Time ASI	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
09/01/84	1100	2.65	140	4.2	104	1.4	137	7.0	7.4	
09/04/84	1315	2.61	102	5.5	105	1.4	96	9.0	4.6	
09/06/84	1030	2.59	131	3.9	104	1.4	120	10.5	5.4	
09/11/84	1010	2.58	125	3.8	104	1.4	117	10.6	0.8	
09/14/84	1023	2.69	187	4.7	104	1.4	149	17.5	16	
09/18/84	1030	2.56	112	4.5	112	1.4	112	11.5	4.4	
09/21/84	1045	2.47	92	2.7	108	1.4	92	2.9	3.8	GH & mean daily Q est.
09/25/84	1100	2.42	83	4.6	131	1.4	81	2.2	1.7	GH & mean daily Q est.
09/28/84	1115	2.40	83	4.3	N/A	1.3	78	1.95	1.1	

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

TABLE D.1 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (East Fork) Month: October, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
10/02/84	1330	2.75	183	4.9	106	1.3	168	30	35	
10/05/84	1000	2.57	120	3.5	125	> 3.0	129	7.4	7.9	Secchi indicates clear view to bottom at a depth scour area d/s of gage. Q inst. is from a discharge measurement.
10/09/84	1215	2.54	103	3.3	130	> 3.0	107	3.2	3.3	
10/12/84	1250	2.44	85	2.9	128	> 3.0	85	2.1	1.1	
10/16/84	1030	2.37	71	1.3	142	> 3.0	72	1.6	0.15	
10/19/84	1130	2.33	66	2.2	142	> 3.0	66	1.1	2.1	
10/23/84	1130	2.38	74	2.2	145	> 3.0	74	1.6	1.1	
10/26/84	1030	2.26	55	N/A	152	> 3.0	55	0.9	1.8	Q inst. is from a discharge measurement.
10/30/84	1217	2.18	45	1.7	151	> 3.0	45	1.3	4.1	GH estimated, water surface is below orifice in stilling well.

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

TABLE D.1 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (East Fork) Month: November, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
11/02/84	1315	2.11	37*	0.9	149	> 3	37	0.8	0.61	GH from levels.
11/06/84	1300	2.17	44*	2.1	142	> 3	44	0.74	0.38	GH from levels.
11/09/84	1220	N/A	35*	0.1	146	> 3	35*	0.85	0.30	
11/13/84	1330	N/A	25*	-0.1	168	> 3	27*	0.98	1.7	Ice damming, anchor ice, sheif ice.
11/16/84	1200	N/A	25*	1.0	156	> 3	27*	0.85	0.60	

*Estimate

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

TABLE D.2

GLA[illegible] FORK

TABLE D.2

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MONTHLY SUMMARY OF FIELD OBSERVATIONS - LKLUTNA LAKE

Month: May, 1984

3. INFLOW/OUTFLOW DATA
(Glacier Fork)

Date	Time AST	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C (umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
5/18	1700	GF	2.00	16	N/A	7.4	77	N/A	38	48	Gaging stations installed Q's from measurements
5/22	N/A	GF	2.07	20	20	2.2	93	N/A	45	18.9	
5/25	N/A	GF	2.03	18	18	3.9	N/A	N/A	N/A	11	
5/29	N/A	GF	1.93	14	14	0.0	113	N/A	22	6.4	

NOTE: Abbreviations used - N/A Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Solids.

TABLE D.2 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (Glacier Fork) Month: June, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
06/01/84	1100	1.90	17	5.9	N/A	N/A	13	32	7.6	
06/05/84	1025	N/A	58	2.6	71	N/A	N/A	77	77	
06/08/84	1220	3.05	102	1.9	81	N/A	113	120	301	
06/12/84	1250	3.08	118	1.9	64	0.4	118	120	128	
06/15/84	1335	3.07	111	1.6	60	0.4	116	140	135	
06/19/84	1130	3.37	194	2.4	77	0.2	177	500	526	
06/22/84	1050	3.66	256	2.3	59	0.3	256	180	154	
06/26/84	1130	3.84	252	1.4	66	0.25	317	420	341	
06/29/84	1025	3.90	356	2.4	55	0.25	340	350	297	

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

B. INFLOW/OUTFLOW DATA (Glacier Fork) MONTH: July 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @25°C(Umho/cm)	Secchi Disk (ft)	Instant Q (cfs)	Turbidity (NTU	TSS (mg/l)	Remarks
7/3/84	1120	3.94	356	1.4	34	0.2	356	580	514	
7/6/84	1610	4.54	597	1.6	N/A	0.2	647	430	568	
7/10/84	1226	4.46	603	N/A	55	0.2	622	500	572	
7/13/84	1207	4.23	480	N/A	49	0.2	490	430	417	
7/17/84	1050	4.07	417	0.9	44	0.3	412	220	248	
7/20/84	1640	4.16	431	0.8	35	0.4	455	220	264	
	1830	4.10		1.6	34	0.4	426	220	246	
	2030	4.15		1.6	34	0.4	450	230	216	
	2230	4.11		1.6	38	0.4	431	220	216	
7/21/84	0030	4.11	511	1.6	38	N/A	431	230	226	
	0230	4.10		1.6	38	N/A	426	250	213	
	0430	4.11		1.6	38	0.4	431	240	259	
	0610	4.12		1.6	41	0.4	436	210	263	
	0900	4.14		1.4	43	0.3	445	250	247	
	1100	4.21		1.9	39	0.3	480	260	293	
	1300	4.32		2.5	32	0.3	539	240	271	
	1500	4.35		2.5	30	0.3	556	260	313	
	1700	4.39		1.6	27	0.3	579	310	493	
7/24/84	1120	4.39	591	1.8	34	0.3	579	300	228	
7/27/84	1050	4.31	533	1.7	36	0.3	533	144	297	
7/31/84	1105	4.33	550	1.7	34	0.2	545	146	373	

NOTE: Abbreviations used - N/A = Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Soilds, Chem/Geo = Chemical & Geological Laboratories of Alaska, Inc.

TABLE D.2 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (Glacier Fork) Month: August, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
08/03/84	1237	4.61	687	2.7	N/A	N/A	722	130	380	
08/07/84	1300	4.74	772	2.7	20	0.2	818	156	470	
08/10/84	1210	4.55	694	1.4	N/A	0.2	680	140	370	
08/14/84	1100	4.29	562	1.6	27	0.3	522	196	262	
	1230	4.41		1 9	24	0.2	591	220	217	
	1500	4.45		1.7	24	0.2	616	228	349	
	1700	4.49		1.4	21	0.4	641	220	336	
	1900	4.45		1.3	19	0.3	616	204	290	
	2015	4.46		1.2	21	0.4	622	180	235	
	2330	4.35		1.1	26	N/A	556	188	N/A	
08/15/84	0030	4.34	562	1.0	26	N/A	550	160	215	
	0230	4.28		1.0	31	N/A	517	180	228	
	0500	4.26		0.9	N/A	N/A	506	180	244	
	0630	4.22		1.0	31	0.3	485	188	226	
	0830	4.20		1.0	26	0.3	475	192	216	
	1030	4.22		1.3	42	0.2	485	196	225	
	1230	4.38		1.8	89	0.2	573	180	331	
08/17/84	1215	4.47	609	1.5	N/A	N/A	628	205	247	
08/21/84	1111	4.41	597	1.5	N/A	0.3	591	370	429	
08/24/84	1200	4.55	707	2.0	N/A	0.5	680	170	270	
08/28/84	1300	4.01	381	1.4	N/A	0.2	386	220	280	Q Inst. from discharge measurements.

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

TABLE D.2 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (Glacier Fork) Month: September, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
09/01/84	1145	3.41	194	1.1	40	0.4	186	120	203	
09/04/84	1420	3.30	161	1.4	29	0.5	161	85	87	
09/06/84	1115	3.19	146	1.5	46	0.6	138	95	107	
09/11/84	1050	3.02	123	1.1°C	43	0.5	108	90	102	
09/14/84	1106	3.29	199	1.1	35	0.4	159	57	183	
09/18/84	1117	3.13	129	1.4	48	0.5	127	127	126	
09/21/84	1120	2.82	79	0.7	70	0.5	79	100	72	
09/25/84	1130	2.70	69	1.6	54	0.8	65	49	45	
09/28/84	1145	2.61	62	1.3	52	N/A	56	31	36	

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

TABLE D.2 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (Glacier Fork) Month: October, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
10/02/84	1430	3.23	146	1.7	77	0.3	146	338	190	
10/05/84	1200	2.86	85	1.7	90	0.3	85	160	107	
10/09/84	1300	2.59	54	1.3	85	0.5	54	95	78	
10/12/84	1030	2.42	38	0.5	89	0.7	40	63	41	Q Inst. is from a discharge measurement.
10/16/84	1115	N/A	28	0.3	84	0.9	28	54	16	Stilling well frozen. From this date on Q estimated.
10/19/84	1200	N/A	24	0.0	85	0.4	25	50	40	
10/23/84	1330	N/A	28	0.7	95	1.0	25	45	30	
10/26/84	1250	N/A	25	0.0	102	1.0	24	50	23	
10/30/84	1314	N/A	20	0.0	109	1.0	20	47	14	

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

TABLE D.2 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (Glacier Fork) Month: November, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
11/02/84	1230	N/A	18*	0.0	N/A	1.0*	18*	N/A	N/A	Ice dam d/s of gage and water over, inbetween and below ice.
11/06/84	1230	N/A	15*	0.0	102	1.0	15*	41	27	
11/09/84	1130	N/A	10*	0.0	103	1.0	N/A	40	19	
11/13/84	1430	N/A	10*	-0.2	114	1.0*	N/A	36	24	
11/16/84	1230	N/A	10*	-0.1	112	1.0	N/A	35	1/	

* Estimate
NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

APPENDIX E

APPENDIX E
INFLOW QUANTITY DATA - EAST FORK AND GLACIER FORK

TABLE E.1

1983 EAST FORK MEAN DAILY DISHCHARGE

	May		June		July		August		September		October	
Day	GH ft	Q cfs	GH ft	Q cfs	GH ft	Q cfs	GH ft	Q cfs	GH ft	Q cfs	GH ft	Q cfs
1			3.20	290	3.54	502	3.37	384	3.00	204	2.86	157
2			3.15	266	3.53	494	3.44	429	3.00	204	2.78	135
3			3.09	240	3.53	494	3.48	457	2.94*	183	2.70	115
4			3.00	204	3.59	541	3.56	517	2.88*	164	2.65	104
5			2.97	193	3.62	566	3.62	566	2.82*	146	2.63	100
6			3.05	223	3.62	566	3.54	502	2.76*	130	2.61	96
7			3.07	231	3.56	517	3.53	494	2.68	111		
8			3.11	248	3.55	509	4.03	1014	2.69	113		
9			3.09	240	3.48	457	3.65	592	2.68	111		
10			3.02	212	3.41	409	3.50	472	2.67	108		
11			3.03	215	3.37	384	3.38	390	2.64	102		
12			3.04	219	3.36	378	3.31	348	2.61	96		
13			3.03	215	3.40	403	3.26	321	2.61	96		
14	2.53	81	3.08	235	3.43	423	3.16	271	2.59	92		
15	2.54	83	3.10	244	3.47	450	3.05	223	2.56	86		
16	2.55	84	3.12	253	3.52	486	2.98	197	2.54	83		
17	2.5*	76	3.14	261	3.54	502	2.98	197	2.52	79		
18	2.6*	94	3.23	305	3.45	436	3.00	204	2.50	76		
19	2.6*	94	3.30	343	3.42	416	3.01	208	2.50	76		
20	2.6*	94	3.42	416	3.43	423	3.02	212	2.76	130		
21	2.7*	115	3.41	409	3.42	416	3.05	223	2.86	157		
22	2.7*	115	3.43	423	3.44	429	3.03	215	2.89	167		
23	2.6*	94	3.55	509	3.65	592	3.05	223	2.74	125		
24	2.8*	140	3.53	494	3.55	509	3.01	208	2.71	117		
25	2.7*	115	3.52	486	3.45	436	3.04	219	2.65	104		
26	2.9*	170	3.51	479	3.38	390	3.01	208	2.61	96		
27	3.0*	204	3.53	494	3.40	403	3.01	208	2.59	92		
28	3.1*	244	3.55	509	3.45	436	3.05	223	2.58	90		
29	3.3*	343	3.47	450	3.49	464	3.08	235	2.82	146		
30	3.3*	343	3.46	443	3.44	429	3.11	248	3.17	275		
31	3.45*	436			3.39	396	3.04	219				
Tot		2,925		9,749		14,256		10,427		3,759		707
Avg		162		325		460		336		125		118
Max		436		509		566		1,014		275		157
Min		81		193		378		197		76		96

* Estimated

TABLE E.2

1984 EAST FORK EKLUTNA CREEK
MEAN DAILY DISHCHARGE (C.F.S.)

	May		June		July		August		September		October		Nov
Day	GH ft	Q cfs	GH ft	Q cfs	GH ft	Q cfs	GH ft	Q cfs	GH ft	Q cfs	GH ft	Q cfs	Q* cfs
1			2.45	87	3.00	277	3.18	386	2.66	140	2.98	266	37
2			2.52	103	2.94	247	3.24	429	2.64	134	2.79	183	37
3			2.61	125	2.90	228	3.30*	476	2.63	131	2.68	146	37
4			2.67	143	2.98	266	3,38*	546	2.64	134	2.62	128	33
5			2.73	162	3.22	414	3.44*	603	2.64	134	2.59	120	38
6			2.81	191	3.35	519	3.46*	623	2.63	131	2.58	117	44
7			2.76	172	3.42	583	3.42*	483	2.62	128	2.56	112	39
8			2.74	165	3.36	527	3.38	546	2.63	131	2.57	115	35
9			2.79	183	3.34	510	3.43	593	2.61	125	2.52	103	35
10			2.80	187	3.28	460	3.32	493	2.61	125	2.48	94	32
11			2.79	183	3.22	414	3.28	460	2.61	125	2.46	89	30
12			2.80	187	3.17	379	3.22	414	2.60	123	2.44	85	27
13			2.84	203	3.14	359	3.16	372	2.63	131	2.41	80	25
14			2.82	195	3.11	340	3.15	365	2.80	187	2.39	76	25
15			2.78	179	3.09	327	3.19	392	2.81	191	2.37	72	25
16			2.79	183	3.11	340	3.24	429	2.66	140	2.36	71	25
17			2.82	195	3.08	321	3.23	421	2.62*	128	2.34	67	
18	2.43	83	2.90	228	3.07	316	3.27	452	2.56	112	2.33	66	
19	2.45	87	2.97	261	3.06	310	3.63	818	2.54	107	2.33	66	
20	2.47	92	3.06	310	3.05	304	3.40	564	2.48	94	2.32	64	
21	2.48	94	3.09	327	3.16	372	3.19	392	2.47*	92	2.32	64	
22	2.48	94	3.05	304	3.24	429	3.20	400	2.46	89	2.41	80	
23	2.45	87	3.06	310	3.26	444	3.17	379	2.43	83	2.38	74	
24	2.48	94	3.08	321	3.26	444	3.35	519	2.41*	80	2.33	66	
25	2.49	96	3.15	365	3.22	414	3.46	623	2.43*	83	2.29	59	
26	2.47	92	3.12	346	3.17	379	3.20	400	2.42	81	2.26	55	
27	2.46	89	3.01	282	3.17	379	2.99	271	2.40	78	2.25	54	
28	2.46	89	2.95	251	3.18	386	2.88	219	2.43	83	2.22	50	
29	2.47	92	3.06	310	3.18	386	2.82	195	3.45	613	2.20	47	
30	2.46	89	3.03	293	3.18	386	2.74	165	3.11	340	2.18	45	
31	2.42	81			3.20	400	2.70	152			2.16	42	
Tot		1,259		6,751		11,860		13,580		4,278		2,756	
Avg		90		225		383		438		143		89	
Max		96		365		583		818		613		266	
Min		81		87		228		152		78		42	

* Estimated

TABLE E.3
1983 GLACIER FORK MEAN DAILY DISHCHARGE

	June		July		August		September		October	
Day	GH ft	Q cfs	GH ft	Q cfs	GH ft	Q cfs	GH ft	Q cfs	GH ft	Q cfs
1	3.15	130	4.08	417	4.31	533	-	-	3.16	132
2	3.08	118	4.11	431	4.32	539	-	-	3.06	114
3	2.94	96	4.18	465	4.44	609	-	-	2.95	97
4	2.78	74	4.3*	528	4.49	641	-	-	2.81	78
5	2.75	71	4.32	539	4.56	687	-	-	2.70	65
6	2.82	79	4.27	511	4.52	660	-	-	2.63	58
7	2.85	83	4.28	517	4.56	687	-	-		
8	2.92	93	4.28	517	5.16	1197	3.13	127		
9	2.95	97	4.23	490	5.03	1068	3.10	121		
10	2.93	94	4.13	440	4.86	915	3.08	118		
11	3.02	108	4.06	408	4.60	715	3.03	110		
12	2.96	99	4.05	403	4.48	635	2.96	99		
13	3.02	108	4.08	417	4.36	562	3.02	108		
14	3.08	118	4.23	490	4.12	436	2.87	86		
15	3.05	113	4.22	485	3.95	360	2.72	67		
16	3.06	114	4.27	511	3.83	314	2.62	57		
17	3.16	132	4.24	495	3.82	310	2.57	52		
18	3.36	174	4.23	490	3.82	310	2.52	48		
19	3.61	241	4.31	533	3.80	303	2.58	53		
20	3.72	275	4.34	550	3.85	321	2.88	87		
21	3.67	259	4.32	539	3.94	356	3.21	142		
22	3.71	272	4.37	567	3.89	336	3.13	127		
23	3.77	292	4.49	641	3.97	369	3.02	108		
24	3.83	314	4.47	628	3.94	356	2.88	87		
25	3.88	333	4.38	573	3.87	329	2.81	78		
26	3.94	356	4.32	539	3.76	289	2.78	74		
27	4.00	381	4.29	522	3.84	317	2.72	67		
28	3.98	373	4.38	573	3.85	321	2.63	58		
29	3.97	369	4.43	603	3.87	329	2.90	90		
30	3.99	377	4.33	545	-	-	3.63	247		
31			4.31	533	-	-	-	-		
Tot		5,743		15,900		14,804		2,211		544
Avg		191		513		510		92		91
Max		381		641		1,197		247		132
Min		71		403		289		48		58

* Estimated

No Record for May

TABLE E.4

1984 GLACIER FORK EKLUTNA RIVER
MEAN DAILY DISHCHARGE (C.F.S.)

	May		June		July		August		September		October		Nov
	GH	Q	GH	Q	GH	Q	GH	Q	GH	Q	GH	Q	Q*
Day	ft	cfs	ft	cfs	ft	cfs	ft	cfs	ft	cfs	ft	cfs	cfs
1			2.00	17	3.87	329	4.33	545	3.44	194	3.48	204	19
2			2.14	23	3,87	329	4.44	609	3.38	179	3.22	144	18
3			2.30	32	3.94	356	4.56	687	3.36	174	3.03	110	17
4			2.47	44	4.18	465	4.63	736	3.30	161	2.93	94	16
5			2.63	58	4.33	545	4.74	818	3.25	150	2.86	85	18
6			2.92	93	4.42	597	4.66	757	3.23	146	2.85	83	15
7			2.92	93	4.42	597	4.68	772	3.25	150	2.75	71	13
8			2.98	102	4.38	573	4.68	772	3.25	150	2.71	66	12
9			2.95	97	4.39	579	4.72	802	3.18	136	2.59	54	10
10			2.95	97	4.43	603	4.57	694	3.13	128	2.49	45	10
11			2.99	103	4.39	579	4.54	634	3.11	123	2.44	41	10
12			3.09	118	4.24	495	4.45	616	3.14	129	2.39	38	10
13			3.17	134	4.21	480	4.38	573	3.18	136	2.34	34	10
14			3.09	118	4.15	450	4.36	562	3.46	199	2.31	32	10
15			3.04	111	4.12	436	4.36	562	3.48	204		30*	
16			3.01	106	4.12	436	4.46	622	3.21	142		28*	
17			3.07	116	4.08	417	4.44	609	3.12	125		27*	
18	Gage	Started	3.20	140	4.04	399	4.57	694	3.14	129		26*	
19	1.96	15	3.44	194	4.06	408	4.81	873	3.13	128		24*	
20	2.08	20	3.72	272	4.11	431	4.61	722	2.95	97		24*	
21	2.18	25	3.67	259	4.27	511	4.42	597	2.82	79		23*	
22	2.07	20	3.66	256	4.35	556	4.63	736	2.79	76		33*	
23	1.95	15	3.72	272	4.40	585	4.49	641	2.75	71		28*	
24	2.05	19	3.80	303	4.41	591	4.59	707	2.72	67	2.18	25*	
25	2.03	18	3.83	314	4.38	573	4.81	873	2.73	69		25*	
26	1.98	16	3.84	252	4.31	533	4.46	622	2.66	61	2.18	25*	
27	1.94	15	3.82	310	4.31	533	4.15	450	2.62	57		24*	
28	1.92	14	3.81	306	4.31	533	4.00	381	2.67	62		22*	
29	1.92	14	3.94	356	4.32	539	3.82	310	3.90	342		21*	
30	1.97	16	3.92	348	4.35	556	3.67	259	3.60	238	2.08	20*	
31	1.95	15			4.34	550	3.53	217				20*	
Tot		222		5,044		15,564		19,452		4,102		1,526	
Avg		17		168		502		627		137		49	
Max		25		356		603		873		342		204	
Min		14		17		329		217		57		20	

* Estimated

TABLE E.5
EKLUTNA LAKE
INFLOW DISCHARGE MEASUREMENTS

Date	East Fork Discharge (cfs)	East Fork Stage (ft)	Glacier Fork Discharge (cfs)	Glacier Fork Stage (ft)
05/18/84	77	2.40	16	2.03
06/12/84	-	-	114	3.08
06/15/84	194	2.78	-	-
07/06/84	481	3.36	-	-
08/28/84	216	2.86	297	4.01
10/05/84	129	2.48	-	-
10/12/84	-	-	32	2.42
10/26/84	49	2.26	-	-
05/14/83	80*	2.53	14	-
06/01/83	295	3.23	126	3.15
07/05/83	500	3.58	-	-
08/02/83	-	-	589	4.45
05/25/83	70*	-	15*	2.87
06/08/82	220*	3.0	110	3.0
06/25/82	320	3.21	230	3.47
07/09/82	370	3.38	350*	3.61
07/29/82	770	2.80	800	4.75
08/12/82	260	3.16	300	3.75
09/25/82	-	-	117	3.16
10/08/82	-	-	75	2.3

Rating Curves:

Glacier Fork 1982 - 1984 $\text{Discharge} = \frac{(\text{Stage})}{1.06532}^{4.49256}$ $R^2=0.99$

East Fork 1984 $\text{Discharge} = 0.5326\ \text{Stage}^{5.6914}$ $R^2=0.99$

East Fork 1982 - 1983 $\text{Discharge} = \frac{(\text{Stage})}{1.12702}^{5.43243}$ $R^2=0.99$

*poor measurement, not used for rating curve.

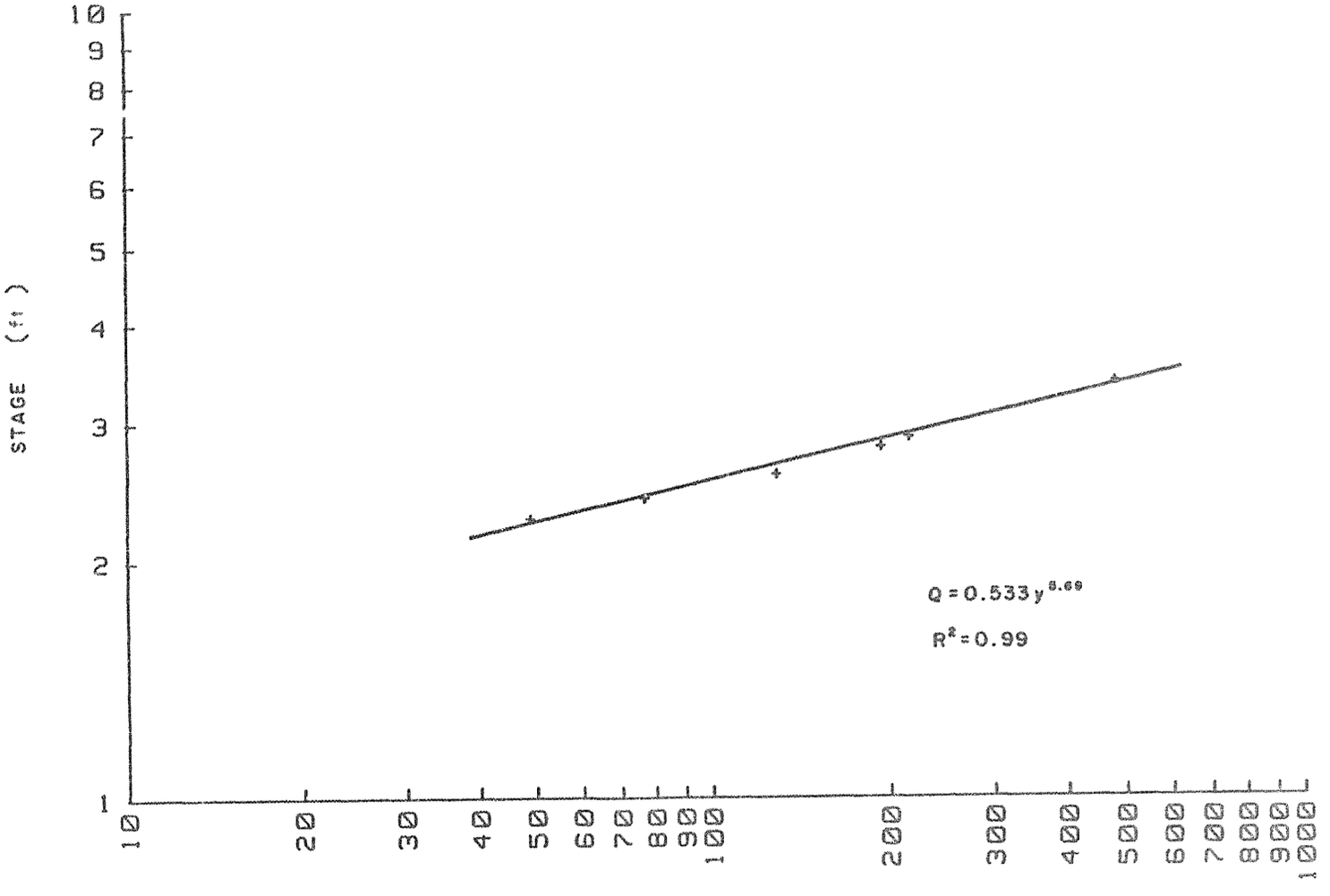


FIGURE E.1

PREPARED BY:
R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

1984 EAST FORK DATA:
STAGE
vs.
DISCHARGE RATING CURVE

PREPARED FOR:
HARZA-EBASCO
SUSITNA JOINT VENTURE

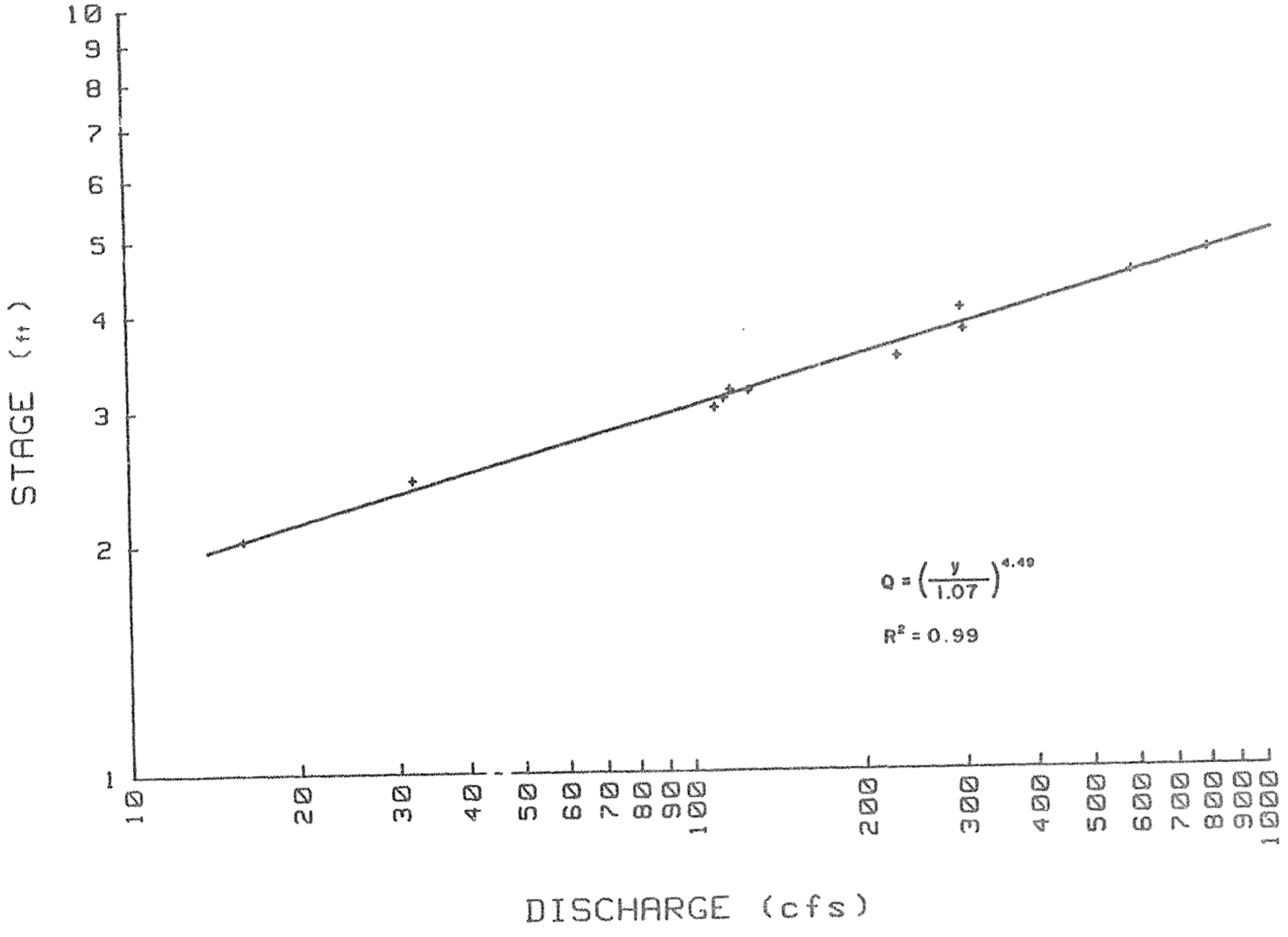


FIGURE E.2

PREPARED BY:
R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

GLACIER FORK DATA:
STAGE
VS.
DISCHARGE RATING CURVE

PREPARED FOR:
HARZA-EBASCO
SUSITNA JOINT VENTURE

APPENDIX F

APPENDIX F

PARTICLE-SIZE DISTRIBUTIONS - EAST FORK, GLACIER FORK, AND TAILRACE (1984)

TABLE F.1

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & M CONSULTANTS 5 SEP 84 :DATE
SAMPLE: EAST FORK 7/20/84 2000 8213 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 4.86 MEDIAN = 4.86 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 5.18 +/- 20.35 (393.15%) SKEWNESS = .02

ARITHMETIC VOLUME MEAN = 16.64 +/- 30.44 (182.91%) SKEWNESS = .39

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 239.90 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 155.55 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 71.32 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 17.83 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 4.86 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 1.45 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .43 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .14 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .06 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .05 MEDIAN = .08 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .10 +/- .07 (74.81%) SKEWNESS = .59

ARITHMETIC COUNTS MEAN = .12 +/- .13 (112.77%) SKEWNESS = .49

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 1.58 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT .61 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT .28 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .14 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .08 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .06 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .05 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .05 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .05 MICRONS AND LARGER

TABLE F.2

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & M CONSULTANTS 18 NOV 84 :DATE
SAMPLE: E. FORK EKLUTNA CREEK 1030 8/28/8R4 8426 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 32.19 MEDIAN = 16.09 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 15.34 +/- 47.78 (311.60%) SKEWNESS = -.35

ARITHMETIC VOLUME MEAN = 36.12 +/- 47.40 (131.25%) SKEWNESS = .08

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 292.11 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 213.16 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 128.76 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 56.76 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 16.09 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 4.29 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT 1.67 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .73 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .37 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .29 MEDIAN = .57 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .63 +/- .55 (86.73%) SKEWNESS = .63

ARITHMETIC COUNTS MEAN = .80 +/- .82 (101.33%) SKEWNESS = .64

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 8.05 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 3.78 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT 1.89 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT 1.01 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .57 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .37 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .30 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .29 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .29 MICRONS AND LARGER

TABLE F.3

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5650

CLIENT: R & M CONSULTANTS 18 NOV 84 :DATE
SAMPLE: E. FORK EKLUTNA CR 1130 10/23/84 8426 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 27.50 MEDIAN = 14.99 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 9.14 +/- 27.22 (297.72%) SKEWNESS = -.67

ARITHMETIC VOLUME MEAN = 17.45 +/- 15.15 (86.79%) SKEWNESS = -.66

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 65.40 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 57.43 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 44.29 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 29.99 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 14.99 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 2.43 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .66 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .53 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .51 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .51 MEDIAN = .61 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .66 +/- .23 (35.25%) SKEWNESS = .63

ARITHMETIC COUNTS MEAN = .70 +/- .41 (59.04%) SKEWNESS = .46

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 4.65 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 2.04 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT 1.16 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .75 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .61 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .53 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .51 MICRONS AND LARGER

TABLE F.4

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & M CONSULTANTS, INC. 5 SEP 84 :DATE
SAMPLE: GLACIER FORK 7/20/84 1640 8213 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 6.87 MEDIAN = 9.72 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 9.15 +/- 42.78 (467.69%) SKEWNESS = .05

ARITHMETIC VOLUME MEAN = 28.85 +/- 42.15 (146.09%) SKEWNESS = .52

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 285.28 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 201.73 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 109.99 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 46.25 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 9.72 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 2.23 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .56 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .15 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .06 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .05 MEDIAN = .08 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .09 +/- .06 (70.47%) SKEWNESS = .59

ARITHMETIC COUNTS MEAN = .11 +/- .12 (111.11%) SKEWNESS = .47

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 1.45 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT .56 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT .26 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .13 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .08 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .06 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .05 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .05 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .05 MICRONS AND LARGER

TABLE F.5

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & M CONSULTANTS 1300 8 18 NOV 84 :DATE
SAMPLE: GLACIER FORK EKLUTNA CREEK 1930 10/28/84 8426 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 13.32 MEDIAN = 17.14 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 18.01 +/- 50.63 (281.07%) SKEWNESS = .09

ARITHMETIC VOLUME MEAN = 40.89 +/- 58.60 (143.29%) SKEWNESS = .47

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 400.29 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 292.11 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 155.55 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 53.29 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 17.14 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 6.25 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT 2.14 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .89 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .44 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .37 MEDIAN = .65 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .75 +/- .60 (79.96%) SKEWNESS = .64

ARITHMETIC COUNTS MEAN = .94 +/- .98 (104.54%) SKEWNESS = .58

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 11.03 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 4.86 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT 2.14 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT 1.14 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .65 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .47 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .39 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .37 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .37 MICRONS AND LARGER

TABLE F.6

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & M CONSULTANTS 18 NOV 84 :DATE
SAMPLE: GLACIER FORK EKLUTNA CR 1420 10/23/84 8426 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 4.65 MEDIAN = 4.09 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 4.23 +/- 10.01 (236.70%) SKEWNESS = -.04

ARITHMETIC VOLUME MEAN = 8.73 +/- 11.84 (135.62%) SKEWNESS = .34

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 77.78 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 55.00 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 34.15 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 11.07 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 4.09 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 1.45 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .66 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .51 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .51 MEDIAN = .61 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .69 +/- .29 (42.34%) SKEWNESS = .62

ARITHMETIC COUNTS MEAN = .75 +/- .45 (60.45%) SKEWNESS = .53

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 5.30 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 2.54 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT 1.33 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .82 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .61 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .53 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .51 MICRONS AND LARGER

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & M CONSULTANTS 4 SEP 84 :DATE
SAMPLE: TAILRACE 7/21/84 2000 8213 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = .71 MEDIAN = 1.15 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 1.58 +/- 3.37 (212.46%) SKEWNESS = .26

ARITHMETIC VOLUME MEAN = 4.39 +/- 12.08 (275.15%) SKEWNESS = .30

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 119.15 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 73.74 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 13.39 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 3.17 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 1.15 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT .64 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .47 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .36 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .29 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .51 MEDIAN = .51 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .53 +/- .23 (43.80%) SKEWNESS = .07

ARITHMETIC COUNTS MEAN = .57 +/- .26 (46.35%) SKEWNESS = .21

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 3.06 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 1.53 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT .91 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .68 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .41 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .30 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .24 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .20 MICRONS AND LARGER

TABLE F.8

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & M CONSULTANTS 18 NOV 84 :DATE
SAMPLE: EKLUTNA POWER PLANT TAILRACE 1930 10728 8426 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 6.41 MEDIAN = 4.54 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 4.95 +/- 30.72 (620.02%) SKEWNESS = -.05

ARITHMETIC VOLUME MEAN = 26.89 +/- 46.86 (174.24%) SKEWNESS = .44

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 252.70 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 191.51 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 126.35 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 33.85 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 4.54 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT .75 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .33 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .19 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .13 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .17 MEDIAN = .17 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .17 +/- .15 (88.70%) SKEWNESS = .01

ARITHMETIC COUNTS MEAN = .21 +/- .17 (81.30%) SKEWNESS = .24

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 1.64 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT .74 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT .45 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .28 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .17 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .10 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .06 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .04 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .03 MICRONS AND LARGER

TABLE F.2

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 MAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & M CONSULTANTS 18 NOV 84 :DATE
SAMPLE: EKLUTNA POWER PLANT TAILRACE 900 10/23 8426 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = .51 MEDIAN = 3.75 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 4.03 +/- 13.82 (342.42%) SKEWNESS = .26

ARITHMETIC VOLUME MEAN = 10.58 +/- 13.89 (131.30%) SKEWNESS = .72

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 71.32 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 59.97 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 38.89 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 17.07 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 3.75 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT .86 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .56 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .51 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .51 MEDIAN = .58 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .64 +/- .20 (31.02%) SKEWNESS = .66

ARITHMETIC COUNTS MEAN = .67 +/- .30 (44.60%) SKEWNESS = .54

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 3.59 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 1.65 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT 1.07 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .75 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .58 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .53 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .51 MICRONS AND LARGER

APPENDIX G

R24 5 63

APPENDIX G

LAKE PROFILING DATA
JANUARY 1983-NOVEMBER 1984

LAKE: EKLUTNA LAKE

DATE: JANUARY 13, 1983

STATION NUMBER: 5

STARTING TIME: 1230 (1305 THRU ICE)

ENDING TIME: 1415

SECCHI DISC: N/A

SURFACE TEMP: 0.0

LAKE DEPTH: 60.1

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	0.0				
1.0	0.16				13.1
2.0	0.62	40	86		
4.0	2.02				
6.0	2.67	49	83		
8.0	2.90	44	74		
10.0	3.12				
12.0	3.27	62	102		20.0
14.0	3.43				
16.0	3.60	72	119		
18.0	3.66				
20.0	3.67	82	135		
22.0	3.79				
24.0	3.81	88	145		16.5
26.0	3.94	90	145		
28.0	3.96				
30.0	3.97				24.0
32.0	3.98	93	150		
34.0	3.96				
36.0	3.93	92	152		
38.0	3.90	90	132		18.0
50.0	3.87	103	170		
52.0	3.80	105	173		18.0
54.0	3.83				
56.0	3.63	108	170		

WEATHER MOSTLY CLEAR, COLD CALM TO LIGHT NORTH WIND

TURBIDITY RUN IN LAB 1 FEB 83, VALUES VARIED +/- 2NTU.

ICE THICKNESS 13", 1.5" SNOW

0.0113E

LAKE: EKLUTNA LAKE

DATE: January 13,1983

STATION NUMBER: 9

STARTING TIME: 0920

ENDING TIME: 1118

SECCHI DISC:

SURFACE TEMP: x

LAKE DEPTH: x

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	0.00				
1.0	.02				21.0
2.0	.40	64	115 x		
4.0	2.02	64	108 x		
6.0	2.50	64	106 x		
8.0	2.82				
10.0	3.00				
12.0	3.21				20.0
14.0	3.35				
16.0	3.44	62	102 x		
18.0	3.55				
20.0	3.61	67	108 x		
22.0	3.69				
24.0	3.79	76	122 x		
26.0	3.81	93	150 x		
28.0	3.81				
30.0	3.82	101	163 x		22.5
32.0	3.83				
34.0	3.80	108	174 x		
36.0	3.80				
38.0	3.79				
44.0	3.66	112	180 x		
48.0	3.53	101	163 x		25.0
52.0	3.66	102	164 x		25.0
56.0	3.58				43.0
56.0	3.58	134	214 x		

Cold, mostly clear,1 inch of snow on ice.
1.01131

NOTE: "x" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: JANUARY 11, 1983

STATION NUMBER: 11

STARTING TIME: 0920

ENDING TIME: 1215

SECCHI DISC: N/A

SURFACE TEMP: 0.0

LAKE DEPTH: 60.1

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (FTU)
0	0.0				
1	0.88				24
2	1.18				
3	1.48				
4.0	1.69				
6.0	2.22				
8.0	2.48				20
10.0	2.75				
12.0	2.82	66	90		
14.0	3.02				
16.0	3.17	76	104		23
18.0	3.29				
20.0	3.39				
22.0	3.46				
24.0	3.63				
26.0	3.64				
28.0	3.66				54
30.0	3.55	104	146		
32.0	3.53				19
34.0	3.51	105	148		
36.0	3.46	105	150		
38.0	3.44				
40.0	3.45	107	152		
44.0	3.59	109	154		
48.0	3.59				20.5
50.0	3.80	118	168		24
52.0	3.92	127	182		

!WEATHER:CLEAR AND COLD,BRISK NORTH WIND
!ICE THICKNESS 17.5 INCHES, 0.75 INCHES SNOW ON TOP
!WATER SURFACE 2 INCHES BELOW ICE
!TURBIDITIES RUN IN LAB, JAN. 17,1983, ALL HIGHLY VARIABLE,+/- 5 NTU
!E0111K:H8,0,1

TITLE: EKLUTNA LAKE

DATE: February 18,1983

STATION NUMBER: 5

STARTING TIME: 1400

ENDING TIME: 1550

SECCHI DISC: N/A

AIR TEMP: -7 C

LAKE DEPTH: 58.3

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	0.54	108	157		
1.0	1.07	109	150		
2.0	1.57	108	142		
3.0	1.95	107	145		
4.0	2.17	105	166		
6.0	2.71	105	166		
8.0	2.93	103	161		
10.0	3.06	103	157		
12.0	3.18	103	170		
16.0	3.37	104	173		
19.0	3.52	99	169		9
20.0	3.56	99	165		9
22.0	3.60	94	162		9
24.0	3.67	95	163		
26.0	3.68	103	175		
28.0	3.68	105	168		
30.0	3.67	105	172		
34.0	3.64	105	168		
38.0	3.55	107	163		
42.0	3.45	107	163		
46.0	3.41	109	160		
50.0	3.40	109	164		
54.0	3.50	110	159		
58.0	3.52	111	154		
60.0	3.51	111	148		

!Ice thickness:20.5 inches
!Partly sunny, Low clouds on Mitre, Mod. to brisk north wind.
!E0218E

TITLE: EKLUTNA LAKE

DATE: February 18, 1983

STATION NUMBER: 9

STARTING TIME: 1205

ENDING TIME: 1345

SECCHI DISC: N/A

AIR TEMP: -6 C

LAKE DEPTH: 58.3

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	-0.09	106	117		
1.0	0.25	106	112		11
2.0	1.05	101	99		
4.0	1.98	95	89		
6.0	2.35	96	94		8
8.0	2.63	98	97		
10.0	2.91	103	122		
12.0	3.09	104	121		
14.0	3.32	103	120		
16.0	3.50	105	123		
18.0	3.64	104	125		
20.0	3.65	104	132		
22.0	3.68	104	134		
24.0	3.68	104	134		14
26.0	3.66	104	136		
28.0	3.64	104	136		
30.0	3.67	104	135		
34.0	3.60	106	137		
38.0	3.56	107	138		
42.0	3.56	107	139		
46.0	3.58	108	141		
50.0	3.59	109	142		11.5
52.0	3.73	109	143		
54.0	3.79	110	144		
58.0	3.86	114	150		

!BOTTOM @ 59 M.
!Mostly cloudy mod north breeze
!Ice thickness 21.5 inches
!E0218I

TITLE: EKLUTNA LAKE

DATE: FEBRUARY 18, 1993

STATION NUMBER: 11

STARTING TIME: 0850(THRU ICE 1010AST)

ENDING TIME: 1145

SECCHI DISC: N/A

SURFACE TEMP: 0.48

LAKE DEPTH: 58.3

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	0.48				
1.0	1.17				11
2.0	1.54	88			
3.0	1.77				
4.0	1.99	90			
6.0	2.49	89			
8.0	2.82	93			
10.0	3.07	94			
12.0	3.23	96			
14.0	3.40	100			12
16.0	3.57	100			
18.0	3.66	101			
20.0	3.73	101			
22.0	3.75	101			
24.0	3.73	101			11
26.0	3.72	102			
28.0	3.69	102			
30.0	3.66	103			12.5
34.0	3.66	103			
36.0	3.67	104			12.5
38.0	3.74	104			
40.0	3.74	104			
44.0	3.84	106			
50.0	4.24	137			

!BOTTOM
!WEATHER OVERCAST AIR TEMP -6 C. PARTLY SUNNY BY 1000, CALM.
!ICE THICKNESS 25 INCHES

TITLE: EKLUTNA LAKE

DATE: May 14, 1993

STATION NUMBER: 5

STARTING TIME: 1820

ENDING TIME: 2000

SECCHI DISC: 4.7 ft.

SURFACE TEMP: 4.2

LAKE DEPTH: 51.7

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR CONDUCT. (umho)	TRANSMTSS. (%)	TURBID. (NTU)
0	4.21		*	*	X
1	4.21				
2	4.19				
4	4.16				
6	4.18				
8	4.12				O
12	4.06				
16	4.05				
20	4.03				
24	3.96				B
28	3.83				
32	3.80				
40	3.73				B
48	3.41				

!Conductivity data is unreliable.
!Overcast.
!E0514E

TITLE: EKLUTNA LAKE

DATE: May 14,1983

STATION NUMBER: 9

STARTING TIME: 2040

ENDING TIME: 2049

SECCHI DISC: 4.9 ft.

SURFACE TEMP: 4.4

LAKE DEPTH: 51.7

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	4.41	*	*	*	*
1	4.47				
2	4.5				
4	4.53				
6	4.51				
8	4.49				12
10	4.43				
12	4.35				
16	3.86				
20	3.76				
24	3.67				7
28	3.66				
32	3.67				
40	3.70				13
48	3.80				

!No conductivity available--data unreliable)
!Calm,
!E0514I

TITLE: EKLUTNA LAKE

DATE: June 2, 1983

STATION NUMBER: 2

STARTING TIME: 1521

ENDING TIME: 1535

SECCHI DISC: 3.2 ft.

SURFACE TEMP: 7.0

LAKE DEPTH: 50.5

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	7.04	*	*	*	*
1	7.04				
2	7.02				
4	7.00				
6	6.97				
7	6.88				
8	6.83				7
9	6.77				
10	6.75				
11	6.73				
12	6.72				
14	6.68				
16	6.50				
18	6.39				
20	6.23				11
22	6.15				
24	5.86				26
26	5.64				
28	5.30				
30	4.91				
32	4.79				
34	4.78				
36	4.74				
38	4.68				
40	4.72				12.5
44	4.67				
48	4.67				

!North wind, overcast, raining.
!No conductivity available)
!E0602B

TITLE: EKLUTNA

DATE: June 2, 1983

STATION NUMBER: 5

STARTING TIME: 1555

ENDING TIME: 1608

SECCHI DISC: 3.0 ft.

SURFACE TEMP: 6.1

LAKE DEPTH: 50.5

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBID. (NTU)
0	6.12	*	*	*	*
1	6.11				
2	6.09				
6	5.85				
7	5.83				
8	5.71				
10	5.67				
12	5.63				
16	5.57				
20	5.51				
24	5.41				
28	5.39				
32	5.33				
36	5.31				
40	5.14				
44	5.07				
48	5.01				

!Light N wind, misty, overcast.
!No conductivity available)
!E0602E

TITLE: EKLUTNA LAKE

DATE: June 2, 1983

STATION NUMBER: 7

STARTING TIME: 1418

ENDING TIME: 1447

SECCHI DISC: 2.9 ft.

SURFACE TEMP: 6.2

LAKE DEPTH: 50.5

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	6.20	x	x	x	x
1	6.19				
2	6.18				
3	6.17				
4	6.17				
5	6.17				15
6	6.11				
7	5.58				
8	5.49				6
9	5.42				
10	5.39				
12	5.31				
14	5.22				
16	5.17				
18	5.12				
20	5.11				
22	5.08				
24	5.01				14
26	4.99				
28	4.96				
30	4.92				
32	4.85				
36	4.41				
40	4.47				16
44	4.46				
48	4.50				

!Moderate North wind, overcast,drizzle.
!No conductivity available--data unreliable.
!Main inlet channel temp. 6.2 deg Cel.
!E0602G

TITLE: FKLUTNA LAKE

DATE: June 2, 1983

STATION NUMBER: 9

STARTING TIME: 1629

ENDING TIME: 1635

SECCHI DISC: 3.7 ft.

SURFACE TEMP: 6.2

LAKE DEPTH: 50.5

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	6.18	*	*	*	*
2	6.14				
4	6.12				
6	6.10				
8	6.02				
10	5.96				
12	5.90				
16	5.56				
20	5.20				
24	5.01				
28	4.97				
32	4.92				
36	4.80				
40	4.70				
44	4.69				
48	4.69				

!Raining cats and dogs, slight N wind.
!E0602I

TITLE: EKLUTNA LAKE

DATE: June 2, 1983

STATION NUMBER: 11

STARTING TIME: 1709

ENDING TIME: 1719

SECCHI DISC: 3.7

SURFACE TEMP: 6.3

LAKE DEPTH: 50.5

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	6.28	*	*	*	15
2	6.27				
4	6.27				
6	6.27				
10	6.27				
12	6.27				
14	6.27				
20	6.23				
22	5.83				
24	5.70				
26	5.00				
28	4.88				
32	4.76				
36	4.65				
40	4.56				
44	4.56				

!Light Northerly breeze, overcast and raining.
!E0602K

TITLE: EKLUTNA LAKE

DATE: June 2, 1983

STATION NUMBER: 10

STARTING TIME: 1646

ENDING TIME: 1654

SECCHI DISC: 3.7 ft.

SURFACE TEMP: 6.7

LAKE DEPTH: 50.5

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	6.66	*	*	*	*
2	6.65				
4	6.64				
6	6.63				
8	6.62				
10	6.60				
12	6.44				
13	6.20				
14	6.08				
16	5.60				
18	4.72				
20	4.53				
22	4.50				
24	4.42				
28	4.65				
32	4.67				

!Bottom at 32 m.
!Overcast, raining, light N wind.
!E0602J

TITLE: EKLUTNA LAKE

DATE: June 2, 1983

TITLE: EKLUTNA LAKE

DATE: June 2, 1983

STATION NUMBER: 13

STARTING TIME: 1726

ENDING TIME: 1735

SECCHI DISC: 3.6 ft.

SURFACE TEMP: 6.7

LAKE DEPTH: 50.5

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBID. (NTU)
0	6.66	*	*	*	*
2	6.66				
6	6.62				
8	6.60				
10	6.48				
11	6.00				
12	5.51				
13	5.38				
14	5.31				
16	5.15				
18	5.00				
20	4.90				
22	4.82				
24	4.78				
29	4.50				
32	4.48				

!Bottom at 32 m.
!Overcast, raining, almost calm.
!No conductivity available
!E0602M

TITLE: EKLUTNA LAKE

DATE: June 2, 1983

STATION NUMBER: 15

STARTING TIME: 1740

ENDING TIME: 1743

SECCHI DISC: 3.5 ft.

SURFACE TEMP: 6.25

LAKE DEPTH: 50.5

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS (%)	TURBID. (NTU)
0	6.25	*	*	*	*
2	6.11				
4	5.85				
6	5.75				

!Bottom at 7.0 m.
!Calm, overcast, raining
!E06020

TITLE: EKLUTNA LAKE

DATE: July 6, 1983

STATION NUMBER: 2

STARTING TIME: 1057

ENDING TIME: 1130

SECCHI DISC: 2.2 ft.

SURFACE TEMP: 14.3

LAKE DEPTH: 51.9

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	14.28			x	x
2	14.24				
4	13.94				
6	13.28				16
8	10.56				45
9	10.20				
10	9.93				44
11	9.65				
12	9.55				
14	8.68				
16	7.50				
18	6.68				
20	6.55				
22	6.36				
24	6.21				13.5
28	5.68				
32	5.67				
36	5.57				
40	5.53				
44	5.40				

!Bottom at 46.2 m.
!Air temp 11.4, Misty.
!Main inlet channel temp. 3.70
!E0706B

LAKE: EKLUTNA LAKE

DATE: July 6, 1983

STATION NUMBER: 3

STARTING TIME: 1213

ENDING TIME: 1230

SECCHI DISC: 2.9 ft.

SURFACE TEMP: 14.3

LAKE DEPTH: 51.9 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	14.29	*	*	*	*
2	14.25				
4	13.7				
6	12.16				
7	11.64				
8	11.08				75
9	10.66				
10	10.24				75
11	9.98				
12	9.22				
14	8.65				
16	7.98				
18	6.61				
20	6.30				
24	6.14				
28	5.98				
32	5.84				
36	5.54				
40	5.23				

!Bottom at 39.6+/- m.
!No conductivity this station)
!E0706C

TITLE: EKLUTNA LAKE

DATE: July 6, 1983

STATION NUMBER: 5

STARTING TIME: 1256

ENDING TIME: 1310

SECCHI DISC: 2.3 ft.

SURFACE TEMP: 13.9

LAKE DEPTH: 51.9

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0	13.91				
2	13.67				
4	13.30				
6	11.30				
8	10.00				
10	9.76				
12	9.25				
16	8.23				
20	6.5				
24	6.11				
28	5.67				
32	5.42				
36	5.28				
40	5.21				
44	5.02				
48	4.91				

!Bottom at 48.8 m.
!Conductivity not available--data unreliable.
!E0706F

TITLE: EKLUTNA LAKE

DATE: July 6,1983

STATION NUMBER: 7

STARTING TIME: 1324

ENDING TIME: 1335

SECCHI DISC: 2.1 ft.

SURFACE TEMP: 14.0

LAKE DEPTH: 51.9 m.

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	14.0	*	*	*	*
2	13.73				
4	13.23				
6	12.14				
8	10.24				
10	8.90				
12	8.21				
16	7.39				
20	6.35				
24	5.80				
28	5.57				
32	5.41				
36	5.16				
40	5.06				
44	4.94				
48	4.83				

!Bottom at 50.8 m.
!Conductivity not available.
!E0706G

ITLE: EKLUTNA LAKE

ATE: July 6, 1983

TATION NUMBER: 9

TARTING TIME: 1455

NDING TIME: 1508

ECCHI DISC: 2.1 ft.

URFACE TEMP: 13.6

AKE DEPTH: 51.9

DEPTH meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	13.65	*	*	*	*
2	13.17				
4	12.8				
6	11.00				
8	10.00				
0	9.63				
2	8.52				
6	7.34				
0	6.44				
4	6.03				
8	5.80				
2	5.47				
6	5.42				
0	5.26				
4	4.96				
8	4.88				

Bottom at 49.6 m.
Conductivity unavailable--data unreliable)
Overcast,drizzle.
E0706I

TITLE: EKLUTNA LAKE

DATE: July 6,1983

STATION NUMBER: 11

STARTING TIME: 1535

ENDING TIME: 1544

SECCHI DISC: 1.9 ft.

SURFACE TEMP: 13.0

LAKE DEPTH: 51.9

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	12.91	*	*	*	*
2	12.83				
4	12.23				
6	11.14				
8	10.64				
10	10.12				
12	9.59				
16	8.3				
20	6.7				
24	6.08				
28	5.6				
32	5.42				
36	5.34				
40	5.21				

!Bottom at 42.2 m.
!E0706K

TITLE: EKLUTNA LAKE

DATE: July 6,1983

STATION NUMBER: 13

STARTING TIME: 1519

ENDING TIME: 1530

SECCHI DISC: 2.0 ft.

SURFACE TEMP: 12.8

LAKE DEPTH: 51.9 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	12.75	*	*	*	*
2	12.52				
4	11.38				
6	10.66				
8	10.3				
10	9.64				
12	9.22				
14	8.83				
16	8.47				
20	7.00				
24	6.12				
28	5.54				
32	5.37				

!Bottom at 32.3 m.
!Drizzle stopped at 1500.
!E0706M

TITLE: EKLUTNA LAKE

DATE: July 6,1983

STATION NUMBER: 15

STARTING TIME: 1553

ENDING TIME: 1556

SURFACE TEMP: 12.8

LAKE DEPTH: 51.9

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	12.80				
2	12.56				
4	12.44				
6	12.09				
7	11.80				

!Bottom at 7.1 m.
!E07060

TITLE: EKLUTNA LAKE

DATE: August 3,1983

STATION NUMBER: 2

STARTING TIME: 1417

ENDING TIME: 1440

SECCHI DISC: 1.8 FT.

SURFACE TEMP: 16.8

LAKE DEPTH: 55.4 m.

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
2	16.53	102	117	*	*
4	16.18	101	117		
5	15.25	92	109		
6	14.37	96	117		
7	10.94	80	104		
8	10.47	72	94		
10	9.88	70	93		
12	9.22	69	94		
14	8.73	70	93		
16	8.42	68	93		
18	8.25	70	96		
20	7.8	75	106		
22	7.19	79	112		
24	6.64	80	116		
26	6.39	80	119		
28	6.2	80	118		
32	5.97	80	119		
36	5.91	80	119		
40	5.7	79	118		
44	5.6	79	118		
48	5.50	78	118		
52	5.40	80	122		

!Bottom at 50 m.
!YSI S-C-T 17 deg.,104 Micromhos at surface.
!E0803B

TITLE: EKLUTNA LAKE

DATE: August 3,1983

STATION NUMBER: 5

STARTING TIME: 1440

ENDING TIME: 1500

SURFACE TEMP: 16.9

LAKE DEPTH: 55.4 m.

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDIT (NTU)
0	16.92	97	111	*	*
1	16.06	93	108		
2	15.63	97	113		
3	15.38	95	111		
4	14.8	94	113		
5	12.89	90	113		
6	11.6	76	98		
7	11.02	71	95		
8	10.68	68	90		
9	10.41	70	92		
10	10.16	70	93		
12	10.16	70	93		
14	9.09	71	97		
16	8.8	71	98		
18	8.53	71	99		
20	7.83	76	108		
22	7.62	78	110		
22	7.62	78	110		
24	6.76	79	115		
26	6.39	79	116		
28	6.18	80	118		
32	5.96	79	118		
36	5.96	79	118		
40	5.72	79	118		
44	5.45	78	118		
48	5.22	78	119		
52	5.09	79	119		

!Bottom at 52.7 m)
!Clear,calm, hot.
!E0803E

TITLE: EKLUTNA LAKE

DATE: August 3, 1983

STATION NUMBER: 7

STARTING TIME: 1505

ENDING TIME: 1520

SECCHI DISC: 2.0 ft.

SURFACE TEMP: 17.2

LAKE DEPTH: 55.4 m.

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	17.19	98	112	x	x
1	16.1	98	113		
2	15.77	96	113		
3	15.51	96	112		
4	14.59	95	113		
5	12.63	88	112		
6	10.88	81	107		
7	10.15	76	102		
8	9.93	73	98		40
9	9.56	72	97		
10	9.33	73	100		46
12	9.02	72	99		
14	8.76	73	101		
16	8.24	75	104		
18	7.98	76	107		
20	7.76	77	108		
22	7.33	78	112		
24	6.85	79	115		
26	6.62	80	116		
28	6.45	80	116		
32	6.08	81	119		
36	5.75	79	118		
40	5.49	80	119		
44	5.4	80	119		
48	5.26	79	120		
52	5.1	79	120		
54	5.07	74	121		

!Bottom at 55.0 m.
!Clear, Calm, Hot.

TITLE: EKLUTNA LAKE

DATE: August 3,1983

STATION NUMBER: 9

STARTING TIME: 1500

ENDING TIME: 1515

SURFACE TEMP: 16.00

LAKE DEPTH: 55.4 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	16.00	100	114	*	*
1	15.94	99	115		
2	15.49	99	116		
3	15.18	99	116		
4	15.09	98	115		
5	13.53	97	118		
6	11.42	89	113		
7	10.37	79	105		
8	10.23	78	102		
9	10.06	77	102		
10	9.76	76	103		
12	9.18	76	103		
14	8.73	76	104		
16	8.39	79	108		
18	8.06	80	112		
20	7.43	82	117		
22	7.03	82	117		
24	6.79	83	118		
26	6.55	83	119		
28	6.32	84	121		
30	6.12	83	121		
32	5.96	82	122		
36	5.87	83	122		
40	5.67	83	121		
44	5.64	82	122		
48	5.55	83	122		
52	5.17	83	123		

!Bottom at 53.2 m.
!Wind from North starting again.
!E0803I

TITLE: SKLUTNA LAKE

DATE: August 3, 1983

STATION NUMBER: 10

STARTING TIME: 1626

ENDING TIME: 1645

SURFACE TEMP: 15.1

LAKE DEPTH: 55.4 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	15.09	99	115	*	*
1	15.03	98	115		
2	15.05	99	115		
3	14.97	98	115		
4	12.51	93	116		
5	12.09	89	112		
6	11.2	84	107		
7	10.95	81	105		
8	10.76	80	102		
9	9.8	79	103		
10	9.76	79	103		
12	9.5	80	105		
14	9.32	81	108		
16	8.98	81	109		
18	8.80	87	113		
20	7.8	85	117		
22	6.65	85	120		
24	6.03	85	124		
26	5.89	85	123		
28	5.76	85	124		
30	5.63	86	124		
32	5.51	85	124		
36	5.26	84	124		

!Bottom at 36.7 m.
!E0803J

TITLE: EKLUTNA LAKE

DATE August 3, 1983

STATION NUMBER: 11

STARTING TIME: 1650

ENDING TIME: 1705

SECCHI DISC: 1.9 ft.

SURFACE TEMP: 15.22

LAKE DEPTH: 55.4 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	15.22	99	115	*	*
1	15.07	98	115		
2	14.27	99	117		
3	13.6	97	117		
4	12.66	96	117		
5	12.16	93	116		
6	11.29	90	114		
7	10.44	85	109		
8	10.32	80	104		
10	10.05	80	104		
11	9.69	80	106		
12	9.50	81	106		
14	8.92	86	114		
16	8.44	85	116		
18	8.00	84	116		
20	7.30	85	119		
22	7.08	86	120		
24	6.75	86	122		
26	6.39	86	124		
28	6.06	85	123		
32	5.96	85	124		
36	5.79	86	124		
40	5.68	85	125		
44	5.63	86	125		

!Bottom at 46.2 m.
!E0803K
!Light North wind.

TITLE: EKLUTNA LAKE

DATE: August 3,1983

STATION NUMBER: 15

STARTING TIME: 1715

ENDING TIME: 1720

SECCHI DISC: N/A

SURFACE TEMP: 13.74

LAKE DEPTH: 55.4 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	13.74	93	117	*	*
2	13.40	96	117		
4	12.21	95	118		
6	11.47	90	114		
7	11.37	89	113		
9	10.82	86	111		

!Clear,calm,hot
!E08030

TITLE: EKLUTNA LAKE

DATE: September 7, 1983

STATION NUMBER: 2

STARTING TIME: 1600

ENDING TIME: 1620

SECCHI DISC: 3.0

SURFACE TEMP: 12.29

LAKE DEPTH: 60.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	12.29	72	95 *		
1.0	12.33	73	96 *		
2.0	12.00	73	96 *		
3.0	11.74	73	96 *		
4.0	11.46	73	99 *		
5.0	11.40	72	97 *		
6.0	11.39	72	97 *		
7.0	11.33	72	97 *		
8.0	11.24	72	97 *		
9.0	11.00	72	97 *		
10.0	10.73	72	97 *		
11.0	10.27	72	99 *		
11.5	9.97	70	97 *		
12.0	9.65	68	94 *		
12.5	9.39	67	94 *		
13.0	9.26	67	94 *		
14.0	9.09	65	92 *		10.0
15.0	8.76	63	89 *		
16.0	8.53	65	92 *		
18.0	8.00	65	94 *		
20.0	7.69	66	96 *		
22.0	7.36	68	101 *		
24.0	7.15	70	104 *		27.0
26.0	6.99	71	106 *		
28.0	6.85	71	106 *		
30.0	6.71	72	107 *		
32.0	6.60	72	107 *		
36.0	6.45	71	109 *		
40.0	6.37	72	110 *		23.0
44.0	6.27	72	110 *		
48.0	6.10	72	110 *		

!Calm cloudy

TITLE: EKLUTNA LAKE

DATE: September 7, 1983

STATION NUMBER: 5

STARTING TIME: 1515

ENDING TIME: 1540

SECCHI DISC: *

SURFACE TEMP: 11.96

LAKE DEPTH: 60.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	11.96	68	90 *		
.5	11.59	68	90 *		
1.0	11.43	68	92 *		
2.0	11.26	68	92 *		
3.0	11.23	67	90 *		
4.0	11.20	68	92 *		
5.0	11.17	68	92 *		
6.0	11.15	67	90 *		
7.0	11.13	67	90 *		
8.0	11.07	67	90 *		
9.0	11.02	67	90 *		
10.0	10.65	68	92 *		
11.0	10.01	63	87 *		
12.0	9.52	60	83 *		
13.0	9.24	58	82 *		
14.0	8.99	57	80 *		
16.0	8.69	56	79 *		
18.0	8.51	58	82 *		
20.0	8.21	60	87 *		
22.0	7.91	60	87 *		
24.0	7.61	62	90 *		
26.0	7.33	63	94 *		
28.0	7.03	65	97 *		
30.0	6.85	67	100 *		
32.0	6.69	66	98 *		
36.0	6.35	67	103 *		
40.0	6.16	68	104 *		
44.0	6.02	67	103 *		
48.0	5.95	65	99 *		

!Calm, cloudy.
!E0907E.

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: September 7, 1983

STATION NUMBER: 7

STARTING TIME: 1430

ENDING TIME: 1500

SECCHI DISC: 3.1 ft.

SURFACE TEMP: 12.26

LAKE DEPTH: 60.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	12.26	68	90 *		
.5	11.60	68	90 *		
1.0	11.47	68	92 *		
2.0	11.37	66	89 *		
3.0	11.31	67	90 *		
4.0	11.19	67	90 *		
5.0	11.08	66	89 *		
6.0	10.98	65	88 *		
7.0	10.84	63	85 *		
8.0	10.47	61	84 *		
9.0	9.88	58	80 *		
10.0	9.50	57	79 *		
11.0	9.32	56	79 *		
12.0	9.16	54	76 *		
14.0	8.80	53	75 *		
16.0	8.58	53	75 *		
18.0	8.21	56	81 *		
20.0	7.90	58	84 *		
22.0	7.48	61	91 *		
24.0	7.30	60	89 *		
26.0	7.17	62	92 *		
28.0	6.97	63	94 *		
30.0	6.82	65	97 *		
32.0	6.65	66	98 *		
36.0	6.42	65	99 *		
40.0	6.23	66	101 *		
48.0	6.05	65	99 *		
52.0	5.95	63	96 *		
56.0	5.90	65	99 *		

!calm,cloudy.
!E0907G

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: September 7, 1983

STATION NUMBER: 8

STARTING TIME: 1710

ENDING TIME: 1725

SECCHI DISC: *

SURFACE TEMP: 11.29

LAKE DEPTH: 60.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	11.29	75	101 *		
.5	11.30	77	104 *		
2.0	11.22	77	104 *		
4.0	11.01	76	103 *		
6.0	10.96	76	103 *		
8.0	10.85	76	103 *		
9.0	10.72	75	101 *		
10.0	9.83	75	104 *		
11.0	9.40	68	96 *		
12.0	9.24	66	93 *		
14.0	8.85	66	93 *		
16.0	8.71	66	93 *		
18.0	8.46	66	96 *		
20.0	8.21	66	96 *		
22.0	7.83	67	97 *		
24.0	7.27	72	107 *		
26.0	7.00	73	109 *		
28.0	6.87	75	112 *		
30.0	6.70	75	112 *		
32.0	6.60	75	112 *		
36.0	6.40	75	115 *		
40.0	6.27	77	118 *		
44.0	6.12	76	116 *		
48.0	6.01	76	116 *		
52.0	5.93	76	116 *		
56.0	5.86	75	115 *		

!Calm,cloudy.
!E0907H

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: September 7, 1983

STATION NUMBER: 9

STARTING TIME: 1130

ENDING TIME: 1200

SECCHI DISC: 2.7 ft.

SURFACE TEMP: 10.97

LAKE DEPTH: 60.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	10.97	71	96 *		
.5	10.96	72	97 *		
1.0	10.94	72	97 *		
2.0	10.91	72	97 *		
3.0	10.86	71	96 *		
4.0	10.80	71	96 *		
5.0	10.73	72	97 *		
6.0	10.66	71	96 *		
7.0	10.63	72	97 *		
8.0	10.63	72	97 *		
9.0	10.62	71	96 *		
10.0	10.62	71	96 *		
12.0	10.38	70	97 *		
13.0	9.85	66	91 *		
14.0	9.61	66	91 *		
16.0	9.03	62	87 *		
17.0	8.73	61	86 *		33.0
18.0	8.67	62	87 *		
20.0	8.23	62	90 *		
22.0	8.01	63	91 *		
24.0	7.72	65	94 *		31.0
26.0	7.38	66	98 *		
28.0	7.30	67	100 *		
30.0	7.19	67	100 *		
32.0	6.98	68	101 *		
36.0	6.60	70	104 *		
40.0	6.27	68	104 *		18.5
44.0	6.08	68	104 *		

'Calm,cloudy.
!E0907I

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: September 7, 1983

STATION NUMBER: 10

STARTING TIME: 1100

ENDING TIME: 1130

SECCHI DISC: *

SURFACE TEMP: 10.82

LAKE DEPTH: 60.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	10.82	71	96 *		
.5	10.82	72	97 *		
1.0	10.81	71	96 *		
2.0	10.72	70	95 *		
4.0	10.59	70	95 *		
6.0	10.46	68	94 *		
8.0	10.36	70	97 *		
10.0	10.22	68	94 *		
11.0	9.73	63	87 *		
12.0	9.47	66	93 *		
13.0	9.16	62	87 *		
14.0	9.00	62	87 *		
16.0	8.66	63	89 *		
18.0	8.52	65	92 *		
20.0	8.48	66	96 *		
22.0	8.27	66	96 *		
24.0	8.11	66	96 *		
26.0	7.75	67	97 *		
28.0	7.26	70	104 *		
30.0	6.79	70	104 *		
32.0	6.60	71	106 *		

!Calm,cloudy.
!E0907J

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: September 7,1983

STATION NUMBER: 11

STARTING TIME: 1035

ENDING TIME: 1100

SECCHI DISC: 2.7 ft.

SURFACE TEMP: 10.64

LAKE DEPTH: 60.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	10.64	72	97 *		
.5	10.67	75	101 *		
1.0	10.64	73	99 *		
2.0	10.60	72	97 *		
3.0	10.44	72	99 *		
4.0	10.36	71	98 *		
5.0	10.26	71	98 *		
6.0	10.26	72	99 *		
7.0	10.25	72	99 *		
8.0	10.26	72	99 *		
10.0	10.21	71	98 *		
12.0	9.98	71	98 *		
13.0	9.60	71	98 *		
14.0	9.21	66	93 *		
15.0	8.95	63	89 *		
16.0	8.83	63	89 *		
18.0	8.65	65	92 *		
20.0	8.43	65	94 *		
22.0	8.04	66	96 *		
24.0	7.68	68	99 *		
26.0	7.27	70	104 *		
28.0	6.87	71	106 *		
30.0	6.73	70	104 *		
34.0	6.43	72	110 *		
38.0	6.34	72	110 *		
42.0	6.27	72	110 *		
44.0	6.23	71	109 *		

!Calm,cloudy.
!E0907K

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: September 7, 1983

STATION NUMBER: 15

STARTING TIME: 1000

ENDING TIME: 1025

SECCHI DISC: 2.4 ft.

SURFACE TEMP: 10.28

LAKE DEPTH: 60.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	10.28	72	99 *		
.5	10.27	73	101 *		
2.0	10.00	72	99 *		
4.0	9.88	72	99 *		
6.0	9.50	71	98 *		
8.0	9.09	68	96 *		
10.0	8.98	67	94 *		

!Calm, cloudy.
!E09070

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: October 05, 1983

STATION NUMBER: 2

STARTING TIME: 1315

ENDING TIME: 1330

SECCHI DISC: 2.8 ft

SURFACE TEMP: 7.46

LAKE DEPTH: 61 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	7.46	83	124 *		
2.0	7.35	83	124 *		
4.0	7.30	83	124 *		
6.0	7.30	83	124 *		
8.0	7.30	83	124 *		
12.0	7.30	82	122 *		
16.0	7.29	83	124 *		
20.0	7.29	83	124 *		
24.0	7.29	83	124 *		6.4
28.0	7.28	83	124 *		
32.0	7.27	84	125 *		
36.0	7.04	83	124 *		
40.0	6.89	83	124 *		15.0
44.0	6.85	84	125 *		
48.0	6.74	85	127 *		
52.0	6.60	86	128 *		

!Conductivity data is unreliable,
!Calm cloudy
!E1005B

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: October 05, 1983

STATION NUMBER: 7

STARTING TIME: 1145

ENDING TIME: 1200

SECCHI DISC: 2.9 ft

SURFACE TEMP: 7.47

LAKE DEPTH: 61 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
2.0	7.40	81	121 *		
4.0	7.35	81	121 *		
6.0	7.34	81	121 *		
8.0	7.33	81	121 *		
10.0	7.34	81	121 *		
12.0	7.33	81	121 *		
14.0	7.33	81	121 *		
16.0	7.33	81	121 *		
20.0	7.33	80	119 *		
24.0	7.33	81	121 *		
28.0	7.32	81	121 *		
32.0	7.24	82	122 *		
36.0	7.12	82	122 *		
40.0	7.05	82	122 *		
44.0	6.98	82	122 *		
48.0	6.90	83	124 *		
52.0	6.58	84	125 *		
56.0	6.42	85	130 *		

!Conductivity data is unreliable,
!Partly sunny
!E1005G

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: October 05, 1983

STATION NUMBER: 8

STARTING TIME: 1445

ENDING TIME: 1500

SECCHI DISC: 2.6 ft

SURFACE TEMP: 7.35

LAKE DEPTH: 61 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
2.0	7.24	82	122 *		
4.0	7.22	81	121 *		
6.0	7.21	82	122 *		
8.0	7.22	82	122 *		
10.0	7.22	82	122 *		
12.0	7.22	82	122 *		
16.0	7.22	83	124 *		
20.0	7.22	82	122 *		
24.0	7.21	83	124 *		
28.0	7.20	82	122 *		
32.0	7.14	83	124 *		
36.0	7.04	83	124 *		
40.0	6.93	83	124 *		
44.0	6.85	82	122 *		
48.0	6.72	84	125 *		
52.0	6.62	84	125 *		
56.0	6.43	85	130 *		

!Conductivity data is unreliable,
!Partly sunny
!E1005H

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

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TITLE: EKLUTNA LAKE

DATE: October 05, 1983

STATION NUMBER: 9

STARTING TIME: 0916

ENDING TIME: 0940

SECCHI DISC: 2.7 ft

SURFACE TEMP: 7.27

LAKE DEPTH: 61 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
1.0	7.28	82	122 *		
2.0	7.28	84	125 *		
3.0	7.28	83	124 *		
4.0	7.28	83	124 *		
5.0	7.27	83	124 *		
6.0	7.28	84	125 *		
8.0	7.28	84	125 *		
12.0	7.28	83	124 *		
16.0	7.28	83	124 *		
20.0	7.27	83	124 *		
24.0	7.27	84	125 *		6.9
28.0	7.24	84	125 *		
30.0	7.15	84	125 *		
32.0	7.09	85	127 *		
36.0	7.04	84	125 *		
40.0	6.96	85	127 *		10.0
44.0	6.82	86	128 *		
48.0	6.76	86	128 *		
50.0	6.71	85	127 *		
52.0	6.62	86	128 *		
54.0	6.56	86	128 *		

!Conductivity data is unreliable
!Partly sunny
!E1005I

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: October 05, 1983

STATION NUMBER: 11

STARTING TIME: 0845

ENDING TIME: 0900

SECCHI DISC: 2.6 ft

SURFACE TEMP: 7.25

LAKE DEPTH: 61m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
1.0	7.26	84	125 *		
2.0	7.25	84	125 *		
3.0	7.26	84	125 *		
4.0	7.26	84	125 *		
5.0	7.25	83	124 *		
6.0	7.25	84	125 *		
7.0	7.25	84	125 *		
8.0	7.25	84	125 *		
9.0	7.25	83	124 *		
10.0	7.25	83	124 *		
11.0	7.26	84	125 *		
12.0	7.25	84	125 *		
13.0	7.27	84	125 *		
14.0	7.26	84	125 *		
16.0	7.26	83	124 *		
18.0	7.26	84	125 *		
20.0	7.25	84	125 *		
24.0	7.24	84	125 *		
28.0	7.21	84	125 *		
30.0	7.05	85	127 *		
34.0	6.89	87	130 *		
38.0	6.80	87	130 *		
42.0	6.59	87	130 *		
46.0	6.52	87	130 *		
50.0	6.44	87	133 *		

!Conductivity data is unreliable
!Partly sunny
!E1005K

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

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TITLE: EKLUTNA LAKE

DATE: October 05, 1983

STATION NUMBER: 15

STARTING TIME: 0825

ENDING TIME: 0835

SECCHI DISC: 2.6 ft

SURFACE TEMP: 7.14

LAKE DEPTH: 61m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
1.0	7.15	80	119 *		
2.0	7.14	80	119 *		
4.0	7.14	80	119 *		
6.0	7.14	80	119 *		
8.0	7.15	80	119 *		
10.0	7.15	80	119 *		

!Conductivity data is unreliable,
!Partly cloudy
!L10050

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

****

TITLE: EKLUTNA LAKE

DATE: November 01,1983

STATION NUMBER: 2

STARTING TIME: 1215

ENDING TIME: 1225

SECCHI DISC: 3.1'

SURFACE TEMP: 5.57

LAKE DEPTH: 60m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
2.0	5.60	75	115 *		
4.0	5.62	76	116 *		
8.0	5.61	76	116 *		
12.0	5.63	76	116 *		
16.0	5.62	77	118 *		
20.0	5.62	77	118 *		
24.0	5.62	77	118 *		11.0
28.0	5.62	77	118 *		
32.0	5.60	77	118 *		
36.0	5.60	77	118 *		
40.0	5.60	77	118 *		12.0
44.0	5.60	77	118 *		
48.0	5.60	77	118 *		
52.0	5.60	77	118 *		
56.0	5.60	77	118 *		

!Cloudy,calm
!E1101B

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: November 01,1983

STATION NUMBER: 5

STARTING TIME: 1200

ENDING TIME: 1210

SECCHI DISC: 3.0'

SURFACE TEMP: 5.61

LAKE DEPTH: 60m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
2.0	5.61	75	115 *		
4.0	5.62	75	115 *		
8.0	5.62	75	115 *		
12.0	5.62	76	116 *		
16.0	5.62	76	116 *		
20.0	5.62	75	115 *		
24.0	5.63	76	116 *		
28.0	5.61	75	115 *		
32.0	5.59	76	116 *		
36.0	5.59	76	116 *		
40.0	5.59	75	115 *		
44.0	5.58	75	115 *		
48.0	5.59	76	116 *		
52.0	5.59	76	116 *		
56.0	5.58	76	116 *		

!Cloudy,calm
!E1101E

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: November 01,1983

STATION NUMBER: 7

STARTING TIME: 1140

ENDING TIME: 1150

SECCHI DISC: 3.0'

SURFACE TEMP: 5.62

LAKE DEPTH: 60m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
2.0	5.62	77	118 *		
4.0	5.64	77	118 *		
8.0	5.63	77	118 *		
12.0	5.64	77	118 *		
16.0	5.64	77	118 *		
20.0	5.65	77	118 *		
24.0	5.66	78	119 *		
28.0	5.65	78	119 *		
32.0	5.64	77	118 *		
36.0	5.65	77	118 *		
40.0	5.65	77	118 *		
44.0	5.64	77	118 *		
48.0	5.65	77	118 *		
52.0	5.64	77	118 *		
56.0	5.64	77	118 *		

'Cloudy,calm
'E1101G

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

****

TITLE: EKLUTNA LAKE

DATE: November 01,1983

STATION NUMBER: 9

STARTING TIME: 0940

ENDING TIME: 0950

SECCHI DISC: 3.1'

SURFACE TEMP: 5.51

LAKE DEPTH: 60m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
2.0	5.54	83	127 *		
4.0	5.56	84	129 *		
8.0	5.56	83	127 *		
12.0	5.59	84	129 *		
16.0	5.57	83	127 *		
20.0	5.57	83	127 *		
24.0	5.58	84	129 *		14.0
28.0	5.56	84	129 *		
32.0	5.57	84	129 *		
36.0	5.58	84	129 *		
40.0	5.56	84	129 *		16.0
44.0	5.56	82	125 *		
48.0	5.58	81	124 *		
52.0	5.56	82	125 *		
56.0	5.50	82	125 *		

!Cloudy,calm
!E1101I

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

****

TITLE: EKLUTNA LAKE

DATE: November 01,1983

STATION NUMBER: 11

STARTING TIME: 0905

ENDING TIME: 0915

SECCHI DISC: 3.0'

SURFACE TEMP: 5.24

LAKE DEPTH: 60m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
1.0	5.29	84	132 *		
2.0	5.28	84	132 *		
3.0	5.28	83	130 *		
4.0	5.28	84	132 *		
6.0	5.29	84	132 *		
8.0	5.28	84	132 *		
10.0	5.28	84	132 *		
12.0	5.28	84	132 *		
16.0	5.28	84	132 *		
24.0	5.28	84	132 *		
28.0	5.29	84	132 *		
32.0	5.29	84	132 *		
36.0	5.29	84	132 *		
40.0	5.28	84	132 *		
44.0	5.28	85	133 *		
48.0	5.28	85	133 *		
52.0	5.22	85	133 *		

!Cloudy,calm
!E1101K

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: November 01,1983

STATION NUMBER: 15

STARTING TIME: 0845

ENDING TIME: 0900

SECCHI DISC: 3.1ft

SURFACE TEMP: 4.92

LAKE DEPTH: 60m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
1.0	5.01	82	129 *		
2.0	5.02	83	130 *		
3.0	5.06	82	129 *		
5.0	5.07	83	130 *		
6.0	5.09	83	130 *		
8.0	5.09	83	130 *		
10.0	5.07	83	130 *		
12.0	5.05	83	130 *		
15.0	5.01	83	130 *		

!Partly cloudy,calm
!E11010

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: December 06,1983

STATION NUMBER: 15

STARTING TIME: 1155

ENDING TIME: 1225

SECCHI DISC: 3.6'

SURFACE TEMP: 1.4

LAKE DEPTH: 61.6

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	1.43	69	118		
0.67	2.24	70	117	x	x
1.33	2.93	71	117		
2	3.00	73	120		
3	3.00	71	117		
4	3.00	71	117		
5	3.15	71	116		
6	3.23	72	118		
8	3.28	72	118		
10	3.31	72	117		
12	3.34	72	117		
15	3.36	73	119		
18	3.38	73	119		
20	3.44	73	119		
21	3.46	73	119		

!Bottom at 21 m.
!Corrected Conductivities are computed
!Clear,calm and air temp. of 20 F
!E12060

TITLE: EKLUTNA LAKE

DATE: January 16,1984

STATION NUMBER: 5

STARTING TIME: 1610

ENDING TIME: 1630

SECCHI DISC: N/A

SURFACE TEMP: 1.00

LAKE DEPTH: 60m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	1.00	72	124	x	x
0.5	1.49				
1	1.67	85	145		
1.5	1.88				
2	2.12				
3	2.84				
4	2.96				
5	3.16				
6	3.44				
8	3.64				
10	3.86				
12	3.94				
16	3.98				
20	4.01				
24	3.98				
28	3.98				
32	3.95				
36	3.95				
40	3.95				
44	3.94				
48	3.92				
52	3.94				
56	3.92				
60	3.91				
64	3.92				

!Bottom at 64 m.
!Overcast. Calm
!E0116E

TITLE: EKLUTNA LAKE

DATE: January 16,1984

STATION NUMBER: 9

STARTING TIME: 1150

ENDING TIME: 1220

SECCHI DISC: N/A

SURFACE TEMP: 0.35

LAKE DEPTH: 60m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	0.35	68	122		
0.5	0.61		x	x	x
1	1.18				
1.5	1.36				
2	1.60				
3	2.50				
4	2.58				
5	2.74				
6	3.02				
8	3.48				
10	3.62				
12	3.74				
16	3.93				
20	3.94				
24	3.94	78	132		
32	3.95				
40	3.91	79	132		
48	3.91				
56	4.02				
60	4.12				
64	4.16				

!Bottom at 64 m.
!Partly cloudy,calm
!E0116I

TITLE: EKLUTNA LAKE

DATE: January 16,1984

STATION NUMBER: 15

STARTING TIME: 1030

ENDING TIME: 1105

SECCHI DISC: N/A

SURFACE TEMP: 0.3

LAKE DEPTH: 60

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	0.35	78	136		
0.5	0.92		x	x	x
1	1.20				
1.5	2.04				
2	2.22				
3	2.47				
4	2.79				
5	3.10	72	124		
6	3.33				
8	3.59				
10	3.70	76	128		
15	3.86				
18	4.01				

!Bottom at 18 m.
!Clear,calm and air temp. of -19 C
!E01160

TITLE: EKLUTNA LAKE

DATE: January 16,1984

STATION NUMBER: 15

STARTING TIME: 1030

ENDING TIME: 1105

SECCHI DISC: N/A

SURFACE TEMP: 0.3

LAKE DEPTH: 60

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	0.35	78	136		
0.5	0.92		x	x	x
1	1.20				
1.5	2.04				
2	2.22				
3	2.47				
4	2.79				
5	3.10	72	124		
6	3.33				
8	3.59				
10	3.70	76	128		
15	3.86				
18	4.01				

!Bottom at 18 m.
!Clear,calm and air temp. of -19 C
!C01160

TITLE: EKLUTNA LAKE

DATE: February 16,1984

STATION NUMBER: 5

STARTING TIME: 1126

ENDING TIME: 1132

SECCHI DISC: N/A

SURFACE TEMP: 0.20

LAKE DEPTH: 57.6

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	0.20	*	*	*	
1	0.99				
2	2.10				
3	2.59				
4	3.36				
5	3.46				
6	3.48				
7	3.51				
8	3.51				
9	3.51				
10	3.52				
12	3.52				
16	3.51				
20	3.51				
24	3.57				
28	3.56				
32	3.52				
36	3.54				
40	3.52				
44	3.50				
48	3.41				
52	3.44				
56	3.44				
60	3.62				

!Bottom at 60 m.
!Snowing and calm
!E0216E

TITLE: EKLUTNA LAKE

DATE: February 16,1984

STATION NUMBER: 9

STARTING TIME: 1000

ENDING TIME: 1021

SECCHI DISC: N/A

SURFACE TEMP: 0.20

LAKE DEPTH: 57.6

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	0.20	*	*	*	
1	1.10				
2	1.70				
3	2.34				
4	2.50				
5	2.62				
6	2.70				
7	2.78				
8	2.88				
9	2.94				
10	3.04				
12	3.15				
16	3.30				
20	3.33				
24	3.38				5.6
28	3.35				
32	3.28				
36	3.20				
40	3.19				6.9
44	3.21				
48	3.20				
52	3.29				
56	3.53				
60	3.54				

!Bottom at 60 m.
!Partly cloudy, light breeze
!E0216I

TITLE: EKLUTNA LAKE

DATE: February 16,1984

STATION NUMBER: 15

STARTING TIME: 0904

ENDING TIME: 0912

SECCHI DISC: N/A

SURFACE TEMP: 0.20

LAKE DEPTH: 57.6

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	0.20	*	*	*	*
1	0.76				
2	1.69				
3	2.40				
4	2.92				
5	3.19				
6	3.34				
7	3.30				
8	3.39				
10	3.42				
12	3.44				

!Bottom at 12 m.
!Clear and Calm
!E02160

TITLE: EKLUTNA LAKE

DATE: March 23,1984

STATION NUMBER: 2

STARTING TIME: 1400

ENDING TIME: 1420

SECCHI DISC: N/A

SURFACE TEMP: 0.63

LAKE DEPTH: 54.8

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0	0.63	*	*	*	
0.5	3.72				
1	3.81				
2	3.48				6.4

!Bottom at 2.5m.
!Clear and Calm
!E03238

TITLE: EKLUTNA LAKE

DATE: March 23,1984

STATION NUMBER: 5

STARTING TIME: 1315

ENDING TIME: 1344

SECCHI DISC: N/A

SURFACE TEMP: 1.7

LAKE DEPTH: 54.8

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	1.7	*	*	*	*
1	3.94				
2	4.18				
3	4.18				
4	4.15				
5	4.13				
6	4.10				
7	4.08				
8	4.08				
9	4.08				
10	4.06				
12	4.06				
16	4.07				
20	3.95				43.2
24	3.90				
28	3.90				
32	3.89				
36	3.88				
40	3.89				6.1
44	3.92				
48	3.94				
52	4.10				
56	4.06				

!Bottom at 56 m.
!Clear and Calm
!E0323E

TITLE: EKLUTNA LAKE

DATE: March 23, 1984

STATION NUMBER: 9

STARTING TIME: 1030

ENDING TIME: 1048

SECCHI DISC: N/A

SURFACE TEMP: 0.31

LAKE DEPTH: 54.8

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	0.31	*	*	*	
1	3.32				
2	3.50				
3	3.93				
4	3.97				
5	4.03				
6	4.04				
7	4.05				
8	4.05				
9	4.05				
10	4.06				
12	4.06				
16	4.05				
20	4.04				4.2
24	4.04				
28	4.07				
32	4.03				
36	4.01				
40	4.06				4.2
44	4.11				
48	4.16				
52	4.35				
56	4.35				

!Bottom at 56 m.
!Clear and Calm
!E03231

TITLE: EKLUTNA LAKE

DATE: March 23, 1984

STATION NUMBER: 15

STARTING TIME: 0920

ENDING TIME: 0930

SECCHI DISC: N/A

SURFACE TEMP: 1.60

LAKE DEPTH: 54.8

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	1.60	*	*	*	
1	3.79				
2	4.07				
3	4.16				
4	4.15				
5	4.12				3.1
6	4.09				
7	4.12				
8	4.11				
9	4.15				

!Bottom at 9 m.
!Clear and Calm
!E03230

TITLE: EKLUTNA LAKE

DATE: April 20, 1984

STATION NUMBER: 11

STARTING TIME: 1220

ENDING TIME: 1320

SECCHI DISC: 6.3 ft

SURFACE TEMP: 0.6

LAKE DEPTH: 52.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	0.6	*	*	*	
0.5	2.7				
1	3.3				
1.5	3.6				
2	3.6				2.6
4	3.7				
6	3.5				
8	3.4				
12	3.2				
16	3.2				
20	3.2				
24	3.3				1.8
28	3.3				
32	3.4				
36	3.4				
40	3.5				
42	3.6				

!Bottom at 42m.
!Overcast and light breeze
!E0420K

TITLE: EKLUTNA LAKE

DATE: April 20, 1984

STATION NUMBER: 15

STARTING TIME: 0950

ENDING TIME: 1110

SECCHI DISC: 7.5 ft

SURFACE TEMP: 0.6

LAKE DEPTH: 52.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0	0.6	*	*	*	
0.5	0.9				
1	3.0				3.0
2	3.5				
4	3.4				
5	-				1.8
5.5	3.3				

!Bottom at 5.5m.
!Overcast and light breeze
!E04200

TITLE: EKLUTNA LAKE

DATE: May 17, 1984

STATION NUMBER: 5

STARTING TIME: 1415

ENDING TIME: 1505

SECCHI DISC: 6.7 ft

SURFACE TEMP: 6.1

LAKE DEPTH: 50.5 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	5.84	70	102		
0.5	5.90	71	103		
1.0	5.80	70	103		
2.0	5.62	70	102		
4.0	5.10	70	102		2.5
8.0	4.89	69	102		
12.0	4.70	69	102		
16.0	4.55	68	102		
20.0	4.15	67	102		2.1
24.0	3.90	68	102		
28.0	3.87	67	102		
32.0	3.85	68	103		
35.0	3.75	69	103		

!TURBIDITIES RUN IN THE LAB ON 5/21/84.
!WEATHER PARTLY CLOUDY, STRONG BREEZE FROM SE.
!WAVES 1 FT.
!L0517E

TITLE: EKLUTNA LAKE

DATE: MAY 17, 1984

STATION NUMBER: 9

STARTING TIME: 1050

ENDING TIME: 1105

SECCHI DISC: 6.4 ft

SURFACE TEMP: 7.0

LAKE DEPTH: 50.5

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	6.84				
0.5	6.84				
1.0	6.84				
2.0	6.67				
4.0	6.31				3.8
8.0	5.52				
12.0	5.09				
16.0	4.94				
20.0	4.69				1.5
24.0	4.48				
28.0	4.41				
32.0	4.28				
36.0	4.21				
40.0	4.13				
44.0	4.02				
46.0	3.79				

!WEATHER SUNNY AND CLEAR, WIND FROM NW.
!SWITCHED FROM SE.
!L0517I

TITLE: EKLUTNA LAKE

DATE: MAY 17, 1984

STATION NUMBER: 15

STARTING TIME: 1245

ENDING TIME: 1320

SECCHI DISC: 7.0 ft

SURFACE TEMP: 7.4

LAKE DEPTH: 50.5 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	7.20	69	98		
0.5	7.19	69	100		
1.0	7.13	70	101		
2.0	7.09	69	100		
4.0	6.93	68	98		3.0
6.4	6.19	67	98		

!WEATHER SUNNY, MODERATE BREEZE FROM NW.
!WAVES 0.3 FT.
!L05170

LAKE: ERLUTMH LAKE

DATE: JUNE 6, 1984

STATION NUMBER: 3

BEGINNING TIME: *

ENDING TIME: *

SECCHI DISC: 7.5 ft

SURFACE TEMP: 11.4

LAKE DEPTH: 50.1 m

DEPTH (meters)	TEMP. (celsius)	CONDUCTIVITY (umho)	A.CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0.0	11.13	104			3.5
1.0	11.20	104			
2.0	11.19	104			
4.0	11.03	104			
6.0	10.20	103			
7.0	10.16	101			
8.0	9.82	100			
9.0	9.19	99			
10.0	8.71	99			
12.0	6.87	98			
13.5					4.4
14.0	6.61	95			
16.0	6.01	92			
20.0	5.38	90			
24.0	5.11	90			
28.0	4.90	*			
32.0	4.82	*			
36.0	4.72	*			
40.0	4.73	*			

*TURBIDITIES RUN IN THE LAB ON 06/07/84.
*BOUY DEPLOYED AT THIS SITE.
*E06068

TITLE: EKLUTNA LAKE

DATE: June 6, 1984

STATION NUMBER: 5

STARTING TIME: *

ENDING TIME: *

SECCHI DISC: 7.0 ft.

SURFACE TEMP: 10.8

LAKE DEPTH: 50.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	10.67	104			
1.0	10.66	103			2.1
2.0	10.67	103			
4.0	10.66	104			
6.0	10.00	103			
7.0	9.67	102			
8.0	9.04	101			
9.0	8.14	100			4.3
10.0	7.17	98			
12.0	6.39	96			
14.0	6.17	94			
16.0	5.85	93			
20.0	5.36	91			
24.0	5.01	91			
28.0	4.82	90			
32.0	4.56	90			
36.0	4.35	90			
40.0	4.13	90			
44.0	4.08	89			

!wind coming from North, bouy deployed at this site.
!E0606E

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

LAKE: EKLUTNA LAKE

DATE: JUNE 6, 1984

STATION NUMBER: 9

STARTING TIME: *

ENDING TIME: *

SECCHI DISC: 8.0 ft

SURFACE TEMP: 10.2

LAKE DEPTH: 50.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	9.96	102			2.1
1.0	9.99	101			
2.0	10.00	102			
3.0	9.99	101			
4.0	9.57	101			
5.0	9.52	100			
6.0	9.44	100			
7.0	9.41	100			
8.0	9.03	99			
9.0	8.81	99			
10.0	8.41	98			
12.0	8.02	98			
13.0					2.2
14.0	6.93	94			
16.0	6.50	92			
18.0	5.76	91			
20.0	5.61	91			
24.0	5.11	90			
28.0	4.80	90			
32.0	4.57	89			
36.0	4.46	89			
40.0	4.31	89			
44.0	4.17	89			

*TURBIDITIES RUN IN THE LAB ON 06/07/84.

206061

TITLE: EKLUTNA LAKE

DATE: JUNE 6, 1984

STATION NUMBER: 11

STARTING TIME: 1109

ENDING TIME: *

SECCHI DISC: 8.5 ft

SURFACE TEMP: 9.9

LAKE DEPTH: 50.1 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	9.78	98			0.1
1.0	9.72	98			
2.0	8.70	97			0.2
3.0	8.21	95			
4.0	7.87	94			
5.0	7.42	93			
6.0	7.08	92			
7.0	6.96	92			
8.0	6.86	91			
9.0	6.75	91			
10.0	6.60	90			
12.0	6.02	90			
14.0	5.78	89			
16.0	5.62	89			
20.0	5.34	88			
24.0	5.09	88			
28.0	4.73	88			
32.0	4.46	87			

TURBIDITIES RUN IN THE LAB ON 06/07/84.

ES606K

LAKE: ERUTNA LAKE

DATE: June 6, 1984

STATION NUMBER: 15

SAMPLING TIME: 1052

READING TIME:

SECCHI DISC: 8.5 ft.

SURFACE TEMP: 9.5

LAKE DEPTH: 50.1 m

DEPTH (meter)	TEMP. (celcius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0.0	9.30	94			3.2
1.0	9.26	94			
2.0	9.12	94			
3.0	8.92	94			
4.0	8.89	94			
6.0	7.69	94			
8.0	6.50	90			

100% overcast, light rain, 50 degrees F, calm.
E06060

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: June 21, 1984

STATION NUMBER: 1

STARTING TIME: 1705

ENDING TIME: 1705

SECCHI DISC: 3.2 ft

SURFACE TEMP: 14.8

LAKE DEPTH: 49.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	14.80	97			
0.5	14.75	97			
1.0	14.50	96			
2.0	14.31	95			
3.0	14.26	94			
4.0	14.17	95			
5.0	13.78	92			
6.0	13.80	90			
7.0	13.73	91			
8.0	13.20	89			
9.0	12.32	86			
10.0	12.00	84			
10.5	10.42	82			
11.0	8.00	83			7
11.5	7.60	82			
12.0	7.28	80			
13.0	6.90	81			
14.0	6.73	79			
15.0	6.64	81			

'creek water is very turbid, anchored 100 feet from creek slope.
'E0621n

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: June 21, 1984

STATION NUMBER: 2

STARTING TIME: 1550

ENDING TIME: 1654

SECCHI DISC: 5.6 ft

SURFACE TEMP: 14.5

LAKE DEPTH: 49.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS (%)	TURBID (NTU)
0.0	14.34	72			
0.5	14.36	71			
1.0	14.37	77			
2.0	14.36	80			
3.0	14.31	80			
4.0	14.26	82			
5.0	14.24	84			
6.0	14.21	84			
7.0	14.00	85			
8.0	13.74	85			
8.5	13.10	83			
9.0	10.62	79			
10.0	10.00	78			50
12.0	8.64	78			
13.0	7.20	74			
14.0	6.88	73			1?.0
15.0	6.82	72			
20.0	5.98	75			6.4
24.0	5.74	74			
28.0	5.65	74			
32.0	5.50	73			
36.0	5.72	73			

'may be problem with creek effecting the temperatures, creek mouth is 200yds
'E06218

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

LAKE: ERCUTNA LAKE

DATE: June 21, 1984

STATION NUMBER: 3

STARTING TIME: 1440

ENDING TIME: 1540

SECCHI DISC: 3.8 ft

SURFACE TEMP: 13.9

LAKE DEPTH: 49.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	13.85	80			
0.5	13.91	82			
1.0	13.92	82			
2.0	13.91	83			7.2
3.0	13.84	84			
4.0	13.80	84			
5.0	13.76	85			
6.0	13.60	86			
6.5	13.15	86			
7.0	12.38	82			17.0
8.0	12.13	83			
9.0	10.80	81			
10.0	10.16	80			
12.0	8.66	79			30
16.0	7.40	76			
20.0	5.60	-			6.4
24.0	5.17	72			
28.0	5.11	72			
32.0	4.87	66			
36.0	4.70	55			

'marker buoy is labelled "5". moved from 5 today.
'LOG2IC

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: June 21, 1984

STATION NUMBER: 9

STARTING TIME: 1218

ENDING TIME: 1420

SECCHI DISC: 6 ft

SURFACE TEMP: 13.2

LAKE DEPTH: 49.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	13.14	83			
0.5	13.13	84			
1.0	13.13	84			
2.0	12.94	83			4.8
3.0	12.58	84			
4.0	12.40	83			
5.0	12.25	85			
6.0	11.45	84			6.2
8.0	9.86	83			
10.0	8.56	79			
12.0	7.87	80			
16.0	6.71	77			
20.0	5.58	77			3.4
24.0	5.07	75			
28.0	4.98	74			
32.0	4.89	72			
36.0	4.80	63			
40.0	4.54	65			
44.0	4.43	65			
45.0	4.36	32			

!F0621I

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: June 21, 1984

STATION NUMBER: 15

STARTING TIME: 1110

ENDING TIME: 1205

SECCHI DISC: 4.5 ft

SURFACE TEMP: 11.6

LAKE DEPTH: 49.7 m

DEPTH (meter)	TEMP. (celcius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	11.55	85			
0.5	11.54	85			
1.0	11.51	86			
2.0	11.40	85			
3.0	11.29	87			
4.0	11.13	86			5.0
5.0	11.12	86			
6.0	11.02	86			
7.0	-	-			
8.0	10.11	82			

'WIND FROM WSW STARTING TO MAKE WHITE CAPS (0.4 ft WAVES).
'E06210

NOTE: "*" INDICATES COMPUTED CORRECTED CONDUCTIVITY VALUE SHOWN.

TITLE: EKLUTNA LAKE

DATE: JULY 5, 1984

STATION NUMBER: 1

STARTING TIME: 1638

ENDING TIME: 1754

SECCHI DISC: 2.5 ft

SURFACE TEMP: 15.9

LAKE DEPTH: 50.7 m

DEPTH (meter)	TEMP. (Celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	15.80	90			
0.5	15.72	90			
1.0	15.58	86			
2.0	15.30	82			
3.0	14.06	70			
4.0	14.70	74			
5.0	13.90	78			
6.0	13.00	80			
7.0	12.80	86			
8.0	12.59	88			
9.0	12.30	90			
10.0	11.40	86			
11.0	12.15	89			
12.0	12.00	88			
13.0	11.50	87			
14.0	11.80	87			
15.0	11.70	87			
16.0	11.20	89			
17.0	11.40	86			
18.0	9.80	85			
19.0	9.60	84			
20.0	9.60	79			130
24.0	9.10	76			
25.5	8.80	78			

'PROFILE DIFFICULT TO INTERPRET BECAUSE OF WANDERING STREAM PLUM
'L0705A

TITLE: EKLUTNA LAKE

DATE: JULY 5, 1984

STATION NUMBER: 2

STARTING TIME: 1528

ENDING TIME: 1620

SECCHI DISC: 1.95 ft

SURFACE TEMP: 15.4

LAKE DEPTH: 50.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0.0	15.33	76			
0.5	15.34	73			
1.0	15.30	75			
2.0	15.19	69			
3.0	15.12	56			0.4
5.0	14.10	84			
6.0	13.53	87			
8.0	12.61	81			
9.0	12.42	84			
10.0	10.48	83			80
12.0	9.59	81			
14.0					
16.0	7.50	85			
20.0	5.82	85			6.8
24.0	5.78	85			
27.0 bottom					

MOSTLY CLOUDY WITH HAZE
WIND FROM NNW
WAVES 0.3 ft
L0705B

LAKE: EXPLORATION LAKE

DATE: JULY 5, 1984

STATION NUMBER: 3

STARTING TIME: 1415

ENDING TIME: 1518

SECCHI DISC: 2.0 ft

SURFACE TEMP: 15.7

LAKE DEPTH: 50.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR. CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0.0	15.56	116			
0.5	15.52	119			
1.0	15.38	119			
2.0	15.00	119			0.6
3.0	13.86	109			
4.0	13.75	82			
5.0	13.00	69			
7.0	12.30	81			
8.0	11.30	55			2:
10.0	10.66	74			
12.0	9.43	81			
16.0	7.95	80			10.0
20.0	5.82	82			
24.0	5.37	81			3.5
28.0	5.27	82			
32.0	5.19	83			
36.0	5.00	83			
37.1	4.94	83			

!SCATTERED CLOUDS. MOSTLY SUNNY
!WAVES 0.5 ft
!WIND FROM NW
!L0705C

TITLE: EKLUTNA LAKE

DATE: JULY 5, 1984

STATION NUMBER: 9

STARTING TIME: 1253

ENDING TIME: 1355

SECCHI DISC: 1.9 ft

SURFACE TEMP: 14.6

LAKE DEPTH: 50.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	14.63	124			
0.5	14.58	124			
1.0	14.38	124			
2.0	14.05	123			13.0
4.0	12.85	120			
6.0	11.55	115			
8.0	11.15	112			
10.0	9.80	107			
12.0	8.76	75			
14.0					2.
16.0	7.10	71			
20.0	6.34	78			
24.0	5.91	82			
28.0	5.70	82			
32.0	5.36	82			3.4
36.0	5.30	82			
40.0	5.04	84			
44.0	4.65	86			
46.0	4.43	88			
46.0 bottom					

:L0705I

TITLE: FRYJTNA LAKE

DATE: JULY 5, 1984

STATION NUMBER: 15

STARTING TIME: 1155

ENDING TIME: 1235

SECCHI DISC: 1.6 ft

SURFACE TEMP: 12.0

LAKE DEPTH: 50.7 m

DEPTH (meter)	TEMP. (celcius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURB.DIST. (NTU)
0.0	12.75	116			
0.5	12.57	118			
1.0	12.57	118			
2.0	12.42	117			
4.0	11.90	116			14.0
6.0	11.33	113			
7.5	11.19	112			
7.5 bottom					

!SCATTERED CLOUDS
!WIND FROM WSW
!WAVES 0.3 ft
!L07050

TITLE: EKLUTNA LAKE

DATE: JULY 19, 1984

STATION NUMBER: 1

STARTING TIME: 1530

ENDING TIME: 1600

SECCHI DISC: 1.2 ft

SURFACE TEMP: 14.3

LAKE DEPTH: 53.0 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	14.30	112			
0.5	14.34	112			
1.0	14.31	113			
2.0	14.23	113			26
3.0	14.23	112			
4.0	8.50	61			
5.0	5.90	58			
6.0	6.95	67			64
7.0	7.80	69			
7.5 bottom					

'PROFILE DIFFICULT TO INTERPRET BECAUSE OF WANDERING STREAM PLUM.
'L07194

TITLE: SKILUTNA LAKE

DATE: JULY 19, 1984

STATION NUMBER: 2

STARTING TIME: 1350

ENDING TIME: 14:0

SECCHI DISC: 1.3 ft

SURFACE TEMP: 13.6

LAKE DEPTH: 53.0

DEPTH (meter)	TEMP. (celcius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	13.80	61			
0.5	13.86	66			
1.0	13.88	62			
2.0	13.92	58			
4.0	13.94	60			
6.0	13.94	76			28
8.0	13.28	74			
10.0	10.51	76			6!
12.0	9.67	81			
14.0					
16.0	8.33	82			56
20.0	7.50	81			
24.0	6.04	85			
28.0	5.59	87			18.0
32.0	5.18	88			
36.0	4.96	88			
39.0 bottom					

COMPLETE OVERCAST
5 MPH WIND FROM NW
L0719B

TITLE: EKLUTNA LAKE

DATE: JULY 19, 1984

STATION NUMBER: 3

STARTING TIME: 1245

ENDING TIME: 1305

SECCHI DISC: 1.3 ft

SURFACE TEMP: 13.9

LAKE DEPTH: 53.0 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	14.08	71			
0.5	14.05	75			
1.0	14.09	79			
2.0	14.05	81			26
4.0	13.96	83			
6.0	12.95	78			
8.0	11.60	79			58
10.0	10.32	75			
12.0	9.32	80			
14.0					
16.0	8.30	82			58
20.0	7.42	85			
24.0	6.03	88			
28.0	5.30	87			16.0
32.0	5.20	83			
36.0	5.05	81			
39.0 bottom					

OVERCAST, WIND FROM NW 5 TO 10 MPH

LOT(9C

TITLE: EKLUTNA LAKE

DATE: JULY 19, 1984

STATION NUMBER: 9

STARTING TIME: 1040

ENDING TIME: 1105

SECCHI DISC: 1.2 ft

SURFACE TEMP: 13.3

LAKE DEPTH: 53.0 m

DEPTH (meter)	TEMP. (celcius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	13.45	104			
0.5	13.43	105			
1.0	13.42	105			
2.0	13.23	107			
4.0	12.92	106			.57
6.0	11.44	98			
8.0	10.32	76			
10.0	9.92	83			
12.0	9.40	86			
16.0	8.60	92			57
20.0	7.24	93			
24.0	6.30	88			
28.0	5.88	86			
32.0	5.66	86			
36.0	5.48	86			35
40.0	5.10	86			
44.0	4.80	88			
48.0	4.63	89			
50.0 bottom					

:BROKEN CLOUDS WITH SUNSHINE
:L07191

TITLE: EKLUTNA LAKE

DATE: JULY 19, 1984

STATION NUMBER: 15

STARTING TIME: 0945

ENDING TIME: *

SECCHI DISC: 1.3 ft

SURFACE TEMP: 12.8

LAKE DEPTH: 53.0 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	12.68	97			
0.5	12.42	99			
1.0	12.39	98			
2.0	12.11	98			
4.0	11.76	97			56
6.0	11.53	97			
8.0	11.24	99			
10.0	10.63	100			

!OVERCAST WITH PATCHES OF BLUE SKY, OCCASIONAL DRIZZLE
!LIGHT BREEZE FROM NW
!L07190

TITLE: EKLUTNA LAKE

DATE: AUGUST 3, 1984

STATION NUMBER: 1

STARTING TIME: 1100

ENDING TIME: 1200

SECCHI DISC: 1.9 ft

SURFACE TEMP: 15.8

LAKE DEPTH: 55.0 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	15.35			13.1	
0.5	15.12			11.9	
1.0	14.99			10.1	9.5
1.5				8.8	
2.0	13.41			<5.0	
3.0	9.05			<5.0	29
3.5 bottom					

!OVERCAST. NO RAIN
!WIND FROM N
!L0803A

TITLE: EKLUTNA LAKE

DATE: AUGUST 3 1984

STATION NUMBER: 2

STARTING TIME: 1215

ENDING TIME: 1400

SECCHI DISC: 1.7 ft

SURFACE TEMP: 16.5

LAKE DEPTH: 55.0 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	16.49			9.6	
0.5	15.70			9.6	
1.0	15.67			10.0	
2.0	15.13			10.3	
3.0				10.3	
4.0	14.54			10.3	9.4
5.0				<5.0	
6.0	13.18			<5.0	
7.0				<5.0	
8.0	11.13			<5.0	20
10.0	10.63			<5.0	
12.0	10.27			<5.0	
16.0	10.22			<5.0	48
20.0	9.07			<5.0	
24.0	7.14			<5.0	
28.0	6.41			21.8	
32.0	5.97			30.9	5.6
36.0	5.89			36.9	
40.0	5.74				
43.0 bottom					

OVERCAST WITH PATCHES OF BLUE
WIND FROM N
L08038

TITLE: EKLUTNA LAKE

DATE: AUGUST 3, 1984

STATION NUMBER: 3

STARTING TIME: 1420

ENDING TIME: 1540

SECCHI DISC: 2.0 ft

SURFACE TEMP: 15.7

LAKE DEPTH: 55.0 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	15.74			11.0	
0.5	15.77			11.0	
1.0	15.77			10.9	
2.0	15.75			10.8	11.0
3.0				10.4	
4.0	14.85			10.2	
5.0				8.6	
6.0	12.96			5.1	
8.0	11.15			<5.0	22
10.0	10.63			<5.0	
12.0	9.98			<5.0	
16.0	9.50			<5.0	43
20.0	8.93			<5.0	
24.0	7.38			6.8	
28.0	6.32			26.0	7.4
32.0	5.90			31.6	
36.0	5.70			36.6	
40.0	5.61				
41.0 bottom					

LO803C

TITLE: EKLUTNA LAKE

DATE: AUGUST 3, 1984

STATION NUMBER: 9

STARTING TIME: 1610

ENDING TIME: 1800

SECCHI DISC: 1.8 ft

SURFACE TEMP: 14.3

LAKE DEPTH: 55.0 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	14.25			8.4	
0.5	14.37			8.6	
1.0	14.42			8.5	
2.0	14.30			8.1	
3.0				7.5	
4.0	12.60			6.7	
6.0	11.66			<5.0	22
8.0	10.58			<5.0	
9.0				<5.0	
10.0	9.94			<5.0	
12.0	9.53			<5.0	
16.0	9.10			<5.0	
20.0	8.25			<5.0	
24.0	6.80			12.2	
28.0	6.35			18.4	7.4
32.0	6.08			24.4	
36.0	5.87			29.6	
40.0	5.70			32.4	
44.0	5.55			37.5	
48.0	5.40				
52.0	5.10				
53.0 bottom					

!OVERCAST, NO BLUE
!WIND FROM NNW
!L08031

TITLE: EKLUTNA LAKE

DATE: AUGUST 3, 1984

STATION NUMBER: 15

STARTING TIME: 2040

ENDING TIME: 2130

SECCHI DISC: 1.5 ft

SURFACE TEMP: 13.0

LAKE DEPTH: 55.0 m

DEPTH (meter)	TEMP. (celcius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	12.96			6.6	
0.5	12.98			6.4	
1.0	12.75			6.1	
2.0	12.69			5.8	
3.0				5.7	
4.0	11.95			5.3	13.0
5.0				5.4	
6.0	11.71			<5.0	
7.0				<5.0	
8.0	11.31			<5.0	
10.0	10.84			<5.0	
12.0	10.53			<5.0	
16.0	9.57				
17.0 bottom					

'CALM AND OVERCAST
'L08030

TITLE: EKLUTNA LAKE

DATE: AUGUST 20, 1984

STATION NUMBER: 1

STARTING TIME: 1551

ENDING TIME: 1658

SECCHI DISC: 1.5 ft

SURFACE TEMP°: 12.9

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMTSS. (%)	TURBIDITY (NTU)
0.0	12.87	102		<5.0	32
0.5	12.85	101		<5.0	--
1.0	12.84	103		<5.0	36
2.0	12.83	104		<5.0	33
4.0	12.82	104		<5.0	32
6.0	12.79	105		<5.0	35
8.0	12.77	105		<5.0	35
10.0	12.10	101		<5.0	60
12.0	11.97	96		<5.0	100

!WEATHER MOSTLY CLOUDY, WIND FROM NORTH
!WAVES 0.6ft
!L0820A

TITLE: EKLUTNA LAKE

DATE: AUGUST 20, 1984

STATION NUMBER: 2

STARTING TIME: 1330

ENDING TIME: *

SECCHI DISC: 1.4 ft

SURFACE TEMP: 12.9

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDI (NTU)
0.0	12.95	99		<5.0	34
0.5	12.90	99		<5.0	--
1.0	12.83	101		<5.0	35
2.0	12.75	101		<5.0	36
4.0	12.33	99		<5.0	34
6.0	12.26	95		<5.0	34
8.0	12.20	92		<5.0	36
10.0	11.66	88		<5.0	35
12.0	10.80	84		<5.0	46
16.0	9.38	78		<5.0	115
20.0	8.94	77		<5.0	90
24.0	8.50	78		<5.0	77
28.0	7.00	84		<5.0	100
32.0	6.16	87		<5.0	17.8
36.0	5.77	91		28.5	12.5

!WEATHER MOSTLY CLOUDY, WIND FROM NORTH
!WAVES 0.9 ft. TROUGH TO CREST
!L0820B

TITLE: EKLUTNA LAKE

DATE: AUGUST 20, 1984

STATION NUMBER: 3

STARTING TIME: 1154

ENDING TIME: 1325

SECCHI DISC: 1.4 ft

SURFACE TEMP: 12.5

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	12.62	90		<5.0	55
0.5	12.59	92		<5.0	--
1.0	12.58	98		<5.0	33
2.0	12.60	98		<5.0	53
4.0	12.47	95		<5.0	37
6.0	12.24	92		<5.0	40
8.0	12.22	94		<5.0	35
10.0	11.66	95		<5.0	62
12.0	10.52	90		<5.0	90
16.0	9.07	80		<5.0	64
20.0	8.39	79		<5.0	72
24.0	8.23	78		<5.0	125
28.0	6.50	94		<5.0	24
30.0	----	--		8.8	11.5

!WEATHER PARTLY CLOUDY, WIND FROM NW
!WAVES 0.5 ft
!L0820C

TITLE: EKLUTNA LAKE

DATE: AUGUST 20, 1984

STATION NUMBER: ^

STARTING TIME: 0905

ENDING TIME: 1130

SECCHI DISC: 1.6 ft

SURFACE TEMP: 12.5

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0.0	12.52	104		<5.0	56
0.5	12.47	104		<5.0	--
1.0	12.46	105		<5.0	54
2.0	12.36	104		<5.0	55
4.0	12.22	97		<5.0	54
6.0	12.20	98		<5.0	55
8.0	12.11	101		<5.0	57
10.0	11.60	102		<5.0	46
12.0	10.10	94		<5.0	76
16.0	9.50	88		<5.0	76
20.0	8.50	92		<5.0	63
24.0	8.00	94		<5.0	50
28.0	6.55	101		<5.0	33
32.0	6.08	101		16.8	23
36.0	5.76	102		33.1	16.0
40.0	5.51	102		44.6	8.9
44.0	5.36	103		50.5	8.5
46.0	----	---		----	9.5
48.0	5.22	104		51.5	----
52.0	5.09	102		50.5	11.5
56.0	4.97	104		----	---

!WEATHER OVERCAST WITH A FEW PATCHES OF BLUE SKY
'WIND FROM SSE
!L0820D

TITLE: EKLUTNA LAKE

DATE: AUGUST 19, 1984

STATION NUMBER: 5

STARTING TIME: 1645

ENDING TIME: 1850

SECCHI DISC: 1.1 ft

SURFACE TEMP: 11.8

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celcius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	11.84	91		<5.0	40
0.5	11.84	95		<5.0	--
1.0	11.82	98		<5.0	42
2.0	11.80	100		<5.0	42
4.0	11.46	97		<5.0	40
6.0	11.11	95		<5.0	45
8.0	10.83	95		<5.0	48
10.0	10.60	92		<5.0	57
12.0	10.53	92		<5.0	60
16.0	9.55	91		<5.0	47
20.0	8.94	88		<5.0	68
24.0	8.72	85		<5.0	65
28.0	7.96	91		<5.0	65
32.0	7.23	93		<5.0	19.5
36.0	6.23	98		15.6	14.3
40.0	5.95	98		31.1	11.5
44.0	5.80	100		36.2	10.5
48.0	5.66	99		45.6	13.8
52.0	5.22	101		40.2	16.5

'WEATHER HIGH OVERCAST WITH A FEW PATCHES OF BLUE SKY
'LOB19E

TITLE: EKLUTNA LAKE

DATE: AUGUST 19, 1984

STATION NUMBER: 6

STARTING TIME: 1400

ENDING TIME: 1600

SECCHI DISC: 1.0 ft

SURFACE TEMP: 10.6

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celcius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	10.64	93		<5.0	54
0.5	10.62	94		<5.0	--
1.0	10.63	96		<5.0	52
2.0	10.63	96		<5.0	48
4.0	10.60	96		<5.0	54
6.0	10.34	92		<5.0	56
8.0	10.00	92		<5.0	51
10.0	9.88	90		<5.0	75
12.0	9.74	86		<5.0	68
16.0	9.29	86		<5.0	70
20.0	9.16	86		<5.0	70
24.0	8.94	87		<5.0	69
28.0	8.22	86		<5.0	56
32.0	7.86	84		<5.0	75
36.0	7.06	83		<5.0	55
40.0	6.70	92		<5.0	52
42.0	----	--		<5.0	--
44.0	6.40	95		---	25

;WEATHER OVERCAST WITH STRONG WIND FROM NNW
;WAVES 1.0 ft
;L0819F

TITLE: EKLUTNA LAKE

DATE: AUGUST 19, 1984

STATION NUMBER: 7

STARTING TIME: 0825

ENDING TIME: 1125

SECCHI DISC: 1.1 ft

SURFACE TEMP: 13.4

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	13.56	100		<5.0	32
0.5	13.52	101		<5.0	---
1.0	13.52	100		<5.0	31
2.0	13.19	99		<5.0	31
4.0	13.52	98		<5.0	31
6.0	11.50	96		<5.0	35
8.0	10.96	93		<5.0	32
10.0	10.51	94		<5.0	35
12.0	10.24	95		<5.0	36
16.0	9.08	93		<5.0	43
20.0	8.72	93		<5.0	48
24.0	8.16	97		<5.0	30
28.0	7.83	95		5.7	19.6
32.0	6.60	97		28.3	4.9
36.0	5.88	97		41.6	3.6
40.0	5.38	96		47.6	3.3
44.0	5.26	94		49.8	1.8
48.0	5.16	96		49.4	---

;WEATHER MOSTLY OVERCAST WITH SOME BLUE PATCHES, LIGHT RAIN
;WINDS CALM. WAVES 0.1 ft
;AT 0840, WIND STARTED BLOWING FROM N AND STARTED RAINING
;L0819G

TITLE: EKLUTNA LAKE

DATE: AUGUST 19, 1984

STATION NUMBER: 8

STARTING TIME: 1150

ENDING TIME: 1345

SECCHI DISC: 1.5 ft

SURFACE TEMP: 13.4

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	13.36	102		<5.0	31
0.5	13.36	108		<5.0	--
1.0	13.36	110		<5.0	34
2.0	13.31	110		<5.0	33
4.0	12.06	102		<5.0	42
6.0	10.98	95		<5.0	36
8.0	9.80	90		<5.0	54
10.0	9.19	88		<5.0	50
12.0	8.97	85		<5.0	54
16.0	8.82	82		<5.0	63
20.0	8.49	85		<5.0	58
24.0	7.93	86		<5.0	56
28.0	7.33	93		<5.0	25
32.0	6.54	95		13.6	15.5
36.0	5.77	97		31.7	5.5
40.0	5.44	96		39.6	7.5
44.0	5.35	95		46.6	4.7
46.0	----	--		----	4.5
48.0	5.16	96		46.6	---
52.0	5.07	96		----	---

!WEATHER OVERCAST WITH DRIZZLE
!WIND FROM NNW
!L08194

TITLE: EKLUTNA LAKE

DATE: AUGUST 18, 1984

STATION NUMBER: 9

STARTING TIME: 0745

ENDING TIME: 1030

SECCHI DISC: 1.5 ft

SURFACE TEMP: 13.8

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	13.78	115		5.4	26
0.5	13.79	115		5.5	--
1.0	13.80	115		5.4	26
2.0	13.76	116		5.3	26
4.0	12.78	108		<5.0	26
6.0	10.25	94		<5.0	50
8.0	10.04	89		<5.0	65
10.0	9.72	87		<5.0	50
12.0	9.50	87		<5.0	69
16.0	8.74	82		<5.0	75
20.0	8.63	78		<5.0	67
24.0	8.31	82		<5.0	51
28.0	7.67	84		8.5	13.0
32.0	6.13	91		19.9	12.6
36.0	5.73	90		28.2	10.5
40.0	5.54	89		32.5	7.1
44.0	5.39	88		42.6	6.5
48.0	5.14	88		41.8	
50.0					7.6
52.0	4.94	88		42.6	
54.0					29

:WEATHER OVERCAST, MEDIUM WIND FROM NNW
:WAVES 0.3 ft
!L08:8I

TITLE: EKLUTNA LAKE

DATE: AUGUST 17, 1984

STATION NUMBER: 10

STARTING TIME: 1810

ENDING TIME: 1950

SECCHI DISC: 1.6 ft

SURFACE TEMP: 15.1

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	15.19	97		6.4	25
0.5	15.17	103		6.4	[illegible]
1.0	15.16	103		6.4	23
2.0	15.14	99		6.4	25
4.0	12.15	96		<5.0	40
6.0	10.62	80		<5.0	42
8.0	9.68	76		<5.0	52
10.0	9.38	74		<5.0	55
12.0	9.16	73		<5.0	62
16.0	8.73	76		<5.0	65
20.0	8.30	76		<5.0	50
24.0	7.65	80		5.8	24
28.0	6.53	79		20.8	15.2
30.0					10.2
32.0	5.70	80		32.7	

!WEATHER HIGH OVERCAST. WIND FROM NNW
!L0817J

TITLE: EKLUTNA LAKE

DATE: AUGUST 17, 1984

STATION NUMBER: 11

STARTING TIME: 1425

ENDING TIME: 1715

SECCHI DISC: 1.4 ft

SURFACE TEMP: 14.9

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	14.96	108		6.1	26
0.5	14.94	108		6.3	--
1.0	14.90	108		6.4	25
2.0	14.68	108		6.1	25
4.0	12.74	102		<5.0	37
6.0	11.68	95		<5.0	42
8.0	10.43	88		<5.0	47
10.0	9.82	86		<5.0	43
12.0	9.54	84		5.0	38
16.0	9.15	81		<5.0	35
20.0	8.67	78			56
24.0	8.06	74		<5.0	43
28.0	6.88	80		12.7	20
32.0	5.84	82		28.7	11.9
36.0	5.57	84		36.9	9.0
40.0	5.47	85		37.8	8.5
42.0				37.0	
44.0	5.30	84			9.5

'WEATHER MOSTLY CLOUDY, LIGHT WINDS FROM NW
!L0817K

TITLE: EKLUTNA LAKE

DATE: AUGUST 17, 1984

STATION NUMBER: 12

STARTING TIME: 1300

ENDING TIME: 1350

SECCHI DISC: 1.3 ft

SURFACE TEMP: 13.9

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0.0	14.04	98		5.6	32
0.5	14.00	100		5.8	--
1.0	13.92	106		5.6	38
2.0	13.60	105		5.2	52
4.0	12.16	98		<5.0	47
6.0	11.12	80		<5.0	41
8.0	10.50	76		<5.0	40
10.0	9.98	78		<5.0	39
12.0	9.45	77		<5.0	55
16.0	8.64	76		<5.0	42
20.0	8.15	75		<5.0	43
24.0	7.62	75		<5.0	45

!WEATHER MOSTLY CLOUDY, WIND FROM NW
!WAVES 0.5 ft
!L0817L

TITLE: EKLUTNA LAKE

DATE: AUGUST 17, 1984

STATION NUMBER: 13

STARTING TIME: 1047

ENDING TIME: *

SECCHI DISC: 1.4 ft

SURFACE TEMP: 14.9

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	14.88	82		6.5	29
0.5	14.85	85		6.6	--
1.0	14.78	93		6.4	27
2.0	14.15	95		6.2	30
4.0	12.33	90		<5.0	47
6.0	11.14	84		<5.0	48
8.0	10.46	89		<5.0	40
10.0	9.86	90		<5.0	40
12.0	9.45	93		<5.0	44
16.0	8.88	88		<5.0	45
20.0	8.56	86		<5.0	42
24.0	7.82	83		<5.0	43
28.0	7.21	86		14.0	25

!50% CLOUDY. SUN STILL OUT ON UPPER LAKE
!WIND FROM WNW
!WIND BLEW BOAT, DRAGGING ANCHOR APPROX. 150m UP LAKE
:LOG17M

TITLE: EKLUTNA LAKE

DATE: AUGUST 17, 1984

STATION NUMBER: 14

STARTING TIME: 0830

ENDING TIME: 0950

SECCHI DISC: 1.3 ft

SURFACE TEMP: 14.7

LAKE DEPTH: 57.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	14.69	83		<5.0	35
0.5	14.70	86		6.6	--
1.0	14.44	107		6.6	36
2.0	13.85	109		6.3	38
4.0	12.12	90		<5.0	53
6.0	11.30	97		<5.0	52
8.0	10.45	93		<5.0	49
10.0	9.70	100		<5.0	47
12.0	9.28	95		<5.0	50
16.0	8.76	90		<5.0	54
20.0	8.42	88		<5.0	58
24.0	7.86	89		<5.0	57

'WEATHER MOSTLY SUNNY, LIGHT BREEZE FROM SOUTHEAST
'FOG JUST CLEARED LAKE
'L0817N

TITLE: EKLUTNA LAKE

DATE: AUGUST 16, 1984

STATION NUMBER: 15

STARTING TIME: 1640

ENDING TIME: 1840

SECCHI DISC: 1.4 ft

SURFACE TEMP: 15.8

LAKE DEPTH: 56.4 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	15.92	74		6.1	35
0.5	15.85	73		6.1	35
1.0	15.70	76		6.1	35
2.0	14.10	43		6.0	40
4.0	12.60	51		<5.0	50
6.0	11.13	78		<5.0	46
8.0	9.99	86		<5.0	44
10.0	9.45	81		<5.0	42
12.0	9.17	84		<5.0	44
16.0	8.80	78		<5.0	45
16.5					

:WEATHER MOSTLY SUNNY, LIGHT WIND FROM THE EAST
:WAVES 0.2 ft
:L08160

TITLE: EKLUTNA LAKE

DATE: SEPTEMBER 3, 1984

STATION NUMBER: 2

STARTING TIME: 1427

ENDING TIME: 1542

SECCHI DISC: 1.5 ft

SURFACE TEMP: 12.9

LAKE DEPTH: 60.3 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDIT (NTU)
0.0	12.93	96			20
0.5	11.11	96			21
1.0	10.85	93			21
2.0	10.63	92			22
4.0	10.55	92			23
6.0	10.51	90			22
8.0	10.46	84			22
10.0	10.35	79			22
12.0	9.79	82			30
16.0	8.62	79			40
20.0	8.22	78			37
24.0	7.70	77			35
28.0	7.00	81			25
32.0	6.50	83			19.0
36.0	6.22	83			17.4
40.0	5.95	83			15.2
44.0	5.77	83			13.9
47.5 bottom					

!SUNNY, WINDS CALM
!ROLLING WAVES 0.1 ft
!L0903B

TITLE: EKLUTNA LAKE

DATE: SEPTEMBER 3, 1984

STATION NUMBER: 1

STARTING TIME: 1550

ENDING TIME: 1650

SECCHI DISC: 1.6 ft

SURFACE TEMP: 12.7

LAKE DEPTH: 60.3 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDIT (NTU)
0.0	12.52	89			40
0.5	11.70	92			[illegible]
1.0	10.85	96			45
2.0	10.66	94			45
4.0	10.51	95			40
6.0	10.48	94			55
8.0	10.47	96			29
10.0	10.33	94			35
12.0	9.62	88			56
16.0	8.60	84			54
20.0	8.24	83			54
24.0	7.60	86			53
25.6 bottom					

:CLEAR WITH A FEW CLOUDS
:LIGHT BREEZE FROM SSE
:L0903A

TITLE: EKLUTNA LAKE

DATE: SEPTEMBER 3, 1984

STATION NUMBER: 5

STARTING TIME: 1705

ENDING TIME: 1755

SECCHI DISC: 1.6 ft

SURFACE TEMP: 12.6

LAKE DEPTH: 60.3 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	12.46	105			
0.5	11.76	106			
1.0	11.02	105			
2.0	10.68	104			
4.0	10.54	102			
6.0	10.47	101			
8.0	10.45	99			
10.0	10.40	99			
12.0	9.89	94			
16.0	8.68	89			
20.0	8.16	88			
24.0	7.88	89			
28.0	6.90	95			
32.0	6.52	98			
36.0	6.21	98			
40.0	5.88	101			
44.0	5.54	100			
47.0 bottom					

L0903C

TITLE: EKLUTNA LAKE

DATE: SEPTEMBER 3, 1984

STATION NUMBER: 9

STARTING TIME: 1200

ENDING TIME: 1412

SECCHI DISC: 1.4 ft

SURFACE TEMP: 11.4

LAKE DEPTH: 60.3 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	11.43	83			22
0.5	10.70	90			--
1.0	10.65	88			22
2.0	10.58	82			22
4.0	10.46	84			22
6.0	10.40	80			25
8.0	10.36	82			25
10.0	10.25	81			27
12.0	10.24	85			37
16.0	8.90	81			40
20.0	8.33	79			50
24.0	7.84	80			34
28.0	7.42	82			36
32.0	7.03	86			24
36.0	6.32	88			17.5
40.0	6.06	90			16.0
44.0	5.84	90			15.1
48.0	5.67	90			14.1
52.0	5.43	90			14.0
56.0	5.26	90			13.7
57.0 bottom					

'WIND FROM NW STARTED AT 1309
'WAVES APPROX. 0.3 ft
'L0903I

TITLE: EKLUTNA LAKE

DATE: SEPTEMBER 3, 1984

STATION NUMBER: 15

STARTING TIME: 1035

ENDING TIME: 1135

SECCHI DISC: 1.4 ft

SURFACE TEMP: 10.6

LAKE DEPTH: 60.3 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	10.70	70			24
0.5	10.50	88			--
1.0	10.23	88			24
2.0	10.10	78			26
4.0	10.10	82			26
6.0	10.07	77			27
8.0	10.00	83			25
10.0	9.90	77			26
12.0	9.75	82			32
14.0	----	--			30
16.0	9.04	75			--
16.8 bottom					

'CLEAR, NO CLOUDS
'SLIGHT BREEZE FROM SSE
'L09030

TITLE: EKLUTNA LAKE

DATE: SEPTEMBER 17, 1984

STATION NUMBER: 1

STARTING TIME: 1720

ENDING TIME: 1737

SECCHI DISC: 1.4 ft

SURFACE TEMP: 10.8

LAKE DEPTH: 60.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	10.85	96			
0.5	10.75	96			
1.0	8.95	98			14.5
1.5	7.35	94			
1.7 bottom					

'OVERCAST. CALM
'L0917A

TITLE: EKLUTNA LAKE

DATE: SEPTEMBER 17, 1984

STATION NUMBER: 2

STARTING TIME: 1555

ENDING TIME: 1700

SECCHI DISC: 1.5 ft

SURFACE TEMP: 10.5

LAKE DEPTH: 60.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	10.49	92			
0.5	10.46	93			
1.0	10.46	95			
2.0	10.43	95			5.0
4.0	10.28	87			
6.0	9.94	87			
8.0	9.87	89			
10.0	9.84	89			7.5
12.0	9.82	92			
16.0	8.69	90			
20.0	8.14	89			25
24.0	7.40	89			
28.0	6.95	93			
32.0	6.46	94			
36.0	6.25	96			
40.0	6.10	97			10.5
44.0	5.87	98			
47.5 bottom					

'OVERCAST
'BREEZE FROM N
'WAVES 0.5 ft
'L09:7B

TITLE: EKLUTNA LAKE

DATE: SEPTEMBER 17, 1984

STATION NUMBER: 3

STARTING TIME: 1415

ENDING TIME: 1545

SECCHI DISC: 1.5 ft

SURFACE TEMP: 10.9

LAKE DEPTH: 60.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	11.02	92			
0.5	10.52	91			
1.0	10.36	93			5.5
2.0	10.18	91			
4.0	10.15	91			
6.0	10.13	88			
8.0	10.11	89			
10.0	9.95	88			7.0
12.0	9.40	89			
16.0	8.81	86			
20.0	8.19	85			
24.0	7.64	85			
28.0	6.74	90			7.0
32.0	6.38	92			
36.0	6.18	94			
40.0	5.88	94			9.5
44.0	5.70	96			
47.5 bottom					

OVERCAST, CALM.
SKIES CLEARING OVER GLACIER.
AT 1520, WIN INCREASING FROM THE WEST, WAVES 0.3 ft.
L0917C

TITLE: EKLUTNA LAKE

DATE: SEPTEMBER 17, 1984

STATION NUMBER: 9

STARTING TIME: 1130

ENDING TIME: 1400

SECCHI DISC: 1.7 ft

SURFACE TEMP: 10.4

LAKE DEPTH: 60.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	10.39	97			23
0.5	10.28	97			[illegible]
1.0	10.20	97			[illegible]
2.0	10.13	93			24
4.0	10.09	92			[illegible]
6.0	10.08	91			[illegible]
8.0	9.96	91			[illegible]
10.0	9.64	92			25
12.0	9.20	92			[illegible]
16.0	8.70	89			[illegible]
20.0	8.17	85			[illegible]
24.0	7.93	84			[illegible]
28.0	7.46	86			[illegible]
32.0	7.07	88			24
36.0	6.80	91			19.5
40.0	6.19	94			14.0
44.0	5.90	94			15.0
48.0	5.70	95			17.0
52.0	5.25	96			16.1
56.0	5.18	97			18.0
59.0 bottom					

!OVERCAST. CALM.
!WIND FROM NW AT 1140. DIED DOWN AT 1240.
!L09171

TITLE: EL JTNA LAKE

DATE: SEPTEMBER 17, 1984

STATION NUMBER: 15

STARTING TIME: 0920

ENDING TIME: 1110

SECCHI DISC: 1.6 ft

SURFACE TEMP: 10.0

LAKE DEPTH: 60.8 m

DEPTH (meter)	TEMP. (celcius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	10.08	99			26
0.5	10.08	98			--
1.0	10.08	97			27
2.0	10.06	94			25
4.0	10.05	90			24
6.0	10.05	88			30
8.0	10.03	88			29
10.0	9.99	86			30
12.0	9.78	84			36
14.0	8.50	86			34
19.2 bottom					

!PARTLY CLOUDY
!LIGHT WIND FROM SSE
!L09170

TITLE: EKLUTNA LAKE

DATE: OCTOBER 1, 1984

STATION NUMBER: 1

STARTING TIME: 1100

ENDING TIME: 1210

SECCHI DISC: 0.6 ft

SURFACE TEMP: 7.0

LAKE DEPTH: 61.2 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	7.0	88			25
0.5	7.2	88			71
1.0	6.5	81			163
2.0	4.0	82			229
2.2 bottom					

!WEATHER CALM, LIGHT INTERMITTENT RAIN, OVERCAST
!READINGS VERY UNSTABLE BECAUSE OF WANDERING STREAM PLUME
!L1001A

TITLE: EKLUTNA LAKE

DATE: OCTOBER 1, 1984

STATION NUMBER: 2

STARTING TIME: 1240

ENDING TIME: 1420

SECCHI DISC: 2.2 ft

SURFACE TEMP: 9.0

LAKE DEPTH: 61.2 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	9.00	87			12.7
0.5	8.94	88			12.8
1.0	8.90	91			12.9
2.0	8.77	90			13.0
4.0	8.74	92			14.0
6.0	8.72	91			15.0
8.0	8.70	91			14.8
10.0	8.68	86			16.6
12.0	8.62	86			17.7
16.0	8.49	91			18.2
20.0	8.20	92			24
24.0	7.90	92			32
28.0	7.54	91			
32.0	7.13	93			15.0
34.0					
36.0	6.53	95			18.5
38.0					
40.0	6.37	96			16.0
42.0					
44.0	6.30	97			18.0
46.0					
47.1	6.23	98			
47.3 bottom					

!WIND FROM NNW AT 6 MPH, GUSTING TO 7 MPH.
!L1001B

TITLE: EKLUTNA LAKE

DATE: OCTOBER 1, 1984

STATION NUMBER: 3

STARTING TIME: 1430

ENDING TIME: 1600

SECCHI DISC: 5 ft

SURFACE TEMP: 9 C

LAKE DEPTH: 61.2 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0.0	9.11	86			2.0
0.5	9.06	86			
1.0	9.03	89			2.0
2.0	8.96	89			12.0
4.0	8.83	88			9.0
6.0	8.81	84			12.0
8.0	8.80	85			13.0
10.0	8.80	85			13.0
12.0	8.73	85			13.0
16.0	8.40	86			16.0
20.0	7.80	87			18.0
24.0	7.62	87			17.0
28.0	7.35	89			16.0
32.0	6.94	90			15.0
36.0	6.64	91			13.5
40.0	6.38	92			15.5
44.0	6.84	90			11.6
48.0	6.74	89			
49.8	6.72	89			

PARTLY SUNNY, OVERCAST.
WIND FROM ESE AT 9 MPH.
CLOUDY

TITLE: EKLUTNA LAKE

DATE: OCTOBER 1, 1984

STATION NUMBER: 9

STARTING TIME: 1620

ENDING TIME: *

SECCHI DISC: 2.3 ft

SURFACE TEMP: 8.8

LAKE DEPTH: 61.2 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR. CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0.0	9.01	97			13.1
0.5	8.90	97			
1.0	8.86	98			16.1
2.0	8.83	97			13.7
4.0	8.81	95			19.9
6.0	8.79	95			12.6
8.0	8.77	97			14.0
10.0	8.75	97			15.2
12.0	8.72	97			15.0
16.0	8.61	98			13.3
20.0	8.57	97			14.5
22.0	8.25				
24.0	7.61	97			15.0
28.0	6.93	100			14.7
32.0	6.73	100			13.0
36.0	6.56	101			12.0
40.0	6.20	102			11.5
44.0	5.95	103			17.8
48.0	5.71	102			26.
50.0	5.98	102			
52.0	6.13	102			92
56.0	6.29	101			75
58.0	6.33				
59.0	6.33	100			
59.3 bottom					

!BROKEN CLOUDS, OVERCAST.
!WIND FROM SE AT 6 MPH.
!WIND PICKED UP TO 18 MPH FROM S AT 1850.
!L10013

TITLE: EKLUTNA LAKE

DATE: OCTOBER 1, 1984

STATION NUMBER: 15

STARTING TIME: 1920

ENDING TIME: 1935

SECCHI DISC: 4

SURFACE TEMP: 8.8

LAKE DEPTH: 61.2 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	8.82	105			
1.0	8.82	104			
2.0	8.83	105			
4.0	8.82	101			1.3
6.0	8.82	101			
8.0	8.82	102			
10.0	8.82	102			
12.0	8.82	103			
16.0	8.82	104			
18.5	8.82	103			
18.5 bottom					

'WIND PICKED UP AT STATION 9 TO STEADY 18 MPH FROM S
'WAVES 1.5 TO 2.0 ft
'L10910

TITLE: EKLUTNA LAKE

DATE: OCTOBER 15, 1984

STATION NUMBER: 1

STARTING TIME: 1115

ENDING TIME: 1135

SECCHI DISC: 3.9 ft

SURFACE TEMP: 1.5

LAKE DEPTH: 61.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	1.12	92			
0.5	1.60	93			
1.0	1.34	94			1.5
1.5 bottom					

'LIGHT OVERCAST
'SLIGHT BREEZE FROM SSE
'L1015A

TITLE: EKLUTNA LAKE

DATE: OCTOBER 15, 1984

STATION NUMBER: 2

STARTING TIME: 1145

ENDING TIME: 1230

SECCHI DISC: 2.6 ft

SURFACE TEMP: 7.5

LAKE DEPTH: 61.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	7.32	85			
0.5	7.31	86			
1.0	7.32	87			
2.0	7.32	87			
4.0	7.33	87			1.2
6.0	7.33	81			
8.0	7.32	82			
10.0	7.32	82			
12.0	7.31	80			1.2
16.0	7.30	81			
20.0	7.29	82			
24.0	7.16	82			1.2
28.0	6.84	86			
32.0	6.58	88			
36.0	6.45	88			
40.0	6.24	89			
44.0	6.22	89			17.8
48.0	6.15	89			
49.0 bottom					

L1015B

TITLE: EKLUTNA LAKE

DATE: OCTOBER 15, 1984

STATION NUMBER: 3

STARTING TIME: 0835

ENDING TIME: 1050

SECCHI DISC: 2.5 ft

SURFACE TEMP: 7.5

LAKE DEPTH: 61.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	7.25	89			
0.5	7.30	83			
1.0	7.31	82			11.6
2.0	7.31	71			
4.0	7.29	68			
6.0	7.29	64			11.9
8.0	7.29	64			
10.0	7.29	77			
12.0	7.29	76			
16.0	7.28	75			12.6
20.0	7.29	74			
24.0	7.00	82			
28.0	6.81	84			
32.0	6.68	85			
36.0	6.34	88			17.2
40.0	6.28	89			
44.0	6.17	89			
48.0	6.03	90			
49.0 bottom					

'WEATHER SLIGHTLY HAZEY
!L1015C

TITLE: EKLUTNA LAKE

DATE: OCTOBER 15, 1984

STATION NUMBER: 9

STARTING TIME: 1320

ENDING TIME: 1510

SECCHI DISC: 2.7 ft

SURFACE TEMP: 7.6

LAKE DEPTH: 61.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	7.48	79			
0.5	7.45	80			
1.0	7.47	81			
2.0	7.45	82			11.4
4.0	7.43	82			
6.0	7.41	81			
8.0	7.41	80			
10.0	7.41	81			11.7
12.0	7.40	82			
16.0	7.39	82			
20.0	7.39	82			12.4
24.0	7.39	81			
28.0	7.15	83			
32.0	6.75	84			
36.0	6.47	85			
40.0	6.30	86			18.4
44.0	6.18	86			
48.0	6.11	86			
52.0	6.01	87			
56.0	5.80	86			21
60.0	5.70	87			
60.6 bottom					

'OVERCAST WITH HIGH THIN HAZE
'WINDS CALM, WAVES < 0.1 ft
'L1015I

TITLE: EKLUTNA LAKE

DATE: OCTOBER 15, 1984

STATION NUMBER: 15

STARTING TIME: 1530

ENDING TIME: *

SECCHI DISC: 2.7 ft

SURFACE TEMP: 7.5

LAKE DEPTH: 61.8 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	7.25	83			
0.5	7.25	83			
1.0	7.25	83			
2.0	7.25	83			0.6
4.0	7.21	82			
6.0	7.20	82			
8.0	7.19	81			
10.0	7.18	82			
12.0	7.16	82			1.1
16.0	7.19	82			
19.0 bottom					

!MOSTLY CLEAR
!3 TO 4 MPH WINDS FROM W
!L10150

TITLE: EKLUTNA LAKE

DATE: OCTOBER 29, 1984

STATION NUMBER: 1

STARTING TIME: 1355

ENDING TIME: 1420

SECCHI DISC: 2.5 ft

SURFACE TEMP: 5.2

LAKE DEPTH: 61.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	4.62	73			
0.5	4.70	76			
1.0	4.70	78			0.4
2.0	4.39	78			
2.6 bottom					

:WEATHER VERY CLEAR, WIND FROM SE
:L1029A

TITLE: EKLUTNA LAKE

DATE: OCTOBER 29, 1984

STATION NUMBER: 2

STARTING TIME: 1240

ENDING TIME: 1330

SECCHI DISC: 2.1 ft

SURFACE TEMP: 6.0

LAKE DEPTH: 61.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	5.88	76			
0.5	5.96	79			
1.0	5.92	79			
2.0	5.96	80			
4.0	5.96	79			1.0
6.0	5.95	79			
8.0	5.94	62			
10.0	5.94	60			
12.0	5.94	63			0.9
16.0	5.93	63			
20.0	5.92	64			
24.0	5.93	65			
28.0	5.93	66			0.3
32.0	5.93	69			
36.0	5.93	70			
40.0	5.90	70			1.2
44.0	5.85	71			
47.5 bottom					

!WEATHER CLEAR, NO WIND
!L1029B

TITLE: EKLUTNA LAKE

DATE: OCTOBER 29, 1984

STATION NUMBER: 3

STARTING TIME: 0940

ENDING TIME: 1215

SECCHI DISC: 2.1 ft

SURFACE TEMP: 6.3

LAKE DEPTH: 61.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	5.73	73			
0.5	5.74	79			
1.0	5.76	79			
2.0	5.76	79			
4.0	5.77				1 . 0
6.0	5.76				
8.0	5.75				
10.0	5.75	66			
12.0	5.75	69			
16.0	5.75	66			1 . 0
20.0	5.75	71			
24.0	5.76	72			
28.0	5.76	72			
32.0	5.73	73			0.8
36.0	5.69	73			
40.0	5.66	74			
44.0	5.65	76			0.9
48.0	5.55	76			
48.9 bottom					

!WEATHER MOSTLY CLEAR
!SLIGHT WIND FROM SE
!L1029C

TITLE: EKLUTNA LAKE

DATE: OCTOBER 29, 1984

STATION NUMBER: 9

STARTING TIME: 1515

ENDING TIME: *

SECCHI DISC: 2.1 ft

SURFACE TEMP: 6.3

LAKE DEPTH: 61.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	5.60	81			
0.5	5.78	81			
1.0	5.77	81			
2.0	5.82	82			
4.0	5.82	81			
6.0	5.83	83			0.3
8.0	5.85	82			
10.0	5.85	82			
12.0	5.85	74			
16.0	5.86	73			
20.0	5.86	72			0.5
24.0	5.86	71			
28.0	5.86	71			
32.0	5.87	72			
36.0	5.86	72			0.0
40.0	5.87	72			
44.0	5.87	72			
48.0	5.87	73			
52.0	5.87	74			
56.0	5.86	74			0.2
59.3	5.87	74			
59.3 bottom					

!WEATHER CLEAR
!WIND FROM NW 5 MPH
!WAVES 0.4 ft
!L1029I

TITLE: SKILTNA LAKE

DATE: OCTOBER 29, 1984

STATION NUMBER: 9

STARTING TIME: 1515

ENDING TIME: *

SECCHI DISC: 2.1 ft

SURFACE TEMP: 6.3

LAKE DEPTH: 61.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	5.60	81			
0.5	5.78	81			
1.0	5.77	81			
2.0	5.83	82			
4.0	5.82	81			
6.0	5.83	83			1.5
8.0	5.85	82			
10.0	5.85	82			
12.0	5.85	74			
16.0	5.86	73			
20.0	5.86	72			1.5
24.0	5.86	71			
28.0	5.86	71			
32.0	5.87	72			
36.0	5.86	72			1.0
40.0	5.87	73			
44.0	5.87	72			
48.0	5.87	73			
52.0	5.87	74			
56.0	5.86	74			1.2
59.3	5.87	74			
59.3 bottom					

!WEATHER CLEAR
!WIND FROM NW 5 MPH
!WAVES 0.4 ft
!L10291

TITLE: ERLUTNA LAKE

DATE: OCTOBER 29, 1984

STATION NUMBER: 15

STARTING TIME: 1640

ENDING TIME: *

SECCHI DISC: 3.6 ft

SURFACE TEMP: 5.5

LAKE DEPTH: 61.7 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	5.07	81			
0.5	5.19	81			
1.0	5.21	81			
2.0	5.22	82			0.2
4.0	5.28	82			
6.0	5.28	83			
8.0	5.29	79			
10.0	5.28	79			
12.0	5.28	77			1.0
16.0	5.25	76			
20.0	5.23	76			
21.0 bottom					

'WEATHER MOSTLY CLEAR, NO WIND
'GETTING DARK
'L)0290

TITLE: EKLUTNA LAKE

DATE: NOVEMBER 12, 1984

STATION NUMBER: 1

STARTING TIME: 0945

ENDING TIME: 1030

SECCHI DISC: 2.6 ft

SURFACE TEMP: 4.0

LAKE DEPTH: 61.0 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	3.72	75			
0.5	3.73	72			
1.0	3.75	72			11.0
2.0	3.77	80			
2.0 bottom.					

!WEATHER CLEAR
!LIGHT BREEZE FROM SE
!FOG MOVING TOWARD NW
!L!112A

TITLE: EKLUTNA LAKE

DATE: NOVEMBER 12, 1984

STATION NUMBER: 3

STARTING TIME: 1040

ENDING TIME: 1210

SECCHI DISC: 2.7 ft

SURFACE TEMP: 4.8

LAKE DEPTH: 61.0 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	4.48	67			
0.5	4.56	69			
1.0	4.56	74			
2.0	4.58	71			
4.0	4.57	70			1.3
6.0	4.61	71			
8.0	4.60	76			
10.0	4.61	76			
12.0	4.60	78			
16.0	4.59	79			1.0
20.0	4.59	79			
24.0	4.61	79			
28.0	4.60	79			1.0
32.0	4.60	80			
36.0	4.59	79			
40.0	4.59	80			0.4
44.0	4.59	79			
48.0	4.49	70			
48.5 bottom					

!WEATHER CLEAR, CALM
!SOME FOG
!L!112B

LAKE: ERROTIN LAKE

DATE: NOVEMBER 12, 1984

STATION NUMBER: 3

STARTING TIME: 1225

ENDING TIME: *

SECCHI DISC: 2.6 ft

SURFACE TEMP: 4.6

LAKE DEPTH: 61.0 m

DEPTH (meters)	TEMP. (celcius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	4.30	74			
0.5	4.32	74			
1.0	4.32	73			
2.0	4.31	73			
4.0	4.39	69			8.4
6.0	4.40	70			
8.0	4.41	71			
10.0	4.41	71			
12.0	4.40	72			
16.0	4.46	73			9.6
20.0	4.46	73			
24.0	4.44	73			
28.0	4.43	74			9.6
32.0	4.38	75			
36.0	4.36	75			
40.0	4.31	76			9.7
44.0	4.22	76			
45.5 bottom					

:L11120

TITLE: EKLUTNA LAKE

DATE: NOVEMBER 12, 1984

STATION NUMBER: 9

STARTING TIME: 1400

ENDING TIME: *

SECCHI DISC: 2.8 ft

SURFACE TEMP: 4.8

LAKE DEPTH: 61.0 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0.0	4.57	83			
0.5	4.55	83			
1.0	4.57	83			
2.0	4.60	83			
4.0	4.60	83			10.6
6.0	4.61	78			
8.0	4.61	76			
10.0	4.61	74			
12.0	4.61	76			
16.0	4.61	76			10.3
20.0	4.62	77			
24.0	4.61	77			
28.0	4.61	78			
32.0	4.62	78			11.0
36.0	4.62	79			
40.0	4.62	79			
44.0	4.61	78			
48.0	4.61	79			9.8
52.0	4.61	79			
56.0	4.66	79			
58.0 bottom					

[illegible]

TITLE: EKLUTNA LAKE

DATE: NOVEMBER 12, 1984

STATION NUMBER: 15

STARTING TIME: 1600

ENDING TIME: 1620

SECCHI DISC: 2.6 ft

SURFACE TEMP: 4.2

LAKE DEPTH: 61.0 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	3.80	86			
0.5	3.82	87			
1.0	3.84	87			0.8
2.0	3.92	85			
4.0	3.96	76			
6.0	3.92	76			
8.0	3.93	78			
10.0	3.92	79			
12.0	3.93	78			0.4
14.0	4.00	79			
16.5 bottom					

!L11120

TITLE: EKLUTNA LAKE

DATE: NOVEMBER 26, 1984

STATION NUMBER: 1

STARTING TIME: 0950

ENDING TIME: 1040

SECCHI DISC: 3.7 ft

SURFACE TEMP: 2.9

LAKE DEPTH: 60.6 m

DEPTH (meters)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	3.40	72			
0.5	2.53	72			
1.0	2.65	73			9.0
2.0	2.97	68			
2.5 bottom					

'WEATHER CLEAR, CALM
'LIGHT BREEZE FROM S
'L1126A

TITLE: EKLUTNA LAKE

DATE: NOVEMBER 26, 1984

STATION NUMBER: 2

STARTING TIME: 1045

ENDING TIME 1:45

SECCHI DISC: 3.0 ft

SURFACE TEMP: 3.5

LAKE DEPTH: 60.6 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	3.25	77			
0.5	3.34	77			
1.0	3.48	77			
2.0	3.50	74			
4.0	3.63	72			8.9
6.0	3.65	69			
8.0	3.68	70			
10.0	3.66	69			
12.0	3.68	70			
16.0	3.68	70			
20.0	3.68	70			7.9
24.0	3.67	70			
28.0	3.66	70			
32.0	3.66	70			
36.0	3.68	70			
40.0	3.67	70			8.4
44.0	3.65	71			
48.0	3.61	70			
48.1	bottom				

LIGHT AND VARIABLE WIND
SLIGHTLY OVERCAST
LI126B

TITLE: FYLDUTNA LAKE

DATE: NOVEMBER 26, 1984

STATION NUMBER: 3

STARTING TIME: 1155

ENDING TIME: 1240

SECCHI DISC: 3.0 ft

SURFACE TEMP. 2.8

LAKE DEPTH: 60.6 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0.0	3.56	74			
0.5	2.58	74			
1.0	3.61	74			
2.0	3.75	73			
4.0	3.97	73			8.2
6.0	3.00	70			
8.0	3.10	71			
10.0	3.21	70			
12.0	3.26	71			
16.0	3.22	70			
20.0	3.22	71			7.9
24.0	3.27	71			
28.0	3.32	72			
32.0	3.40	72			
36.0	3.42	72			
40.0	3.41	72			8.4
44.0	3.41	72			

44.5 bottom

!WEATHER OVERCAST
!LIGHT AND VARIABLE WIND
!11260

TITLE: EKLUTNA LAKE

DATE: NOVEMBER 26, 1984

STATION NUMBER: 9

STARTING TIME: 1300

ENDING TIME: 1410

SECCHI DISC: 3.0 ft

SURFACE TEMP: 1.9

LAKE DEPTH: 60.6 m

DEPTH (meter)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS. (%)	TURBIDITY (NTU)
0.0	2.10	77			
0.5	2.14	77			
1.0	2.14	77			
2.0	2.25	75			6.6
4.0	2.62	74			
6.0	2.92	71			
8.0	3.26	73			
10.0	3.50	75			
12.0	3.58	75			
16.0	3.61	77			9.2
20.0	3.62	76			
24.0	3.64	77			
28.0	3.63	76			
32.0	3.62	77			7.0
36.0	3.62	77			
40.0	3.63	77			
44.0	3.64	77			
48.0	3.62	77			
52.0	3.61	78			8.2
56.0	3.66	78			
58.0 bottom					

!WEATHER CLEAR OVER LAKE
!OVERCAST OVER GLACIER
!LIGHT BREEZE FROM NNE
!L11267

TITLE: EKLUTNA LAKE

DATE: NOVEMBER 26, 1984

STATION NUMBER: 15

STARTING TIME: 1420

ENDING TIME: *

SECCHI DISC: 3.0 ft

SURFACE TEMP: 2.5

LAKE DEPTH: 60.6 m

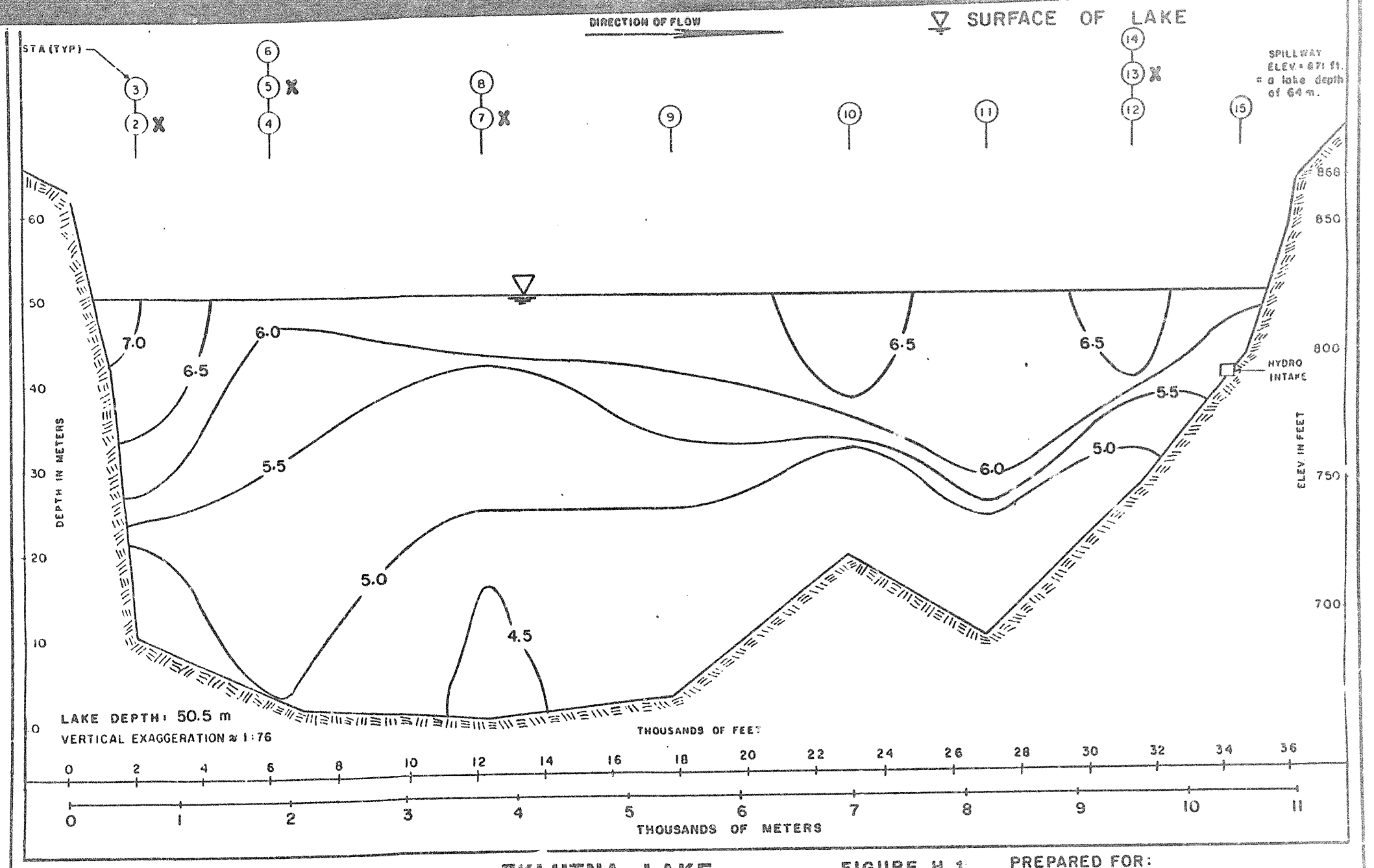
DEPTH (meters)	TEMP. (celsius)	CONDUCTIVITY (umho)	CORR.CONDUCT. (umho)	TRANSMISS (%)	TURBIDITY (NTU)
0.0	2.72	83			
0.5	2.74	83			
1.0	2.77	83			
2.0	2.82	83			
4.0	2.92	77			
6.0	3.13	79			
8.0	3.24	81			
10.0	3.28	79			
12.0	3.31	81			
16.0	3.42	80			
19.6 bottom					

!WEATHER CLEAR
!5 MPH BREEZE FROM NW
!THIN FOG ON LAKE
!L11260

APPENDIX H

APPENDIX H

LAKE TEMPERATURE ISOPLETHS



PREPARED BY:

R&M CONSULTANTS, INC.

ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

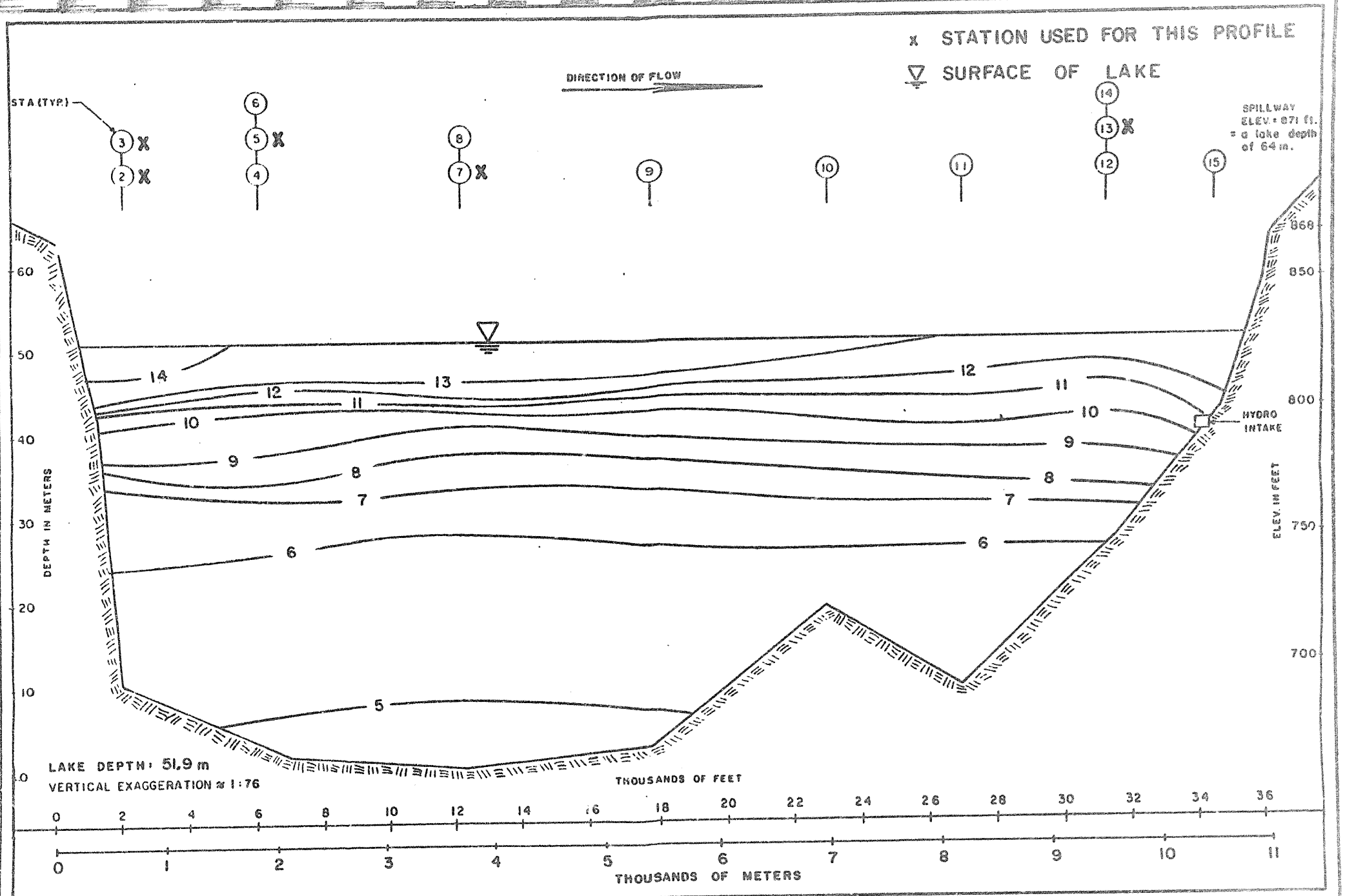
EKLUTNA LAKE TEMPERATURE PROFILE (°C) JUNE 2, 1983

FIGURE H.1

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

R&M CONSULTANTS, INC.

ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

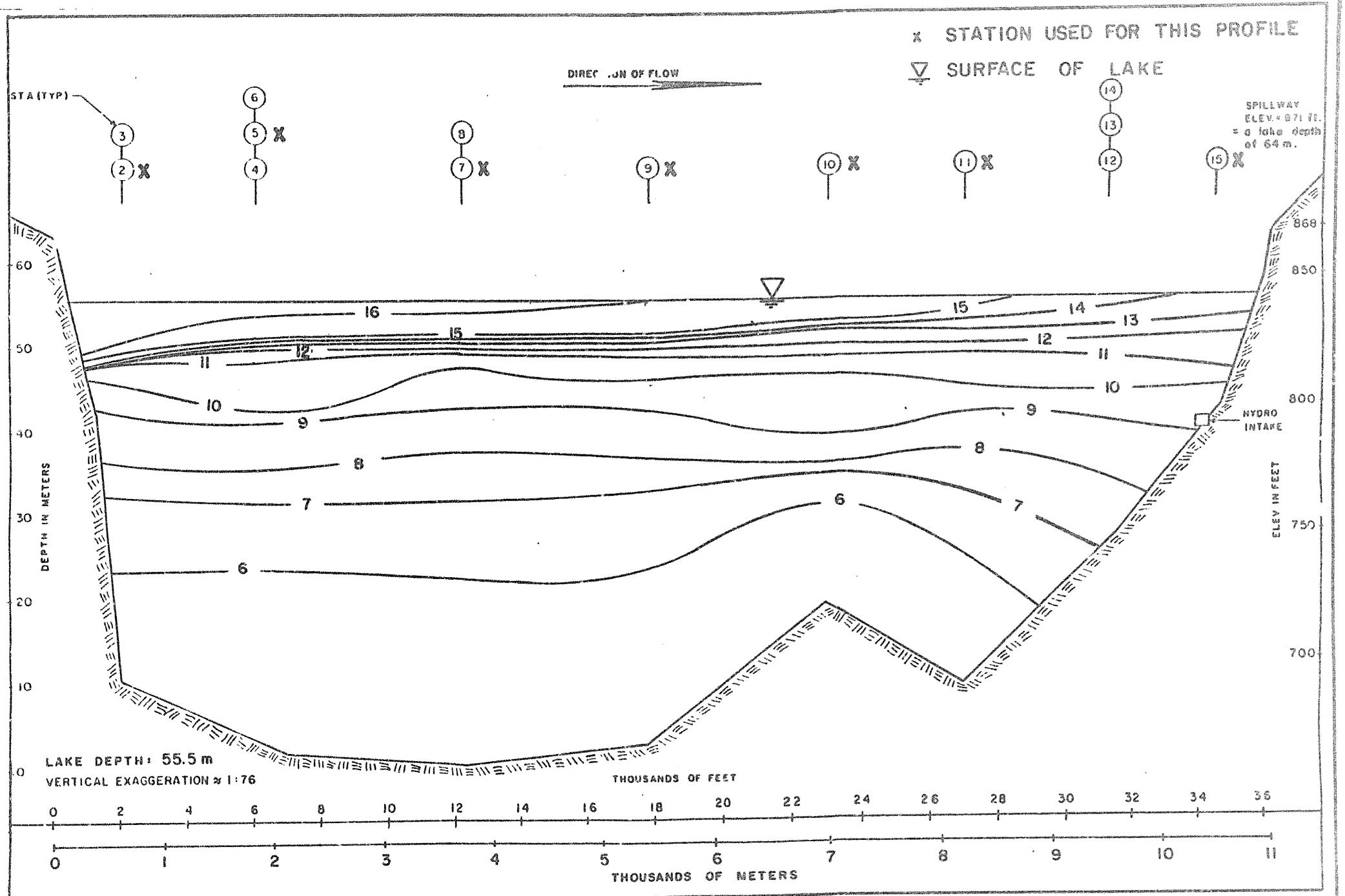
EKLUTNA LAKE TEMPERATURE PROFILE (°C) JULY 6, 1983

FIGURE H.2

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

R&M CONSULTANTS, INC.

ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

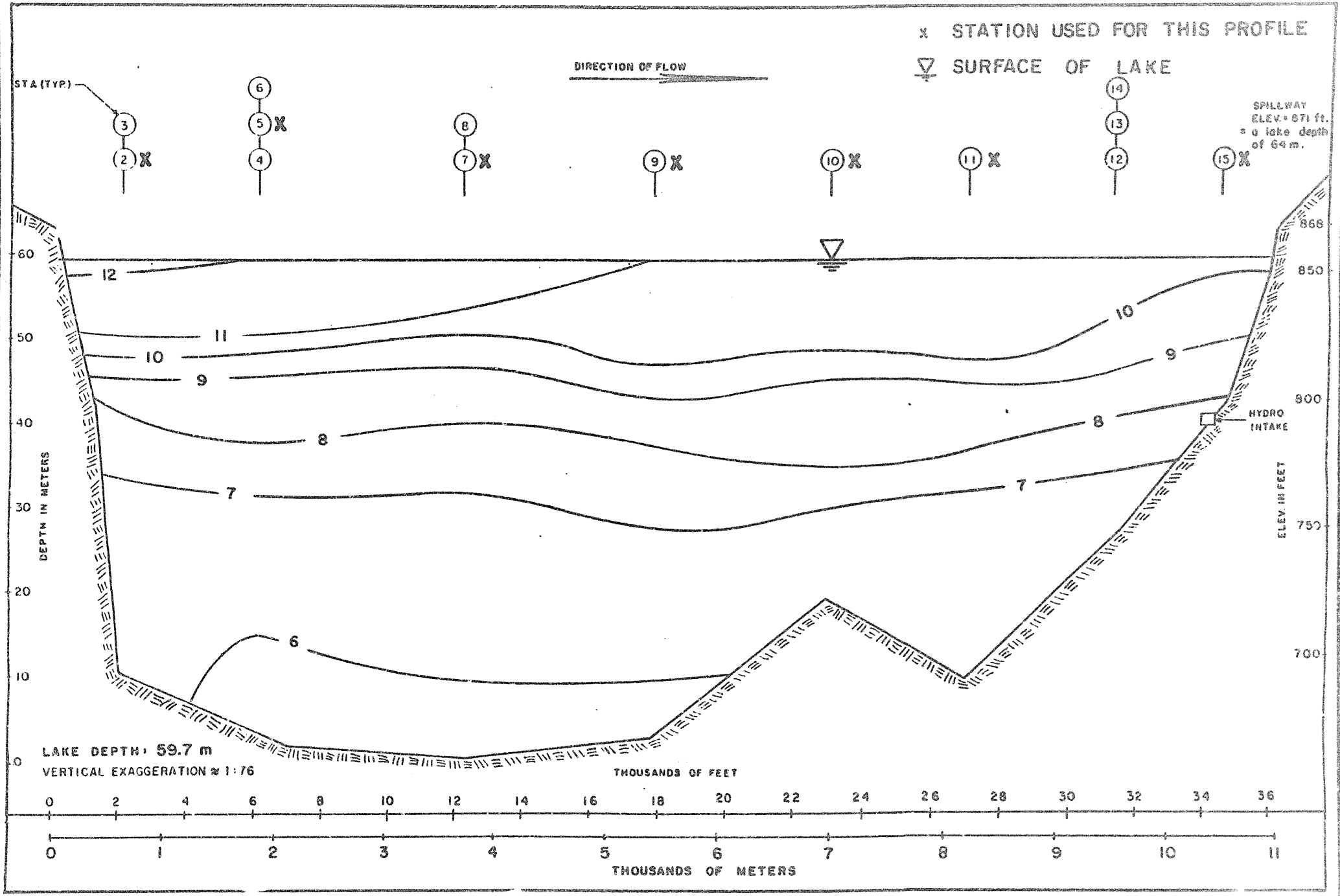
EKLUTNA LAKE TEMPERATURE PROFILE (°C) AUGUST 3, 1983

FIGURE H.3

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

R&M CONSULTANTS, INC.

ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

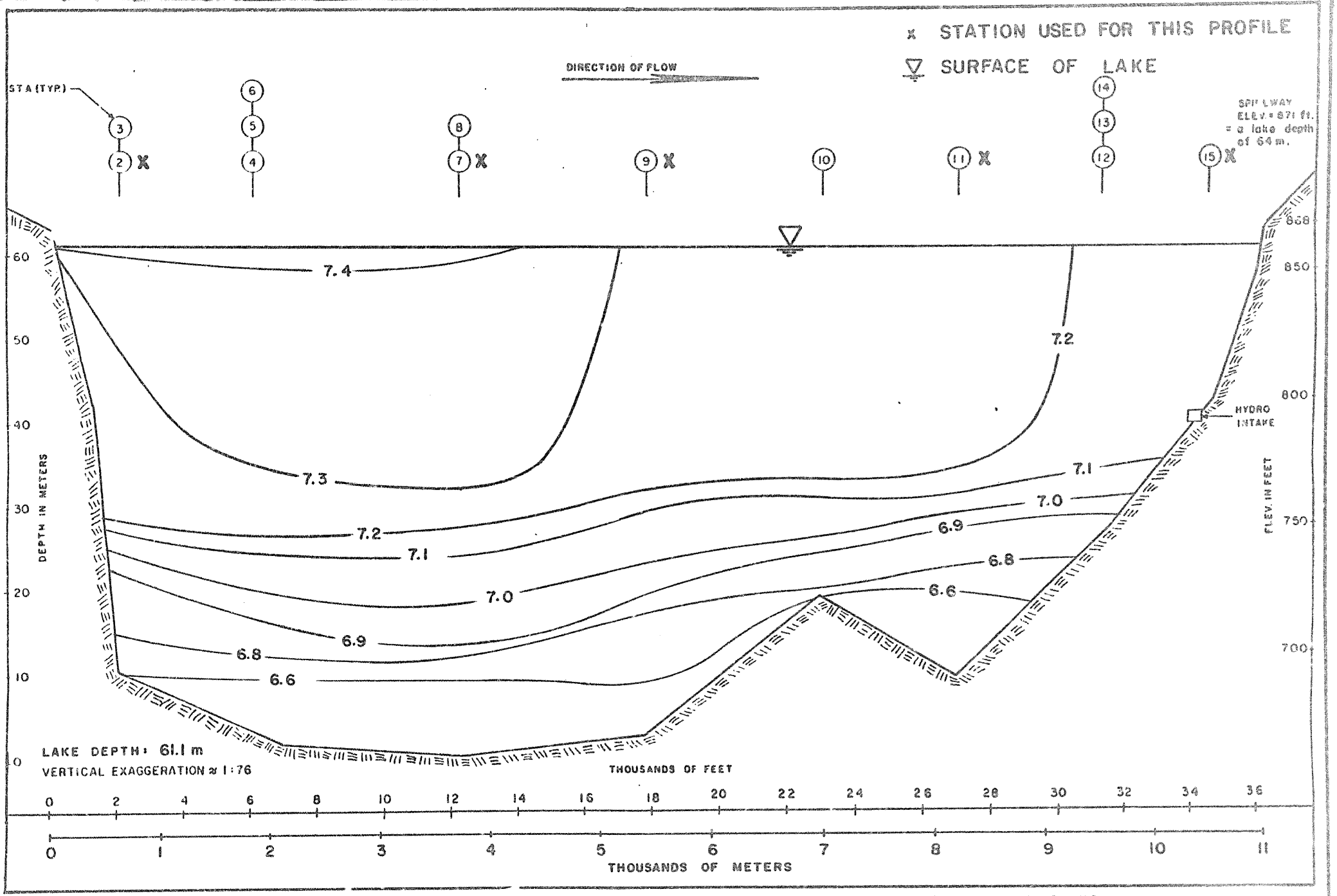
EKLUTNA LAKE TEMPERATURE PROFILE (°C) SEPTEMBER 7, 1983

FIGURE H.4

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

R&M CONSULTANTS, INC.

ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

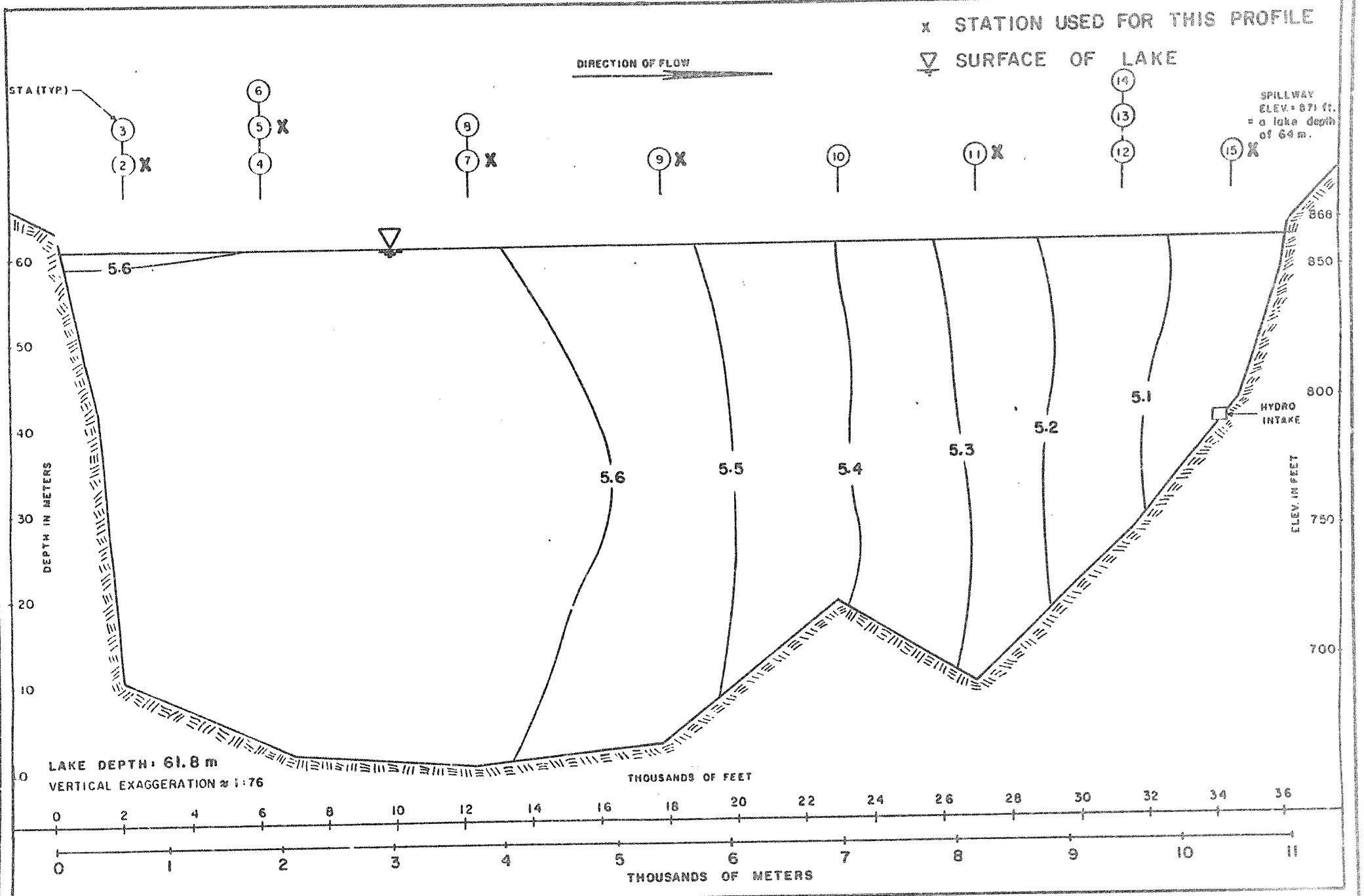
EKLUTNA LAKE TEMPERATURE PROFILE (°C) OCTOBER 5, 1983

FIGURE H.5

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

R&M CONSULTANTS, INC.

ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

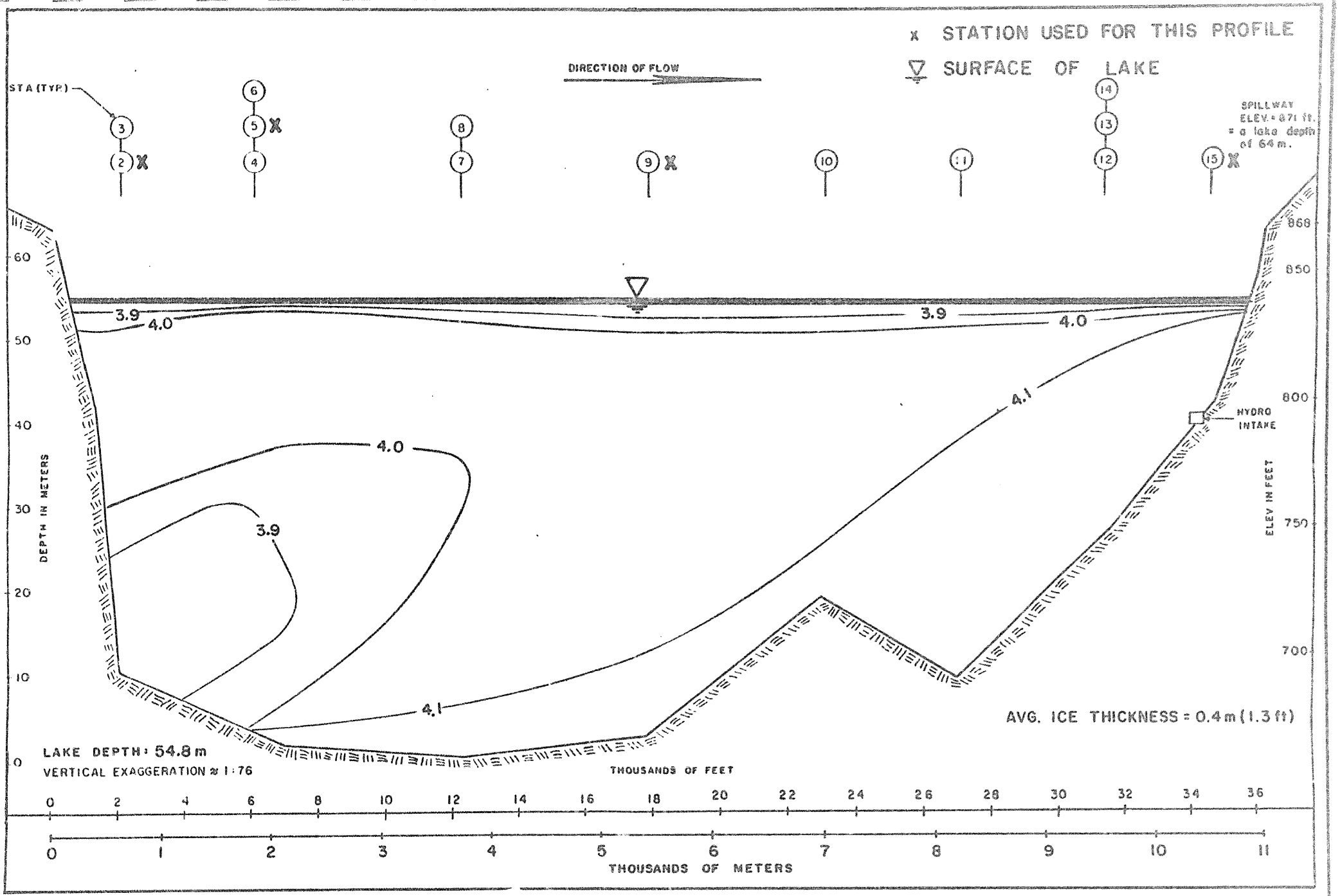
EKLUTNA LAKE TEMPERATURE PROFILE (°C) NOVEMBER 1, 1983

FIGURE H.6

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

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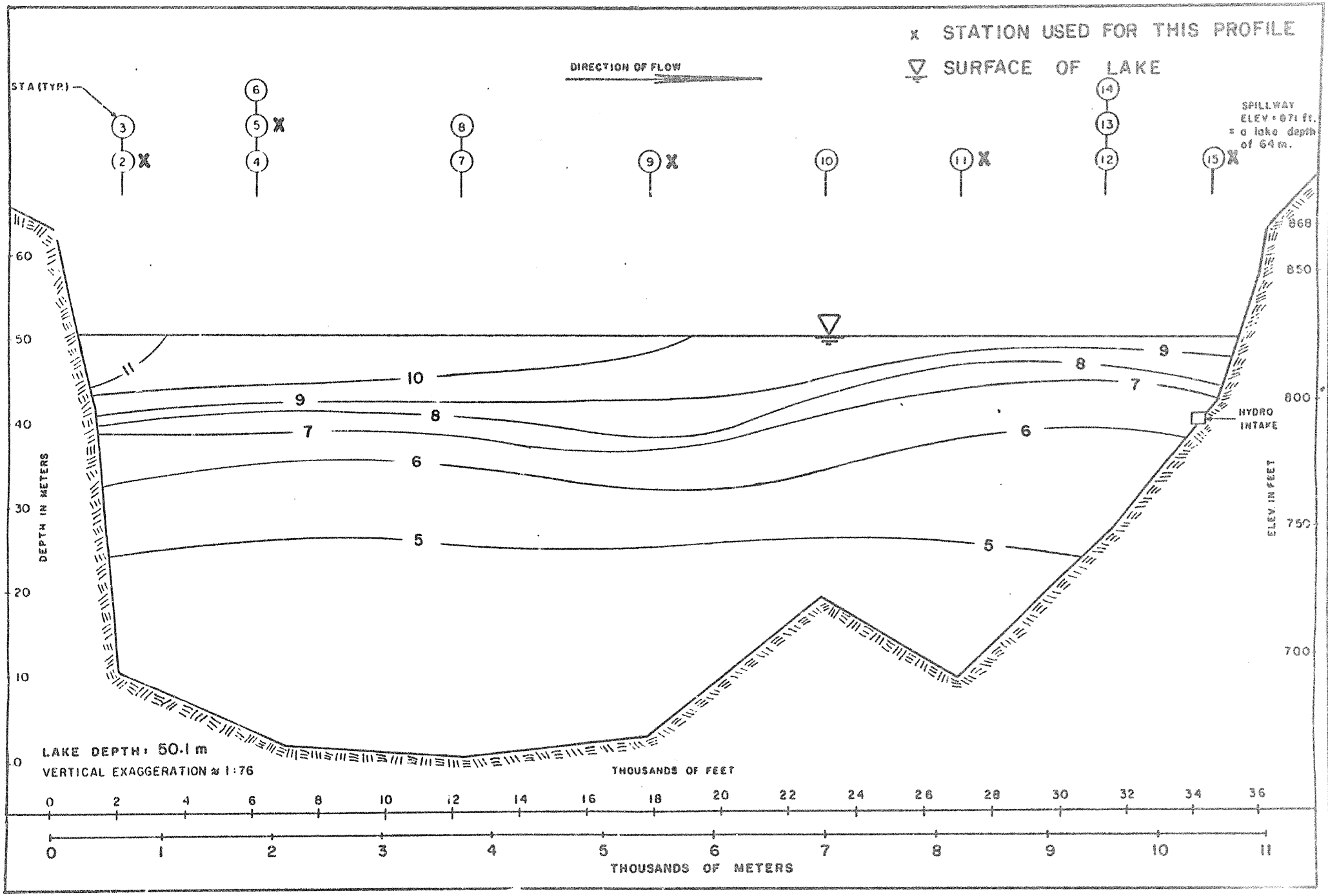
EKLUTNA LAKE TEMPERATURE PROFILE (°C) MARCH 23, 1984

FIGURE H.7

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

R&M CONSULTANTS, INC.

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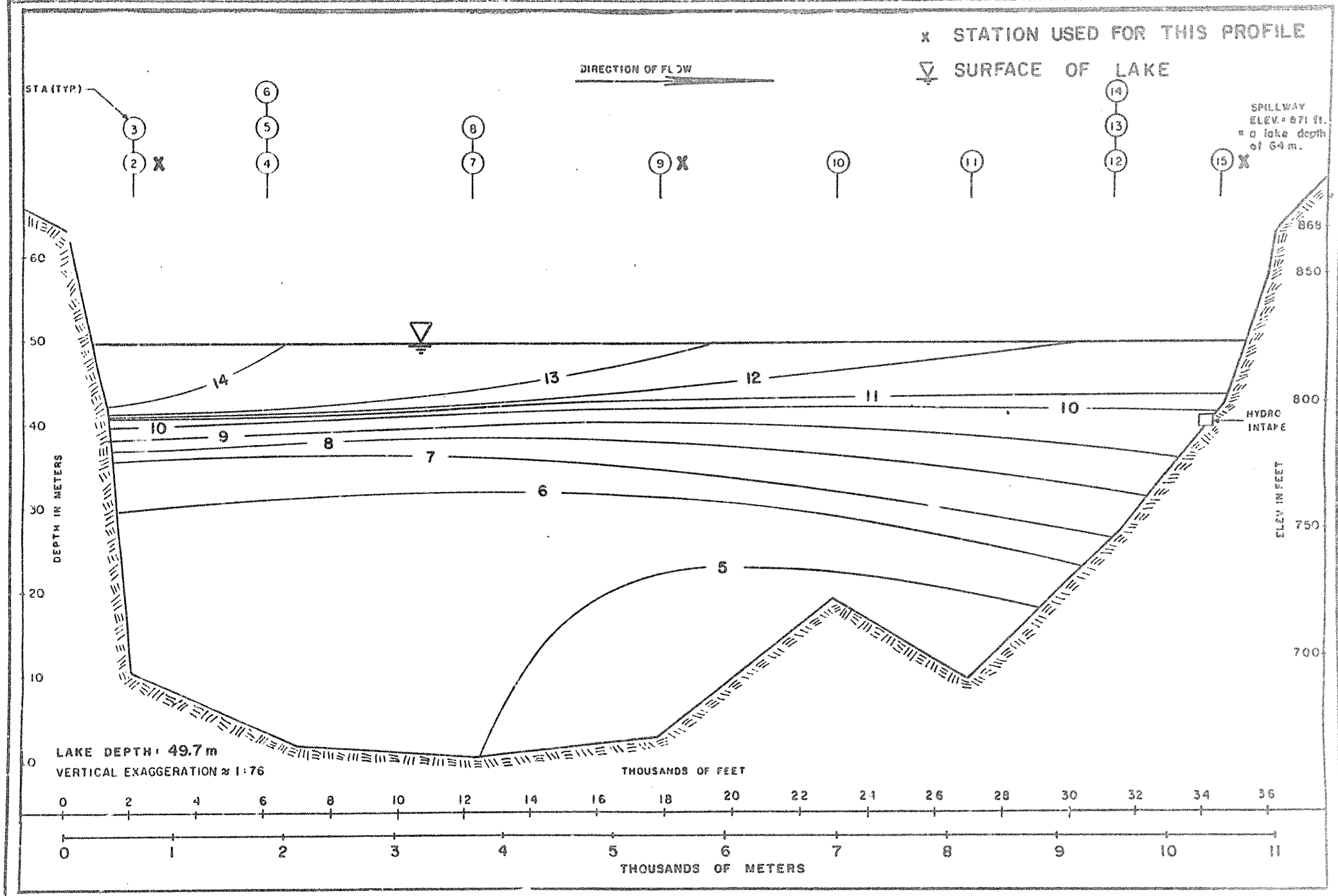
EKLUTNA LAKE TEMPERATURE PROFILE (°C) JUNE 6, 1984

FIGURE H.8

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

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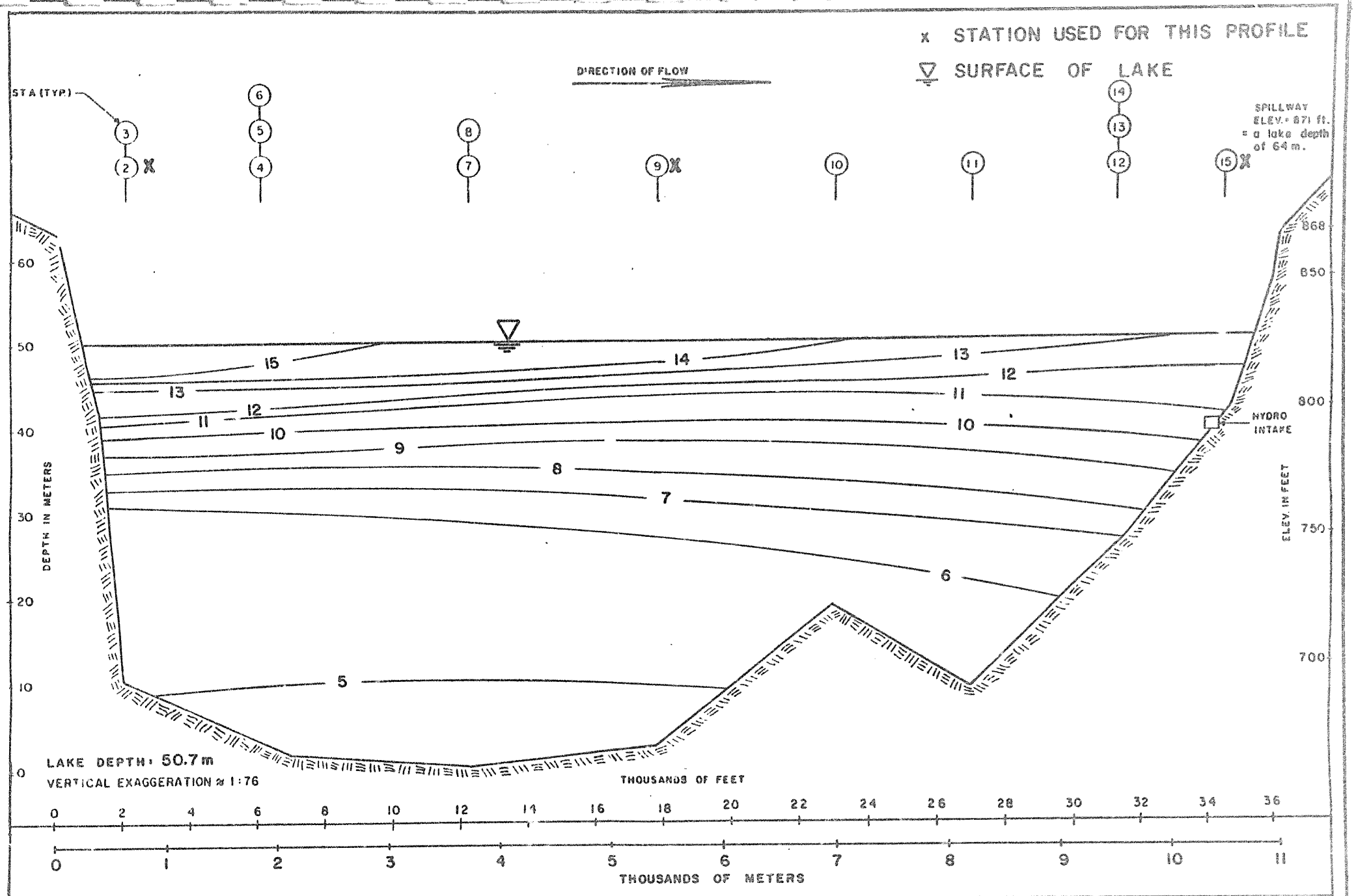
EKLUTNA LAKE TEMPERATURE PROFILE (°C) JUNE 21, 1984

FIGURE H.9

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

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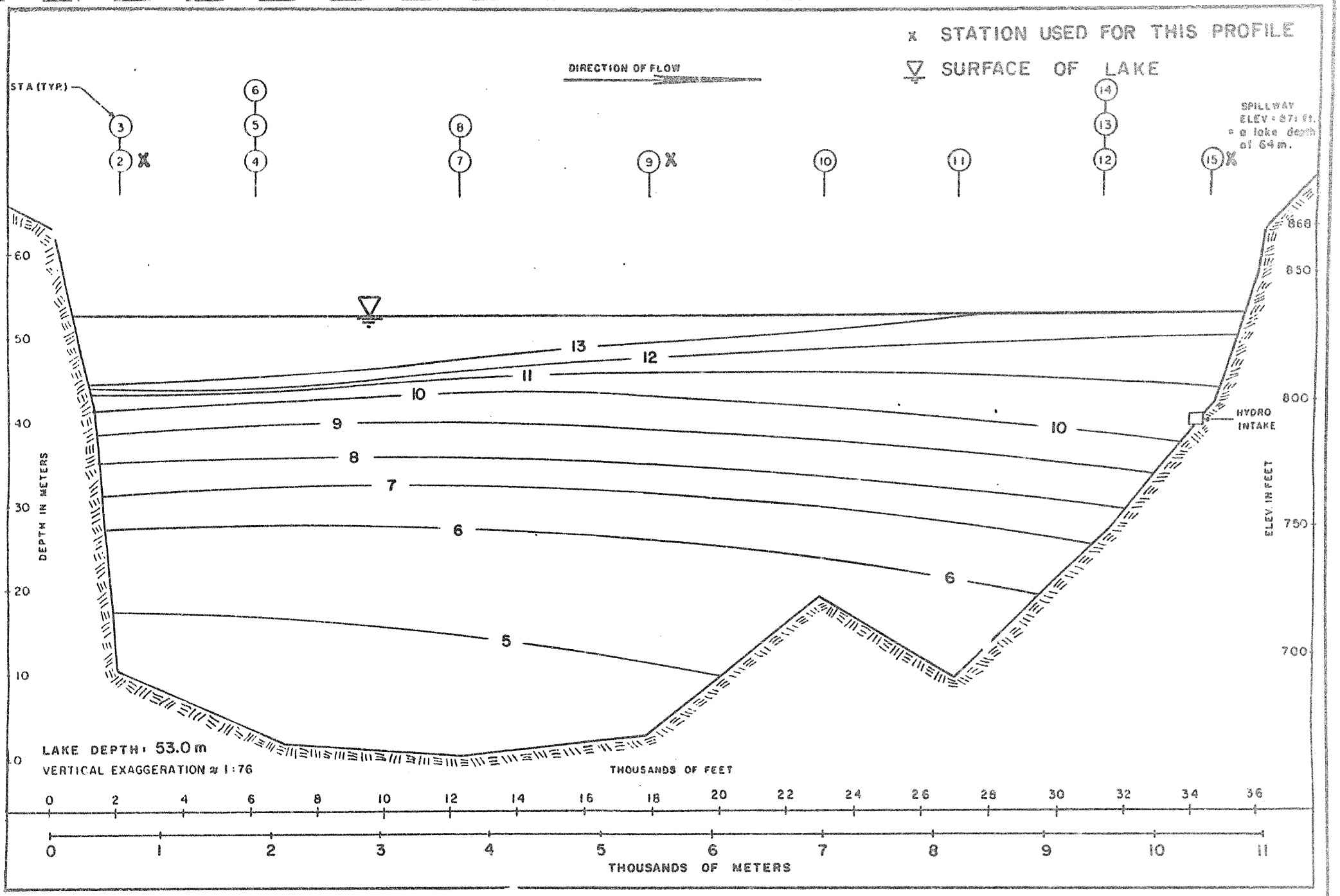
EKLUTNA LAKE TEMPERATURE PROFILE (°C) JULY 5, 1984

FIGURE H.10

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

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ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

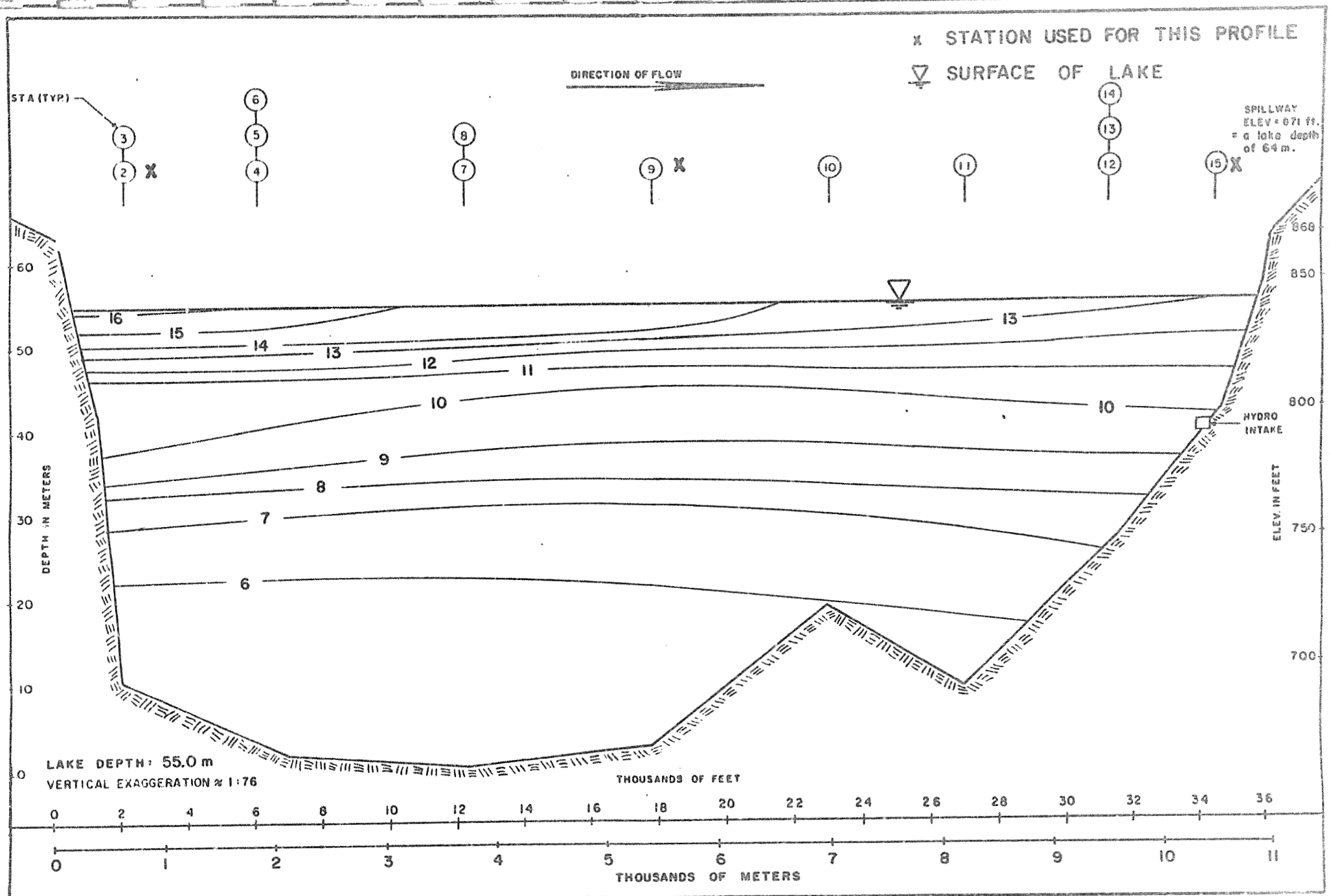
EKLUTNA LAKE TEMPERATURE PROFILE (°C) JULY 19, 1984

FIGURE H.11

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

R&M CONSULTANTS, INC.

ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

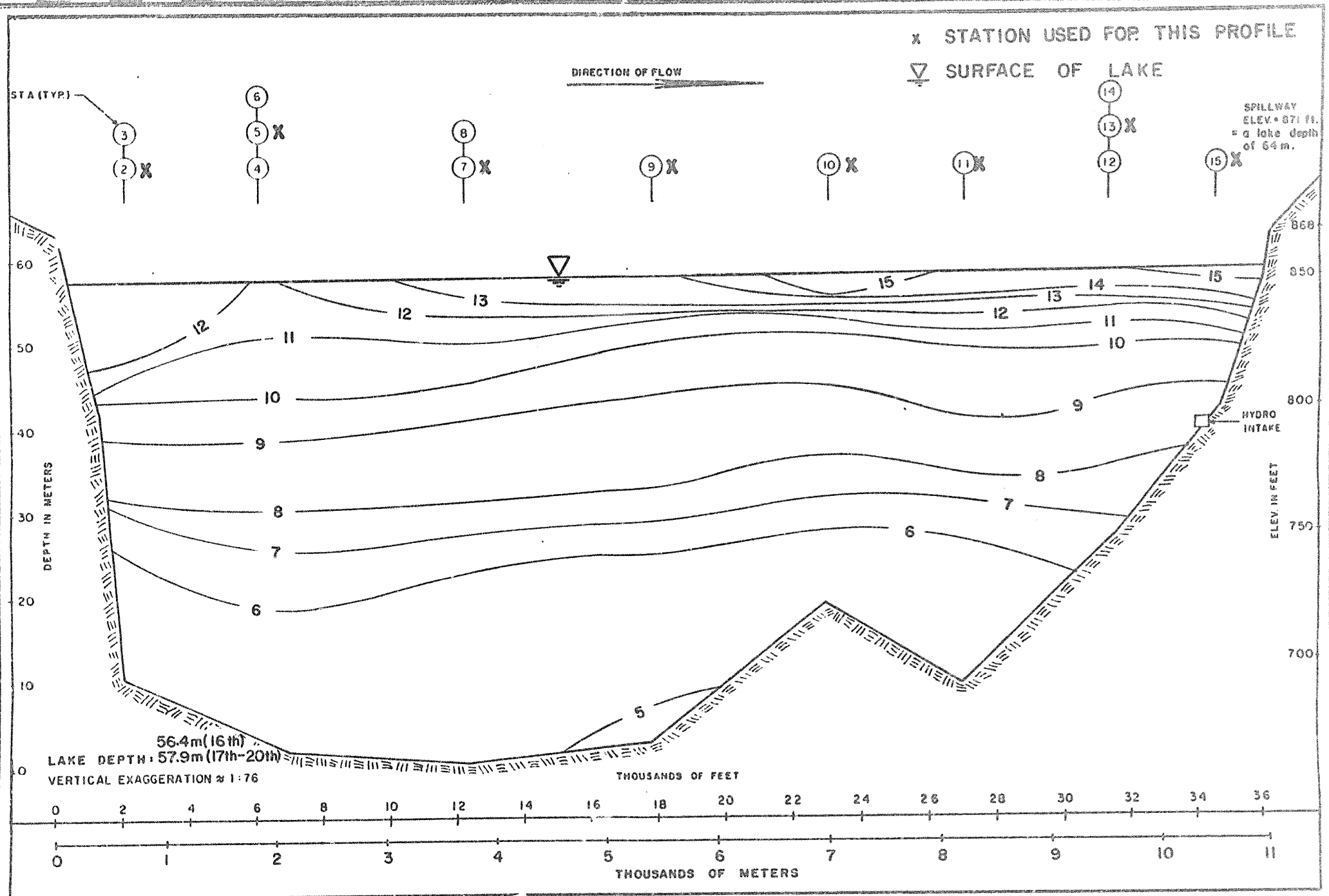
EKLUTNA LAKE TEMPERATURE PROFILE (°C) AUGUST 3, 1984

FIGURE H.12

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

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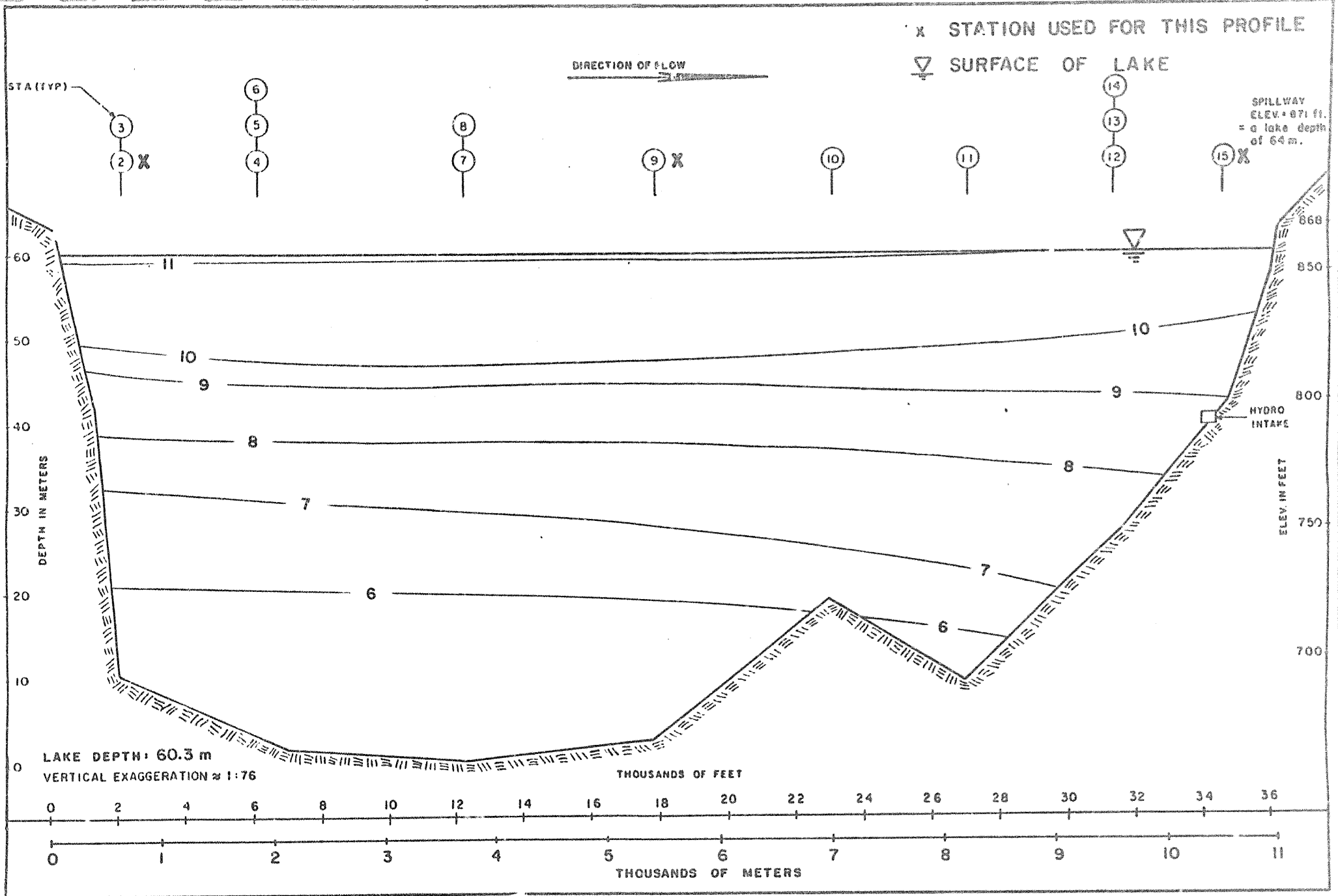
EKLUTNA LAKE TEMPERATURE PROFILE (°C) AUGUST 16-20, 1984

FIGURE H.13

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

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ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

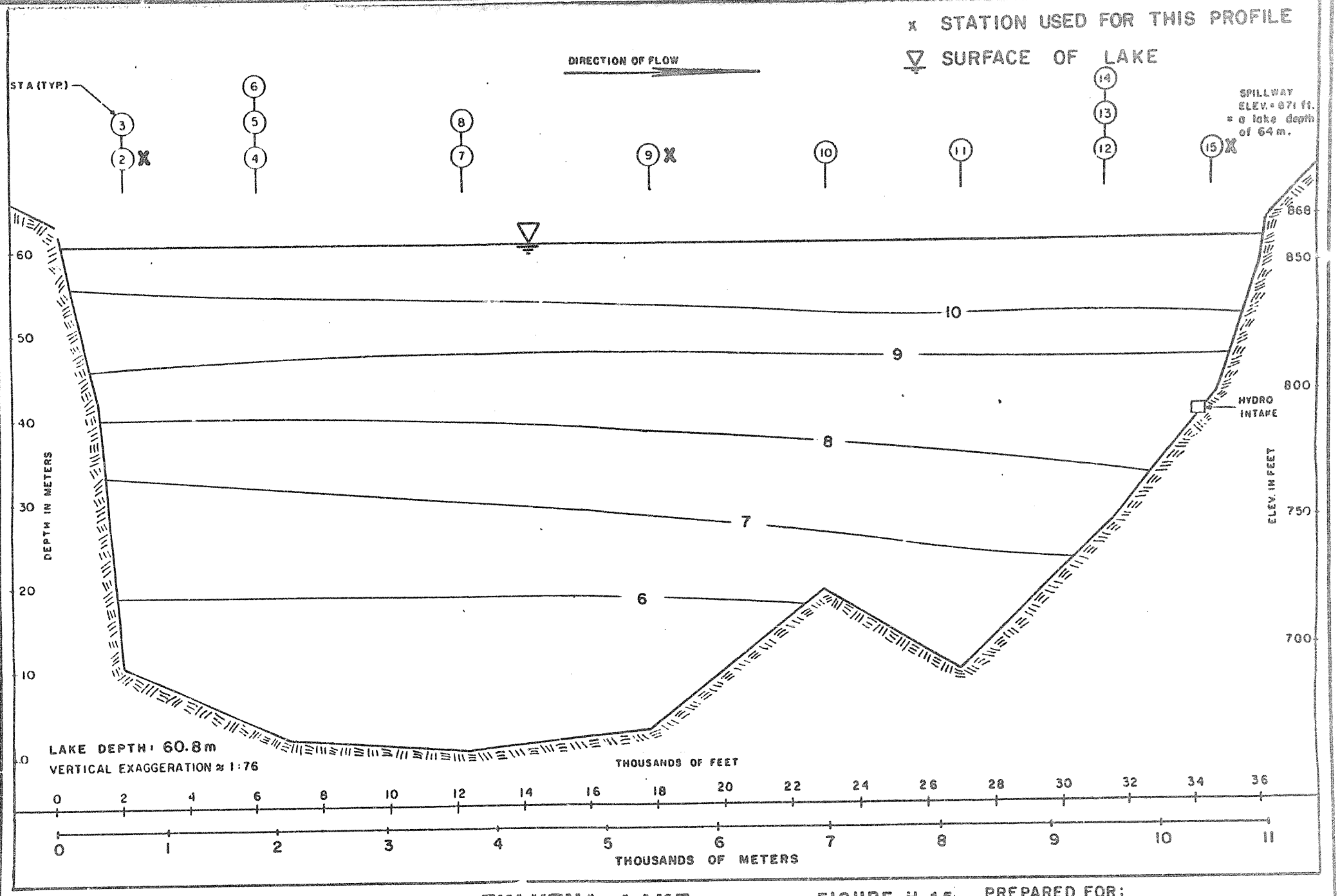
EKLUTNA LAKE TEMPERATURE PROFILE (°C) SEPTEMBER 3, 1984

FIGURE H.14

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

R&M CONSULTANTS, INC.

ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

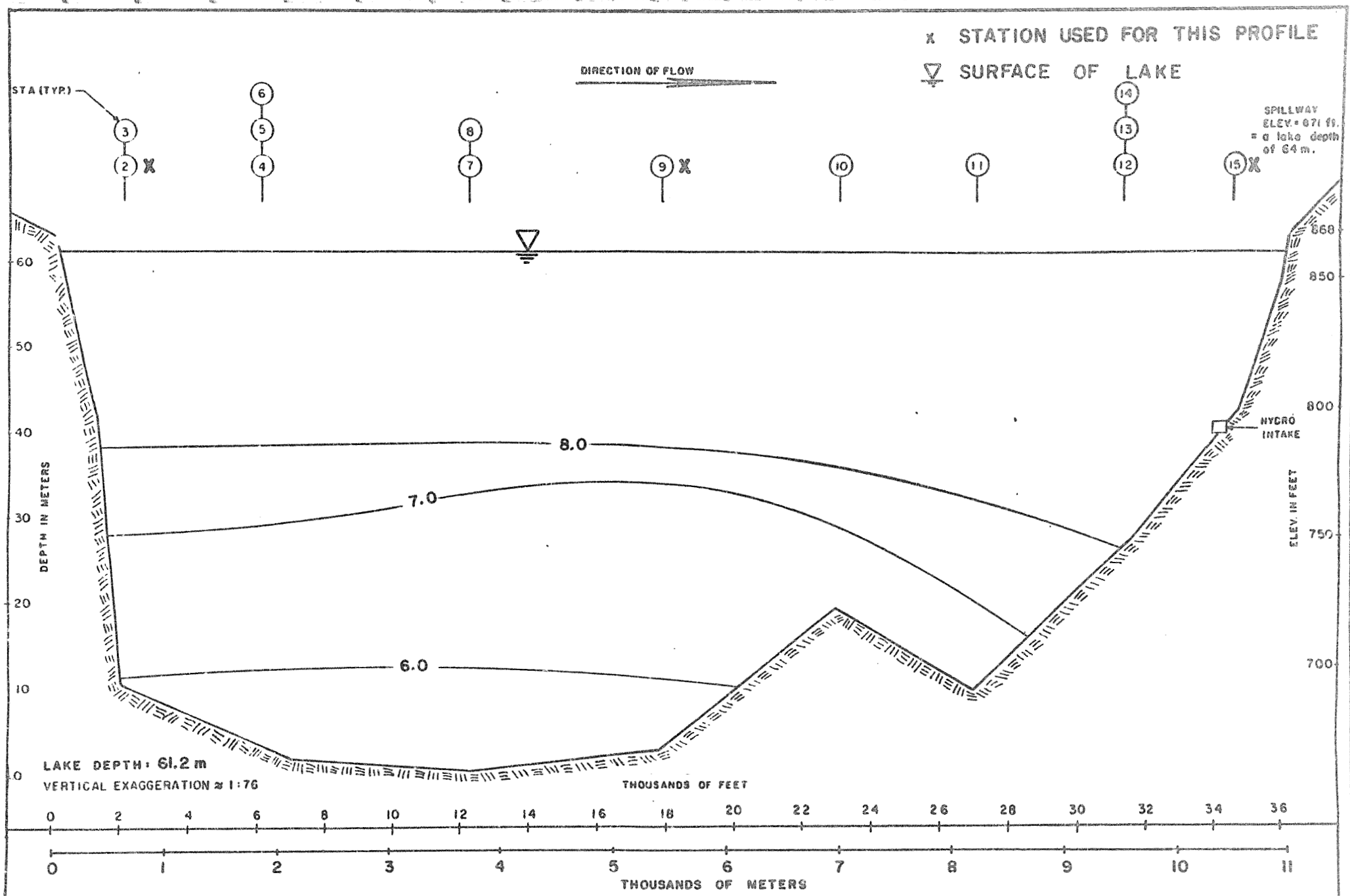
EKLUTNA LAKE TEMPERATURE PROFILE (°C) SEPTEMBER 17, 1984

FIGURE H.16

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

R&M CONSULTANTS, INC.

ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

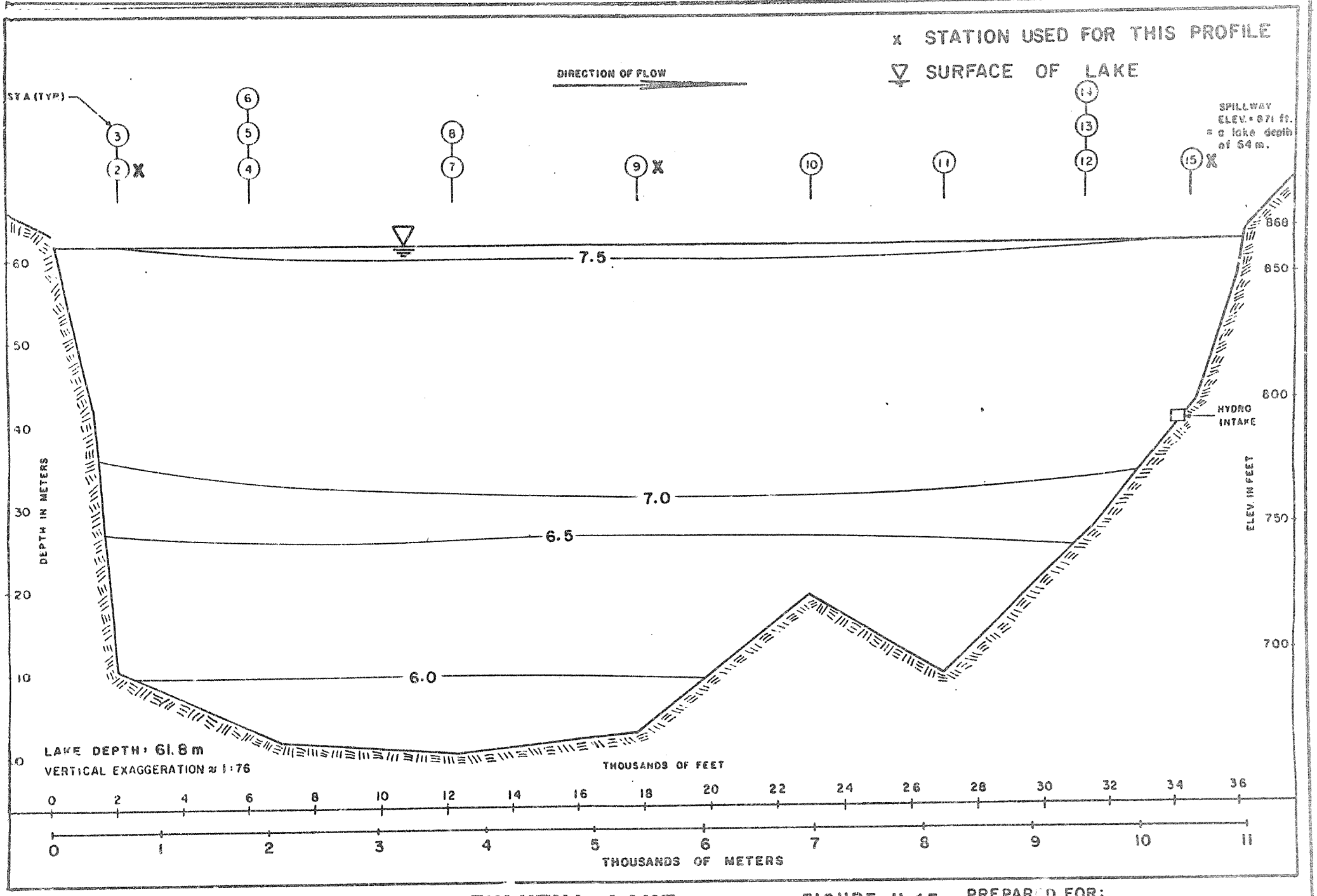
EKLUTNA LAKE TEMPERATURE PROFILE (°C) OCTOBER 1, 1984

FIGURE H.16

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

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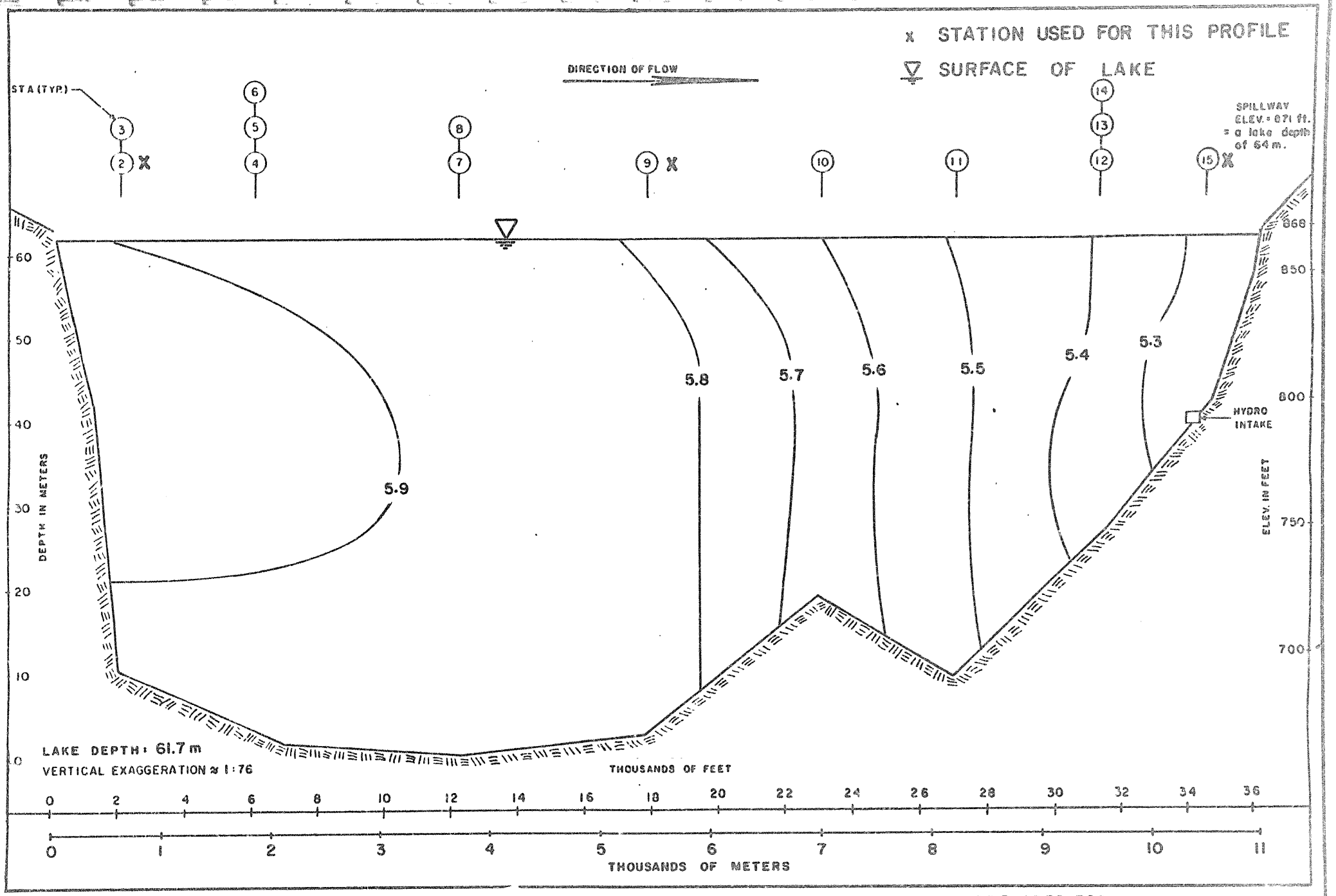
EKLUTNA LAKE TEMPERATURE PROFILE (°C) OCTOBER 15, 1984

FIGURE H.17

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

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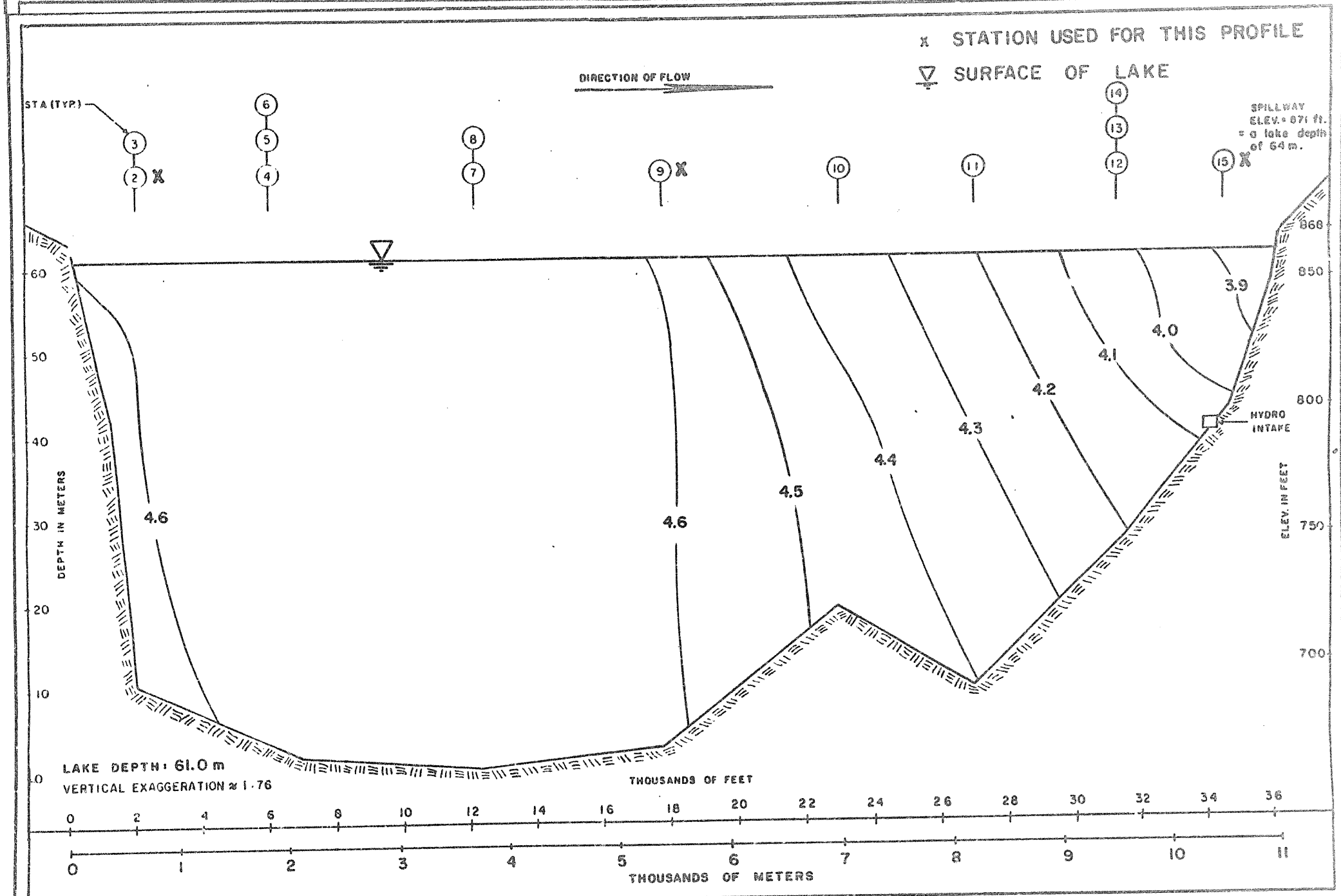
EKLUTNA LAKE TEMPERATURE PROFILE (°C) OCTOBER 29, 1984

FIGURE H.18

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

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ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

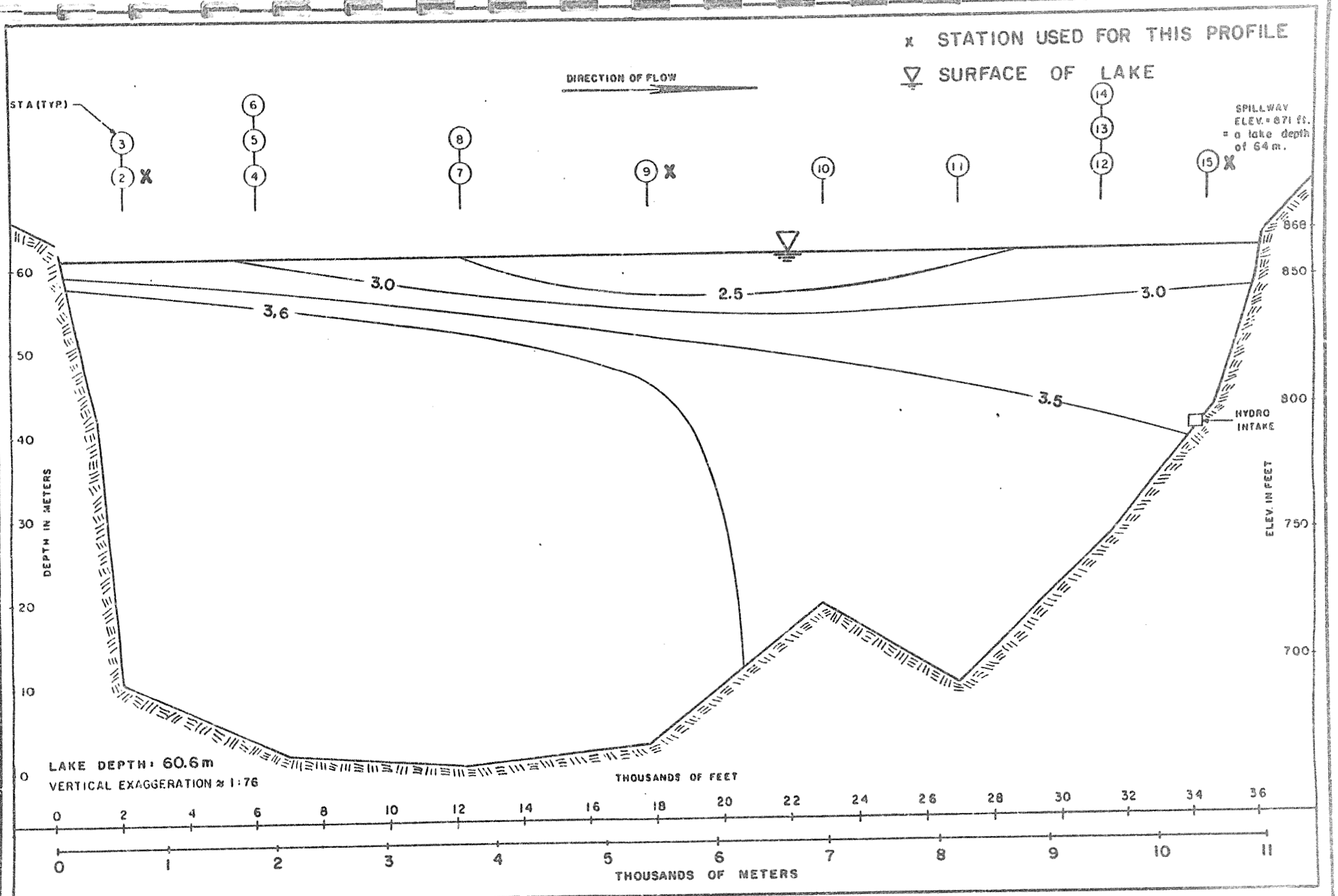
EKLUTNA LAKE TEMPERATURE PROFILE (°C) NOVEMBER 12, 1984

FIGURE H.19

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

R&M CONSULTANTS, INC.

ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

EKLUTNA LAKE TEMPERATURE PROFILE (°C) NOVEMBER 26, 1984

FIGURE H.20

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE

APPENDIX

APPENDIX I

EKLUTNA LAKE LIGHT PENETRATION MEASUREMENTS

TABLE 1.1

EKLUTNA LAKE LIGHT PENETRATION IN-SITU MEASUREMENTS

Date	03/29/83	06/02/83	08/03/83	08/03/83	08/03/83	09/07/83	04/20/84	04/20/84
Station	13	7	2	7	11	15	11	15
Time (AST)	1600	1420	N/A	N/A	N/A	1000	1220	1125
Irradiance (Microeinsteins per square centimeter per second)								
Sensor in Air	340	460	1500	1400	1550	800	850	580
Depth (m)								
Surface	145	420	1450	1450	1400	730	800	520
0.5	-	-	630	550	273	400	390	250
1.0	60	97	268	238	159	165	250	160
1.45	-	-	-	-	-	-	200	110
1.9	31	42	57	48	30	43	155	74
2.35	-	-	-	-	-	-	120	53
2.8	13	14.5	12	11	5.6	12.5	94	41
3.3	-	-	-	-	-	-	70	30
3.8	5.8	6.0	2.7	1.9	0.65	3.5	55	24
4.3	-	-	-	-	-	-	43	19
4.8	2.7	2.05	0.55	0.18	0.00	0.95	34	15
5.3	-	-	-	-		-	26	11
5.8	1.15	0.66	0.066	0.00		0.20	18	9.5*
6.3	-	-				-	13	
6.8	0.55	0.3				0	9.6	
7.3	-						6.9	
7.8	0.2						4.8	
8.3	-						3.0	
8.8								
Extinction Coefficient (/m)	0.83	1.05	1.69	1.82	1.93	1.40	0.60	0.66
r^2	0.99	0.99	0.99	0.99	0.99	1.00	0.99	0.97
Secchi Trans (/m)	N/A	1.13	1.82	1.73	1.73	1.37	0.48	0.44

* Lake bottom at 5.8m

Radiation measurements taken with Li-Cor submersible light sensor

N/A - Not Available

TABLE 1.1, cont.

EKLUTNA LAKE LIGHT PENETRATION IN-SITU MEASUREMENTS

Date	05/17/84	05/17/84	05/17/84	06/21/84	06/21/84	06/21/84	06/21/84	06/21/84
Station	9	15	5	15	9	3	2	1
Time (AST)	1330	1300	1430	1200	1400	1530	1650	1740
Irradiance (Microeinsteins per square centimeter per second)								
Sensor in Air	1500	1530	N/A	1580	1580	1350	1000	940±20
Depth (m)								
0.0	1550±50	1450±100	810±20	1490	1490	1350±100	1000	860±50
0.5	1100±50	1100±100	630±20	930	1010	730±50	710	550±30
1.0	820±30	900±50	790±10	630	760	450±20	480	265±20
1.45	-	-	-	-	-	-	-	-
1.9	620±20	580±10	600±20	290	415	185	208	66
2.35	-	-	-	-	-	-	-	-
2.8	420±10	375	295	179	233	75	109	6.0±0.2
3.3	-	-	-	-	-	-	-	
3.8	245	230	210	87	100	32	45	0
4.3	-	-	-	-	-	-	-	
4.8	174	149	150-175	42	47	4	17.6	
5.3	-	-	-	-	-	-	-	
5.8	116	97	115	22.3	21.4	0.3	4.1	
6.3	-	73	-	-	-		0.7	
6.8	78		69	10.8	11.0			
7.3	-		-		-			
7.8	48		47		5.1			
8.3	-		-					
8.8	32		32					
Extinction Coef. (/m)	0.43	0.47	0.38	0.71	0.73	1.33	1.04	1.76
r^2	1.00	1.00	0.98	1.00	1.00	0.96	0.96	0.97
Secchi Trans (/m)	0.51	0.47	0.49	0.73	0.55	0.86	0.91	1.02

Radiation measurements taken with Li-Cor submersible light sensor

N/A - Not Available

TABLE 1.1, cont.

EKLUTNA LAKE LIGHT PENETRATION IN-SITU MEASUREMENTS

Date	07/05/84	07/05/84	07/05/84	07/05/84	07/05/84	07/19/84	07/19/84	07/19/84	07/19/84	07/19/84
Station	15	9	3	2	1	15	9	3	2	1
Time (AST)	1230	1330	1500	1600	1740	1000	1130	1300	1410	1550
Irradiance (Microeinsteins per square centimeter per second)										
Sensor in Air	1500	1250	487	420	230	440	470	300	295	310
Depth (m)										
0.0	1500±100	1190±10	390±10	390±10	195±5	370	410	210	245	190
0.5	650±50	720±10	182	190	82	105	145	57	66	40
1.0	238	258	77	73	36	29	41	21	22	14
1.45	-	-	-	-	-	13.5	12.5	9.1	8.7	4.5
1.9	54	69	20	18.5	9.5	4.1	4.6	3.3	3.3	2.3
2.35	-	-	-	-	-	1.1	1.90	1.45	1.5	0.7
2.8	13.1	17.0	5.75	5.05	2.1	0.3	0.70	0.60	0.6	0.45
3.3	-	-	-	-	-	0.15	0.20	0.25	0.25	0.10
3.8	2.8	4.6	1.58	1.27	0.25		0.10	0.10	.05	
4.3	-	-	-	-	-					
4.8	0.58	0.97	0.42	0.36	0.01					
5.3	-	-	-	-						
5.8	0.15±.05	0.22	0.08	0.08						
6.3		-								
6.8		0.04								
7.3										
7.8										
8.3										
8.8										
Extinction Coef. (/m)	1.59	1.51	1.43	1.45	1.96	2.43	2.24	1.99	2.13	2.18
r^2	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	0.99
Secchi Trans. (/m)	2.05	1.73	1.64	1.64	1.31	2.52	2.73	2.52	2.52	2.73

Radiation measurements taken with Li-Cor submersible light sensor

N/A - Not Available

TABLE I.1, cont.

EKLUTNA LAKE LIGHT PENETRATION IN-SITU MEASUREMENTS

Date	08/03/84	08/03/84	08/03/84	08/03/84	08/03/84	08/03/84	08/16/84	08/17/84	08/17/84	08/17/84
Station	1	2	2	3	9	15	15	14	13	11
Time (AST)	1130	1320	1330	1510	1640	2100	1710	0900	1120	1510
Irradiance (Microeinsteins per square centimeters per second)										
Sensor in Air	1400	660	1050	490	220	19.0	830±30	820	970	630
Depth (m)										
0.0	1250	460	880	320	170	11.4	780±50	720	1400	550
0.5	450	250	370	110	43	2.4	255	245	410	152
1.0	155	95	165	46	16.0	0.96	73.0	80	59.0	48
1.45	75	54	57	20.0	6.6	0.25	23.5	32	19.0	10.8
1.9	28	18.0	25.5	10.0	3.1	0.10	9.8	10.5	8.3	8.3
2.35	2.9	7.9	11.0	4.4	1.2		1.23	4.8	4.0	3.45
2.8	0.4	4.0	5.1	1.7	0.5		0.95	1.45	1.5	1.3
3.3		1.45	1.9	0.63	0.18		0.15	0.50	0.58	0.39
3.8		0.60	0.85	0.30	0.05			0.10	0.17	0.14
4.3		0.30	0.35	0.10					0.05	
4.8		0.10	0.10							
5.3										
5.8										
6.3										
6.8										
7.3										
7.8										
8.3										
8.8										
Extinction Coef. (/m)	2.74	1.78	1.87	1.85	2.05	2.47	2.58	2.28	2.29	2.11
r^2	0.95	1.00	1.00	1.00	1.00	0.99	0.99	1.00	0.99	0.99
Secchi Trans. (/m)	1.73	1.93	1.93	1.64	1.82	2.19	2.34	1.44	2.34	2.34

Radiation measurements taken with Li-Cor submersible light sensor

N/A - Not Available

TABLE I.1, cont.

EKLUTNA LAKE LIGHT PENETRATION IN-SITU MEASUREMENTS

Date	08/17/84	08/18/84	09/17/84	09/17/84	09/17/84	09/17/84	09/17/84	10/01/84	10/01/84	10/01/84
Station	10	9	15	9	3	2	1	1	2	3
Time (AST)	1830	0830	1020	1220	1450	1630	1730	1130	1310	1450
Irradiance (Microeinsteins per square centimeter per second)										
Sensor in Air	120	77	325	460	180	115	126	420	420	291
Depth (m)										
0.0	88	71	300	409	190	100	108	350	365	260
0.5	18.0	23.5	127	203	89	49	46	(0.1m)54	168	125
1.0	9.2	5.6	65	81	38	18.5	16.5	(0.2)14.5	82	57.5
1.45	2.45	1.62	31	32	17.5	8.8	5.9	(0.3)4.7	37.5	31.5
1.9	1.00	0.70	15.8	16.7	7.45	4.7	1.45	(0.4)1.4	22.3	16.2
2.35	0.45	0.38	7.9	8.6	4.10	2.20		(0.5)0.8	13.2	10.7
2.8	0.20	0.09	3.7	3.9	2.17	1.15		(0.6)0.06	7.15	5.9
3.3	0.05		1.81	1.90	1.00	0.55			3.91	3.4
3.8			0.82	0.80	0.44	0.25			2.12	1.79
4.3			0.41	0.38		0.12			1.12	1.03
4.8			0.18						0.59	0.58
5.3									0.34	0.32
5.8										
6.3										
6.8										
7.3										
7.8										
8.3										
8.8										
Extinction Coef. (/m)	2.17	2.34	1.54	1.64	1.60	1.57	2.24	13.1	1.30	1.24
r^2	0.99	0.99	1.00	1.00	1.00	1.00	0.99	0.98	1.00	1.00
Secchi Trans. (/m)	2.05	2.19	2.05	1.93	2.19	2.19	2.34	5.47	1.49	1.43

Radiation measurements taken with Li-Cor submersible light sensor

N/A - Not Available

TABLE I.1, cont.

EKLUTNA LAKE LIGHT PENETRATION IN-SITU MEASUREMENTS

Date	10/01/84	10/15/84	10/15/84	10/15/84	10/15/84	10/15/84	10/29/84	10/29/84	10/29/84	10/29/84
Station	9	3	1	2	9	15	3	2	1	9
Time (AST)	1640	1000	1130	1220	1500	1550	1100	1300	1410	1600
Irradiance (Microeinsteins per square centimeter per second)										
Sensor in Air	83	120	422	319	215	98	300	410	84	45
Depth (m)										
0.0	67	119	360	320	215	93	125	120	74	35
0.5	33	63	228	137	114	49	52	32	30	17.6
1.0	15.9	31.4	137	73	56.5	24.7	15.7	15.5	16.2	7.4
1.45	7.0	-	85	-	-	-	-	-	-	-
1.9	4.4	8.55		22.3	17.0	7.71	4.65	4.7	8.3	2.26
2.35	2.46	-		-	-	-	-	-	-	-
2.8	1.42	2.96		7.5	6.1	2.88	1.31	1.25	4.9	0.73
3.3	0.82	-		-	-	-	-	-		-
3.8	0.31	0.89		2.26	1.86	0.95	0.42	0.45		0.20
4.3	0.22	-		-	-	-	-	-		
4.8	0.14	0.30		0.75	0.61	0.32	0.11	0.10		
5.3		-		-	-	-				
5.8		0.07		0.26	0.19	0.07				
6.3				-						
6.8				0.09						
7.3										
7.8										
8.3										
8.8										
Extinction Coef. (/m)	1.30	1.27	1.00	1.19	1.21	1.21	1.34	1.40	1.42	1.36
r^2	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00
Secchi Trans (/m)	1.43	1.31	0.84	1.26	1.22	1.22	1.56	1.56	1.31	1.56

Radiation measurements taken with Li-Cor submersible light sensor

N/A - Not Available

TABLE I.1, cont.

EKLUTNA LAKE LIGHT PENETRATION IN-SITU MEASUREMENTS

Date	10/29/84	11/12/84	11/12/84	11/12/84	11/12/84	11/12/84	11/26/84	11/26/84	11/26/84	11/26/84	11/26/84
Station	15	1	2	3	9	15	1	2	3	9	15
Time (AST)	1640	1030	1200	1240	1420	1610	1030	1130	1220	1330	1430
Irradiance (Microeinsteins per square centimeter per second)											
Sensor in Air	20.5	58	320	250	57	21.4	41.0	83	130	82	52
Depth (m)											
0.0	19.0	49	165	250	37	18	38.5	67	115	67	45
0.5	6.8	25	82	130	24	10.05	20.0	42	61	33	20.5
1.0	3.3	12	37	55	9.2	4.60	11.5	24.5	38	17	9.8
1.45	2.05	6.5	-	-	-	2.40	7.1	-	-	-	-
1.9	0.35	4.2	12.5	20	3.25	1.44	5.0	8.9	15	7.0	3.7
2.35	0.15		-	-	-	0.97	2.9	-	-	-	-
2.8			4.2	6.5	1.20	0.61		3.7	5.5	2.95	1.48
3.3			-	-	-	-		-	-	-	-
3.8			1.42	2.3	0.32	0.22		0.85	2.3	1.1	0.47
4.3				-	-			-	-	-	-
4.8				0.7	0.14			0.15	0.35	0.45	0.15
5.3									-	-	
5.8									0.10	0.10	
6.3											
6.8											
7.3											
7.8											
8.3											
8.8											
Extinction Coef. (/m)	2.04	1.32	1.25	1.21	1.19	1.17	1.07	1.24	1.01	1.06	1.16
r^2	0.97	1.00	1.00	1.00	0.99	0.99	1.00	0.99	1.00	1.00	1.00
Secchi Trans (/m)	1.26	1.26	1.22	1.26	1.17	1.26	1.22	1.09	1.09	1.09	1.09

Radiation measurements taken with Li-Cor submersible light sensor

N/A - Not Available

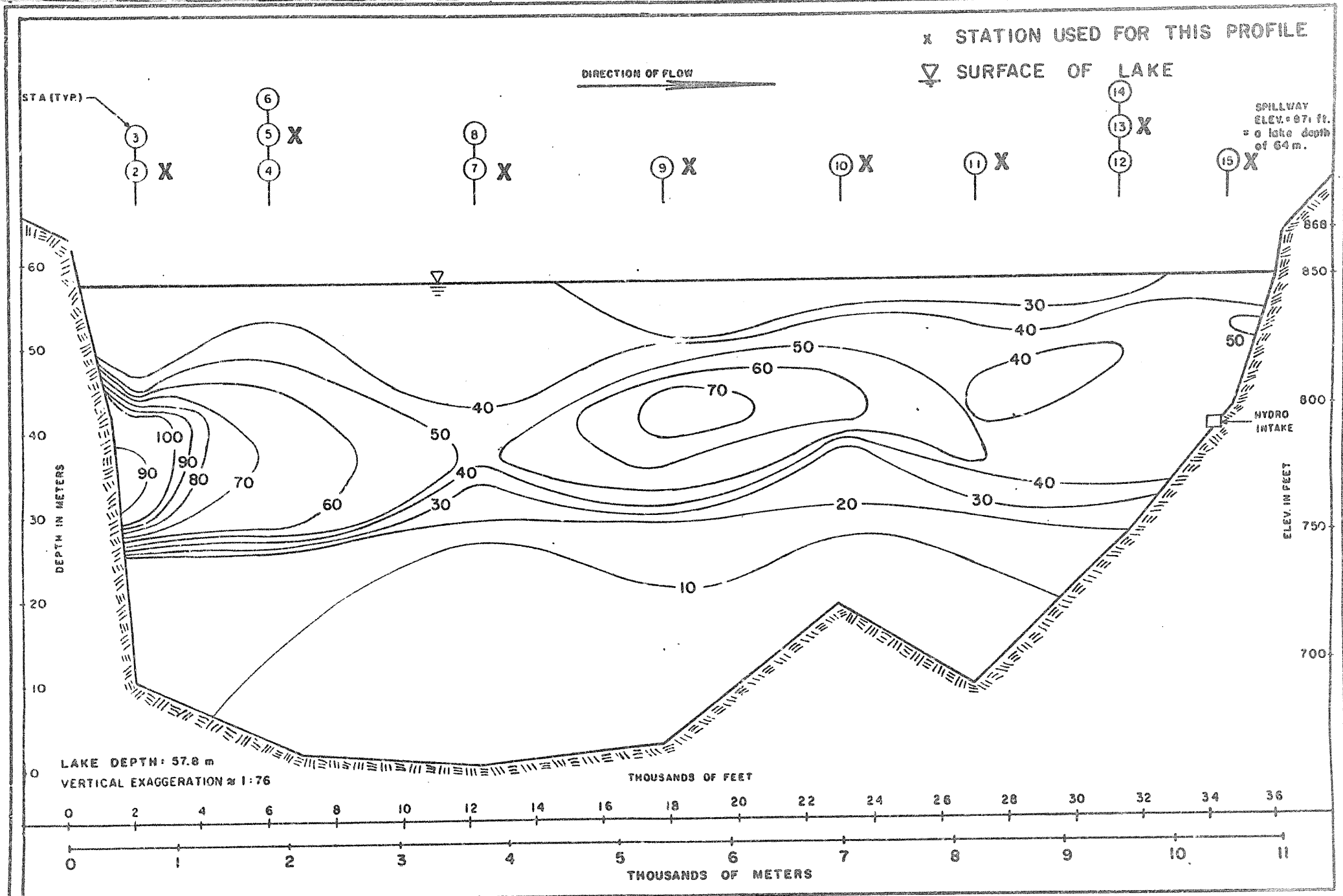
TABLE I.2
EKLUTNA LAKE SECCHI DISK MEASUREMENTS (FEET) (1983-84)

Date	Lake Sampling Station									
	2	3	5	7	8	9	10	11	13	15
5/14/83	-	-	4.7	-	-	4.9	-	-	-	-
6/02/83	3.2	-	3.0	2.9	-	3.7	3.7	3.7	3.6	3.5
7/06/83	2.2	2.9	2.3	2.1	-	2.1	-	1.9	2.0	-
8/03/83	1.8	-	-	1.9	-	-	-	1.9	-	-
9/07/83	3.0	-	-	3.1	-	2.7	-	2.7	-	2.4
10/05/83	2.8	-	2.7	2.9	2.6	2.7	-	2.6	-	2.6
11/01/83	3.1	-	3.0	3.0	-	3.1	-	3.0	-	3.1
12/06/83	-	-	-	-	-	-	-	-	-	3.6
4/20/84	-	-	-	-	-	-	-	6.3	-	7.5
5/17/84	-	-	6.7	-	-	6.4	-	-	-	7.0
6/06/84	7.5	-	9.0	-	-	8.0	-	8.5	-	8.5
6/21/84	3.6	3.8	-	-	-	6.0	-	-	-	4.5
7/05/84	1.95	2.0	-	-	-	1.9	-	-	-	1.6
7/19/84	1.3	1.3	-	-	-	1.2	-	-	-	1.3
8/03/84	1.7	2.0	-	-	-	1.8	-	-	-	1.5
8/16-20/84	1.4	1.4	1.1	1.1	1.5	1.5	1.6	1.4	1.4	1.4
9/03/84	1.5	1.6	-	-	-	1.4	-	-	-	1.4
9/17/84	1.5	1.5	-	-	-	1.7	-	-	-	1.6
10/01/84	2.2	2.3	-	-	-	2.3	-	-	-	-
10/15/84	2.6	2.5	-	-	-	2.7	-	-	-	2.7
10/29/84	2.1	2.1	-	-	-	2.1	-	-	-	2.6
11/12/84	2.7	2.6	-	-	-	2.8	-	-	-	2.6
11/26/84	3.0	3.0	-	-	-	3.0	-	-	-	3.0

APPENDIX J

APPENDIX J

EKLUTNA LAKE TURBIDITY AND LIGHT TRANSMISSION AUGUST 16-20, 1984



PREPARED BY:

R&M CONSULTANTS, INC.

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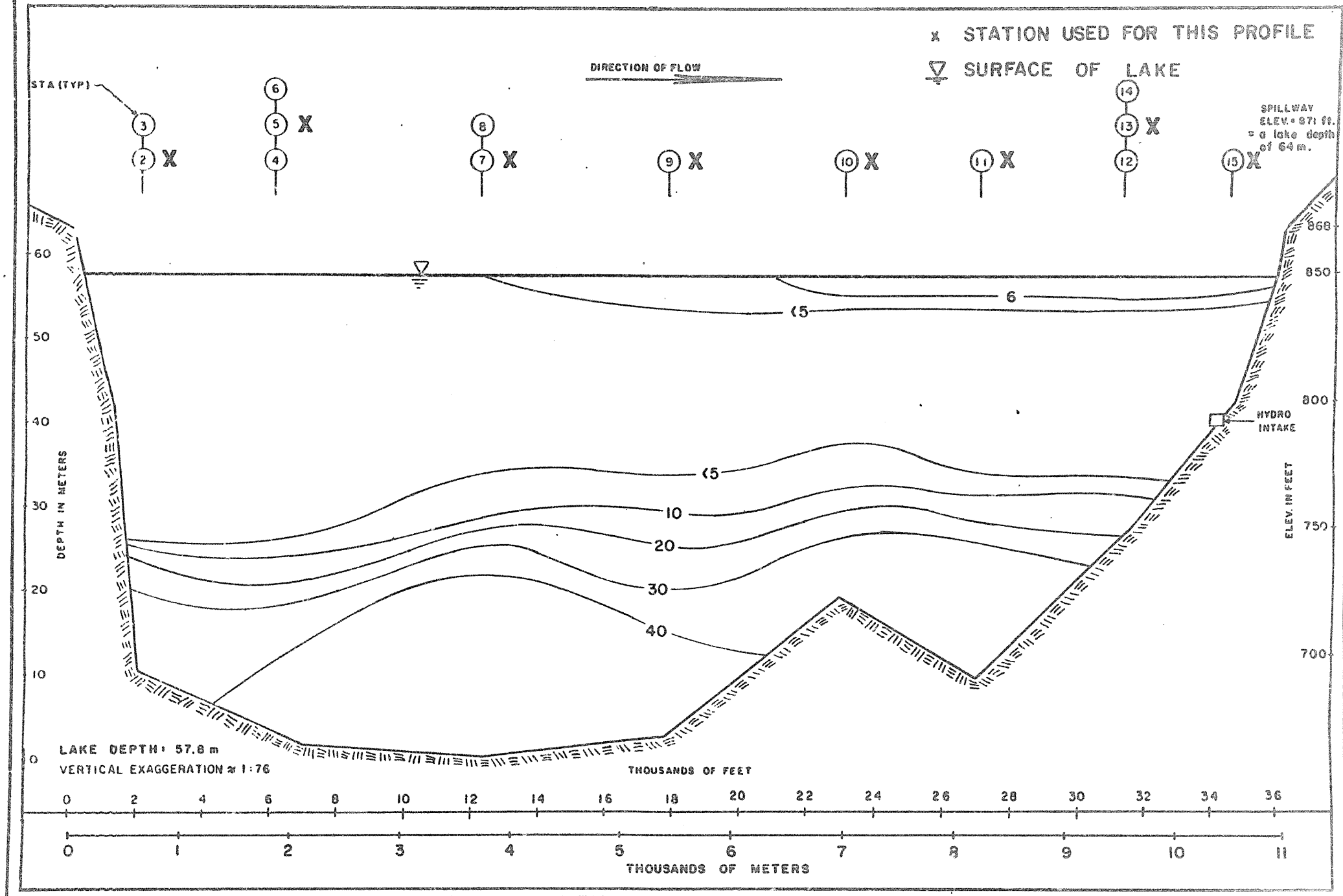
EKLUTNA LAKE
TURBITY PROFILE(NTU)
AUGUST 16-20, 1984

FIGURE J.1

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



PREPARED BY:

R&M CONSULTANTS, INC.

ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

EKLUTNA LAKE

LIGHT TRANSMISSION PROFILE (%)

AUGUST 16-20, 1984

FIGURE J.2

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE

APPENDIX K

APPENDIX K

MONTHLY SUMMARIES OF FIELD OBSERVATIONS

M14/56

TABLE K.1

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Montn: March, 1984

1. LAKE DATA - GENERAL

Date Sampled	Lake Elevation (ft.msl)	Lake Depth (m)	Q in (Mean Daily) (10^3 m^3/day)	Q in (Mean Daily) (cfs)	Q out (Mean Daily) (10^3 m^3/day)	Q out (Mean Daily) (cfs)	Stations Profiled	Weather	Remarks
3/23	837.9	54.2			1261	516	2,5,9,15	Clear & calm.	

2. LAKE DATA SUMMARY - TURBIDITY/SEDIMENT

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction (m)	Turbidity (NTU)	TSS (mg/l)	Remarks
3/23	1315	5	20	4.0	N/A	N/A	N/A	N/A	3.2	3.7	Ice thickness= 16".
			40	3.9	N/A	N/A	N/A	N/A	6.1	2.7	
	1030	9	20	4.0	N/A	N/A	N/A	N/A	4.2	2.1	Ice thickness= 18".
			40	4.1	N/A	N/A	N/A	N/A	4.2	2.3	
	0920	15	5	4.1	N/A	N/A	N/A	N/A	3.1	2.8	Ice thickness= 18".

NOTE: N/A = Not Available.

M14/56

TABLE K.2

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: April, 1984

1. LAKE DATA - GENERAL

Date Sampled	Lake Elevation (ft,msl)	Lake Depth (m)	Q in (Mean Daily) (10^3 m^3/day)	Q in (Mean Daily) (cfs)	Q out (Mean Daily) (10^3 m^3/day)	Q out (Mean Daily) (cfs)	Stations Profiled	Weather	Remarks
4/20/84	830.8	51.1m	120 (est.)	49 (est.)	1164	476	15 & 11	Overcast, light breeze	Ice Thickness= 13.5-14"

2. LAKE DATA SUMMARY - TURBIDITY/SEDIMENT

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction (m)	Turbidity (NTU)	TSS (mg/l)	Remarks
4/20	1110	15	1	3.0	N/A	7.5	0.66	6.2	2.1	1.3	Ice = 14' Secchi and quantum done through ice.
			5	3.4	131				1.8	0.47	
	1330	11	2	3.6	129	6.8	0.60	7.05	2.6	1.1	Ice = 13.5" secchi and quantum done through ice.
			24	3.3	N/A				1.8	0.55	

NOTE: N/A = Not Available.

TABLE K.3

M14/56

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: May, 1984

1. LAKE DATA - GENERAL

Date Sampled	Lake Elevation (ft,msl)	Lake Depth (m)	Q in (Mean Daily) (10^3 m^3/day)	Q in (Mean Daily) (cfs)	Q out (Mean Daily) (10^3 m^3/day)	Q out (Mean Daily) (cfs)	Stations Profiled	Weather	Remarks
5/17/84	826.1	50.6m	245 (est.)	100 (est.)	1102	450	5,9&15	Sunny, clear	

2. LAKE DATA SUMMARY - TURBIDITY/SEDIMENT

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction (m)	Turbidity (NTU)	TSS (mg/l)	Remarks
5/17/84	1415	5	4	5.1	127	6.7	0.38	9 m	2.5	1.0	Var. sun-shine during quantum.
			20	4.2	127				2.1	2.0	
	1050	9	4	6.3	130	6.4	0.43	9 m	3.8	1.7	
			20	4.7	130				3.5	2.0	
	1245	15	4	6.9	130	7.0	0.47	6.4 m	3.0	1.5	bottom - 6.4m

3. INFLOW/OUTFLOW DATA

Date	Time AST	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C(umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
5/18	1200	EF	2.43	77	65	5.7	153	N/A	2.9	3.7	Gaging stations installed Q's from measurements
	1700	GF	2.00	16	N/A	7.4	77	N/A	38	48	
5/22	N/A	EF	2.48	73	73	5.6	140	N/A	3.2	2.2	
	N/A	GF	2.07	20	20	2.2	93	N/A	45	18.9	
	N/A	TR	N/A			6.7	129	N/A	4.2	2.5	
5/25	N/A	EF	2.49	74	74	4.4	N/A	N/A	N/A	2.3	
	N/A	GF	2.03	18	18	3.9	N/A	N/A	N/A	11	
	N/A	TR	N/A			6.1	N/A	N/A	N/A	2.4	
5/29	N/A	EF	2.47	71	71	2.0	132	N/A	2.7	0.8	
	N/A	GF	1.93	14	14	0.0	113	N/A	22	6.4	
	N/A	TR	N/A			7.2	148	N/A	3.7	1.6	

NOTE: Abbreviations used - N/A Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Solids.

M14/56

TABLE K.4

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: June, 1984

1. LAKE DATA - GENERAL

Date Sampled	Lake Elevation (ft.msl)	Lake Depth (m)	Q in (Mean Daily) (10^3 m^3/day)	Q in (Mean Daily) (cfs)	Q out (Mean Daily) (10^3 m^3/day)	Q out (Mean Daily) (cfs)	Stations Profiled	Weather	Remarks
6/6/84	824.4	50.1	784	320	937	383	2,5,9,11, 15	100% overcast light rain, moderate wind from North.	Q in only for EF and GF
6/21/84	823.1	49.7	1634	668	1075	439	1,2,3,9, 15	Mostly clear, light wind from NW	Q includes EF, GF, and est. Q for 3 streams on the north shore.

2. LAKE DATA SUMMARY - TURBIDITY/SEDIMENT

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction (m)	Turbidity (NTU)	TSS (mg/l)	Remarks
6/6/84	N/A	2	0	11.1	140	7.5	N/A	N/A	3.3	2.0	
			13.5	6.6	140	-	-	-	4.4	N/A	
	N/A	5	0	10.7	141	9.0	N/A	N/A	2.1	1.3	
			9	8.1	145	-	-	-	4.3	3.1	
	N/A	9	0	10.0	141	8.0	N/A	N/A	2.1	1.9	
			13	7.5	141	-	-	-	2.3	N/A	
	N/A	11	0	9.8	135	8.5	N/A	N/A	2.1	1.4	
			3	8.2	138	-	-	-	2.2	N/A	
	N/A	15	0	9.3	132	8.5	N/A	N/A	5.2	2.5	
6/21/84	1725	1	11	8.0	120	3.2	1.76	2.8	71	134	
	1620	2	10	10.0	108	3.6	1.04	4.8	30	25	
			14	6.9	109	-	-	-	15	13	
			20	6.0	115	-	-	-	6.4	14	
	1510	3	2	13.9	104	3.8	1.33	3.7	7.2	4.8	
			7	12.4	107	-	-	-	14	10	
			12	8.7	112	-	-	-	28	24	
			20	5.6	N/A	-	-	-	6.2	8.1	
	1250	9	2	12.9	107	6.0	0.73	6.4	4.8	3.0	
			6	11.4	116	-	-	-	6.2	3.3	
			20	5.6	119	-	-	-	3.4	1.3	
		15	4	11.1	116	4.5	0.71	6.3	5.0	3.1	

TABLE K.4, cont.

3. INFLOW/OUTFLOW DATA

Month: June, 1984

Date	Time AST	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C(umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
6/1	1200	EF	2.43	83	87	7.1	N/A	N/A	4.8	3.2	
	1100	GF	1.90	13	17	5.9	N/A	N/A	32	7.6	
	N/A	TR	N/A	N/A	375	7.8	N/A	N/A	4.3	0.9	
6/5	1128	EF	2.73	162	162	6.4	120	N/A	12	12	
	1025	GF	N/A	N/A	58	2.6	71	N/A	77	77	
	N/A	TR	N/A	N/A	345	N/A	128	N/A	4.0	1.5	
6/8	1245	EF	2.71	155	165	5.6	123	N/A	12	4.0	
	1220	GF	3.05	113	102	1.9	81	N/A	120	301	
	1444	TR	N/A	N/A	392	8.5	150	N/A	3.0	0.5	
6/12	1130	EF	2.80	187	187	5.1	110	1.5	2.4	12	
	1250	GF	3.08	118	118	1.9	64	0.4	120	128	
	N/A	TR	N/A	N/A	405	11.3	144	4.0+	4.6	2	
6/15	1255	EF	2.78	179	179	4.8	108	1.5	21	6	
	1335	GF	3.07	11[illegible]	111	1.6	60	0.4	140	135	
	1547	TR	N/A	N/A	480	11.6	144	4.0+	5.6	2	
6/19	1050	EF	2.92	237	261	6.2	104	1.1	34	26	
	1130	GF	3.37	177	194	2.4	77	0.2	500	526	
	1410	TR	N/A	N/A	460	11.2	143	4.0	8	4.0	
6/22	1050	EF	2.97	261	304	5.9	91	0.5	78	77	
	1050	GF	3.66	256	256	2.3	59	0.3	180	154	
	1355	TR	N/A	N/A	430	12.8	149	3.3	8.0	2.4	
6/26	1045	EF	3.09	327	346	4.1	86	0.3	290	257	
	1130	GF	3.84	317	252	1.4	66	0.25	420	341	
	N/A	TR	N/A	0	0	-	-	-	-	-	Power plant shut down.
6/29	1000	EF	2.99	271	310	5.5	80	0.5	130	83	
	1025	GF	3.90	340	356	[illegible]4	55	0.25	350	297	
	N/A	TR	N/A	N/A	184	N/A	N/A	N/A	N/A	N/A	No sample taken.

NOTE: Abbreviations used - N/A Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Solids.

TABLE K.5

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: July 1984

1. LAKE DATA - GENERAL

Date Sampled	Lake Elevation (ft.msl)	Lake Depth (m)	Q in (Mean Daily) (10^3 m^3/day)	Q in (Mean Daily) (cfs)	Q out (Mean Daily) (10^3 m^3/day)	Q out (Mean Daily) (cfs)	Stations Profiled	Weather	Remarks
7/5/84	826.4	50.7	2,560	1,046	1,074	439	1,2,3,9,15	Clear to overcast, winds first out of WSW, then NNW	Qin does not include streams on the north shore
7/19/84	835.1	53.4	1,956	799	406	166	1,2,3,9,15	Overcast, some drizzle winds from calm to strong, from the NW.	Lake elevation is that given for 7/20 in the AP Admin monthly summary. Qin includes the two major streams draining the north shore.

2. LAKE DATA SUMMARY - TURBIDITY/SEDIMENT

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction	Turbidity (NTU)	TSS (mg/l)	Remarks
7/05/84	1730	1	20	9.6	111	2.5	1.96	2.5	128	202	
	1600	2	4.0	15.1	71	2.0	1.45	3.1	6.4	5.0	
	-	-	9.0	12.4	110	-	-	-	80	115	
	-	-	20	5.8	131	-	-	-	6.8	8.0	
	1445	3	2.0	15.0	145	2.0	1.43	3.1	6.6	6.0	
	-	-	8.0	11.3	75	-	-	-	22	13	
	-	-	16	8.0	116	-	-	-	18	22	
	-	-	24	5.4	126	-	-	-	3.5	5.0	
	1330	9	2.0	14.0	154	1.9	1.51	3.1	13	9.0	
	-	-	14	7.9	106	-	-	-	26	15	
	-	-	32	5.4	127	-	-	-	3.4	3.0	
	1220	15	4.0	11.9	153	1.6	1.59	2.8	14	8.0	
7/19/84	1515	1	2.0	14.2	128	1.2	2.18	2.0	26	3.0	
	-	-	6.0	7.0	112	-	-	-	64	29	
	1400	2	6.0	13.9	125	1.3	2.13	2.1	28	2.0	
	-	-	10	10.5	113	-	-	-	61	25	
	-	-	16	8.3	119	-	-	-	56	7.7	
	-	-	28	5.6	132	-	-	-	18	3.6	
	1300	3	2.0	14.0	128	1.3	1.99	2.2	26	2.1	
	-	-	8.0	11.6	125	-	-	-	58	4.9	
	-	-	16	8.3	116	-	-	-	58	12.4	
	-	-	28	5.3	125	-	-	-	16	5.0	

TABLE K.5, cont.

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: July 1984

2. LAKE DATA SUMMARY - TURBIDITY/SEDIMENT (Continued)

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction	Turbidity (NTU)	TSS (mg/l)	Remarks
7/19/84	1050	9	4.0	12.9	125	1.2	2.24	2.02	52	3.3	The light extinction measurements were run twice yielding different values.
	-	-	16.0	8.6	125	-	2.25	1.98	37	4.6	
	-	-	36.0	5.5	125	-	-	-	35	3.8	
	0950	15	4.0	11.8	125	1.3	2.43	1.89	56	4.4	

3. INFLOW/OUTFLOW DATA

Date	Time AST	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C(umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
7/3/84	1045	EF	2.90	228	228	4.9	85	0.5	88	48	
	1120	GF	3.94	356	356	1.4	34	0.2	580	514	
	N/A	TR	1.84	N/A	434	11.9	144	1.8	18	6.0	Gage height from staff near the right edge of water
7/6/84	0920	EF	3.26	444	519	6.4	N/A	0.2	140	156	Temp at 1110 AST Secchi from LB d/s of bridge
	1610	GF	4.54	674	597	1.6	N/A	0.2	430	568	
	2014	TR	1.90	N/A	355	12.2	N/A	1.8	17	4.7	
7/10/84	1119	EF	3.27	452	460	6.0	78	0.5	88	72.5	Temp, turb, TSS, Cond & Secchi from LB 10m d/s of bridge
	1226	GF	4.46	622	603	N/A	55	0.2	500	572	
	1518	TR	1.73	N/A	156	N/A	142	1.4	22	9.0	
7/13/84	1056	EF	3.11	340	359	5.0	75	0.5	64	53	T=Tryan + 0.5°C
	1207	GF	4.23	490	480	N/A	49	0.2	430	417	
	1425	TR	1.19	N/A	160	N/A	143	1.1	28	18	
7/17/84	0953	EF	3.06	310	321	4.6	76	0.5	66	50	
	1050	GF	4.07	412	417	0.9	44	0.3	220	248	
	1319	TR	0.91	N/A	156	10.0	134	1.3	31	9.0	

NOTE: Abbeviations used - N/A = Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Solids.

TABLE K.5, cont.

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: July 1984

3. INFLOW/OUTFLOW DATA (Continued)

Date	Time AST	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C(umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
7/20/84	1600	EF	3.08	321	304	6.1	75	0.8	98	45	
	1640	GF	4.16	455	431	0.8	35	0.4	216	264	
	1800	EF	3.09	327		5.6	74	0.7	110	61	
	1830	GF	4.10	426		1.6	34	0.4	224	246	
	2000	EF	3.09	327		5.6	73	0.7	110	64	
	2030	GF	4.15	450		1.6	34	0.4	232	216	
	2200	EF	3.08	321		5.6	73	0.6	108	50	
	2230	GF	4.11	431		1.6	38	0.4	224	216	
	2400	EF	3.07	316		5.0	74	N/A	108	50	
7/21/84	0030	GF	4.11	431	511	1.6	38	N/A	230	226	
	0200	EF	3.06	310	372	5.0	74	N/A	105	45	
	0230	GF	4.10	426		1.6	38	N/A	250	213	
	0400	EF	3.06	310		4.4	78	0.7	107	42	
	0430	GF	4.11	431		1.6	38	0.4	240	259	
	0545	EF	3.06	310		4.4	78	0.7	83	38	
	0610	GF	4.12	436		1.6	41	0.4	210	263	
	0830	EF	3.05	304		5.3	82	0.8	66	46	
	0900	GF	4.14	445		1.4	37	0.3	250	247	
	1030	EF	3.07	316		6.4	71	0.7	73	45	
	1100	GF	4.21	480		1.9	39	0.3	260	293	
	1230	EF	3.12	346		8.3	69	0.5	102	73	
	1300	GF	4.32	539		2.5	32	0.3	250	271	
	1430	EF	3.16	372		8.9	69	0.5	124	102	
	1500	GF	4.35	556		2.5	30	0.3	260	313	
	1630	EF	3.21	407		8.9	61	0.4	160	188	
	1700	GF	4.39	579		1.6	27	0.3	310	493	
	2000	TR	0.72	N/A	144	11.9	135	1.2	31	6.1	
7/24/84	1010	EF	3.20	400	444	5.8	62	N/A	196	132	
	1120	GF	4.39	579	591	1.8	34	0.3	370	228	
	1440	TR	1.49	N/A	164	11.7	130	1.4	36	6.8	
7/27/84	1010	EF	3.11	340	379	5.6	67	0.5	44	53	All cond & turb values for these dates are from Chem/Geo.
	1050	GF	4.31	533	533	1.7	36	0.3	144	297	
	1320	TR	1.21	N/A	144	11.4	130	1.4	20	36	
7/31/84	1025	EF	3.16	372	400	6.1	56	0.6	50	58	
	1105	GF	4.33	545	550	1.7	34	0.2	146	373	
	1410	TR	1.41	N/A	147	11.4	120	1.4	18	3.3	

NOTE: Abbeviations used - N/A = Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Solids. Chem/Geo = Chemicals & Geological Laboratories of Alaska, Inc., d/s = Downstream, LB = Left Bank, RB = Right Bank

TABLE K.6

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: August, 1984

1. LAKE DATA - GENERAL

Date Sampled	Lake Elevation (ft,msl)	Lake Depth (m)	Q in (Mean Daily) (10^3 m^3/day)	Q in (Mean Daily) (cfs)	Q out (Mean Daily) (10^3 m^3/day)	Q out (Mean Daily) (cfs)	Stations Profiled	Weather
8/3	840.6	55.0	3040	1243	329	134	1,2,3,9,15	Overcast. Calm in the morning, strong-wind out the W in the afternoon, abating in the evening.
8/16-8/20	845.2-849.8	56.4-57.9	2790-4360 Qm=3575	1140-1782 Qm = 1461	340-347 Qm=345	139-142 Qm=141	1-15	8/16. Mostly sunny with a light wind from the east. Waves approx. 0.2ft. 8/17. Mostly cloudy to overcast. Light to strong wind moving from SSE early to WNW in the afternoon, to NNW in the evening. NW later. 8/18. Overcast. Strong wind first from NNW, then shifting at 1050 to blow from SSE. Waves 1-2 ft. 8/19. Light rain in the morning ending after noon. Winds from NNW calm early building in the afternoon raising the wave height from 0.1 to 1 ft. 8/20. Mostly cloudy. Wind shifted from SSE in the morning to NW after noon.

2. LAKE DATA SUMMARY

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction (m)	Turbidity (NTU)	TSS (mg/l)	Remarks
8/03	1130	1	1.0	15.0	137	1.9	2.75	1.9	9.5	3.7	
			3.0	9.0	116				29	41	
	1300	2	4.0	14.5	133	1.7	1.78	2.7	9.8	2.6	
			8.0	11.1	125				20	14	
			16	10.2	106				48	66	
			32	6.0	138				5.6	11	
	1500	3	2.0	15.7	135	2.0	1.85	2.5	11	2.4	
			8.0	11.1	121				22	22	
			16	9.5	103				43	56	
			28	6.3	132				8.7	9.5	
	1700	9	6.0	11.7	120	1.8	2.05	2.1	22	8.0	

TABLE K.6, cont.

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: August 1984

2. LAKE DATA SUMMARY

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction (m)	Turbidity (NTU)	TSS (mg/l)	Remarks
8/03			28	6.4	136				7.4	3.5	
	2100	15	4.0	11.9	131	1.5	2.47	1.8	13	2.3	
8/16	1740	15	6.0	11.1	105	1.4	2.58	1.8	46	11	
8/17	0910	14	2.0	13.8	137	1.3	2.28	2.1	38	4.2	
			10	9.7	139				47	8.7	
			20	8.4	126				58	11	
	1150	13	2.0	14.2	118	1.4	2.29	1.8	30	4.2	
			12	9.4	130				44	5.5	
			28	7.2	127				25	6.4	
	1330	12	2.0	13.6	133	1.3	N/A	N/A	32	3.9	
			16	8.6	109				47	4.4	
	1600	11	6.0	11.7	126	1.4	2.11	2.1	42	13	
			16	9.2	113				35	3.9	
			36	5.6	130				9.0	1.2	
	1900	10	30	6.1	122	1.6	2.17	2.0	10.2	2.0	
8/18	0910	9	6.0	10.2	129	1.5	2.34	1.9	30	5.9	
			16	8.7	116				75	31	
			44	5.4	136				5.5	1.1	
8/19	1250	8	6.0	11.0	128	1.5	N/A	N/A	56	26	
			24	7.9	125				56	27	
			44	5.4	147				4.7	1.9	
	1000	7	6.0	11.5	131	1.1	N/A	N/A	35	3.9	
			20	8.7	132				48	21	
			40	5.4	149				5.3	2.3	
	1500	6	2.0	10.6	131	1.0	N/A	N/A	48	23	
			20	9.2	120				70	35	
			44	6.4	143				25	21	
	1750	5	4.0	11.5	130	1.1	N/A	N/A	40	13	
			24	8.7	121				65	30	
			44	5.8	154				10.5	4.0	
8/20	1020	4	8.0	12.1	133	1.6	N/A	N/A	37	7.8	
			24	8.0	136				50	28	
			44	5.4	160				8.5	3.0	
	1240	3	6	12.2	121	1.4	N/A	N/A	40	6.8	
			20	8.4	113				72	40	
			30	6.0	148				11.5	10	
	1430	2	2	12.8	132	1.4	N/A	N/A	36	8.0	
			16	9.4	109				115	61	
			36	5.8	140				12.5	11	
	1630	1	1	12.8	134	1.5	N/A	N/A	36	9.4	
			6	12.8	136				35	4.0	
			12	12.0	127				100	47	

TABLE K.6, cont.

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA

MONTH: August, 1984

Date	Time AST	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C(umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
8/3	1134	EF	N/A	N/A	476	7.0	N/A	N/A	70	126	Mean Daily Q
	1237	GF	4.61	722	687	2.7	N/A	N/A	130	380	is estimated
	1520	TR	1.57	N/A	134	11.5	N/A	N/A	16	4.2	for EF
8/7	1030	EF	3.36	527	483	6.5	50	0.3	85	143	Mean daily
	1300	GF	4.74	818	772	2.7	20	0.2	156	470	Q estmiated
	1530	TR	1.80	N/A	146	11.4	121	1.3	20	5.1	for EF
8/10	1121	EF	3.28	460	493	5.1	N/A	0.6	55	75	
	1210	GF	4.55	680	694	1.4	N/A	0.2	140	370	
	1410	TR	1.67	N/A	143	10.8	N/A	1.4	19	3.2	
8/14	1015	EF	3.10	333	365	4.7	65	0.6	76	44	
	1100	GF	4.29	522	562	1.6	27	0.3	196	262	
	1200	EF	3.13	352		6.2	61	0.6	84	89	
	1230	GF	4.41	591		1.9	24	0.2	220	217	
	1400	EF	3.17	379		7.5	60	0.6	104	56	
	1500	GF	4.45	616		1.7	24	0.2	228	349	
	1600	EF	3.20	400		7.5	57	0.6	96	82	
	1700	GF	4.49	641		1.4	21	0.4	220	336	
	1800	EF	3.24	429		6.8	55	0.5	132	123	
	1900	GF	4.45	616		1.3	19	0.3	204	290	
	1930	EF	3.25	436		5.9	58	0.4	120	110	
	2015	GF	4.46	622		1.2	21	0.4	180	235	
	2300	EF	3.24	429		4.5	64	N/A	116	N/A	
	2330	GF	4.35	556		1.1	26	N/A	188	N/A	
	2400	EF	3.22	414		4.4	61	N/A	108	78	
8/15	0030	GF	4.34	550	562	1.0	26	N/A	160	215	Staff gage
	0200	EF	3.18	385	392	4.1	64	N/A	120	96	removed
	0230	GF	4.28	517		1.0	31	N/A	180	228	from TR.
	0430	EF	3.16	372		4.0	61	N/A	96	66	
	0500	GF	4.26	506		0.9	N/A	N/A	180	244	
	0600	EF	3.14	359		3.9	64	0.5	80	51	
	0630	GF	4.22	485		1.0	31	0.3	188	226	
	0800	EF	3.12	346		3.9	64	0.5	88	48	
	0830	GF	4.20	475		1.0	26	0.3	192	216	
	1000	EF	3.12	346		4.6	72	0.6	66	51	
	1030	GF	4.22	485		1.3	42	0.2	196	225	
	1200	EF	3.14	359		6.5	113	0.6	72	48	
	1230	GF	4.38	573		1.8	89	0.2	180	331	
	N/A	TR	N/A	N/A	146	10.0	N/A	1.1	26	3.0	
8/17	1130	EF	N/A	N/A	421	5.8	N/A	N/A	100	64	
	1215	GF	4.47	628	609	1.5	N/A	N/A	205	247	
	1440	TR	N/A	N/A	143	9.5	N/A	N/A	38	26	

NOTE: Abbreviations used - N/A = Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Solids.

TABLE K.6, cont.

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: August, 1984

3. INFLOW/OUTFLOW DATA (Continued)

Date	Time AST	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C(umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
8/21	1035	EF	3.12	346	392	4.8	N/A	0.7	110	91	
	1111	GF	4.41	591	597	1.5	N/A	0.3	370	429	
	1307	TR	N/A	N/A	143	11.4	N/A	1.4	46	19	
8/24	1110	EF	3.06	310	519	5.0	N/A	1.0	53	76	
	1200	GF	4.55	680	707	2.0	N/A	0.5	170	270	
	1410	TR	N/A	N/A	139	10.5	N/A	1.1	12	15	
8/28	1030	EF	2.86	211	219	3.7	N/A	0.9	27	18	Q Inst. From discharge measurements on EF & GF
	1300	GF	4.01	386	381	1.4	N/A	0.2	220	280	
	1930	TR	N/A	N/A	146	10.3	N/A	1.3	26	5.0	

NOTE: Abbreviations used - N/A = Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Solids. Chem/Geo = Chemical & Geological Laboratories of Alaska, Inc., d/s = Downstream, LB = Left Bank, RB = Right Bank

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TABLE K.7
MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: September, 1984

1. LAKE DATA - GENERAL

Date Sampled	Lake Elevation (ft,msl)	Lake Depth (m)	Q in (Mean Daily) (10^3 m^3/day)	Q in (Mean Daily) (cfs)	Q out (Mean Daily) (10^3 m^3/day)	Q out (Mean Daily) (cfs)	Stations Profiled	Weather
9/3	858.4	60.5	947	387	350	143	1,2,3,9,15	Clear, calm.
9/17	860.2	61.0	819	335	390	159	1,2,3,9,15	Overcast, calm.

2. LAKE DATA SUMMARY

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction (m)	Turbidity (NTU)	TSS (mg/l)	Remarks
9/03	1620	1	6.0	10.5	129	1.6	N/A	N/A	55	2.6	
			12	9.6	122				35	13	
			24	7.6	126				33	12	
	1510	2	4.0	10.6	125	1.5	N/A	N/A	23	6.1	
			24	7.7	112				35	15	
			40	6.0	127				13.2	4.7	
	1730	3	0.0	12.5	138	1.6	N/A	N/A	22	4.2	
			20	8.2	126				16.0	8.5	
			44	5.5	155				7.6	3.4	
		9	4.0	10.5	114	1.4	N/A	N/A	22	3.2	
			20	8.3	114				50	21	
			44	5.8	139				13.1	1.9	
	1100	15	4.0	10.1	113	1.4	N/A	N/A	25	3.4	
9/17	1730	1	1.0	9.0	138	1.4	2.24	2.1	14.5	7.1	
	1630	2	2	10.4	130	1.5	1.57	2.9	16.0	3.4	
			10	9.8	124				17.5	3.2	
			20	8.1	129				25	8.1	
			40	6.1	148				10.5	2.9	
	1500	3	1	10.4	127	1.5	1.60	2.9	15.5	3.1	
			10	10.0	121				17.0	1.9	
			28	6.7	135				17.8	3.1	
			40	5.9	144				9.5	3.0	
	1245	9	6.0	10.1	126	1.7	1.64	2.79	23	2.0	
			20	8.2	122				29	3.6	
			56	5.2	151				18	2.0	
	1000	15	6.0	10.0	121	1.6	1.54	2.97	30	1.6	

TABLE K.7, cont.

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA

MONTH: September, 1984

Date	Time AST	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C(umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
9/1	1100	EF	2.65	137	140	4.2	104	1.4	7.0	7.4	
	1145	GF	3.41	186	194	1.1	40	0.4	120	203	
	1500	TR	N/A	N/A	147	9.1	92	1.1	36	11	
9/4	1315	EF	2.61	96	102	5.5	105	1.4	9.0	4.6	
	1420	GF	3.30	161	161	1.4	29	0.5	85	87	
	2055	TR	N/A	N/A	149	9.5	102	1.1	32	2.8	
9/6	1030	EF	2.59	120	131	3.9	104	1.4	10.5	5.4	
	1115	GF	3.19	138	146	1.5	46	0.6	95	107	
	1330	TR	N/A	N/A	141	9.5	116	1.4	25	9.3	
9/11	1010	EF	2.58	117	125	3.8	104	1.4	10.6	0.8	
	1050	GF	3.02	108	123	1.1°C	43	0.5	90	102	
	1314	TR	N/A	N/A	161	9.1	111	1.4	24	4.4	
9/14	1023	EF	2.69	149	187	4.7	104	1.4	17.5	16	
	1106	GF	3.29	159	199	1.1	35	0.4	57	183	
	1310	TR	N/A	N/A	141	9.9	116	1.7	19.7	4.5	
9/18	1030	EF	2.56	112	112	4.5	112	1.4	11.5	4.4	
	1117	GF	3.13	127	129	1.4	48	0.5	127	126	
	1300	TR	N/A	N/A	159	9.1	113	1.6	24	5.6	
9/21	1045	EF	2.47	92	92	2.7	108	1.4	2.9	3.8	GH & Mean
	1120	GF	2.82	79	79	0.7	70	0.5	100	72	Daily Q est
	1310	TR	N/A	N/A	169	8.9	98	1.6	13.4	5.2	for EF.
9/25	1100	EF	2.42	81	83	4.6	131	1.4	2.2	1.7	GH & Mean
	1130	GF	2.70	65	69	1.6	54	0.8	49	45	Daily Q est
	1345	TR	N/A	N/A	168	8.9	129	1.7	13.3	2.5	for EF
9/28	1115	EF	2.40	78	83	4.3	N/A	1.3	1.95	1.1	
	1145	GF	2.61	56	62	1.3	52	N/A	31	36	
	1310	TR	N/A	N/A	150	8.1	112	2.0	12.0	5.0	

NOTE: Abbreviations used: N/A = Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Solids. Chem/Geo = Chemical & Geological Laboratories of Alaska, Inc., d/s = Downstream, LB = Left Bank, RB = Right Bank.

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TABLE K.8

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: October, 1984

1. LAKE DATA - GENERAL

Date Sampled	Lake Elevation (ft,msl)	Lake Depth (m)	Q in (Mean Daily) (10^3 m^3/day)	Q in (Mean Daily) (cfs)	Q out (Mean Daily) (10^3 m^3/day)	Q out (Mean Daily) (cfs)	Stations Profiled	Weather	
10/01	861.9	61.5	1350	552	459	187	1,2,3,9,15	Calm in a.m. Wind picking up to 18 mph in p.m. intermittent rain.	Light extinction measurement and turbidity profile were not run at Sta. 15 because of darkness.
10/15	862.7	61.8	349	143	401	164	1,2,3,9,15	Cloudy, cold mostly calm.	Turbidity profile not run; pump not functioning.
10/29	862.4	61.7	216	88	912	373	1,2,3,9,15	Clear, calm, cold.	Turbidity profile was not run because of a pump malfunction.

2. LAKE DATA SUMMARY

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction (m)	Turbidity (NTU)	TSS (mg/l)	Remarks
10/01	1130	1	2.0	4.0	132	0.6	13.1	0.3	220	95	
	1330	2	4.0	8.7	131	2.2	1.30	3.4	13.0	3.7	
			20	8.2	132				18.2	1.1	
			46	6.3	147				18	4.8	
	1515	3	4.0	8.8	125	2.3	1.24	3.5	12	1.6	
			16	8.4	123				16	3.1	
			28	7.4	131				16	1.7	
	1730	9	4.0	8.8	135	2.3	1.30	3.4	19	2.9	
			24	7.6	143				15	2.0	
			48	5.7	157				26	14	
			56	6.3	154				75	39	
	1930	15	4.0	8.8	143	N/A	N/A	N/A	11.3	4.6	Too dark for light extinction and secchi measurements.
10/15	1130	1	1.0	1.3	161	3.9	1.00	4.6	6.5	0.86	
	1210	2	4.0	7.3	129	2.6	1.19	3.6	11.2	1.5	
			12	7.3	118				11.2	0.22	
			24	7.2	122				11.2	0.46	
			44	6.2	134				17.8	3.9	

TABLE K.8, cont.

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: October, 1984

2. LAKE DATA SUMMARY (continued)

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction (m)	Turbidity (NTU)	TSS (mg/l)	Remarks
10/15	0940	3	1.0	7.3	121	2.5	1.27	3.6	11.6	0.96	
			6.0	7.3	94				11.8	0.41	
			16	7.3	111				12.6	0.27	
			36	6.3	134				17.2	4.0	
	1420	9	2	7.4	120	2.7	1.21	3.7	11.4	2.6	
			10	7.4	119				11.7	1.5	
			20	7.4	120				12.4	2.0	
			40	6.3	130				18.4	5.9	
			56	5.8	132				21	8.3	
	1550	15	2	7.2	122	2.7	1.21	3.8	10.6	0.33	
			12	7.2	121				11.1	1.8	
10/29	1400	1	1	4.7	123	2.5	1.42	3.2	8.4	5.1	Conductivity measurements for 10/29 performed in the labora- tory.
	1300	2	4	6.0	120	2.1	1.40	3.0	11.0	6.4	
			12	5.9	96				10.9	6.5	
			28	5.9	101				11.3	6.0	
			40	5.9	107				11.2	5.4	
	1100	3	4	5.8	129	2.1	1.34	3.2	11.0	4.3	
			16	5.8	102				11.0	5.7	
			32	5.7	112				10.8	5.5	
			44	5.6	117				10.9	5.7	
	1600	9	6	5.8	127	2.1	1.36	3.3	11.3	6.6	
			20	5.9	110				11.5	4.6	
			36	5.9	111				11.0	5.3	
			56	5.9	114				11.2	6.1	
	1700	15	2	5.2	128	2.6	2.04	2.3	10.2	5.4	
			12	5.3	120				11.0	6.7	

3. INFLOW/OUTFLOW DATA

Date	Time AST	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C(umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
10/2	1330	EF	2.75	168	183	4.9	106	1.3	30	35	
	1430	GF	3.23	146	144	1.7	77	0.3	338	190	
	1630	TR			177	8.9	115	2.3	10.5	3.2	
10/5	1000	EF	2.57	129	120	3.5	125	3.0	7.4	7.9	Secchi at EF indicates clear view to bottom at a deep scour area d/s of gage. Q inst at EF is from a discharge measurement.
	1200	GF	2.86	85	85	1.7	90	0.3	160	107	
	1620	TR			190	9	119	1.8	12.0	3.5	

" " indicates that the secchi disc was visible to the bottom.

TABLE K.8, cont.

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (Continued)

MONTH: October, 1984

Date	Time AST	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C(umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
10/9	1215	EF	2.54	107	103	3.3	130	>3.0	3.2	3.3	
	1300	GF	2.59	54	54	1.3	85	0.5	95	78	
	1450	TR			155	8.0	115	2.1	15.5	6.0	
10/12	1250	EF	2.44	85	85	2.9	128	>3.0	2.1	1.1	Q inst at GF is from a discharge measurement.
	1030	GF	2.42	40	38	0.5	89	0.7	63	41	
	1530	TR			155	8.0	105	2.1	8.6	2.4	
10/16	1030	EF	2.37	72	71	1.3	142	> 3.0	1.6	0.15	Stilling well frozen at GF from this date on Q estimated for GF.
	1115	GF	N/A	28	28	0.3	84	0.9	54	16	
	1400	TR			159	7.4	117	2.7	11.4	0.56	
10/19	1130	EF	2.33	66	66	2.2	142	/3.0	1.1	2.1	
	1200	GF	N/A	25	24	0.0	85	0.4	50	40	
	1400	TR			209	7.1	111	2.6	10.5	6.9	
10/23	1130	EF	2.38	74	74	2.2	145	>3.0	1.6	1.1	Q inst at GF is from a discharge measurement Q MD for GF is estimated.
	1330	GF	N/A	25	28	0.7	95	1.0	45	30	
	0900	TR			309	6.9	113	2.7	11.3	4.4	
10/26	1030	EF	2.26	55	55	N/A	152	>3.0	0.9	1.8	Q inst at EF is from a discharge measurement. QMD and Q inst estimated for GF.
	1250	GF	N/A	24	25	0.0	102	1.0	50	23	
	1440	TR			349	6.2	123	2.3	11.5	3.4	
10/30	1217	EF	2.18	45	45	1.7	151	>3.0	1.3	4.1	GH estimated for EF, water surface is below orifice in stilling well. Q inst & QMD estimated for GF.
	1317	GF	N/A	20	20	0.0	109	1.0	47	14	
	1440	TR			356	5.7	128	2.3	12.2	4.0	

" " indicates that the secchi disc was visible to the bottom.

TABLE K.9

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MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: November, 1984

1. LAKE DATA - GENERAL

Date Sampled	Lake Elevation (ft,msl)	Lake Depth (m)	Q in (Mean Daily) (10^3 m^3/day)	Q in (Mean Daily) (cfs)	Q out (Mean Daily) (10^3 m^3/day)	Q out (Mean Daily) (cfs)	Stations Profiled	Weather
11/12	859.6	61.0	159*	65*	868	355	1,2,3,9,15	-10°F, foggy calm.
11/26	859.0	60.8	159*	65*	783	320	1,2,3,9,15	5°F, clear light breeze variable.

2. LAKE DATA SUMMARY

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction (m)	Turbidity (NTU)	TSS (mg/l)	Remarks
11/12	1000	1	1	3.8	117	2.6	1.32	3.5	11.0	4.2	Cond from field YSI
	1130	2	4	4.6	112	2.7	1.25	3.6	11.3	3.4	
			16	4.6	126				11.0	3.3	
			28	4.6	126				10.0	N/A	
			40	4.6	127				9.4	3.1	
	1300	3	4	4.4	110	2.6	1.21	3.7	8.4	2.5	
			16	4.5	115				9.6	5.4	
			28	4.4	117				9.6	N/A	
			40	4.3	116				9.7	2.4	
	1500	9	4	4.6	133	2.8	1.19	3.8	10.6	3.3	
			16	4.6	121				10.8	3.2	
			32	4.6	124				11.0	N/A	
			48	4.6	126				9.8	3.0	
	1630	15	1	3.8	141	2.6	1.17	3.8	10.8	2.4	
			12	3.9	128				10.4	N/A	
11/26	0930	1	1	2.6	122	2.7	1.07	4.23	9.0	3.3	
	1120	2	4	3.6	117	3.0	1.24	3.9	8.8	3.0	
			12	3.7	113				9.6	3.4	
			40	3.7	114				8.6	3.3	
	1220	3	4	3.0	120	3.0	1.01	4.5	8.2	3.8	
			20	3.2	117				7.9	3.6	
			40	3.4	117				8.4	3.4	

* Estimate

NOTE: Abbreviations used - N/A = Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Solids.

TABLE K.9, cont.

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

2. LAKE DATA SUMMARY

Month: November, 1984

Date	Time AST	Station	Depth (m)	Temp. °C	Cond.(@ 25°C) (umho/cm)	Secchi Disk at surface (ft)	Quantum Extinction Coefficient (/m)	Depth for 99% Extinction (m)	Turbidity (NTU)	TSS (mg/l)	Remarks
11/26	1330	9	2	2.2	127	3.0	1.06	4.2	8.8	3.2	
			16	3.6	125				9.2	3.9	
			32	3.6	125				9.0	5.0	
			52	3.6	127				8.2	4.0	
	1440	15	10	3.3	130	3.0	1.16	3.8	9.2	4.7	

3. INFLOW/OUTFLOW DATA

Date	Time AST	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C(umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
11/2	1315	EF	2.11	37	37*	0.9	149	>3	0.8	0.61	EF GH from levels.
	1230	GF	N/A	18*	18*	0.0	N/A	1.0*	N/A	N/A	GF has ice dam d/s of gage and water over, inbetween, and below ice.
	1550	TR			355	5.5	122	2.4	10.2	7.6	
11/6	1300	EF	2.17	44	44*	2.1	142	>3	0.74	0.38	EF GH from levels.
	1230	GF	N/A	15*	15*	0.0	102	1.0	41	27	
	1450	TR			332	5.4	113	2.5	9.8	5.3	
11/9	1220	EF	N/A	35*	35*	0.1	146	>3	0.85	0.30	
	1130	GF	N/A	N/A	10*	0.0	103	1.0	40	19	
	1400	TR			343	5.0	139	2.8	10.2	3.2	
11/13	1330	EF	N/A	27*	25*	-0.1	168	>3	0.98	1.7	Ice damming, anchor ice, Shelf ice at EF.
	1430	GF	N/A	N/A	10*	-0.2	114	1.0*	36	24	
	1550	TR			355	4.3	128	2.6	8.5	7.5	
11/16	1200	EF	N/A	27*	25*	1.0	156	>3	0.85	0.60	
	1230	GF	N/A	N/A	10*	-0.1	112	1.0	35	17	
	1340	TR			362	4.0	125	2.7	9.5	4.2	
11/23	1500	TR			292	3.8	127	2.6	6.6	2.3	
11/30	1400	TR			357	N/A	129	2.6	6.7	2.2	

* Estimate

NOTE: Abbreviations used - N/A = Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Solids.

APPENDIX L

APPENDIX L

OUTFLOW WATER QUALITY DATA - POWERPLANT TAILRACE

TABLE L.1

SUMMARY OF TAILRACE WATER QUALITY DATA

MTG.5G

TABLE L.1

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

Month: May, 1984

3. INFLOW/OUTFLOW DATA (Tailrace)

Date	Time ASI	Site	Gage Height (ft)	Instant. Q (cfs)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @ 25°C(umho/cm)	Secchi Disk (ft)	Turbidity (NTU)	TSS (mg/l)	Remarks
5/22	N/A	TR	N/A			6.7	129	N/A	4.2	2.5	
5/25	N/A	TR	N/A			6.1	N/A	N/A	N/A	2.4	
5/29	N/A	TR	N/A			7.2	148	N/A	3.7	1.6	

NOTE: Abbreviations used - N/A Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Solids.

TABLE L.1 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (Tailrace) Month: June, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
06/01/84	N/A	N/A	375	7.8	N/A	N/A	N/A	4.3	0.9	
06/05/84	N/A	N/A	345	N/A	128	N/A	N/A	4.0	1.5	
06/08/84	1444	N/A	392	8.5	150	N/A	N/A	3.0	0.5	
06/12/84	N/A	N/A	405	11.3	144	4.0+	N/A	4.6	2	
06/15/84	1547	N/A	480	11.6	144	4.0+	N/A	5.6	2	
06/19/84	1410	N/A	460	11.2	143	4.0	N/A	8	4.0	
06/22/84	1355	N/A	430	12.8	149	3.3	N/A	8.0	2.4	
06/26/84	N/A		0	-	-	-	N/A	-	-	Power plant shut down.
06/29/84	N/A	N/A	184	N/A	N/A	N/A	N/A	N/A	N/A	No sample taken.

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

C. INFLOW/OUTFLOW DATA (Tailrace)
MONTH: July 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp. (°C)	Conductivity @25°C(Umho/cm)	Secchi Disk (ft)	Instant Q (cfs)	Turbidity (NTU	TSS (mg/l)	Remarks
7/3/84	N/A	1.84	435	11.9	144	1.8	N/A	18	6.0	Gage height from staff near the right edge of water
7/6/84	2014	1.90	335	12.2	N/A	1.8	N/A	17	9.0	
7/10/84	1518	1.73	106	N/A	142	1.4	N/A	22	9.0	
7/13/84	1425	1.19	160	N/A	143	1.1	N/A	28	18	
7/17/84	1319	0.91	106	10.0	134	1.3	N/A	31	9.0	
7/21/84	2000	0.72	144	11.9	162	1.2	N/A	31	6.1	
7/24/84	1440	1.49	164	11.7	130	1.4	N/A	29	6.8	
7/27/84	1320	1.21	144	11.4	130	1.4	N/A	16	36	
7/31/84	1410	1.41	147	11.4	120	1.4	N/A	14	3.3	

NOTE: Abbreviations used - N/A = Not Available, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Suspended Soilds, Chem/Geo = Chemical & Geological Laboratories of Alaska, Inc.

TABLE L.1 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (Tailrace) Month: August 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
08/03/84	1520	1.57	134	11.5	N/A	N/A	N/A	16	4.2	
08/07/84	1530	1.80	146	11.4	121	1.3	N/A	20	5.1	
08/10/84	1410	1.67	143	10.8	N/A	1.4	N/A	19	3.2	
08/15/84	N/A	N/A	146	10.0	N/A	1.1	N/A	26	3.0	Staff gage removed from TR.
08/17/84	1440	N/A	143	9.5	N/A	N/A	N/A	38	26	
08/21/84	1307	N/A	143	11.4	N/A	1.4	N/A	46	19	
08/24/84	1410	N/A	139	10.5	N/A	1.1	N/A	12	15	
08/28/84	1930	N/A	146	10.3	N/A	1.3	N/A	26	5.0	

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

TABLE L.1 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (Tailrace) Month: September, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
09/01/84	1500	N/A	147	9.1	92	1.1	N/A	36	11	
09/04/84	2055	N/A	149	9.5	102	1.1	N/A	32	2.8	
09/06/84	1330	N/A	141	9.5	116	1.4	N/A	25	9.3	
09/11/84	1314	N/A	161	9.1	111	1.4	N/A	24	4.4	
09/14/84	1310	N/A	141	9.9	116	1.7	N/A	19.7	4.5	
09/18/84	1300	N/A	159	9.1	113	1.6	N/A	24	5.6	
09/21/84	1310	N/A	169	8.9	98	1.6	N/A	13.4	5.2	
09/25/84	1345	N/A	168	8.9	129	1.7	N/A	13.3	2.5	
09/28/84	1310	N/A	150	8.1	112	2.0	N/A	12.0	5.0	

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace, TSS = Total Supsended Solids.

TABLE L.1 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (Tailrace) Month: October, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
10/02/84	1630		177	8.9	115	2.3		10.5	3.2	
10/05/84	1620		190	9	119	1.8		12.0	3.5	
10/09/84	1450		155	8.0	115	2.1		15.5	6.0	
10/12/84	1530		155	8.0	105	2.1		8.6	2.4	
10/16/84	1400		159	7.4	117	2.7		11.4	0.56	
10/19/84	1400		209	7.1	111	2.6		10.5	6.9	
10/23/84	0900		309	6.9	113	2.7		11.3	4.4	
10/26/84	1440		349	6.2	123	2.3		11.5	3.4	
10/30/84	1440		356	5.7	128	2.3		12.2	4.0	

NOTE: Abbreviations used - N/A = Not Applicable, EF = East Fork, GF = Glacier Fork, TR = Tailrace TSS = Total Supsended Solids.

TABLE L.1 (CONTINUED)

MONTHLY SUMMARY OF FIELD OBSERVATIONS - EKLUTNA LAKE

3. INFLOW/OUTFLOW DATA (Tailrace) Month: November, 1984

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
11/02/84	1550		355	5.5	122	2.4		10.2	7.6	
11/06/84	1450		332	5.4	113	2.5		9.8	5.3	
11/09/86	1400		343	5.0	139	2.8		10.2	3.2	
11/13/84	1550		355	4.3	128	2.6		8.5	7.5	
11/16/84	1340		362	4.0	125	2.7		9.5	4.2	
11/23/84	1500		292	3.8	127	2.6		6.6	2.3	
11/30/84	1400		357	N/A	129	2.6		6.7	2.2	

APPENDIX M

APPENDIX M

DATA FROM EKLUTNA WATER PROJECT

TABLE M.1

RAW WATER ANALYSES DURING PILOT STUDY[1]

Parameter	JMM	ChemLab
Physical		
Turbidity (NTU)	7.5-68	—
Temperature (°F)	39-56	—
pH	7.7-8.2	—
Color Units	3-10[2]	10-25[3]
Taste Threshold (No Units)	—	1-2
Odor Threshold (No Units)	—	1-2
General Mineral		
Ca	18.2-20.5	17-23
K	0.3-0.6	0.5-2
Mg	2.9-3.4	2.7-3.4
Na	2.4-2.9	1.0-2.3
HCO_3	55.9-66.0	—
CO_3	0.07-0.5	—
Cl	0.1-0.3	$\leq$1.0
SO_4	9.5-16.3	5-14
F	$\leq$0.1	—
NO_3	$\leq$0.4	—
Alkalinity as $CaCO_3$	46-55	48-64
Hardness as $CaCO_3$	58-65	54-71
TDS	70-86	60-74
Conductivity (micromhos/cm)	129-145	100-130
Fe	0.17-0.84	—
Mn	$\leq$0.03	—
Cu	$\leq$0.012	—
Zn	0.02-0.12	—
Silica	3.1-4.4	—
MBAS	$\leq$0.04	—
Asbestos (million fibers/liter)	<0.5	—
Trace Metals		
Ag	<0.005	—
As	<0.001	—
Ba	$\leq$0.04	—
Cd	$\leq$0.003	—
Cr	<0.029	—
Hg	<0.0003	—
Pb	<0.002	—
Se	$\leq$0.009	—
Organics		
TOC	0.17-0.61	—
TPTHM[4]	0.016-0.018	—
Endrin	<0.0001	—
Lindane	<0.0001	—
Methoxychlor	<0.0001	—
Toxaphene	<0.0005	—
2,4-D	<0.0001	—
2,4,5-TP Silvex	<0.0001	—
Radionuclides		
Gross Alpha (pCi/l)	0.0-0.3 ($\pm$0.1-0.6)	—
Gross Beta (pCi/l)	0.3-1.5 ($\pm$0.4-1.0)	—
Microbiology		
Total Plate Count (per 100 ml)	—	80-2,600
Total Coliforms (per 100 ml)	—	$\leq$2

Notes:

1. All results reported in mg/l unless otherwise noted. They include the ranges observed during the three testing phases.
2. True color, measured after filtration.
3. Apparent color, measured before filtration.
4. TPTHM = Total Potential Trihalomethanes
5. Source: Montgomery Engineers (1984).

TABLE M.2

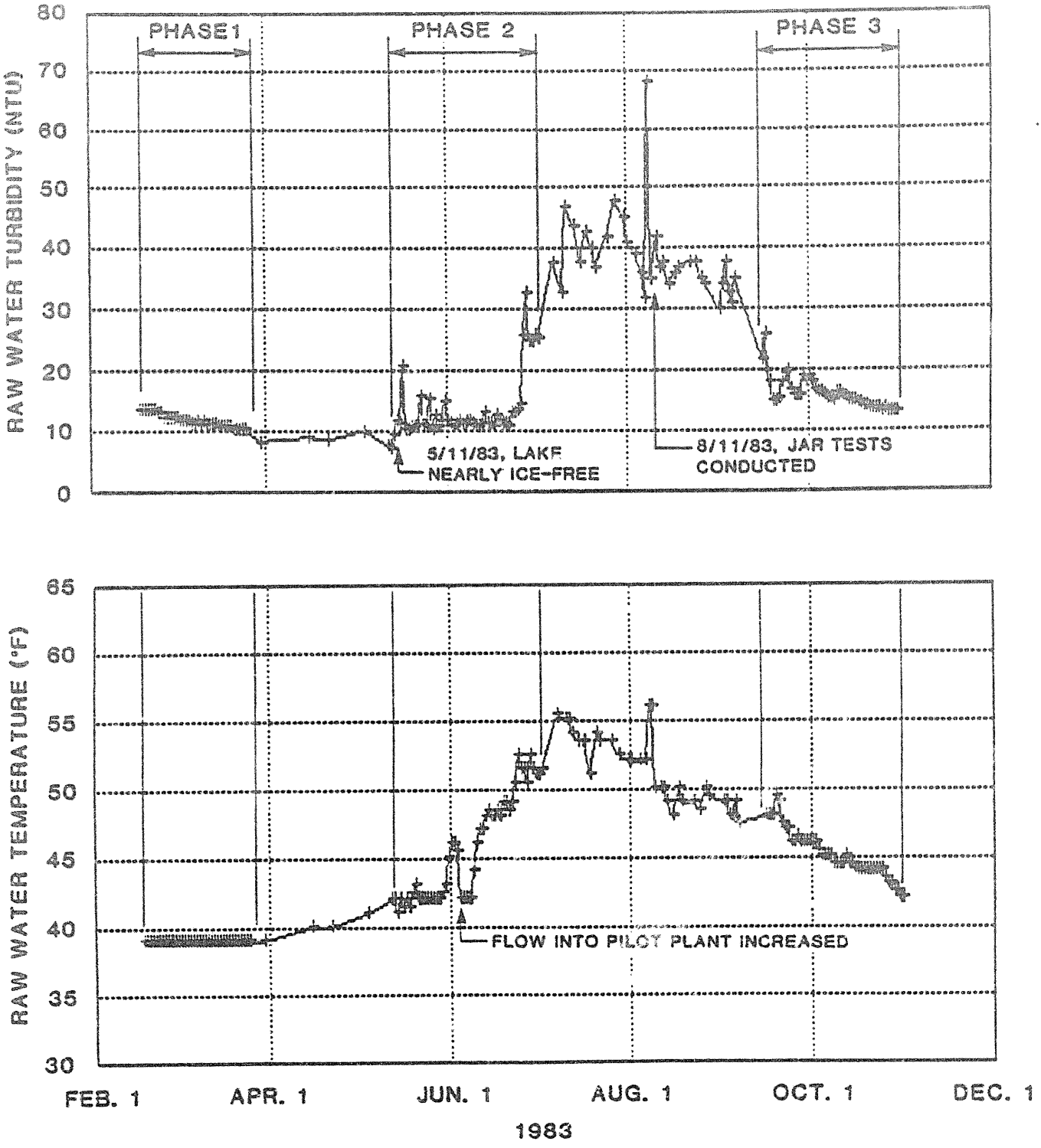
TSS MEASUREMENTS OF RAW WATER

Date	Turbidity (NTU)	TSS (mg/l)[1] Particles Larger than 0.7 micron	Particles Larger than 0.2 micron	Particles Larger than 0.1 micron	Approximate Median Particle Size (microns)[2]
PHASE 1					
03/17/83	11.5	1.3	5.3	6.3	0.4
03/23/83	11.0	2.6	5.1	6.0	0.6
PHASE 2					
05/23/83	15.2	2.3	6.7	9.0	0.5
05/23/83	16.0	6.6	7.6	9.8	1.2
06/28/83	26	14	16	17	>1.2
06/29/83	27	7	13	17	0.6
PHASE 3					
08/11/83	42	23	25	26	>1.2
09/21/83	18.0	3.5	5.0	6.0	0.8
10/20/83	13.0	1.9	2.8	4.1	0.6

1. Three different aliquots of the same sample were applied to filters having the approximate pore sizes shown.

2. Median particle size for particles larger than 0.1 micron. This was determined by plotting the data (in terms of percent passing a certain size) on probability graph paper as demonstrated in Figure 4-5.

3. Source: Montgomery Engineers (1984).



SOURCE: MONTGOMERY ENGINEERS (1984).

EKLUTNA WATER PROJECT

FIGURE M.1
RAW WATER TURBIDITY AND TEMPERATURE

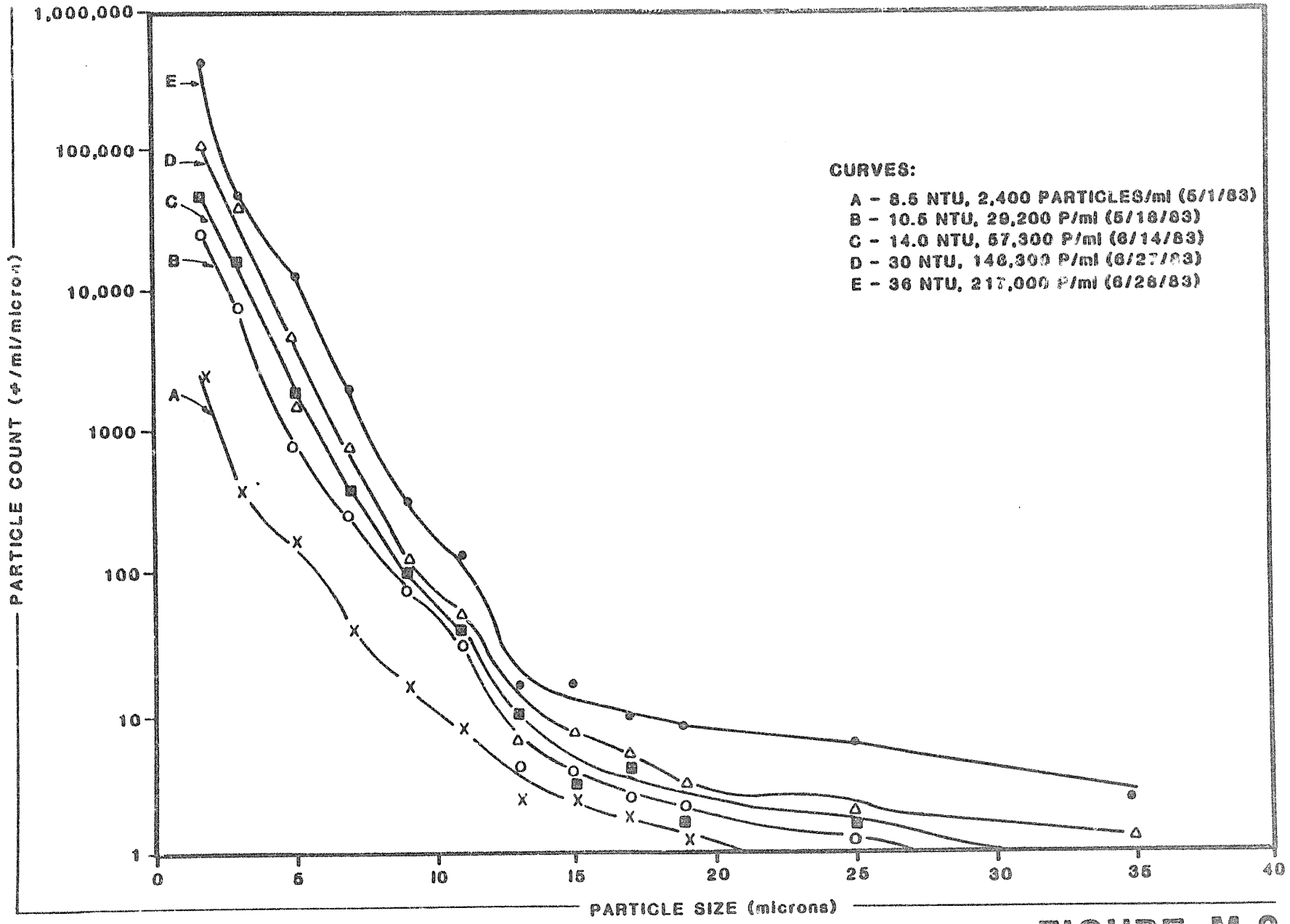


FIGURE M.2

RAW WATER PARTICLE SIZE DISTRIBUTIONS DURING PHASE 2

SOURCE: MONTGOMERY ENGINEERS (1984).

EKLUTNA WATER PROJECT

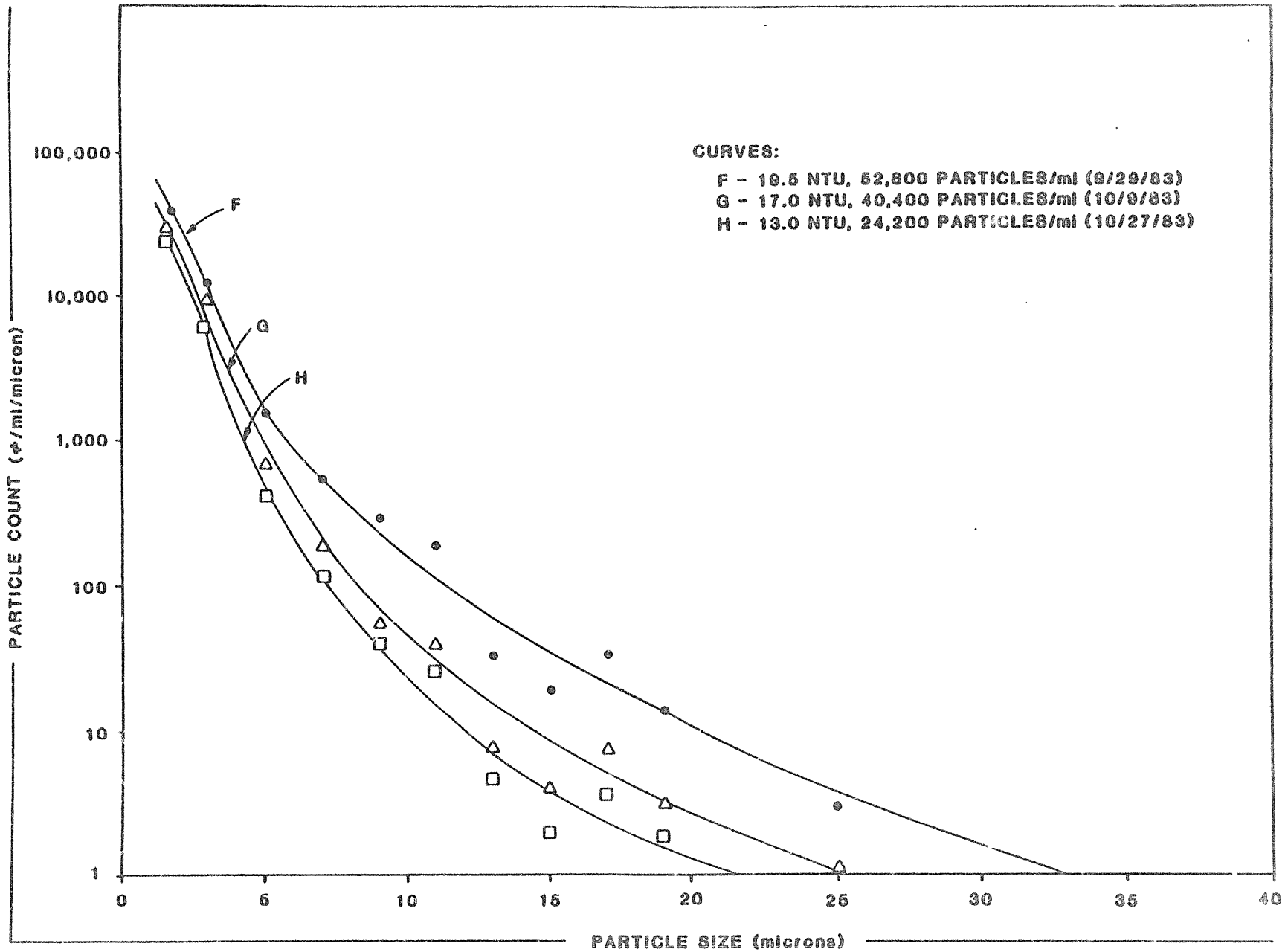


FIGURE M.3

RAW WATER PARTICLE SIZE DISTRIBUTIONS DURING PHASE 3

SOURCE: MONTGOMERY ENGINEERS (1984).

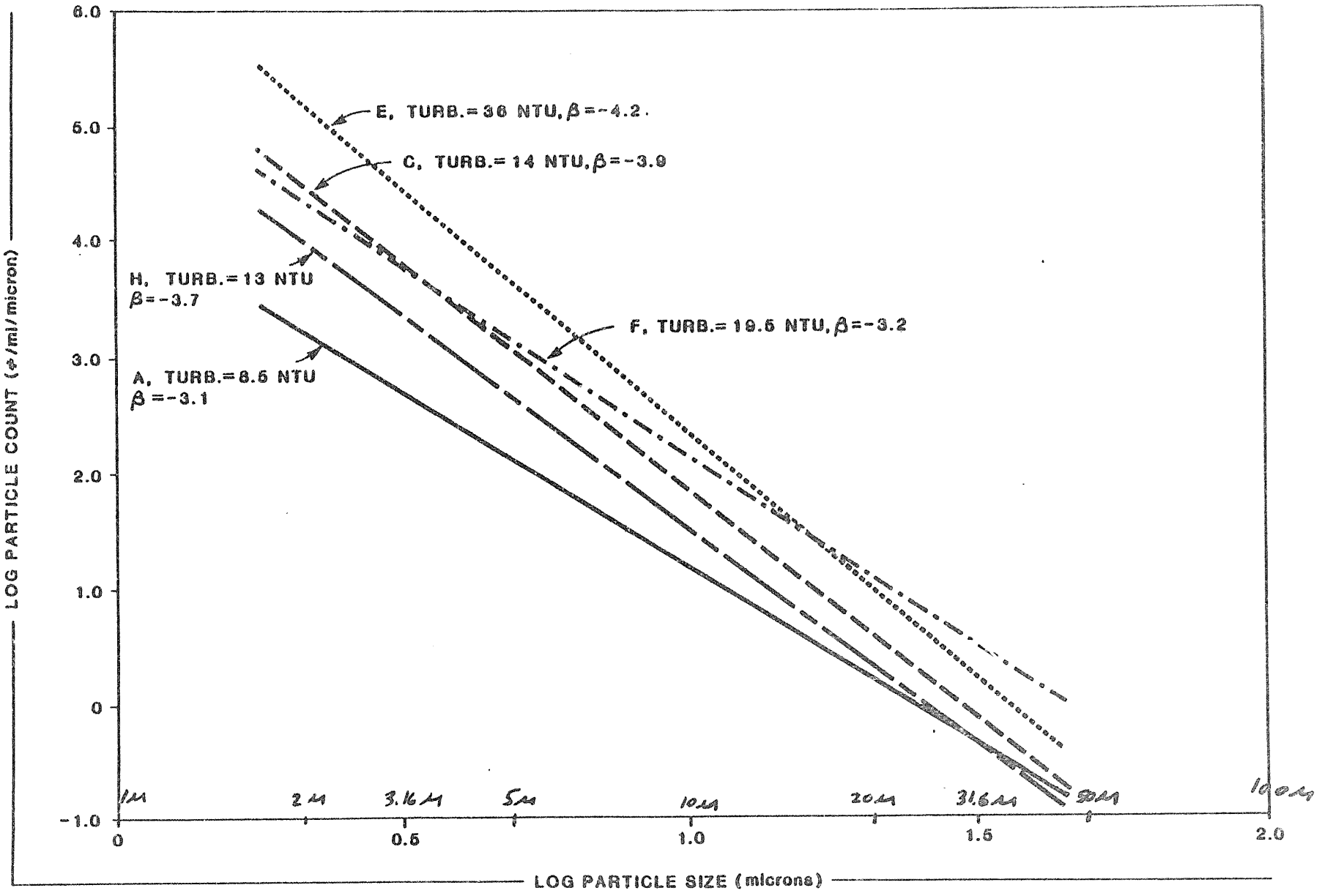


FIGURE M.4

LOGARITHMIC RAW WATER PARTICLE SIZE DISTRIBUTIONS

SOURCE: MONTGOMERY ENGINEERS (1984).

EKLUTNA WATER PROJECT

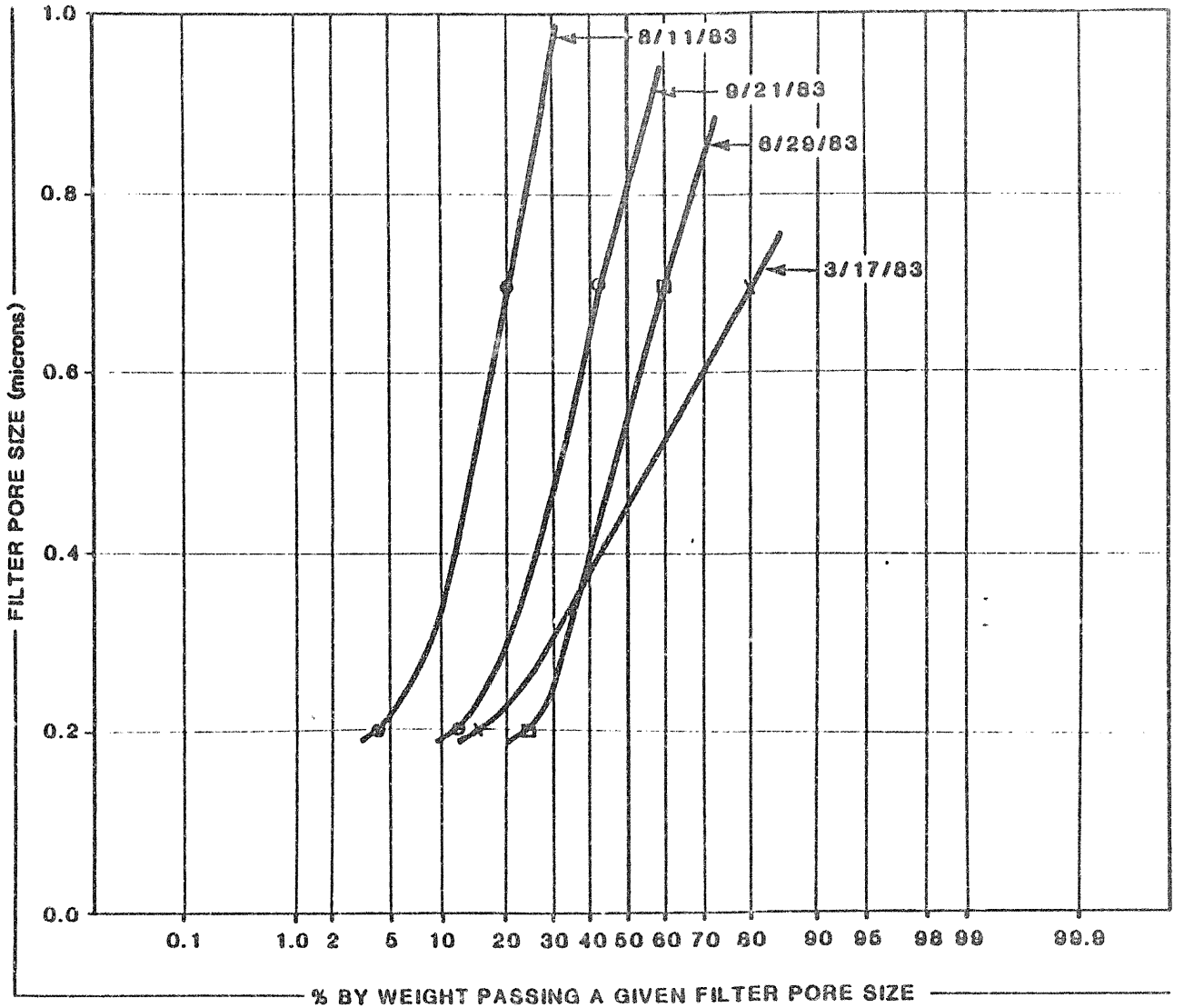


FIGURE M.5
PROBABILITY PLOTS OF
TSS DATA TO PREDICT
MEDIAN PARTICLE SIZE

SOURCE: MONTGOMERY ENGINEERS (1984)

EKLUTNA
WATER PROJECT

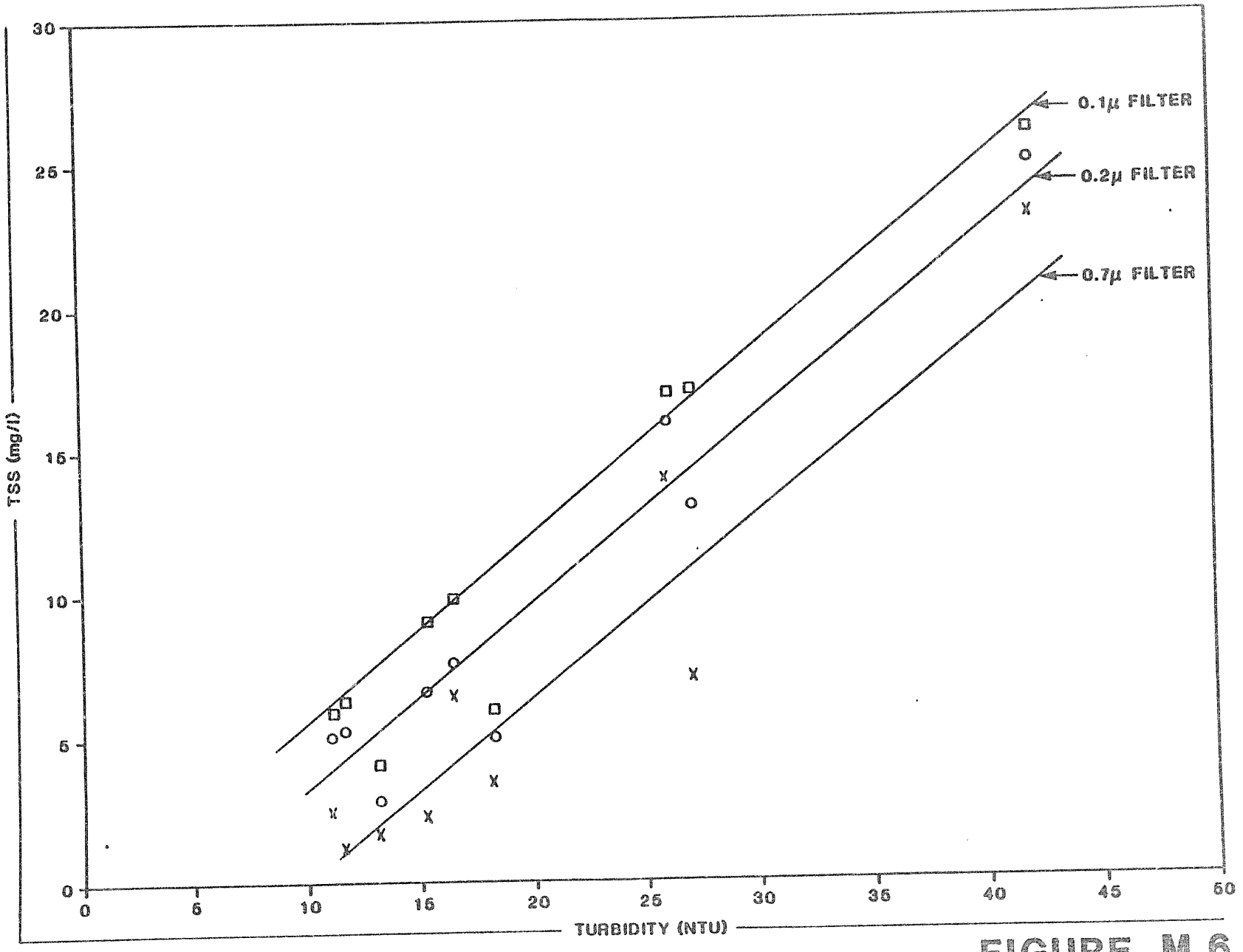


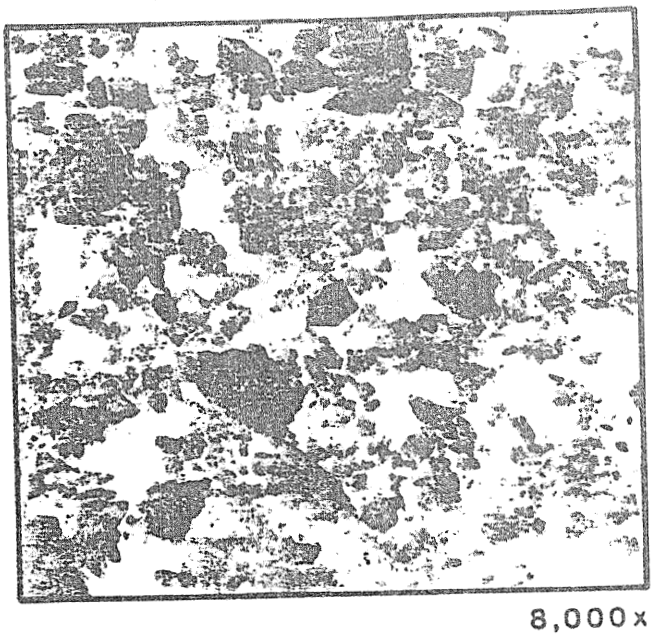
FIGURE M.6
RAW WATER TURBIDITY VERSUS TSS

EKLUTNA WATER PROJECT

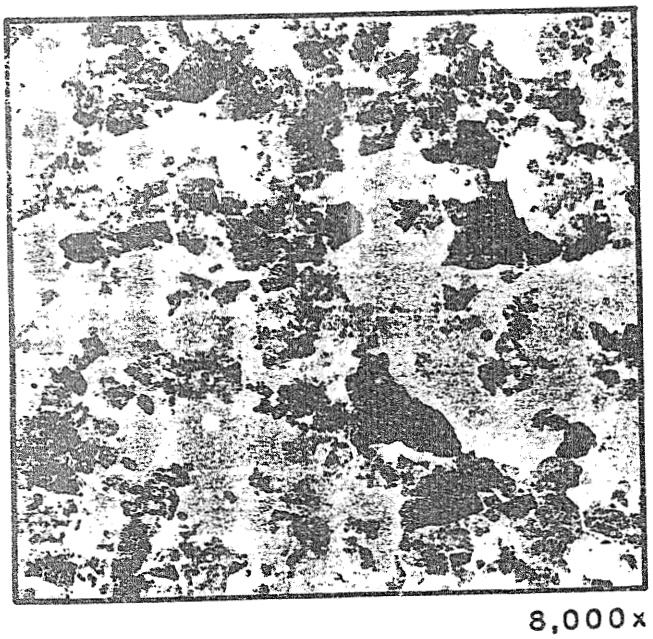
SOURCE : MONTGOMERY ENGINEERS (1984).



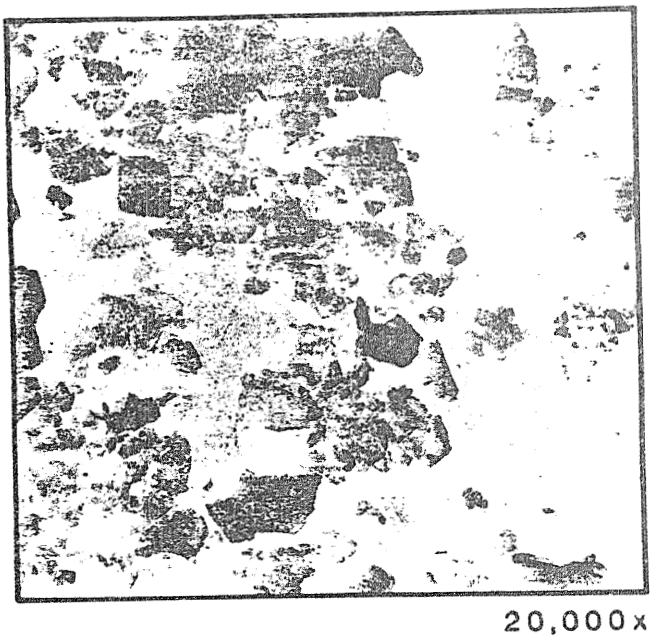
20,000x



8,000x



8,000x



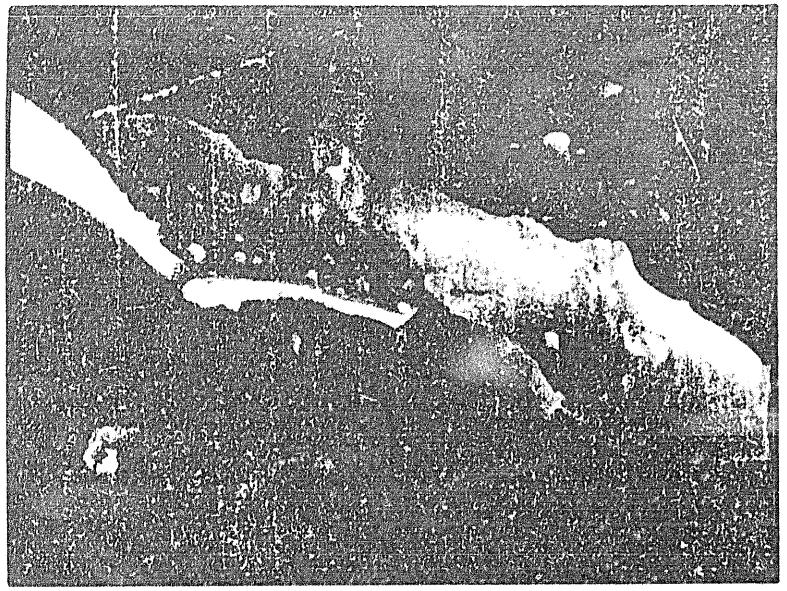
20,000x

PHOTO M.1

TEM PHOTOGRAPHS OF OF RAW WATER PARTICLES

SOURCE : MONTGOMERY ENGINEERS (1984).

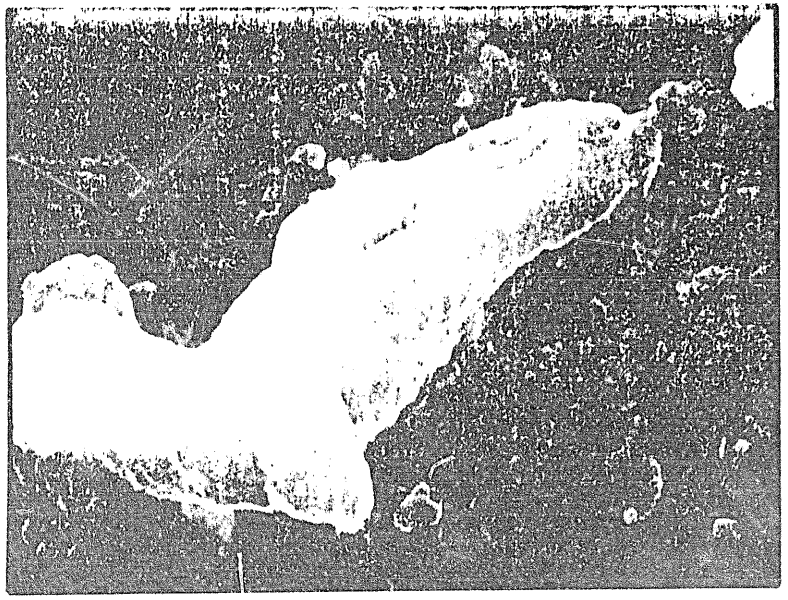
EKLUTNA



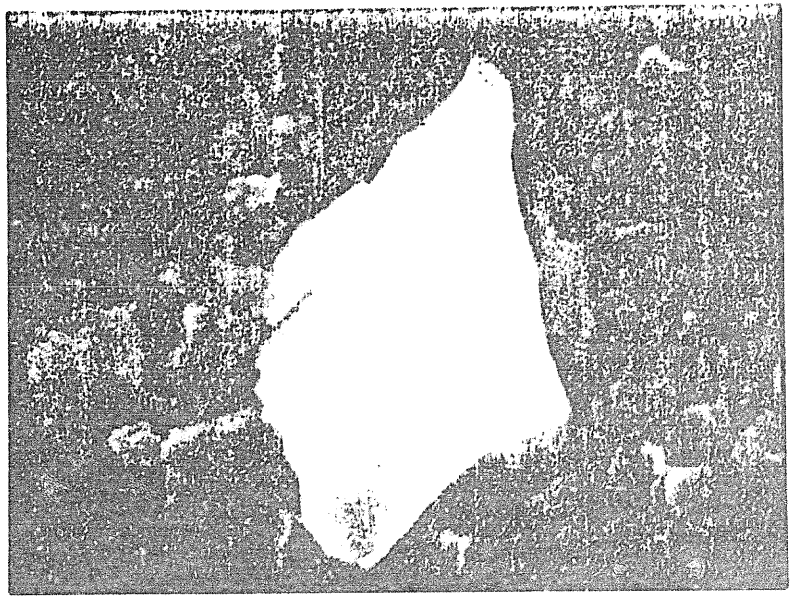
1,500x



2,000x



5,000x



15,000x

EKLUTNA
WATER PROJECT

PHOTO M.2

SEM PHOTOGRAPHS OF RAW WATER PARTICLES

SOURCE : MONTGOMERY ENGINEERS (1984).

APPENDIX N

APPENDIX N

DYRESM INPUT DATA

APPENDIX N.1. EKLUTNA LAKE PHYSICAL DATA

Spillway Level	64.3
Bottom Offtake Level	40.73
Length at Crest of Spillway	11,000
Length @ Bottom Offtake	9,800
Width at Crest of Spillway	1,260
Width at Bottom Offtake	1,005
Bottom Offtake Diameter	2.74

NOTES: 1. Dimensions are in meters.

2. Levels are referenced to lake bottom at 201 meters (660 feet).

APPENDIX N.2. WEATHER DATA

DECEMBER

1	2	3	4	5	6	7
82355	1456.0	1.0	-14.0	1.41	0.7	4.50
82356	1224.0	1.0	-20.1	0.74	0.7	0.50
82357	1217.0	0.8	-24.1	0.61	0.7	0.00
82358	1206.0	0.8	-12.9	1.56	0.7	0.00
82359	720.0	1.0	2.5	5.83	3.7	0.00
82360	963.0	1.0	5.9	6.62	5.3	0.00
82361	1181.0	0.5	4.2	6.84	5.7	13.20
82362	1134.7	0.5	3.6	5.93	3.2	0.00
82363	1654.0	0.0	-5.9	3.05	0.7	0.00
82364	1450.0	0.0	-11.5	1.76	0.0	0.00
82365	1020.0	0.0	-5.6	2.59	0.0	0.00
82366	1216.0	1.0	-2.7	3.71	0.9	2.00
82367	1000.0	1.0	1.0	5.91	2.0	0.60
82368	1530.0	1.0	-0.5	4.39	0.8	3.90
82369	1470.0	1.0	2.2	5.08	1.1	0.20
82370	1044.0	0.8	5.2	5.92	2.3	0.20
82371	1296.0	0.5	-1.5	4.77	1.4	0.00
82372	1656.0	0.0	-4.4	2.52	0.5	0.00
82373	1577.0	0.0	-5.5	3.60	1.5	0.00
82374	1551.0	0.0	-5.5	4.20	1.6	0.00
82375	1561.0	0.0	-12.0	1.65	0.7	0.00
82376	1577.0	0.0	-17.0	1.15	0.8	0.00
82377	1595.0	0.0	-10.5	1.05	0.0	0.00
82378	1577.0	0.0	-11.6	1.65	0.5	0.00
82379	1536.0	0.0	-6.6	2.96	1.4	0.00
82380	514.0	1.0	-5.9	5.46	6.0	0.00
82381	436.0	1.0	5.5	6.04	7.6	0.00
82382	871.0	1.0	5.5	6.56	7.0	7.20
82383	840.0	1.0	2.0	5.45	5.2	0.60
82384	1721.0	0.0	-4.1	5.80	0.7	0.90
82385	1027.0	0.0	-5.8	3.05	0.0	0.00

JANUARY

1	2	3	4	5	6	7
83001	1345.0	1.0	-2.7	3.95	0.8	0.00
83002	1435.0	0.9	-3.9	3.70	0.7	0.00
83003	1487.0	1.0	-6.5	2.96	0.5	0.00
83004	1487.0	0.5	-0.5	1.94	0.5	0.14
83005	1455.0	0.1	-22.0	0.57	0.4	0.00
83006	1145.0	0.5	-22.7	0.42	0.9	0.00
83007	1127.0	0.7	-23.9	0.50	0.5	0.16
83008	1184.0	0.1	-31.0	0.16	0.4	0.00
83009	454.0	0.0	-32.1	0.13	0.2	0.00
83010	564.0	0.4	-24.5	0.26	0.2	0.00
83011	767.0	0.0	-25.1	0.21	0.3	0.00
83012	1413.0	0.5	-24.9	0.25	0.3	0.00
83013	1505.0	0.7	-25.1	0.41	0.4	0.00
83014	1058.0	0.7	-18.1	0.86	0.4	0.00
83015	1055.0	1.0	-6.4	2.58	0.8	0.00
83016	929.0	1.0	-0.5	4.85	1.0	0.50
83017	901.0	1.0	-0.5	2.91	0.5	0.05
83018	871.0	1.0	-1.5	4.39	1.5	0.15
83019	1541.0	0.9	-1.1	4.96	2.0	0.21
83020	2513.0	0.9	-0.8	4.48	2.3	0.00
83021	2790.0	0.9	-1.4	3.75	2.0	0.00
83022	2535.0	0.0	-14.2	1.26	0.0	0.00
83023	2142.0	0.0	-17.2	0.99	0.7	0.00
83024	1435.0	0.7	-15.8	1.09	0.7	0.00
83025	2045.0	0.9	-9.2	1.56	0.0	0.00
83026	1379.0	1.0	-0.2	3.90	2.0	0.06
83027	2576.0	0.9	-1.7	4.05	0.7	0.00
83028	2516.0	0.0	-0.0	2.57	0.0	0.00
83029	2576.0	0.5	-15.2	1.59	0.4	0.00
83030	1654.0	0.9	-6.7	2.77	0.5	0.01
83031	2009.0	1.0	-3.2	5.22	2.0	0.00

LEGEND

1. Date (Year-Julian Day)
2. Daily Shortwave Radiation Intensity (Kilojoules/meters squared)
3. Cloud Cover (Sky fraction in tenths)
4. Median Air Temperature (Degrees Celsius)
5. Vapor Pressure (Millibars)
6. Average Windspeed (Meters per second)
7. Precipitation (Millimeters)

FEBUARY

1	2	3	4	5	6	7
83052	2736.0	1.0	4.1	6.30	2.1	0.06
83053	2279.0	1.0	5.4	6.47	3.3	0.04
83054	2322.0	0.9	2.6	5.45	1.6	0.00
83055	3420.0	1.0	2.2	5.01	1.9	0.00
83056	2061.0	0.8	0.5	4.56	1.8	0.00
83057	985.0	1.0	-1.6	4.19	0.4	0.14
83058	1260.0	1.0	-3.4	3.91	0.4	0.39
83059	1037.0	1.0	-4.7	3.42	0.4	0.20
83060	2315.0	0.0	-15.6	1.22	0.2	0.00
83061	2315.0	0.2	-15.6	1.50	0.2	0.00
83062	2315.0	0.2	-15.8	1.29	0.2	0.00
83063	2315.0	0.2	-15.8	1.29	0.2	0.00
83064	2315.0	0.2	-15.8	1.24	0.2	0.00
83065	1570.0	0.5	-20.9	0.73	0.5	0.00
83066	1570.0	0.5	-20.9	0.75	0.5	0.00
83067	1570.0	0.5	-20.9	0.64	0.5	0.00
83068	1570.0	0.5	-20.9	0.72	0.5	0.00
83069	518.0	0.9	-9.0	2.04	0.9	0.00
83070	5915.0	0.8	-3.4	3.68	1.2	0.00
83071	4500.0	1.0	-3.3	3.45	1.1	0.00
83072	6563.0	0.9	0.6	4.46	2.1	0.00
83073	7884.0	0.5	0.5	4.57	1.1	0.00
83074	5258.0	1.0	-1.2	3.37	0.8	0.00
83075	7031.0	0.7	-2.2	3.26	2.5	0.00
83076	7428.0	0.6	-9.0	2.10	0.6	0.00
83077	7895.0	1.0	0.7	4.30	1.6	0.00
83078	7978.0	0.9	-3.1	3.73	0.6	0.02
83079	6203.0	0.9	-3.2	3.83	0.5	0.00

MARCH

83080	9119.0	1.0	-1.1	4.52	0.9	0.00
83081	10937.0	0.0	-9.0	2.15	0.6	0.00
83082	10577.0	0.2	-11.3	1.69	0.5	0.00
83083	9551.0	0.7	-7.7	1.87	0.6	0.00
83084	11243.0	1.0	-3.0	3.07	0.0	0.00
83085	10703.0	1.0	-5.5	2.58	0.6	0.00
83086	11200.0	0.7	-6.7	2.53	0.5	0.00
83087	12086.0	0.0	-8.7	2.07	0.6	0.00
83088	12156.0	0.0	-10.1	1.85	0.6	0.00
83089	8781.0	1.0	-7.7	2.05	0.7	0.00
83090	16376.0	0.9	-2.4	4.75	0.9	0.00
83091	10507.0	1.0	2.7	5.27	1.3	0.00
83092	12126.0	0.9	2.9	4.96	0.6	0.00
83093	10944.0	1.0	3.0	4.55	0.5	0.00
83094	10323.0	1.0	1.0	4.73	1.8	0.00
83095	11613.0	1.0	0.2	4.52	0.6	0.00
83096	14879.0	0.1	-1.3	3.52	0.6	0.00
83097	15393.0	0.2	-4.1	3.03	0.6	0.00
83098	15473.0	0.3	-4.3	2.85	0.7	0.00
83099	12368.0	1.0	-2.9	3.02	0.6	0.00
83100	14447.0	0.9	-2.0	3.20	0.5	0.00
83101	16229.0	0.3	-3.0	3.04	0.6	0.00
83102	16877.0	0.3	-4.0	2.71	0.6	0.00
83103	12259.0	1.0	-0.0	4.01	0.6	0.00
83104	9875.0	0.9	-1.4	3.64	1.0	0.00
83105	12302.0	1.0	2.2	3.79	0.7	0.00
83106	16733.0	0.0	1.2	3.80	2.2	0.00
83107	15059.0	0.9	2.6	4.20	1.4	0.00
83108	17532.0	0.6	-0.8	3.42	0.7	0.00
83109	18587.0	0.3	-1.7	3.08	0.0	0.00
83110	18043.0	0.8	1.9	4.27	0.8	0.00

LEGEND

1. Date (Year-Julian Day)
2. Daily Shortwave Radiation Intensity (Kilojoules/meters squared)
3. Cloud Cover (Sky fraction in tenths)
4. Median Air Temperature (Degrees Celsius)
5. Vapor Pressure (Millibars)
6. Average Windspeed (Meters per second)
7. Precipitation (Millimeters)

APPENDIX N.2. WEATHER DATA, cont.

1	2	3	4	5	6	7
APRIL						
83091	13167.0	0.3	1.6	4.52	1.1	0.00
83092	14132.0	0.0	-0.1	3.94	0.0	0.00
83093	12625.0	0.7	-0.7	4.09	2.7	4.00
83094	8143.0	1.0	1.9	5.60	1.3	8.20
83095	10145.0	0.9	3.0	5.14	4.2	11.20
83096	14570.0	0.0	0.1	3.79	2.9	0.00
83097	14717.0	0.3	-1.0	3.82	0.0	0.00
83098	16506.0	1.0	-1.0	4.10	1.2	0.00
83099	8574.0	0.9	-1.0	3.54	1.0	0.00
83100	16566.0	0.1	-1.8	3.20	1.0	0.00
83101	8190.0	0.9	-3.4	3.72	4.2	0.00
83102	11605.0	1.0	2.0	6.21	2.4	0.00
83103	7825.0	1.0	-0.7	5.14	0.3	6.00
83104	13005.0	1.0	3.6	5.53	3.4	0.40
83105	7240.0	1.0	3.1	5.54	3.2	0.00
83106	11440.0	1.0	1.3	6.04	0.6	0.40
83107	13784.0	0.6	1.8	5.15	1.3	0.00
83108	15065.0	1.0	2.2	5.08	3.9	0.00
83109	14851.0	1.0	2.3	5.55	2.5	0.00
83110	13630.0	1.0	2.4	5.44	1.3	0.00
83111	11504.0	1.0	3.4	5.46	1.3	0.00
83112	16576.0	0.9	5.1	5.10	2.9	0.00
83113	9823.0	1.0	5.1	4.74	2.0	0.00
83114	19462.0	0.6	4.4	5.32	1.0	1.00
83115	19492.0	0.1	7.4	6.16	1.3	0.00
83116	19487.0	0.0	4.0	5.77	1.0	0.00
83117	19215.0	0.1	5.6	6.10	1.1	0.00
83118	8072.0	1.0	2.6	5.89	0.7	0.20
83119	8870.0	1.0	5.7	7.09	0.7	4.80
83120	22110.0	0.3	5.6	6.27	1.0	2.60
MAY						
83121	18607.0	0.6	4.6	5.94	-1.3	0.00
83122	10730.0	1.0	5.4	6.24	-1.2	0.00
83123	17556.0	1.0	5.4	6.16	1.0	0.00
83124	19611.0	1.0	5.6	6.01	1.3	0.00
83125	15019.0	1.0	4.1	5.81	1.3	0.00
83126	13744.0	0.9	4.2	5.19	1.4	0.00
83127	20024.0	0.7	4.9	5.20	1.0	0.00
83128	17711.0	0.7	5.6	5.07	1.1	0.20
83129	20954.0	0.7	5.9	5.30	3.1	0.00
83130	17596.0	1.0	7.4	5.35	2.9	0.00
83131	13502.0	1.0	7.3	4.91	1.0	0.00
83132	16602.0	1.0	8.1	6.05	2.0	0.00
83133	20850.0	0.7	10.1	6.80	1.8	0.00
83134	16514.0	1.0	9.0	6.45	2.1	0.40
83135	23326.0	0.9	7.3	6.24	3.1	0.00
83136	5720.0	1.0	7.9	7.56	3.3	0.00
83137	20004.0	1.0	8.3	7.12	3.0	0.00
83138	17653.0	0.6	5.4	5.20	2.0	0.00
83139	18925.0	0.1	5.4	5.11	1.3	0.00
83140	20798.0	0.0	7.7	5.57	1.3	0.00
83141	18671.0	1.0	6.1	6.21	1.4	0.00
83142	15652.0	1.0	6.5	7.66	1.6	0.00
83143	10697.0	1.0	6.0	7.19	3.3	0.00
83144	17207.0	1.0	9.6	8.13	2.1	0.00
83145	15989.0	0.9	6.7	6.36	1.1	0.00
83146	18015.0	0.9	9.4	8.96	3.2	0.00
83147	15024.0	1.0	7.1	8.65	0.9	0.40
83148	18067.0	0.9	9.5	8.07	2.4	0.00
83149	17055.0	1.0	14.0	12.47	2.3	0.00
83150	9574.0	1.0	14.6	12.46	1.6	0.00
83151	12005.0	1.0	10.4	8.60	2.3	3.20

LEGEND

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4. Median Air Temperature (Degrees Celsius)
5. Vapor Pressure (Millibars)
6. Average Windspeed (Meters per second)
7. Precipitation (Millimeters)

	1	2	3	4	5	6	7
JUNE	85152	17382.0	1.0	10.6	8.41	2.1	1.00
	85153	13202.0	0.9	9.5	8.07	0.9	0.00
	85154	11484.0	1.0	9.2	8.26	1.3	4.40
	85155	8989.0	1.0	8.0	7.29	0.7	0.20
	85156	26435.0	0.4	9.8	7.99	1.1	0.00
	85157	22054.0	0.6	8.8	8.00	1.2	0.00
	85158	20044.0	0.5	8.9	5.24	1.1	0.00
	85159	17376.0	0.2	8.4	7.71	0.9	0.00
	85160	6746.0	1.0	8.0	7.67	0.7	21.60
	85161	21080.0	0.7	9.4	7.90	0.9	0.20
	85162	24981.0	0.7	11.4	7.14	2.4	0.20
	85163	20727.0	1.0	12.1	7.90	2.7	0.00
	85164	24926.0	1.0	11.3	11.12	1.1	0.00
	85165	22155.0	0.9	10.5	7.11	2.0	0.00
	85166	17653.0	0.9	9.3	7.61	0.9	0.00
	85167	21691.0	0.8	11.4	8.09	1.1	0.00
	85168	30442.0	0.0	12.3	7.87	1.1	0.00
	85169	26155.0	0.5	13.6	7.57	1.8	0.00
	85170	30040.0	0.6	12.7	8.66	1.4	0.00
	85171	29065.0	0.8	11.7	7.97	1.2	0.00
	85172	27019.0	0.9	12.4	7.20	1.2	0.00
	85173	24634.0	0.6	15.3	9.21	1.0	0.00
	85174	21546.0	0.9	14.0	8.47	1.9	0.00
	85175	23599.0	0.6	14.4	8.53	1.0	0.00
	85176	19165.0	0.8	13.4	8.40	1.5	0.00
	85177	13439.0	0.9	15.0	9.80	1.5	0.00
	85178	20349.0	0.9	15.1	9.54	1.4	0.00
	85179	14480.0	1.0	12.1	8.89	2.2	0.00
	85180	13534.0	1.0	10.9	8.60	1.0	0.00
	85181	23614.0	1.0	14.3	10.27	1.1	0.00
JULY	85182	11782.0	1.0	12.8	12.71	1.0	0.00
	85183	20016.0	0.9	13.9	9.69	1.1	0.20
	85184	26895.0	0.2	14.3	10.27	1.1	0.00
	85185	12675.0	0.8	14.3	10.92	0.9	0.00
	85186	10755.0	0.8	14.9	12.54	0.9	1.80
	85187	5533.0	1.0	12.1	11.86	0.3	0.40
	85188	17428.0	0.9	14.0	11.65	1.2	0.00
	85189	7407.0	1.0	11.9	10.59	1.3	0.00
	85190	17182.0	0.9	12.8	10.20	2.4	0.00
	85191	16081.0	0.8	10.7	8.10	0.9	0.80
	85192	5346.0	1.0	10.7	9.39	0.7	2.00
	85193	11250.0	1.0	10.4	10.72	0.9	0.80
	85194	11599.0	0.9	10.9	9.52	0.3	1.60
	85195	20261.0	0.5	12.4	9.65	0.9	0.20
	85196	21800.0	0.5	13.1	10.10	1.0	0.00
	85197	15871.0	1.0	13.1	11.30	0.3	0.00
	85198	8546.0	0.8	12.0	8.69	0.7	1.60
	85199	17655.0	0.9	11.7	5.80	1.1	2.80
	85200	18832.0	0.5	13.7	9.87	0.9	2.80
	85201	11393.0	1.0	12.3	9.42	0.3	0.20
	85202	17715.0	0.9	14.4	11.52	1.0	0.00
	85203	18997.0	0.8	13.3	9.77	1.1	0.00
	85204	9161.0	1.0	11.4	9.70	0.7	7.40
	85205	24330.0	0.9	11.3	8.95	1.2	0.00
	85206	24336.0	0.9	10.3	7.84	1.2	0.00
	85207	15532.0	0.9	11.1	9.36	1.1	0.00
	85208	21402.0	0.9	14.0	11.05	1.0	0.00
	85209	24553.0	0.8	13.9	10.52	1.2	0.00
	85210	10035.0	1.0	11.8	10.52	0.7	0.00
	85211	14330.0	1.0	11.5	9.83	1.0	0.00
	85212	15957.0	0.9	11.3	10.31	0.9	0.80

LEGEND

1. Date (Year-Julian Day)
2. Daily Shortwave Radiation Intensity (Kilojoules/meters squared)
3. Cloud Cover (Sky fraction in tenths)
4. Median Air Temperature (Degrees Celsius)
5. Vapor Pressure (Millibars)
6. Average Windspeed (Meters per second)
7. Precipitation (Millimeters)

APPENDIX N.2. WEATHER DATA, cont.

AUGUST

1	2	3	4	5	6	7
83213	15000.0	0.7	14.2	11.66	0.7	1.00
83214	19000.0	0.4	14.3	12.71	1.1	0.20
83215	22000.0	0.3	13.9	9.21	1.1	0.00
83216	6000.0	1.0	12.9	11.60	1.7	0.00
83217	6000.0	1.0	12.2	12.06	0.7	12.40
83218	14700.0	1.0	13.4	10.61	2.9	0.00
83219	8500.0	1.0	15.2	10.36	4.2	1.00
83220	10300.0	1.0	15.4	11.90	5.1	4.20
83221	8700.0	0.6	9.0	7.00	0.7	0.20
83222	15200.0	0.7	11.8	9.96	0.9	0.00
83223	15000.0	0.8	10.2	8.83	1.1	0.20
83224	9200.0	1.0	12.2	9.52	0.9	0.60
83225	11500.0	1.0	9.8	7.99	0.8	0.20
83226	12100.0	0.7	9.8	8.24	0.8	0.00
83227	9500.0	0.6	7.9	7.56	1.0	0.00
83228	22000.0	0.6	11.3	9.77	1.1	0.00
83229	19500.0	1.0	11.0	9.97	1.2	0.00
83230	16700.0	0.2	10.5	9.52	1.1	0.00
83231	17600.0	0.4	10.1	9.40	1.0	0.00
83232	6000.0	1.0	10.9	7.95	2.0	0.20
83233	8100.0	1.0	10.2	10.56	0.8	6.40
83234	12500.0	1.0	11.1	10.57	0.8	0.40
83235	9000.0	1.0	11.1	10.57	0.8	7.20
83236	9600.0	1.0	7.5	7.77	0.8	1.40
83237	8600.0	0.9	5.9	7.35	0.0	14.80
83238	13400.0	0.8	9.2	8.73	0.0	0.60
83239	16200.0	0.3	12.1	10.87	0.8	0.00
83240	14000.0	0.5	10.7	9.39	0.8	0.00
83241	6100.0	1.0	10.2	8.83	1.7	0.00
83242	8300.0	0.9	12.5	9.27	1.5	8.80
83243	7200.0	0.7	8.1	7.86	0.6	0.80

LEGEND

1. Date (Year-Julian Day)
2. Daily Shortwave Radiation Intensity (Kilojoules/meters squared)
3. Cloud Cover (Sky fraction in tenths)
4. Median Air Temperature (Degrees Celsius)
5. Vapor Pressure (Millibars)
6. Average Windspeed (Meters per second)
7. Precipitation (Millimeters)

SEPTEMBER

83244	6000.00	1.00	8.10	9.13	0.60	0.40
83245	14200.00	0.60	7.90	8.01	1.00	1.80
83246	8200.00	1.00	7.00	10.25	1.00	6.80
83247	7100.00	0.60	5.40	5.02	0.70	3.80
83248	14700.00	0.60	5.70	5.73	1.10	0.00
83249	13900.00	0.10	5.60	5.61	1.00	0.00
83250	12000.00	0.50	5.60	6.82	0.80	0.00
83251	9200.00	0.50	6.00	7.25	1.00	0.00
83252	2542.00	0.80	8.40	7.21	0.40	0.00
83253	8600.00	0.50	6.20	7.89	0.60	0.00
83254	8100.00	0.60	6.40	8.28	0.70	0.00
83255	8300.00	0.80	6.20	6.87	2.10	0.00
83256	10000.00	1.00	11.30	6.90	3.10	0.00
83257	4700.00	1.00	6.20	6.25	1.00	6.80
83258	8600.00	0.70	3.50	5.95	0.80	0.80
83259	11800.00	0.10	3.80	5.81	0.90	0.00
83260	11500.00	0.00	8.40	6.06	0.80	0.00
83261	6000.00	1.00	9.50	6.08	2.10	0.00
83262	3800.00	1.00	9.40	6.85	2.50	1.80
83263	3100.00	1.00	8.40	8.56	0.80	8.60
83264	2700.00	1.00	6.30	8.75	0.50	11.00
83265	5200.00	1.00	5.50	7.58	1.00	17.40
83266	1600.00	1.00	-0.70	2.79	1.60	1.00
83267	4000.00	0.70	-4.40	2.12	1.80	0.60
83268	12000.00	0.20	-4.60	2.37	1.00	1.80
83269	10500.00	0.30	-4.30	2.66	1.10	1.20
83270	6400.00	1.00	-0.70	3.44	2.10	0.80
83271	2900.00	1.00	7.30	5.14	2.10	0.00
83272	3000.00	1.00	10.20	7.05	6.70	26.80
83273	4000.00	0.90	8.50	6.89	1.80	0.00

OCTOBER

1	2	3	4	5	6	7
83274	3300.00	1.00	5.80	6.39	1.50	0.00
83275	5600.00	1.00	5.90	6.13	1.40	0.40
83276	6800.00	0.20	1.40	3.63	1.10	0.00
83277	8100.00	0.50	0.00	3.85	1.00	0.00
83278	5200.00	1.00	2.80	5.39	0.80	0.40
83279	6000.00	0.70	-0.50	4.11	1.50	3.40
83280	8300.00	0.40	-3.00	2.77	1.10	0.00
83281	7100.00	0.90	-4.20	2.91	1.00	0.00
83282	1600.00	1.00	3.40	4.67	2.90	2.80
83283	2000.00	1.00	7.80	6.00	6.70	25.00
83284	3300.00	0.90	6.90	6.24	2.90	2.40
83285	5500.00	0.70	3.50	5.62	1.00	0.20
83286	6800.00	0.60	0.60	5.23	1.00	0.00
83287	6600.00	0.20	0.40	4.24	0.80	0.00
83288	5000.00	0.70	0.60	3.85	0.90	0.00
83289	3500.00	1.00	-1.70	3.66	0.90	0.00
83290	2800.00	0.90	3.00	4.25	0.90	0.00
83291	5200.00	0.40	2.50	4.86	1.00	0.00
83292	3100.00	1.00	-0.60	4.92	0.80	0.00
83293	2800.00	1.00	2.60	4.29	1.10	0.00
83294	2900.00	1.00	3.90	4.98	0.90	0.00
83295	4700.00	1.00	1.50	4.81	1.70	0.00
83296	2400.00	1.00	-1.80	4.29	0.90	0.00
83297	3400.00	1.00	-1.90	3.60	1.00	0.00
83298	1600.00	0.30	-4.00	2.38	1.30	0.00
83299	870.00	1.00	-5.90	3.41	1.10	0.00
83300	780.00	1.00	-3.40	3.61	0.70	0.00
83301	980.00	1.00	-2.50	4.77	0.90	0.20
83302	1100.00	1.00	-2.80	4.57	0.70	0.20
83303	780.00	1.00	-2.30	4.35	0.90	41.00
83304	470.00	0.90	-5.70	3.46	0.80	0.00

NOVEMBER

83305	930.00	1.00	-5.10	3.23	0.70	0.00
83306	2920.00	0.90	2.10	4.41	2.10	0.00
83307	2090.00	1.00	-0.60	3.99	0.90	0.00
83308	1470.00	1.00	-4.10	3.41	0.80	0.00
83309	870.00	0.60	-3.70	3.22	0.90	0.00
83310	1090.00	1.00	-8.20	2.99	1.00	0.00
83311	760.00	1.00	0.60	3.25	6.30	0.00
83312	1360.00	1.00	3.00	3.41	3.30	0.00
83313	2700.00	0.90	1.30	3.66	1.70	0.00
83314	1470.00	1.00	4.00	3.52	1.50	0.00
83315	1680.00	1.00	1.70	3.81	0.90	0.00
83316	1960.00	0.90	-1.50	4.22	0.90	0.00
83317	1670.00	0.00	-7.80	2.87	1.00	0.00
83318	1140.00	0.90	-7.50	2.74	0.90	0.00
83319	800.00	1.00	-3.10	3.64	1.00	0.00
83320	1070.00	0.90	-6.10	3.34	0.90	0.00
83321	900.00	1.00	-6.80	2.90	0.80	0.00
83322	1050.00	0.70	-10.40	2.91	0.80	0.00
83323	890.00	0.10	-11.10	2.17	0.80	0.00
83324	700.00	1.00	-6.10	2.62	5.10	0.00
83325	860.00	1.00	3.70	4.30	5.40	0.00
83326	1320.00	1.00	2.70	4.67	1.40	0.00
83327	920.00	1.00	-1.10	4.25	1.40	0.00
83328	420.00	0.40	-5.60	3.05	1.10	0.00
83329	650.00	1.00	-6.90	2.64	0.80	0.00
83330	590.00	1.00	-3.30	3.05	0.80	0.00
83331	580.00	0.50	1.10	3.32	1.60	0.00
83332	800.00	1.00	6.80	4.18	7.50	0.00
83333	1360.00	1.00	4.10	4.10	6.20	0.00
83334	700.00	1.00	5.40	4.05	1.70	0.00

LEGEND

1. Date (Year-Julian Day)
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3. Cloud Cover (Sky fraction in tenths)
4. Median Air Temperature (Degrees Celsius)
5. Vapor Pressure (Millibars)
6. Average Windspeed (Meters per second)
7. Precipitation (Millimeters)

DECEMBER

1	2	3	4	5	6	7
83335	700.00	1.00	4.20	3.90	1.70	0.00
83336	700.00	0.10	3.10	3.63	1.00	0.00
83337	700.00	1.00	-5.80	3.37	1.00	0.00
83338	700.00	1.00	-1.90	3.88	1.00	0.00
83339	700.00	1.00	0.80	4.35	1.00	0.00
83340	300.00	0.90	-8.60	3.44	0.90	0.00
83341	770.00	0.90	-9.80	3.00	0.90	0.00
83342	720.00	0.90	-12.50	2.43	0.90	0.00
83343	660.00	0.10	-10.40	2.46	0.70	0.00
83344	550.00	1.00	-8.00	2.18	0.70	0.00
83345	690.00	1.00	-8.90	2.58	0.60	0.00
83346	660.00	0.90	-10.10	2.68	0.70	0.00
83347	400.00	1.00	-8.40	3.11	0.30	0.00
83348	420.00	1.00	-16.00	2.34	0.00	0.00
83349	620.00	0.50	-21.80	1.74	0.00	0.00
83350	500.00	0.40	-12.70	1.88	0.20	0.00
83351	390.00	1.00	-8.60	2.53	0.20	0.00
83352	480.00	1.00	-14.00	2.41	0.00	0.00
83353	430.00	1.00	-12.20	2.66	0.20	0.00
83354	580.00	1.00	-4.20	3.23	0.20	0.00
83355	470.00	1.00	-7.80	3.66	0.10	0.00
83356	480.00	0.40	-16.00	2.65	0.00	0.00
83357	430.00	0.00	-18.60	2.03	0.00	0.00
83358	440.00	0.80	-17.20	2.04	0.20	0.00
83359	430.00	0.60	-13.10	3.03	0.40	0.00
83360	540.00	0.00	-15.60	2.67	0.10	0.00
83361	490.00	0.00	-18.10	2.05	0.00	0.00
83362	540.00	0.60	-20.20	1.91	0.00	0.00
83363	530.00	0.80	-22.50	1.58	0.00	0.00
83364	490.00	0.00	-17.50	1.79	0.10	0.00
83365	450.00	1.00	-10.90	2.22	0.10	0.00

LEGEND

1. Date (Year-Julian Day)
2. Daily Shortwave Radiation Intensity (Kilojoules/meters squared)
3. Cloud Cover (Sky fraction in tenths)
4. Median Air Temperature (Degrees Celsius)
5. Vapor Pressure (Millibars)
6. Average Windspeed (Meters per second)
7. Precipitation (Millimeters)

JANUARY

84001	63.00	1.00	-6.70	3.02	0.10	0.00
84002	490.00	1.00	2.30	4.75	3.10	0.00
84003	340.00	1.00	2.90	4.87	4.30	0.00
84004	280.00	0.70	-14.80	1.83	1.80	0.00
84005	330.00	0.80	-19.40	1.78	1.00	0.00
84006	400.00	1.00	-12.90	2.42	0.90	0.00
84007	420.00	0.70	-17.60	2.43	0.30	0.00
84008	440.00	0.30	-11.30	2.12	0.00	0.00
84009	300.00	1.00	-7.90	2.49	0.00	0.00
84010	230.00	1.00	1.60	3.16	1.60	0.00
84011	450.00	1.00	0.60	4.43	5.00	0.00
84012	330.00	1.00	4.00	4.94	8.40	0.00
84013	470.00	0.80	5.30	5.15	5.00	0.00
84014	240.00	1.00	-1.10	5.08	0.50	0.00
84015	300.00	1.00	-11.30	4.68	2.40	0.00
84016	210.00	1.00	-14.10	3.48	2.40	0.00
84017	110.00	1.00	-7.50	3.54	2.40	0.00
84018	160.00	1.00	-4.90	3.87	2.40	0.00
84019	110.00	1.00	-12.90	2.94	2.40	0.00
84020	360.00	0.00	-20.90	2.19	2.40	0.00
84021	340.00	0.90	-21.70	1.85	2.40	0.00
84022	190.00	0.00	-22.90	1.45	2.40	0.00
84023	420.00	0.00	-32.40	1.07	2.40	0.00
84024	490.00	0.00	-33.90	0.98	2.40	0.00
84025	330.00	0.70	-28.00	0.94	2.40	0.00
84026	400.00	0.20	-18.50	1.61	2.40	0.00
84027	190.00	1.00	-15.40	1.71	2.40	0.00
84028	210.00	1.00	-12.20	1.95	5.00	0.00
84029	1060.00	1.00	5.70	3.32	5.50	0.00
84030	1030.00	1.00	1.20	4.46	1.70	0.00
84031	870.00	0.90	-6.60	3.44	0.50	0.00

FEBRUARY

1	2	3	4	5	6	7
84032	500.00	1.00	-10.90	2.60	0.50	0.00
84033	500.00	1.00	-7.80	2.21	0.40	0.00
84034	530.00	1.00	-10.00	2.07	0.40	0.00
84035	1510.00	1.00	-2.60	3.32	2.60	0.00
84036	880.00	1.00	-11.60	2.74	0.80	0.00
84037	470.00	1.00	-8.50	2.32	1.10	0.00
84038	340.00	0.90	-9.70	2.25	1.20	0.00
84039	910.00	1.00	-19.70	1.64	0.50	0.00
84040	1270.00	0.20	-27.50	1.29	0.40	0.00
84041	530.00	1.00	-23.70	1.39	0.50	0.00
84042	1390.00	0.50	-15.70	1.96	0.50	0.00
84043	1350.00	1.00	-15.60	2.09	0.60	0.00
84044	850.00	1.00	-14.90	2.12	0.50	0.00
84045	980.00	0.90	-11.00	2.53	0.90	0.00
84046	1050.00	0.80	-15.30	2.48	0.50	0.00
84047	440.00	1.00	-4.50	2.86	1.20	0.00
84048	2270.00	1.00	1.30	3.55	2.40	0.00
84049	420.00	1.00	-2.50	3.33	0.70	0.00
84050	390.00	1.00	-9.70	1.99	0.70	0.00
84051	520.00	0.80	-17.10	1.21	0.20	0.00
84052	3440.00	0.90	-9.10	1.86	2.60	0.00
84053	3430.00	1.00	-4.10	2.99	0.80	0.00
84054	5090.00	0.70	-13.80	2.92	0.50	0.00
84055	3680.00	0.80	-13.60	2.49	0.70	0.00
84056	4510.00	1.00	-9.80	3.01	0.70	0.00
84057	5770.00	1.00	-4.90	3.51	0.50	0.00
84058	4450.00	1.00	-6.00	2.97	0.60	0.00
84059	6620.00	0.80	-6.40	2.66	0.60	0.00
84060	4070.00	0.80	-9.20	2.81	0.70	0.00

MARCH

1	2	3	4	5	6	7
84061	4750.00	1.00	-6.90	2.50	0.50	0.00
84062	5040.00	1.00	-7.10	3.21	1.20	0.00
84063	3420.00	0.80	3.00	3.73	4.90	0.00
84064	4260.00	1.00	4.90	4.54	5.00	0.00
84065	3790.00	1.00	6.00	4.89	3.60	0.00
84066	7230.00	0.70	5.80	4.67	1.30	0.00
84067	6500.00	0.90	5.30	4.90	0.80	0.00
84068	1800.00	1.00	4.90	5.12	1.50	0.00
84069	5620.00	1.00	6.40	5.07	2.10	0.00
84070	7160.00	1.00	6.10	4.74	1.90	0.00
84071	6325.00	0.70	4.70	5.20	0.80	0.00
84072	8930.00	0.20	0.20	4.37	0.60	0.00
84073	8470.00	0.90	-0.50	4.13	0.70	0.00
84074	9030.00	0.70	-0.50	4.15	0.70	0.00
84075	8220.00	0.90	0.60	3.68	1.70	0.00
84076	9750.00	0.60	1.20	3.42	0.70	0.00
84077	10000.00	0.70	-0.30	3.07	0.70	0.00
84078	9920.00	0.00	-2.90	2.77	0.70	0.00
84079	10300.00	0.10	-3.40	3.25	0.70	0.00
84080	7950.00	0.80	-2.00	3.00	0.90	0.00
84081	11000.00	0.60	-3.20	3.07	0.70	0.00
84082	11100.00	0.30	-3.20	2.90	0.70	0.00
84083	11600.00	0.10	-4.40	2.77	0.80	0.00
84084	10700.00	0.80	-3.60	2.62	1.00	0.00
84085	9690.00	1.00	1.00	3.20	0.70	0.00
84086	8110.00	0.90	2.80	4.71	1.80	0.00
84087	12400.00	1.00	2.30	4.69	3.20	0.00
84088	12800.00	0.20	0.50	3.92	1.70	0.00
84089	5900.00	1.00	1.10	4.38	1.30	0.00
84090	4560.00	0.90	-0.90	4.80	0.50	0.00
84091	10500.00	1.00	0.00	4.64	2.60	0.00

LEGEND

1. Date (Year-Julian Day)
2. Daily Shortwave Radiation Intensity (Kilojoules/meters squared)
3. Cloud Cover (Sky fraction in tenths)
4. Median Air Temperature (Degrees Celsius)
5. Vapor Pressure (Millibars)
6. Average Windspeed (Meters per second)
7. Precipitation (Millimeters)

APRIL

1	2	3	4	5	6	7
84092	11900.00	1.00	3.50	4.91	1.70	3.40
84093	12000.00	0.70	1.60	4.91	0.70	4.40
84094	12100.00	0.70	0.30	3.60	0.70	0.00
84095	12900.00	0.70	1.20	4.36	1.10	0.00
84096	12200.00	1.00	3.30	5.06	1.80	0.00
84097	14400.00	0.80	-2.70	4.41	0.80	1.80
84098	13900.00	0.90	0.00	4.77	1.00	0.00
84099	14300.00	1.00	0.20	4.40	2.00	0.20
84100	10500.00	1.00	2.20	3.55	1.00	0.00
84101	12900.00	1.00	-0.40	2.56	1.20	0.00
84102	15500.00	0.80	-0.80	3.20	0.80	3.20
84103	14900.00	0.80	0.40	3.66	0.90	0.00
84104	10100.00	1.00	2.30	3.91	1.50	0.20
84105	16200.00	0.60	1.70	4.71	1.10	0.00
84106	13600.00	1.00	-0.40	4.78	1.30	0.00
84107	4500.00	1.00	-1.90	3.94	0.80	3.00
84108	9100.00	1.00	-0.60	3.92	0.50	6.60
84109	12400.00	0.20	0.20	2.59	0.90	6.60
84110	14900.00	0.90	-0.30	3.35	0.80	0.00
84111	14800.00	1.00	3.20	5.18	0.90	4.80
84112	9614.00	1.00	2.00	4.92	2.00	4.00
84113	19631.00	0.00	-1.30	3.11	1.30	2.60
84114	20185.00	0.60	-2.10	2.97	1.20	0.00
84115	20551.00	0.40	0.70	3.41	1.80	0.00
84116	20538.00	0.10	-0.30	3.77	2.60	0.00
84117	11668.00	1.00	4.80	4.95	3.40	0.00
84118	12096.00	1.00	5.80	5.23	2.00	0.00
84119	17312.00	0.90	7.70	5.48	4.00	0.00
84120	11567.00	1.00	7.10	5.22	2.20	0.00
84121	16292.00	1.00	7.30	5.50	3.10	0.00

MAY

1	2	3	4	5	6	7
84122	15309.00	1.00	5.80	5.49	1.70	0.00
84123	19517.00	1.00	3.40	4.84	2.10	0.00
84124	18749.00	1.00	3.90	5.05	1.90	0.00
84125	17035.00	1.00	3.90	5.29	2.00	0.00
84126	21344.00	0.70	3.80	5.16	1.80	0.00
84127	23902.00	0.80	2.30	4.88	1.80	0.00
84128	22302.00	0.10	4.60	4.36	1.20	0.00
84129	23020.00	0.10	6.30	4.19	1.30	0.00
84130	22693.00	0.60	7.10	4.29	1.50	0.00
84131	20941.00	0.00	6.20	4.63	1.20	0.00
84132	21974.00	0.00	4.50	3.13	1.70	0.00
84133	19706.00	0.00	5.80	3.49	1.30	0.00
84134	19908.00	0.10	5.30	4.69	1.30	0.00
84135	23600.00	0.80	5.60	5.42	1.80	0.00
84136	21382.00	0.90	7.00	5.49	2.30	0.00
84137	18119.00	1.00	10.20	5.29	1.80	0.00
84138	21513.00	0.70	8.30	5.98	2.90	0.00
84139	20828.00	0.90	10.80	6.37	3.00	0.00
84140	15196.00	0.90	9.00	6.82	1.10	0.20
84141	13961.00	0.90	9.60	6.54	1.60	0.00
84142	12512.00	1.00	9.80	6.59	1.80	0.00
84143	14792.00	0.80	6.00	6.09	1.10	0.00
84144	20966.00	0.60	7.40	6.80	1.60	0.00
84145	24721.00	0.80	7.20	6.06	1.60	0.00
84146	15548.00	1.00	8.50	6.32	1.00	0.00
84147	18421.00	1.00	9.00	6.23	1.40	0.00
84148	22352.00	1.00	7.80	5.63	1.40	0.00
84149	23973.00	0.20	7.40	5.65	1.40	0.00
84150	9526.00	0.90	5.90	6.17	1.40	3.60
84151	16733.00	1.00	6.80	6.44	1.40	1.20
84152	17829.00	0.90	8.20	6.76	1.40	0.80

LEGEND

1. Date (Year-Julian Day)
2. Daily Shortwave Radiation Intensity (Kilojoules/meters squared)
3. Cloud Cover (Sky fraction in tenths)
4. Median Air Temperature (Degrees Celsius)
5. Vapor Pressure (Millibars)
6. Average Windspeed (Meters per second)
7. Precipitation (Millimeters)

JUNE

1	2	3	4	5	6	7
84153	19303.00	0.20	8.90	7.14	1.40	0.00
84154	25528.00	0.20	9.60	6.89	1.10	0.00
84155	22995.00	0.60	9.60	6.72	1.30	0.00
84156	26699.00	0.30	10.50	6.62	1.20	0.00
84157	22163.00	0.40	12.80	7.36	1.00	0.60
84158	11365.00	1.00	8.50	7.15	1.20	6.20
84159	18232.00	0.90	7.50	7.36	1.30	0.00
84160	17098.00	1.00	11.10	7.93	1.10	0.20
84161	22567.00	0.80	10.40	7.19	1.20	0.60
84162	23436.00	1.00	10.80	6.99	1.20	0.00
84163	17539.00	1.00	11.10	7.59	0.90	0.00
84164	6984.00	0.90	11.90	8.10	0.70	2.80
84165	14263.00	1.00	11.00	7.46	1.70	0.00
84166	13000.00	0.80	8.90	7.33	1.50	1.80
84167	11655.00	1.00	8.20	7.90	0.90	7.00
84168	8379.00	1.00	8.90	8.45	0.90	6.00
84169	28022.00	0.60	12.10	8.13	1.20	1.20
84170	24961.00	0.80	12.30	8.41	1.00	0.00
84171	26347.00	0.50	11.50	7.81	1.00	0.00
84172	24129.00	0.50	12.10	8.41	1.10	0.00
84173	26460.00	0.60	12.00	8.29	1.00	0.00
84174	22831.00	0.20	12.30	8.56	1.00	0.00
84175	18535.00	0.90	11.80	8.68	1.90	0.00
84176	15813.00	0.90	13.30	8.33	2.30	0.00
84177	14540.00	1.00	14.00	8.14	2.30	0.00
84178	12361.00	1.00	12.00	8.22	0.90	0.40
84179	9790.00	0.90	9.00	8.01	1.20	3.40
84180	22163.00	0.80	12.20	8.50	2.00	0.00
84181	24885.00	1.00	16.30	7.69	4.00	0.00
84182	16808.00	0.90	13.50	7.77	1.30	0.00

JULY

84183	7132.00	0.90	11.10	8.76	0.70	1.60
84184	15347.00	1.00	11.40	8.87	0.70	1.20
84185	9211.00	0.90	12.10	9.17	0.70	0.20
84186	28044.00	0.60	14.90	9.94	1.00	0.00
84187	19114.00	0.80	16.40	9.96	1.00	0.20
84188	19631.00	0.70	15.50	9.88	1.00	0.20
84189	24872.00	0.70	14.10	8.45	1.20	0.00
84190	8492.00	1.00	11.10	9.65	0.80	4.00
84191	19732.00	1.00	12.20	9.62	1.10	1.40
84192	12260.00	0.90	11.40	8.90	1.60	3.40
84193	24935.00	1.00	12.90	8.38	1.90	0.00
84194	18157.00	0.90	12.00	8.06	1.10	0.20
84195	20727.00	1.00	13.40	8.93	1.00	6.00
84196	9790.00	1.00	8.20	7.87	0.70	1.40
84197	19832.00	0.60	11.10	8.77	0.90	0.00
84198	7295.00	1.00	11.70	8.98	0.80	1.00
84199	3528.00	1.00	11.00	9.10	0.70	1.00
84200	9866.00	1.00	10.70	9.04	0.80	0.60
84201	10559.00	1.00	12.10	8.82	0.80	0.00
84202	6766.00	1.00	11.30	9.25	0.70	0.40
84203	18623.00	0.90	13.50	9.77	1.10	0.00
84204	10798.00	1.00	12.60	10.14	0.80	0.00
84205	16657.00	0.90	15.60	9.89	0.80	0.00
84206	13066.00	1.00	14.90	9.67	0.80	0.00
84207	9563.00	1.00	12.80	11.06	0.60	2.40
84208	11983.00	0.80	12.20	10.64	0.70	1.00
84209	9513.00	0.40	13.20	10.43	0.70	0.00
84210	9589.00	1.00	15.60	9.90	0.90	0.20
84211	13709.00	1.00	12.80	9.67	1.20	0.60
84212	16670.00	1.00	13.50	10.04	1.00	0.00
84213	15687.00	1.00	13.50	10.04	1.30	0.40

LEGEND

1. Date (Year-Julian Day)
2. Daily Shortwave Radiation Intensity (Kilojoules/meters squared)
3. Cloud Cover (Sky fraction in tenths)
4. Median Air Temperature (Degrees Celsius)
5. Vapor Pressure (Millibars)
6. Average Windspeed (Meters per second)
7. Precipitation (Millimeters)

AUGUST

1	2	3	4	5	6	7
84214	15606.00	1.00	13.00	10.83	0.80	0.00
84215	15966.00	1.00	13.70	11.20	0.90	0.00
84216	15676.00	1.00	15.40	11.11	0.40	0.20
84217	24624.00	0.80	16.00	12.17	1.00	0.00
84218	10728.00	1.00	14.00	11.44	0.70	9.80
84219	14760.00	0.70	13.10	11.31	0.80	0.40
84220	20102.00	0.90	13.20	11.36	0.90	0.00
84221	12798.00	1.00	14.40	10.86	0.80	0.40
84222	19228.00	0.50	13.20	9.95	0.90	10.60
84223	11880.00	1.00	13.70	9.97	0.70	5.40
84224	19728.00	0.50	13.70	10.86	0.70	1.00
84225	28512.00	0.20	11.70	8.53	1.10	0.00
84226	27702.00	0.40	11.60	8.72	1.00	0.00
84227	26964.00	0.70	12.10	9.17	1.00	0.00
84228	26658.00	0.40	12.60	10.60	0.90	0.00
84229	21762.00	1.00	13.60	10.31	0.80	0.00
84230	22086.00	1.00	11.20	9.15	1.70	0.00
84231	6588.00	1.00	13.60	10.57	2.80	0.00
84232	14670.00	1.00	12.80	9.35	1.60	0.60
84233	22122.00	1.00	13.20	9.85	1.10	0.20
84234	12312.00	1.00	12.50	8.80	3.10	0.00
84235	10206.00	1.00	12.60	9.49	1.20	0.80
84236	9828.00	0.70	10.30	9.36	0.50	1.20
84237	6102.00	1.00	12.00	10.44	2.10	7.00
84238	6408.00	0.80	8.70	8.52	1.50	10.00
84239	20736.00	0.40	5.30	4.47	2.10	3.20
84240	23778.00	0.10	4.60	4.69	1.00	0.00
84241	21654.00	1.00	5.90	5.06	0.90	0.00
84242	19692.00	0.90	4.50	5.84	1.10	0.00
84243	20088.00	0.50	4.70	4.56	0.90	0.00
84244	21222.00	0.70	3.40	5.35	1.00	0.00

LEGEND

1. Date (Year-Julian Day)
2. Daily Shortwave Radiation Intensity (Kilojoules/meters squared)
3. Cloud Cover (Sky fraction in tenths)
4. Median Air Temperature (Degrees Celsius)
5. Vapor Pressure (Millibars)
6. Average Windspeed (Meters per second)
7. Precipitation (Millimeters)

SEPTEMBER

84245	18558.00	0.40	7.10	0.00	0.80	0.00
84246	19836.00	0.00	6.80	0.00	0.90	0.00
84247	18954.00	0.00	7.00	0.00 NO DATA	0.80	0.00
84248	14872.00	0.90	6.10	0.00	0.60	0.00
84249	18234.00	0.30	6.30	0.00	0.80	0.00
84250	15696.00	0.40	6.80	0.00	1.50	0.00
84251	13320.00	1.00	8.50	0.00	1.50	0.00
84252	17424.00	0.90	9.40	0.00	1.40	0.00
84253	16002.00	1.00	7.60	0.00	0.70	0.00
84254	17928.00	0.50	7.40	0.00	0.80	0.00
84255	12258.00	0.20	6.70	0.00	0.80	0.00
84256	14832.00	1.00	7.30	0.00	1.50	0.00
84257	7488.00	1.00	10.80	0.00	1.60	0.20
84258	6480.00	1.00	8.50	0.00	0.90	6.00
84259	7182.00	1.00	7.70	0.00	1.10	0.40
84260	12690.00	0.60	7.50	0.00	0.80	0.00
84261	7650.00	0.90	8.50	0.00	0.70	0.00
84262	7740.00	1.00	7.40	0.00	1.00	2.20
84263	13698.00	1.00	6.50	0.00	1.40	11.00
84264	12636.00	0.70	3.60	0.00	0.90	3.20
84265	14724.00	0.20	4.40	0.00	0.90	0.20
84266	12546.00	1.00	5.20	0.00	0.90	0.00
84267	5616.00	1.00	8.50	0.00	2.50	0.00
84268	4698.00	1.00	10.60	0.00	3.70	0.00
84269	8190.00	1.00	8.80	0.00	1.40	0.40
84270	12042.00	0.50	5.40	0.00	1.00	0.00
84271	9126.00	0.90	5.60	0.00	0.90	0.00
84272	4608.00	1.00	7.70	0.00	0.90	0.00
84273	2520.00	1.00	8.60	0.00	0.90	24.80
84274	5580.00	1.00	7.90	0.00	2.10	8.20

1 2 3 4 5 6 7

OCTOBER

84275	7286.00	0.00	NO DATA	8.90	0.00	1.80	0.00
84276	10566.00	0.00		9.50	0.00	2.60	0.00
84277	10206.00	0.00		4.90	0.00	1.10	0.00
84278	11052.00	0.00		2.60	0.00	0.90	0.00
84279	5436.00	0.00		6.20	0.00	1.60	0.00
84280	6840.00	0.00		7.20	0.00	1.90	0.00
84281	5238.00	0.00		5.20	0.00	0.70	0.00
84282	2422.00	0.00		3.40	0.00	0.90	0.00
84283	7888.00	0.00		2.30	0.00	0.80	0.00
84284	5616.00	0.00		0.70	0.00	0.80	0.00
84285	4140.00	0.00		-0.50	0.00	0.80	0.00
84286	8514.00	0.00		1.80	0.00	0.80	0.00
84287	8568.00	0.00		0.30	0.00	0.90	0.00
84288	8262.00	0.00		-2.30	0.00	1.00	0.00
84289	4662.00	0.00		-2.60	0.00	0.90	0.00
84290	8118.00	0.00		-0.70	0.00	1.00	0.00
84291	8586.00	0.00		-2.60	0.00	1.10	0.00
84292	8266.00	0.00		-4.00	0.00	1.00	0.00
84293	2790.00	0.00		0.00	0.00	0.80	0.00
84294	2142.00	0.00		0.50	0.00	0.50	0.00
84295	3348.00	0.00		4.90	0.00	1.90	0.00
84296	3366.00	0.00		6.60	0.00	4.70	0.00
84297	2790.00	0.00		-2.20	0.00	1.40	0.00
84298	3456.00	0.00		-5.30	0.00	0.90	0.00
84299	5562.00	0.00		-5.40	0.00	1.10	0.00
84300	5616.00	0.00		-5.90	0.00	1.10	0.00
84301	5346.00	0.00		-7.20	0.00	1.10	0.00
84302	5148.00	0.00		-7.30	0.00	1.10	0.00
84303	4932.00	0.00		-9.60	0.00	1.10	0.00
84304	2538.00	0.00		-5.20	0.00	1.10	0.00
84305	3384.00	0.00		-1.50	0.00	2.30	0.00

LEGEND

1. Date (Year-Julian Day)
2. Daily Shortwave Radiation Intensity (Kilojoules/meters squared)
3. Cloud Cover (Sky fraction in tenths)
4. Median Air Temperature (Degrees Celsius)
5. Vapor Pressure (Millibars)
6. Average Windspeed (Meters per second)
7. Precipitation (Millimeters)

NOVEMBER

84306	4338.00	0.00	-7.60	0.00	1.10	0.00
84307	3715.00	0.00	-9.70	0.00	1.10	0.00
84308	4356.00	0.00	-8.00	0.00	1.20	0.00
84309	3996.00	0.00	-7.30	0.00	1.10	0.00
84310	1422.00	0.00	1.20	0.00	1.70	0.00
84311	3546.00	0.00	1.20	0.00	0.90	0.00
84312	1530.00	0.00	-2.30	0.00	0.80	0.00
84313	1764.00	0.00	-7.20	0.00	0.90	0.00
84314	2412.00	0.00	-11.20	0.00	1.00	0.00
84315	1692.00	0.00	-11.30	0.00	1.00	0.00
84316	2178.00	0.00	-13.70	0.00	1.10	0.00
84317	2124.00	0.00	-16.80	0.00	1.20	0.00
84318	1692.00	0.00	-17.70	0.00	1.20	0.00
84319	1026.00	0.00	-12.80	0.00	1.30	0.00
84320	1314.00	0.00	-4.80	0.00	1.30	0.00
84321	1278.00	0.00	-7.80	0.00	0.90	0.00
84322	1314.00	0.00	-7.30	0.00	0.80	0.00
84323	594.00	0.00	-8.00	0.00	0.90	0.00
84324	1368.00	0.00	-3.00	0.00	1.90	0.00
84325	468.00	0.00	4.40	0.00	4.90	0.00
84326	234.00	0.00	2.90	0.00	1.60	0.00
84327	342.00	0.00	-3.90	0.00	0.60	0.00
84328	414.00	0.00	-4.20	0.00	0.60	0.00
84329	198.00	0.00	-5.90	0.00	0.90	0.00
84330	360.00	0.00	-13.20	0.00	0.90	0.00
84331	252.00	0.00	-14.90	0.00	0.80	0.00
84332	288.00	0.00	-12.90	0.00	0.80	0.00
84333	306.00	0.00	-9.10	0.00	0.60	0.00
84334	306.00	0.00	-10.20	0.00	0.50	0.00
84335	414.00	0.00	-3.90	0.00	0.60	0.00

APPENDIX N.3. WIND SPEED DATA

DECEMBER

DATE	WINDSPEED (meters/sec.) 0600	1200	1800	2400
82353	-0.50	0.50	0.60	0.70
82354	0.30	0.70	0.70	0.90
82355	1.00	0.90	0.70	0.90
82356	0.70	0.60	0.50	0.90
82357	2.90	4.50	3.30	3.90
82358	2.10	3.90	3.50	2.20
82359	5.00	5.30	3.80	5.40
82360	1.00	3.30	5.30	-0.30
82361	-0.70	0.00	0.00	0.00
82362	0.00	0.00	0.00	0.00
82363	0.00	0.00	0.00	0.00
82364	0.00	0.00	0.00	0.00
82365	-0.30	3.70	3.70	0.90
82366	0.20	0.50	0.40	-0.30
82367	0.60	0.70	1.00	0.50
82368	1.50	0.40	2.40	3.70
82369	1.30	0.90	0.50	0.60
82370	0.50	0.50	0.70	0.60
82371	0.70	0.90	2.90	0.50
82372	-0.50	-0.80	-0.60	0.70
82373	0.70	0.60	0.60	0.60
82374	0.60	0.70	0.60	0.60
82375	0.60	0.60	0.50	0.50
82376	0.50	0.60	0.00	0.00
82377	0.50	0.40	0.30	3.30
82378	9.60	8.40	8.80	8.00
82379	6.20	7.20	7.70	9.70
82380	6.50	7.10	5.40	5.90
82381	10.40	7.80	1.40	0.70
82382	-0.40	0.40	0.30	0.50
82383	0.50	0.40	-0.30	0.50

JANUARY

83001	0.34	0.28	0.28	0.24
83002	0.64	0.45	0.45	0.55
83003	0.43	0.34	-0.20	-0.39
83004	0.43	0.34	-0.20	-0.39
83005	0.40	0.33	0.60	0.60
83006	0.60	0.60	0.60	-0.90
83007	-0.54	-0.23	-0.33	0.17
83008	0.40	0.45	0.20	0.60
83009	0.60	0.60	0.60	0.20
83010	0.60	0.60	0.60	-0.20
83011	0.60	0.60	0.50	0.40
83012	0.00	0.22	0.28	0.45
83013	0.43	0.40	0.33	0.25
83014	0.23	0.35	0.27	0.44
83015	0.45	0.38	0.59	0.50
83016	-0.27	0.15	-0.10	-0.59
83017	0.10	0.10	0.21	0.19
83018	0.44	0.85	1.30	1.75
83019	-2.04	-1.25	2.34	4.20
83020	5.14	5.15	1.20	-1.50
83021	-0.07	0.55	2.15	0.34
83022	0.69	0.65	0.42	0.70
83023	0.54	0.48	0.47	0.80
83024	0.74	0.53	0.53	0.85
83025	0.65	0.59	0.65	0.65
83026	0.47	0.44	3.80	1.07
83027	0.70	0.50	0.60	0.52
83028	0.60	0.60	0.60	0.60
83029	0.60	0.60	0.60	0.60
83030	0.60	0.60	0.60	0.60
83031	0.60	0.60	0.60	0.60

NOTE:

1. Positive values indicate wind blowing generally southerly, or "down" the lake.
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3. Absolute values are mean vector resultant windspeeds for values recorded in the preceding six hour interval.

FEBRUARY

DATE	WINDSPEED (meters/sec.) 0600	1200	1800	2400
83042	0.87	1.50	1.11	0.64
83043	2.82	2.40	4.14	2.60
83044	2.92	0.35	0.99	0.70
83045	-0.10	4.24	0.75	0.20
83046	0.70	4.24	0.66	0.40
83047	0.59	0.10	-0.55	-0.19
83048	0.55	0.89	0.50	0.10
83049	1.02	0.31	0.95	0.17
83040	-2.55	-0.20	-0.30	0.77
83041	1.01	0.77	-0.51	-0.77
83042	2.03	-1.52	-1.02	0.00
83043	-1.53	1.52	1.99	-0.77
83044	-1.55	-2.29	2.69	-2.04
83045	2.04	2.29	2.04	1.27
83046	1.78	2.29	2.04	1.27
83047	1.55	1.55	5.08	0.00
83048	1.27	1.77	0.20	0.30
83049	5.85	-5.57	-0.90	-0.11
83050	1.84	0.40	0.70	0.55
83051	0.54	-1.04	-0.47	-0.84
83052	0.55	0.41	2.60	5.85
83053	1.35	-0.19	-0.35	0.70
83054	0.15	0.55	0.45	-0.87
83055	1.45	0.14	2.30	0.49
83056	0.45	0.24	0.16	0.51
83057	-1.45	0.52	2.74	0.51
83058	-0.05	-0.27	0.10	0.25
83059	0.50	0.21	0.23	0.34

MARCH

83060	0.30	0.66	-1.00	0.54
83061	0.40	0.15	-0.18	0.65
83062	0.50	0.19	-0.25	0.59
83063	0.32	0.57	-0.60	0.50
83064	0.45	0.50	-0.65	0.39
83065	0.45	0.15	0.21	0.55
83066	0.45	0.19	0.18	0.40
83067	0.75	0.19	-0.21	0.50
83068	0.49	0.26	0.20	0.50
83069	0.33	-0.22	-0.69	0.20
83070	0.45	-0.22	-0.99	-0.74
83071	0.36	-0.31	1.95	0.44
83072	0.40	0.14	-0.41	0.52
83073	0.39	0.24	-0.40	0.40
83074	0.55	1.20	4.35	1.25
83075	0.44	0.22	-0.35	0.44
83076	0.40	0.25	-0.45	0.45
83077	0.60	-0.25	-0.50	0.60
83078	0.49	0.18	-0.49	0.70
83079	0.50	0.09	-0.40	0.40
83080	0.45	0.16	-0.64	0.40
83081	0.50	0.24	-0.57	0.35
83082	0.43	0.50	-0.56	0.29
83083	0.18	-0.18	-0.53	0.54
83084	0.61	0.24	0.95	-0.75
83085	0.58	-0.20	-0.39	0.70
83086	0.45	-0.50	4.29	4.54
83087	0.09	2.14	0.51	0.40
83088	0.35	-0.40	-0.99	0.56
83089	0.45	-0.21	-0.87	0.65
83090	0.02	-0.15	-1.10	0.45

NOTE:

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APRIL

DATE	WINDSPEED (meters/sec.) 0600	1200	1800	2400
850?1	0.50	0.70	-0.50	0.50
850?2	0.50	-0.20	-0.70	0.50
85093	0.60	5.00	4.10	2.20
85094	-1.00	-0.10	-0.50	2.90
85095	4.70	4.90	4.40	2.50
850?6	-0.40	1.80	5.80	0.70
85097	[illegible]	-0.20	-1.20	0.60
85098	0.70	-0.50	-2.10	-0.20
85099	-1.20	-1.20	-1.10	0.50
85100	[illegible]	-0.40	-2.70	0.80
85101	0.50	1.20	6.70	[illegible]
85102	3.40	-0.20	-2.70	[illegible]
85103	[illegible]	-0.40	-0.30	[illegible]
85104	-0.20	2.90	4.10	[illegible]
85105	[illegible]	5.50	5.50	5.40
85106	0.50	-0.50	-1.10	-2.20
85107	0.20	-0.70	-1.60	-2.20
85108	5.20	4.80	4.40	2.50
85109	-0.90	1.40	4.40	2.30
85110	0.60	0.70	2.40	0.40
85111	0.40	1.60	2.40	1.10
85112	-0.50	5.30	5.00	5.10
85113	1.10	2.10	-0.20	0.50
85114	0.60	-0.50	-1.20	0.70
85115	0.70	-0.50	1.40	0.10
85116	0.70	-0.60	-1.50	0.50
85117	0.50	-0.90	-1.60	0.60
85118	0.70	-0.50	-0.90	-0.20
85119	0.20	-0.40	-1.30	-0.10
85120	0.20	-1.10	-1.10	0.90

MAY

85121	0.80	-0.70	-1.50	-0.40
85122	0.20	-1.00	-2.00	-0.50
85123	-0.20	-1.00	-1.50	-0.10
85124	-0.10	0.20	3.60	1.20
85125	0.40	-0.80	2.40	0.20
85126	0.10	-0.40	2.00	0.20
85127	0.50	-1.20	-1.60	0.60
85128	0.60	-0.90	-2.10	0.10
85129	0.70	1.20	5.10	4.50
85130	2.00	1.70	4.20	2.00
85131	0.40	0.70	2.80	0.80
85132	0.50	2.50	3.60	0.80
85133	0.10	-1.20	1.50	2.20
85134	0.50	2.20	4.10	-0.30
85135	0.60	1.00	5.20	4.50
85136	4.20	4.70	5.50	1.20
85137	-0.30	1.40	5.10	3.50
85138	2.20	3.00	3.70	1.10
85139	0.20	-0.90	-2.10	-0.50
85140	0.80	-0.70	-1.80	-1.00
85141	0.60	-1.80	-2.10	-0.80
85142	0.10	1.20	-1.00	1.80
85143	1.50	1.80	3.50	4.50
85144	1.90	2.20	1.90	-0.90
85145	0.20	-1.10	-0.60	-0.50
85146	4.00	5.10	3.80	2.60
85147	[illegible]	0.20	0.20	-0.10
85148	0.40	1.20	3.90	2.80
85149	0.70	2.10	3.50	2.80
85150	0.50	-0.50	-0.60	2.80
85151	0.80	3.60	3.50	2.50

NOTE:

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WINDSPEED (meters/sec.)

DATE	0600	1200	1800	2400
83152	3.10	-1.50	-1.40	-0.40
83153	-0.10	-1.20	-1.40	-0.20
83154	-0.50	-1.10	1.60	-1.30
83155	0.20	-0.40	-0.60	-0.20
83156	1.30	-1.10	-2.10	-0.20
83157	0.90	-0.90	-2.00	0.50
83158	0.80	-0.90	-0.60	-0.20
83159	0.70	-0.60	-1.60	-0.60
83160	0.70	-0.50	0.40	0.40
83161	0.50	-0.80	-0.70	0.50
83162	0.50	-1.20	5.50	3.80
83163	2.40	2.70	3.10	2.20
83164	0.20	-0.90	-1.50	0.70
83165	0.40	1.00	5.00	1.20
83166	0.40	-0.80	-1.50	-0.20
83167	0.40	-0.50	-1.70	-0.80
83168	0.40	-1.00	-1.70	0.20
83169	0.60	-0.90	2.60	1.70
83170	0.50	-1.40	-2.50	-0.70
83171	0.50	-1.00	-1.70	-0.50
83172	0.50	-1.20	-1.70	-0.90
83173	0.40	-1.00	-1.50	0.30
83174	0.60	-1.00	2.20	2.40
83175	0.40	-1.00	-1.40	0.40
83176	0.80	-0.60	-0.90	1.20
83177	-0.40	1.00	-0.80	-0.60
83178	0.70	-1.10	-2.00	-0.30
83179	0.50	2.40	4.00	1.20
83180	0.40	-0.70	-1.40	-0.40
83181	0.50	-1.00	-2.10	-0.40

JUNE

NOTE:

1. Positive values indicate wind blowing generally southerly, or "down" the lake.
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3. Absolute values are mean vector resultant windspeeds for values recorded in the preceding six hour interval.

DATE	0600	1200	1800	2400
83182	-0.40	-1.40	-1.40	-0.50
83183	0.50	-0.70	-1.70	-0.20
83184	0.40	-0.50	-1.90	0.50
83185	0.50	-0.80	-1.40	-0.60
83186	0.20	-1.00	-1.70	0.10
83187	-0.10	-0.60	0.20	0.40
83188	-0.20	-0.70	-1.30	1.10
83189	0.80	1.20	2.10	0.60
83190	0.70	1.80	3.90	0.90
83191	0.40	-0.70	-1.40	0.50
83192	0.50	0.50	0.20	-0.10
83193	0.70	-1.20	-1.50	-0.50
83194	0.40	0.60	0.30	0.40
83195	0.70	-0.50	0.40	0.10
83196	0.50	-0.40	-0.90	0.80
83197	0.70	-0.40	-0.70	0.50
83198	0.20	-0.40	-0.20	0.50
83199	0.80	-1.50	-0.70	0.30
83200	0.60	-0.50	-0.90	0.50
83201	0.50	-0.50	-0.70	0.40
83202	0.50	-0.10	-1.60	0.30
83203	0.40	-1.00	-1.50	-0.40
83204	0.50	-0.40	-0.50	0.50
83205	0.50	-0.70	-1.70	0.70
83206	0.90	-0.50	-1.60	0.60
83207	0.70	-0.70	-1.70	-0.50
83208	0.40	-1.00	-1.20	0.70
83209	0.70	-0.40	-0.40	-0.30
83210	0.60	-0.70	-1.00	-0.40
83211	0.50	0.50	-1.40	0.70
83212	0.70	-0.80	-0.50	0.50

JULY

AUGUST

DATE	WINDSPEED (meters/sec.) 0600	1200	1800	2400
83213	0.35	-0.32	0.01	0.21
83214	0.20	-0.23	0.23	0.22
83215	0.23	-0.07	-0.39	0.45
83216	0.30	0.15	-0.37	1.78
83217	0.25	0.07	0.08	0.30
83218	0.26	0.55	2.17	2.44
83219	1.18	2.52	2.89	3.64
83220	3.34	3.29	2.62	0.76
83221	0.12	-0.09	-0.57	0.18
83222	0.20	0.09	0.07	0.26
83223	0.18	0.16	0.15	0.22
83224	0.27	0.07	-0.17	0.10
83225	0.22	-0.22	-0.15	0.08
83226	0.64	-0.22	0.01	0.29
83227	-0.34	-0.34	0.31	0.53
83228	-0.59	-0.59	-0.27	0.23
83229	0.33	-0.01	0.29	0.38
83230	0.25	-0.18	-0.24	0.15
83231	0.24	-0.57	-0.21	0.27
83232	0.95	2.12	1.72	0.49
83233	0.28	-0.13	-0.03	0.22
83234	0.22	0.11	0.06	0.22
83235	0.22	0.03	-0.30	0.37
83236	0.38	-0.01	-0.31	0.14
83237	0.25	0.22	0.14	0.21
83238	0.23	0.22	-0.20	0.30
83239	0.27	-0.01	-0.36	0.24
83240	0.26	0.18	-0.19	0.34
83241	0.29	0.23	0.55	1.76
83242	0.43	0.48	0.14	0.24
83243	0.26	0.10	0.00	0.27

SEPTEMBER

83244	0.34	0.32	-0.07	0.27
83245	0.32	-0.09	-0.31	0.28
83246	0.26	0.14	0.23	0.54
83247	0.25	0.23	0.23	0.38
83248	0.26	0.02	0.00	0.18
83249	0.31	-0.10	-0.56	0.22
83250	0.29	0.12	-0.20	0.33
83251	0.25	0.32	0.34	0.34
83252	0.20	0.10	0.20	0.23
83253	0.04	-0.13	0.02	0.33
83254	0.09	-0.14	-0.15	0.51
83255	0.25	0.93	1.53	2.12
83256	2.38	2.41	2.48	1.35
83257	-0.21	-0.48	-0.15	0.34
83258	0.44	0.19	-0.62	0.34
83259	0.29	0.06	-0.37	0.31
83260	0.31	-0.10	-0.29	0.30
83261	0.20	0.25	2.20	1.34
83262	1.71	2.72	1.44	-0.14
83263	0.13	2.75	2.64	0.72
83264	0.21	0.08	0.24	0.26
83265	0.37	0.01	0.00	0.28
83266	-0.03	-0.13	0.15	1.10
83267	0.72	-0.57	-0.69	0.33
83268	0.53	0.31	-0.01	0.69
83269	0.58	0.24	0.29	0.53
83270	0.37	0.42	2.19	-0.80
83271	-0.94	-0.84	0.69	-0.32
83272	3.56	5.60	6.53	2.97
83273	2.75	0.14	-0.06	0.30

NOTE:

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OCTOBER

DATE	WINDSPEED (meters/sec.) 0600	1200	1800	2400
83274	0.70	0.50	1.40	2.30
83275	-0.10	0.00	-1.80	-0.30
83276	0.20	0.10	-0.60	0.40
83277	0.80	0.40	0.10	0.80
83278	0.80	0.40	0.20	0.50
83279	0.80	-2.20	-1.70	0.80
83280	1.00	0.10	-1.30	0.30
83281	1.00	0.80	-1.40	0.20
83282	0.60	2.30	6.00	-0.10
83283	5.30	9.50	7.20	5.30
83284	5.80	3.20	0.20	0.40
83285	0.70	0.50	-1.30	0.30
83286	0.60	0.90	0.30	0.70
83287	0.80	0.20	-0.20	0.50
83288	0.70	0.20	0.60	0.90
83289	0.90	0.30	-1.10	0.30
83290	0.80	0.50	-0.20	0.50
83291	-0.40	0.40	-0.40	0.30
83292	0.80	0.50	-0.40	0.50
83293	0.70	-0.30	-0.20	0.60
83294	0.60	0.50	-0.40	-0.10
83295	0.80	2.10	2.70	0.60
83296	0.90	0.50	0.40	0.70
83297	0.70	-0.80	-0.40	0.80
83298	-1.00	-1.30	-1.30	-0.40
83299	-0.60	-1.00	-1.10	0.30
83300	-0.20	0.70	0.40	0.40
83301	-0.30	-0.40	0.30	-0.40
83302	0.70	0.50	0.30	-1.10
83303	-0.60	-0.50	-1.70	-0.60
83304	-0.60	-1.30	-0.90	-0.50

NOVEMBER

83305	-0.60	0.80	1.00	1.00
83306	-0.60	0.80	4.30	1.70
83307	0.20	0.80	0.50	0.90
83308	1.00	0.90	0.50	-0.50
83309	0.60	0.80	0.90	1.10
83310	1.00	1.00	0.80	0.90
83311	2.20	7.00	9.10	5.50
83312	5.40	3.80	1.70	0.90
83313	1.00	1.00	2.50	1.40
83314	2.00	0.80	0.50	0.80
83315	0.40	0.80	0.20	0.40
83316	0.80	0.80	0.80	1.00
83317	0.90	1.00	1.00	1.10
83318	1.00	0.80	0.60	0.80
83319	0.80	0.80	0.70	-0.20
83320	-1.20	1.00	1.00	1.00
83321	1.00	1.00	1.00	1.00
83322	1.00	2.00	2.00	1.50
83323	1.60	2.00	2.00	1.50
83324	1.60	5.40	6.30	8.00
83325	8.20	6.10	5.20	-0.10
83326	0.70	1.90	1.00	0.80
83327	0.60	-0.20	-2.00	-1.50
83328	-0.90	-0.20	1.00	1.00
83329	0.90	0.80	0.50	0.90
83330	0.80	0.30	0.60	0.80
83331	0.50	0.20	0.80	3.30
83332	5.80	8.20	7.20	8.20
83333	6.80	4.80	5.40	1.20
83334	1.30	1.30	1.10	1.20

NOTE:

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DECEMBER

DATE	WINDSPEED (meters/sec.) 0600	1200	1800	2400
83335	1.30	1.30	1.10	1.20
83336	1.30	1.30	1.10	1.20
83337	1.30	1.00	1.10	1.00
83338	1.00	1.00	1.10	1.00
83339	1.00	1.00	1.10	1.00
83340	1.00	1.00	0.70	0.90
83341	1.00	0.90	0.90	0.90
83342	0.90	1.00	0.80	0.90
83343	0.80	0.80	0.40	-0.40
83344	-0.30	-0.20	-0.60	-0.70
83345	0.50	0.40	0.40	0.70
83346	0.70	0.60	0.60	0.70
83347	0.60	-0.30	-0.30	0.30
83348	0.40	0.30	0.30	0.30
83349	0.40	0.30	0.30	0.30
83350	0.40	0.20	-0.20	0.20
83351	-0.20	0.10	0.10	0.00
83352	0.40	0.30	0.30	0.30
83353	0.40	0.30	0.40	0.20
83354	0.00	0.10	0.20	0.20
83355	0.20	0.00	0.00	0.30
83356	0.40	0.30	0.30	0.30
83357	0.40	0.30	0.30	0.30
83358	0.20	0.20	0.20	0.40
83359	0.40	0.40	0.40	0.30
83360	0.10	0.00	0.10	0.30
83361	0.10	0.10	0.10	0.10
83362	0.10	0.10	0.10	0.10
83363	0.00	0.00	0.00	0.00
83364	0.00	0.10	0.00	0.20
83365	0.10	0.20	0.00	0.10

JANUARY

84001	0.20	0.00	0.00	0.20
84002	1.00	1.60	5.80	5.90
84003	6.40	5.80	3.20	-1.10
84004	-3.00	-2.20	-1.10	0.50
84005	0.80	0.80	-0.60	0.30
84006	1.00	0.80	0.70	0.50
84007	0.50	0.40	0.00	0.50
84008	0.50	0.40	0.20	0.40
84009	0.40	2.80	1.00	0.30
84010	0.40	2.80	1.00	0.50
84011	1.20	0.80	6.20	9.30
84012	8.60	7.70	8.80	8.20
84013	3.80	5.80	1.40	0.50
84014	0.60	0.60	0.60	2.80
84015	2.30	2.20	2.00	2.80
84016	2.30	2.20	2.00	2.80
84017	2.30	2.20	2.00	2.80
84018	2.30	2.20	2.00	2.80
84019	2.30	2.20	2.00	2.80
84020	2.30	2.20	2.00	2.80
84021	2.30	2.20	2.00	2.80
84022	2.30	2.20	2.00	2.80
84023	2.30	2.20	2.00	2.80
84024	2.30	2.20	2.00	2.80
84025	2.30	2.20	2.00	2.80
84026	2.30	2.20	2.00	2.80
84027	2.30	2.20	2.00	2.80
84028	2.30	2.20	2.00	5.00
84029	7.10	6.90	4.60	4.10
84030	3.00	0.80	-0.20	-0.20
84031	0.40	0.20	0.80	-0.20

NOTE:

1. Positive values indicate wind blowing generally southerly, or "down" the lake.

2. Negative values indicate generally northerly winds, or "up" the lake.

3. Absolute values are mean vector resultant windspeeds for values recorded in the preceding six hour interval.

FEBUARY

DATE	WINDSPEED (meters/sec.) 0600	1200	1800	2400
84032	1.00	1.00	0.80	-0.20
84033	1.00	1.20	1.00	-1.00
84034	1.50	1.80	1.30	-2.70
84035	2.00	2.40	1.30	-2.70
84036	-0.80	0.60	-0.40	-0.10
84037	0.30	0.40	-0.40	2.00
84038	-1.00	-1.40	-1.70	-0.40
84039	-0.20	0.40	-0.20	0.40
84040	0.40	0.20	-0.20	0.40
84041	0.50	0.40	-0.40	0.30
84042	0.60	0.40	0.20	0.30
84043	0.50	0.30	0.20 -0.DE	0.30
84044	0.50	0.30	0.20	0.30
84045	0.30	0.40	0.20	0.30
84046	0.30	0.50	0.20	0.30
84047	1.20	1.00	-0.20	0.40
84048	0.60	0.40	4.50	1.30
84049	1.10	0.30	-0.30	-0.50
84050	0.10	-0.40	-1.20	-0.30
84051	0.00	-0.60	0.20	-0.20
84052	-0.20	1.80	5.00	2.30
84053	-1.00	-0.20	-0.50	-0.40
84054	0.40	0.10	-0.40	0.40
84055	0.60	0.50	-0.20	0.70
84056	0.60	0.60	-1.00	0.30
84057	0.40	0.20	-0.30	0.30
84058	0.40	0.40	-0.50	0.00
84059	-0.20	0.50	-0.10	0.50
84060	0.70	0.50	0.50	0.40

NOTE:

1. Positive values indicate wind blowing generally southerly, or "down" the lake.
2. Negative values indicate generally northerly winds, or "up" the lake.
3. Absolute values are mean vector resultant windspeeds for values recorded in the preceding six hour interval.

MARCH

84061	0.60	0.20	-0.20	0.30
84062	0.50	0.50	-0.10	1.20
84063	3.90	5.40	2.80	6.10
84064	6.50	4.00	5.40	2.90
84065	1.40	1.60	5.20	5.00
84066	2.70	0.60	-0.10	0.50
84067	0.60	0.80	-0.50	0.50
84068	0.80	0.80	-0.30	1.70
84069	0.60	0.40	3.60	-0.10
84070	0.80	1.40	4.20	-0.30
84071	-0.30	0.50	0.30	0.40
84072	0.50	0.20	-0.60	0.50
84073	0.60	0.40	-0.60	0.50
84074	0.60	0.50	-0.40	0.60
84075	0.60	1.80	3.20	0.20
84076	0.60	0.20	-0.60	0.40
84077	0.30	0.50	-1.00	0.50
84078	0.60	0.10	-1.40	0.30
84079	0.60	0.40	-0.80	0.90
84080	0.70	0.70	-1.10	0.30
84081	0.60	0.30	-0.90	0.40
84082	0.70	0.20	-1.00	0.40
84083	0.80	0.20	-1.20	0.40
84084	0.80	0.40	-1.40	0.30
84085	0.30	-0.40	-1.30	0.40
84086	0.50	0.40	3.60	2.90
84087	4.00	4.00	3.50	0.50
84088	0.60	-0.10	1.40	3.30
84089	0.50	1.40	1.80	0.50
84090	-0.10	-0.30	-0.70	-0.30
84091	0.30	0.90	3.60	4.50

APPENDIX N.3. WIND SPEED DATA, cont.

	WINDSPEED (meters/sec.)			
DATE	0600	1200	1800	2400
APRIL				
84092	1.20	0.30	1.80	-0.50
84093	0.10	-0.30	-1.50	-0.30
84094	0.10	-0.40	-1.40	0.50
84095	0.60	-0.30	-1.00	0.40
84096	0.90	2.40	-1.70	-0.50
84097	0.60	-0.40	-1.50	-0.20
84098	-0.30	-0.70	-1.40	-1.00
84099	-0.40	1.70	4.10	0.50
84100	0.60	0.30	-0.90	0.50
84101	-0.30	-1.30	-2.00	-0.20
84102	-0.50	-0.50	-1.30	0.20
84103	0.40	-0.20	-1.40	0.50
84104	0.50	-0.70	2.10	2.00
84105	0.40	-0.20	-1.70	-0.20
84106	0.50	-0.40	-2.80	-0.80
84107	-1.00	-1.00	-0.70	-0.20
84108	0.20	-0.40	-0.90	-0.40
84109	-0.40	-0.60	-0.90	0.50
84110	0.40	-0.10	-1.10	0.20
84111	0.40	-0.50	-0.60	0.90
84112	1.20	2.30	2.00	-1.10
84113	-1.80	-0.30	-1.50	0.50
84114	0.80	-0.30	-0.50	1.30
84115	0.60	-0.10	3.20	2.00
84116	0.70	-0.40	4.50	4.40
84117	3.60	3.80	4.10	1.50
84118	0.40	-0.40	-1.10	4.10
84119	3.50	3.40	4.30	4.30
84120	3.40	1.70	-1.80	-1.00
84121	2.10	4.30	3.30	2.10
MAY				
84122	-0.60	0.50	1.10	0.70
84123	-0.30	0.90	3.60	1.70
84124	0.60	-2.00	3.50	1.20
84125	0.20	0.40	3.00	1.20
84126	0.50	7.80	1.10	0.30
84127	0.90	-0.70	3.50	0.50
84128	0.80	-0.40	-1.70	1.10
84129	0.90	-0.40	-1.40	1.30
84130	0.90	-0.30	-2.20	0.00
84131	0.80	-0.40	-2.10	0.30
84132	0.90	-0.70	-3.10	-0.30
84133	0.90	-0.50	-2.10	-0.20
84134	0.90	-0.40	2.10	-0.20
84135	0.90	-0.50	1.10	2.00
84136	1.00	0.10	3.70	3.30
84137	0.60	0.10	2.20	1.00
84138	0.60	-0.60	2.60	4.30
84139	2.00	2.20	3.90	1.40
84140	0.70	-0.50	-1.30	-1.20
84141	0.40	-0.50	1.50	2.10
84142	0.30	-1.20	2.40	2.00
84143	2.00	-1.00	-1.90	-0.20
84144	0.80	-0.40	0.60	1.20
84145	0.70	-0.90	-2.90	-2.30
84146	0.60	-1.10	~~0.20~~ -2.36	1.00
84147	0.70	-0.20	0.20	1.00
84148	0.70	-0.20	0.20	1.00
84149	0.70	-0.20	0.20	1.00
84150	0.70	-0.20	0.10	1.00
84151	0.70	-0.20	0.10	1.00
84152	0.70	-0.20	0.10	1.00

NOTE:

1. Positive values indicate wind blowing generally southerly, or "down" the lake.

2. Negative values indicate generally northerly winds, or "up" the lake.

3. Absolute values are mean vector resultant windspeeds for values recorded in the preceding six hour interval.

DATE	WINDSPEED (meters/sec.) 0600	1200	1800	2400
84153	0.70	-0.20	-1.20	1.20
84154	0.80	-0.50	-1.60	0.50
84155	0.70	-0.40	-2.10	0.90
84156	0.70	-0.40	-1.70	0.90
84157	0.70	-2.00	-1.10	0.50
84158	0.40	0.30	-1.70	0.40
84159	0.70	0.60	-1.10	1.30
84160	0.40	-0.50	-1.50	-1.50
84161	0.70	0.10	-1.90	0.40
84162	0.70	-0.60	2.00	-0.70
84163	0.60	-0.90	-1.50	0.10
84164	0.40	0.60	0.30	0.50
84165	-0.50	1.40	2.70	1.40
84166	0.70	-0.30	3.20	0.30
84167	0.60	-0.20	-1.50	-0.50
84168	0.40	0.80	-1.20	-0.30
84169	0.40	-0.90	-2.00	-0.40
84170	0.60	-0.50	-1.60	0.10
84171	0.70	-0.40	-1.60	-0.10
84172	0.70	-0.40	-2.00	-0.50
84173	0.70	-0.60	-1.70	0.20
84174	0.70	0.40	-1.40	0.90
84175	0.70	-0.30	1.00	3.00
84176	0.50	1.50	3.10	3.40
84177	2.70	2.50	1.50	2.00
84178	0.60	1.60	-1.30	0.50
84179	0.40	-0.90	2.10	0.70
84180	0.50	-0.40	-1.10	5.00
84181	4.10	3.90	4.30	3.60
84182	0.60	0.80	1.70	1.00

JUNE

84183	0.30	-0.30	-1.00	-0.70
84184	0.40	-0.20	-1.30	-0.20
84185	0.50	0.10	0.40	0.50
84186	0.50	-0.60	-1.90	0.20
84187	0.40	-0.50	-1.60	0.90
84188	0.60	-0.50	-1.70	0.20
84189	0.50	-0.10	-2.20	0.40
84190	0.70	-0.20	-0.50	0.50
84191	0.50	0.20	-2.00	-0.30
84192	0.80	0.30	0.40	2.80
84193	1.10	1.80	1.10	-0.80
84194	0.60	-0.40	-1.40	0.20
84195	0.50	-0.10	-1.50	0.70
84196	0.50	0.20	-0.30	0.30
84197	0.80	-0.40	-1.30	0.40
84198	0.60	-0.70	-1.10	-0.30
84199	-0.20	0.30	-0.50	-0.20
84200	0.50	-0.60	-1.20	-0.20
84201	0.50	-0.80	-1.20	0.20
84202	0.40	-0.20	-1.10	-0.40
84203	0.50	-0.50	-1.80	-0.20
84204	0.60	-0.10	-1.00	0.20
84205	0.30	-0.50	-1.40	0.10
84206	0.40	-0.30	-1.20	0.20
84207	0.40	0.10	-1.10	-0.30
84208	0.50	-0.20	-0.60	0.50
84209	0.70	-0.20	-0.60	0.40
84210	0.60	1.10	-0.80	0.00
84211	-0.40	-0.20	-2.10	-0.50
84212	0.50	0.00	-1.70	-0.60
84213	0.30	-0.60	-2.30	-1.40

JULY

NOTE:

1. Positive values indicate wind blowing generally southerly, or "down" the lake.
2. Negative values indicate generally northerly winds, or "up" the lake.
3. Absolute values are mean vector resultant windspeeds for values recorded in the preceding six hour interval.

AUGUST

DATE	WINDSPEED (meters/sec.) 0600	1200	1800	2400
84214	0.30	-0.50	-1.30	-0.10
84215	0.50	-0.10	-1.40	-0.40
84216	0.30	-0.40	-1.40	0.50
84217	0.50	0.90	-1.40	0.70
84218	0.50	-0.10	-0.60	0.50
84219	0.80	-0.60	-0.90	0.50
84220	0.60	-0.20	-1.50	0.50
84221	-0.50	-0.30	-0.40	0.50
84222	0.50	0.50	-1.10	0.80
84223	0.60	0.20	0.30	0.70
84224	0.40	0.40	-0.40	0.60
84225	0.70	0.10	-1.80	0.50
84226	0.80	0.20	-1.30	0.30
84227	0.80	0.60	-1.70	0.50
84228	0.70	0.20	-1.30	0.80
84229	0.60	-0.10	-0.80	0.80
84230	0.80	-0.30	-0.70	-0.90
84231	-1.10	2.90	4.00	2.70
84232	2.60	-0.60	-1.60	-0.40
84233	-0.30	-0.40	-1.70	-1.00
84234	-0.30	3.50	4.20	3.80
84235	1.70	-0.60	-1.50	-0.20
84236	0.40	0.50	-0.60	0.20
84237	0.60	2.70	3.80	0.40
84238	0.70	0.40	-2.70	2.00
84239	-2.30	-2.00	-2.60	-0.70
84240	0.60	-0.10	-1.60	0.90
84241	0.70	0.20	-2.00	0.30
84242	0.70	0.30	-1.10	0.60
84243	0.70	0.10	-1.90	0.20
84244	0.70	0.10	-1.90	0.20

SEPTEMBER

84245	0.60	-0.10	-0.80	0.50
84246	0.70	0.10	-0.40	0.60
84247	0.70	0.20	-0.60	0.60
84248	0.70	0.20	0.40	0.60
84249	0.70	0.10	-1.20	0.60
84250	0.70	0.05	-0.90	2.30
84251	0.70	0.80	3.00	0.80
84252	0.60	0.40	2.60	1.60
84253	0.60	0.10	-0.80	0.60
84254	0.80	0.10	-1.00	0.60
84255	0.70	0.20	3.40	1.80
84256	0.70	-0.20	-1.00	2.40
84257	0.80	0.60	2.90	0.80
84258	0.80	0.60	0.70	-0.40
84259	0.60	0.60	2.40	0.80
84260	0.80	0.40	-1.30	0.30
84261	0.50	-0.04	-0.80	-0.20
84262	0.60	0.60	-1.60	-0.30
84263	0.20	-0.30	-1.20	-1.20
84264	0.70	0.50	-1.10	0.90
84265	0.80	0.60	-0.70	0.80
84266	0.90	0.40	-0.90	0.60
84267	1.00	3.10	2.80	3.10
84268	4.20	4.10	3.80	2.20
84269	0.30	-0.20	0.40	-0.20
84270	0.90	0.30	-1.00	0.90
84271	0.80	1.00	-0.50	0.60
84272	0.80	0.80	-0.40	1.10
84273	0.20	-0.10	-0.80	-1.00
84274	0.80	3.30	2.70	0.60

NOTE:

1. Positive values indicate wind blowing generally southerly, or "down" the lake.
2. Negative values indicate generally northerly winds, or "up" the lake.
3. Absolute values are mean vector resultant windspeeds for values recorded in the preceding six hour interval.

OCTOBER

DATE	WINDSPEED (meters/sec.) 0600	1200	1800	2400
84275	0.80	0.80	1.30	3.10
84276	1.80	3.50	3.30	1.00
84277	0.40	0.40	1.60	0.90
84278	1.00	0.80	-0.50	0.20
84279	0.80	1.60	1.80	0.50
84280	0.80	2.10	3.00	1.30
84281	0.80	0.60	-0.50	-0.40
84282	0.30	-0.80	-0.40	0.50
84283	0.70	0.60	-0.40	0.70
84284	0.80	0.70	0.60	0.90
84285	0.80	0.70	0.60	0.40
84286	0.80	0.60	-0.90	0.50
84287	1.00	1.00	0.50	0.70
84288	1.00	-0.50	-0.80	1.00
84289	1.00	0.90	0.20	0.80
84290	1.00	1.00	0.90	1.00
84291	1.20	1.00	0.70	1.10
84292	1.30	1.00	0.40	0.90
84293	0.80	0.80	0.30	0.40
84294	0.50	0.40	0.60	0.50
84295	0.50	-0.60	-2.40	1.50
84296	5.80	5.60	4.80	-2.40
84297	-1.00	-2.00	0.20	0.30
84298	1.20	1.00	0.80	0.50
84299	1.20	0.40	1.30	0.50
84300	1.20	1.00	1.00	0.50
84301	1.20	0.70	1.00	0.50
84302	1.20	0.60	1.00	0.50
84303	1.20	0.90	0.60	0.50
84304	1.20	0.90	0.60	-0.70
84305	2.00	3.10	2.80	0.90

NOVEMBER

84306	1.10	1.00	1.10	1.10
84307	1.10	1.00	1.10	1.30
84308	1.10	1.20	1.10	1.20
84309	1.10	1.10	0.90	1.10
84310	0.40	-0.60	1.30	1.20
84311	0.80	0.40	-0.30	-0.20
84312	0.60	0.70	-0.80	0.30
84313	0.90	0.80	0.30	1.00
84314	1.00	1.00	1.00	1.00
84315	-1.00	1.00	0.90	1.00
84316	1.00	1.00	1.00	1.00
84317	1.20	1.30	1.10	1.10
84318	1.20	1.20	1.20	1.10
84319	1.20	1.10	0.30	-1.90
84320	-2.10	-0.50	0.80	1.00
84321	1.00	0.90	0.80	0.90
84322	0.90	0.70	0.70	0.30
84323	0.90	0.90	0.80	0.70
84324	0.80	0.80	0.80	4.30
84325	6.90	4.90	1.80	5.60
84326	4.00	-0.70	0.60	0.50

NOTE:

1. Positive values indicate wind blowing generally southerly, or "down" the lake.
2. Negative values indicate generally northerly winds, or "up" the lake.
3. Absolute values are mean vector resultant windspeeds for values recorded in the preceding six hour interval.

APPENDIX N.4. INFLOW DATA

DECEMBER

1	2	3	4	5	6	7
82359	100.	0.1	0.0	20.	0.1	0.0
82356	96.	0.1	0.0	20.	0.1	0.0
82357	91.	0.1	0.0	20.	0.1	0.0
82358	87.	0.1	0.0	20.	0.1	0.0
82359	82.	0.1	0.0	20.	0.1	0.0
82360	78.	0.1	0.0	20.	0.1	0.0
82361	73.	0.1	0.0	20.	0.1	0.0
8236c	69.	0.1	0.0	20.	0.1	0.0
82363	64.	0.1	0.0	10.	0.1	0.0
82364	60.	0.1	0.0	10.	0.1	0.0
82365	60.	0.1	0.0	10.	0.1	0.0
82366	60.	0.1	0.0	10.	0.1	0.0
82367	60.	0.1	0.0	10.	0.1	0.0
82368	60.	0.1	0.0	10.	0.1	0.0
82369	60.	0.1	0.0	10.	0.1	0.0
82370	60.	0.1	0.0	10.	0.1	0.0
82371	60.	0.1	0.0	10.	0.1	0.0
82372	60.	0.1	0.0	10.	0.1	0.0
82373	60.	0.1	0.0	10.	0.1	0.0
82374	60.	0.1	0.0	10.	0.1	0.0
82375	60.	0.1	0.0	10.	0.1	0.0
82376	60.	0.1	0.0	10.	0.1	0.0
82377	60.	0.1	0.0	10.	0.1	0.0
82378	60.	0.1	0.0	10.	0.1	0.0
82379	60.	0.1	0.0	10.	0.1	0.0
82380	60.	0.1	0.0	10.	0.1	0.0
82381	60.	0.1	0.0	10.	0.1	0.0
82382	60.	0.1	0.0	10.	0.1	0.0
82383	60.	0.1	0.0	10.	0.1	0.0
82384	60.	0.1	0.0	10.	0.1	0.0
82385	60.	0.1	0.0	10.	0.1	0.0

JANUARY

83001	60.	0.1	0.0	0.	0.0	0.0
83002	60.	0.1	0.0	0.	0.0	0.0
83003	60.	0.1	0.0	0.	0.0	0.0
83004	60.	0.1	0.0	0.	0.0	0.0
83005	60.	0.1	0.0	0.	0.0	0.0
83006	60.	0.1	0.0	0.	0.0	0.0
83007	60.	0.1	0.0	0.	0.0	0.0
83008	60.	0.1	0.0	0.	0.0	0.0
83009	60.	0.1	0.0	0.	0.0	0.0
83010	60.	0.1	0.0	0.	0.0	0.0
83011	60.	0.1	0.0	0.	0.0	0.0
83012	60.	0.1	0.0	0.	0.0	0.0
83013	60.	0.1	0.0	0.	0.0	0.0
83014	60.	0.1	0.0	0.	0.0	0.0
83015	60.	0.1	0.0	0.	0.0	0.0
83016	60.	0.1	0.0	0.	0.0	0.0
83017	60.	0.1	0.0	0.	0.0	0.0
83018	60.	0.1	0.0	0.	0.0	0.0
83019	60.	0.1	0.0	0.	0.0	0.0
83020	60.	0.1	0.0	0.	0.0	0.0
83021	60.	0.1	0.0	0.	0.0	0.0
83022	60.	0.1	0.0	0.	0.0	0.0
83023	60.	0.1	0.0	0.	0.0	0.0
83024	60.	0.1	0.0	0.	0.0	0.0
83025	60.	0.1	0.0	0.	0.0	0.0
83026	60.	0.1	0.0	0.	0.0	0.0
83027	60.	0.1	0.0	0.	0.0	0.0
83028	60.	0.1	0.0	0.	0.0	0.0
83029	60.	0.1	0.0	0.	0.0	0.0
83030	60.	0.1	0.0	0.	0.0	0.0
83031	60.	0.1	0.0	0.	0.0	0.0

LEGEND

1 Date (Year-Julian Day)

East Fork & Glacier Fork

2 Inflow (1000 cubic meters/day)

3 Inflow Temperature (Degrees Celsius)

4 Inflow Salinity (parts per thousand)

Minor Tributaries

5 Inflow (1000 cubic meters/day)

6 Inflow Temperature (Degrees Celsius)

7 Inflow Salinity (parts per thousand)

FEBRUARY

1	2	3	4	5	6	7
85052	60.	0.1	0.0	0.	0.0	0.0
85053	60.	0.1	0.0	0.	0.0	0.0
85054	60.	0.1	0.0	0.	0.0	0.0
85055	60.	0.1	0.0	0.	0.0	0.0
85056	60.	0.1	0.0	0.	0.0	0.0
85057	60.	0.1	0.0	0.	0.0	0.0
85058	60.	0.1	0.0	0.	0.0	0.0
85059	60.	0.1	0.0	0.	0.0	0.0
85060	60.	0.1	0.0	0.	0.0	0.0
85061	60.	0.1	0.0	0.	0.0	0.0
85062	60.	0.1	0.0	0.	0.0	0.0
85063	60.	0.1	0.0	0.	0.0	0.0
85064	60.	0.1	0.0	0.	0.0	0.0
85065	60.	0.1	0.0	0.	0.0	0.0
85066	61.	0.1	0.0	0.	0.0	0.0
85067	60.	0.1	0.0	0.	0.0	0.0
85068	60.	0.1	0.0	0.	0.0	0.0
85069	60.	0.1	0.0	0.	0.0	0.0
85070	60.	0.1	0.0	0.	0.0	0.0
85071	60.	0.1	0.0	0.	0.0	0.0
85072	60.	0.1	0.0	0.	0.0	0.0
85073	60.	0.1	0.0	0.	0.0	0.0
85074	60.	0.1	0.0	0.	0.0	0.0
85075	60.	0.1	0.0	0.	0.0	0.0
85076	60.	0.1	0.0	0.	0.0	0.0
85077	60.	0.1	0.0	0.	0.0	0.0
85078	60.	0.1	0.0	0.	0.0	0.0
85079	60.	0.1	0.0	0.	0.0	0.0
85080	60.	0.1	0.0	0.	0.0	0.0
85081	59.	0.1	0.0	0.	0.0	0.0
85082	59.	0.1	0.0	0.	0.0	0.0
85083	59.	0.1	0.0	0.	0.0	0.0
85084	59.	0.1	0.0	0.	0.0	0.0
85085	59.	0.1	0.0	0.	0.0	0.0
85086	59.	0.1	0.0	0.	0.0	0.0
85087	59.	0.1	0.0	0.	0.0	0.0
85088	59.	0.1	0.0	0.	0.0	0.0
85089	59.	0.1	0.0	0.	0.0	0.0
85090	59.	0.1	0.0	0.	0.0	0.0

MARCH

1	2	3	4	5	6	7
85090	59.	0.1	0.0	0.	0.0	0.0
85091	59.	0.1	0.0	0.	0.0	0.0
85092	59.	0.1	0.0	0.	0.0	0.0
85093	59.	0.1	0.0	0.	0.0	0.0
85094	59.	0.1	0.0	0.	0.0	0.0
85095	59.	0.1	0.0	0.	0.0	0.0
85096	59.	0.1	0.0	0.	0.0	0.0
85097	58.	0.1	0.0	0.	0.0	0.0
85098	58.	0.1	0.0	0.	0.0	0.0
85099	58.	0.1	0.0	0.	0.0	0.0
85100	58.	0.1	0.0	0.	0.0	0.0
85101	58.	0.1	0.0	0.	0.0	0.0
85102	58.	0.1	0.0	0.	0.0	0.0
85103	58.	0.1	0.0	0.	0.0	0.0
85104	58.	0.1	0.0	0.	0.0	0.0
85105	58.	0.1	0.0	0.	0.0	0.0
85106	58.	0.1	0.0	0.	0.0	0.0
85107	58.	0.1	0.0	0.	0.0	0.0
85108	58.	0.1	0.0	0.	0.0	0.0
85109	58.	0.1	0.0	0.	0.0	0.0
85110	58.	0.1	0.0	0.	0.0	0.0

LEGEND

1 Date (Year-Julian Day)

East Fork & Glacier Fork

2 Inflow (1000 cubic meters/day)

3 Inflow Temperature (Degrees Celsius)

4 Inflow Salinity (parts per thousand)

Minor Tributaries

5 Inflow (1000 cubic meters/day)

6 Inflow Temperature (Degrees Celsius)

7 Inflow Salinity (parts per thousand)

1	2	3	4	5	6	7
85091	100.	0.1	0.0	10.	0.0	0.0
85092	100.	0.1	0.0	30.	0.1	0.0
85093	120.	0.1	0.0	30.	0.1	0.0
85094	120.	0.1	0.0	30.	0.1	0.0
85095	120.	0.2	0.0	30.	0.1	0.0
85096	120.	0.3	0.0	30.	0.2	0.0
85097	120.	0.4	0.0	30.	0.3	0.0
85098	120.	0.5	0.0	40.	0.4	0.0
85099	120.	0.5	0.0	50.	0.5	0.0
85100	120.	0.6	0.0	30.	0.6	0.0
85101	120.	0.6	0.0	50.	0.7	0.0
85102	120.	0.7	0.0	30.	0.8	0.0
85103	120.	0.8	0.0	30.	0.9	0.0
85104	120.	0.8	0.0	50.	1.0	0.0
85105	120.	0.9	0.0	30.	1.0	0.0
85106	100.	1.0	0.0	20.	1.1	0.0
85107	100.	1.0	0.0	20.	1.1	0.0
85108	100.	1.1	0.0	20.	1.2	0.0
85109	100.	1.1	0.0	20.	1.3	0.0
85110	100.	1.2	0.0	20.	1.4	0.0
85111	100.	1.3	0.0	20.	1.4	0.0
85112	100.	1.3	0.0	20.	1.5	0.0
85113	100.	1.4	0.0	20.	1.6	0.0
85114	100.	1.5	0.0	20.	1.6	0.0
85115	100.	1.6	0.0	20.	1.7	0.0
85116	100.	1.6	0.0	20.	1.7	0.0
85117	100.	1.7	0.0	20.	1.8	0.0
85118	100.	1.8	0.0	20.	1.9	0.0
85119	100.	1.9	0.0	20.	1.9	0.0
85120	100.	2.0	0.0	20.	2.0.	0.0
85121	100.	2.0	0.0	20.	2.0	0.0
85122	100.	2.0	0.0	20.	2.0	0.0
85123	100.	2.0	0.0	20.	2.1	0.0
85124	100.	2.0	0.0	20.	2.2	0.0
85125	119.	2.1	0.0	30.	2.3	0.0
85126	164.	2.2	0.0	40.	2.4	0.0
85127	190.	2.3	0.0	30.	2.5	0.0
85128	195.	2.3	0.0	40.	2.6	0.0
85129	200.	2.5	0.0	40.	2.7	0.0
85130	209.	2.6	0.0	30.	2.8	0.0
85131	212.	2.6	0.0	50.	2.9	0.0
85132	218.	2.7	0.0	40.	3.0	0.0
85133	224.	2.8	0.0	30.	3.1	0.0
85134	230.	2.8	0.0	50.	3.2	0.0
85135	241.	2.9	0.0	50.	3.3	0.0
85136	255.	3.0	0.0	50.	3.4	0.0
85137	257.	2.9	0.0	50.	3.5	0.0
85138	284.	3.0	0.0	50.	3.5	0.0
85139	325.	3.0	0.0	50.	3.7	0.0
85140	334.	3.1	0.0	50.	3.8	0.0
85141	385.	3.3	0.0	50.	3.9	0.0
85142	396.	3.2	0.0	50.	4.0	0.0
85143	484.	3.2	0.0	50.	4.1	0.0
85144	100.	3.4	0.0	50.	4.2	0.0
85145	100.	3.5	0.0	50.	4.3	0.0
85146	100.	3.5	0.0	50.	4.4	0.0
85147	642.	3.6	0.0	50.	4.5	0.0
85148	759.	3.7	0.0	50.	4.6	0.0
85149	776.	4.0	0.0	50.	4.7	0.0
85150	1096.	3.9	0.0	50.	4.8	0.0
85151	1326.	4.0	0.0	50.	4.9	0.0

APRIL

MAY

LEGEND

1 Date (Year-Julian Day)

East Fork & Glacier Fork

2 Inflow (1000 cubic meters/day)

3 Inflow Temperature (Degrees Celsius)

4 Inflow Salinity (parts per thousand)

Minor Tributaries

5 Inflow (1000 cubic meters/day)

6 Inflow Temperature (Degrees Celsius)

7 Inflow Salinity (parts per thousand)

JUNE

1	2	3	4	5	6	7
85154	954.	3.9	0.0	50.	5.6	0.0
85155	776.	3.1	0.0	50.	5.2	0.0
85156	675.	3.1	0.0	50.	5.7	0.0
85157	558.	3.1	0.0	50.	5.9	0.0
85158	527.	4.1	0.0	50.	6.1	0.0
85159	509.	4.1	0.0	50.	6.3	0.0
85160	658.	4.0	0.0	50.	6.6	0.0
85161	809.	3.8	0.0	50.	6.8	0.0
85162	878.	3.8	0.0	50.	7.0	0.0
85163	911.	3.8	0.0	50.	7.2	0.0
85164	945.	3.5	0.0	50.	7.4	0.0
85165	937.	3.7	0.0	50.	7.6	0.0
85166	945.	4.0	0.0	50.	7.8	0.0
85167	708.	3.6	0.0	50.	8.0	0.0
85168	717.	3.5	0.0	50.	8.2	0.0
85169	754.	3.9	0.0	50.	8.4	0.0
85170	892.	3.7	0.0	175.	8.6	0.0
85171	1064.	3.9	0.0	175.	8.8	0.0
85172	1204.	3.7	0.0	175.	9.0	0.0
85173	1531.	3.5	0.0	175.	9.0	0.0
85174	1463.	3.9	0.0	175.	9.0	0.0
85175	1542.	3.6	0.0	175.	9.0	0.0
85176	1808.	3.7	0.0	175.	9.0	0.0
85177	1810.	3.5	0.0	175.	9.0	0.0
85178	1827.	3.5	0.0	175.	9.0	0.0
85179	1855.	3.2	0.0	175.	9.0	0.0
85180	1947.	3.4	0.0	175.	9.0	0.0
85181	1970.	3.1	0.0	175.	9.0	0.0
85182	1805.	3.1	0.0	175.	9.0	0.0
85183	1805.	3.0	0.0	225.	9.0	0.0

JULY

1	2	3	4	5	6	7
85184	2041.	3.3	0.0	225.	9.0	0.0
85185	2050.	3.0	0.0	225.	9.0	0.0
85186	2164.	3.5	0.0	225.	9.0	0.0
85187	2390.	3.2	0.0	225.	9.0	0.0
85188	2404.	3.0	0.0	225.	9.0	0.0
85189	2424.	3.0	0.0	225.	9.0	0.0
85190	2500.	3.3	0.0	225.	9.0	0.0
85191	2274.	3.0	0.0	225.	9.0	0.0
85192	2082.	3.0	0.0	225.	9.0	0.0
85193	1851.	3.2	0.0	225.	9.0	0.0
85194	1760.	2.8	0.0	225.	9.0	0.0
85195	1695.	3.0	0.0	225.	9.0	0.0
85196	1788.	3.0	0.0	225.	9.0	0.0
85197	1998.	3.2	0.0	225.	9.0	0.0
85198	2052.	3.0	0.0	225.	9.0	0.0
85199	2206.	3.4	0.0	225.	9.0	0.0
85200	2210.	3.2	0.0	225.	9.0	0.0
85201	2028.	3.1	0.0	225.	9.0	0.0
85202	2075.	3.2	0.0	225.	9.0	0.0
85203	2128.	3.0	0.0	225.	9.0	0.0
85204	2085.	3.1	0.0	225.	9.0	0.0
85205	2164.	3.3	0.0	225.	9.0	0.0
85206	2194.	3.2	0.0	225.	9.0	0.0
85207	2534.	3.1	0.0	225.	9.0	0.0
85208	2215.	3.0	0.0	225.	9.0	0.0
85209	2020.	3.1	0.0	225.	9.0	0.0
85210	2015.	3.3	0.0	225.	9.0	0.0
85211	2215.	3.3	0.0	225.	9.0	0.0
85212	2357.	2.8	0.0	225.	9.0	0.0
85213	2132.	3.1	0.0	225.	9.0	0.0
85214	2024.	3.1	0.0	225.	9.0	0.0

LEGEND

1 Date (Year-Julian Day)

East Fork & Glacier Fork

2 Inflow (1000 cubic meters/day)

3 Inflow Temperature (Degrees Celsius)

4 Inflow Salinity (parts per thousand)

Minor Tributaries

5 Inflow (1000 cubic meters/day)

6 Inflow Temperature (Degrees Celsius)

7 Inflow Salinity (parts per thousand)

AUGUST

1	2	3	4	5	6	7
83215	2240.	3.0	0.0	150.	8.6	0.0
83214	2370.	3.3	0.0	150.	8.2	0.0
83215	2610.	3.1	0.0	150.	7.8	0.0
83216	2840.	2.9	0.0	150.	7.2	0.0
83217	3070.	3.4	0.0	150.	7.2	0.0
83218	2850.	3.3	0.0	150.	7.2	0.0
83219	2890.	3.3	0.0	150.	7.2	0.0
83220	5410.	3.4	0.0	150.	7.2	0.0
83221	4060.	3.1	0.0	150.	7.2	0.0
83222	3394.	3.0	0.0	150.	7.2	0.0
83223	2705.	3.1	0.0	150.	7.2	0.0
83224	2402.	2.7	0.0	150.	7.2	0.0
83225	2150.	3.1	0.0	150.	7.2	0.0
83226	1720.	3.2	0.0	150.	7.2	0.0
83227	1452.	3.2	0.0	150.	7.2	0.0
83228	1248.	3.2	0.0	150.	7.2	0.0
83229	1159.	3.0	0.0	150.	7.2	0.0
83230	1259.	3.2	0.0	150.	7.2	0.0
83231	1251.	3.2	0.0	150.	7.2	0.0
83232	1306.	3.2	0.0	150.	7.2	0.0
83233	1418.	3.2	0.0	150.	7.2	0.0
83234	1353.	3.2	0.0	150.	7.2	0.0
83235	1452.	3.1	0.0	150.	7.2	0.0
83236	1382.	3.1	0.0	150.	7.2	0.0
83237	1344.	3.2	0.0	150.	7.2	0.0
83238	1217.	3.3	0.0	150.	7.2	0.0
83239	1287.	3.2	0.0	150.	7.2	0.0
83240	1336.	3.3	0.0	150.	7.2	0.0
83241	1384.	3.3	0.0	150.	7.2	0.0
83242	1440.	3.3	0.0	150.	7.2	0.0
83243	1320.	3.2	0.0	150.	7.2	0.0

SEPTEMBER

83244	1200.	3.3	0.0	150.	7.0	0.0
83245	1200.	3.3	0.0	150.	6.8	0.0
83246	1100.	3.2	0.0	150.	6.5	0.0
83247	970.	3.2	0.0	150.	6.4	0.0
83248	850.	3.3	0.0	150.	6.2	0.0
83249	730.	3.3	0.0	150.	5.9	0.0
83250	580.	3.4	0.0	150.	5.5	0.0
83251	590.	3.5	0.0	150.	5.5	0.0
83252	567.	3.4	0.0	150.	5.5	0.0
83253	548.	3.4	0.0	150.	5.5	0.0
83254	518.	3.4	0.0	150.	5.5	0.0
83255	471.	3.5	0.0	150.	5.5	0.0
83256	494.	3.4	0.0	150.	5.5	0.0
83257	440.	3.6	0.0	150.	5.5	0.0
83258	375.	2.9	0.0	150.	5.5	0.0
83259	339.	3.0	0.0	150.	5.5	0.0
83260	318.	3.0	0.0	150.	5.5	0.0
83261	297.	3.2	0.0	150.	5.5	0.0
83262	310.	3.0	0.0	150.	5.5	0.0
83263	553.	3.0	0.0	150.	5.5	0.0
83264	737.	2.8	0.0	150.	5.5	0.0
83265	720.	2.9	0.0	150.	5.5	0.0
83266	568.	2.8	0.0	150.	5.5	0.0
83267	503.	2.9	0.0	140.	5.5	0.0
83268	451.	2.9	0.0	130.	5.5	0.0
83269	412.	2.9	0.0	120.	5.5	0.0
83270	385.	2.9	0.0	110.	5.5	0.0
83271	362.	3.0	0.0	100.	5.5	0.0
83272	580.	3.1	0.0	50.	5.5	0.0
83273	1273.	2.8	0.0	50.	5.5	0.0

LEGEND

1 Date (Year-Julian Day)

East Fork & Glacier Fork

2 Inflow (1000 cubic meters/day)

3 Inflow Temperature (Degrees Celsius)

4 Inflow Salinity (parts per thousand)

Minor Tributaries

5 Inflow (1000 cubic meters/day)

6 Inflow Temperature (Degrees Celsius)

7 Inflow Salinity (parts per thousand)

OCTOBER

1	2	3	4	5	6	7
83274	704.	2.1	0.0	50.	5.1	0.0
83275	610.	2.1	0.0	50.	4.7	0.0
83276	518.	2.1	0.0	50.	4.3	0.0
83277	441.	2.1	0.0	50.	3.8	0.0
83278	400.	2.2	0.0	50.	3.4	0.0
83279	372.	2.2	0.0	50.	3.0	0.0
83280	370.	2.2	0.0	50.	2.6	0.0
83281	360.	2.2	0.0	50.	2.5	0.0
83282	360.	2.2	0.0	50.	2.4	0.0
83283	900.	2.1	0.0	50.	2.3	0.0
83284	550.	2.1	0.0	50.	2.2	0.0
83285	520.	1.1	0.0	50.	2.1	0.0
83286	480.	1.0	0.0	50.	2.0	0.0
83287	440.	1.1	0.0	50.	1.5	0.0
83288	410.	1.1	0.0	50.	1.0	0.0
83289	360.	1.1	0.0	50.	0.5	0.0
83290	340.	1.2	0.0	50.	0.5	0.0
83291	330.	1.2	0.0	50.	0.5	0.0
83292	330.	1.2	0.0	50.	0.5	0.0
83293	320.	1.1	0.0	50.	0.5	0.0
83294	320.	1.1	0.0	50.	0.5	0.0
83295	300.	1.1	0.0	50.	0.5	0.0
83296	300.	0.6	0.0	50.	0.5	0.0
83297	290.	0.6	0.0	50.	0.5	0.0
83298	240.	0.6	0.0	50.	0.5	0.0
83299	280.	0.5	0.0	50.	0.5	0.0
83300	280.	0.5	0.0	50.	0.5	0.0
83301	270.	0.5	0.0	50.	0.5	0.0
83302	270.	0.5	0.0	50.	0.5	0.0
83303	260.	0.5	0.0	50.	0.5	0.0
83304	260.	0.5	0.0	50.	0.5	0.0

NOVEMBER

1	2	3	4	5	6	7
83305	250.	0.5	0.0	30.	0.5	0.0
83306	250.	0.5	0.0	30.	0.5	0.0
83307	250.	0.5 estimated	0.0	30.	0.5	0.0
83308	250.	0.5 by	0.0	30.	0.5	0.0
83309	250.	0.5 Harris	0.0	30.	0.5	0.0
83310	250.	0.5	0.0	30.	0.5	0.0
83311	250.	0.5	0.0	30.	0.5	0.0
83312	230.	0.6	0.0	30.	0.5	0.0
83313	230.	0.6	0.0	30.	0.5	0.0
83314	230.	0.6	0.0	30.	0.5	0.0
83315	230.	0.6	0.0	30.	0.5	0.0
83316	230.	0.6	0.0	30.	0.5	0.0
83317	230.	0.6	0.0	30.	0.5	0.0
83318	230.	0.6	0.0	30.	0.5	0.0
83319	190.	0.7	0.0	30.	0.5	0.0
83320	180.	0.7	0.0	20.	0.5	0.0
83321	180.	0.7	0.0	20.	0.5	0.0
83322	180.	0.7	0.0	20.	0.5	0.0
83323	180.	0.7	0.0	20.	0.5	0.0
83324	180.	0.7	0.0	20.	0.5	0.0
83325	150.	0.8	0.0	20.	0.5	0.0
83326	150.	0.8	0.0	20.	0.5	0.0
83327	150.	0.8	0.0	20.	0.5	0.0
83328	150.	0.8	0.0	20.	0.5	0.0
83329	150.	0.8	0.0	20.	0.5	0.0
83330	150.	0.8	0.0	20.	0.5	0.0
83331	150.	0.8	0.0	20.	0.5	0.0
83332	150.	0.8	0.0	20.	0.5	0.0
83333	140.	0.9	0.0	20.	0.5	0.0
83334	140.	0.9	0.0	20.	0.5	0.0

LEGEND

1 Date (Year-Julian Day)

East Fork & Glacier Fork

2 Inflow (1000 cubic meters/day)

3 Inflow Temperature (Degrees Celsius)

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Minor Tributaries

5 Inflow (1000 cubic meters/day)

6 Inflow Temperature (Degrees Celsius)

7 Inflow Salinity (parts per thousand)

DECEMBER

1	2	3	4	5	6	7
83335	140.	0.4	0.0	20.	0.5	0.0
83336	140.	0.4	0.0	20.	0.5	0.0
83337	140.	0.4	0.0	20.	0.5	0.0
83338	140.	0.4	0.0	20.	0.5	0.0
83339	140.	0.4	0.0	20.	0.5	0.0
83340	140.	0.4	0.0	20.	0.5	0.0
83341	140.	0.4	0.0	20.	0.5	0.0
83342	140.	0.4	0.0	20.	0.5	0.0
83343	125.	0.4	0.0	20.	0.5	0.0
83344	125.	0.4	0.0	20.	0.5	0.0
83345	125.	0.4	0.0	20.	0.5	0.0
83346	125.	0.4	0.0	20.	0.5	0.0
83347	125.	0.4	0.0	20.	0.5	0.0
83348	125.	0.4	0.0	20.	0.5	0.0
83349	125.	0.4	0.0	20.	0.5	0.0
83350	125.	0.1	0.0	10.	0.1	0.0
83351	125.	0.1	0.0	10.	0.1	0.0
83352	120.	0.1	0.0	10.	0.1	0.0
83353	120.	0.1	0.0	10.	0.1	0.0
83354	120.	0.1	0.0	10.	0.1	0.0
83355	120.	0.1	0.0	10.	0.1	0.0
83356	120.	0.1	0.0	10.	0.1	0.0
83357	120.	0.1	0.0	10.	0.1	0.0
83358	100.	0.1	0.0	10.	0.1	0.0
83359	100.	0.1	0.0	10.	0.1	0.0
83360	95.	0.1	0.0	10.	0.1	0.0
83361	95.	0.1	0.0	10.	0.1	0.0
83362	95.	0.1	0.0	10.	0.1	0.0
83363	95.	0.1	0.0	10.	0.1	0.0
83364	95.	0.1	0.0	10.	0.1	0.0
83365	95.	0.1	0.0	10.	0.1	0.0

JANUARY

84001	85.	0.1	0.0	0.	0.0	0.0
84002	85.	0.1	0.0	0.	0.0	0.0
84003	85.	0.1	0.0	0.	0.0	0.0
84004	85.	0.1	0.0	0.	0.0	0.0
84005	85.	0.1	0.0	0.	0.0	0.0
84006	85.	0.1	0.0	0.	0.0	0.0
84007	85.	0.1	0.0	0.	0.0	0.0
84008	85.	0.1	0.0	0.	0.0	0.0
84009	85.	0.1	0.0	0.	0.0	0.0
84010	85.	0.1	0.0	0.	0.0	0.0
84011	85.	0.1	0.0	0.	0.0	0.0
84012	85.	0.1	0.0	0.	0.0	0.0
84013	85.	0.1	0.0	0.	0.0	0.0
84014	85.	0.1	0.0	0.	0.0	0.0
84015	85.	0.1	0.0	0.	0.0	0.0
84016	75.	0.1	0.0	0.	0.0	0.0
84017	75.	0.1	0.0	0.	0.0	0.0
84018	75.	0.1	0.0	0.	0.0	0.0
84019	75.	0.1	0.0	0.	0.0	0.0
84020	75.	0.1	0.0	0.	0.0	0.0
84021	75.	0.1	0.0	0.	0.0	0.0
84022	75.	0.1	0.0	0.	0.0	0.0
84023	75.	0.1	0.0	0.	0.0	0.0
84024	75.	0.1	0.0	0.	0.0	0.0
84025	75.	0.1	0.0	0.	0.0	0.0
84026	75.	0.1	0.0	0.	0.0	0.0
84027	75.	0.1	0.0	0.	0.0	0.0
84028	75.	0.1	0.0	0.	0.0	0.0
84029	75.	0.1	0.0	0.	0.0	0.0
84030	75.	0.1	0.0	0.	0.0	0.0
84031	75.	0.1	0.0	0.	0.0	0.0

LEGEND

1 Date (Year-Julian Day)

East Fork & Glacier Fork

2 Inflow (1000 cubic meters/day)

3 Inflow Temperature (Degrees Celsius)

4 Inflow Salinity (parts per thousand)

Minor Tributaries

5 Inflow (1000 cubic meters/day)

6 Inflow Temperature (Degrees Celsius)

7 Inflow Salinity (parts per thousand)

FEBRUARY

1	2	3	4	5	6	7
84032	75.	0.1	0.0	0.	0.0	0.0
84033	75.	0.1	0.0	0.	0.0	0.0
84034	75.	0.1	0.0	0.	0.0	0.0
84035	75.	0.1	0.0	0.	0.0	0.0
84036	75.	0.1	0.0	0.	0.0	0.0
84037	75.	0.1	0.0	0.	0.0	0.0
84038	75.	0.1	0.0	0.	0.0	0.0
84039	75.	0.1	0.0	0.	0.0	0.0
84040	75.	0.1	0.0	0.	0.0	0.0
84041	75.	0.1	0.0	0.	0.0	0.0
84042	75.	0.1	0.0	0.	0.0	0.0
84043	75.	0.1	0.0	0.	0.0	0.0
84044	75.	0.1	0.0	0.	0.0	0.0
84045	75.	0.1	0.0	0.	0.0	0.0
84046	75.	0.1	0.0	0.	0.0	0.0
84047	75.	0.1	0.0	0.	0.0	0.0
84048	75.	0.1	0.0	0.	0.0	0.0
84049	75.	0.1	0.0	0.	0.0	0.0
84050	75.	0.1	0.0	0.	0.0	0.0
84051	75.	0.1	0.0	0.	0.0	0.0
84052	75.	0.1	0.0	0.	0.0	0.0
84053	75.	0.1	0.0	0.	0.0	0.0
84054	75.	0.1	0.0	0.	0.0	0.0
84055	75.	0.1	0.0	0.	0.0	0.0
84056	75.	0.1	0.0	0.	0.0	0.0
84057	75.	0.1	0.0	0.	0.0	0.0
84058	75.	0.1	0.0	0.	0.0	0.0
84059	75.	0.1	0.0	0.	0.0	0.0
84060	75.	0.1	0.0	0.	0.0	0.0

MARCH

1	2	3	4	5	6	7
84061	50.	0.1	0.0	0.	0.0	0.0
84062	50.	0.1	0.0	0.	0.0	0.0
84063	50.	0.1	0.0	0.	0.0	0.0
84064	50.	0.1	0.0	0.	0.0	0.0
84065	50.	0.1	0.0	0.	0.0	0.0
84066	50.	0.1	0.0	0.	0.0	0.0
84067	50.	0.1	0.0	0.	0.0	0.0
84068	50.	0.1	0.0	0.	0.0	0.0
84069	50.	0.1	0.0	0.	0.0	0.0
84070	50.	0.1	0.0	0.	0.0	0.0
84071	50.	0.1	0.0	0.	0.0	0.0
84072	50.	0.1	0.0	0.	0.0	0.0
84073	50.	0.1	0.0	0.	0.0	0.0
84074	50.	0.1	0.0	0.	0.0	0.0
84075	50.	0.1	0.0	0.	0.0	0.0
84076	50.	0.1	0.0	0.	0.0	0.0
84077	50.	0.1	0.0	0.	0.0	0.0
84078	50.	0.1	0.0	0.	0.0	0.0
84079	50.	0.1	0.0	0.	0.0	0.0
84080	50.	0.1	0.0	0.	0.0	0.0
84081	50.	0.1	0.0	0.	0.0	0.0
84082	50.	0.1	0.0	0.	0.0	0.0
84083	50.	0.1	0.0	0.	0.0	0.0
84084	50.	0.1	0.0	0.	0.0	0.0
84085	50.	0.1	0.0	0.	0.0	0.0
84086	50.	0.1	0.0	0.	0.0	0.0
84087	50.	0.1	0.0	0.	0.0	0.0
84088	50.	0.1	0.0	0.	0.0	0.0
84089	50.	0.1	0.0	0.	0.0	0.0
84090	50.	0.1	0.0	0.	0.0	0.0
84091	50.	0.1	0.0	0.	0.0	0.0

LEGEND

1 Date (Year-Julian Day)

East Fork & Glacier Fork

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Minor Tributaries

5 Inflow (1000 cubic meters/day)

6 Inflow Temperature (Degrees Celsius)

7 Inflow Salinity (parts per thousand)

APRIL

1	2	3	4	5	6	7
84092	50.	0.5	0.0	0.	0.0	0.0
84093	50.	0.5	0.0	0.	0.0	0.0
84094	50.	0.5	0.0	0.	0.0	0.0
84095	50.	0.5	0.0	0.	0.0	0.0
84096	50.	0.5	0.0	0.	0.0	0.0
84097	50.	1.0	0.0	0.	0.0	0.0
84098	50.	1.0	0.0	0.	0.0	0.0
84099	50.	1.0	0.0	0.	0.0	0.0
84100	50.	1.0	0.0	0.	0.0	0.0
84101	50.	1.0	0.0	0.	0.0	0.0
84102	50.	1.0	0.0	0.	0.0	0.0
84103	50.	1.0	0.0	0.	0.0	0.0
84104	50.	1.0	0.0	0.	0.0	0.0
84105	50.	1.0	0.0	0.	0.0	0.0
84106	50.	1.5	0.0	0.	0.0	0.0
84107	70.	1.5	0.0	0.	0.0	0.0
84108	70.	1.5	0.0	0.	0.0	0.0
84109	70.	1.5	0.0	0.	0.0	0.0
84110	70.	1.5	0.0	0.	0.0	0.0
84111	70.	2.0	0.0	0.	0.0	0.0
84112	70.	2.0	0.0	10.	1.0	0.0
84113	70.	2.0	0.0	10.	1.0	0.0
84114	70.	2.0	0.0	10.	1.0	0.0
84115	70.	2.0	0.0	10.	1.0	0.0
84116	70.	2.5	0.0	10.	1.0	0.0
84117	70.	2.5	0.0	10.	1.0	0.0
84118	70.	2.5	0.0	10.	1.0	0.0
84119	70.	2.5	0.0	10.	1.0	0.0
84120	70.	2.5	0.0	10.	1.0	0.0
84121	70.	2.5	0.0	10.	1.0	0.0

MAY

1	2	3	4	5	6	7
84122	85.	2.9	0.0	20.	2.0	0.0
84123	85.	2.9	0.0	20.	2.0	0.0
84124	85.	2.9	0.0	20.	2.0	0.0
84125	85.	2.9	0.0	20.	2.0	0.0
84126	85.	3.4	0.0	20.	2.0	0.0
84127	90.	3.3	0.0	20.	2.0	0.0
84128	100.	3.4	0.0	20.	2.0	0.0
84129	100.	3.4	0.0	20.	2.0	0.0
84130	100.	3.9	0.0	20.	2.0	0.0
84131	120.	3.9	0.0	20.	2.0	0.0
84132	120.	3.9	0.0	30.	3.5	0.0
84133	130.	3.8	0.0	30.	3.5	0.0
84134	150.	3.8	0.0	30.	3.5	0.0
84135	150.	4.3	0.0	30.	3.5	0.0
84136	150.	4.3	0.0	30.	3.5	0.0
84137	185.	4.2	0.0	30.	3.5	0.0
84138	185.	4.2	0.0	30.	3.5	0.0
84139	238.	4.5	0.0	30.	3.5	0.0
84140	250.	4.7	0.0	30.	3.5	0.0
84141	274.	4.6	0.0	30.	3.5	0.0
84142	291.	4.4	0.0	50.	4.0	0.0
84143	279.	4.5	0.0	50.	4.0	0.0
84144	250.	4.7	0.0	50.	4.0	0.0
84145	277.	5.2	0.0	50.	4.0	0.0
84146	279.	4.6	0.0	50.	4.0	0.0
84147	264.	4.7	0.0	50.	4.0	0.0
84148	255.	5.3	0.0	50.	4.0	0.0
84149	252.	5.4	0.0	50.	4.0	0.0
84150	259.	5.0	0.0	50.	4.0	0.0
84151	257.	4.7	0.0	50.	4.0	0.0
84152	235.	5.1	0.0	50.	4.0	0.0

LEGEND

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East Fork & Glacier Fork

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6 Inflow Temperature (Degrees Celsius)

7 Inflow Salinity (parts per thousand)

JUNE

1	2	3	4	5	6	7
84153	255.	5.7	0.0	90.	4.5	0.0
84154	308.	5.6	0.0	90.	4.5	0.0
84155	384.	5.4	0.0	90.	4.5	0.0
84156	458.	5.2	0.0	90.	4.5	0.0
84157	538.	5.1	0.0	90.	4.5	0.0
84158	694.	3.9	0.0	90.	4.5	0.0
84159	648.	4.1	0.0	90.	4.5	0.0
84160	654.	3.7	0.0	90.	4.5	0.0
84161	685.	3.8	0.0	90.	4.5	0.0
84162	695.	3.8	0.0	150.	5.0	0.0
84163	700.	3.4	0.0	150.	5.0	0.0
84164	747.	3.1	0.0	150.	5.0	0.0
84165	825.	3.1	0.0	150.	5.0	0.0
84166	766.	3.1	0.0	150.	5.0	0.0
84167	710.	3.2	0.0	150.	5.0	0.0
84168	707.	3.5	0.0	150.	5.0	0.0
84169	761.	4.8	0.0	150.	5.0	0.0
84170	900.	4.5	0.0	150.	5.0	0.0
84171	1114.	4.6	0.0	150.	5.0	0.0
84172	1423.	4.2	0.0	150.	5.0	0.0
84173	1434.	4.3	0.0	200.	5.5	0.0
84174	1370.	4.2	0.0	200.	5.5	0.0
84175	1423.	3.6	0.0	200.	5.5	0.0
84176	1526.	3.1	0.0	200.	5.5	0.0
84177	1661.	3.2	0.0	200.	5.5	0.0
84178	1463.	3.5	0.0	200.	5.5	0.0
84179	1448.	2.9	0.0	200.	5.5	0.0
84180	1363.	5.8	0.0	200.	5.5	0.0
84181	1629.	4.1	0.0	200.	5.5	0.0
84182	1568.	5.9	0.0	200.	5.5	0.0

JULY

1	2	3	4	5	6	7
84183	1483.	3.4	0.0	220.	6.0	0.0
84184	1409.	3.3	0.0	220.	6.0	0.0
84185	1429.	2.9	0.0	220.	6.0	0.0
84186	1791.	3.5	0.0	220.	6.0	0.0
84187	2340.	3.9	0.0	220.	6.0	0.0
84188	2730.	4.1	0.0	220.	6.5	0.0
84189	2890.	4.0	0.0	220.	6.5	0.0
84190	2690.	3.6	0.0	220.	6.5	0.0
84191	2670.	3.3	0.0	220.	6.5	0.0
84192	2610.	2.9	0.0	220.	6.5	0.0
84193	2430.	2.8	0.0	200.	6.5	0.0
84194	2137.	2.9	0.0	200.	6.5	0.0
84195	2048.	2.6	0.0	200.	6.5	0.0
84196	1932.	2.7	0.0	200.	6.5	0.0
84197	1870.	2.7	0.0	200.	6.5	0.0
84198	1902.	2.7	0.0	200.	7.0	0.0
84199	1805.	2.7	0.0	200.	7.0	0.0
84200	1749.	2.8	0.0	200.	7.0	0.0
84201	1756.	2.8	0.0	200.	7.0	0.0
84202	1794.	2.7	0.0	150.	7.0	0.0
84203	2150.	3.9	0.0	150.	7.0	0.0
84204	2410.	4.0	0.0	150.	7.0	0.0
84205	2520.	3.7	0.0	150.	7.0	0.0
84206	2540.	3.7	0.0	150.	7.5	0.0
84207	2410.	3.7	0.0	150.	7.5	0.0
84208	2227.	3.5	0.0	150.	7.5	0.0
84209	2227.	3.5	0.0	150.	7.5	0.0
84210	2244.	3.2	0.0	150.	7.5	0.0
84211	2264.	3.2	0.0	150.	7.5	0.0
84212	2304.	3.3	0.0	150.	7.5	0.0
84213	2329.	3.4	0.0	150.	7.5	0.0

LEGEND

1 Date (Year-Julian Day)

East Fork & Glacier Fork

2 Inflow (1000 cubic meters/day)

3 Inflow Temperature (Degrees Celsius)

4 Inflow Salinity (parts per thousand)

Minor Tributaries

5 Inflow (1000 cubic meters/day)

6 Inflow Temperature (Degrees Celsius)

7 Inflow Salinity (parts per thousand)

AUGUST

1	2	3	4	5	6	7
84214	2274.	3.2	0.0	150.	8.0	0.0
84215	2540.	3.2	0.0	200.	8.0	0.0
84216	2840.	3.2	0.0	200.	8.0	0.0
84217	3140.	3.3	0.0	200.	8.0	0.0
84218	3480.	3.3	0.0	300.	9.0	0.0
84219	3370.	3.4	0.0	300.	9.0	0.0
84220	3070.	3.2	0.0	300.	9.0	0.0
84221	3230.	3.2	0.0	300.	9.0	0.0
84222	3410.	3.3	0.0	250.	9.0	0.0
84223	2910.	3.2	0.0	250.	8.0	0.0
84224	2680.	3.3	0.0	250.	8.0	0.0
84225	2520.	3.2	0.0	220.	8.0	0.0
84226	2310.	3.2	0.0	220.	8.0	0.0
84227	2263.	3.2	0.0	220.	8.0	0.0
84228	2329.	3.2	0.0	220.	8.0	0.0
84229	2570.	3.2	0.0	220.	8.0	0.0
84230	2520.	3.2	0.0	220.	8.0	0.0
84231	2810.	3.2	0.0	221.	7.0	0.0
84232	4140.	3.4	0.0	220.	7.0	0.0
84233	3150.	3.3	0.0	220.	7.0	0.0
84234	2419.	3.2	0.0	220.	6.0	0.0
84235	2779.	3.1	0.0	220.	6.0	0.0
84236	2497.	3.1	0.0	220.	6.0	0.0
84237	3000.	3.3	0.0	250.	6.0	0.0
84238	3660.	3.2	0.0	250.	6.0	0.0
84239	2499.	3.2	0.0	250.	6.0	0.0
84240	1763.	3.1	0.0	200.	6.0	0.0
84241	1468.	3.1	0.0	200.	5.0	0.0
84242	1235.	3.2	0.0	200.	5.0	0.0
84243	1038.	3.2	0.0	200.	5.0	0.0
84244	903.	3.2	0.0	200.	5.0	0.0

SEPTEMBER

1	2	3	4	5	6	7
84245	818.	2.5	0.0	200.	5.0	0.0
84246	766.	2.6	0.0	200.	5.0	0.0
84247	747.	2.6	0.0	200.	5.0	0.0
84248	722.	2.6	0.0	200.	5.0	0.0
84249	695.	2.7	0.0	200.	5.0	0.0
84250	678.	2.7	0.0	200.	5.0	0.0
84251	680.	2.7	0.0	200.	5.0	0.0
84252	688.	2.7	0.0	200.	5.0	0.0
84253	639.	2.7	0.0	200.	5.0	0.0
84254	619.	2.7	0.0	200.	5.0	0.0
84255	607.	2.8	0.0	200.	5.0	0.0
84256	617.	2.7	0.0	200.	5.0	0.0
84257	654.	2.7	0.0	200.	5.0	0.0
84258	944.	2.7	0.0	200.	5.0	0.0
84259	966.	2.7	0.0	200.	5.0	0.0
84260	690.	2.7	0.0	200.	5.0	0.0
84261	619.	2.8	0.0	200.	5.0	0.0
84262	590.	2.7	0.0	200.	5.0	0.0
84263	575.	2.6	0.0	200.	5.0	0.0
84264	467.	2.7	0.0	200.	4.0	0.0
84265	418.	2.8	0.0	150.	4.0	0.0
84266	404.	2.8	0.0	150.	4.0	0.0
84267	377.	2.8	0.0	150.	4.0	0.0
84268	360.	2.9	0.0	150.	4.0	0.0
84269	372.	2.9	0.0	150.	4.0	0.0
84270	347.	2.9	0.0	150.	4.0	0.0
84271	330.	2.9	0.0	150.	4.0	0.0
84272	355.	2.9	0.0	150.	4.0	0.0
84273	2337.	3.1	0.0	400.	6.0	0.0
84274	1414.	3.0	0.0	400.	6.0	0.0

LEGEND

1 Date (Year-Julian Day)

East Fork & Glacier Fork

2 Inflow (1000 cubic meters/day)

3 Inflow Temperature (Degrees Celsius)

4 Inflow Salinity (parts per thousand)

Minor Tributaries

5 Inflow (1000 cubic meters/day)

6 Inflow Temperature (Degrees Celsius)

7 Inflow Salinity (parts per thousand)

OCTOBER

1	2	3	4	5	6	7
84275	1150.	2.1	0.0	200.	5.0	0.0
84276	800.	2.1	0.0	200.	5.0	0.0
84277	626.	2.1	0.0	200.	5.0	0.0
84278	543.	2.2	0.0	200.	5.0	0.0
84279	502.	2.2	0.0	150.	4.0	0.0
84280	489.	2.2	0.0	150.	4.0	0.0
84281	448.	2.2	0.0	150.	4.0	0.0
84282	442.	2.3	0.0	100.	3.0	0.0
84283	384.	2.3	0.0	100.	3.0	0.0
84284	340.	2.4	0.0	100.	3.0	0.0
84285	318.	1.4	0.0	100.	3.0	0.0
84286	301.	1.4	0.0	100.	3.0	0.0
84287	279.	1.4	0.0	100.	3.0	0.0
84288	264.	1.4	0.0	100.	3.0	0.0
84289	249.	1.4	0.0	100.	2.0	0.0
84290	243.	1.4	0.0	50.	2.0	0.0
84291	230.	1.4	0.0	50.	2.0	0.0
84292	225.	1.4	0.0	50.	2.0	0.0
84293	220.	1.5	0.0	50.	2.0	0.0
84294	216.	1.5	0.0	50.	2.0	0.0
84295	213.	0.7	0.0	50.	1.0	0.0
84296	277.	0.7	0.0	50.	1.0	0.0
84297	250.	0.7	0.0	50.	1.0	0.0
84298	222.	0.7	0.0	50.	0.0	0.0
84299	205.	0.7	0.0	50.	0.0	0.0
84300	196.	0.7	0.0	50.	0.0	0.0
84301	191.	0.7	0.0	50.	0.0	0.0
84302	176.	0.7	0.0	50.	0.0	0.0
84303	166.	0.7	0.0	50.	0.0	0.0
84304	159.	0.7	0.0	50.	0.0	0.0
84305	152.	0.7	0.0	50.	0.0	0.0

LEGEND

1 Date (Year-Julian Day)

East Fork & Glacier Fork

2 Inflow (1000 cubic meters/day)

3 Inflow Temperature (Degrees Celsius)

4 Inflow Salinity (parts per thousand)

Minor Tributaries

5 Inflow (1000 cubic meters/day)

6 Inflow Temperature (Degrees Celsius)

7 Inflow Salinity (parts per thousand)

APPENDIX N.5. OUTFLOW DATA

DATE	OUTFLOW 1000 m³/day	TEMP. °C	LAKE LEVEL meters
DECEMBER			
82335	894.80	4.20	61.900
82336	961.80	4.00	61.900
82337	1020.30	4.00	61.800
82338	985.00	3.00	61.800
82339	826.80	3.00	61.800
82340	836.30	3.30	61.700
82341	641.30	3.30	61.700
82342	541.20	3.00	61.700
82343	350.80	3.00	61.600
82344	424.60	3.00	61.600
82345	324.20	3.00	61.500
82346	342.50	3.00	61.500
82347	404.60	3.30	61.500
82348	473.40	3.40	61.400
82349	412.80	3.00	61.400
82350	452.30	3.00	61.300
82351	407.20	3.30	61.300
82352	479.60	3.30	61.300
82353	495.70	3.30	61.200
82354	510.40	3.70	61.200
82355	520.70	4.00	61.100
82356	762.60	3.30	61.000
82357	956.40	3.00	61.000
82358	890.10	3.80	60.900
82359	879.80	3.80	60.900
82360	589.70	4.00	60.800
82361	632.00	4.00	60.800
82362	545.80	3.70	60.800
82363	423.10	4.00	60.700
82364	633.20	3.70	60.700
82365	807.90	3.70	60.700
JANUARY			
83001	968.00	3.30	60.800
83002	1100.00	3.30	60.700
83003	1159.00	3.30	60.600
83004	1184.00	3.50	60.500
83005	1184.00	3.50	60.500
83006	1184.00	3.20	60.400
83007	1184.00	3.00	60.300
83008	1184.00	3.00	60.200
83009	1152.00	3.00	60.100
83010	1079.00	3.00	60.000
83011	1115.00	3.00	59.900
83012	1079.00	3.00	59.800
83013	1079.00	3.00	59.800
83014	1128.00	3.00	59.700
83015	1127.00	3.00	59.600
83016	933.00	3.00	59.500
83017	620.00	3.30	59.400
83018	537.30	3.00	59.300
83019	568.10	2.30	59.200
83020	594.40	3.00	59.200
83021	506.00	3.00	59.100
83022	488.30	3.00	59.000
83023	560.70	3.00	58.900
83024	647.30	3.30	58.800
83025	565.20	3.00	58.800
83026	571.10	3.30	58.700
83027	564.00	3.30	58.600
83028	578.30	3.30	58.600
83029	594.40	3.40	58.600
83030	594.40	3.00	58.600
83031	594.40	3.00	58.600

NOTE:

1. Outflow is flow through Eklutna power plant reported by the Alaska Power Administration.

2. Lake level is height of lake surface above the minimum lake bottom elevation. Lake level of 50.3 meters equals 825 feet above mean sea level.

FEBRUARY

DATE	OUTFLOW 1000 m³/day	TEMP. °C	LAKE LEVEL meters
83032	653.00	3.00	58.600
83033	578.30	3.30	58.600
83034	573.90	3.00	58.600
83035	562.20	3.00	58.600
83036	554.90	3.30	58.600
83037	554.90	3.30	58.700
83038	566.70	3.00	58.700
83039	566.70	3.00	58.700
83040	800.50	3.70	58.700
83041	776.80	3.30	58.700
83042	1071.40	3.00	58.700
83043	1188.80	3.20	58.600
83044	1188.80	3.00	58.600
83045	1011.20	3.00	58.500
83046	836.30	3.00	58.500
83047	836.30	3.00	58.400
83048	836.30	3.00	58.400
83047	836.30	3.00	58.400
83048	836.30	3.00	58.400
83049	1036.10	3.00	58.300
83050	1150.70	3.00	58.200
83051	1137.30	3.00	58.200
83052	1003.80	3.00	58.100
83053	1004.40	3.00	58.000
83054	881.80	3.00	58.000
83055	887.70	3.00	57.900
83056	887.70	3.00	57.800
83057	1047.80	3.00	57.800
83058	1015.50	3.00	57.700
83059	995.30	3.00	57.600

NOTE:

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2. Lake level is height of lake surface above the minimum lake bottom elevation. Lake level of 50.3 meters equals 825 feet above mean sea level.

MARCH

83060	1094.80	3.00	57.600
83061	1067.50	3.20	57.400
83062	1081.70	3.20	57.300
83063	679.80	3.00	57.200
83064	959.70	3.20	57.100
83065	900.10	3.00	57.100
83066	1063.40	3.00	57.000
83067	1085.90	3.00	56.900
83068	1093.50	3.00	56.900
83069	1093.50	3.00	56.800
83070	1125.40	3.00	56.700
83071	940.40	3.00	56.600
83072	864.10	3.00	56.500
83073	918.90	3.00	56.500
83074	1090.40	3.00	56.400
83075	1162.30	3.00	56.300
83076	1198.40	3.20	56.200
83077	1198.40	3.00	56.100
83078	1198.40	3.00	56.000
83079	1198.40	3.00	55.900
83080	1198.40	3.00	55.800
83081	1163.60	3.00	55.800
83082	1163.30	3.00	55.700
83083	1174.20	3.00	55.600
83084	1165.20	3.00	55.500
83085	1037.20	3.00	55.400
83086	1022.50	3.00	55.300
83087	1158.40	3.00	55.200
83088	1158.40	3.00	55.200
83089	1164.40	3.00	55.100
83090	1156.90	3.00	55.000

	DATE	OUTFLOW 1000 m^3/day	TEMP. °C	LAKE LEVEL meters
APRIL	83091	1156.00	3.00	54.913
	83092	1145.00	3.00	54.826
	83093	1068.00	3.00	54.746
	83094	1112.00	3.00	54.662
	83095	1151.00	3.00	54.575
	83096	1148.00	3.00	54.488
	83097	1159.00	3.50	54.401
	83098	1134.00	3.50	54.317
	83099	1145.00	3.50	54.232
	83100	1144.00	3.80	54.147
	83101	1171.00	4.00	54.061
	83102	1174.00	4.00	53.974
	83103	1164.00	4.00	53.889
	83104	1171.00	4.00	53.803
	83105	1172.00	4.00	53.718
	83106	1162.00	4.00	53.634
	83107	1208.00	4.00	53.546
	83108	1162.00	4.00	53.462
	83109	1168.00	4.00	53.378
	83110	1162.00	4.00	53.294
	83111	1171.00	4.00	53.209
	83112	1163.00	4.00	53.125
	83113	1154.00	4.00	53.042
	83114	1090.00	4.20	52.965
	83115	879.00	4.60	52.906
	83116	604.00	4.00	52.870
	83117	604.00	4.60	52.834
	83118	604.00	4.60	52.798
	83119	810.00	4.60	52.746
	83120	1208.00	4.60	52.660
MAY	83121	1208.00	5.00	52.575
	83122	795.00	5.00	52.526
	83123	604.00	4.50	52.493
	83124	604.00	4.00	52.461
	83125	607.00	4.50	52.429
	83126	873.00	5.00	52.375
	83127	1081.00	5.00	52.305
	83128	861.00	5.00	52.253
	83129	1081.00	5.10	52.183
	83130	1116.00	5.30	52.111
	83131	1111.00	5.40	52.040
	83132	1107.00	5.00	51.969
	83133	1132.00	5.00	51.898
	83134	1108.00	5.00	51.829
	83135	916.00	5.20	51.776
	83136	1097.00	5.80	51.709
	83137	1086.00	5.20	51.644
	83138	1088.00	5.20	51.584
	83139	1077.00	5.80	51.526
	83140	1091.00	5.60	51.469
	83141	1058.00	5.80	51.420
	83142	1055.00	5.60	51.373
	83143	1109.00	5.00	51.318
	83144	1113.00	5.60	51.274
	83145	1123.00	5.60	51.225
	83146	1117.00	5.70	51.190
	83147	1109.00	6.50	51.165
	83148	1081.00	6.60	51.151
	83149	1023.00	6.60	51.165
	83150	1066.00	7.00	51.185
	83151	1114.00	7.50	51.222

NOTE:

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	DATE	OUTFLOW 1000 m³/day	TEMP. °C	LAKE LEVEL meters
JUNE	83152	1100.00	7.50	51.222
	83153	1106.00	6.80	51.215
	83154	1094.00	5.80	51.201
	83155	1028.00	5.70	51.182
	83156	1068.00	6.00	51.157
	83157	1106.00	6.20	51.136
	83158	1102.00	6.40	51.118
	83159	1108.00	6.80	51.103
	83160	1111.00	7.20	51.086
	83161	1109.00	7.20	51.066
	83162	1055.00	8.20	51.053
	83163	1082.00	8.40	51.036
	83164	1097.00	9.50	51.019
	83165	1082.00	9.80	51.008
	83166	1090.00	9.80	50.998
	83167	1085.00	8.60	50.990
	83168	1119.00	8.00	50.983
	83169	1149.00	8.70	50.989
	83170	1117.00	10.60	51.016
	83171	1176.00	9.70	51.059
	83172	1117.00	9.50	51.103
	83173	1113.00	9.50	51.153
	83174	975.00	11.00	51.236
	83175	1093.00	12.50	51.310
	83176	1137.00	11.70	51.382
	83177	1123.00	11.20	51.457
	83178	1144.00	10.80	51.539
	83179	1166.00	11.70	51.620
	83180	1155.00	12.50	51.688
	83181	1149.00	10.20	51.757
JULY	83182	1135.00	11.00	51.847
	83183	1126.00	10.80	51.936
	83184	1121.00	11.20	52.033
	83185	1117.00	11.30	52.152
	83186	1139.00	11.80	52.277
	83187	1124.00	11.80	52.398
	83188	1116.00	12.20	52.509
	83189	1153.00	11.50	52.616
	83190	1093.00	12.80	52.711
	83191	1105.00	12.80	52.786
	83192	1118.00	11.20	52.849
	83193	1115.00	10.80	52.910
	83194	1139.00	11.50	52.977
	83195	1096.00	11.80	53.064
	83196	859.00	12.00	53.176
	83197	607.00	10.70	53.323
	83198	607.00	10.70	53.468
	83199	723.00	10.80	53.588
	83200	807.00	11.30	53.705
	83201	731.00	11.70	53.832
	83202	709.00	11.30	53.958
	83203	833.00	10.80	54.082
	83204	794.00	10.70	54.260
	83205	791.00	11.20	54.416
	83206	709.00	10.30	54.553
	83207	709.00	10.20	54.674
	83208	741.00	11.00	54.791
	83209	709.00	10.70	54.927
	83210	709.00	11.00	55.072
	83211	755.00	10.80	55.195
	83212	704.00	10.30	55.314

NOTE:

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AUGUST

DATE	OUTFLOW 1000 m³/day	TEMP. °C	LAKE LEVEL meters
83213	704.00	11.00	55.450
83214	542.00	11.00	55.609
83215	438.00	11.00	55.796
83216	485.00	11.00	55.998
83217	407.00	10.00	56.225
83218	283.00	10.00	56.444
83219	312.00	13.00	56.662
83220	819.00	14.00	57.042
83221	442.00	10.00	57.344
83222	199.00	10.00	57.611
83223	134.00	10.00	57.829
83224	173.00	10.00	58.017
83225	132.00	10.00	58.187
83226	132.00	10.00	58.323
83227	371.00	10.00	58.418
83228	286.00	10.00	58.505
83229	182.00	10.00	58.563
83230	169.00	10.00	58.640
83231	222.00	10.00	58.783
83232	132.00	10.00	58.886
83233	132.00	12.00	58.999
83234	132.00	9.00	59.106
83235	173.00	10.00	59.216
83236	284.00	10.00	59.315
83237	132.00	10.00	59.422
83238	311.00	10.00	59.505
83239	243.00	10.00	59.598
83240	249.00	10.00	59.695
83241	338.00	10.00	59.789
83242	132.00	9.00	59.903
83243	285.00	10.00	59.996

SEPTEMBER

83244	132.00	9.00	60.091
83245	132.00	10.00	60.186
83246	132.00	10.00	60.274
83247	132.00	9.00	60.351
83248	132.00	10.00	60.419
83249	146.00	9.00	60.477
83250	130.00	9.00	60.524
83251	211.00	10.00	60.565
83252	130.00	9.00	60.611
83253	130.00	9.00	60.656
83254	130.00	9.00	60.698
83255	130.00	9.00	60.736
83256	130.00	9.00	60.776
83257	130.00	10.00	60.812
83258	130.00	8.00	60.843
83259	130.00	9.00	60.871
83260	130.00	9.00	60.898
83261	130.00	9.00	60.923
83262	134.00	9.00	60.948
83263	130.00	9.00	60.993
83264	130.00	9.00	61.050
83265	130.00	8.00	61.105
83266	130.00	9.00	61.154
83267	226.00	9.00	61.202
83268	274.00	9.00	61.245
83269	274.00	9.00	61.285
83270	274.00	9.00	61.321
83271	274.00	9.00	61.356
83272	274.00	9.00	61.402
83273	274.00	8.00	61.500

NOTE:

1. Outflow is flow through Eklutna power plant reported by the Alaska Power Administration.

2. Lake level is height of lake surface above the minimum lake bottom elevation. Lake level of 50.3 meters equals 825 feet above mean sea level.

	DATE	OUTFLOW 1000 m^3/day	TEMP. °C	LAKE LEVEL meters
OCTOBER	83274	274.00	8.00	61.536
	83275	274.00	8.00	61.565
	83276	274.00	8.00	61.587
	83277	274.00	8.00	61.603
	83278	274.00	7.00	61.616
	83279	274.00	7.00	61.627
	83280	274.00	7.00	61.638
	83281	353.00	7.00	61.642
	83282	274.00	7.00	61.652
	83283	274.00	7.00	61.702
	83284	274.00	7.00	61.726
	83285	274.00	8.00	61.748
	83286	274.00	7.00	61.767
	83287	274.00	7.00	61.783
	83288	274.00	7.00	61.797
	83289	274.00	7.00	61.807
	83290	274.00	7.00	61.816
	83291	340.00	7.00	61.819
	83292	274.00	6.00	61.826
	83293	274.00	6.00	61.834
	83294	274.00	6.00	61.841
	83295	274.00	7.00	61.846
	83296	274.00	7.00	61.852
	83297	274.00	7.00	61.857
	83298	274.00	7.00	61.862
	83299	370.00	7.00	61.859
	83300	366.00	6.00	61.856
	83301	308.00	6.00	61.857
	83302	308.00	6.00	61.858
	83303	308.00	6.00	61.858
	83304	308.00	6.00	61.858
NOVEMBER	83305	308.00	5.00	61.800
	83306	308.00	6.00	61.800
	83307	308.00	6.00	61.800
	83308	308.00	6.00	61.800
	83309	337.00	6.00	61.800
	83310	308.00	6.00	61.800
	83311	308.00	6.00	61.800
	83312	207.00	6.00	61.800
	83311	308.00	6.00	61.800
	83312	207.00	6.00	61.800
	83313	286.00	6.00	61.800
	83314	274.00	6.00	61.800
	83315	274.00	6.00	61.800
	83316	274.00	5.00	61.800
	83317	276.00	5.00	61.800
	83318	274.00	5.00	61.900
	83319	274.00	5.00	61.900
	83320	356.00	5.00	61.900
	83321	410.00	5.00	61.900
	83322	412.00	5.00	61.900
	83323	303.00	5.00	61.900
	83324	422.00	5.00	61.900
	83325	432.00	5.00	61.800
	83326	413.00	4.00	61.800
	83327	413.00	5.00	61.800
	83328	403.00	5.00	61.800
	83329	409.00	4.00	61.800
	83330	415.00	4.00	61.800
	83331	417.00	4.00	61.800
	83332	416.00	4.00	61.800
	83333	403.00	4.00	61.800
	83334	398.00	4.00	61.800

NOTE:

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DECEMBER

DATE	OUTFLOW 1000 m³/day	TEMP. °C	LAKE LEVEL meters
83335	549.00	4.00	61.600
83336	393.00	4.00	61.600
83337	413.00	4.00	61.600
83338	337.00	4.00	61.600
83339	308.00	4.00	61.500
83340	350.00	4.00	61.600
83341	395.00	4.00	61.500
83342	423.00	4.00	61.500
83343	393.00	4.00	61.500
83344	326.00	4.00	61.500
83345	440.00	4.00	61.500
83346	412.00	4.00	61.500
83347	417.00	4.00	61.400
83348	650.00	4.00	61.400
83349	727.00	4.00	61.400
83350	308.00	4.00	61.300
83351	308.00	4.00	61.300
83352	308.00	4.00	61.300
83353	591.00	4.00	61.300
83354	774.00	4.00	61.300
83355	816.00	4.00	61.200
83356	796.00	4.00	61.200
83357	813.00	4.00	61.100
83358	790.00	4.00	61.100
83359	621.00	4.00	61.000
83360	621.00	4.00	61.000
83361	803.00	4.00	61.000
83362	806.00	4.00	61.000
83363	681.00	4.00	61.000
83364	648.00	4.00	60.900
83365	677.00	4.00	60.900

JANUARY

84001	657.00	4.00	60.900
84002	448.00	4.00	60.900
84003	553.00	4.00	60.700
84004	799.00	4.00	60.600
84005	759.00	4.00	60.600
84006	879.00	4.00	60.500
84007	971.00	4.00	60.500
84008	938.00	4.00	60.400
84009	1010.00	4.00	60.300
84010	1008.00	4.00	60.300
84011	986.00	4.00	60.200
84012	938.00	4.00	60.200
84013	848.00	4.00	60.100
84014	836.00	4.00	60.100
84015	833.00	4.00	60.000
84016	897.00	4.00	60.000
84017	920.00	4.00	59.900
84018	914.00	4.00	59.800
84019	947.00	4.00	59.800
84020	1070.00	4.00	59.700
84021	1050.00	4.00	59.600
84022	1061.00	4.00	59.600
84023	1097.00	4.00	59.500
84024	1139.00	4.00	59.300
84025	1152.00	4.00	59.300
84026	1111.00	4.00	59.200
84027	1096.00	4.00	59.100
84028	1065.00	4.00	59.100
84029	1029.00	4.00	59.000
84030	1076.00	4.00	58.900
84031	1074.00	4.00	58.900

NOTE:

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FEBRUARY

DATE	OUTFLOW 1000 m³/day	TEMP. °C	LAKE LEVEL meters
84032	1124.00	4.00	58.800
84033	1161.00	4.00	58.700
84034	1161.00	4.00	58.600
84035	1136.00	4.00	58.500
84036	1074.00	4.00	58.500
84037	1101.00	4.00	58.400
84038	1152.00	4.00	58.300
84039	1189.00	4.00	58.200
84040	1189.00	4.00	58.100
84041	1189.00	4.00	58.000
84042	1120.00	4.00	58.000
84043	1086.00	4.00	57.900
84044	1095.00	4.00	57.800
84045	1098.00	4.00	57.700
84046	1096.00	4.00	57.600
84047	1068.00	4.00	57.600
84048	1077.00	4.00	57.500
84049	1074.00	4.00	57.400
84050	1071.00	4.00	57.300
84051	1108.00	4.00	57.300
84052	1095.00	4.00	57.200
84053	1085.00	4.00	57.100
84054	839.00	4.00	57.000
84055	839.00	4.00	57.000
84056	843.00	4.00	56.900
84057	839.00	4.00	56.900
84058	994.00	4.00	56.800
84059	799.00	4.00	56.700
84060	1026.00	4.00	56.700

MARCH

84061	1026.00	4.00	56.600
84062	1074.00	4.00	56.500
84063	839.00	4.00	56.400
84064	839.00	4.00	56.300
84065	1063.00	4.00	56.300
84066	1038.00	4.00	56.200
84067	1057.00	4.00	56.100
84068	1068.00	4.00	56.000
84069	1077.00	4.00	56.000
84070	1093.00	4.00	55.900
84071	1061.00	4.00	55.800
84072	1075.00	4.00	55.700
84073	1085.00	4.00	55.700
84074	1103.00	4.00	55.600
84075	1112.00	4.00	55.500
84076	1124.00	4.00	55.400
84077	1130.00	4.00	55.300
84078	1111.00	4.00	55.200
84079	1134.00	4.00	55.100
84080	1153.00	4.00	55.100
84081	1165.00	4.00	55.100
84082	1163.00	4.00	55.100
84083	1272.00	4.00	54.800
84084	1282.00	4.00	54.800
84085	1282.00	4.00	54.800
84086	1282.00	4.00	54.800
84087	1282.00	4.00	54.800
84088	1282.00	4.00	54.800
84089	1282.00	4.00	54.800
84090	1282.00	4.00	54.100
84091	1282.00	4.00	54.100

NOTE:

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	DATE	OUTFLOW 1000 m³/day	TEMP. °C	LAKE LEVEL meters
APRIL	84092	1282.00	4.00	54.100
	84093	1282.00	4.00	54.100
	84094	1282.00	4.00	54.100
	84095	1282.00	4.00	54.100
	84096	1282.00	4.00	54.100
	84097	1282.00	4.00	53.400
	84098	1287.00	4.00	53.400
	84099	1287.00	4.00	53.400
	84100	1287.00	4.00	53.400
	84101	1281.00	4.00	53.400
	84102	1109.00	4.00	53.400
	84103	1124.00	4.00	53.400
	84104	1111.00	4.00	52.700
	84105	1093.00	4.00	52.700
	84106	1089.00	4.00	52.700
	84107	1125.00	4.50	52.700
	84108	1105.00	4.50	52.700
	84109	1131.00	4.50	52.700
	84110	1197.00	4.50	52.700
	84111	1162.00	4.50	52.100
	84112	1100.00	4.00	52.100
	84113	1148.00	4.00	52.100
	84114	1118.00	4.50	52.100
	84115	1114.00	4.50	52.100
	84116	997.00	4.50	52.100
	84117	851.00	4.50	52.100
	84118	851.00	5.00	52.100
	84119	851.00	5.00	52.100
	84120	816.00	5.00	52.100
	84121	708.00	5.00	52.100
MAY	84122	643.00	5.50	52.100
	84123	643.00	5.50	52.100
	84124	628.00	5.50	52.100
	84125	733.00	5.50	52.100
	84126	851.00	5.50	52.100
	84127	851.00	5.50	52.100
	84128	708.00	5.50	52.100
	84129	643.00	6.00	52.100
	84130	643.00	6.00	52.100
	84131	643.00	6.00	52.100
	84132	643.00	5.00	52.100
	84133	830.00	5.00	52.100
	84134	854.00	5.00	52.100
	84135	1107.00	5.00	52.100
	84136	1113.00	6.00	50.600
	84137	1108.00	7.00	50.600
	84138	1111.00	7.00	50.600
	84139	981.00	8.00	50.600
	84140	592.00	8.00	50.600
	84141	465.00	8.00	50.600
	84142	901.00	7.00	50.600
	84143	992.00	7.00	50.600
	84144	891.00	7.00	50.600
	84145	820.00	7.00	50.600
	84146	758.00	6.50	50.200
	84147	844.00	6.00	50.200
	84148	565.00	6.50	50.200
	84149	603.00	7.00	50.200
	84150	1006.00	7.00	50.200
	84151	1192.00	7.50	50.200
	84152	926.00	8.00	50.200

NOTE:

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	DATE	OUTFLOW 1000 m³/day	TEMP. °C	LAKE LEVEL meters
JUNE	84153	925.00	7.00	50.100
	84154	710.00	8.00	50.100
	84155	860.00	8.50	50.100
	84156	922.00	8.50	50.100
	84157	852.00	10.00	50.100
	84158	945.00	8.50	50.100
	84159	896.00	8.50	50.100
	84160	967.00	8.50	49.600
	84161	954.00	9.00	49.600
	84162	942.00	9.00	49.600
	84163	1009.00	9.50	49.600
	84164	998.00	10.50	49.600
	84165	1231.00	12.00	49.600
	84166	1228.00	11.50	49.600
	84167	1185.00	12.00	49.700
	84168	1131.00	10.00	49.700
	84169	1106.00	10.50	49.700
	84170	1146.00	10.50	49.700
	84171	1135.00	11.00	49.700
	84172	1122.00	11.00	49.700
	84173	1084.00	11.00	49.700
	84174	1061.00	12.00	49.700
	84175	1021.00	12.50	49.700
	84176	1027.00	13.50	49.700
	84177	381.00	13.50	49.700
	84178	400.00	13.50	49.700
	84179	410.00	13.50	49.700
	84180	420.00	13.50	49.700
	84181	454.00	14.00	50.700
	84182	937.00	13.00	50.700
JULY	84183	1044.00	11.00	50.700
	84184	1097.00	12.00	50.700
	84185	1070.00	12.00	50.700
	84186	941.00	12.00	50.700
	84187	1084.00	11.00	50.700
	84188	875.00	12.00	51.200
	84189	348.00	12.00	51.200
	84190	354.00	12.50	51.200
	84191	398.00	13.00	51.200
	84192	384.00	12.50	51.200
	84193	380.00	13.00	51.200
	84194	386.00	12.00	51.200
	84195	395.00	12.50	51.200
	84196	381.00	12.50	51.200
	84197	384.00	13.00	51.200
	84198	367.00	11.50	51.200
	84199	386.00	11.50	53.000
	84200	362.00	12.00	53.000
	84201	410.00	11.50	53.000
	84202	389.00	11.50	53.400
	84203	356.00	12.00	53.400
	84204	356.00	12.00	53.400
	84205	356.00	12.00	53.400
	84206	406.00	11.50	53.400
	84207	353.00	11.50	53.400
	84208	265.00	11.50	53.400
	84209	356.00	11.00	54.400
	84210	355.00	10.50	54.400
	84211	352.00	10.50	54.400
	84212	363.00	10.50	54.400
	84213	363.00	10.50	55.000

NOTE:

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AUGUST

DATE	OUTFLOW 1000 m³/day	TEMP. °C	LAKE LEVEL meters
84214	355.00	11.00	55.000
84215	355.00	10.50	55.000
84216	332.00	11.00	55.000
84217	449.00	11.00	55.000
84218	363.00	10.50	55.000
84219	370.00	10.50	55.000
84220	361.00	10.00	56.400
84221	368.00	10.00	56.400
84222	343.00	10.00	56.400
84223	353.00	9.00	56.400
84224	365.00	9.50	56.400
84225	372.00	9.00	56.400
84226	350.00	9.00	56.400
84227	351.00	9.50	56.400
84228	360.00	10.00	56.400
84229	343.00	9.50	56.400
84230	253.00	9.50	57.800
84231	349.00	10.00	57.800
84232	350.00	9.50	57.800
84233	350.00	9.50	57.800
84234	352.00	10.50	57.800
84235	385.00	11.50	57.800
84236	362.00	8.50	57.800
84237	348.00	10.50	57.800
84238	368.00	10.50	57.800
84239	373.00	9.50	57.800
84240	353.00	9.50	57.800
84241	359.00	10.00	57.800
84242	348.00	10.00	57.800
84243	364.00	9.50	57.800
84244	379.00	9.50	60.300

SEPTEMBER

84245	362.00	9.00	60.300
84246	341.00	10.00	60.300
84247	353.00	9.00	60.300
84248	368.00	9.50	60.300
84249	384.00	10.00	60.300
84250	347.00	9.50	60.300
84251	346.00	10.00	60.600
84252	347.00	10.00	60.600
84253	349.00	9.50	60.600
84254	349.00	9.00	60.600
84255	396.00	9.00	60.600
84256	346.00	9.00	60.600
84257	349.00	9.50	60.600
84258	347.00	9.50	60.800
84259	393.00	9.00	60.800
84260	363.00	9.00	60.800
84261	393.00	9.00	60.800
84262	391.00	9.00	60.800
84263	406.00	9.00	60.800
84264	413.00	9.00	60.800
84265	416.00	9.50	61.100
84266	349.00	10.00	61.100
84267	344.00	9.50	61.100
84268	377.00	9.00	61.100
84269	413.00	9.00	61.100
84270	378.00	8.50	61.100
84271	430.00	8.50	61.100
84272	369.00	9.00	61.200
84273	384.00	9.00	61.200
84274	341.00	9.00	61.200

NOTE:

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	DATE	OUTFLOW 1000 m³/day	TEMP. °C	LAKE LEVEL meters
OCTOBER	84275	462.00	9.00	61.200
	84276	436.00	9.00	61.600
	84277	479.00	9.00	61.600
	84278	562.00	9.50	61.600
	84279	468.00	8.50	61.600
	84280	356.00	9.00	61.600
	84281	395.00	8.00	61.600
	84282	440.00	8.00	61.600
	84283	381.00	8.00	61.600
	84284	384.00	8.00	61.600
	84285	386.00	8.00	61.600
	84286	382.00	8.00	61.800
	84287	351.00	8.00	61.800
	84288	355.00	8.00	61.800
	84289	404.00	8.00	61.800
	84290	393.00	8.00	61.800
	84291	423.00	8.00	61.800
	84292	440.00	7.00	61.800
	84293	516.00	8.00	61.800
	84294	420.00	7.50	61.800
	84295	605.00	7.00	61.800
	84296	401.00	7.00	61.800
	84297	763.00	7.50	61.800
	84298	747.00	6.50	61.800
	84299	807.00	6.00	61.800
	84300	862.00	6.00	61.700
	84301	856.00	6.00	61.700
	84302	853.00	6.00	61.700
	84303	919.00	6.00	61.700
	84304	877.00	6.00	61.700
	84305	900.00	6.00	61.700
NOVEMBER	84306	893.00	6.00	61.700
	84307	875.00	6.00	61.400
	84308	817.00	6.00	61.400
	84309	794.00	6.00	61.400
	84310	845.00	6.00	61.400
	84311	818.00	6.00	61.400
	84312	854.00	6.00	61.400
	84313	862.00	5.50	61.400
	84314	845.00	5.50	61.000
	84315	819.00	5.00	61.000
	84316	815.00	5.00	61.000
	84317	876.00	4.50	61.000
	84318	876.00	4.50	61.000
	84319	699.00	4.50	61.000
	84320	1086.00	4.00	61.000
	84321	892.00	4.00	60.600
	84322	866.00	4.00	60.600
	84323	939.00	4.00	60.600
	84324	871.00	4.00	60.600
	84325	783.00	4.00	60.600
	84326	743.00	4.00	60.600
	84327	678.00	4.00	60.600
	84328	720.00	4.00	60.600
	84329	664.00	4.00	60.600
	84330	681.00	4.00	60.600
	84331	790.00	4.00	60.600
	84332	884.00	4.00	60.600
	84333	893.00	4.00	60.600
	84334	881.00	4.00	60.600
	84335	862.00	4.00	60.600

NOTE:

1. Outflow is flow through Eklutna power plant reported by the Alaska Power Administration.

2. Lake level is height of lake surface above the minimum lake bottom elevation. Lake level of 50.3 meters equals 825 feet above mean sea level.

APPENDIX N.6

INFLOW SEDIMENT DATA

APPENDIX N.6

PREDICTION OF TSS FROM MEAN DAILY DISCHARGE

NOTE: 1) Values of TSS for Glacier Fork are calculated using the equation:

$$TSS_{GF} = 1.1424 Q_{GF}^{0.8947}$$

$$R^2 = 0.90$$

where TSS_{GF}= Total Suspended Solids (mg/l) at Glacier Fork, and Q_{GF}= Mean Daily Discharge (cfs) at Glacier Fork.

This equation was developed using data from 5/18/84 through 9/28/84. Data points from 5/18, 6/8, and 6/19 were excluded since they differed significantly from the values used in the analysis.

2) Values of TSS for East Fork are calculated using the equation:

$$TSS_{EF} = 3.2932E^{-5} Q_{EF}^{2.4753}$$

$$R^2 = 0.89$$

where TSS_{EF}= Total Suspended Solids (mg/l) at East Fork, and Q_{EF}= Mean Daily Discharge (cfs) at East Fork.

This equation was developed using data from 5/18/84 through 10/30/84. Data points from 6/26 and 10/30 were excluded from the analysis.

3) Data from the following dates were included in the analysis for East Fork, but not for Glacier Fork:

10/2, 10/5 10/9, 10/12, 10/16, 10/19, 10/23, 10/26, 10/30.

TSS PREDICTION FROM MEAN DAILY Q 10/17/84 85

KLUTNA RIVER MAY '84 CK WSP 12/7/84 REVISED 12/6/84 85

DATE	Q_{EF} (cfs)	TSS_{EF} (mg/l)	Q_{GF} (cfs)	TSS_{GF} (mg/l	Q_T (cfs)	TSS_T (mg/l)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18	83	1.9				
19	87 ✓	2.1 ✓	15 ✓	12.9 ✓	102 ✓	4 ✓
20	92	2.4	20	16.7	112	5
21	94	2.5	25	20.4	119	6
22	94	2.5	20	16.7	114	5
23	87	2.1	15	12.9	102	4
24	94	2.5	19	15.9	113	5
25	96	2.7	15	12.9	111	4
26	92	2.4	16	13.7	108	4
27	89	2.2	15	12.9	104	4
28	99 ✓	2.2 ✓	14 ✓	12.1 ✓	103 ✓	4 ✓
29	92	2.4	14	12.1	106	4
30	89	2.2	16	13.7	105	4
31	81	1.7	15	12.9	96	4

Q_{EF} = MEAN DAILY DISCHARGE AT EAST FORK

Q_{GF} = " " " " GLACIER FORK

Q_T = TOTAL FLOW ($Q_{EF} + Q_{GF}$)

TSS_{EF} = TOTAL SUSPENDED SOLIDS AT EAST FORK

TSS_{GF} = " " " " GLACIER FORK

TSS_T = WEIGHTED TOTAL TSS ($TSS_T = \frac{(Q_{EF})(TSS_{EF}) + (Q_{GF})(TSS_{GF})}{2}$)

TSS PREDICTION FROM MEAN DAILY Q

KLUTINA RIVER — JUNE '84 — ck w/SA 12/7/04 — 12/15/84 REVISED 12/6/04 CS

DATE	Q_{EF} (c.f.s)	TSS_{EF} (mg/l)	Q_{GF} (cfs)	TSS_{GF} (mg/l)	Q_T (cfs)	TSS_T (mg/l)
1	87	2.1	17	14.4	104	4
2	103	3.2	23	18.9	126	6
3	125	5.1	32	25.4	157	9
4	143	7.1	44	33.7	187	13
5	162	9.7	58	43.2	220	18
6	191 ✓	14.6 ✓	93 ✓	65.9 ✓	284 ✓	31 ✓
7	172	11.2	93	65.9	265	30
8	165	10.2	102	71.6	267	34
9	183	13.1	97	68.5	280	32
10	187	13.8	97	68.5	284	32
11	183	13.1	103	72.2	286	34
12	187	13.8	118	81.6	305	40
13	203	17.0	134	91.4	337	47
14	195	15.4	118	81.6	313	40
15	179	12.4	111	77.2	290	37
16	183	13.1	106	74.1	289	36
17	195	15.4	116	80.3	311	40
18	228	22.6	140	95.1	368	50
19	261	31.6	194	127.3	455	72
20	310	48.4	272	172.2	582	106
21	327 ✓	55.2 ✓	259 ✓	164.8 ✓	586 ✓	104 ✓
22	304	46.1	256	163.1	560	100
23	310	48.4	272	172.2	582	106
24	321	52.7	303	189.7	624	119
25	365	72.5	314	195.8	679	130
26	346	63.5	252	160.8	598	104
27	282	38.3	310	193.6	592	120
28	251	28.7	306	191.3	557	118
29	310	48.4	356	219.1	666	140
30	293	42.1	348	220.2	641	140
31						

Q_{EF} = MEAN DAILY DISCHARGE AT EAST FORK
Q_{GF} = " " " GLACIER FORK
Q_T = TOTAL FLOW ($Q_{EF} + Q_{GF}$)
TSS_{EF} = TOTAL SUSPENDED SOLIDS AT EAST FORK
TSS_{GF} = " " " " GLACIER FORK
TSS_T = WEIGHTED TOTAL TSS ($TSS_T = \frac{(Q_{EF})(TSS_{EF}) + (Q_{GF})(TSS_{GF})}{Q_T}$)

TSS PREDICTION FROM MEAN DAILY Q

EKLUTNA RIVER ~~CATE~~ JULY '84

10/19/84
REVISED 12/6/84 BS
ck WSPP 12/7/84

DATE	Q_{EF} (cfs)	TSS_{EF} (mg/l)	Q_{GF} (cfs)	TSS_{GF} (mg/l)	Q_T (cfs)	TSS_T (mg/l)
1	277	36.6	329	204.2	606	128
2	247	27.6	329	204.2	576	128
3	228	22.6	356	219.1	584	142
4	266	33.1	465	278.2	731	189
5	414	99.0	545	320.7	959	225
6	519	173.2	597	347.9	1116	267
7	583	230.9	597	347.9	1180	290
8	527	179.9	573	335.4	1100	261
9	510	165.8	579	338.5	1089	258
10	460	128.5	603	351.0	1063	255
11	414 ✓	99.0 ✓	579 ✓	338.5 ✓	993 ✓	239 ✓
12	379	79.5	495	294.2	874	201
13	359	69.5	480	286.2	839	194
14	340	60.8	450	270.2	790	180
15	327	55.2	436	262.6	763	174
16	340	60.8	436	262.6	776	174
17	321	52.7	417	252.4	738	166
18	316	50.7	399	242.6	715	158
19	310	48.4	408	247.5	718	162
20	304	46.1	431	259.9	735	172
21	372	75.9	511	302.7	883	207
22	429	108.1	556	326.5	985	231
23	444	117.7	585	341.7	1029	245
24	444	117.7	591	344.8	1035	247
25	414	99.0	573	335.4	987	236
26	379	79.5	533	314.4	912	217
27	379	79.5	533	314.4	912	217
28	386	83.2	533	314.4	919	217
29	386	83.2	539	317.5	925	220
30	386	83.2	556	326.5	942	227
31	400 ✓	90.9 ✓	550 ✓	323.3 ✓	950 ✓	225 ✓

Q_{EF} = MEAN DAILY DISCHARGE AT EAST FORK

Q_{GF} = " " " GLACIER FORK

Q_T = TOTAL FLOW ($Q_{EF} + Q_{GF}$)

TSS_{EF} = TOTAL SUSPENDED SOLIDS AT EAST FORK

TSS_{GF} = " " " " GLACIER FORK

TSS_T = WEIGHTED TOTAL TSS $\left(TSS_T = \frac{(Q_{EF})(TSS_{EF}) + (Q_{GF})(TSS_{GF})}{Q_T}\right)$

TSS REDUCTION FROM MEAN DAILY Q

LS 10/19/84 REVISED 12/6/84 LS

EKLUTNA RIVER ~~LAKE~~ AUG '84 WSEIM

DATE	Q_{EF} (cfs)	TSS_{EF} (mg/l)	Q_{GF} (cfs)	TSS_{GF} (mg/l)	Q_T (cfs)	TSS_T (mg/l)
1	386	83.2	545	320.7	931	222.
2	429	108.1	609	354.2	1038	252
3	476	139.8	687	394.5	1163	290
4	546	196.3	736	419.6	1282	324.
5	603 ✓	251.0 ✓	818 ✓	461.2 ✓	1421 ✓	372. ✓
6	623	272.2	757	430.3	1380	359.
7	483	144.9	772	437.9	1255	325.
8	546	196.3	772	437.9	1318	338.
9	593	240.9	802	453.1	1395	363.
10	493	152.5	694	398.1	1187	296.
11	460	128.5	634	367.2	1094	267
12	414	99	616	357.8	1030	254
13	372	75.9	573	335.4	945	233
14	365	72.5	562	329.6	927	228.
15	391	86.5	562	329.6	954	230.
16	492	151.7	622	360.9	1114	268.
17	421	103.2	609	354.2	1030	252
18	452	123.0	694	398.1	1146	290
19	818	534.0	873	488.8	1691	511
20	564 ✓	212.7 ✓	722 ✓	412.4 ✓	1286 ✓	325 ✓
21	392	86.5	597	347.9	989	244.
22	400	90.9	736	419.6	1136	304.
23	379	79.5	641	370.8	1020	263
24	519	173.2	707	404.8	1226	307.
25	623	272.2	873	488.8	1496	399.
26	400	90.9	622	360.9	1022	255.
27	271	34.7	450	270.2	721	182
28	219	20.5	381	232.8	600	155
29	195	15.4	310	193.6	505	125
30	165	10.2	259	164.8	424	105
31	152	8.3	217	140.7	369	86.

Q_{EF} = MEAN DAILY DISCHARGE AT EAST FORK

Q_{GF} = " " " GLACIER FORK

Q_T = TOTAL FLOW ($Q_{EF} + Q_{GF}$)

TSS_{EF} = TOTAL SUSPENDED SOLIDS AT EAST FORK

TSS_{GF} = " " " " GLACIER FORK

TSS_T = WEIGHTED TOTAL TSS ($TSS_T = \frac{(Q_{EF})(TSS_{EF}) + (Q_{GF})(TSS_{GF})}{Q_T}$)

TSS PREDICTION FROM MEAN DAILY Q

10/19/84 AS

EKLUTNA ~~RIVER~~ SEPT. '84 ck WSTA 12/7/84 REVISED 2-11-85 AS

DATE	Q_{EF} (cfs)	TSS_{EF} (mg/l)	Q_{GF} (cfs)	TSS_{GF} (mg/l)	Q_T (cfs)	TSS_T (mg/l)
1	140	6.8	194	127.3	334	77
2	134	6.1	179	118.4	313	70.
3	131	5.7	174	115.5	305	68.
4	134	6.1	161	107.7	295	62
5	134	6.1	150	101.1	284	56.
6	131	5.7	146	98.7	274	54
7	128	5.4	150	101.1	278	57
8	131	5.7	150	101.1	281	57
9	125	5.1	136	92.6	261	51
10	125 ✓	5.1 ✓	128 ✓	87.7 ✓	253 ✓	47 ✓
11	125	5.1	123	84.7	248	45
12	123	4.9	129	88.3	252	48
13	131	5.7	136	92.6	267	50
14	187	13.8	199	130.2	386	74
15	191	14.6	204	133.1	395	76
16	140	6.8	142	96.3	282	52
17	128	5.4	125	85.9	253	45
18	112	3.9	129	88.3	241	49
19	107	3.5	128	87.7	235	49
20	94	2.5	97	68.5	191	36.
21	92	2.4	79	57.0	171	20
22	89	2.2	76	55.0	165	26
23	83	1.9	71	51.8	154	25
24	80	1.7	67	49.2	147	23
25	83	1.9	69	50.5	152	24
26	81 ✓	1.7 ✓	61 ✓	45.2 ✓	142 ✓	20 ✓
27	78	1.6	57	42.5	135	19
28	83	1.9	62	45.9	145	20
29	87	2.1	342	211.4	429	169
30	340	60.8	238	152.8	578	99
31						

Q_{EF} = MEAN DAILY DISCHARGE AT EAST FORK

Q_{GF} = " " " GLACIER FORK

Q_T = TOTAL FLOW ($Q_{EF} + Q_{GF}$)

TSS_{EF} = TOTAL SUSPENDED SOLIDS AT EAST FORK

TSS_{GF} = " " " " GLACIER FORK

TSS_T = WEIGHTED TOTAL TSS $\left(TSS_T = \frac{(Q_{EF})(TSS_{EF}) + (Q_{GF})(TSS_{GF})}{Q_T}\right)$

TSS PREDICTION FROM MEAN DAILY Q

EKLUTNA RIVER

OCTOBER '84

ck WSP 12/7/84

DATE	Q_{EF} (cfs)	TSS_{EF} (mg/l)	Q_{GF} (cfs)	TSS_{GF} (mg/l)	Q_T (cfs)	TSS_T (mg/l)
1	266	33.1	204	133.1	470	76
2	183	13.1	144	97.5	327	50
3	146	7.5	110	76.6	256	37
4	128	5.4	94	66.6	222	31
5	120	4.6	85	60.8	205	28
6	117	4.3	83	59.5	200	27
7	112	3.9	71	51.8	183	22
8	115	4.2	66	48.5	181	20
9	103	3.2	54	40.5	157	16
10	94	2.5	45	34.4	139	13
11	89	2.2	41	31.7	130	12
12	85	2.0	38	29.6	123	10
13	80	1.7	34	26.8	114	9
14	76	1.5	32	25.4	108	9
15	72	1.3	30 e	24.0	102	8
16	71	1.3	28 e	22.5	99	7
17	67	1.1	27 e	21.8	94	7
18	66	1.1	26 e	21.1	92	7
19	66	1.1	24 e	19.6	90	6
20	64	1.0	24 e	19.6	88	6
21	64	1.0	23 e	18.9	87	6
22	80	1.7	33 e	26.1	113	9
23	74	1.4	28 e	22.5	102	7
24	66	1.1	25 e	20.4	91	6
25	59	0.8	25 e	20.4	84	7
26	55	0.7	25 e	20.4	80	7
27	54	0.6	24 e	19.6	78	6
28	50	0.5	22 e	18.2	72	6
29	47	0.4	21 e	17.4	68	6
30	45	0.4	20 e	16.7	65	5
31	42	0.3	20 e	16.7	62	6

Q_{EF} = MEAN DAILY DISCHARGE AT EAST FORK

Q_{GF} = " " " GLACIER FORK

ESTIMATED Q_T = TOTAL FLOW ($Q_{EF} + Q_{GF}$)

TSS_{EF} = TOTAL SUSPENDED SOLIDS AT EAST FORK

TSS_{GF} = " " " " GLACIER FORK

TSS_T = WEIGHTED TOTAL TSS $\left(TSS_T = \frac{(Q_{EF})(TSS_{EF}) - (Q_{GF})(TSS_{GF})}{Q_T}\right)$

EKLUTNA SEDIMENT INFLOW

1/24/85 ZKE

NOVEMBER 1984

DATE	ISEQ	FLOWINF (1000 m^3/day)	TSS (mg/ℓ)	"SEDINF" (1000 kg/day)
1	84306	149 E	5 E	0.745 E
2	84307	146	5	0.730
3	84308	143	5	0.715
4	84309	140	5	0.700
5	84310	137	5	0.685
6	84311	134	5	0.670
7	84312	131	5	0.655
8	84313	128	5	0.640
9	84314	125	5	0.625
10	84315	122	5	0.610
11	84316	119	5	0.595
12	84317	116	5	0.580
13	84318	114	5	0.570
14	84319	112	5	0.560
15	84320	110	5	0.550
16	84321	108	3	0.324
17	84322	107	3	0.321
18	84323	106	3	0.318
19	84324	105	3	0.315
20	84325	104	3	0.312
21	84326	103	3	0.309
22	84327	102	3	0.306
23	84328	101	3	0.303
24	84329	100	3	0.300
25	84330	100	3	0.300
26	84331	100	3	0.300
27	84332	99	3	0.297
28	84333	99	3	0.297
29	84334	99	3	0.297
30	84335	98	3	0.294
31				

NOTES: (1) All values are estimates.
(2) FLOWINF = $Q_{EF} + Q_{GF}$.

EKLUTNA SEDIMENT INFLOW

1/24/85 GRZ

DECEMBER 1984

DATE	ISEQ	FLOWINF (1000 m^3/day)	TSS (mg/ℓ)	"SEDINF" (1000 kg/day)
1	84336	98 E	2 E	0.196 E
2	84337	97	2	0.194
3	84338	97	2	0.194
4	84339	97	2	0.194
5	84340	96	2	0.192
6	84341	96	2	0.192
7	84342	96	2	0.192
8	84343	96	2	0.192
9	84344	96	2	0.192
10	84345	96	2	0.192
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

NOTES: (1) All values are estimates.

(2) FLOWINF = $Q_{EF} + Q_{GF}$.

APPENDIX O

APPENDIX O

SEDIMENT ANALYSES BY PARTICLE DATA LABORATORIES, LTD

APPENDIX O

Sediment Analyses by Particle Data Laboratories, Inc.

Following are results of analyses by Particle Data Laboratories, Ltd. (PDL), of suspended-sediment samples collected in Eklutna Lake, the lake inflow streams, and the lake outflow. The samples and included analyses are described in the following table.

The data are arranged in this appendix in the order in which they are listed in the table, generally in chronological order. The PDL correspondence is included for reference and for discussion of the mineralogic characteristics of the sediment that were identified. R&M letters of August 14, 1984 and October 26, 1984, which transmitted the 1984 samples and requested the analyses, are also enclosed.

TABLE O.1

PDL ANALYSES ON EKLUTNA LAKE SUSPENDED-SEDIMENT SAMPLES (1983-1984)

Sampling Date	Location	Analysis(1) PSD	SEM	OM	MC	MS	TSS
1/13/83	Sta. 5, 32m	X		X	X	X	X
1/13/83	Sta. 5, 48m	X				X	X
1/13/83	Sta. 9, 32m	X		X	X	X	X
1/13/83	Sta. 9, 48m	X				X	X
1/11/83	Sta. 11, 16m	X				X	X
1/11/83	Sta. 11, 28m	X		X	X	X	X
7/20/84	East Fork	X	X		X		
7/20/84	Glacier Fork	X	X		X		
7/21/84	Tailrace	X	X		X		
8/28/84	East Fork	X					
8/28/84	Glacier Fork	X					
8/28/84	Tailrace	X					
10/23/84	East Fork	X					
10/23/84	Glacier Fork	X					
10/23/84	Tailrace	X					

(1) Abbreviations for analyses:

PSD: particle-size distribution, by volume and by count

SEM: scanning electron micrograph(s) of particles, various magnifications

OM: optical microphotograph(s) of particles, various magnifications

MC: mineral characterization of particles

MS: median particle size, by volume (mass) and by count

TSS: total suspended-solids concentration

PARTICLE DATA LABORATORIES, LTD.

115 Hahn Street • Elmhurst, Illinois 60126 • (312) 832-5658

March 10, 1983

R & M Consultants, Inc.
Box 6087
Anchorage, AK 99502

Attention Mr. Brett Jokela

Subject: Particle Size and Gravimetric Suspended Solids Concentration Analysis of Six Lake Samples

PDL Project: I-7137

Dear Mr. Jokela:

The six Eklutna Lake water samples submitted for particle size and gravimetric suspended solids concentration analysis has been completed. The results are summarized in the following table. The Elzone particle size analysis and the photographs as requested are enclosed.

CONCENTRATION AND PARTICLE SIZE SUMMARY

Sample I.D.	Total Suspended Solids (mg/1)	Mass Median Size (Microns)	Count Median Size (Microns)
Eklutna Lake St. 5, 32M 01/~~15~~13/83	4.9	6.61	1.45
Eklutna Lake St. 5, 48M 01/13/83	1.3	18.00	1.45
Eklutna Lake St. 9, 32M 01/13/83	5.6	12.83	1.81
Eklutna Lake St. 9, 48M 01/13/83	5.2	19.44	1.38
Eklutna Lake St. 11, 16M 01/11/83	3.8	7.42	1.72
Eklutna Lake St. 11, 28M	17.0	5.39	1.72

A small quantity of each sample is still on hand. We will hold this for two additional weeks and then discard the contents and return the containers to you by UPS.

If there are any questions, please call us. Thank you for referring to us, and we hope we can be of further help to you in the future.

Sincerely yours,

PARTICLE DATA LABORATORIES, LTD.

Olga Kist
Technical Staff

jc

Enclosures

PARTICLE SIZE ANALYSIS BY ELZONE METHOD - PARTICLE DATA LABORATORIES,LDT.
115 HAHN STREET - ELMHURST,IL. 60126 - TELEPHONE:(312)832-5658

CLIENT: R & M CONSULTANTS 3 MAR 83 :DATE
SAMPLE: EKLUTNA LAKE ST5 32M ~~15~~ 13-1-83 7137 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 6.61 MEDIAN = 6.61 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 8.71 +/- 17.39 (199.56%) SKEWNESS = .12

ARITHMETIC VOLUME MEAN = 15.78 +/- 17.59 (111.48%) SKEWNESS = .52

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE:	00.1%	OF VOLUME IS AT	87.30	MICRONS AND LARGER
PERCENTILE:	01.0%	OF VOLUME IS AT	72.01	MICRONS AND LARGER
PERCENTILE:	06.0%	OF VOLUME IS AT	50.92	MICRONS AND LARGER
PERCENTILE:	22.0%	OF VOLUME IS AT	28.58	MICRONS AND LARGER
PERCENTILE:	50.0%	OF VOLUME IS AT	6.61	MICRONS AND LARGER
PERCENTILE:	78.0%	OF VOLUME IS AT	3.44	MICRONS AND LARGER
PERCENTILE:	94.0%	OF VOLUME IS AT	1.93	MICRONS AND LARGER
PERCENTILE:	99.0%	OF VOLUME IS AT	1.26	MICRONS AND LARGER
PERCENTILE:	99.9%	OF VOLUME IS AT	1.00	MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNT MODE = 1.36 MEDIAN = 1.45 MICRONS AND LARGER

GEOMETRIC COUNT MEAN = 1.49 +/- 1.07 (72.31%) SKEWNESS = .11

ARITHMETIC COUNT MEAN = 1.74 +/- 1.22 (70.15%) SKEWNESS = .31

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE:	00.1%	OF COUNT IS AT	9.72	MICRONS AND LARGER
PERCENTILE:	01.0%	OF COUNT IS AT	6.49	MICRONS AND LARGER
PERCENTILE:	06.0%	OF COUNT IS AT	3.64	MICRONS AND LARGER
PERCENTILE:	22.0%	OF COUNT IS AT	2.17	MICRONS AND LARGER
PERCENTILE:	50.0%	OF COUNT IS AT	1.45	MICRONS AND LARGER
PERCENTILE:	78.0%	OF COUNT IS AT	.96	MICRONS AND LARGER
PERCENTILE:	94.0%	OF COUNT IS AT	.68	MICRONS AND LARGER
PERCENTILE:	99.0%	OF COUNT IS AT	.48	MICRONS AND LARGER
PERCENTILE:	99.9%	OF COUNT IS AT	.34	MICRONS AND LARGER

PARTICLE SIZE ANALYSIS BY ELZONE METHOD - PARTICLE DATA LABORATORIES,LDT.
115 HAHN STREET - ELMHURST,IL. 60126 - TELEPHONE:(312)832-5658

CLIENT: R & M CONSULTANTS 4 MAR 83 :DATE
SAMPLE: EKLUTNA LAKE ST5 48M 13-1-83 7137 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 27.50 MEDIAN = 18.00 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 12.89 +/- 27.49 (213.22%) SKEWNESS = -.53

ARITHMETIC VOLUME MEAN = 21.42 +/- 18.45 (86.13%) SKEWNESS = -.33

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 90.73 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 74.84 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 55.00 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 34.65 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 18.00 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 3.86 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT 1.86 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT 1.26 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT 1.04 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNT MODE = 1.36 MEDIAN = 1.45 MICRONS AND LARGER

GEOMETRIC COUNT MEAN = 1.45 +/- .87 (60.41%) SKEWNESS = .09

ARITHMETIC COUNT MEAN = 1.64 +/- 1.13 (69.09%) SKEWNESS = .24

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNT IS AT 14.57 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNT IS AT 4.86 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNT IS AT 3.06 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNT IS AT 2.04 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNT IS AT 1.45 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNT IS AT 1.02 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNT IS AT .72 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNT IS AT .54 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNT IS AT .38 MICRONS AND LARGER

PARTICLE SIZE ANALYSIS BY ELZONE METHOD - PARTICLE DATA LABORATORIES,LDT.
115 HAHN STREET - ELMHURST,IL. 60126 - TELEPHONE:(312)832-5658

CLIENT: R & M CONSULTANTS - 4 MAR 83 :DATE
SAMPLE: EKLUTNA LAKE ST9 32M 13-1-83 7137 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 21.57 MEDIAN = 12.83 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 10.39 +/- 16.06 (154.61%) SKEWNESS = -.70

ARITHMETIC VOLUME MEAN = 15.04 +/- 11.58 (77.03%) SKEWNESS = -.56

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE:	00.1%	OF VOLUME	IS AT	61.02	MICRONS AND LARGER
PERCENTILE:	01.0%	OF VOLUME	IS AT	46.25	MICRONS AND LARGER
PERCENTILE:	06.0%	OF VOLUME	IS AT	35.05	MICRONS AND LARGER
PERCENTILE:	22.0%	OF VOLUME	IS AT	23.94	MICRONS AND LARGER
PERCENTILE:	50.0%	OF VOLUME	IS AT	12.83	MICRONS AND LARGER
PERCENTILE:	78.0%	OF VOLUME	IS AT	4.09	MICRONS AND LARGER
PERCENTILE:	94.0%	OF VOLUME	IS AT	2.27	MICRONS AND LARGER
PERCENTILE:	99.0%	OF VOLUME	IS AT	1.45	MICRONS AND LARGER
PERCENTILE:	99.9%	OF VOLUME	IS AT	1.06	MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNT MODE = 1.72 MEDIAN = 1.81 MICRONS AND LARGER

GEOMETRIC COUNT MEAN = 1.86 +/- 1.24 (66.71%) SKEWNESS = .11

ARITHMETIC COUNT MEAN = 2.14 +/- 1.50 (69.82%) SKEWNESS = .28

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE:	00.1%	OF COUNT	IS AT	18.50	MICRONS AND LARGER
PERCENTILE:	01.0%	OF COUNT	IS AT	6.87	MICRONS AND LARGER
PERCENTILE:	06.0%	OF COUNT	IS AT	3.99	MICRONS AND LARGER
PERCENTILE:	22.0%	OF COUNT	IS AT	2.68	MICRONS AND LARGER
PERCENTILE:	50.0%	OF COUNT	IS AT	1.81	MICRONS AND LARGER
PERCENTILE:	78.0%	OF COUNT	IS AT	1.28	MICRONS AND LARGER
PERCENTILE:	94.0%	OF COUNT	IS AT	.86	MICRONS AND LARGER
PERCENTILE:	99.0%	OF COUNT	IS AT	.61	MICRONS AND LARGER
PERCENTILE:	99.9%	OF COUNT	IS AT	.45	MICRONS AND LARGER

ARTICLE SIZE ANALYSIS BY ELZONE METHOD - PARTICLE DATA LABORATORIES,LDT.
115 HAHN STREET - ELMHURST,IL. 60126 - TELEPHONE:(312)932-5658

LIENT: R & M CONSULTANTS 4 MAR 93 :DATE
MPLE: EKLUTNA LAKE ST9 48M 13-1-83 7137 : JOB NUMBER

LUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

DICES

OLUME MODE = 32.09 MEDIAN = 19.44 MICRONS AND LARGER

OMETRIC VOLUME MEAN = 14.66 +/- 24.17 (164.87%) SKEWNESS = -.72

ITHMETIC VOLUME MEAN = 21.21 +/- 15.65 (73.77%) SKEWNESS = -.69

R PLOTTING PROBABILITY ON LOG PAPER:

ERCENTILE: 00.1% OF VOLUME IS AT 94.29 MICRONS AND LARGER
RCENTILE: 01.0% OF VOLUME IS AT 69.29 MICRONS AND LARGER
RCENTILE: 06.0% OF VOLUME IS AT 47.15 MICRONS AND LARGER
ERCENTILE: 22.0% OF VOLUME IS AT 33.34 MICRONS AND LARGER
RCENTILE: 50.0% OF VOLUME IS AT 19.44 MICRONS AND LARGER
RCENTILE: 78.0% OF VOLUME IS AT 5.67 MICRONS AND LARGER
ERCENTILE: 94.0% OF VOLUME IS AT 2.53 MICRONS AND LARGER
ERCENTILE: 99.0% OF VOLUME IS AT 1.47 MICRONS AND LARGER
RCENTILE: 99.9% OF VOLUME IS AT 1.13 MICRONS AND LARGER

OUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

DICES

OUNT MODE = 1.38 MEDIAN = 1.38 MICRONS AND LARGER

EOMETRIC COUNT MEAN = 1.34 +/- 1.27 (95.01%) SKEWNESS = -.03

ITHMETIC COUNT MEAN = 1.69 +/- 1.52 (90.20%) SKEWNESS = .20

R PLOTTING PROBABILITY ON LOG PAPER:

RCENTILE: 00.1% OF COUNT IS AT 19.44 MICRONS AND LARGER
RCENTILE: 01.0% OF COUNT IS AT 6.25 MICRONS AND LARGER
ERCENTILE: 06.0% OF COUNT IS AT 3.55 MICRONS AND LARGER
ERCENTILE: 22.0% OF COUNT IS AT 2.29 MICRONS AND LARGER
RCENTILE: 50.0% OF COUNT IS AT 1.38 MICRONS AND LARGER
RCENTILE: 78.0% OF COUNT IS AT .78 MICRONS AND LARGER
ERCENTILE: 94.0% OF COUNT IS AT .47 MICRONS AND LARGER
RCENTILE: 99.0% OF COUNT IS AT .29 MICRONS AND LARGER
RCENTILE: 99.9% OF COUNT IS AT .20 MICRONS AND LARGER

PARTICLE SIZE ANALYSIS BY ELZONE METHOD - PARTICLE DATA LABORATORIES,LDT.
115 HAHN STREET - ELMHURST,IL. 60126 - TELEPHONE:(312)832-5658

CLIENT: R & M CONSULTANTS 4 MAR 83 :DATE
SAMPLE: EKLUTNA LAKE ST11 16M 11-1-83 7137 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 7.42 MEDIAN = 7.42 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 7.82 +/- 9.51 (121.70%) SKEWNESS = .04

ARITHMETIC VOLUME MEAN = 11.01 +/- 11.33 (102.91%) SKEWNESS = .32

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE:	00.1%	OF VOLUME	IS AT	87.30	MICRONS AND LARGER
PERCENTILE:	01.0%	OF VOLUME	IS AT	61.73	MICRONS AND LARGER
PERCENTILE:	06.0%	OF VOLUME	IS AT	29.70	MICRONS AND LARGER
PERCENTILE:	22.0%	OF VOLUME	IS AT	13.75	MICRONS AND LARGER
PERCENTILE:	50.0%	OF VOLUME	IS AT	7.42	MICRONS AND LARGER
PERCENTILE:	78.0%	OF VOLUME	IS AT	4.33	MICRONS AND LARGER
PERCENTILE:	94.0%	OF VOLUME	IS AT	2.34	MICRONS AND LARGER
PERCENTILE:	99.0%	OF VOLUME	IS AT	1.47	MICRONS AND LARGER
PERCENTILE:	99.9%	OF VOLUME	IS AT	1.13	MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNT MODE = 1.62 MEDIAN = 1.72 MICRONS AND LARGER

GEOMETRIC COUNT MEAN = 1.73 +/- 1.46 (84.08%) SKEWNESS = .07

ARITHMETIC COUNT MEAN = 2.11 +/- 1.60 (75.64%) SKEWNESS = .31

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE:	00.1%	OF COUNT	IS AT	14.57	MICRONS AND LARGER
PERCENTILE:	01.0%	OF COUNT	IS AT	8.18	MICRONS AND LARGER
PERCENTILE:	06.0%	OF COUNT	IS AT	4.86	MICRONS AND LARGER
PERCENTILE:	22.0%	OF COUNT	IS AT	2.73	MICRONS AND LARGER
PERCENTILE:	50.0%	OF COUNT	IS AT	1.72	MICRONS AND LARGER
PERCENTILE:	78.0%	OF COUNT	IS AT	1.08	MICRONS AND LARGER
PERCENTILE:	94.0%	OF COUNT	IS AT	.68	MICRONS AND LARGER
PERCENTILE:	99.0%	OF COUNT	IS AT	.46	MICRONS AND LARGER
PERCENTILE:	99.9%	OF COUNT	IS AT	.32	MICRONS AND LARGER

PARTICLE SIZE ANALYSIS BY ELZONE METHOD - PARTICLE DATA LABORATORIES,LDT.
115 HAHN STREET - ELMHURST,IL. 60126 - TELEPHONE:(312)832-5658

CLIENT: R & M CONSULTANTS 3 MAR 83 :DATE
SAMPLE: EKLUTNA LAKE ST11 28M 11-1-83 7137 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 5.58 MEDIAN = 5.39 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 5.46 +/- 4.35 (79.73%) SKEWNESS = -.03

ARITHMETIC VOLUME MEAN = 6.63 +/- 5.37 (81.00%) SKEWNESS = .19

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE:	00.1%	OF VOLUME	IS AT	49.57	MICRONS AND LARGER
PERCENTILE:	01.0%	OF VOLUME	IS AT	31.59	MICRONS AND LARGER
PERCENTILE:	06.0%	OF VOLUME	IS AT	14.23	MICRONS AND LARGER
PERCENTILE:	22.0%	OF VOLUME	IS AT	7.90	MICRONS AND LARGER
PERCENTILE:	50.0%	OF VOLUME	IS AT	5.39	MICRONS AND LARGER
PERCENTILE:	78.0%	OF VOLUME	IS AT	3.56	MICRONS AND LARGER
PERCENTILE:	94.0%	OF VOLUME	IS AT	2.27	MICRONS AND LARGER
PERCENTILE:	99.0%	OF VOLUME	IS AT	1.50	MICRONS AND LARGER
PERCENTILE:	99.9%	OF VOLUME	IS AT	1.13	MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNT MODE = 1.72 MEDIAN = 1.72 MICRONS AND LARGER

GEOMETRIC COUNT MEAN = 1.68 +/- 1.66 (98.71%) SKEWNESS = -.02

ARITHMETIC COUNT MEAN = 2.11 +/- 1.50 (71.11%) SKEWNESS = .26

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE:	00.1%	OF COUNT	IS AT	10.91	MICRONS AND LARGER
PERCENTILE:	01.0%	OF COUNT	IS AT	7.28	MICRONS AND LARGER
PERCENTILE:	06.0%	OF COUNT	IS AT	4.86	MICRONS AND LARGER
PERCENTILE:	22.0%	OF COUNT	IS AT	2.89	MICRONS AND LARGER
PERCENTILE:	50.0%	OF COUNT	IS AT	1.72	MICRONS AND LARGER
PERCENTILE:	78.0%	OF COUNT	IS AT	.96	MICRONS AND LARGER
PERCENTILE:	94.0%	OF COUNT	IS AT	.57	MICRONS AND LARGER
PERCENTILE:	99.0%	OF COUNT	IS AT	.32	MICRONS AND LARGER
PERCENTILE:	99.9%	OF COUNT	IS AT	.21	MICRONS AND LARGER

PARTICLE DATA LABORATORIES, LTD.

115 Hahn Street • Elmhurst, Illinois 60126 • (312) 832-5658

March 10, 1983

R & M Consultants, Inc.
Box 6087
Anchorage, AK 99502

Attention Mr. Brett Jokela

PDL Project: I-7137

Gentlemen:

This report covers the optical microscopy performed on the three lake water samples labled 9-32, 5-32, and 11-28. The specific item of interest was the presence and characterization of calcium carbonate concretions. Some of this material was present in all three samples, with 9-32 having the most, 11-28 less and 5-32 having very little material of any sort. Both calcite and aragonite were present though aragonite was the predominant type.

Particles are present as single crystals, loose agglomerates of such crystals, intergrown agglomerates of large crystals, coarse sphereulites or rosetts of large crystals, and hollow sphereulites of very small crystals. (Small crystals are less than 3 μm, large from 3 μm to about 25 μm.)

The following table shows the approximate abundance of the various types:

(C=Calcite, A=Aragonite)

	9-32		11-28	
Single Crystals	C Trace	A 2-3%	C 3-5%	A 3-5%
Intergrown Agglomerates	C 2-3%	A 30%	C 10%	A 15%
Large Agglomerates	C 1-2%	A 15%	C 5%	A 10%
Rosetts	C Trace	A 10%	C 3%	A 5%
Isolated Spheres	C 1%	A Trace	C 3%	A 5%
Agglomerated Spheres	C 10%	A 10%	C 10%	A 20%
Combination Agglomerates (Spheres and large crystals)	C + A 20%		C + A 10%	

Samples 5-32 was different with a few small agglomerates and isolated small single crystals. The crystals were either too small or poorly formed to allow adequate characterization by optical crystallography. In sample 9-32, about 40% of the particles by mass are calcium carbonate, while in sample 11-28, about 5% of the mass is calcium carbonate. Sample 5-32 has a low loading with 5-15% of the material being $CaCO_3$. The single crystals in sample 11-28 average about 3 μm, while those in 9-32 are about 8 μm.

The origin of these rather unusual entities may be somewhat difficult to explain. That they form from solution is definite based on their well formed crystals and crystal association. Changes in temperature or CO_2 tension could cause this material to precipitate. The single crystals, large crystal agglomerates, and rosetts are readily explained by some modification of this normal mode of crystal growth.

The rosetts are macrosphereulites which have grown from a central nucleus, while agglomerate formation is expected during crystalization once nucleation has occurred. The hollow spheres of many (200-500) small interlocked crystals is harder to explain. Bubbles could provide a surface for such growth though this would be difficult to prove.

It is possible that these grew on a core of some material which later dissolved or leaked out. Oil would be a possibility, though not a likely one. Biological origin cannot be completely ruled out. They could be poorly preserved foraminifera (salt water single-celled creatures with calcite or aragomite shells), or they could result from a fresh-water amoeba such as difflugia, which is known to cement together particles, usually of one type, into a hollow shell.

It is unlikely that a crystal assemblage this fragile could exist for very long without some form of binder.

The attached micrographs show the material as it can be visualized in the optical unit. Unfortunately, both contrast and depth of field are problems which limit what can be seen by this method. If more definitive views are desired, scanning electron microscopy would be in order.

Thank you for consulting Particle Data Laboratory on this project. It is possible that a study of these concretions would be worth a publication some time in the future.

Sincerely,

Michael Bayard

Michael Bayard
Research Microscopist



Figure 1. 9-32 Material, 1000X. This clearly shows a group of hollow shperes composed of many small interlocking crystal plates. The magnification is at the reasonable limit for the optical microscope.

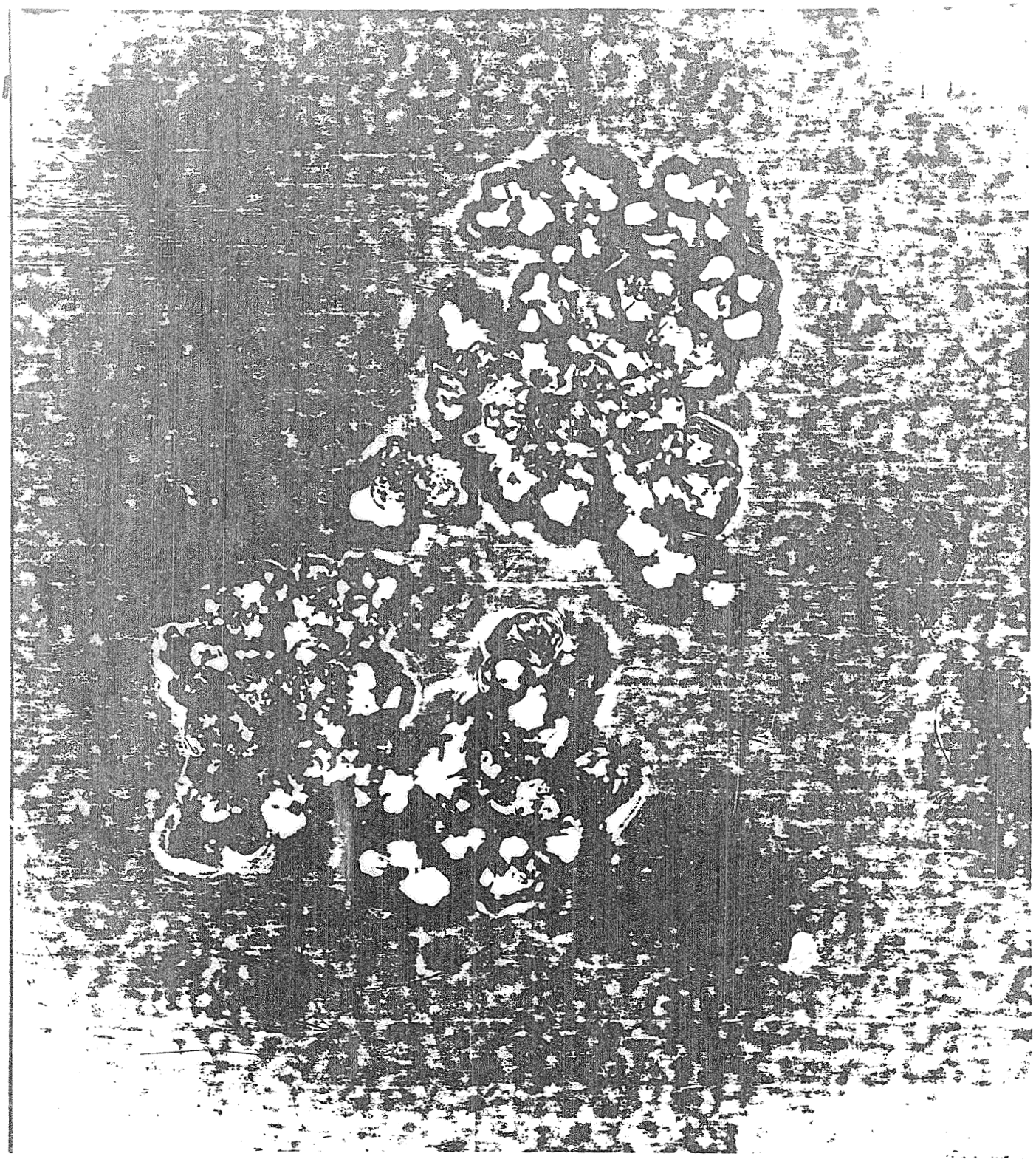


Figure 2. 9-32 Material, 1000X. This is a loosly bound agglomerate which has a hierarchy of single crystals and tightly bound groups of several crystals loosly associated.

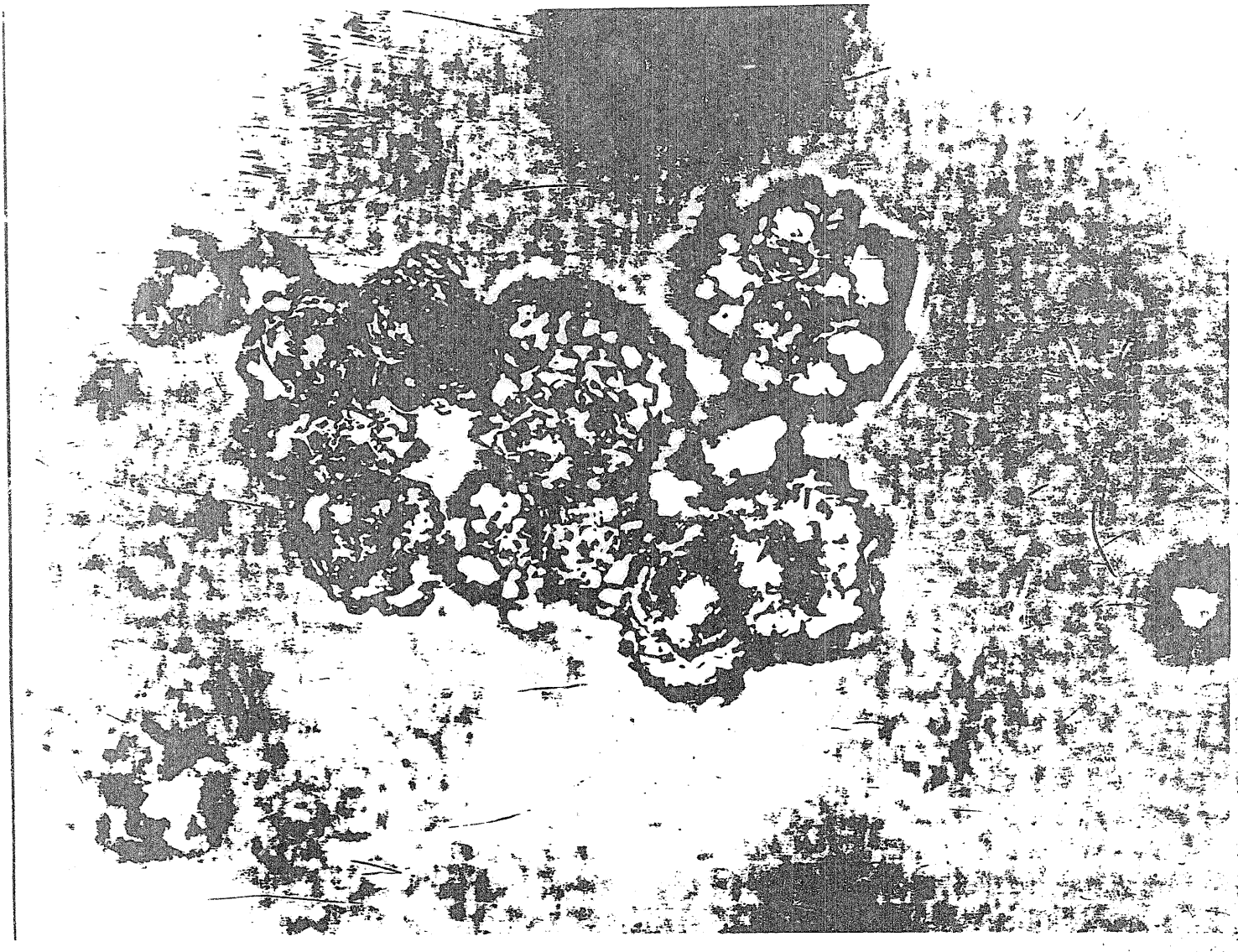


Figure 3. 9-32 Material, 1000X. This is a macro-agglomerate of rosetts.

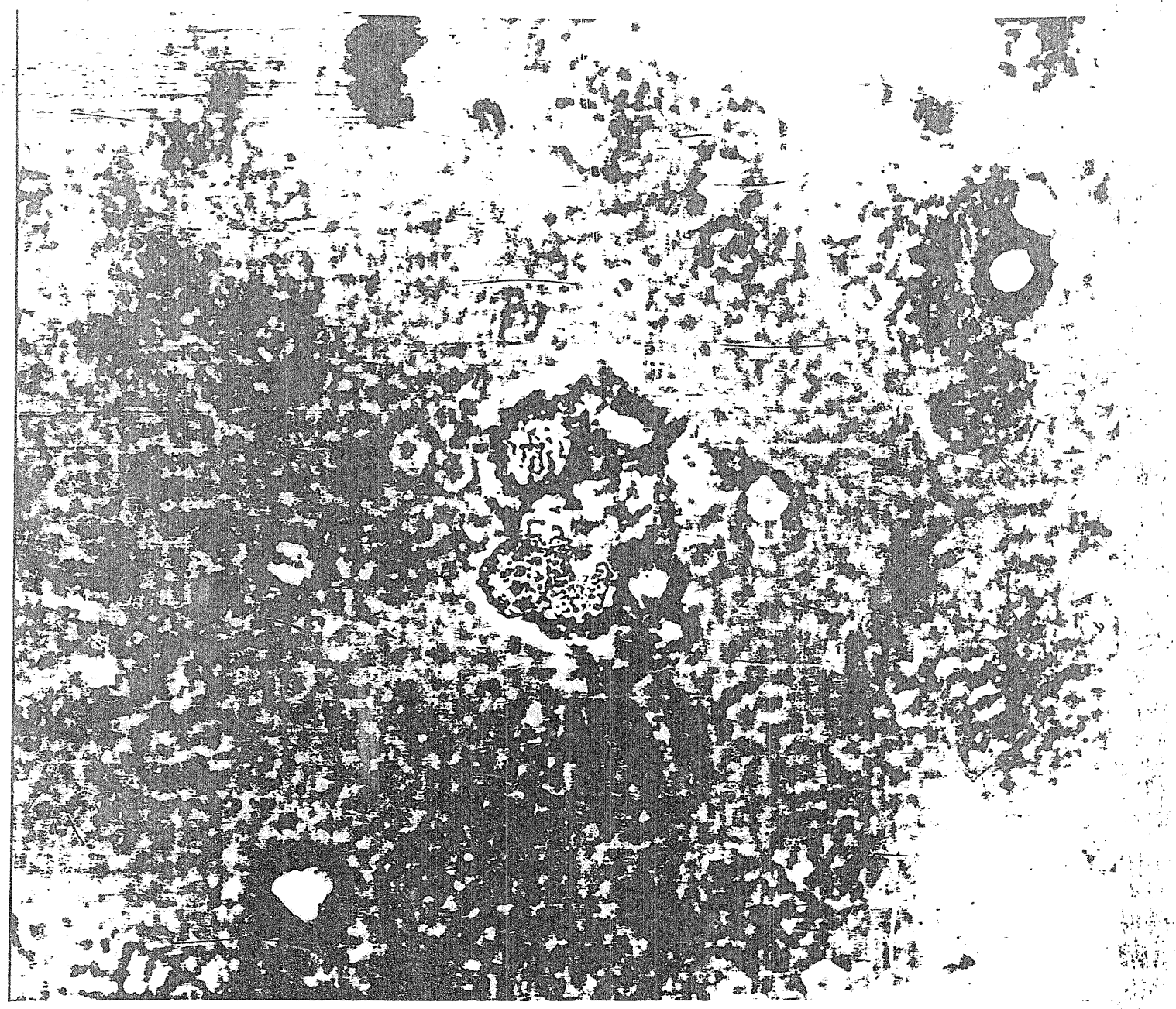


Figure 4. 11-28 Material 1000X. As in sample 9-32, hollow spheres are present.

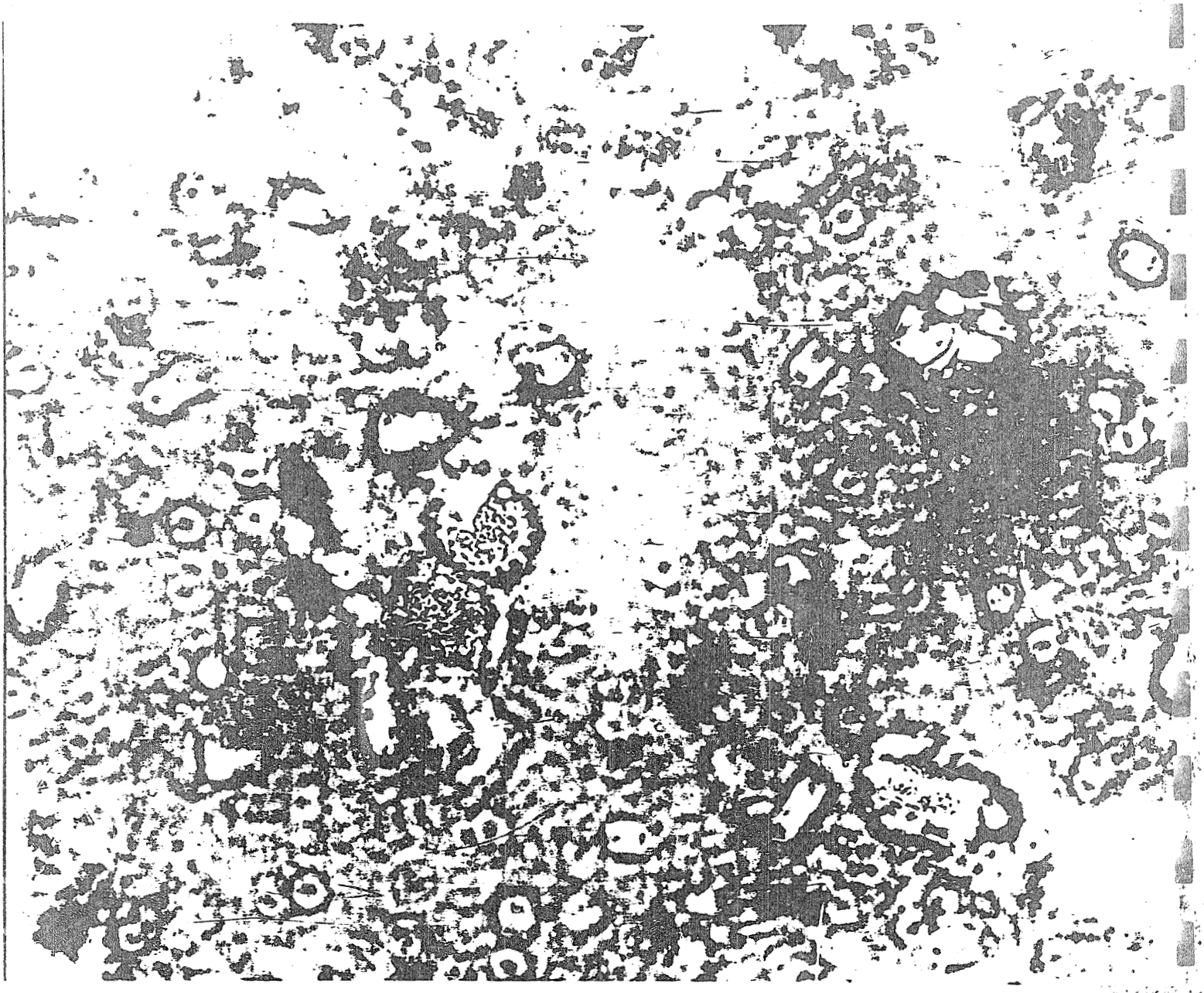


Figure 5. 11-28 Material, 1000X. At the left are spheres; at the right, an intergrown agglomerate.

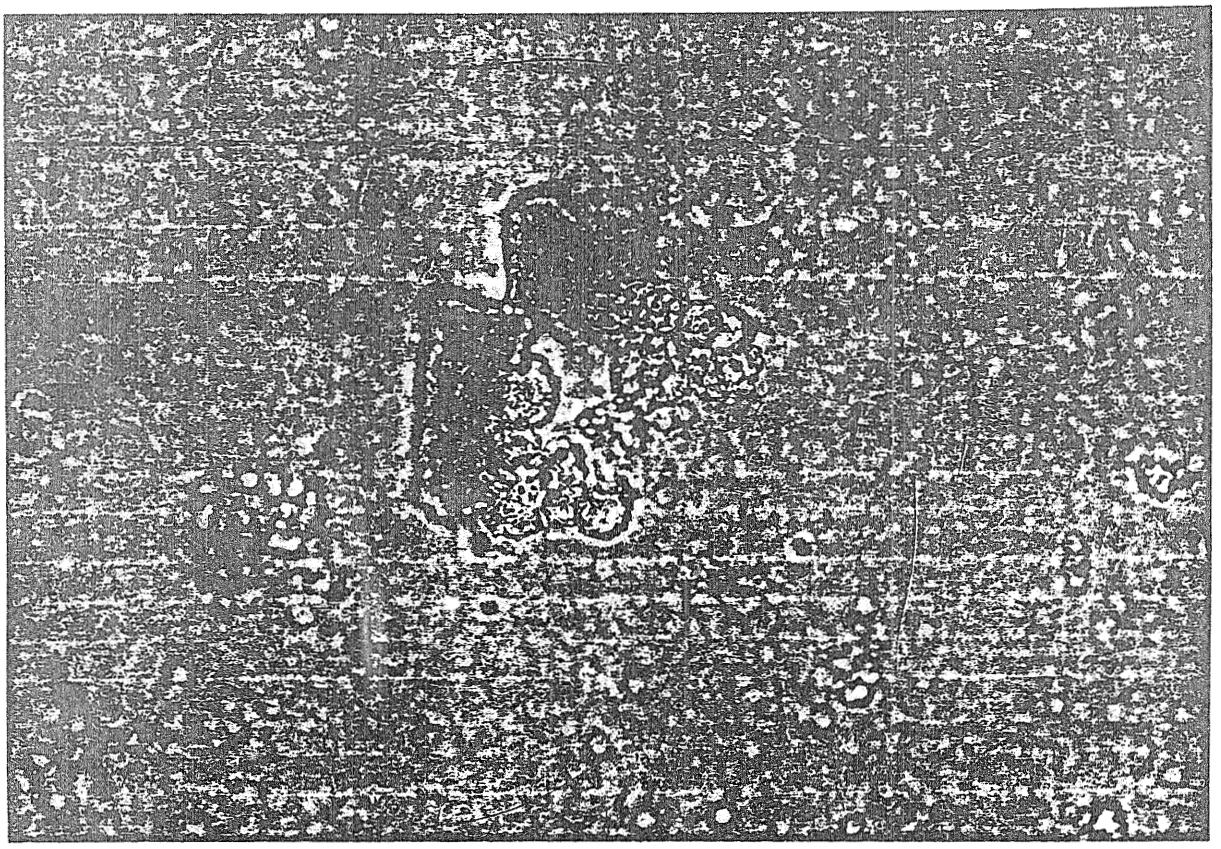


Figure 6. 9-32 Material, 500X. While the true colors can be shown in this type of presentation, color photomicrography usually does not yield the high contrast of black and white. The sample is a multiple agglomerate of the hollow shperes.

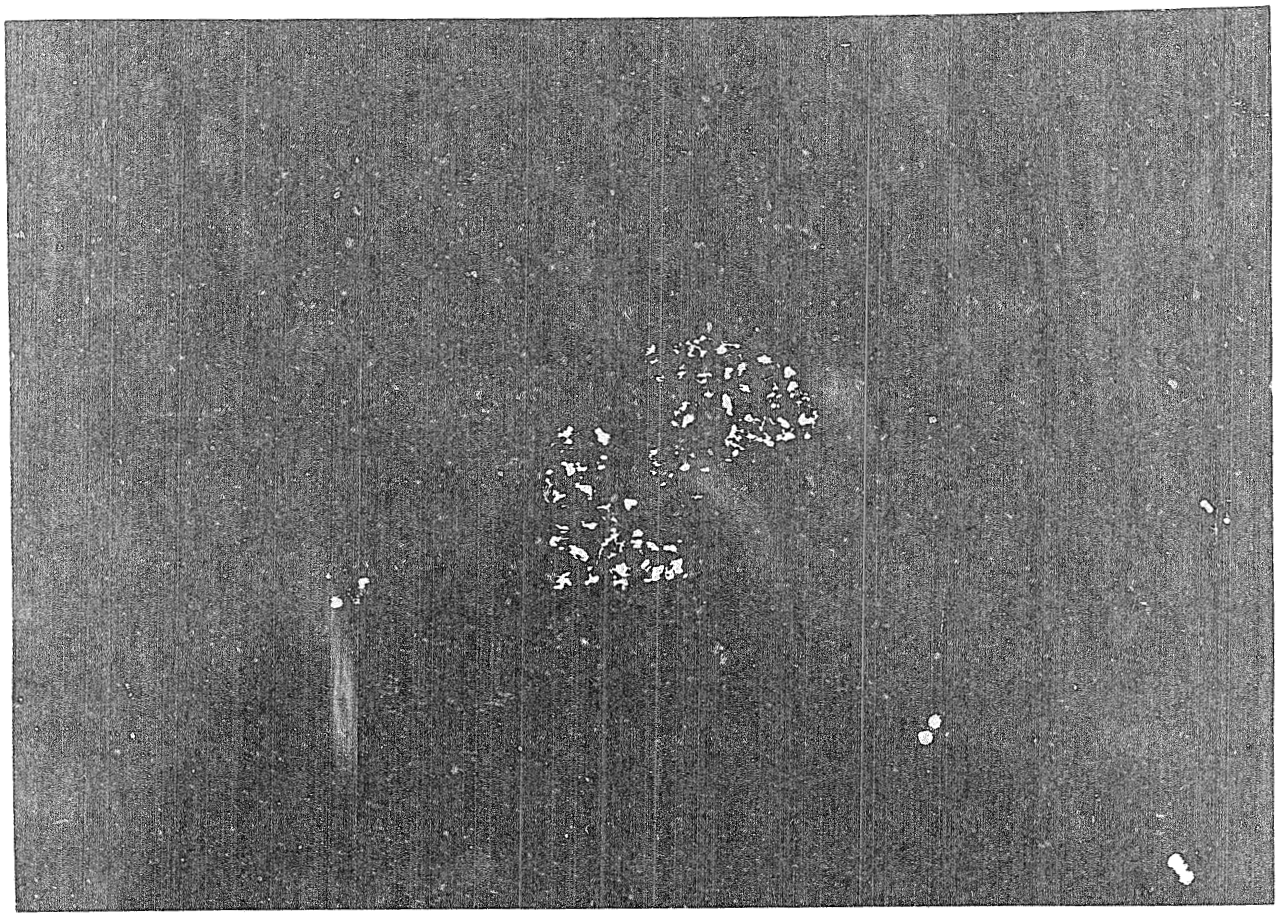


Figure 7. 9-32 Material, 500X. This is the same area as in Figure 6 in crossed polars. The preferred orientation of the individual crystals comprising the spheres is shown by the black crosses which correspond to the vibration direction of the polars in the microscope. This type of pattern is associated with crystals which display a radial orientation.

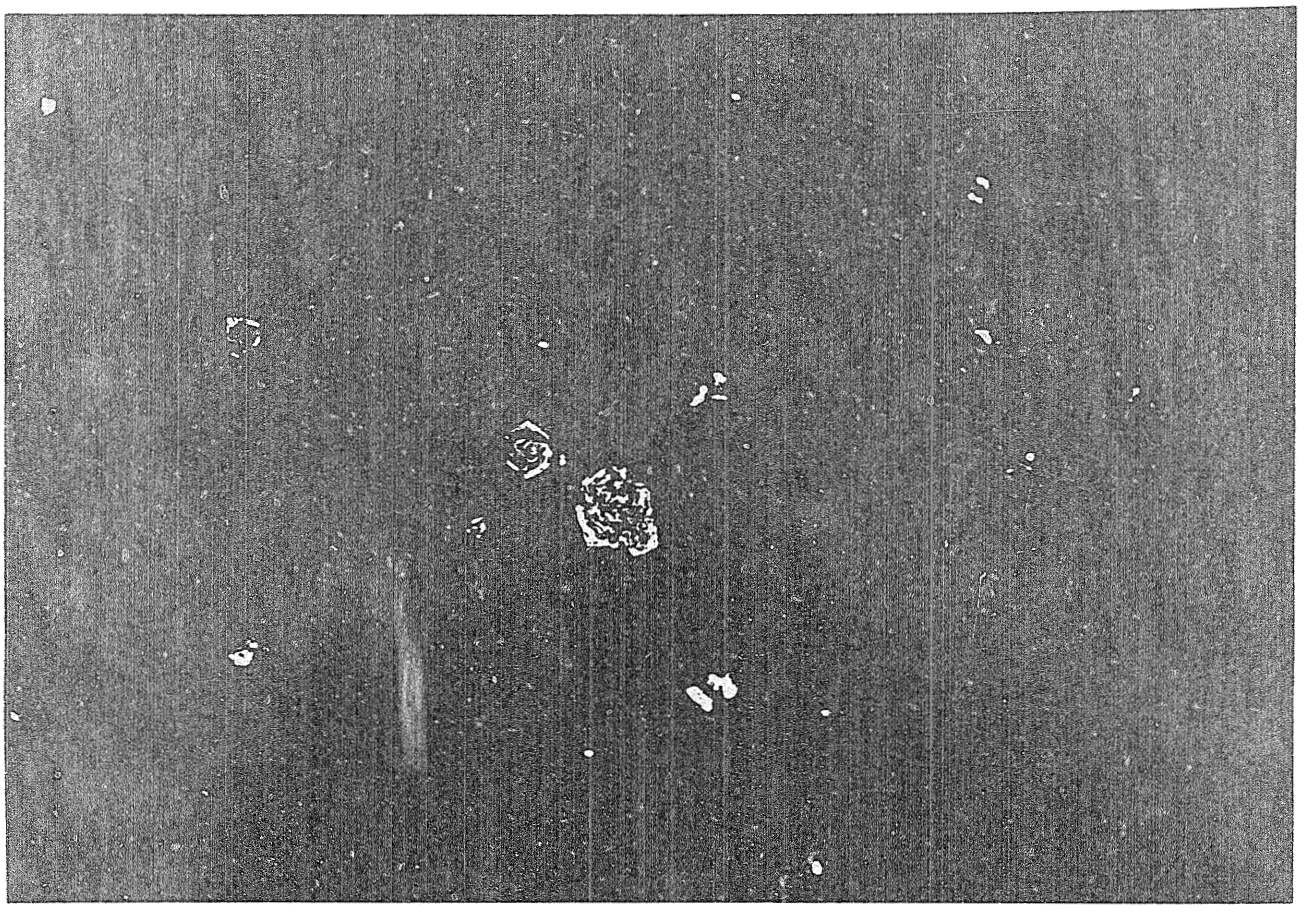


Figure 8. 9-32 Material, 500X. This view shows intergrown crystals.

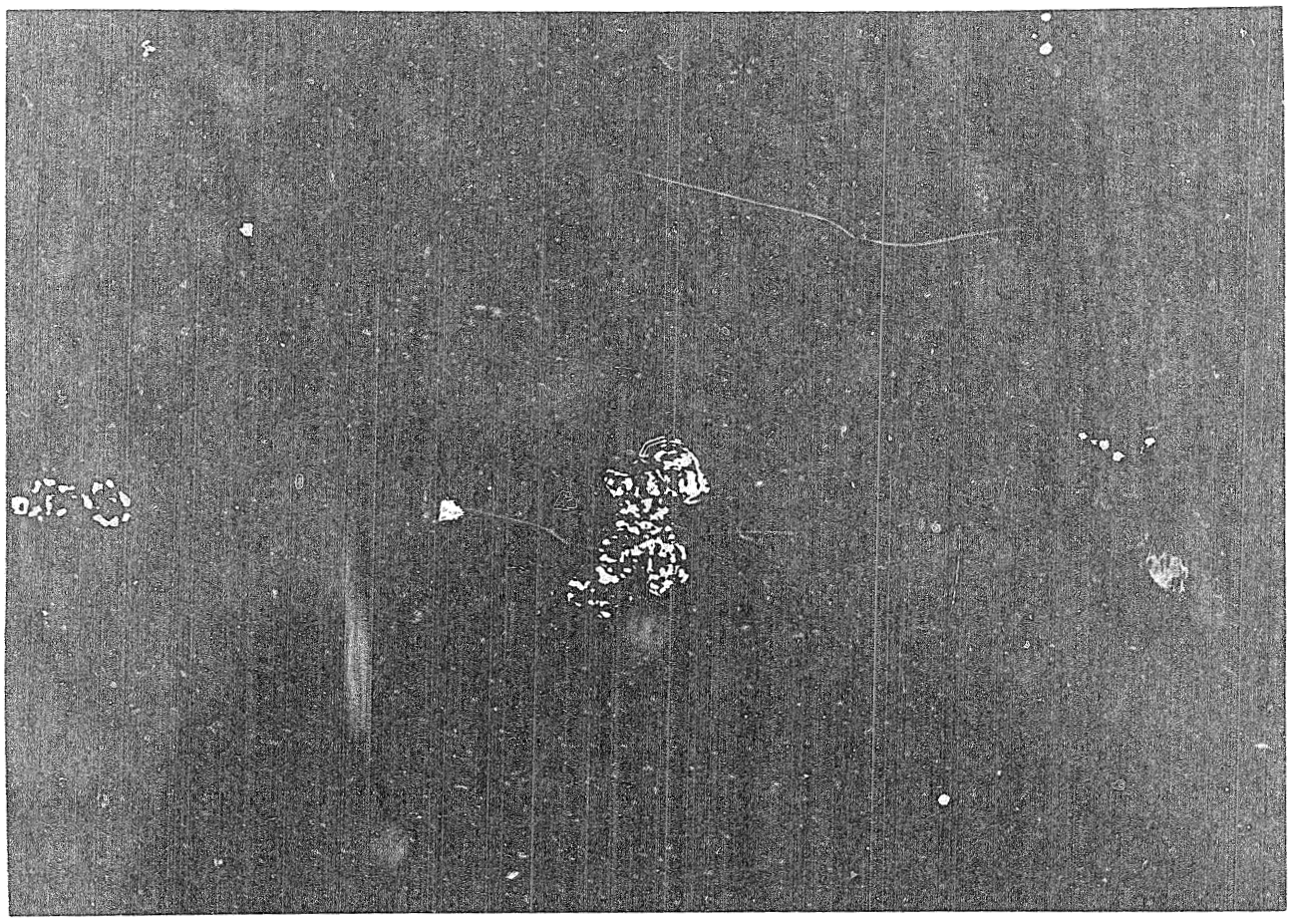


Figure 9. 9-32 Material, 500X. A large single crystal is seen attached to an agglomerate of smaller ones. There is some radial (rosett) orientation at the bottom of the agglomerate.

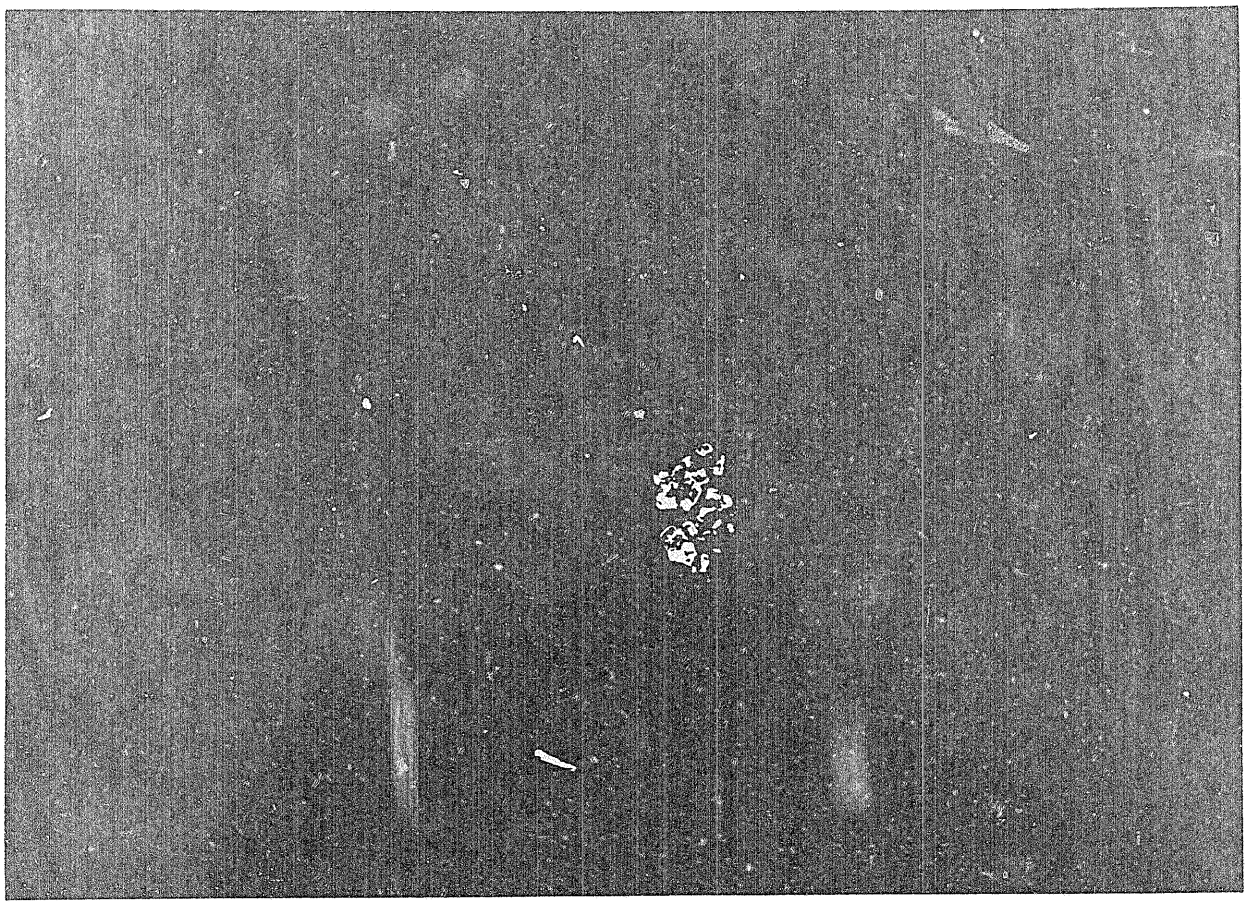


Figure 10. 11-28 Material, 500X. Loose and well bound large crystals.

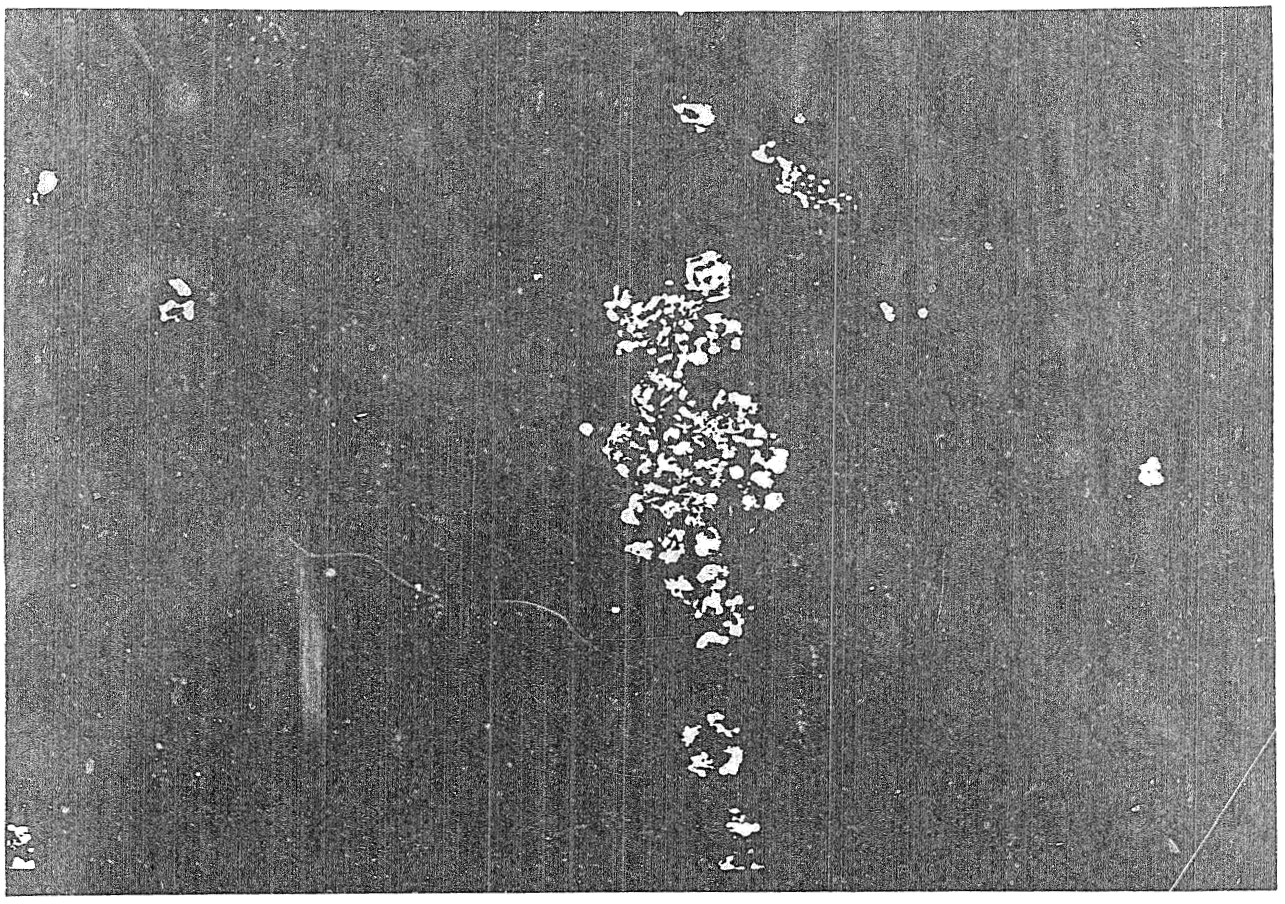


Figure 11. 11-28 Material, 500X. This is a complex agglomerate with a large sphereulite at the bottom and some more or less well bound individual crystals.

LT/10

R&M CONSULTANTS, INC. 5024 CORDOVA • BOX 6087 • ANCHORAGE ALASKA 99502 • PH 907 561-1733

ENGINEERS
GEOLOGISTS
PLANNERS
SURVEYORS

August 14, 1984 R&M No.: 452418

Particle Data Laboratories
115 Hahn Street
Elmhurst, Illinois 60126

Attention: Mr. H. Batchu

RE: Sediment Analyses for Eklutna Lake and Susitna River

Dear Mr. Batchu:

Enclosed are nine one-liter water samples. Per our discussion of July 18th and August 7th, please analyze the samples according to the following table.

	Sample Location and Date			Particle Size Distribution	Microphotos/ Petrograph Analysis	Total Suspended Solids.
1	East Fork	7/20/84	2000	x	x	
2	Glacier Fork	7/20/84	1640	x	x	
3	Tailrace	7/21/84	2000	x	x	
4	Susitna River	7/31/84		x		x
5	Settling Column	8/01/84	0 hrs	x	x	
6	Settling Column	8/05/84	96 hrs	x	x	
7	Susitna River	8/06/84		x		x
8	Settling Column	8/07/84	0 hrs	x	x	
9	Settling Column	8/11/84	96 hrs	x	x	

Please send us the particle size distribution results in your standard reporting format of tabular and graphic results for the distribution on the basis of both particle count and total particle volume. For the petrographic analysis we expect to receive a density distribution and mineralogic description of the sediment. For the microphotos please split each sample into two subsamples prior to taking scanning electron photomicrographs at 100 power and 400 power magnification. For the photomicrographs use color film to show the typical particle shapes and crystallographic details. Please provide metal shadowed black and white photographs if the level of detail is improved over the color photography.

Please use purchase order number 17965 when billing us. Should you have any questions please call me or Jeff Coffin at (907) 561-1733. We look forward to receiving the results as soon as they are available.

Sincerely,
R&M CONSULTANTS, INC.

Bill Ashton

Bill Ashton
Hydrologist

BA;bje

#452418

PARTICLE DATA LABORATORIES, LTD.

115 Hahn Street • Elmhurst, Illinois 60126 • (312) 832-5658

rec. 9/24

from sample - sent 8/14/84

September 18, 1984

R & M Consultants, Inc.
5024 Cordova
Box 6087
Anchorage, Alaska 99502

Attention: Mr. Bill Ashton

Subject: Electrozone Analysis - 9 Water Samples - P. O. #17965

PDL Project: I-8213

Gentlemen:

Enclosed please find a copy of the computerized data printout of your sample as generated by the Electrozone Analyzer. If you have any questions, please do not hesitate to call us at Particle Data Laboratories.

It has been a pleasure serving your company, and we look forward to serving you again in the near future.

Respectfully submitted,

PARTICLE DATA LABORATORIES, LTD.

Olga Kist

Olga Kist
Technical Staff

OK:cnl
Enc.

P.S. The results of the microscopic evaluation will be mailed by the end of this week.

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & N CONSULTANTS 5 SEP 84 :DATE
SAMPLE: EAST FORK 7/20/84 2000 8213 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 4.86 MEDIAN = 4.86 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 5.18 +/- 20.35 (393.15%) SKEWNESS = .02

ARITHMETIC VOLUME MEAN = 16.64 +/- 30.44 (182.91%) SKEWNESS = .39

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 239.90 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 155.55 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 71.32 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 17.83 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 4.86 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 1.45 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .43 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .14 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .06 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .05 MEDIAN = .08 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .10 +/- .07 (74.81%) SKEWNESS = .59

ARITHMETIC COUNTS MEAN = .12 +/- .13 (112.77%) SKEWNESS = .49

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 1.58 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT .61 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT .28 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .14 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .08 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .06 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .05 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .05 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .05 MICRONS AND LARGER

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

(2)

CLIENT: R & M CONSULTANTS, INC. 5 SEP 84 :DATE
SAMPLE: GLACIER FORK 7/20/84 1640 8213 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 6.87 MEDIAN = 9.72 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 9.15 +/- 42.78 (467.69%) SKEWNESS = .05

ARITHMETIC VOLUME MEAN = 28.85 +/- 42.15 (146.09%) SKEWNESS = .52

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 285.28 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 201.73 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 109.99 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 46.25 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 9.72 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 2.23 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .56 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .15 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .06 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .05 MEDIAN = .08 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .09 +/- .06 (70.47%) SKEWNESS = .59

ARITHMETIC COUNTS MEAN = .11 +/- .12 (111.11%) SKEWNESS = .47

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 1.45 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT .56 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT .26 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .13 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .08 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .06 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .05 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .05 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .05 MICRONS AND LARGER

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & M CONSULTANTS 6 SEP 84 :DATE
SAMPLE: TAILRACE 7/21/84 2000 8213 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = .71 MEDIAN = 1.15 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 1.58 +/- 3.37 (212.46%) SKEWNESS = .26

ARITHMETIC VOLUME MEAN = 4.39 +/- 12.08 (275.15%) SKEWNESS = .30

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 119.15 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 73.74 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 13.39 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 3.17 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 1.15 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT .64 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .47 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .36 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .29 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .51 MEDIAN = .51 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .53 +/- .23 (43.80%) SKEWNESS = .07

ARITHMETIC COUNTS MEAN = .57 +/- .26 (46.35%) SKEWNESS = .21

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 3.06 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 1.53 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT .91 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .68 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .41 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .30 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .24 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .20 MICRONS AND LARGER

#452418

PARTICLE DATA LABORATORIES, LTD.

115 Hahn Street • Elmhurst, Illinois 60126 • (312) 832-5658

(samples sent 9/14/84)

September 19, 1984

Mr. Bill Ashton
R & M Consultants, Inc.
5024 Cordova
Box 6087
Anchorage, Alaska 99502

PDL Project: I-8213

Dear Mr. Ashton:

This report covers the mineral grain characterization performed on the seven samples you requested. Techniques of scanning electron microscopy electron microprobe and petrographic microscopy were used. Mineral identification was taken through general groups such as pyroxenes or feldspars.

Many mineral groups have a range of composition with one species blending into another as the concentration of one or more elements changes. Also, comminuted minerals in water show various states of hydration and oxidation (corrosion) which also modify the mineral. As an example, in the pyroxene group there are augite, diopside, hypersthene and augite changing to pigeonite. However, the general form (more or less equant particles) and density range of the pyroxenes are similar.

The attached table shows the approximate volume abundances of the minerals present. Quartz is usually the most abundant species, followed by pyroxenes, feldspars, mica and magnetite. It may be very significant from the point of view of sediment consolidation that samples 3, 6, and 8 contain colloidal silica detectable by SEM-XRF methods. This could in time act to cement other grains together. There is some evidence for this in the optical views.

The appended micrographs show the types of grains seen. Optically there are two views of each area, one in plane polarized light and one with crossed polars and a first order red plate, which results in a pink background and anisotropic minerals in bright interference colors. Many of the individual grains have inclusions, usually magnetite in quartz or feldspars or poyroenes. Xerox copies of th

micrographs are annotated with abbreviations for the major minerals found as follows:

Q - Quartz	L - Limonite
P - Pyroxenes	B - Biotite
F - Feldspars	C - Calcite
M - Magnetite	A - Apatite
	CS - Colloidal Silica

Where a combined grain is present, the first letter is the matrix, the second the included species. The densities of the more important components are: Quartz 2.63 - 2.66, Colloidal Silica 2.17 - 2.20, Magnetite 5.18, Limonite 2.44-3.60, Pyroxenes 2.5 - 3.3 and Feldspars 2.6 - 3.5. These ranges correspond to variable composition and states of hydration. Also, inclusions (liquid or gas) will lighten a grain, while magnetite inclusions will make it heavier.

Thank you for consulting Particle Data Laboratories in this matter.

Sincerely,

PARTICLE DATA LABORATORIES, LTD.

Michael Bayard

Michael Bayard
Research Microscopist

MB/kb

Encs.

PDL Project: I-8213

SAMPLE NUMBER

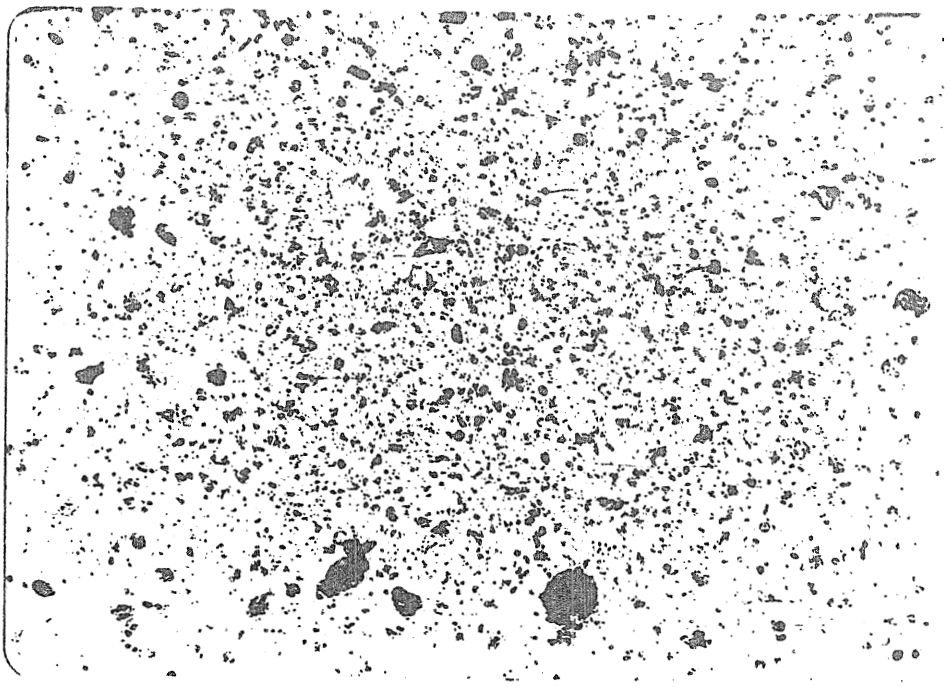
percent composition

MINERAL	EF 7/20/84 1	GF 7/20/84 2	TR 7/21/84 3	R#1 0 Hrs 5	Run #1 96 Hrs 6	Run #2 96 Hrs 9	Run #2 0 Hrs 8
Quartz	35	45	10	40	15	15	30
Feldspars	25	25	10	20	10	10	15
Pyroxenes	15	15	5	10	5	10	15
Biotite	Tr	Tr	-	5	-	-	5
Muscovite	Tr	Tr	-	Tr	-	-	10
Hematite	1	Tr	-	Tr	-	-	Tr
Limonite	5	5	2-3	5	5	5	10
Magnetite	10	5	20	15	25	25	15
Illmenite	Tr	-	-	Tr	Tr	-	Tr
Calcite	Tr	Tr	20	Tr	2-3	-	Tr
Aragonite	-	-	1-2	-	-	-	Tr
Clays	1-2	1-2	2-3	1-2	2-3	1-2	1-2
Rutile	Tr	-	-	Tr	-	-	Tr
Zircon	Tr	-	-	Tr	-	-	Tr
Apatite	Tr	Tr	-	Tr	-	-	Tr
Colloidal Silica	2-3	1-2	30	1-2	30	35	1-2

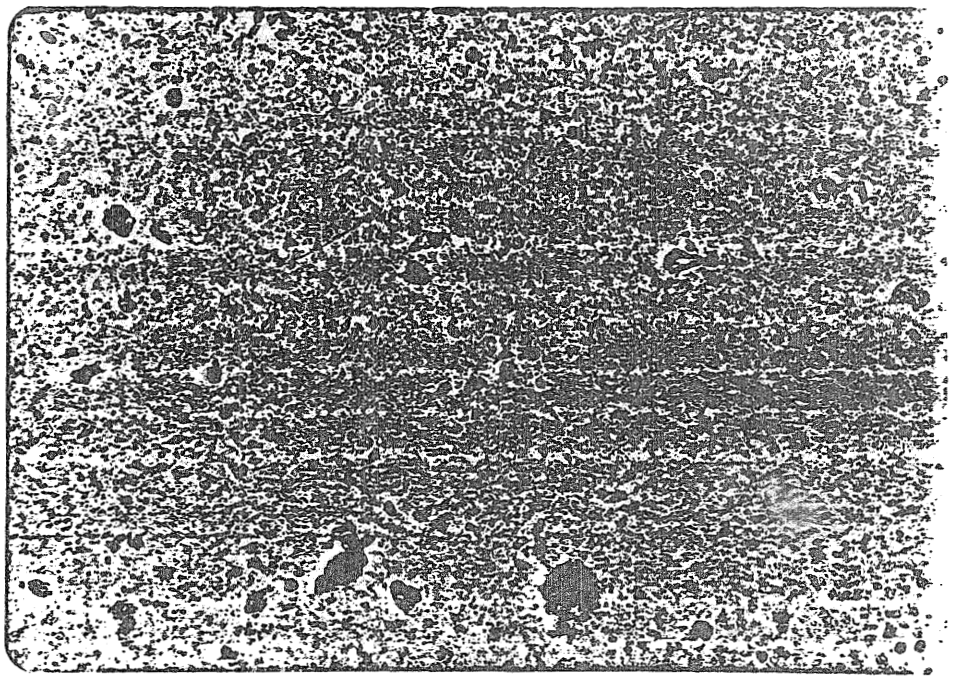
Com. of m. beyond 10/15/84

Approx. % by volume.

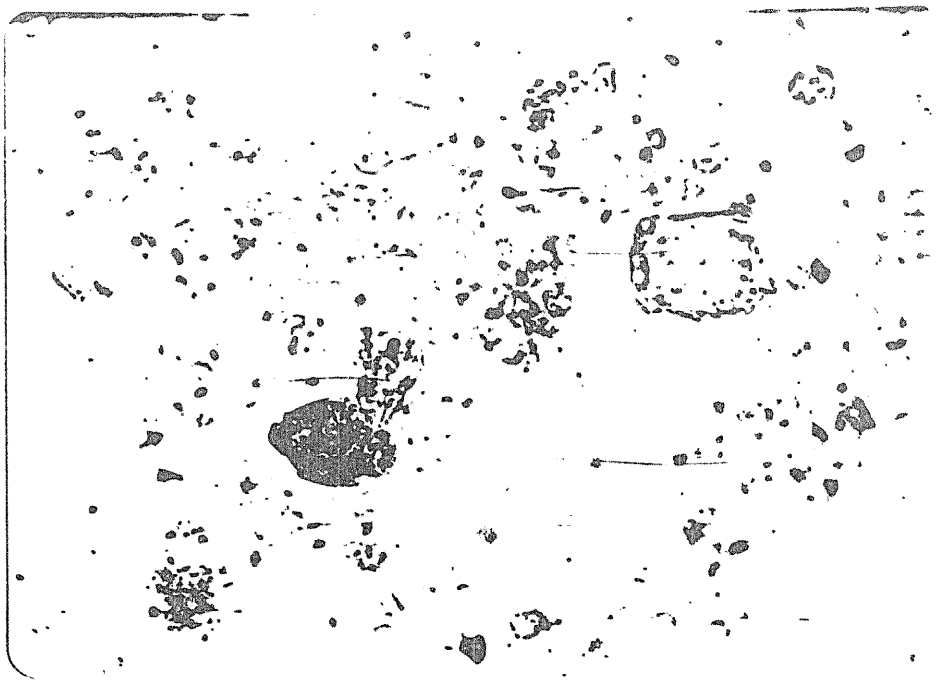
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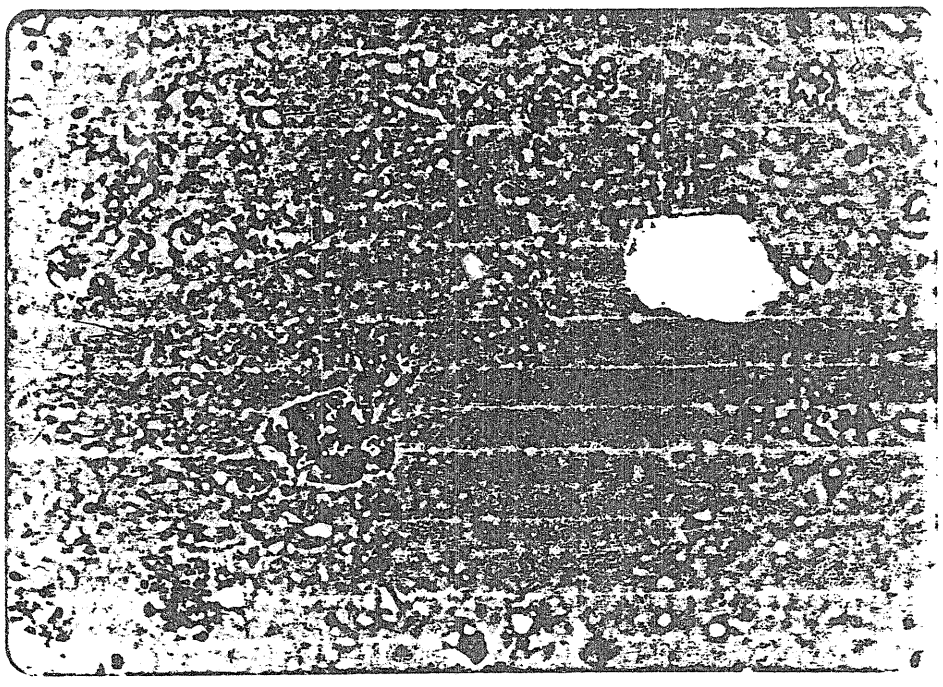
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Sample 1, 100X, Crossed Polars



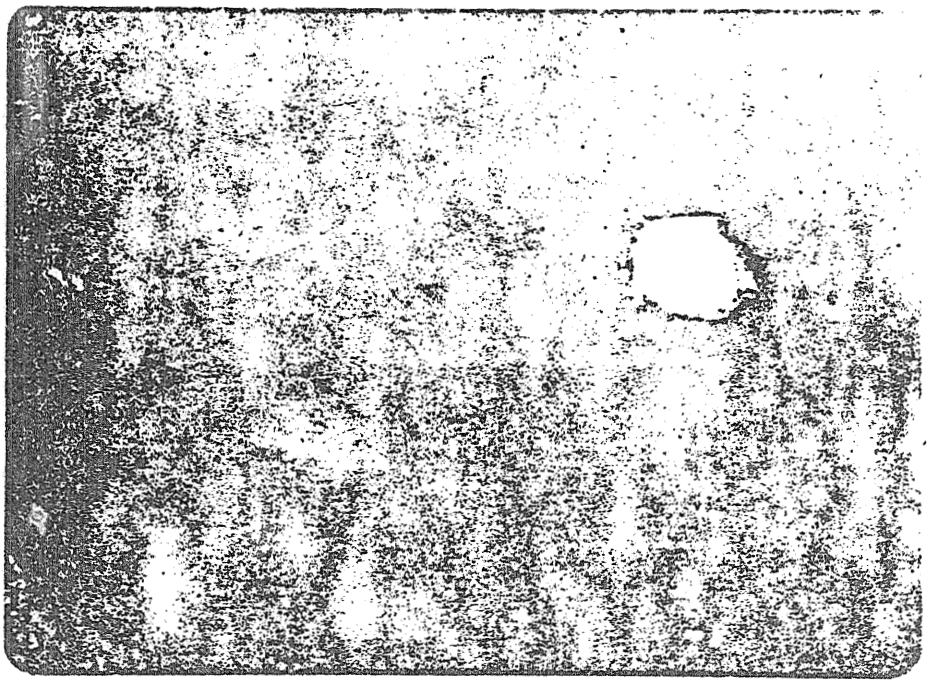
Sample 1, 400X



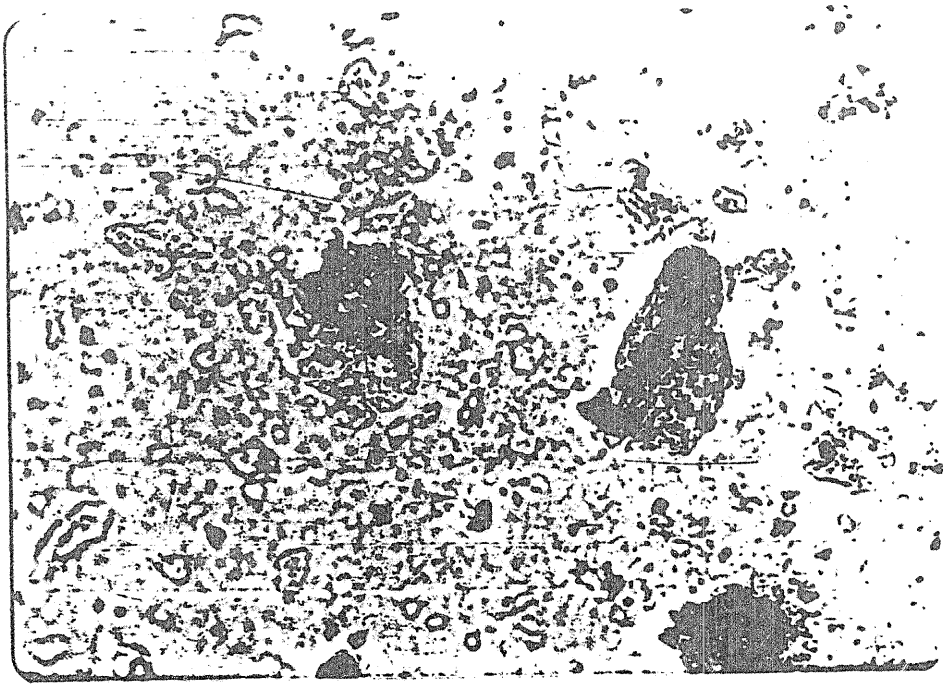
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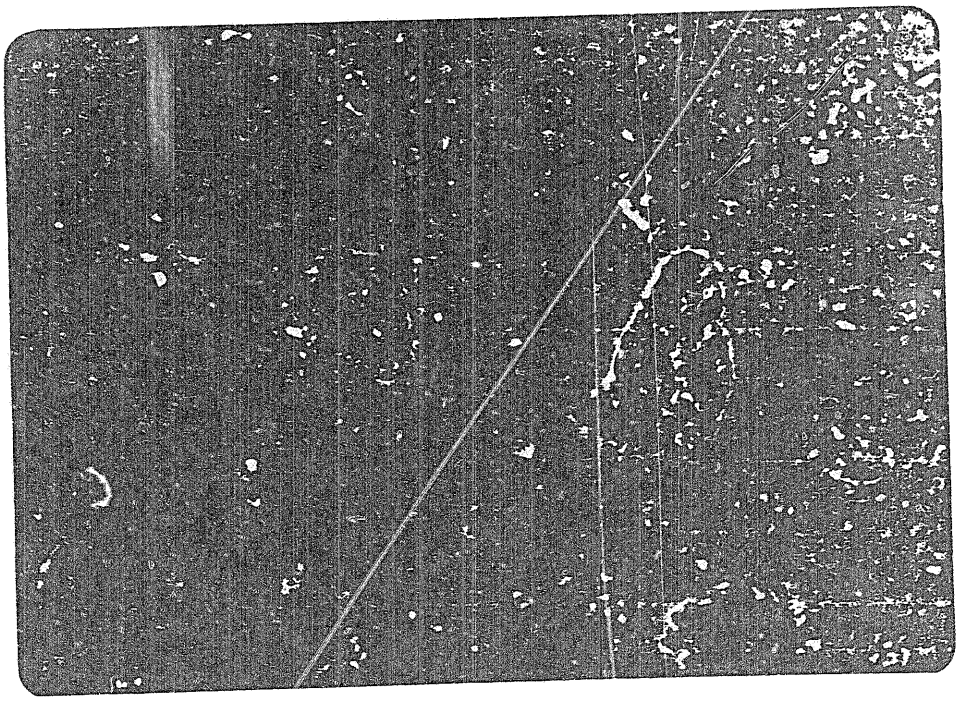
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Sample 1, 400X, Crossed Polars



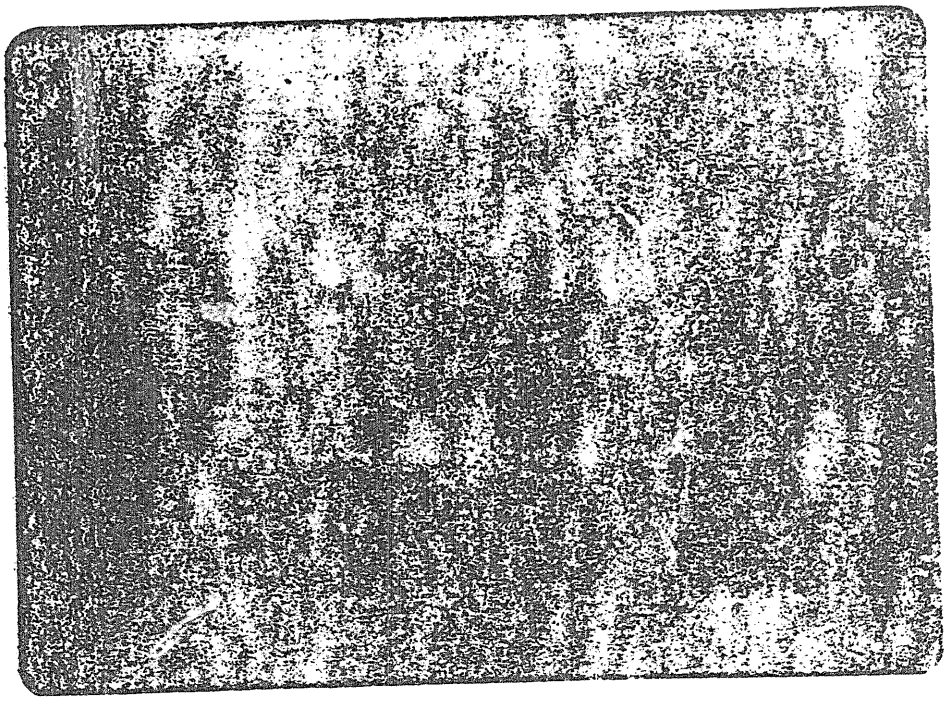
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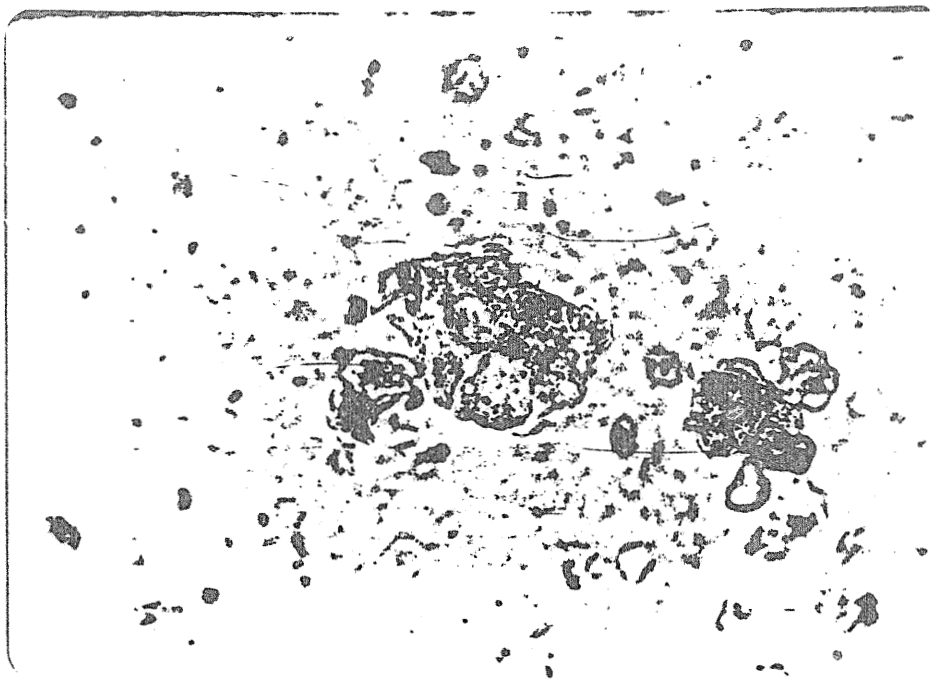
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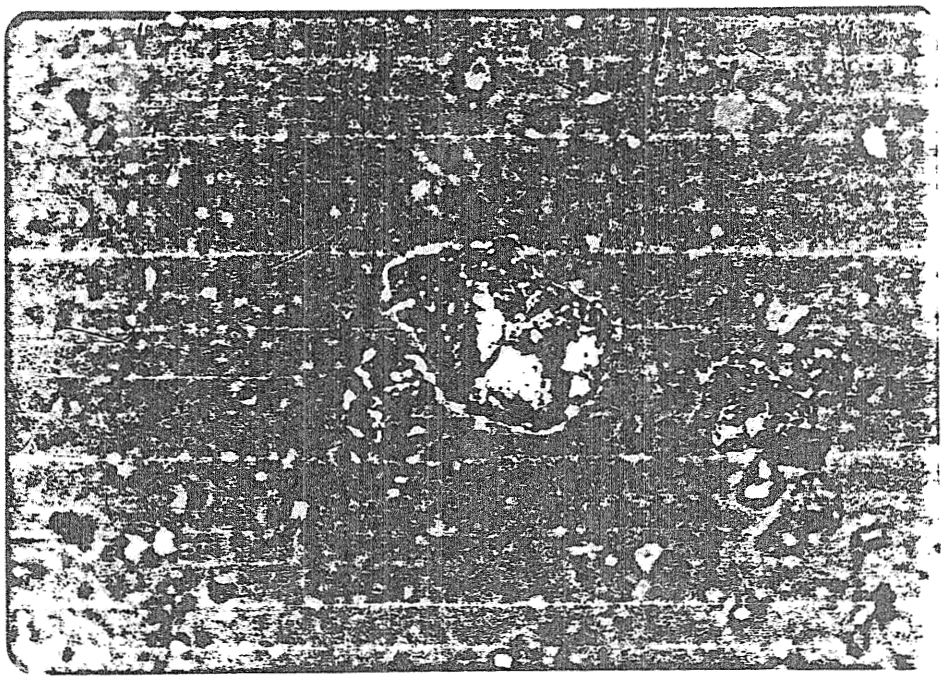
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Sample 1, 400X, Crossed Polars



Sample 1, 400X



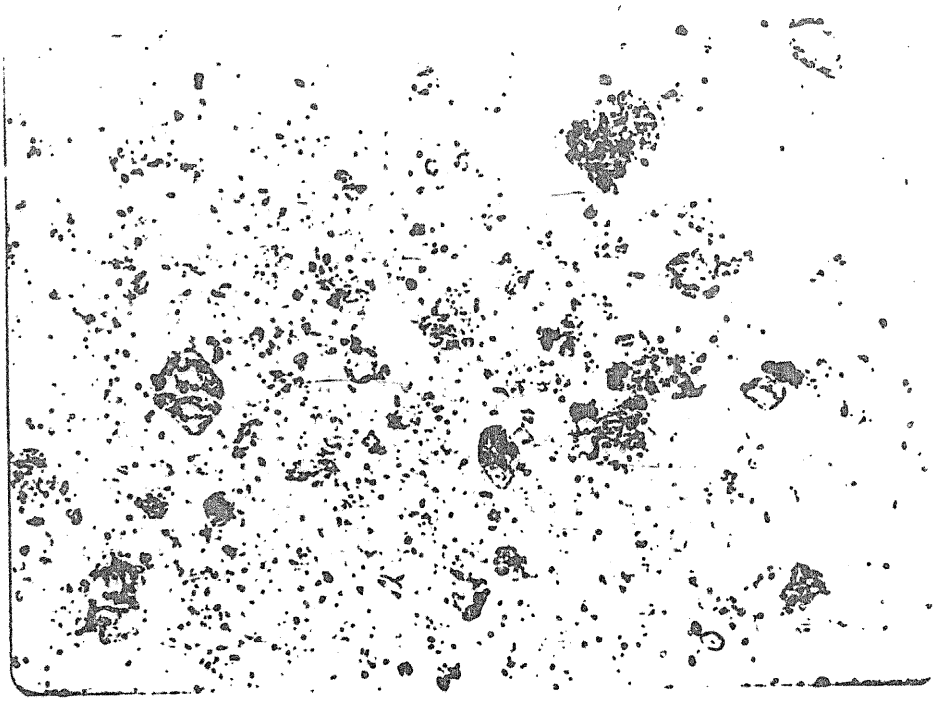
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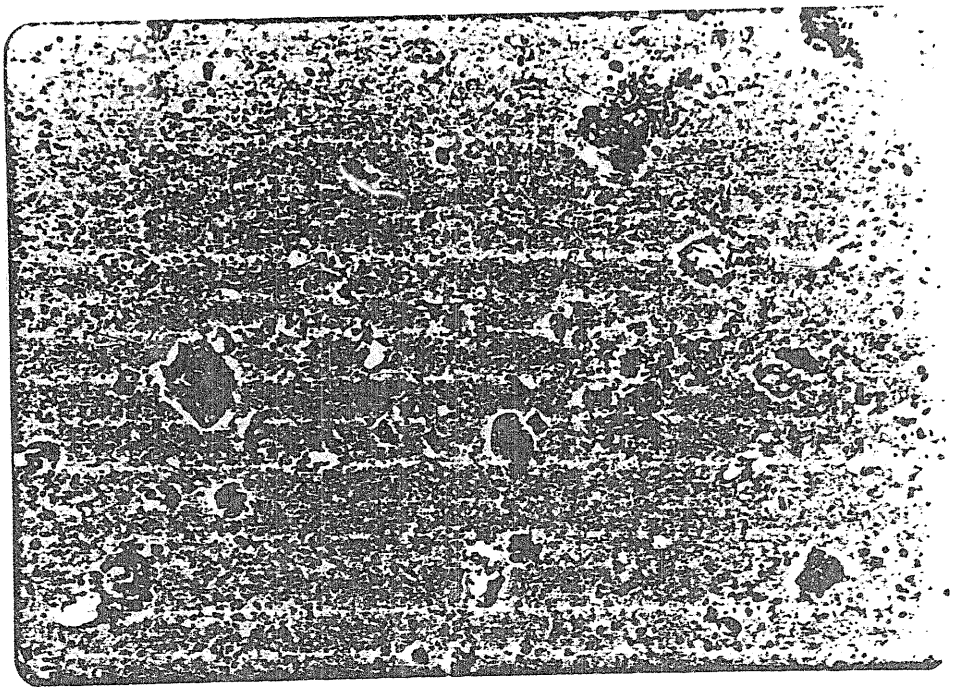
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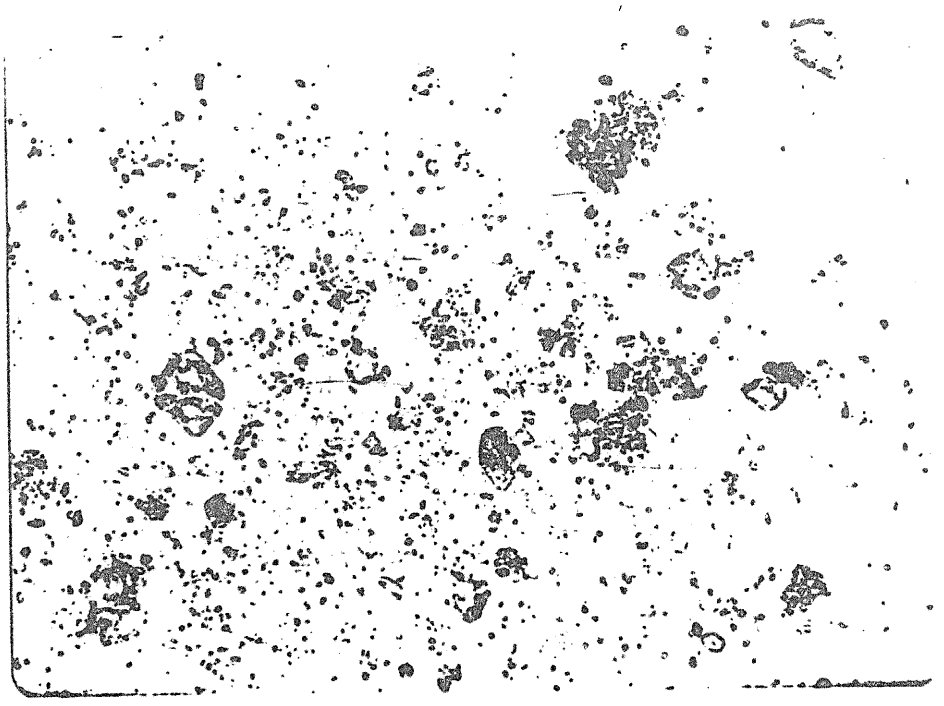
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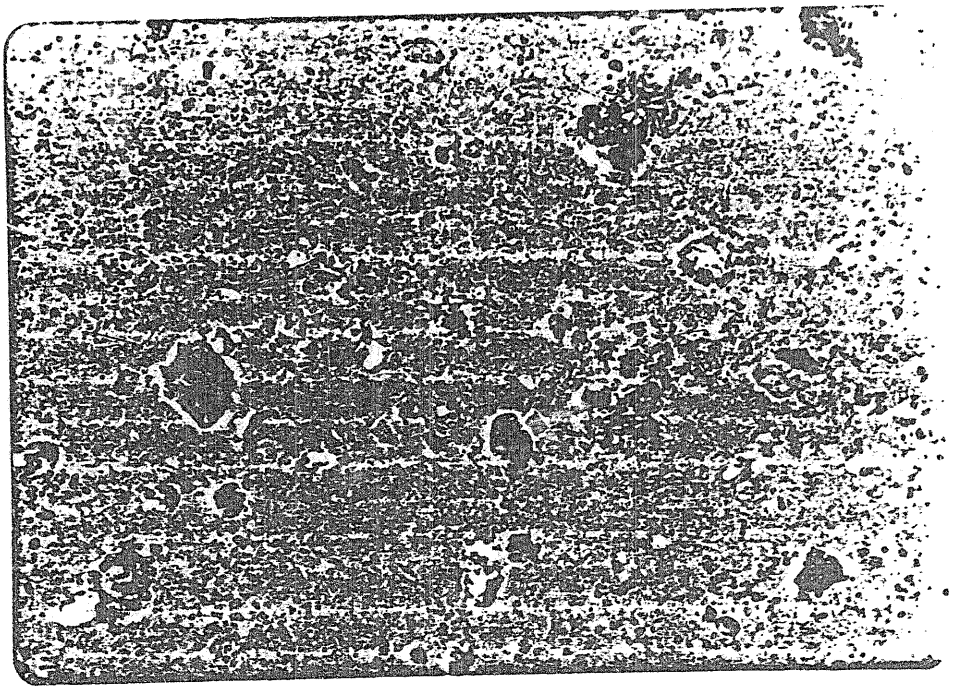
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Sample 1, 400X, Crossed Polars



Sample 1, 400X

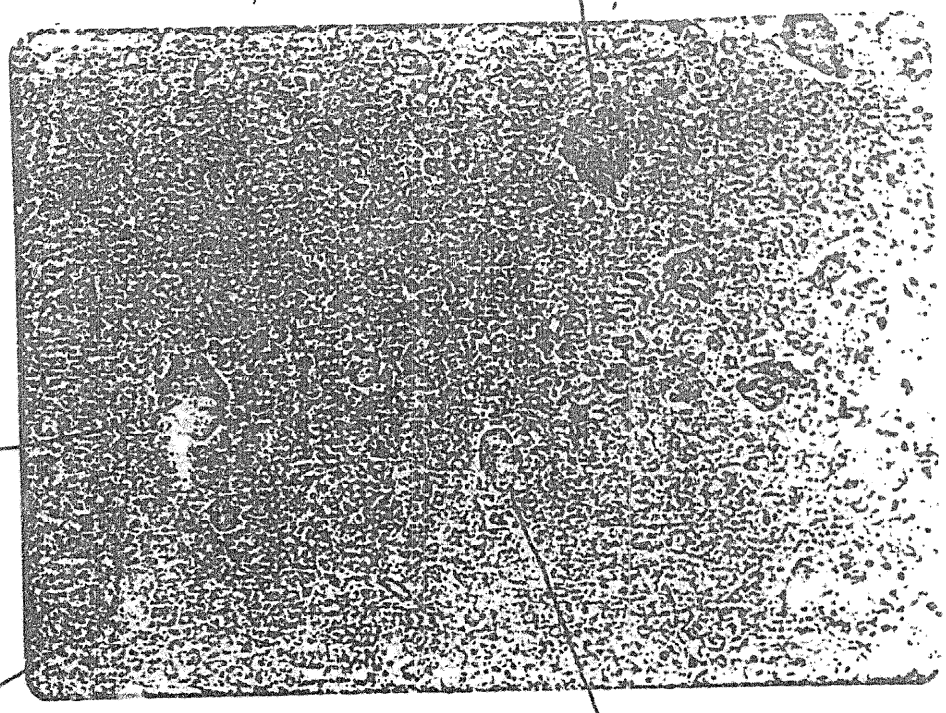


Sample 1, 400X, Crossed Polars

PARTICLE DATA LABORATORIES, LTD.

PDL Project: I-9213

Q/M



Q/M

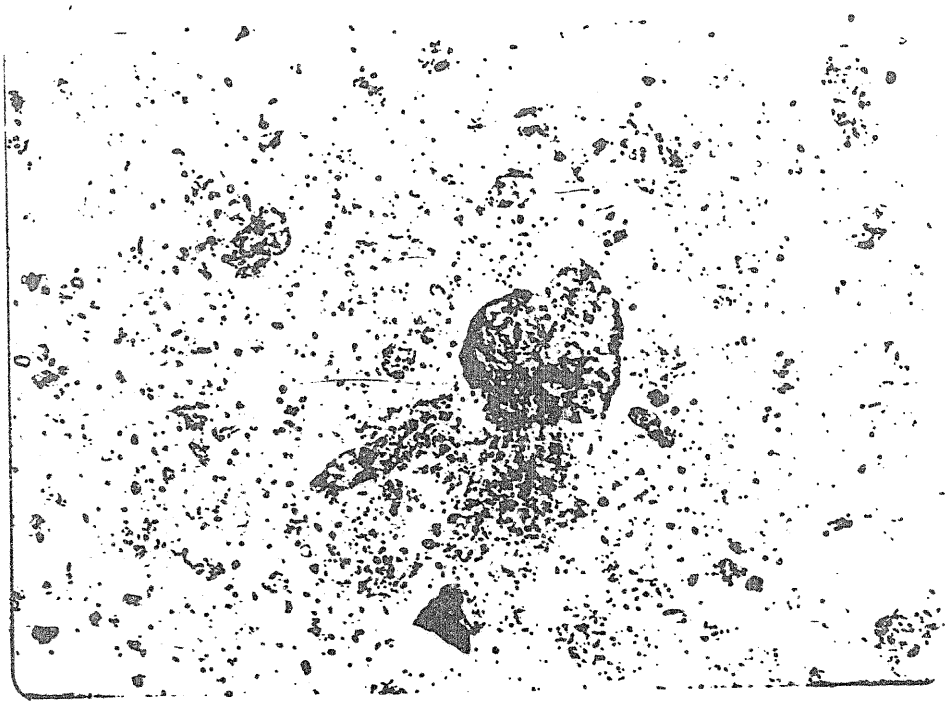
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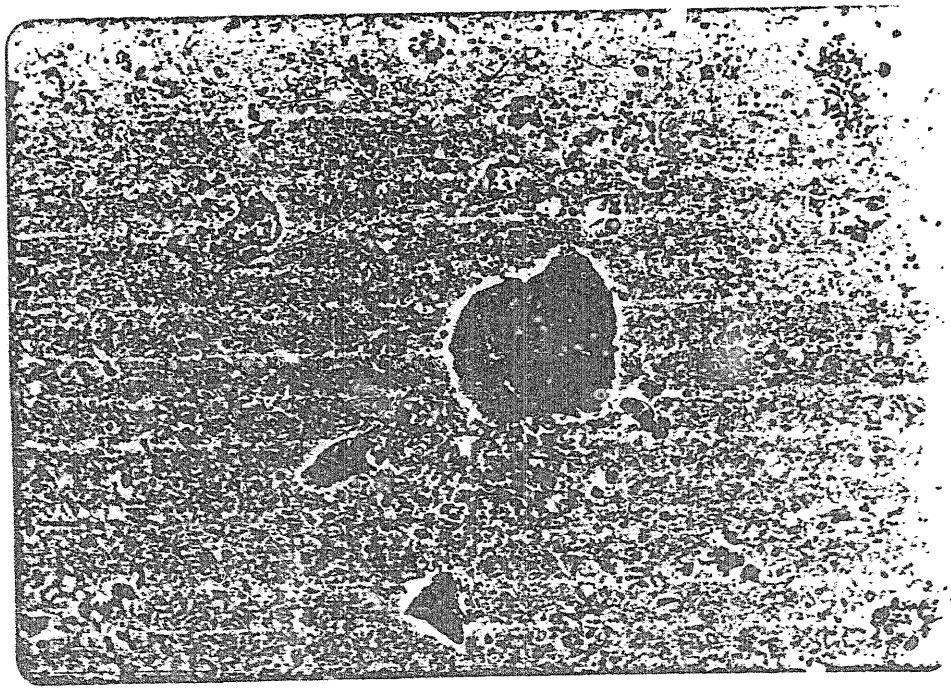
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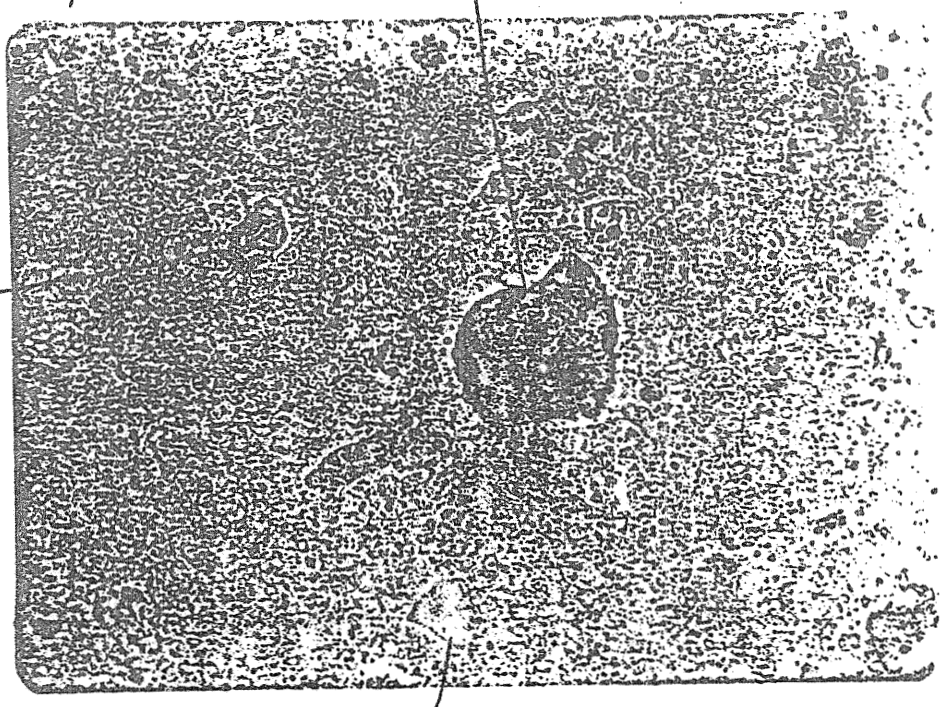


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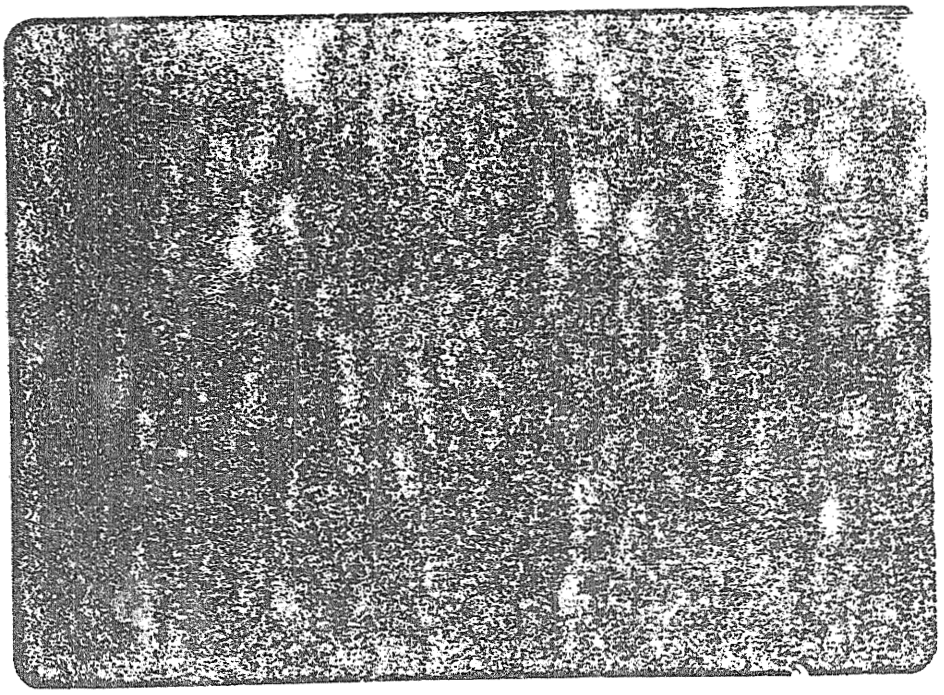


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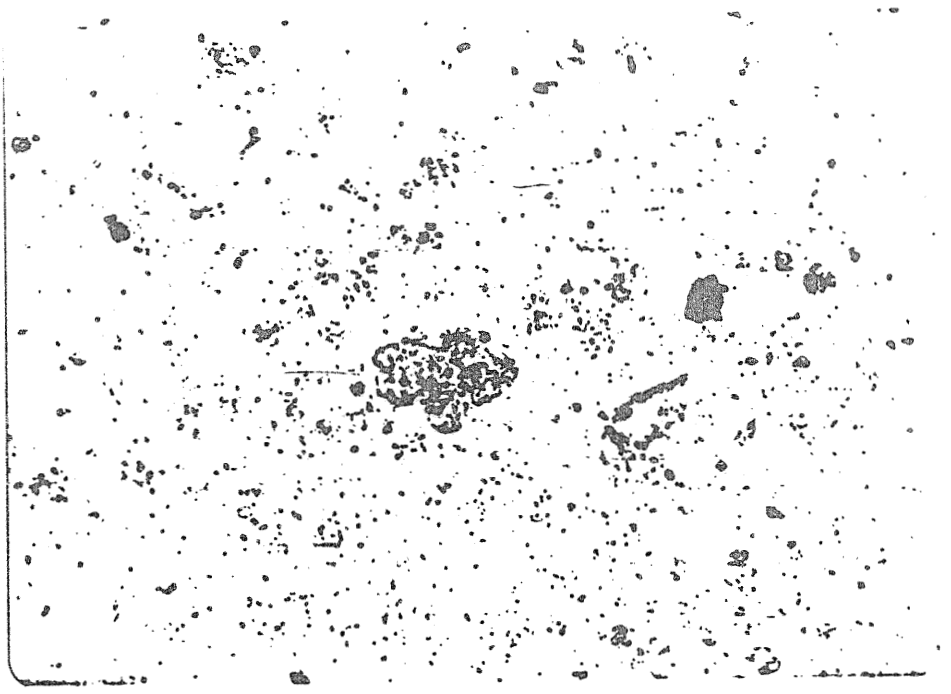
PARTICLE DATA LABORATORIES, LTD. PDL Project: I-8213



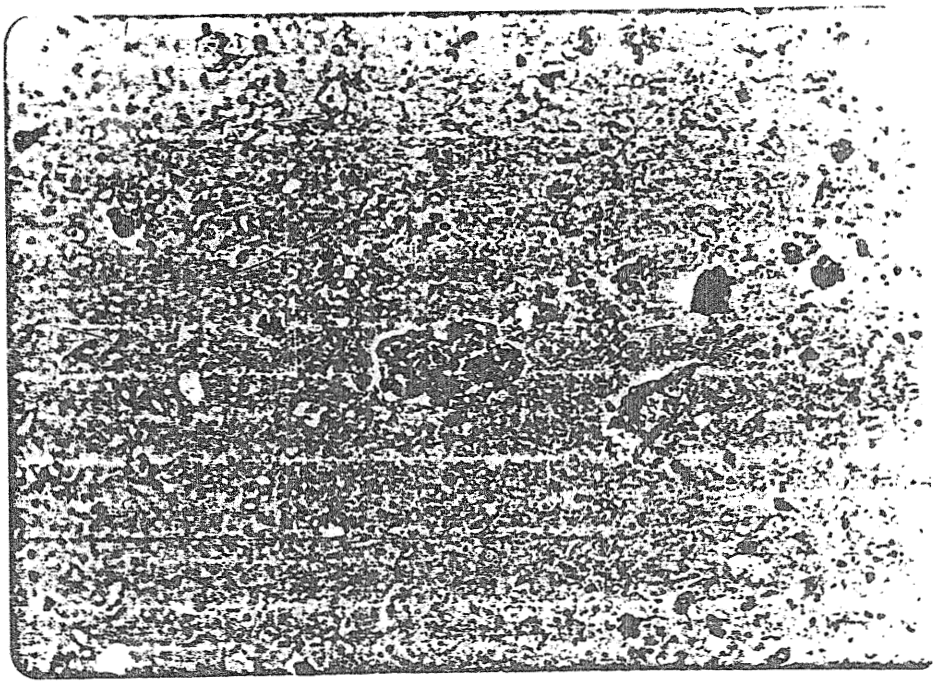
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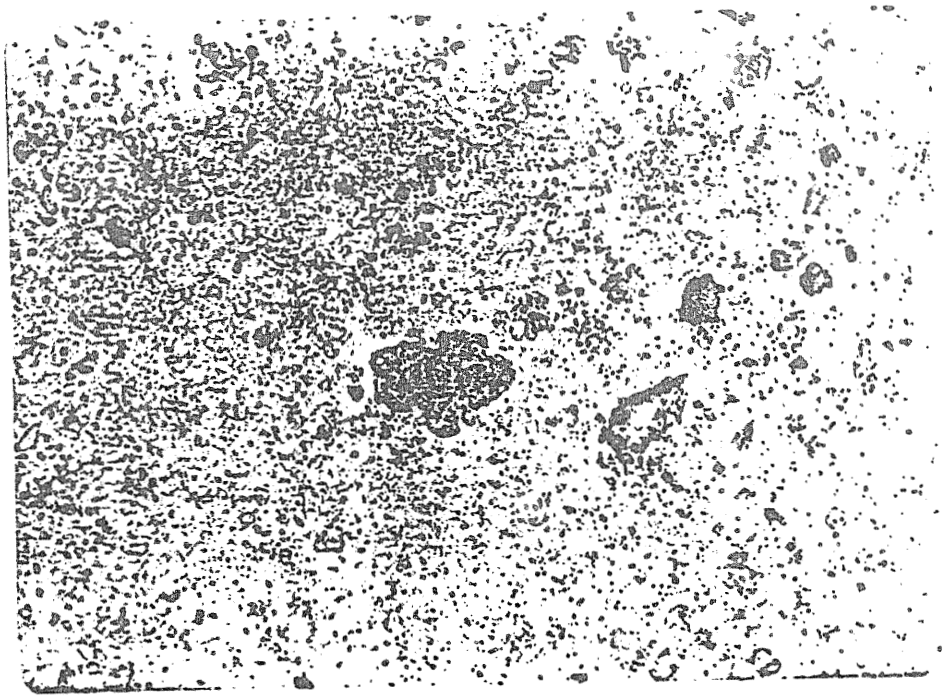
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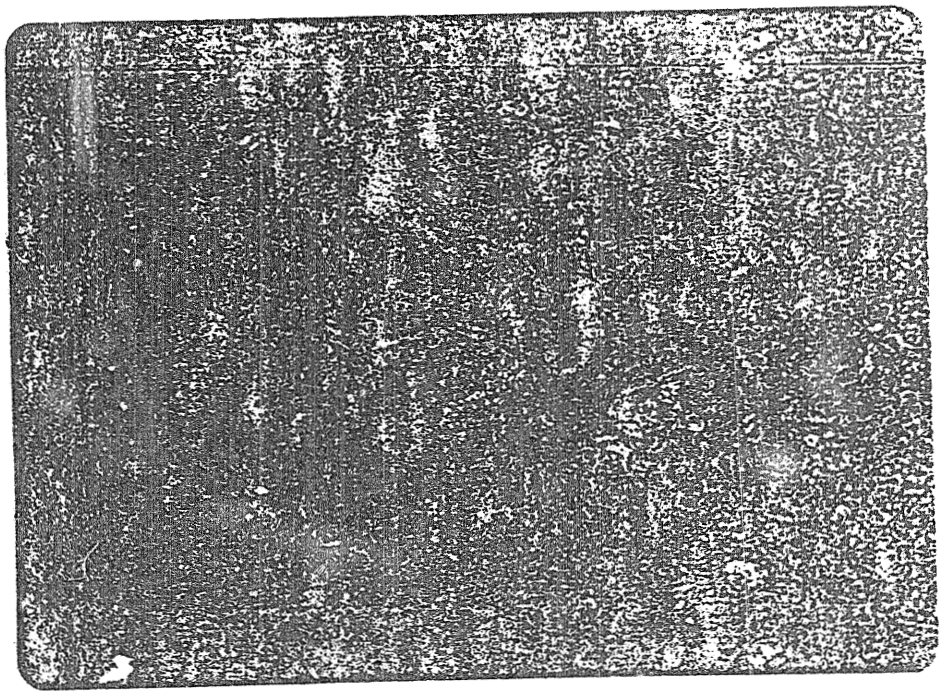
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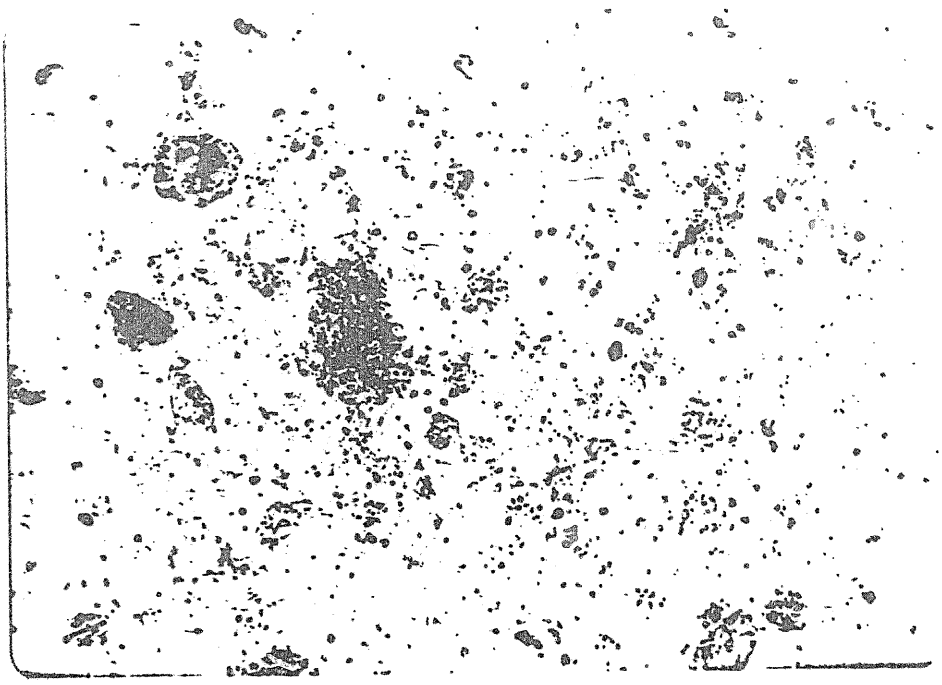
Sample 1, 400X, Crossed Polars



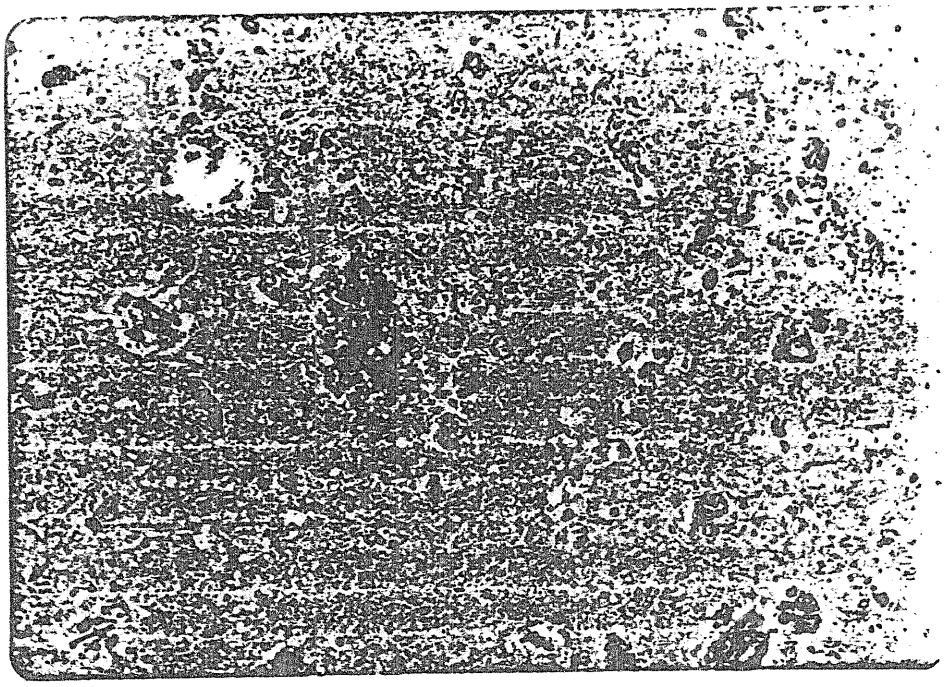
Sample 1, 400X



Sample 1, 400X, Crossed Polars



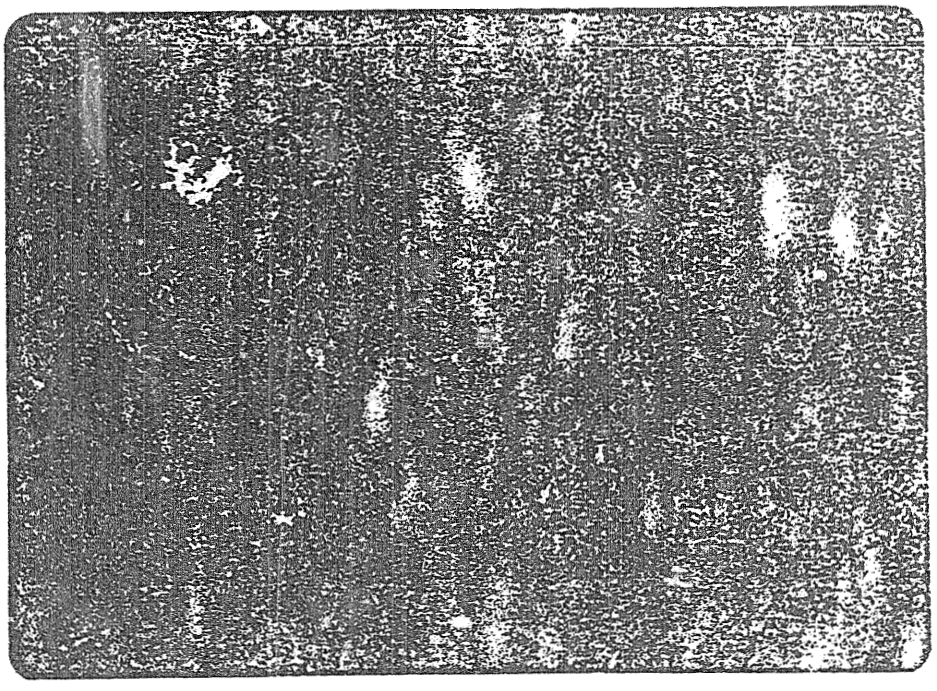
Sample 1, 400X



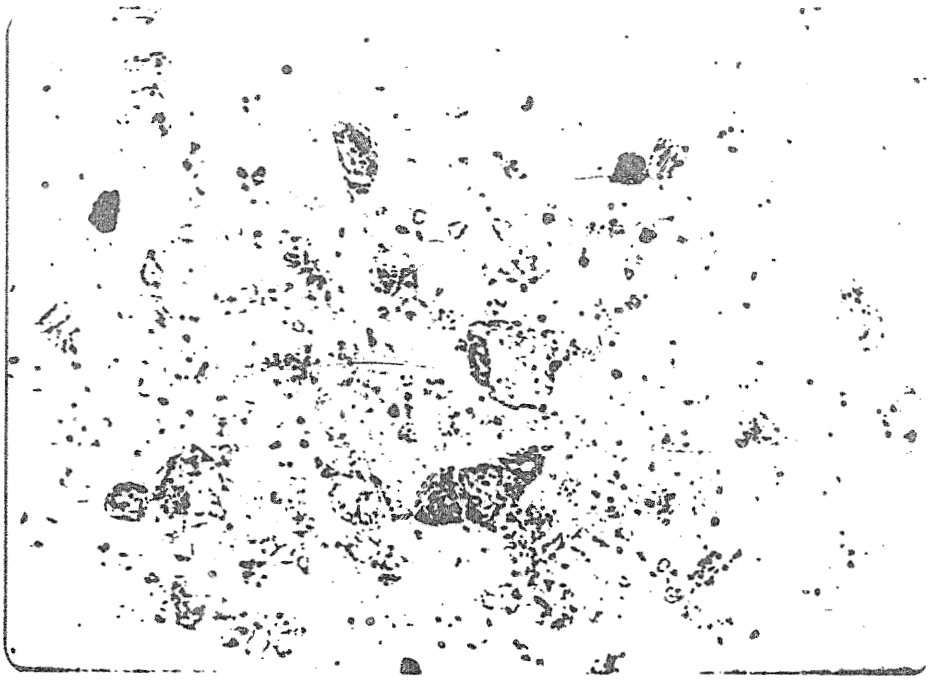
Sample 1, 400X, Crossed Polars



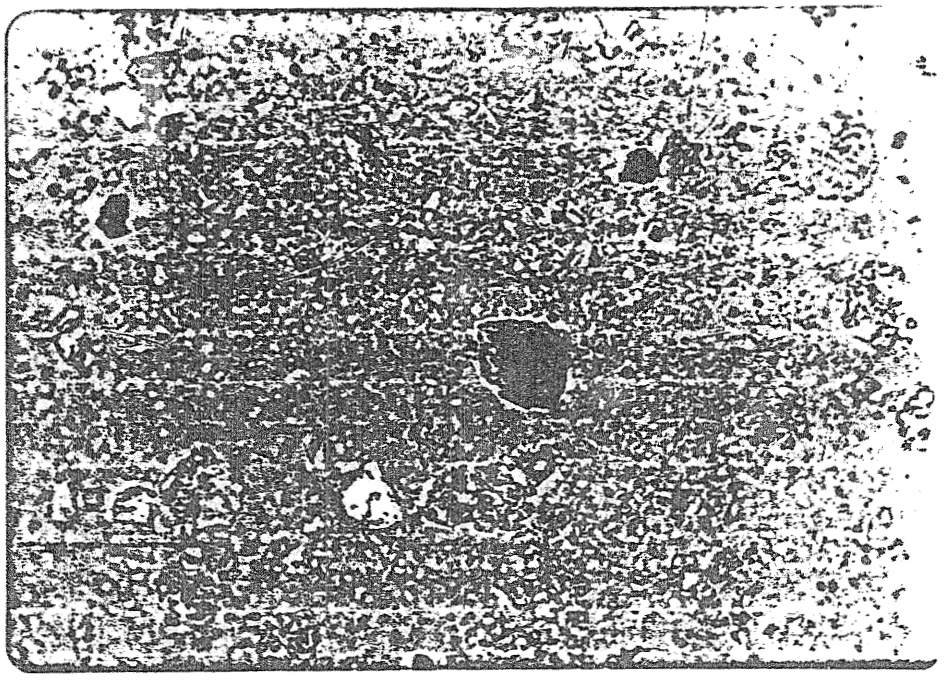
Sample 1, 400X



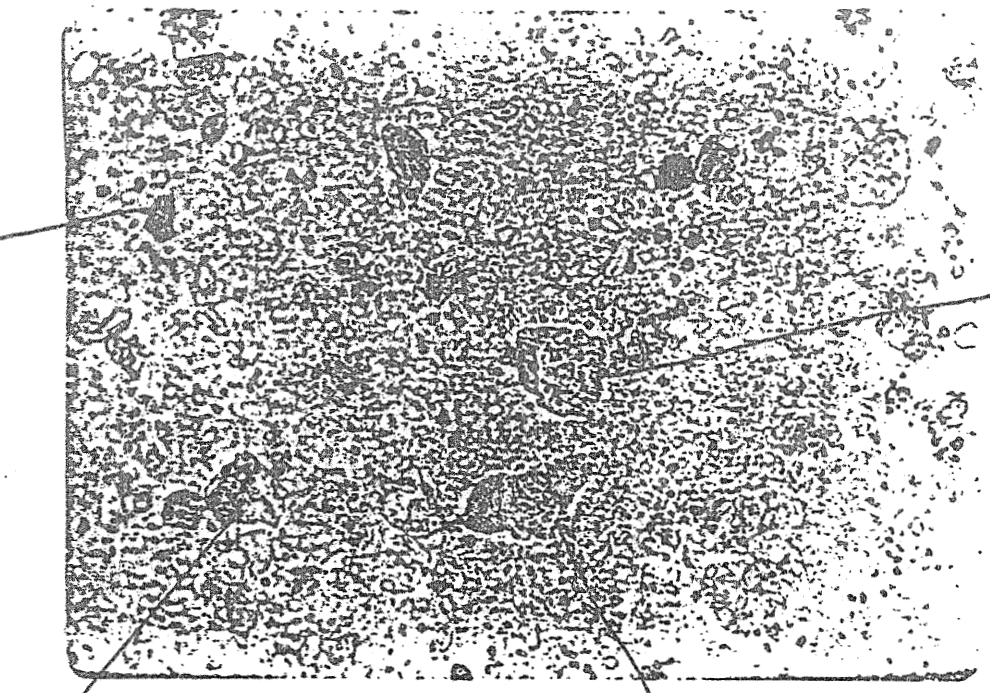
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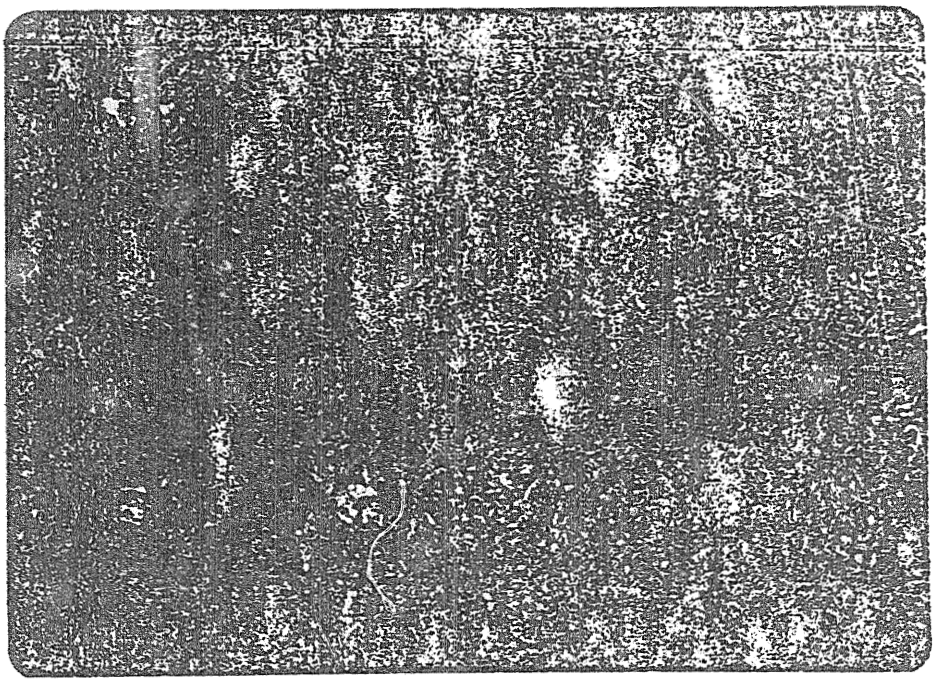
Sample 1, 400X



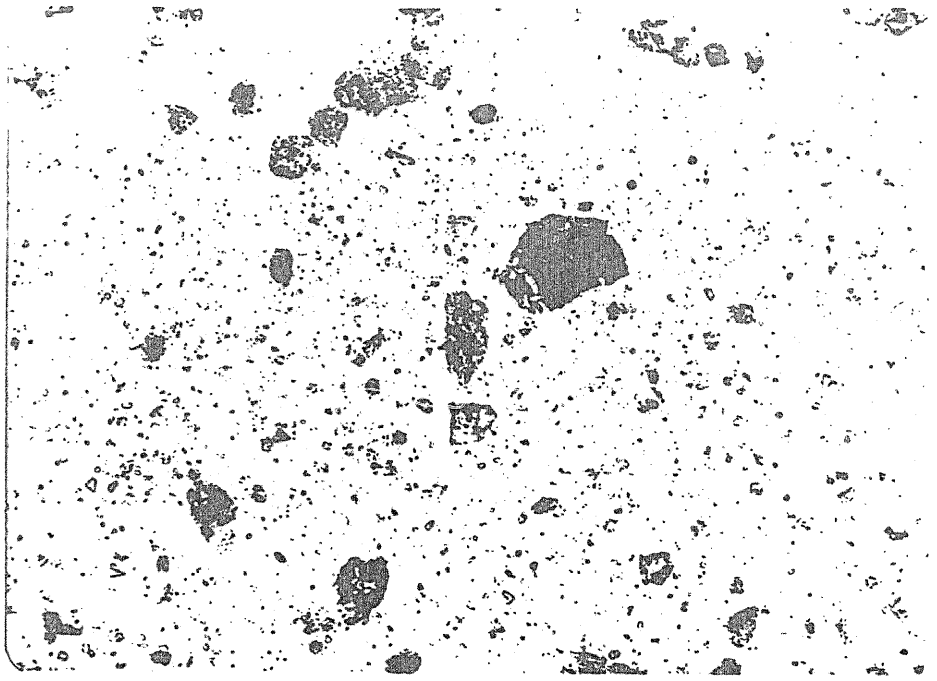
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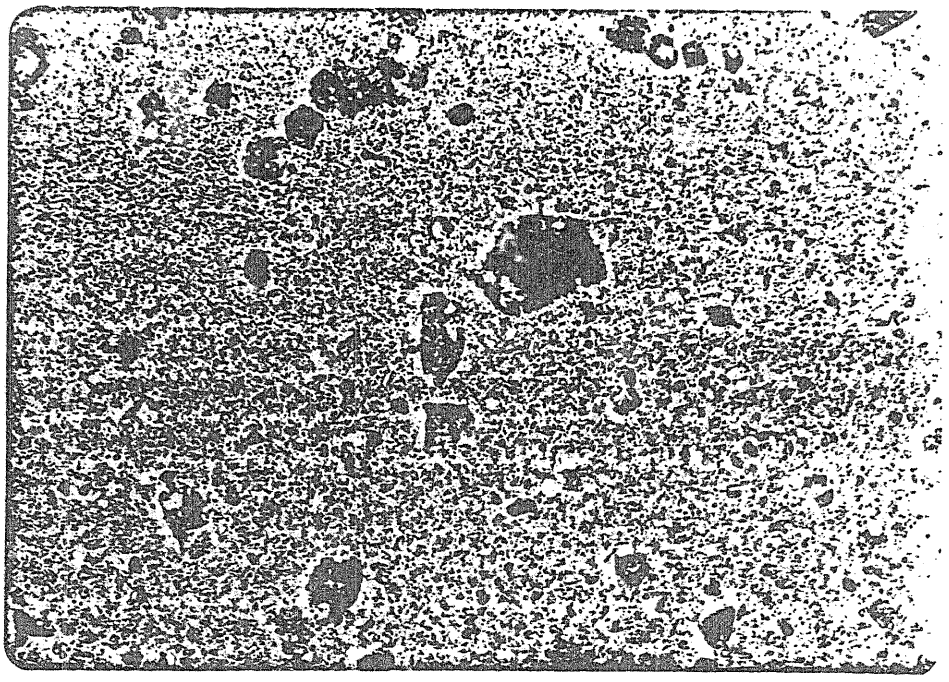
Sample 1, 400X



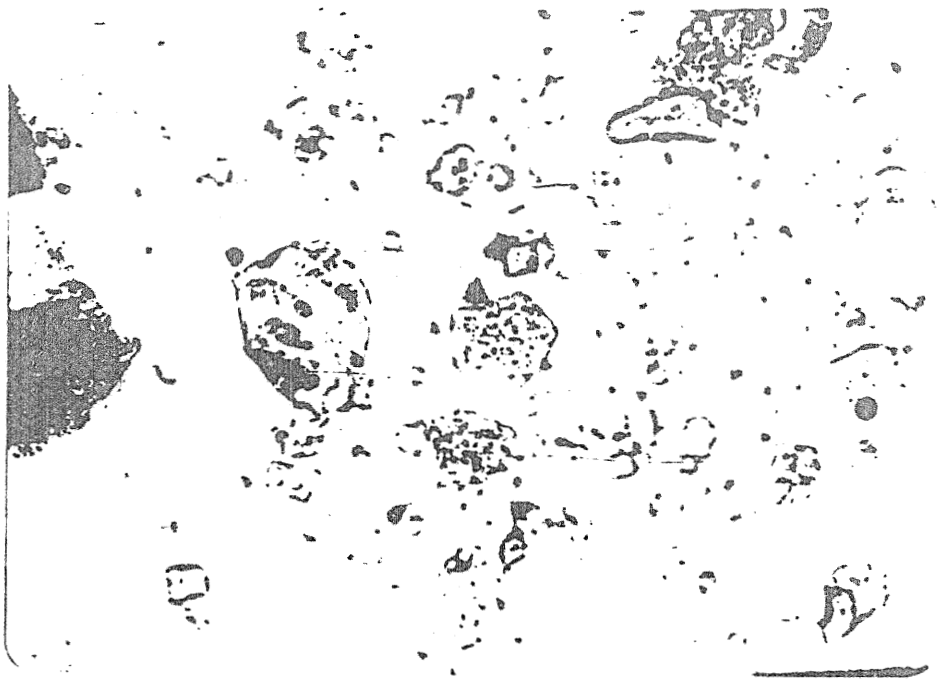
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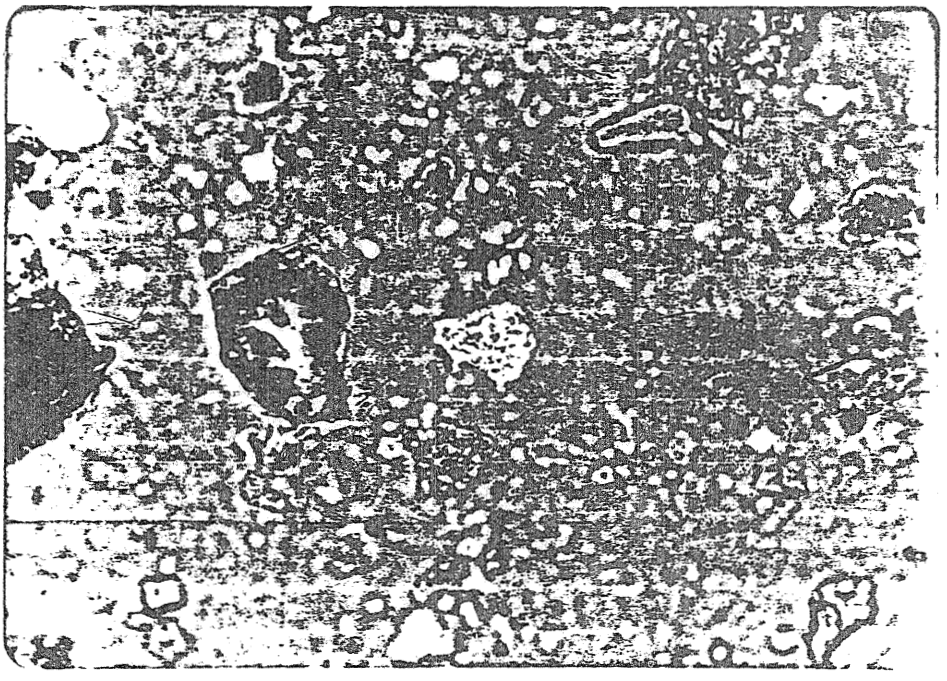
Sample 2, 100X



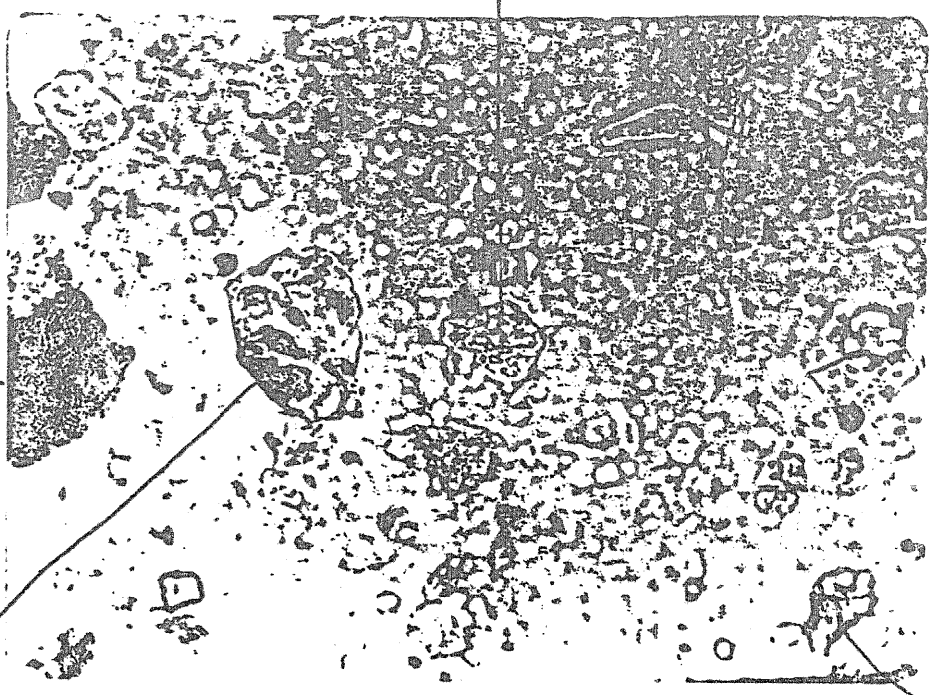
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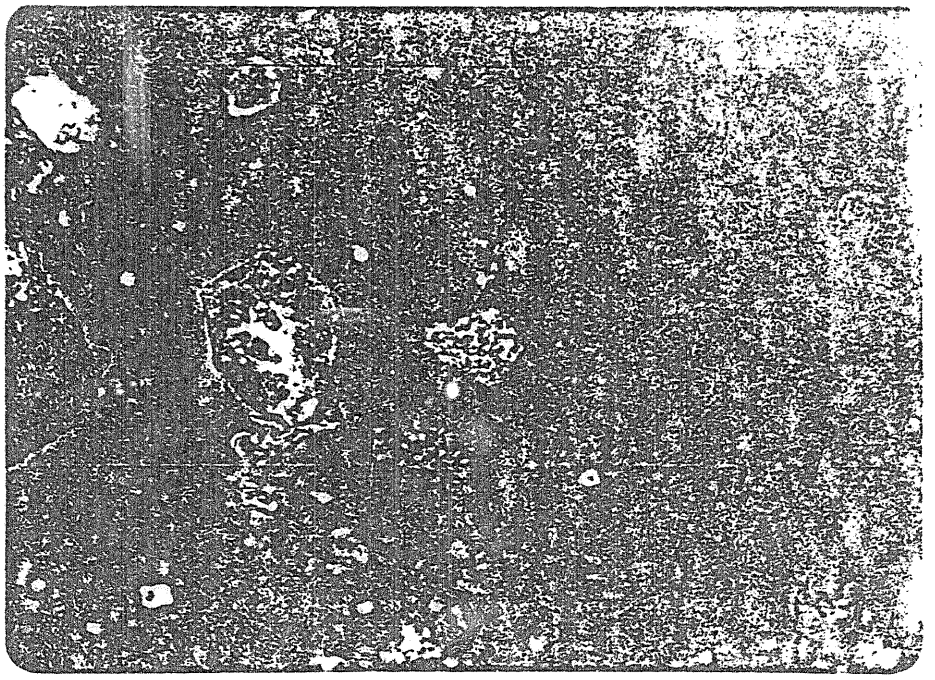
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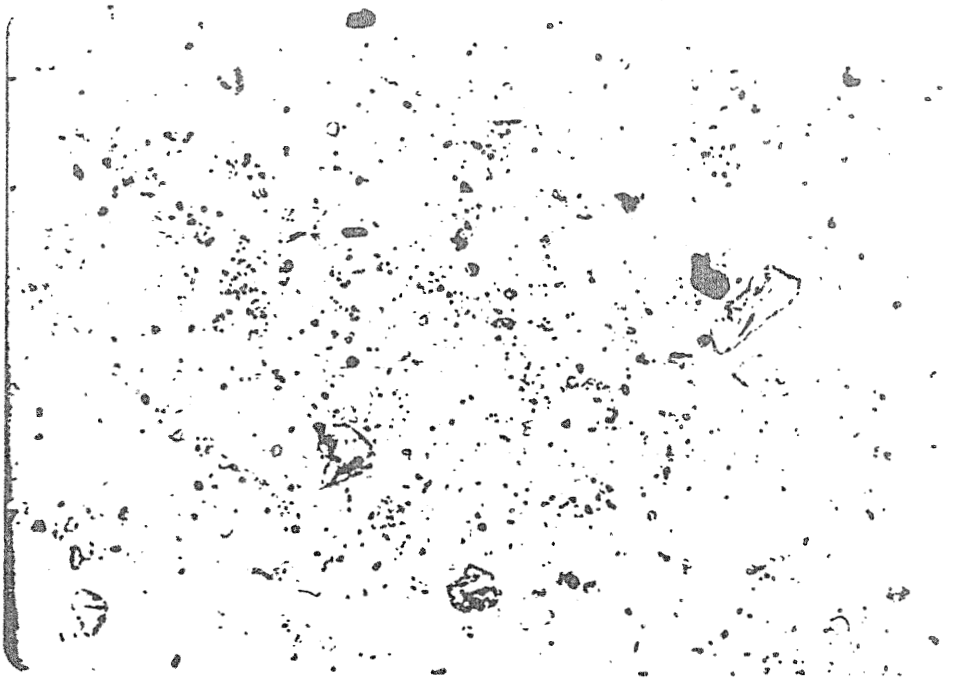
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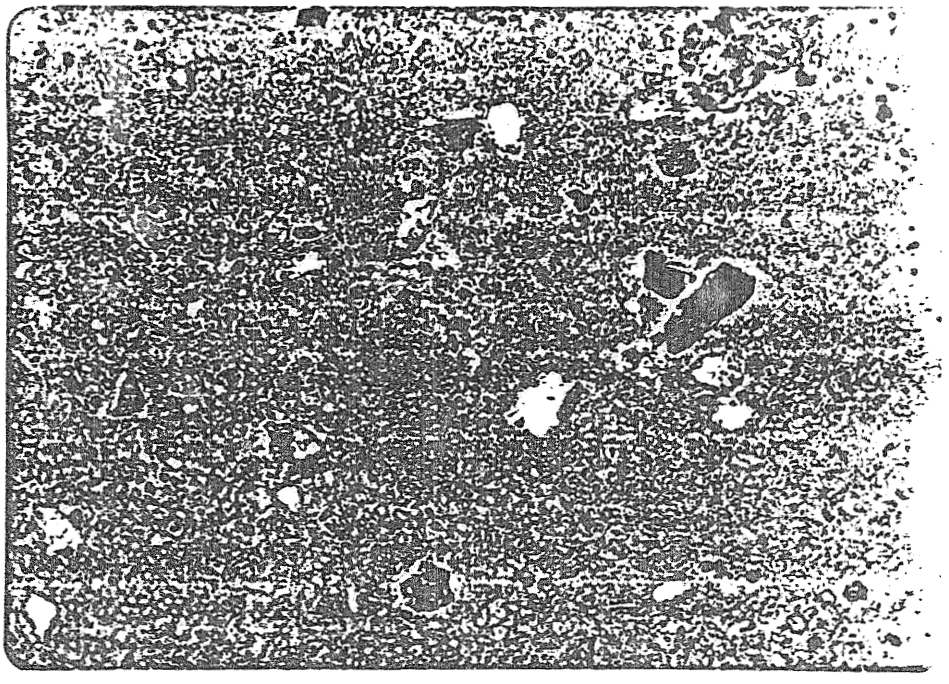
Sample 2, 400X



Sample 2, 400X, Crossed Polars



Sample 2, 400X

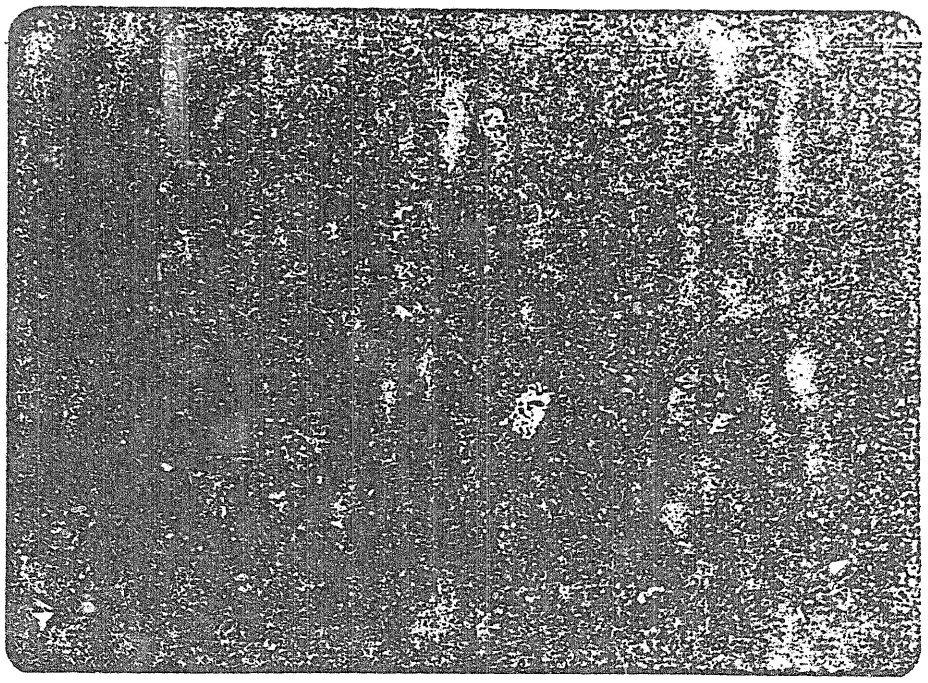


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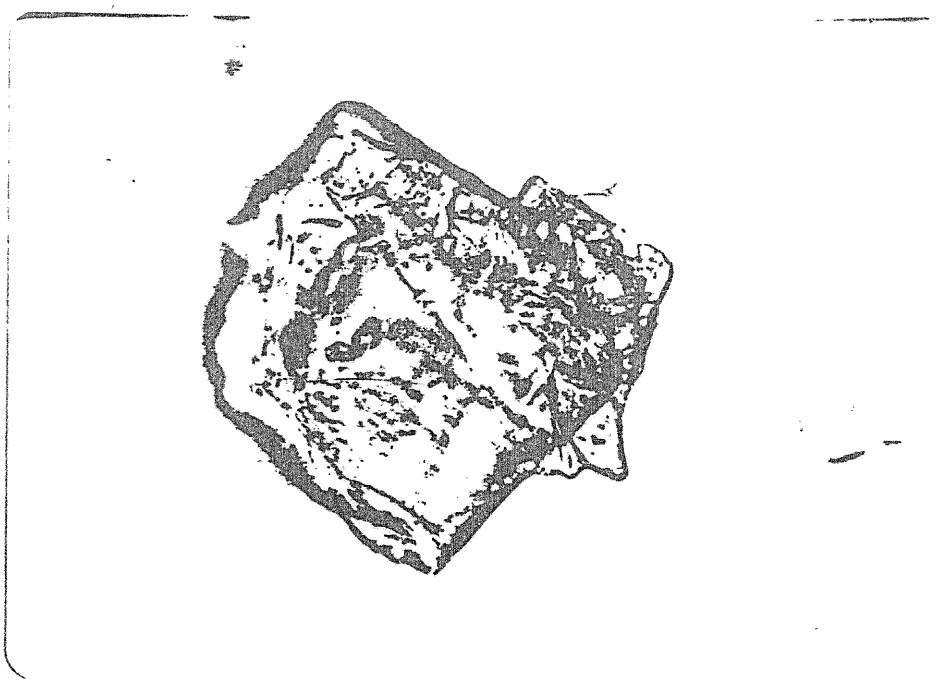
PDL Project: I-8213



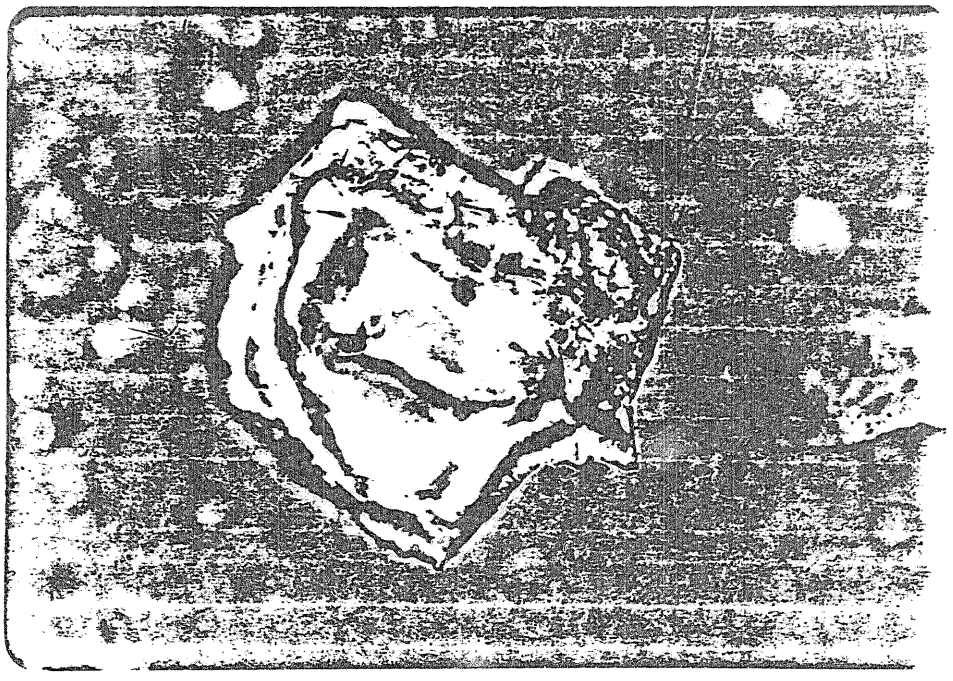
Sample 2, 400X



Sample 2, 400X, Crossed Polars



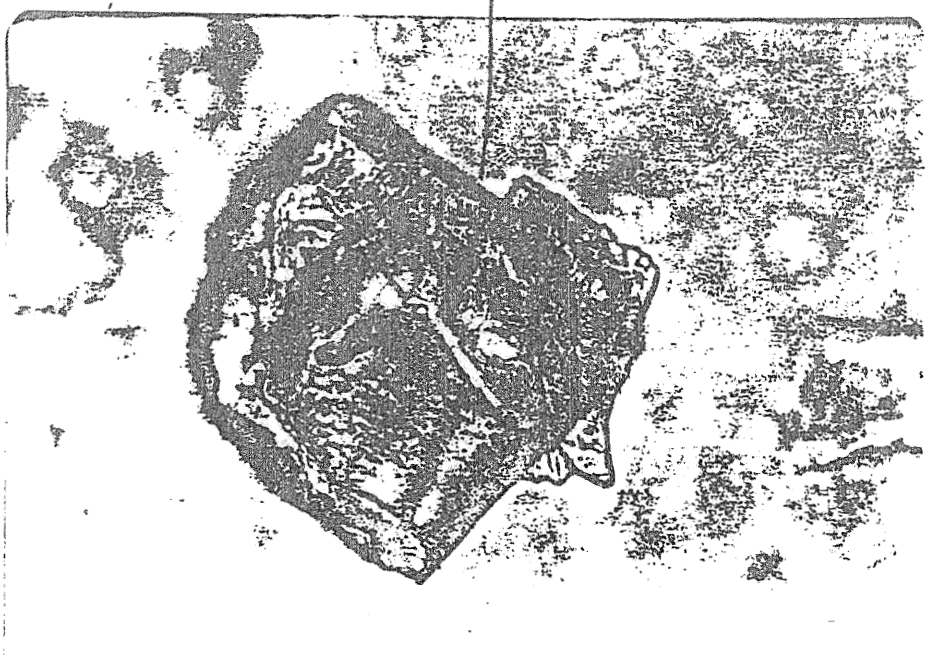
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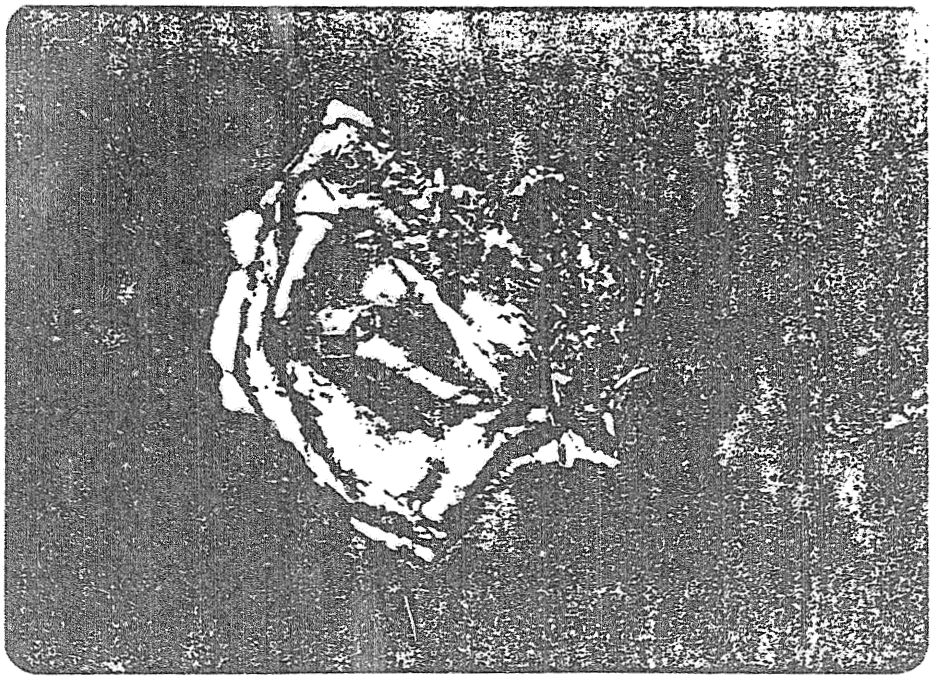
Sample 2, 400X, Crossed Polars

F

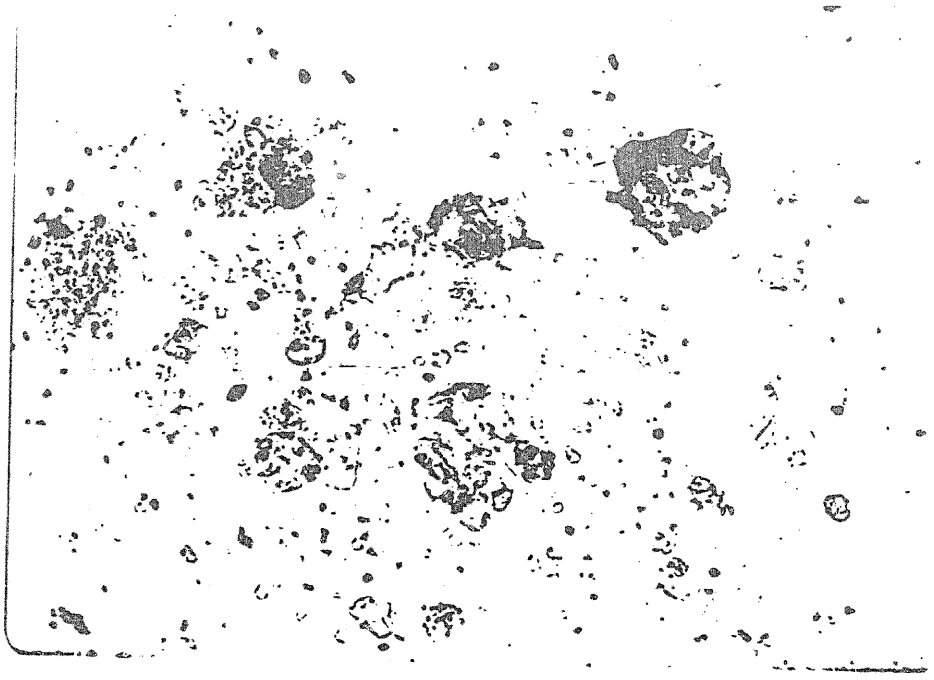
PDL Project: I-8213



Sample 2, 400X



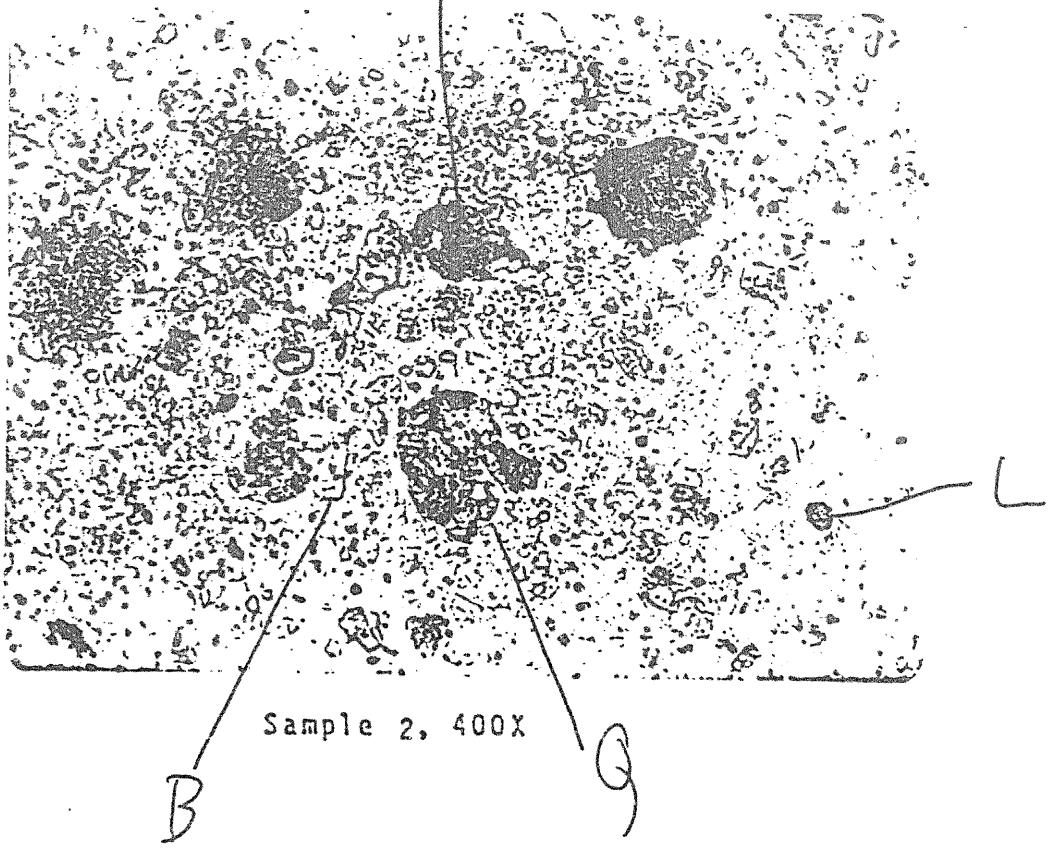
Sample 2, 400X, Crossed Polars



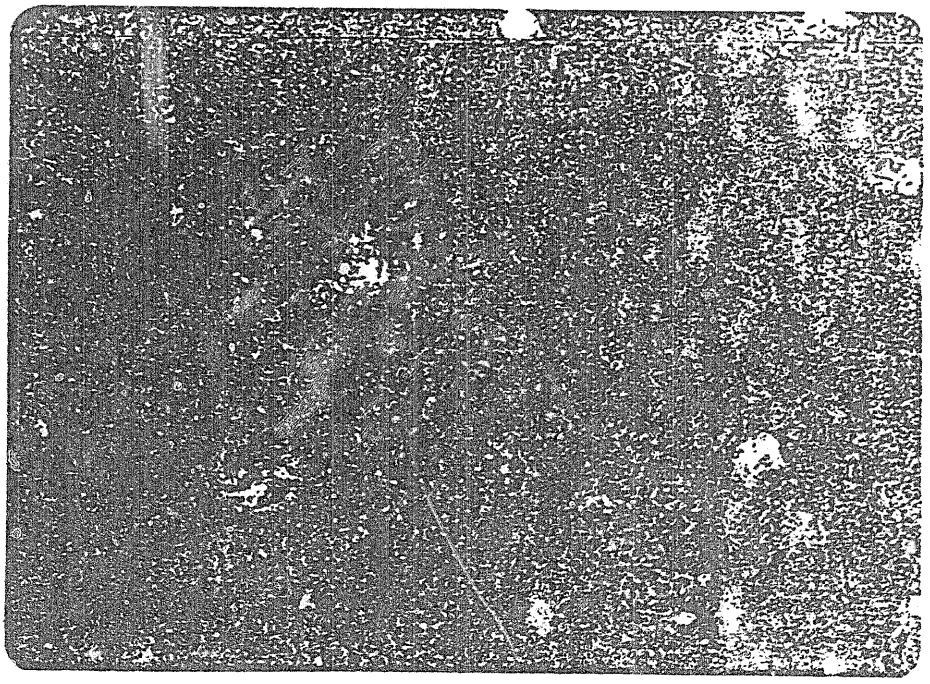
Sample 2, 400X



Sample 2, 400X, Crossed Polars



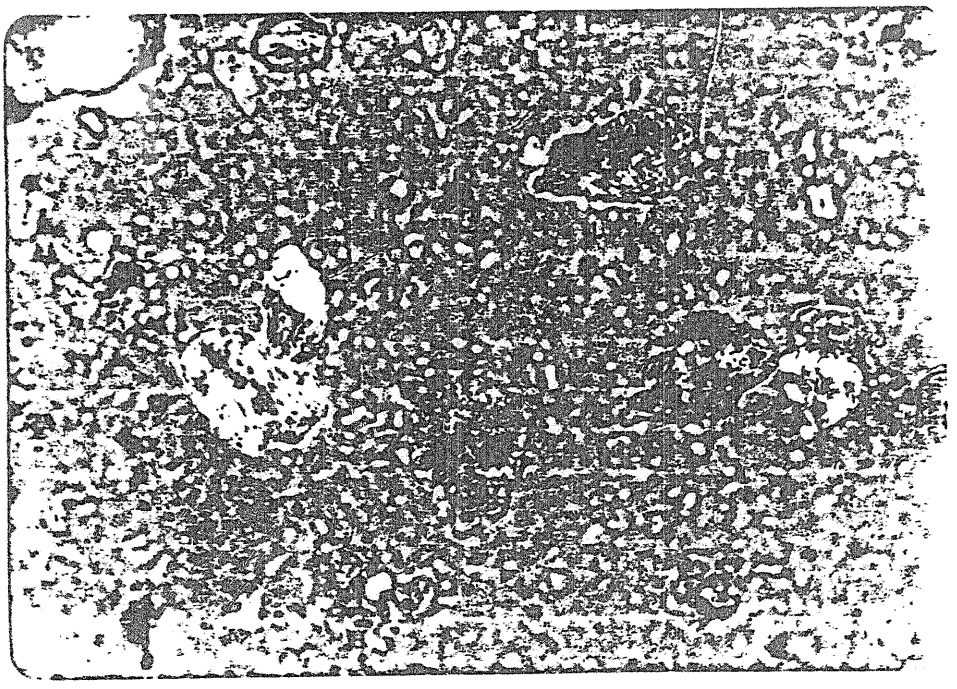
Sample 2, 400X



Sample 2, 400X, Crossed Polars



Sample 2, 400X

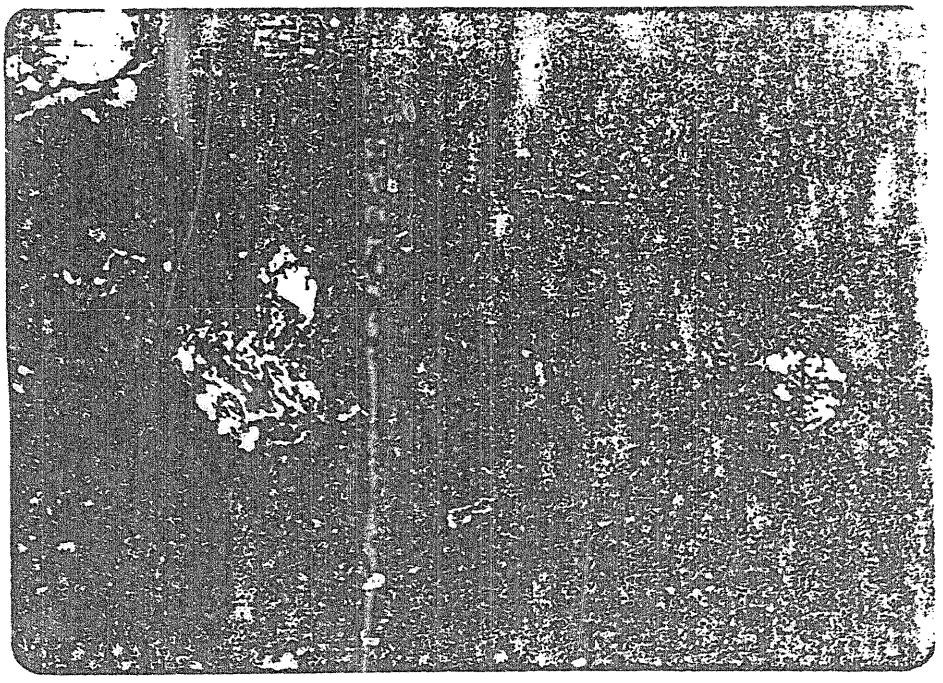


Sample 2, 400X, Crossed Polars

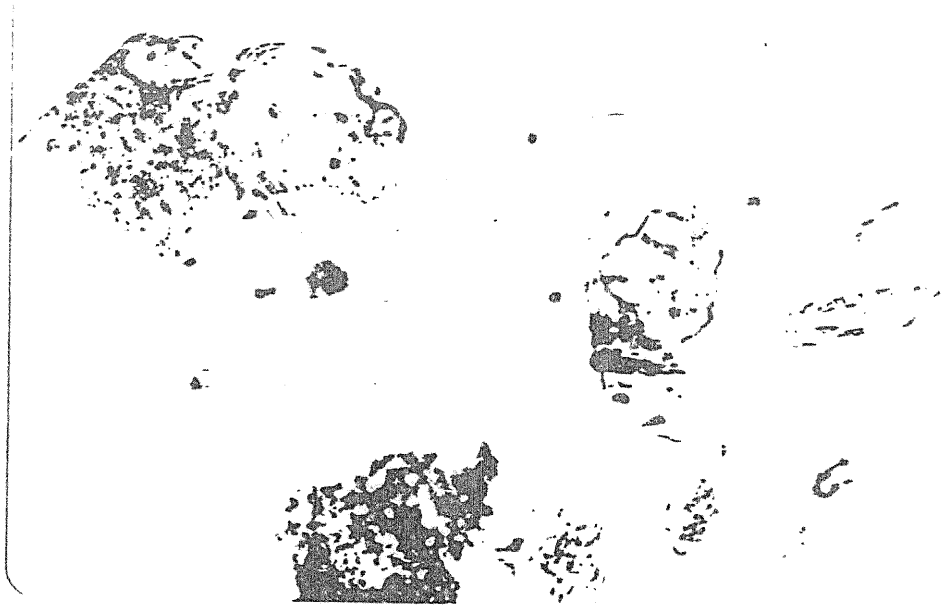
PARTICLE DATA LABORATORIES, LTD. A P PDL Project: I-8213



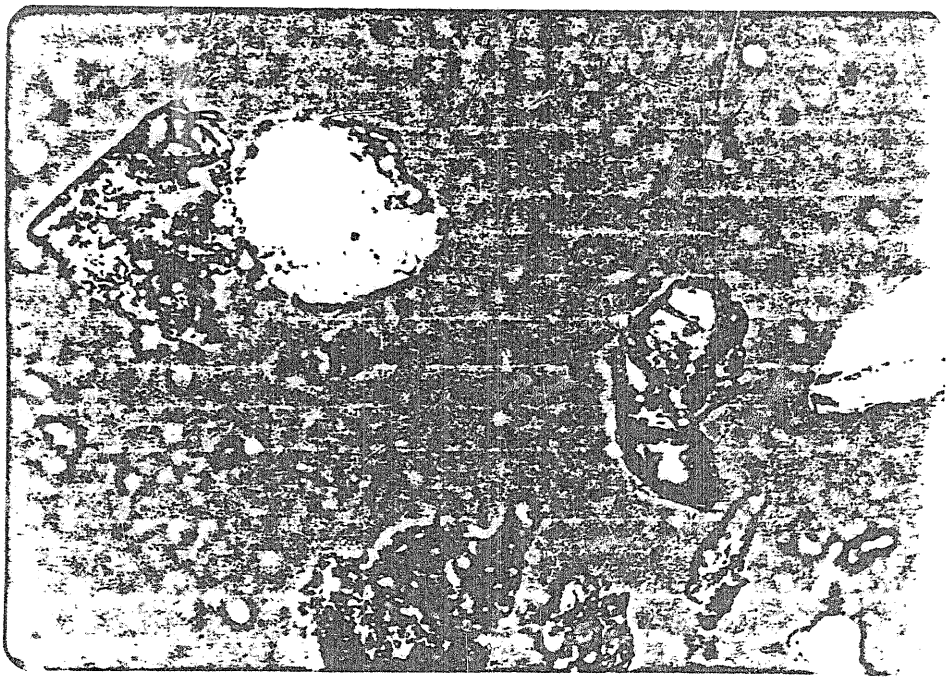
Sample 2, 400X



Sample 2, 400X, Crossed Polars



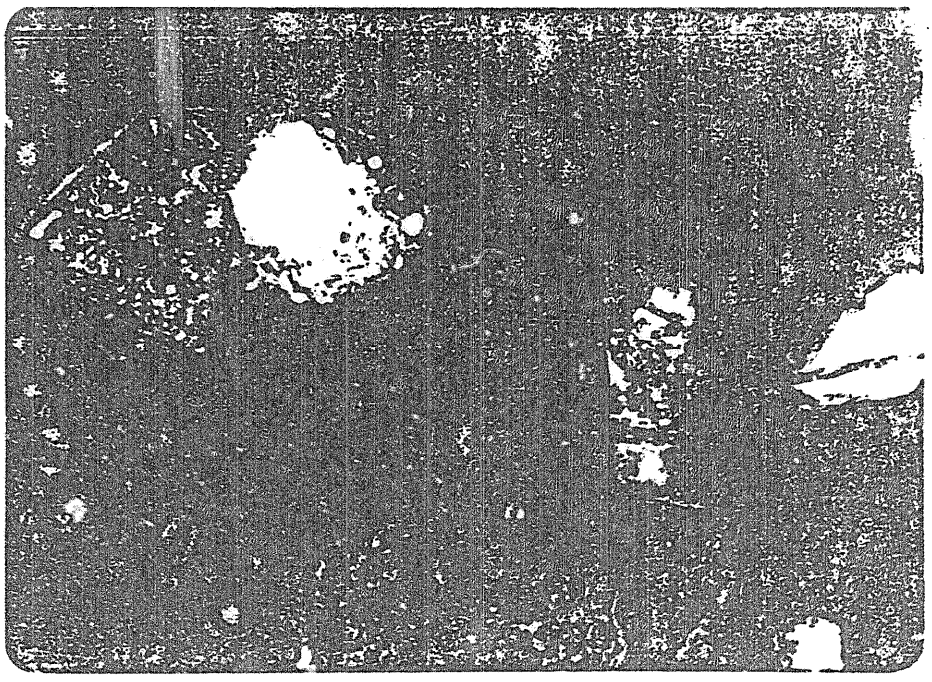
Sample 2, 400X



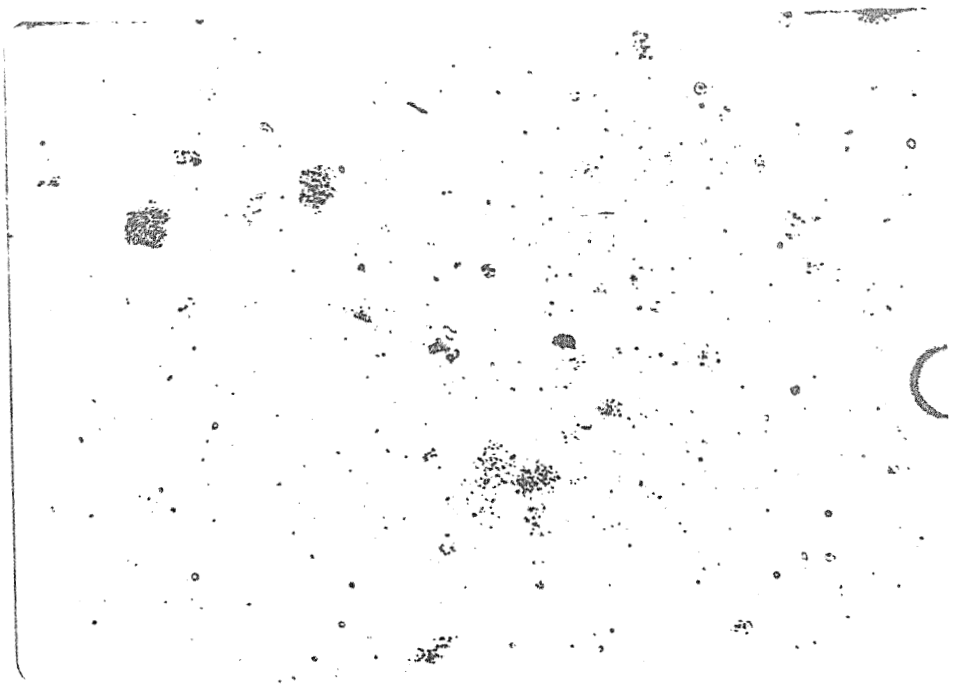
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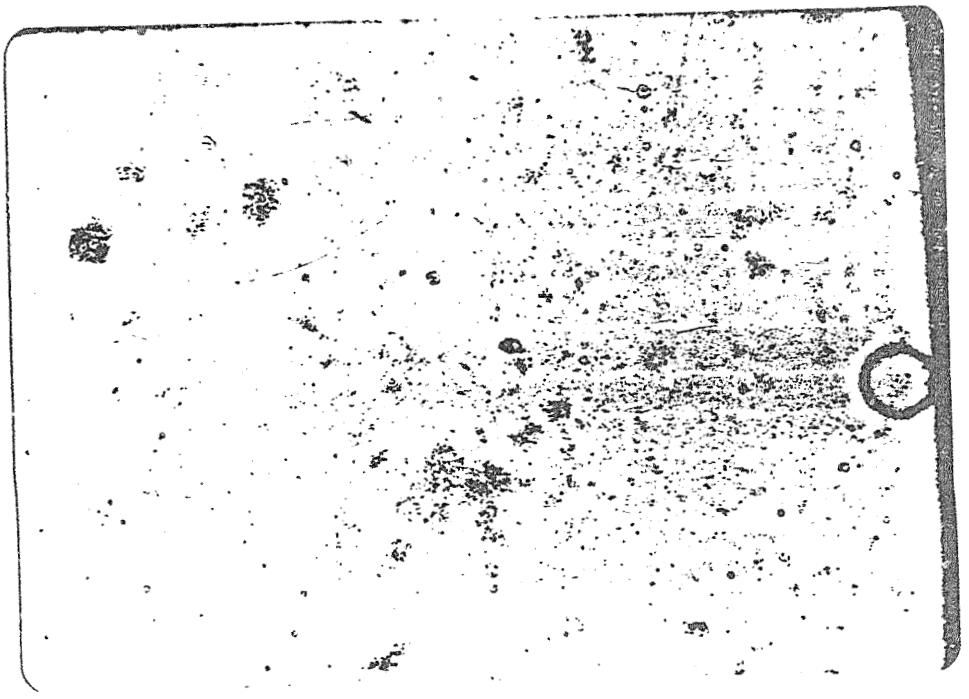
Sample 2, 400X



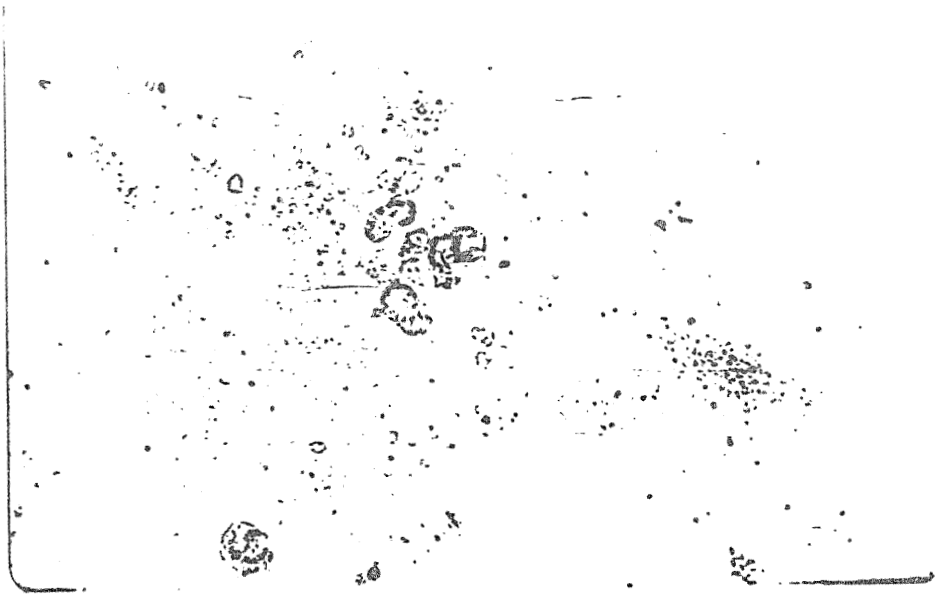
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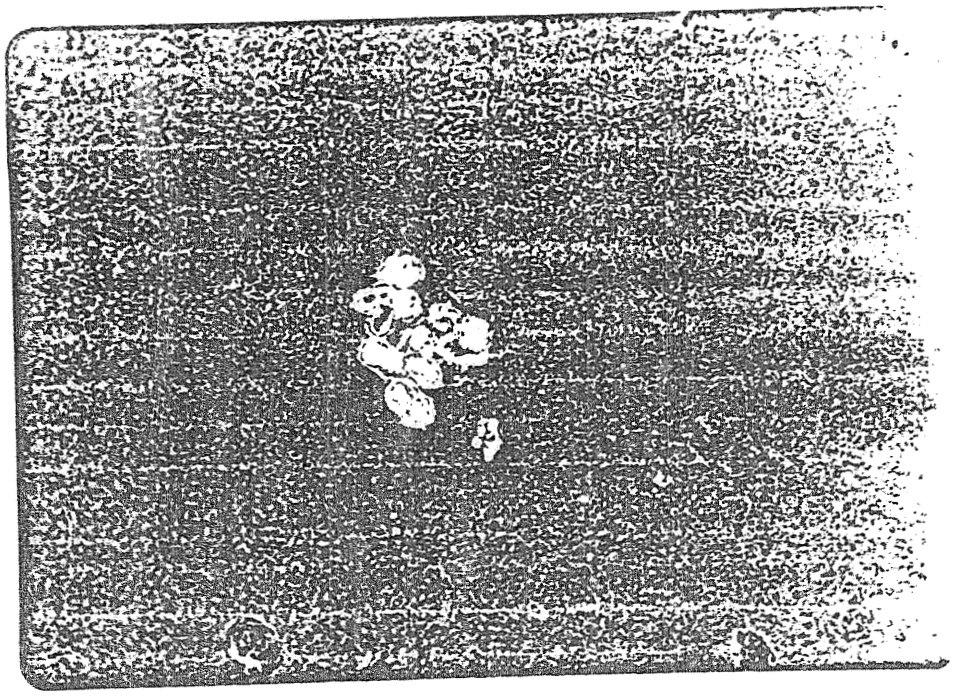
Sample 3, 100X



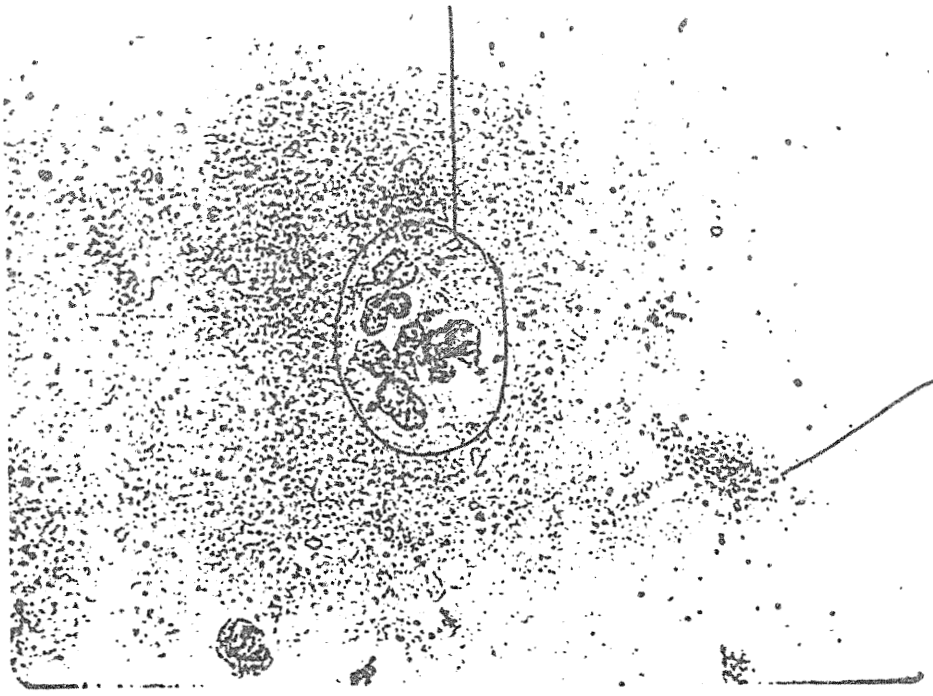
Sample 3, 100X, Crossed Polars



Sample 3, 400X

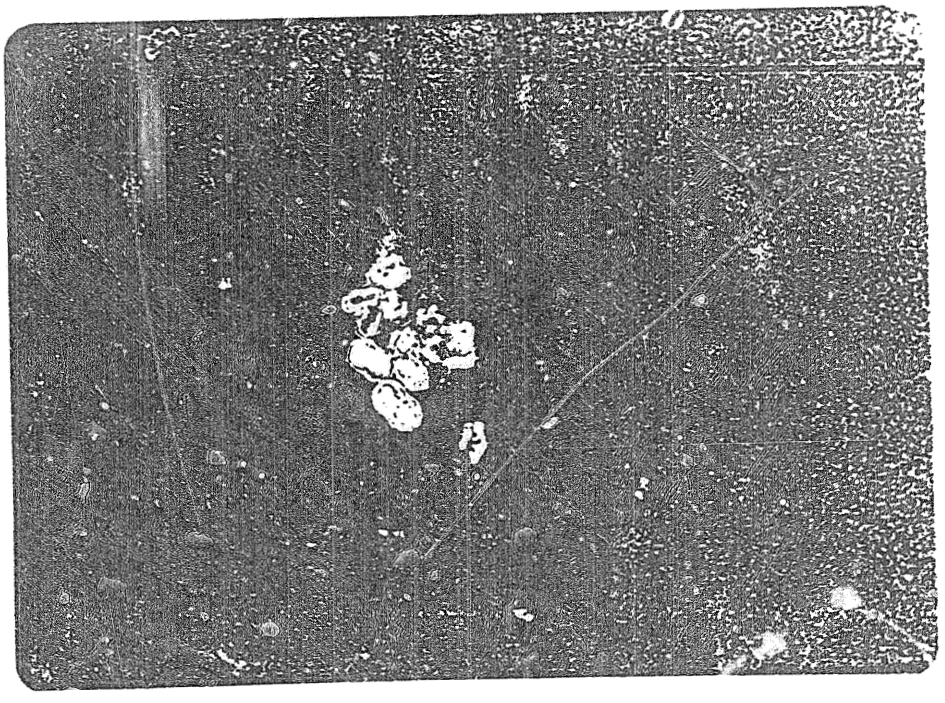


Sample 3, 400X, Crossed Polars

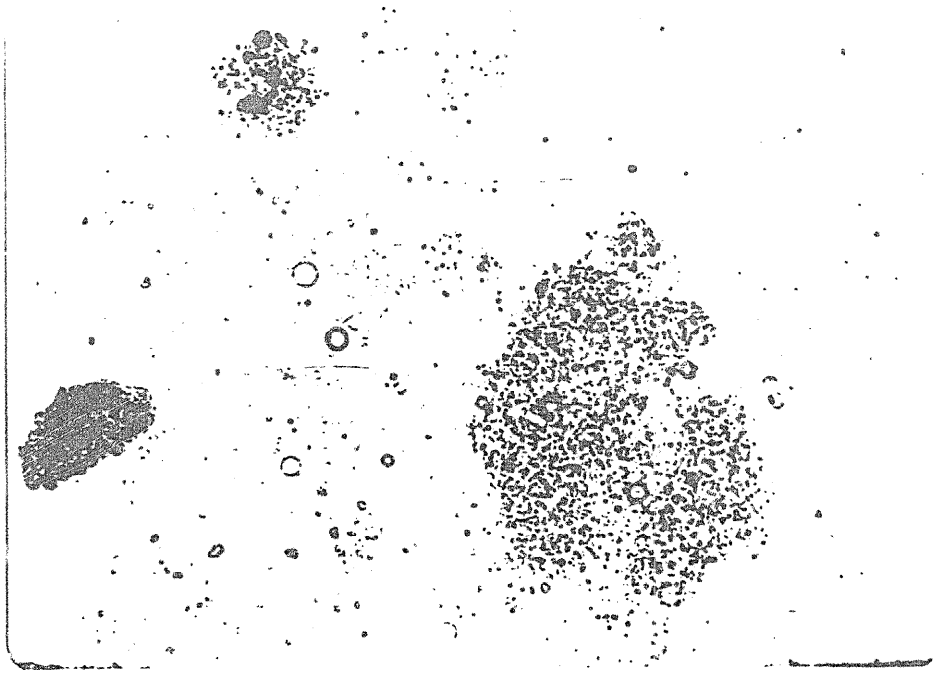


CS/M,9

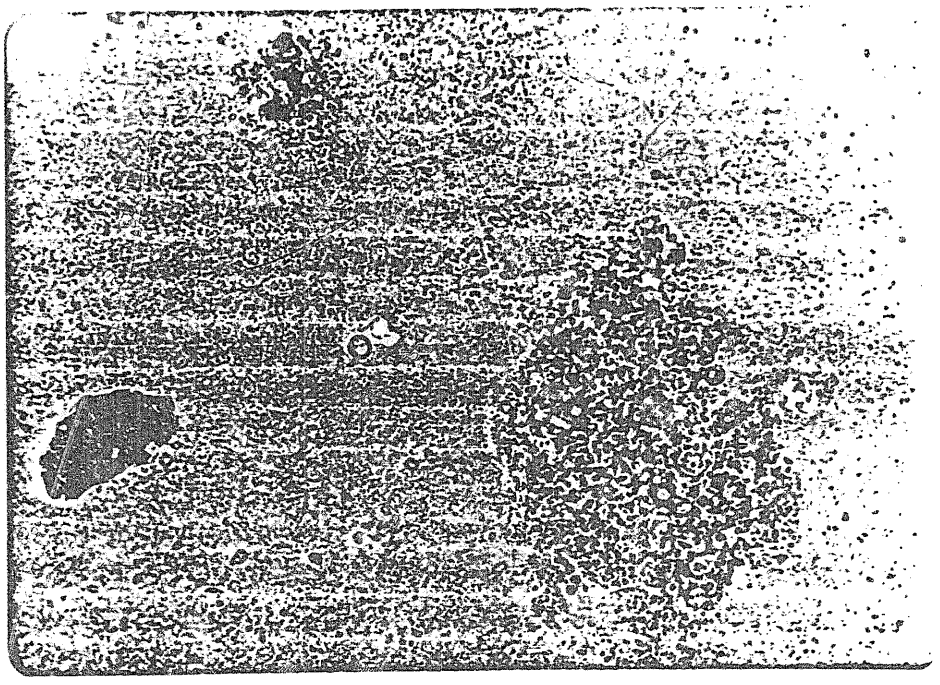
Sample 3, 400X



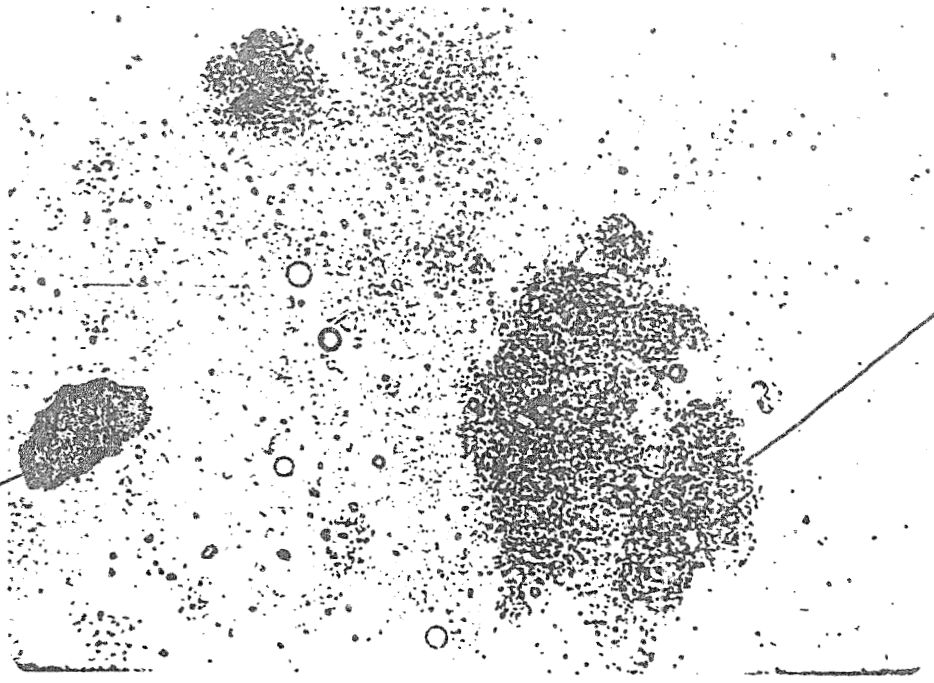
Sample 3, 400X, Crossed Polars



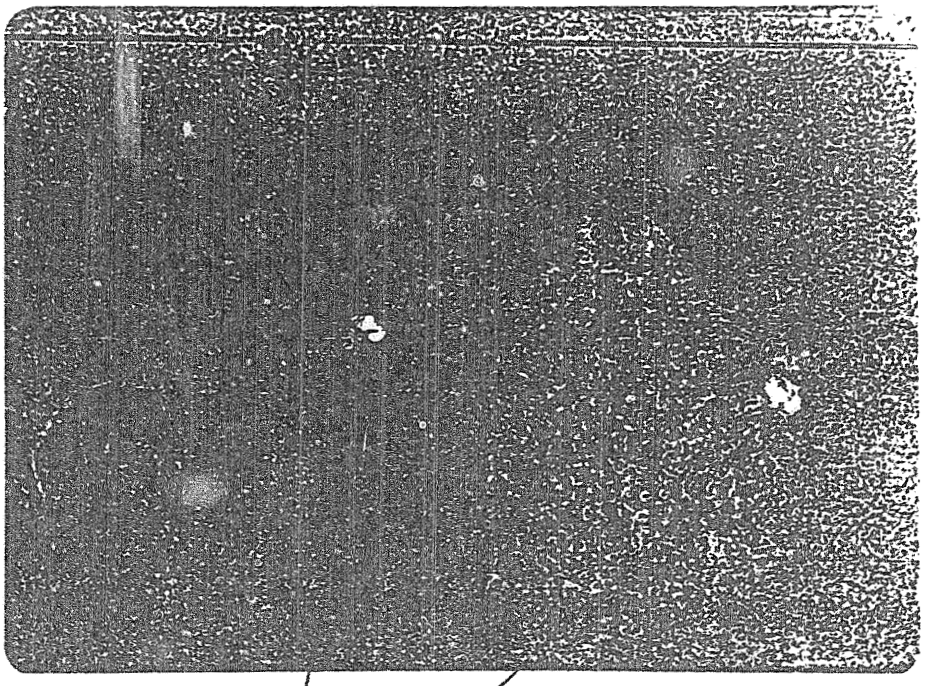
Sample 3, 400X



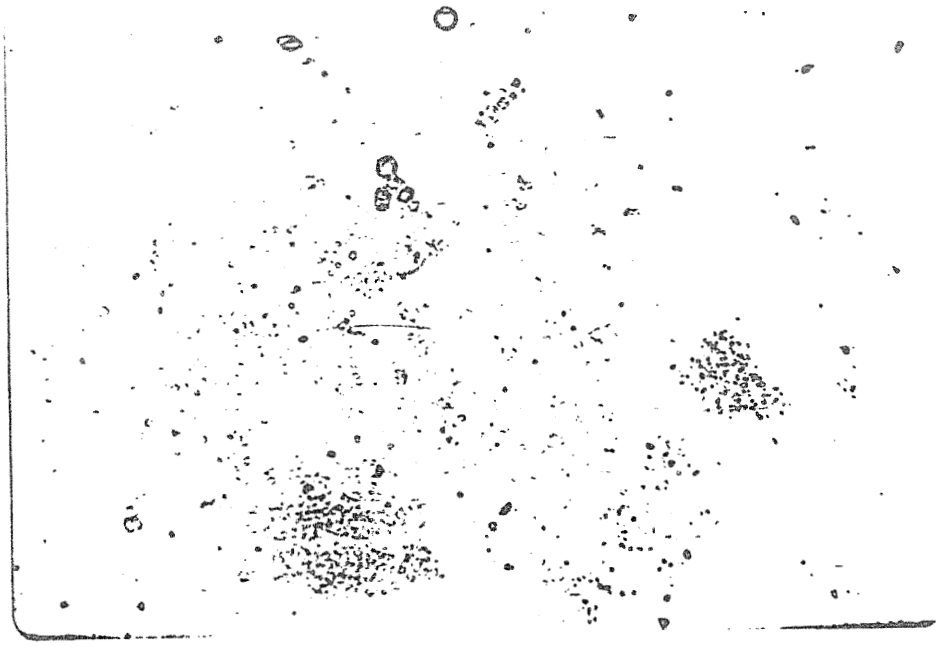
Sample 3, 400X, Crossed Polars



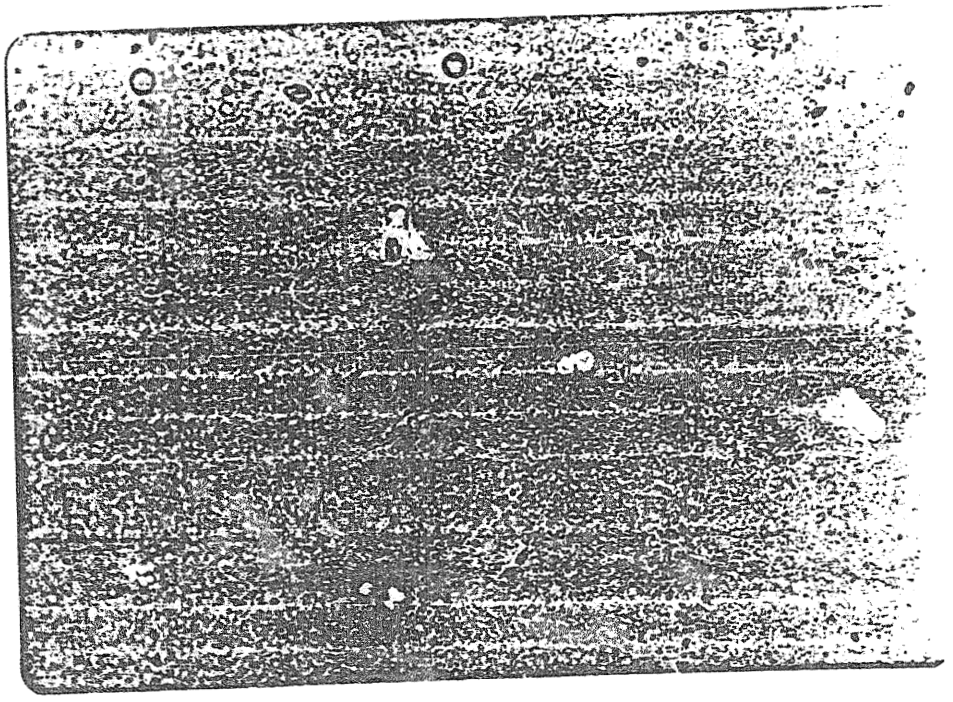
Sample 3, 400X



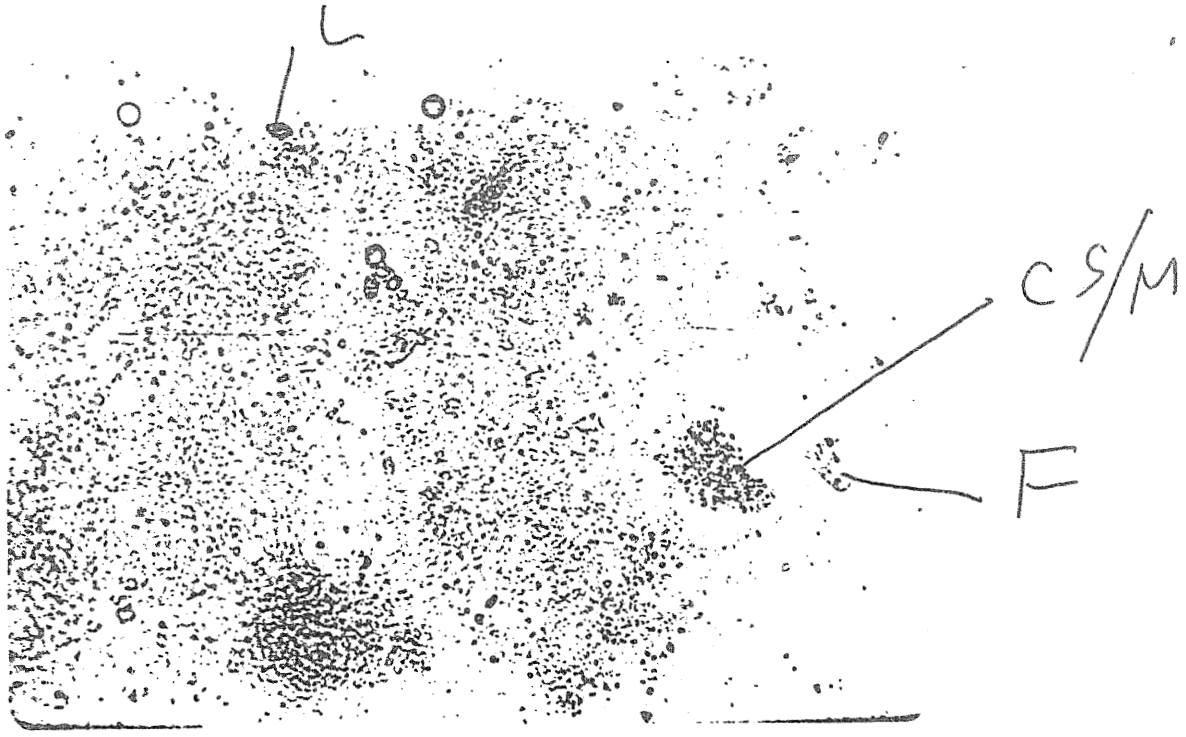
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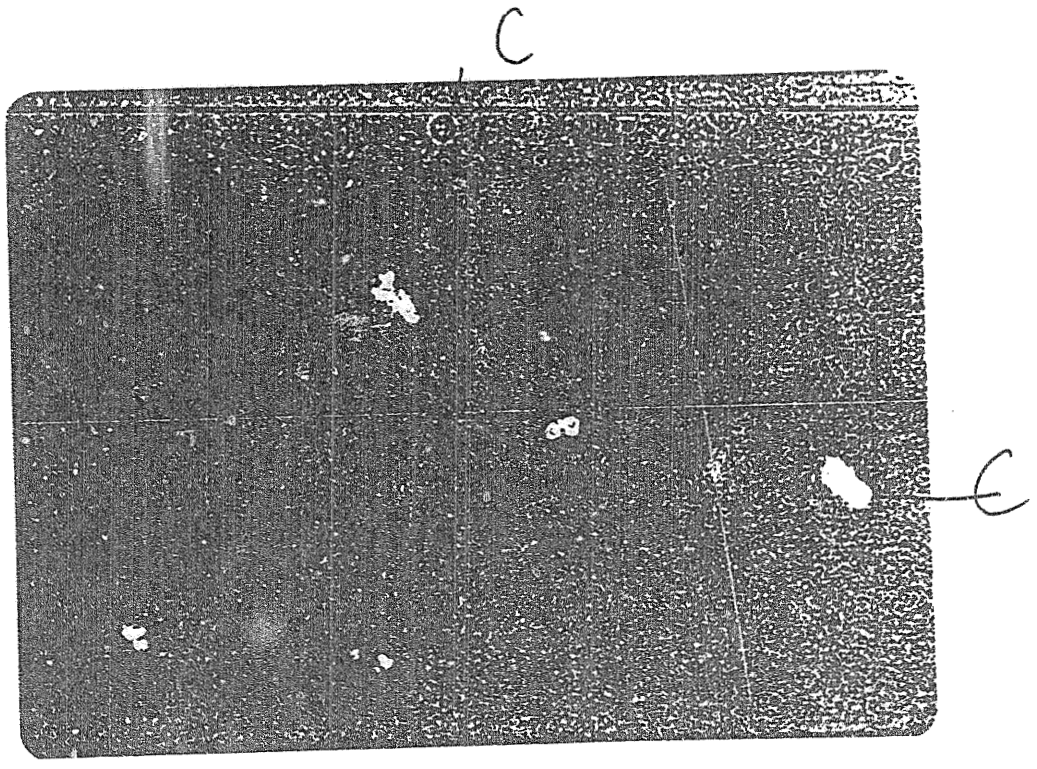
Sample 3, 400X



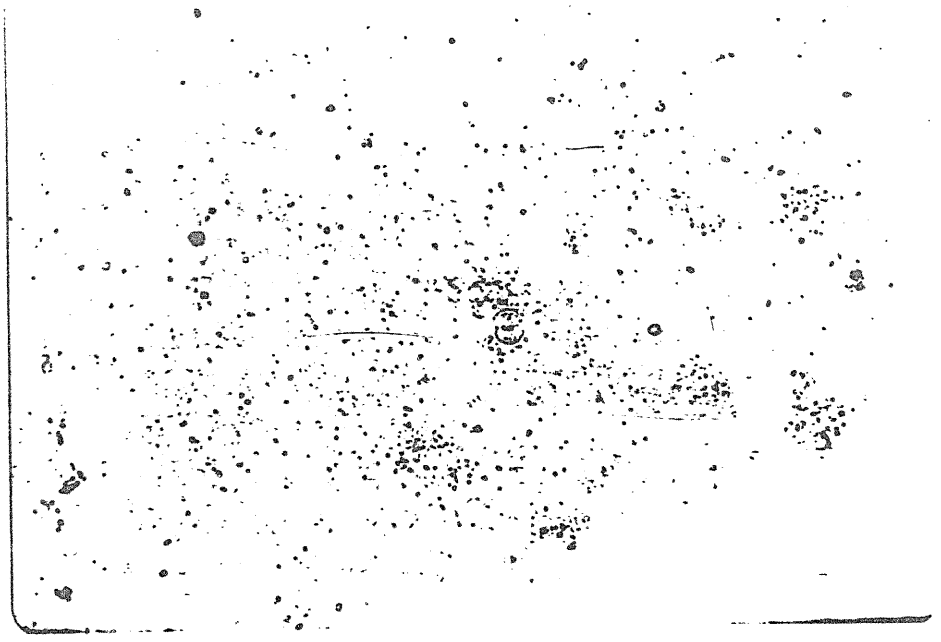
Sample 3, 400X, Crossed Polars



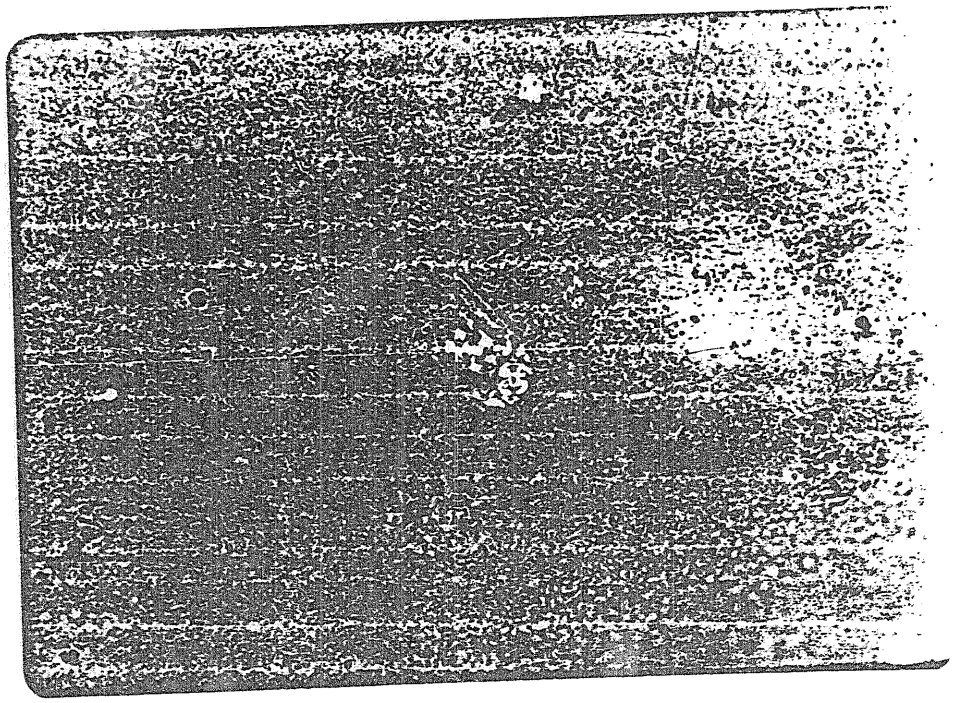
Sample 3, 400X



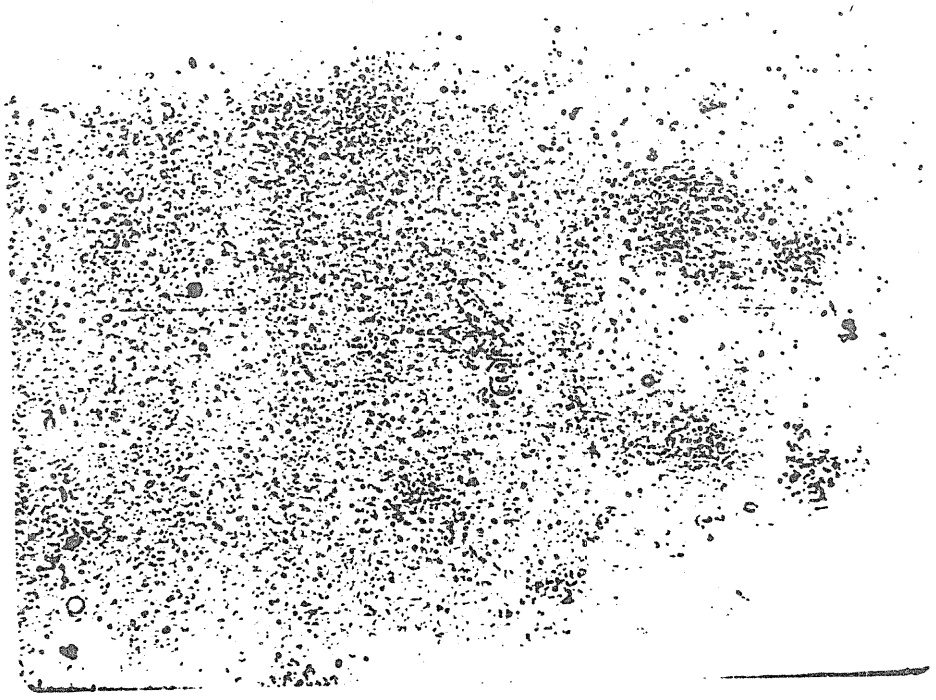
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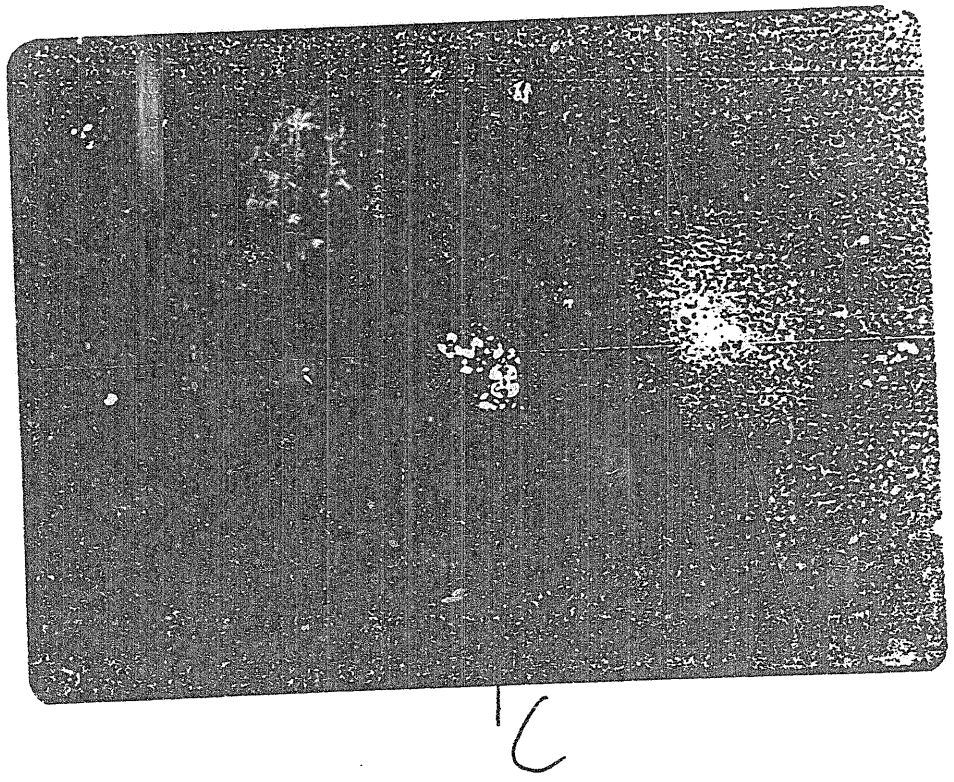
Sample 3, 400X



Sample 3, 400X, Crossed Polars



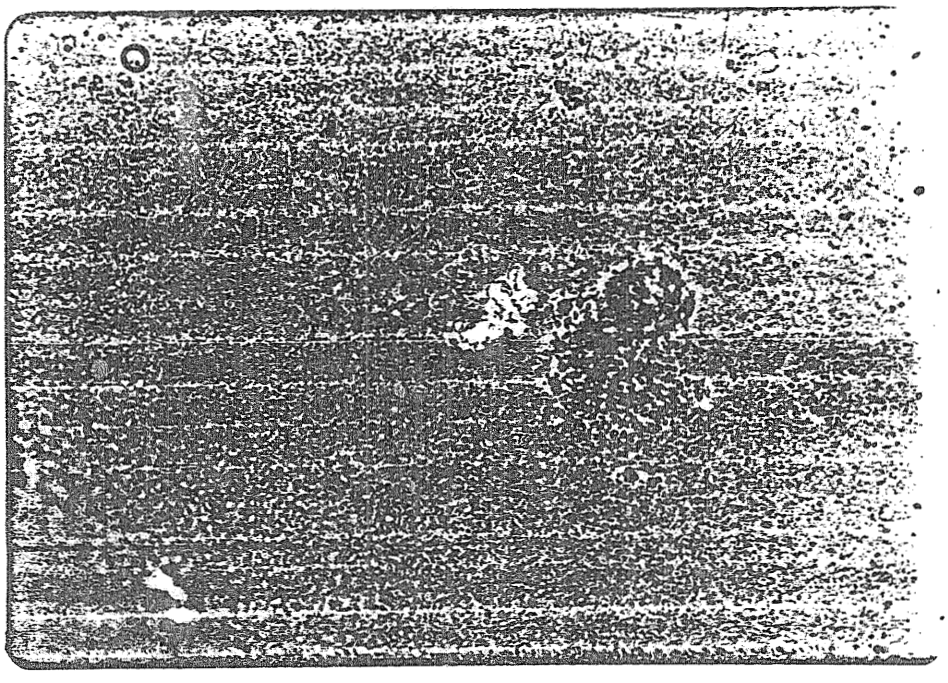
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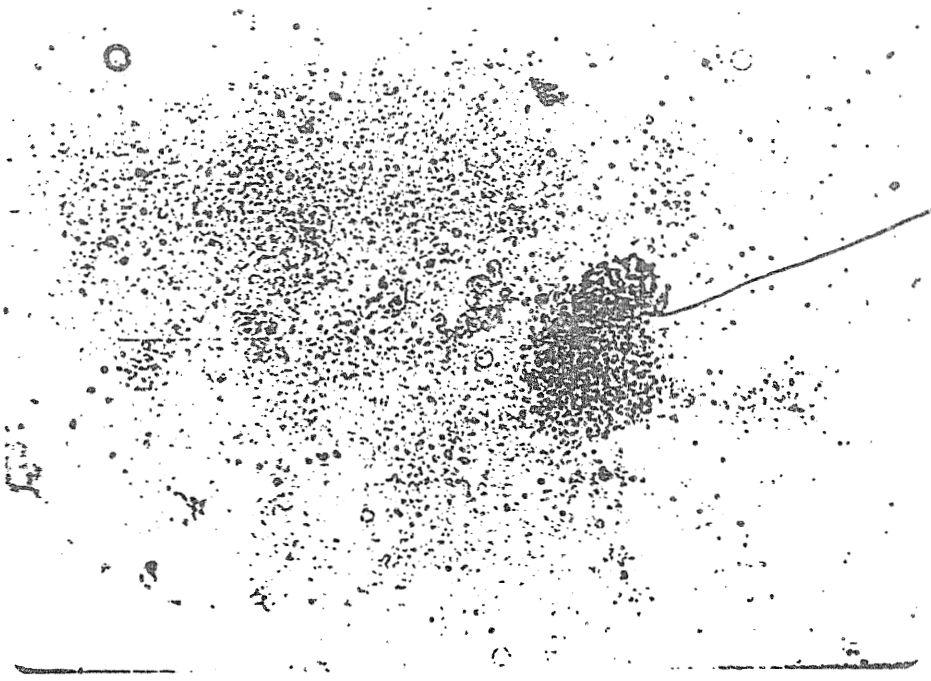
Sample 3, 400X, Crossed Polars



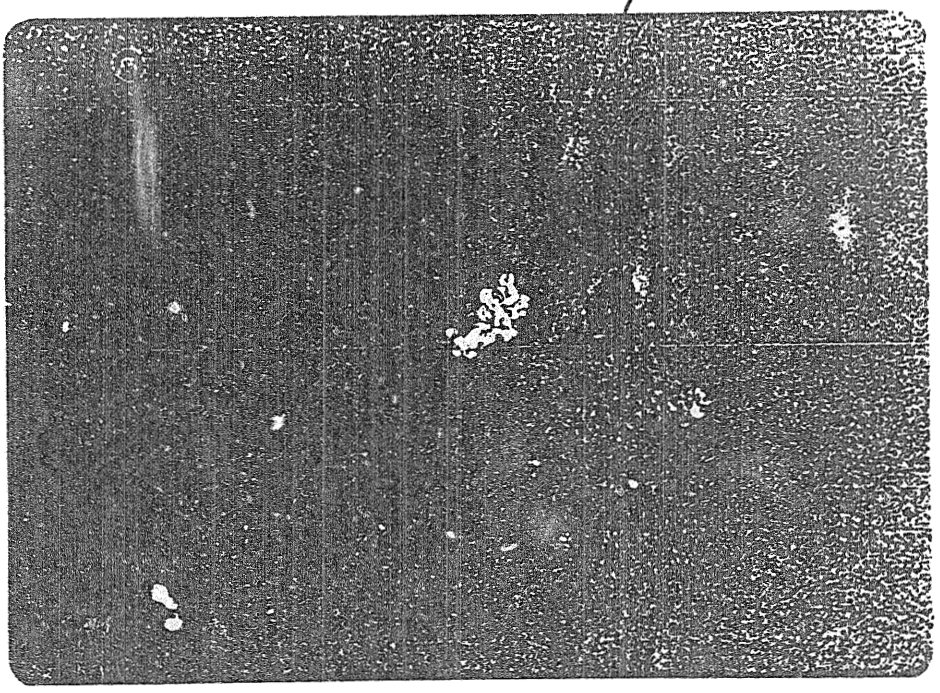
Sample 3, 400X



Sample 3, 400X, Crossed Polars



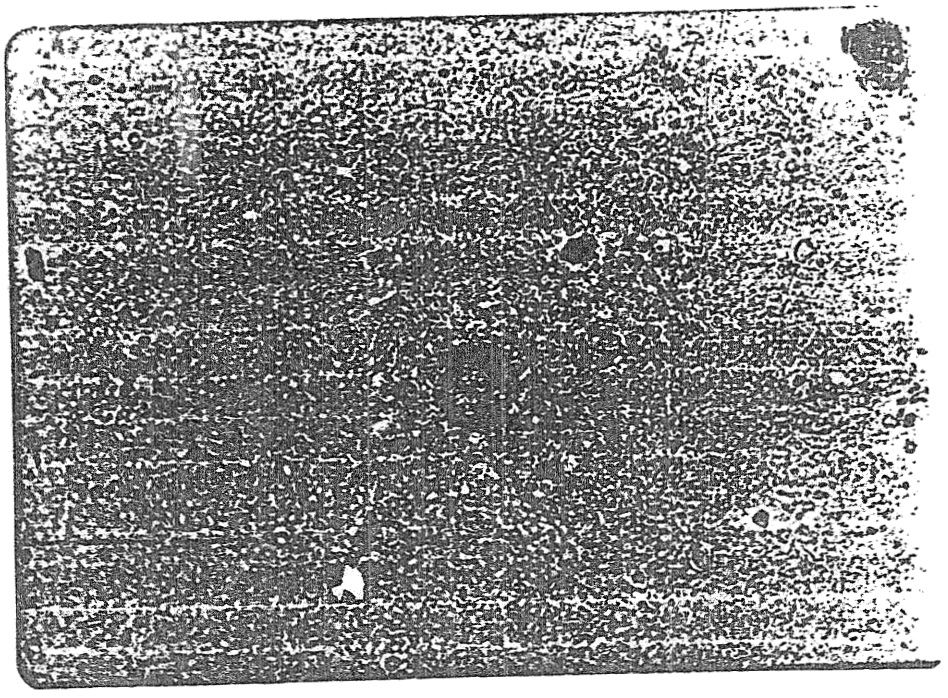
Sample 3, 400X



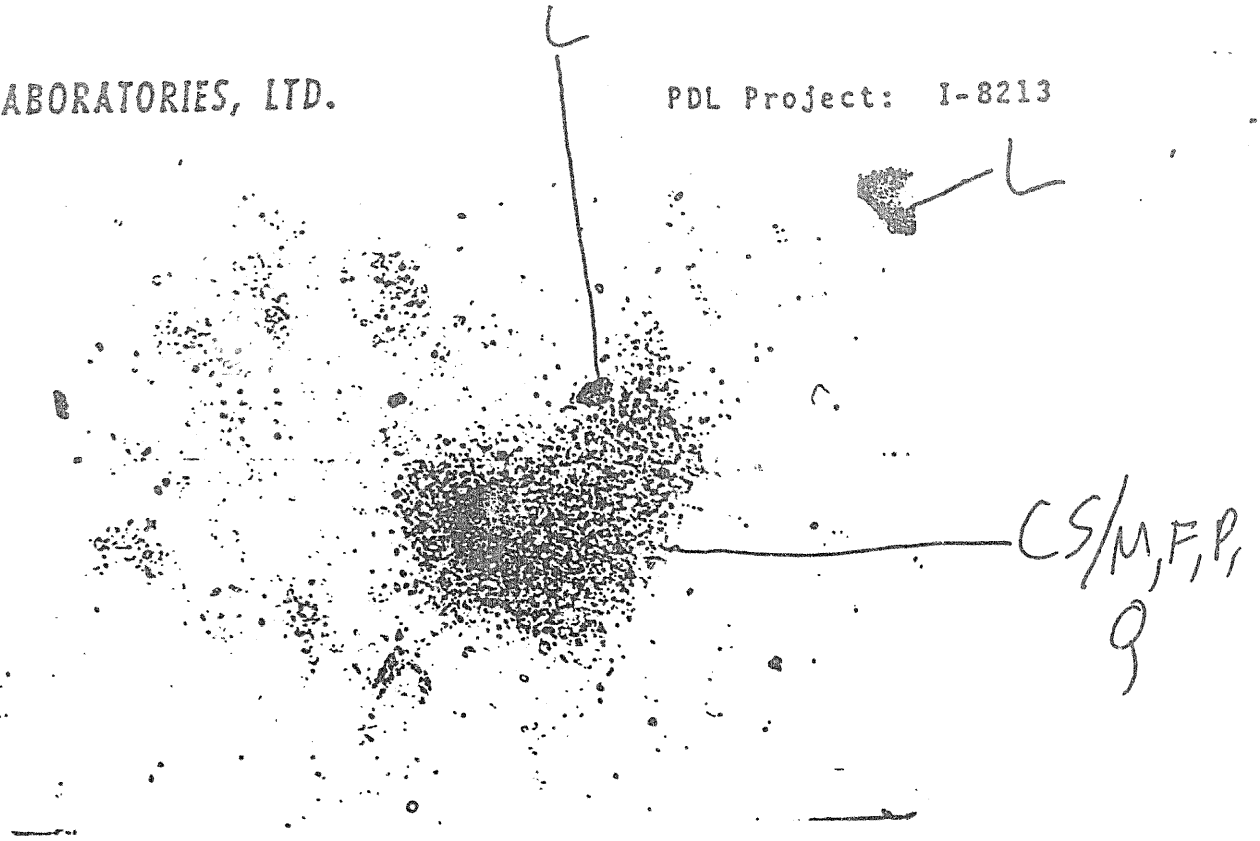
Sample 3, 400X, Crossed Polars



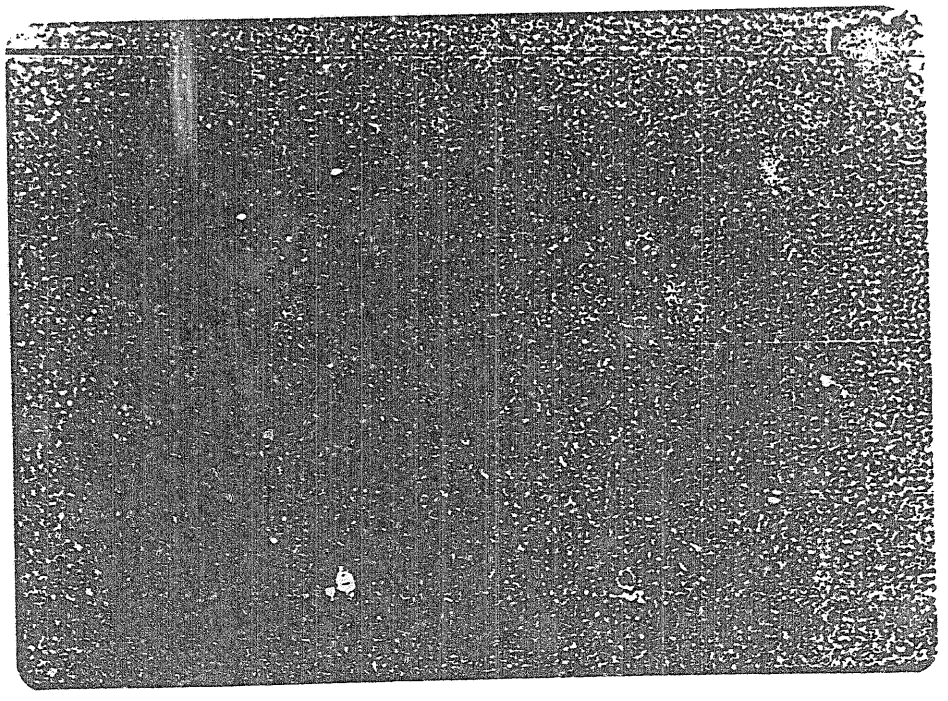
Sample 3, 400X



Sample 3, 400X, Crossed Polars



Sample 3, 400X



Sample 3, 400X, Crossed Polars

LT1/38

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ENGINEERS
GEOLOGISTS
PLANNERS
SURVEYORS

October 26, 1984 R&M No. 452418

Particle Data Laboratories
115 Hahn Street
Elmhurst, Illinois 60126

Attention: Mr. H. Bachu

Re: Sediment Analysis for Eklutna Creek

Dear Mr. Bachu:

Enclosed are six one-liter water samples. Please analyze all the samples for particle size distribution. Please send us the results in your standard reporting format of tabular and graphic results for the distribution on the basis of both particle count and total particle volume. The samples are:

Sample Location	Time (AST)	Date Sampled
E. Fork Eklutna Creek	1030	8/28/84 ✓
Glacier Fork Eklutna Creek	1300	8/28/84
Eklutna Power Plant Tailrace	1930	8/28/84 ✓
E. Fork Eklutna Cr	1130	10/23/84 ✓
Glacier Fork Eklutna Cr	1420	10/23/84 ✓
Eklutna Power Plant Tailrace	0900	10/23/84 ✓

Please use purchase order number 18233 when billing us. Should you have any questions please call me or Chip Green at (907) 561-1733. We look forward to receiving the results as soon as they are available.

Sincerely,

R&M CONSULTANTS, INC.

Bill Ashton

Bill Ashton
Hydrologist

WSA;bje

452418

PARTICLE DATA LABORATORIES, LTD.

115 Mahr Street • Elmhurst, Illinois 60126 • (312) 832-5658

Rec. 11/26/84

10/26/84

November 19, 1984

R & M Consultants, Inc.
5024 Cordova
Box 6087
Anchorage, Alaska 99502

Attention: Mr. Bill Ashton

Subject: Electrozone Analysis - 6 Samples - P. O. # 18233

PDL Project: I-8426

Gentlemen:

Enclosed please find a copy of the computerized data printout of your sample as generated by the Electrozone Analyzer. If you have any questions, please do not hesitate to call us at Particle Data Laboratories.

It has been a pleasure serving your company, and we look forward to serving you again in the near future.

Respectfully submitted,

PARTICLE DATA LABORATORIES, LTD.

Olga Kist

Olga Kist
Microscopist

OK:cnl
Enc.

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-3658

CLIENT: R & M CONSULTANTS 1300 B 18 NOV 84 :DATE
SAMPLE: GLACIER FORK EKLUTNA CREEK ~~1930~~ 10/28/84 8426 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 13.32 MEDIAN = 17.14 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 18.01 +/- 50.63 (281.07%) SKEWNESS = .09

ARITHMETIC VOLUME MEAN = 40.89 +/- 58.60 (143.29%) SKEWNESS = .47

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 400.29 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 292.11 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 155.55 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 53.29 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 17.14 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 6.25 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT 2.14 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .89 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .44 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .37 MEDIAN = .65 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .75 +/- .60 (79.96%) SKEWNESS = .64

ARITHMETIC COUNTS MEAN = .94 +/- .98 (104.54%) SKEWNESS = .58

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 11.03 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 4.86 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT 2.14 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT 1.14 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .65 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .47 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .39 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .37 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .37 MICRONS AND LARGER

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HANN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5656

CLIENT: R & M CONSULTANTS 18 NOV 84 :DATE
SAMPLE: E. FORK EKLUTNA CREEK 1030 8/28/8R4 8426 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 32.19 MEDIAN = 16.09 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 15.34 +/- 47.78 (311.60%) SKEWNESS = -.35

ARITHMETIC VOLUME MEAN = 36.12 +/- 47.40 (131.25%) SKEWNESS = .08

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 292.11 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 213.16 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 128.76 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 56.76 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 16.09 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 4.29 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT 1.67 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .73 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .37 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .29 MEDIAN = .57 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .63 +/- .55 (86.73%) SKEWNESS = .63

ARITHMETIC COUNTS MEAN = .80 +/- .82 (101.33%) SKEWNESS = .64

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 8.05 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 3.78 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT 1.89 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT 1.01 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .57 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .37 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .30 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .29 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .29 MICRONS AND LARGER

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5650

CLIENT: R & M CONSULTANTS 18 NOV 84 :DATE
SAMPLE: EKLUTNA POWER PLANT TAILRACE 1930 10728 8426 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 6.41 MEDIAN = 4.54 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 4.95 +/- 30.72 (620.02%) SKEWNESS = -.05

ARITHMETIC VOLUME MEAN = 26.89 +/- 46.86 (174.24%) SKEWNESS = .44

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 252.70 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 191.51 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 126.35 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 33.85 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 4.54 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT .75 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .33 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .19 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .13 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .17 MEDIAN = .17 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .17 +/- .15 (88.70%) SKEWNESS = .01

ARITHMETIC COUNTS MEAN = .21 +/- .17 (81.30%) SKEWNESS = .24

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 1.64 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT .74 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT .45 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .28 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .17 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .10 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .06 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .04 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .03 MICRONS AND LARGER

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & M CONSULTANTS 18 NOV 84 :DATE
SAMPLE: GLACIER FORK EKLUTNA CR 1420 10/23/84 8426 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 4.65 MEDIAN = 4.09 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 4.23 +/- 10.01 (236.70%) SKEWNESS = -.04

ARITHMETIC VOLUME MEAN = 8.73 +/- 11.84 (135.62%) SKEWNESS = .34

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 77.78 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 55.00 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 34.15 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 11.07 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 4.09 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 1.45 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .66 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .51 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .51 MEDIAN = .61 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .69 +/- .29 (42.34%) SKEWNESS = .62

ARITHMETIC COUNTS MEAN = .75 +/- .45 (60.45%) SKEWNESS = .53

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 5.30 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 2.54 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT 1.33 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .82 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .61 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .53 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .51 MICRONS AND LARGER

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & M CONSULTANTS 18 NOV 84 :DATE
SAMPLE: E. FORK EKLUTNA CR 1130 10/23/84 8426 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 27.50 MEDIAN = 14.99 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 9.14 +/- 27.22 (297.72%) SKEWNESS = -.67

ARITHMETIC VOLUME MEAN = 17.45 +/- 15.15 (86.79%) SKEWNESS = -.66

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 65.40 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 57.43 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 44.29 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 29.99 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 14.99 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 2.43 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .66 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .53 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .51 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .51 MEDIAN = .61 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .66 +/- .23 (35.25%) SKEWNESS = .63

ARITHMETIC COUNTS MEAN = .70 +/- .41 (59.04%) SKEWNESS = .45

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 4.65 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 2.04 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT 1.16 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .75 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .61 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .53 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .51 MICRONS AND LARGER

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 HAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R & M CONSULTANTS 18 NOV 84 :DATE
SAMPLE: EKLUTNA POWER PLANT TAILRACE 900 10/23 8426 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = .51 MEDIAN = 3.75 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 4.03 +/- 13.82 (342.42%) SKEWNESS = .26

ARITHMETIC VOLUME MEAN = 10.58 +/- 13.89 (131.30%) SKEWNESS = .72

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 71.32 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 59.97 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 38.89 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 17.07 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 3.75 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT .86 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT .56 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .51 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .51 MEDIAN = .58 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .64 +/- .20 (31.02%) SKEWNESS = .66

ARITHMETIC COUNTS MEAN = .67 +/- .30 (44.60%) SKEWNESS = .54

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 3.59 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 1.65 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT 1.07 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT .75 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .58 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .53 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .51 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .51 MICRONS AND LARGER

#452418

PARTICLE DATA LABORATORIES, LTD.

115 Hahn Street • Elmhurst, Illinois 60126 • (312) 832-5658

June 12, 1985

R & M Consultants, Inc.
5024 Cordova
Box 6087
Anchorage, Alaska 99502

Attn. Mr. Bill Ashton
PDL Project: I-9087 P.O. Number 18584

Dear Mr. Ashton:

The particle size analysis of sediment for Eklutna Lake Power Plant Tailrace has been completed using our computerized Elzone system. The density distribution analysis and the photomicrographs will be mailed to you in a week by Mike Bayard.

Enclosed, please find the computerized data printouts for the Elzone analysis. If there are any questions, please feel free to call me at Particle Data Laboratories, Ltd.

Respectfully submitted,

H.R. Batchu, MS
Chemical Engineer and Senior Consultant
Particle Measurement Services

PARTICLE SIZE ANALYSIS BY ELZONE METHOD--PARTICLE DATA LABORATORIES, LTD.
115 MAHN STREET - ELMHURST, IL. 60126 - TELEPHONE: (312)832-5658

CLIENT: R&M CONSULTANTS,INC. 7 JUN 85 :DATE
SAMPLE: TAILRACE 5/10/85 9087 : JOB NUMBER

VOLUME (MASS) DISTRIBUTION FROM DISPLAY AREA: 4

INDICES

VOLUME MODE = 10.30 MEDIAN = 13.75 MICRONS AND LARGER

GEOMETRIC VOLUME MEAN = 15.91 +/- 36.33 (228.43%) SKEWNESS = .15

ARITHMETIC VOLUME MEAN = 29.33 +/- 30.33 (103.41%) SKEWNESS = .63

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF VOLUME IS AT 130.80 MICRONS AND LARGER
PERCENTILE: 01.0% OF VOLUME IS AT 116.53 MICRONS AND LARGER
PERCENTILE: 06.0% OF VOLUME IS AT 87.30 MICRONS AND LARGER
PERCENTILE: 22.0% OF VOLUME IS AT 55.00 MICRONS AND LARGER
PERCENTILE: 50.0% OF VOLUME IS AT 13.75 MICRONS AND LARGER
PERCENTILE: 78.0% OF VOLUME IS AT 6.12 MICRONS AND LARGER
PERCENTILE: 94.0% OF VOLUME IS AT 2.58 MICRONS AND LARGER
PERCENTILE: 99.0% OF VOLUME IS AT 1.02 MICRONS AND LARGER
PERCENTILE: 99.9% OF VOLUME IS AT .51 MICRONS AND LARGER

COUNT (FREQUENCY) DISTRIBUTION FROM DISPLAY AREA: 5

INDICES

COUNTS MODE = .41 MEDIAN = .72 MICRONS AND LARGER

GEOMETRIC COUNTS MEAN = .84 +/- .75 (88.81%) SKEWNESS = .58

ARITHMETIC COUNTS MEAN = 1.09 +/- 1.21 (110.50%) SKEWNESS = .57

FOR PLOTTING PROBABILITY ON LOG PAPER:

PERCENTILE: 00.1% OF COUNTS IS AT 12.25 MICRONS AND LARGER
PERCENTILE: 01.0% OF COUNTS IS AT 5.78 MICRONS AND LARGER
PERCENTILE: 06.0% OF COUNTS IS AT 2.73 MICRONS AND LARGER
PERCENTILE: 22.0% OF COUNTS IS AT 1.29 MICRONS AND LARGER
PERCENTILE: 50.0% OF COUNTS IS AT .72 MICRONS AND LARGER
PERCENTILE: 78.0% OF COUNTS IS AT .48 MICRONS AND LARGER
PERCENTILE: 94.0% OF COUNTS IS AT .43 MICRONS AND LARGER
PERCENTILE: 99.0% OF COUNTS IS AT .41 MICRONS AND LARGER
PERCENTILE: 99.9% OF COUNTS IS AT .41 MICRONS AND LARGER

[Received 6/17/85 w/letter of 6/12/85]

PARTICLE DATA LABORATORIES, LTD.

115 Hahn Street • Elmhurst, Illinois 60126 • (312) 832-5658

BASIC ELECTROZONE TECHNOLOGY

AND

EXPLANATION OF REPORT

The electric sensing zone analytical technique has developed rapidly over the past twenty years. In this technique, particles suspened in a conductive fluid, flow serially through an orifice under a differential pressure. Electrodes are immersed on each side of the orifice as shown in Figure 1. As each particle passes through the aperture, it replaces its own volume of electrolyte within the aperture, momentarily changing the resistance value between the electrodes. This change produces a voltage pulse of short duration having a magnitude proportional to particle volume. The resulting series of pulses is electronically amplified, scaled and counted. Raw data processing is performed by a PDP-1103 minicomputer in such a manner that a population histogram of 128 or 256 channels of information can be acquired. Acquired data is conditioned by applying calibration, extrapolation, volume (weight) or area conversions. Normalization of size and quantity axes to the types of scales required by the researcher is also possible.

The conductive particle suspension medium is an important consideration in Electrozone technology. Typically, aquesous isotonic saline (0.9% by weight) or a 4% by weight sodium pyrophosphate is used as a dispersing and particle suspension medium. For certain analyses which cannot be run in an aqueous media, 4% weight/volume lithium chloride in isopropyl alcohol is effective.

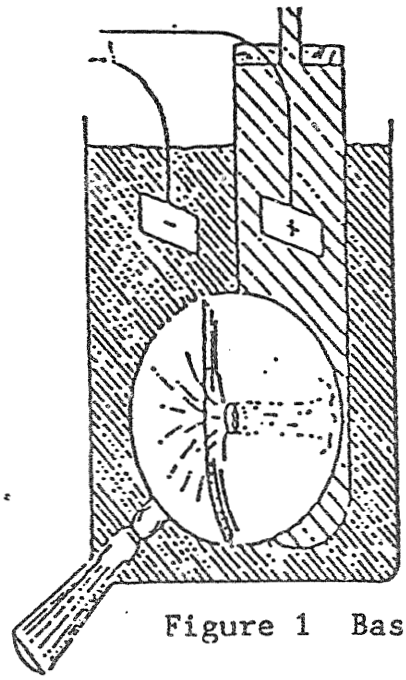


Figure 1 Basic Dectection Mechanism

Figure IIA is a cross section of the orifice shown in Figure 1. In this configuration, no particle is shown in the orifice. Since a constant current is established in the conductive liquid and through the sapphire orifice, a constant voltage potential is represented as the product of the current (I) and Resistance (R).

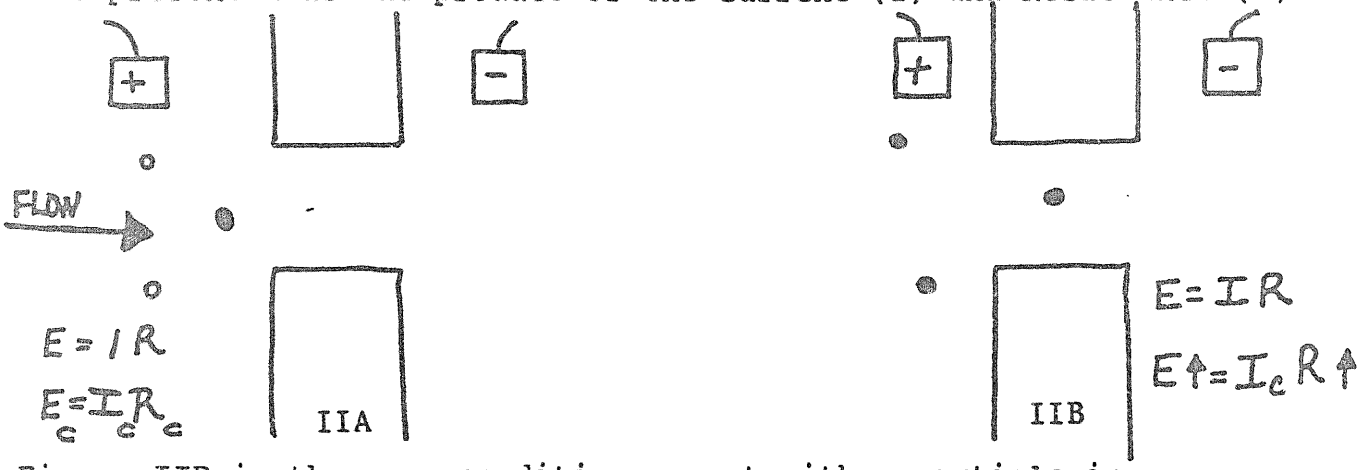


Figure IIB is the same condition except with a particle in the orifice or sensing zone. Since almost all particles act as insulators, the electrical resistance increases in the orifice. Under the conditions of a constant current and increased resistance the product of these two must rise according to Ohm's Law. Since the particles traverse the orifice in about 20 micro seconds, a voltage pulse is produced. The magnitude of this voltage pulse is proportional to the envelope volume of the particle. That is, a small particle yeilds a small voltage pulse while a large particle yeilds a large pulse. The particle may be irregular in shape (spheres are seldom encountered), but since the volume of that particle has been measured, the diameter of a sphere of equal volume can be assigned to that particle. This method of expressing data as the "Diameter of a Sphere of Equal Volume" is used throughout all of "Fine Particle Technology."

Now that we have a way of measuring discrete events very rapidly and accurately, all we have to do is to present a representative population to the detector. The technologist must sample the powder in a meaningful manner and he must disperse the powder so that only individual particles are monitored by the instrument. When all of these conditions have been met, the suspension is analyzed by counting and sizing no fewer than fifty thousand particles of the sample. Since the accuracy and precision of the measurement is effected by the sample size, we elect to count such a high number of particles. When a preset number of particles has been acquired, the computer stops the analysis. At this point pertinent calibration information is added from the keyboard and the frequency (population) statistics are generated. the information is then converted to a volume (mass) basis and these statistics are reported.

There are two classic methods of fine particle size analysis:

1. Frequency Distribution (Microscope Counting)

2. Mass Distribution (Sieves of Andreason sedimentation)

In the first method, the number of particles of a specific size are tabulated by the microscopist. He scans a microscope slide while randomly searching for a particle in the prepared slide. When one is located, it is sized using an eyepiece micrometer and counted as a frequency of occurrence. Soon a frequency distribution is established for the sample of interest. The microscopist can now calculate the relative percent of particles within a given size interval or he can sum the data and report the percentage greater than an indicated size. Table I is a brief example of this precedure. Following the statistical treatment, he can plot the data to locate the geometric median diameter and then derive other statistical parameters.

Table I

Example of Frequency Distribution Data

(μm) Particle Size Interval	d Mid Size	N Frequency of Occurance	≤N Cumulative Frequency	Cumulative Frequency ≥Indicated%
1.0 - 1.4	1.2	10	100	100
1.4 - 2.0	1.7	15	90	90
2.0 - 2.8	2.4	50	75	75
2.8 - 4.0	3.2	15	25	25
4.0 - 5.6	4.8	10	10	10

What this data indicates is that 100% of the data measured is greater than or equal to 1.0 microns. Ninety percent is greater that 1.4 microns diameter. This information when plotted on log-probability paper will yield a straight line if the distribution is truly log normal (most sample are). Once that data is plotted many statistical parameters are available to the analyst from standard formulas.

The second method of analysis is performed by a standard sieving technique. In this method, a known weight of dry sample is passed through nested precision sieves and the weight percent retained on each sieve size is calculated. Data is handled as above in Table I except data is expressed on a weight basis.

Since the Elzone technique determines the volume of individual particles. we can convert frequency data directly into mass of into area. It is part of the job of the technologist to determine which data format is appropriate to his application.

The Elzone data report is broken down as follows:

Page	Description
1	Frequency and Volume (Mass) Statistics
2	Plot of Differential Frequency Distribution
3	Tabulation of Channel Number, Diameter and Count (Number of particles at that size)
4	Plot of Differential Mass Distribution
5	Tabulation of Channel Number, Diameter and mass (relative units at that size)

Each page will be described below:

Page 1

The top section of this page is devoted to the volume (mass) statistics. The definitions of the terms used are as follows:

Volume Mode - The diameter size in microns of a spherical particle that contains the largest total mass value. It is always the peak of a distribution curve.

Volume Median - That point in the distribution curve that splits the data into two equal areas. One half is larger and one half is smaller than the indicated size on a mass basis.

Geometric Volume Mean - The size of an average particle calculated on a log basis.

Arithmetic Volume Mean - The size of an average particle calculated on an arithmetic scale.

+/-XXX - One sigma interval of standard deviation

(XX.XXX) - Coefficient of variation. This is the Standard Deviation divided by the Mean mulitplied by 100 to yield percentage.

Skewness - This term denotes symmetry. If the curve is perfectly Gaussian, geometric skewness will be 0.00. If the curve is biased towards the fines, skewness will be negative.

For Plotting on Log Probability Paper -
This data is presented at 0.77 sigma intervals across a normal curve. It expresses the percent of mass at or greater than the indicated size from a cumulative curve.

The bottom of this page is just like the top except that it expresses the statistics on a frequency (count) basis.

Remember that the frequency basis will always be smaller than mass basis because the mass data rises as a function of the diameter cubed. It takes one million one micron diameter particles by count to equal the same mass as a single one hundred micron diameter particle.

Page 2

This page is a plot of the frequency distribution as a function of size. Each plus (+) represents a specific number of particles at a given size. The size scale is a log scale because a Gaussian curve plotted on a arithmetic scale would be skewed towards the larger sizes. Typically, data is plotted on a log scale.

Page 3

This is the "Tabulation" page by frequency (count). The number after "Total =" represents the number of particles counted in a particular analysis. This number is usually modified by some factor so that the graph routine will be represented as a full scale plot. The tabulation informs the client how may particles (count) he could expect to find at any indicated micron size if he had counted the number of particles indicated under "Total In Tabulation".

Page 4

This page is a plot of the mass (volume) distribution mathematically derived from the count (frequency) distribution. It reveals the distribution of mass as a function of particle size. Usually, this data is more relevant as to a particular industrial process.

Page 5

The last page in your report is a tabulation of data in a mass (volume) format. It is exactly like the count tabulation except that it informs us of the relative mass (grams, micrograms, pounds or tons) of material at each micron size if you had a pile of material weighing the same as that figure displayed under "Total =".

rec 9/2/85

PARTICLE DATA LABORATORIES, LTD.

115 Hahn Street • Elmhurst, Illinois 60126 • (312) 832-5658

August 21, 1985

[Sampled 5/10/85 @ Eklutna Tailrace]

Mr. Bill Ashton
R&M Consultants, Inc.
5024 Cordova
Anchorage, Alaska 99502

Reference: I-9087

Dear Mr. Ashton:

This report covers the petrographic evaluation of the sample submitted under your purchase order number 18584. The approximate composition was as folows:

Component	Percent by Weight	Density
Quartz	30-40	2.6
Feldspars	30-40	2.5-2.8
Diatoms	5-8	2-2.2
Hematite	8-10	5.2
Illmenite	1-2	4-5
Magnetite	0.5-1	5.1
Mica	Trace	2.3
Silcate Gels	2-3	2-2.3
Organics	3-5	0.9-1.2

The particles are generally agglomerated due to organics and silcate gel formation. Also, the diatoms sometimes had air bubbles and would have a lower effective density.

Thank you for consulting our organization in ths matter. Attached are photomicrographs of representative particles.

Sincerely,

Michael Bayard

Michael Bayard
Research Microscopist

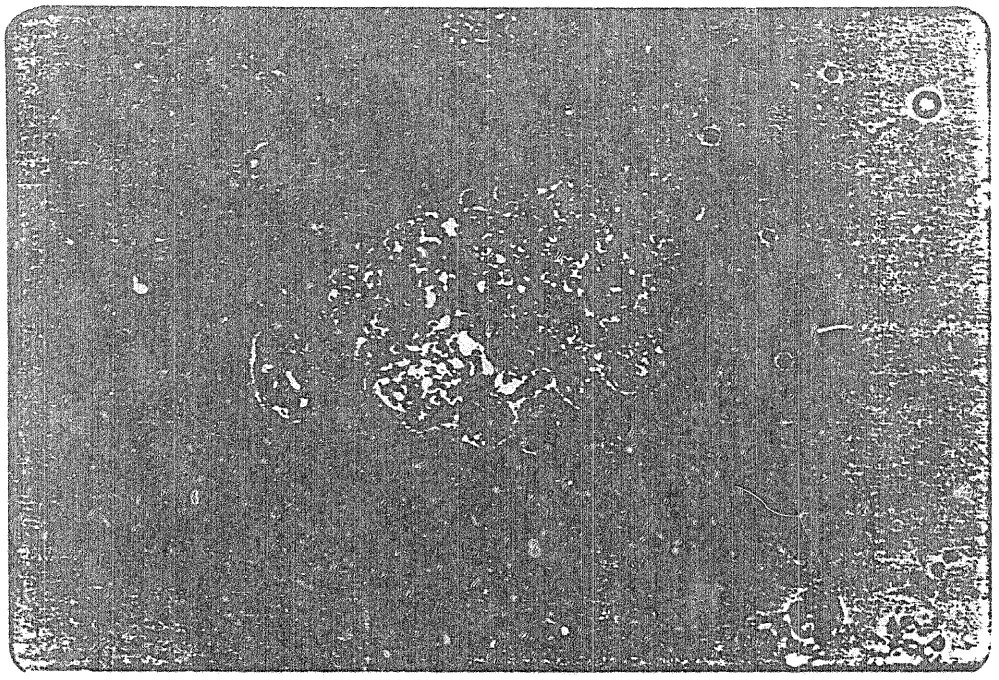


Figure 1, 400 X. This is an agglomerate of feldspars held together by silicate gel and iron oxides.

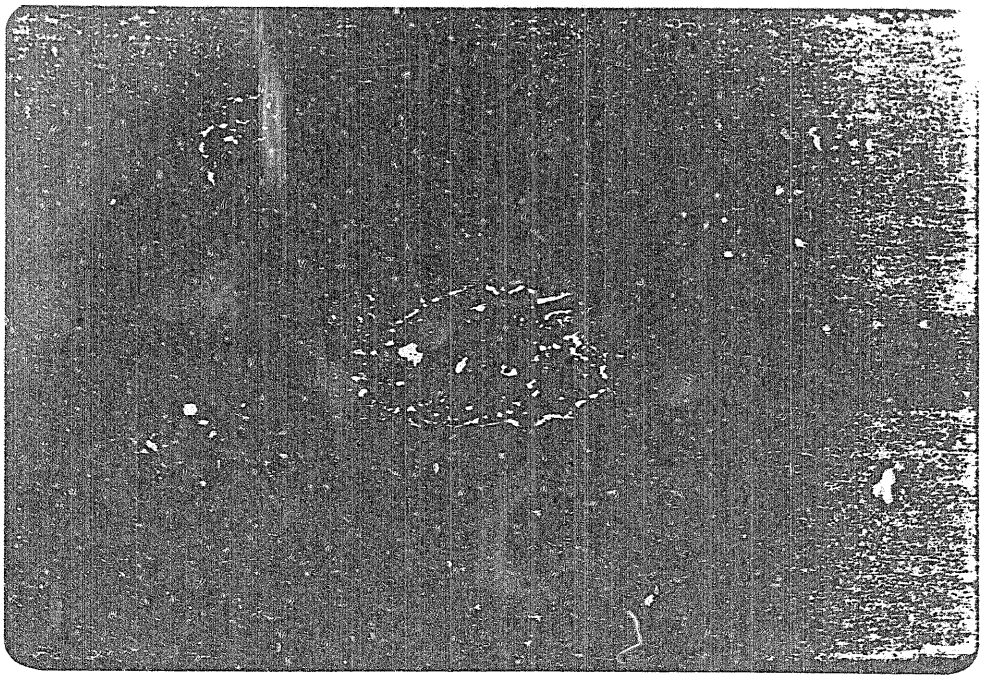


Figure 2, 400 X. Feldspar with magnetite inclusions.

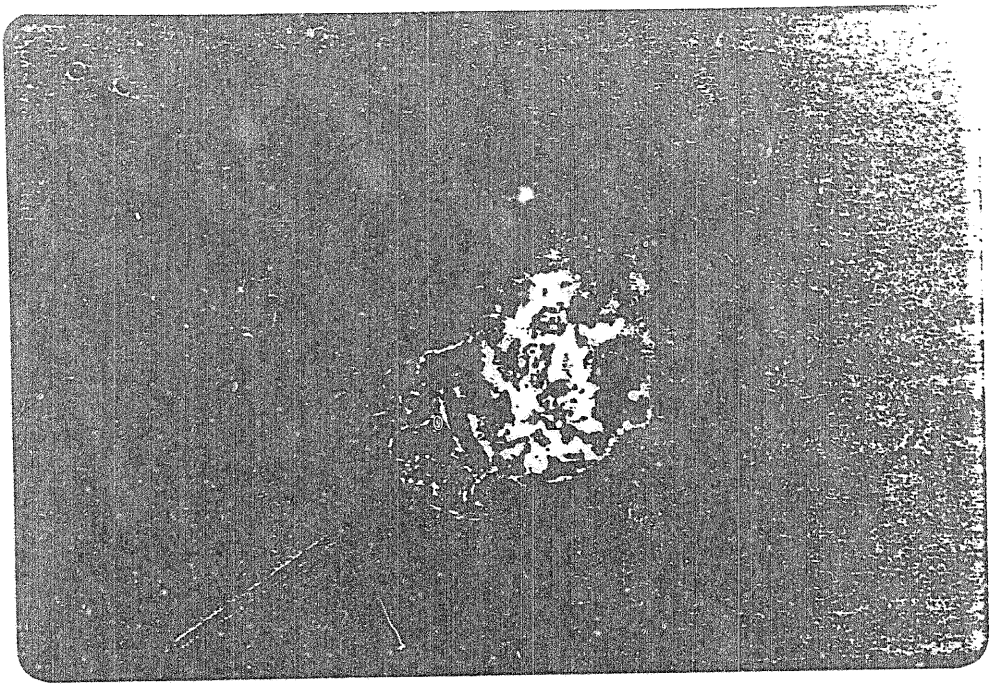


Figure 3, 400 X. The mineral grain is mainly quartz, while the rod shaped object is a diatom filled with air.

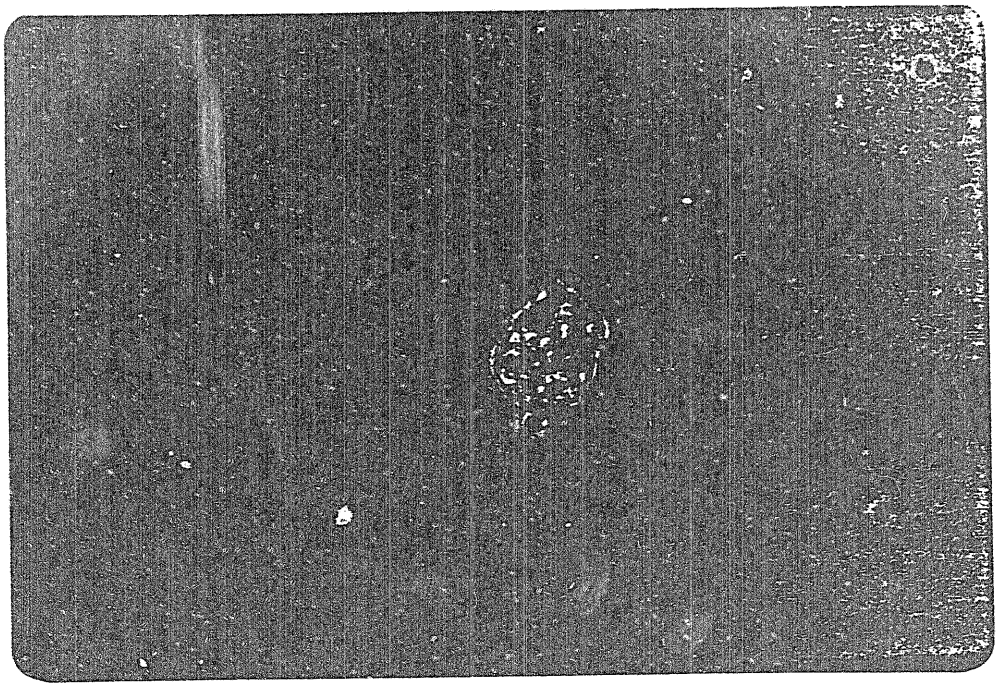


Figure 4, 400 X. Feldspar.

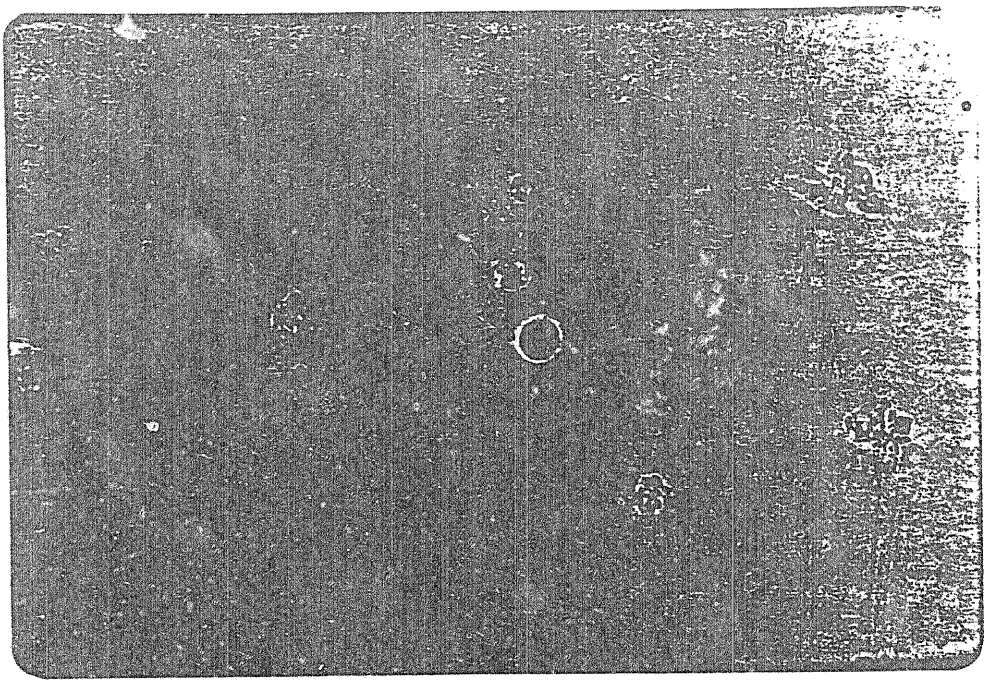


Figure 5, 400 X. The spherical object is hematite, possibly man made as flyash.

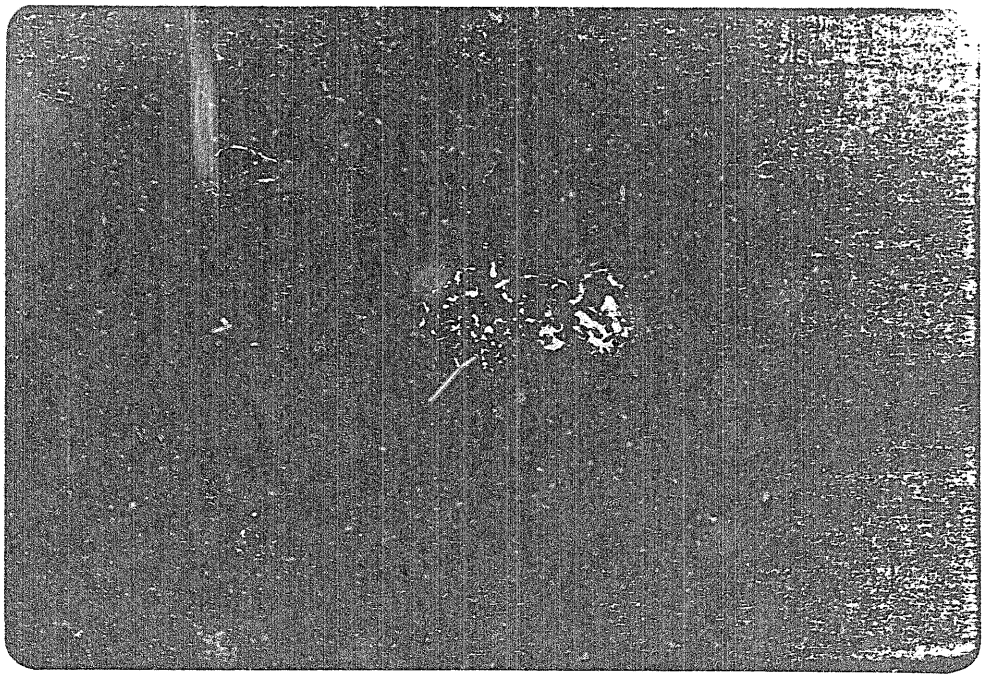


Figure 6, 400 X. Feldspars with silicate gel.

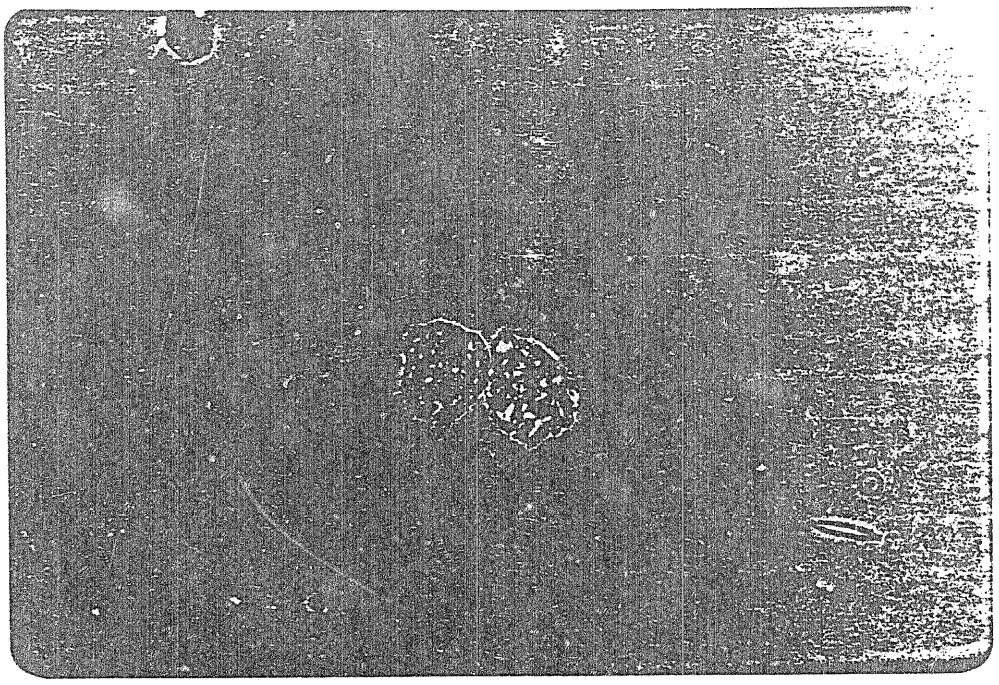


Figure 7 , 400 X. Polycrystalline feldspars.

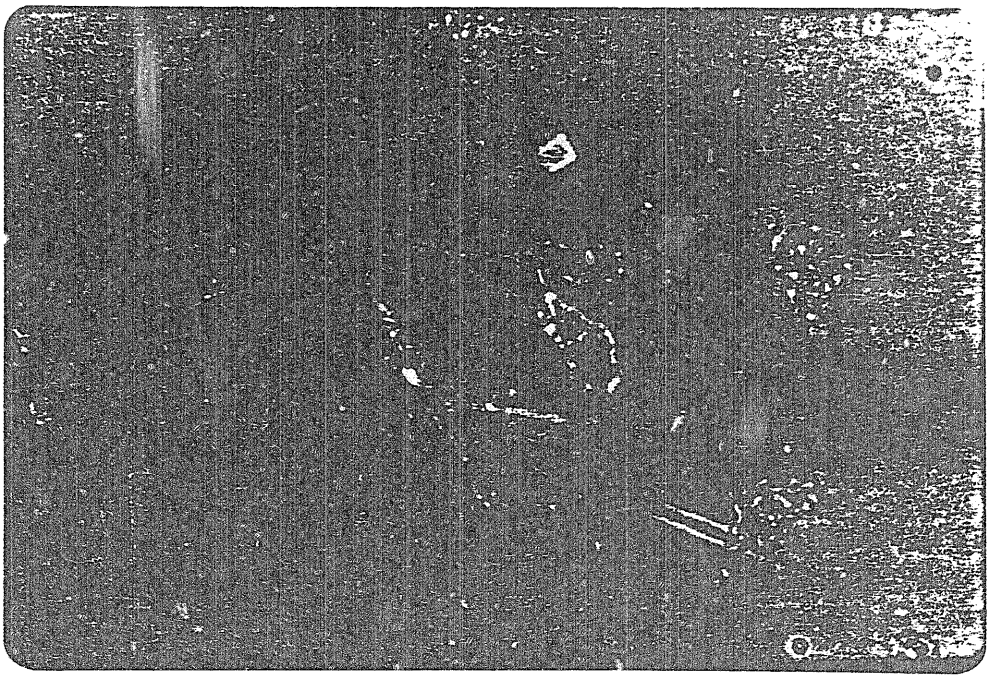


Figure 8, 400 X. Quartz grain.

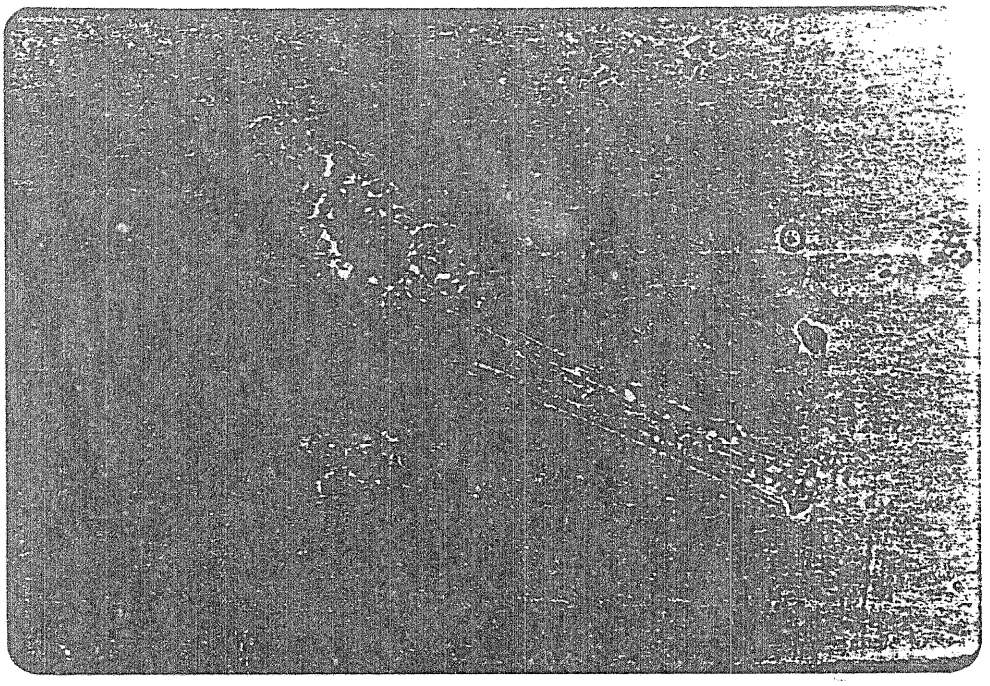


Figure 9, 400 X. The rods are diatoms with attached organics and feldspars/gels.

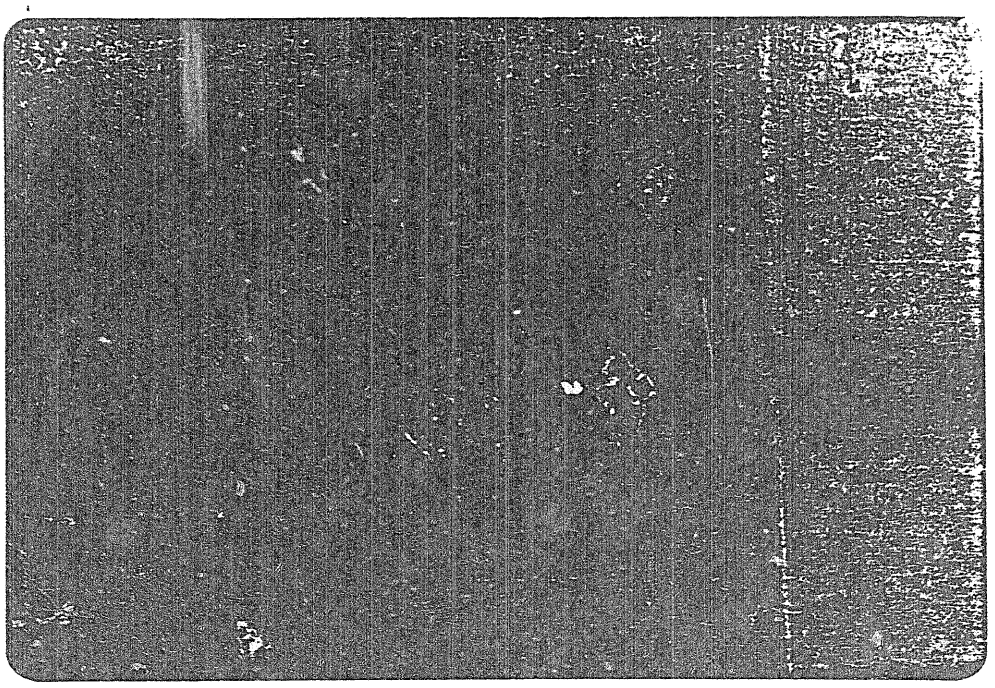


Figure 10, 400 X. These are mica flakes.

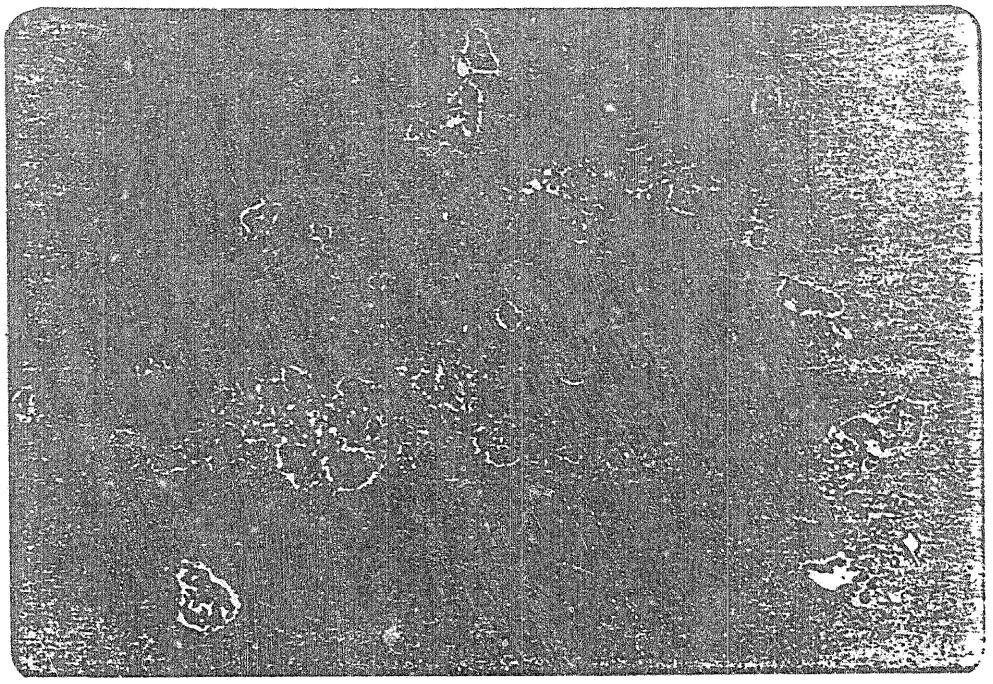


Figure 11, 400 X. This is a broken agglomerate caused by silicate gels with embedded quartz, feldspars and magnetite.

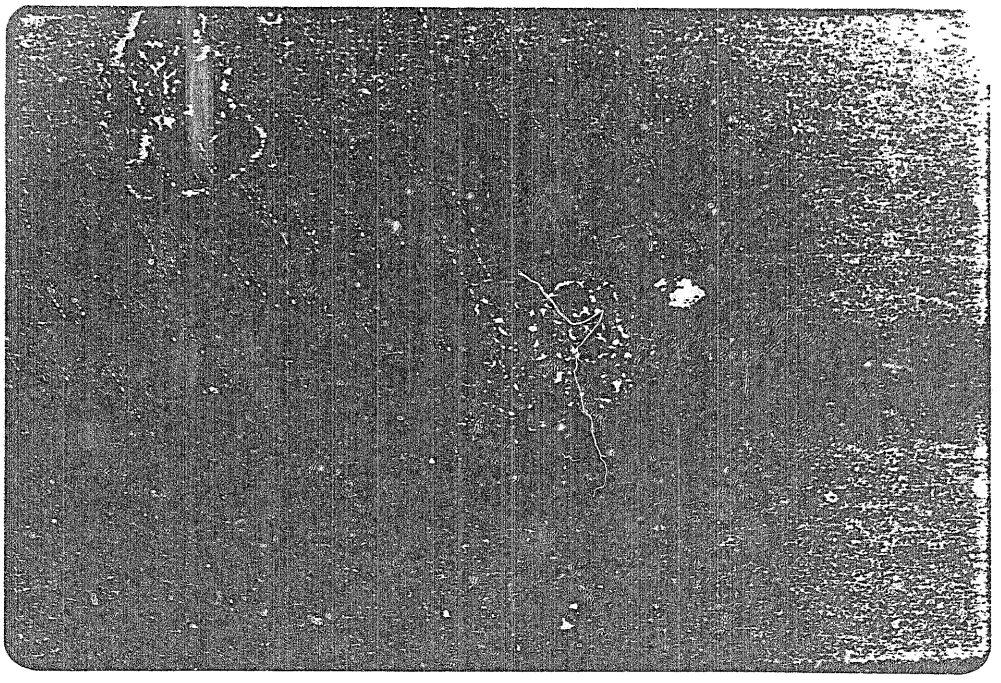


Figure 12, 400 X. Mixed mineral grains.

APPENDIX P

APPENDIX P

SUPPLEMENTARY EKLUTNA LAKE AND OUTFLOW DATA
WINTER, 1984-85

TABLE P.1

LAKE ICE OBSERVATIONS, WINTER 1984-85

Date	Remarks
03/16/85	Ice thickness 23 inches at Station 15, 5 inches snow on ice. Ice thickness 20 inches at Station 11, snow on ice 6 inches deep.
05/09/85	Ice starting to open up around edges of lake near Station 14 and 15. Two skiers had just traversed the lake, said there was no other open water except small areas along the northeast shore. Ice is soft on top but still solid.
05/20/85	Lake ice-free. U.S.G.S. obtained lake profiles this date.

NOTES:

(1) Information on freeze-up in November and December 1984 is in Appendix C.

(2) Observations were made by R&M Consultants staff except where noted otherwise.

TABLE P.2

OUTFLOW WATER QUALITY DATA, WINTER 1984-85

Date	Time AST	Gage Height (ft)	Mean Daily Q (cfs)	Water Temp (°C)	Conductivity @ 25°C (Umho/cm)	Secchi Disk (ft)	Instant. Q (cfs)	Turbidity (NTU)	TSS (mg/l)	Remarks
12/07/84	1330	N/A	290	3.7	124	2.9	N/A	7.4	2.4	
01/16/85	1140	N/A	328	3.2	132	>4.0	N/A	5.4	2.1	
02/16/85	N/A	N/A	352	N/A	127	N/A	N/A	10	2.6	
03/16/85	1035	N/A	150	3.7	N/A	N/A	N/A	4.5	1.9	
04/12/85	0810	N/A	N/A	3.6	N/A	N/A	N/A	7.7	2.3	
05/10/85	1150	N/A	N/A	4.7	N/A	N/A	N/A	3.0	2.6	