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Erosion of the slopes of gold-residue dams on the Transvaal highveld

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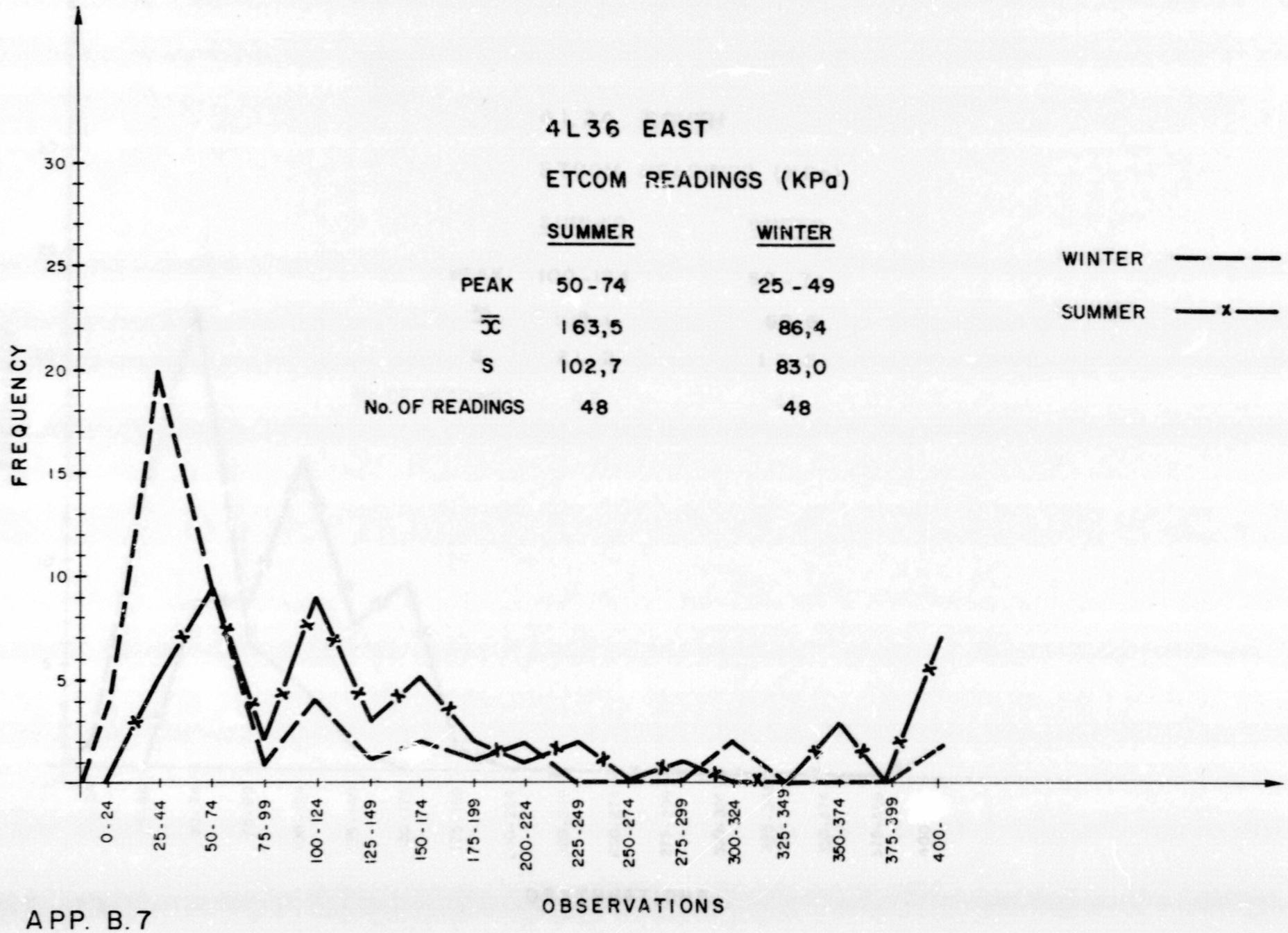
4L36 EAST

ETCOM READINGS (KPa)

	SUMMER	WINTER
PEAK	50 - 74	25 - 49
$\bar{x}$	163,5	86,4
S	102,7	83,0
No. OF READINGS	48	48



APP. B.7

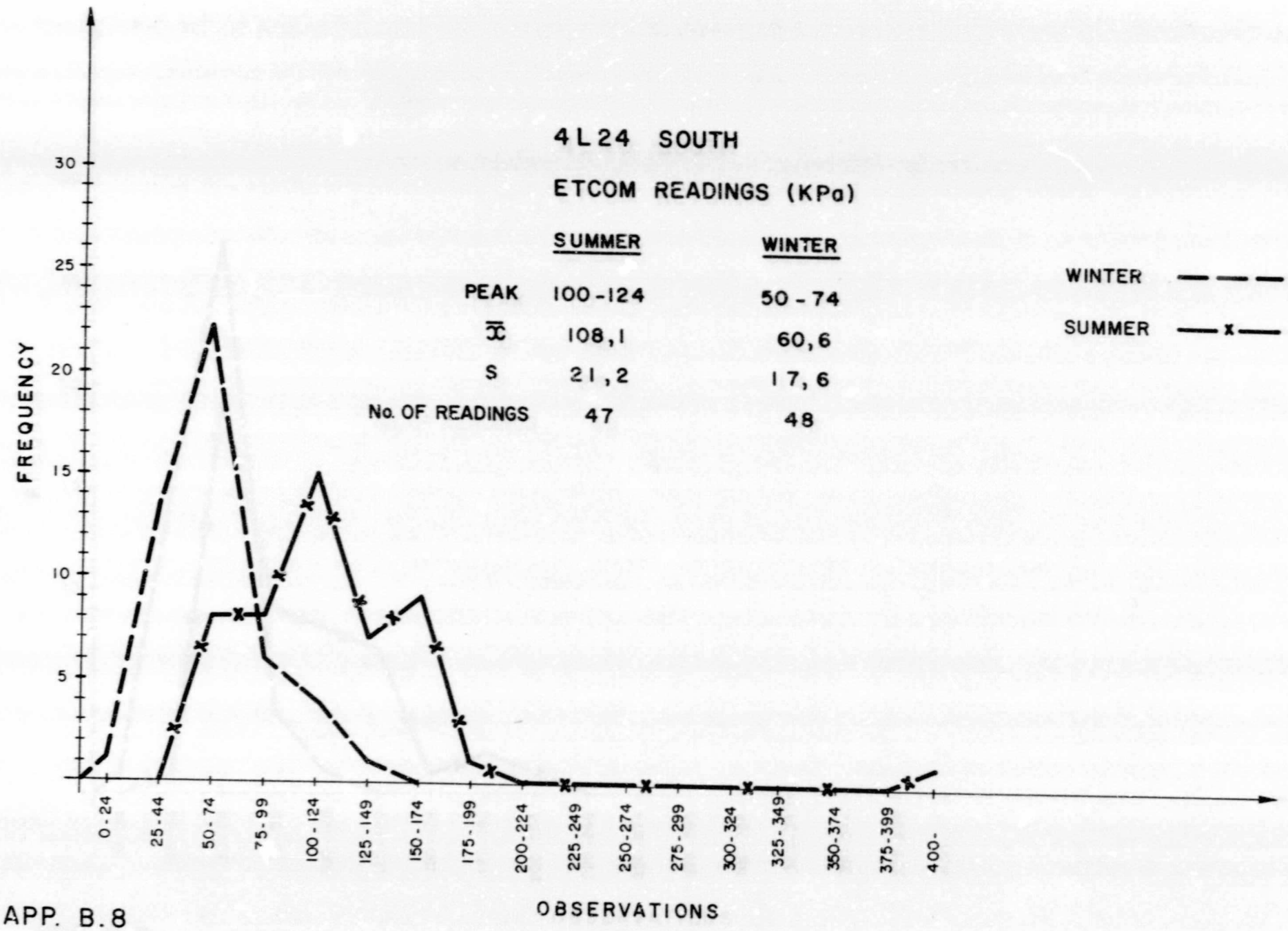
4L24 SOUTH

ETCOM READINGS (KPa)

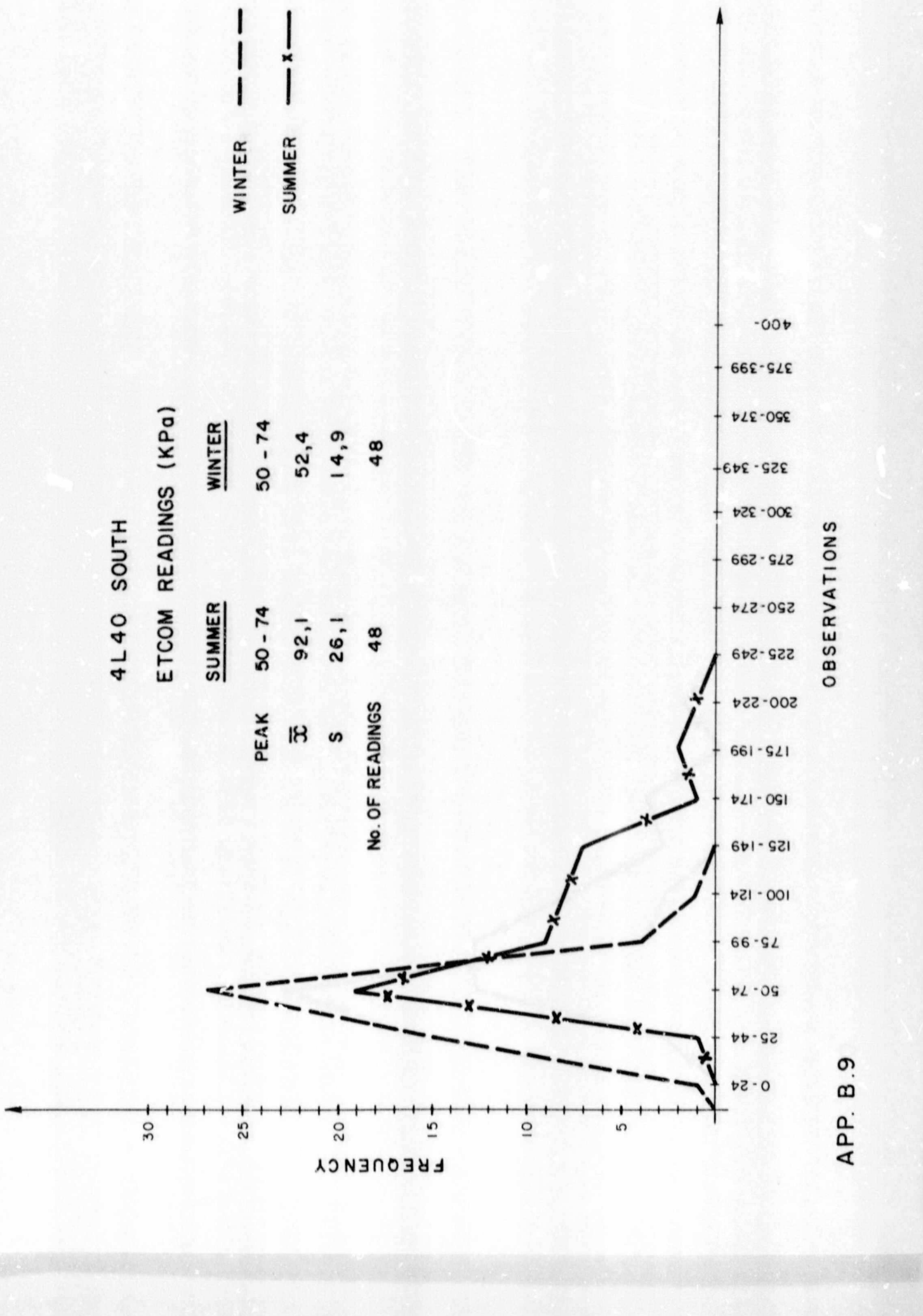
	SUMMER	WINTER
PEAK	100-124	50-74
$\bar{x}$	108,1	60,6
S	21,2	17,6
No. OF READINGS	47	48

WINTER — — —

SUMMER — x —



APP. B.8

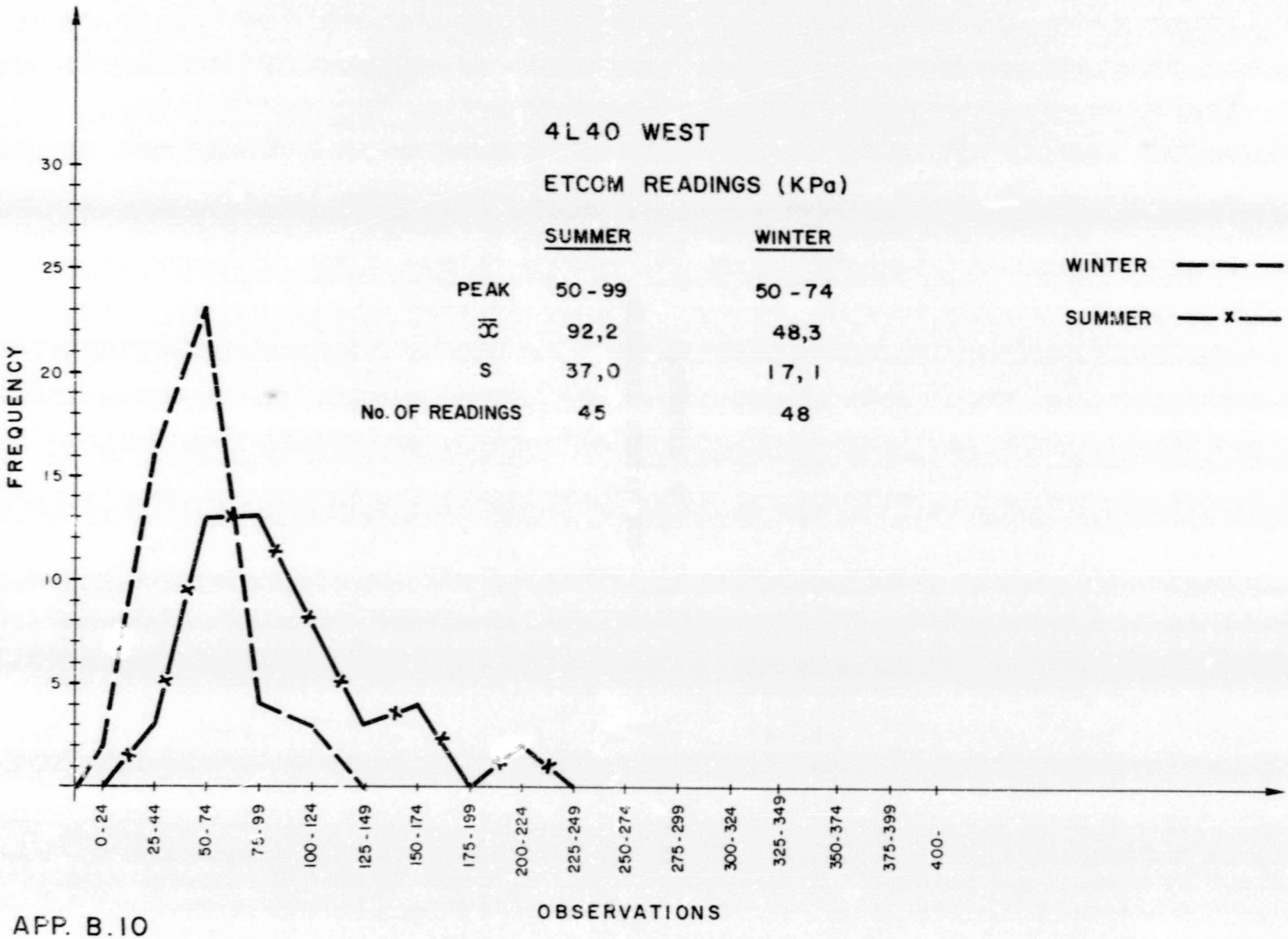

4L40 SOUTH
ETCOM READINGS (KPa)
WINTER
SUMMER
SUMMER WINTER
PEAK 50 - 74 50 - 74
x̄ 92,1 52,4
S 26,1 14,9
No. OF READINGS 48 48
FREQUENCY
OBSERVATIONS
0 - 24
25 - 44
50 - 74
75 - 99
100 - 124
125 - 149
150 - 174
175 - 199
200 - 224
225 - 249
250 - 274
275 - 299
300 - 324
325 - 349
350 - 374
375 - 399
400 -
5
10
15
20
25
30

APP. B.9

4L40 WEST

ETCOM READINGS (KPa)

	SUMMER	WINTER
PEAK	50 - 99	50 - 74
$\bar{x}$	92,2	48,3
S	37,0	17,1
No. OF READINGS	45	48



APP. B.10

APPENDIX C

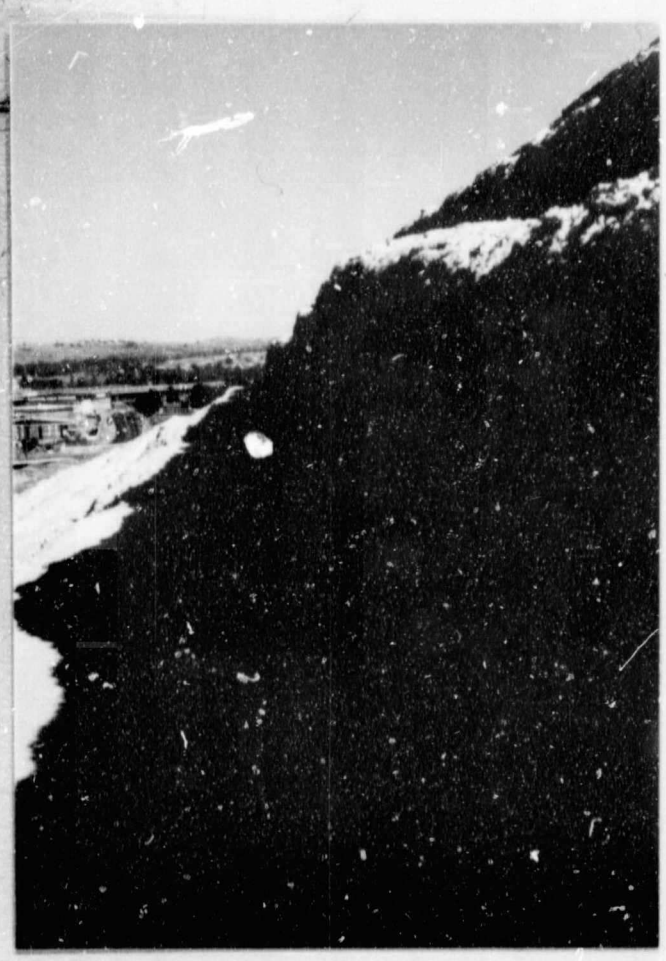
RAINFALL STATISTICS

	25 Yr Ave.	30 Yr Ave.	1979	1980	1981	1982	1983	1984	6 Yr Ave.
January	129,8	131,5	93,3	209,1	139,6	160,8	97,2	60,5	126,8
February	94,7	95,2	38,8	173,6	121,3	59,7	95,6	13,1	83,7
March	81,8	83,8	84,3	80,4	66,5	100,0	56,2	77,6	77,5
April	63,0	57,7	42,7	13,9	44,9	42,1	11,8	12,2	27,9
May	20,9	18,6	13,8	2,2	0,0	0,0	14,2	1,1	5,2
June	7,0	7,4	0,1	0,0	8,9	0,5	36,0	10,5	4,9
July	5,5	5,6	15,4	0,0	0,0	10,9	3,7	14,7	7,5
August	4,7	6,0	46,4	0,0	12,5	0,3	5,5	0,4	10,9
September	25,8	27,1	30,2	80,1	29,3	9,7	17,7	11,9	29,8
October	70,5	69,2	68,6	11,7	93,9	64,0	74,4	74,1	64,5
November	115,4	115,9	188,5	147,5	79,8	45,6	130,9	117,8	118,4
December	110,8	108,1	67,3	37,5	96,9	105,6	167,3	48,6	87,2
Total (mm)	729,9	726,1	689,4	756	693,6	599,2	710,5	442,5	644,3

Appendix C RAINFALL STATISTICS - JAN SMUTS AIRPORT

APPENDIX D

TYPICAL EXPERIMENTAL PLOTS

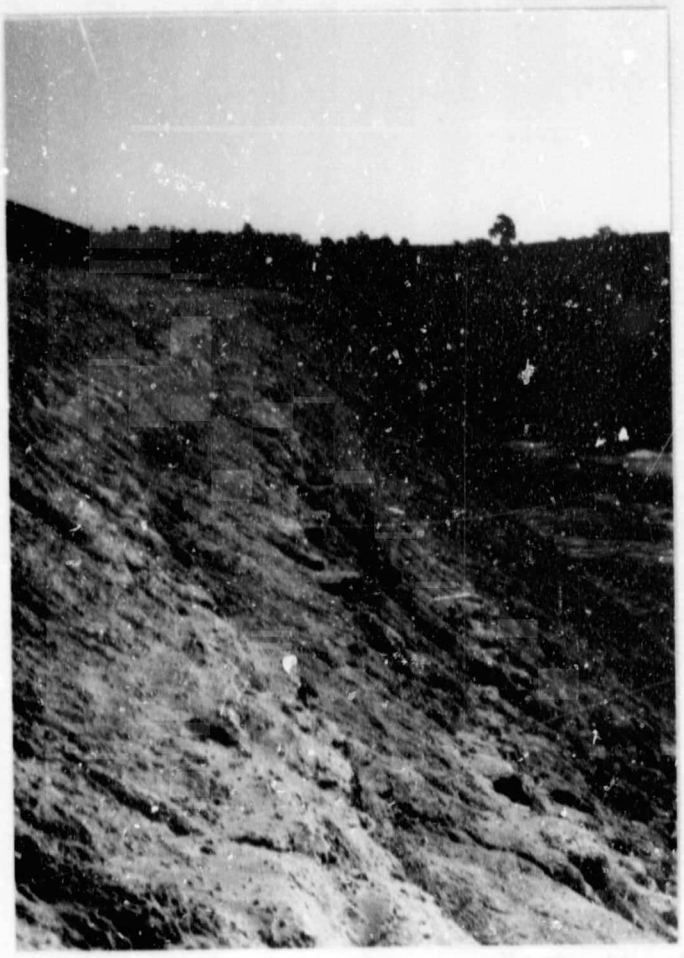


3L39 East
Balmoral North



4L34 South
4L37 North



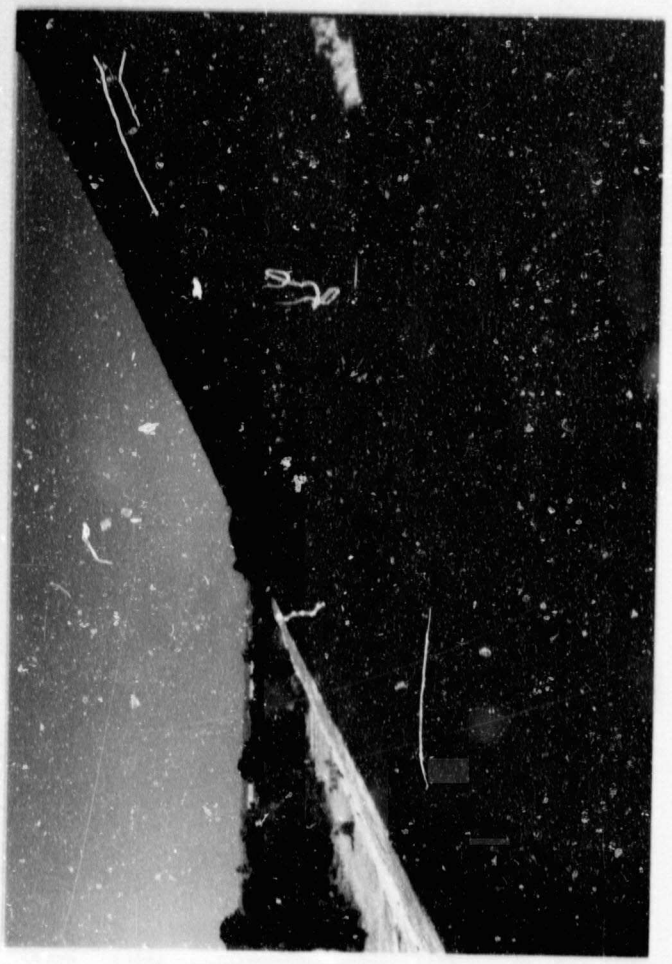


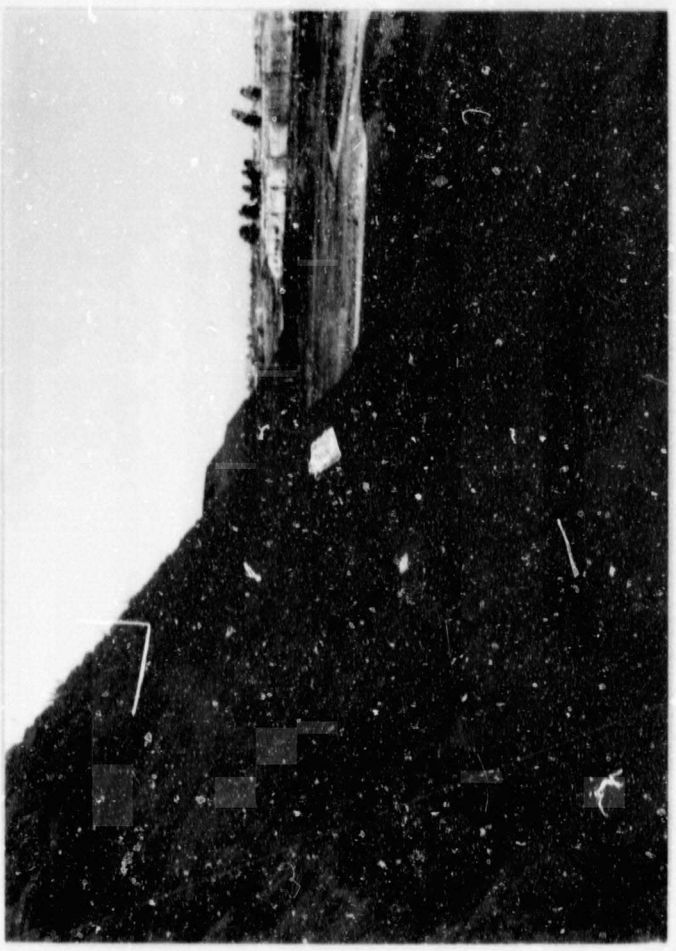


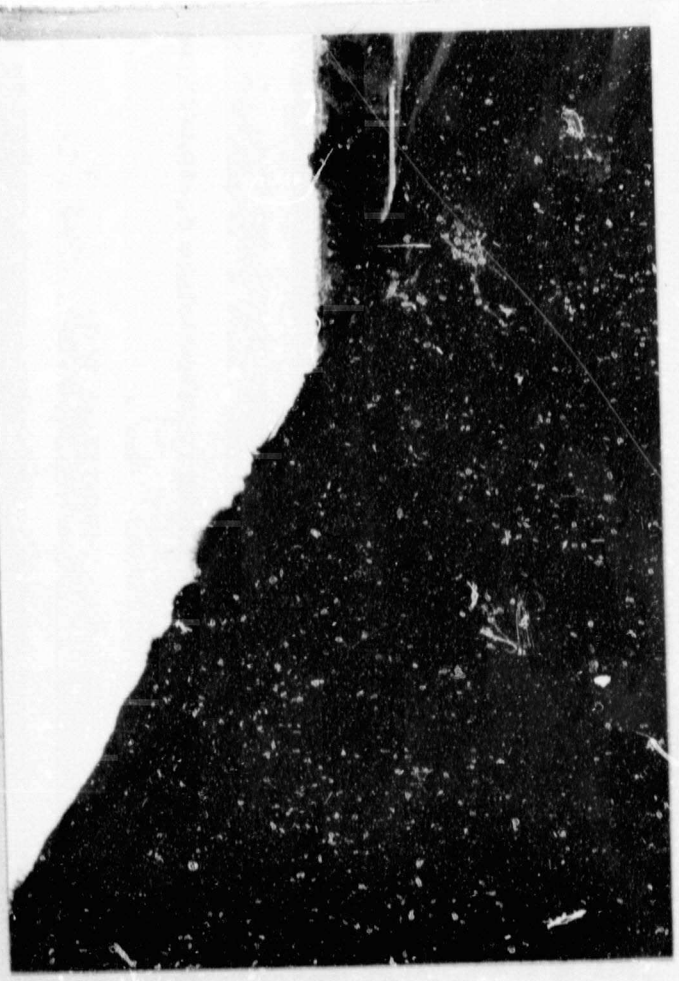
4L37 East
4L36 East



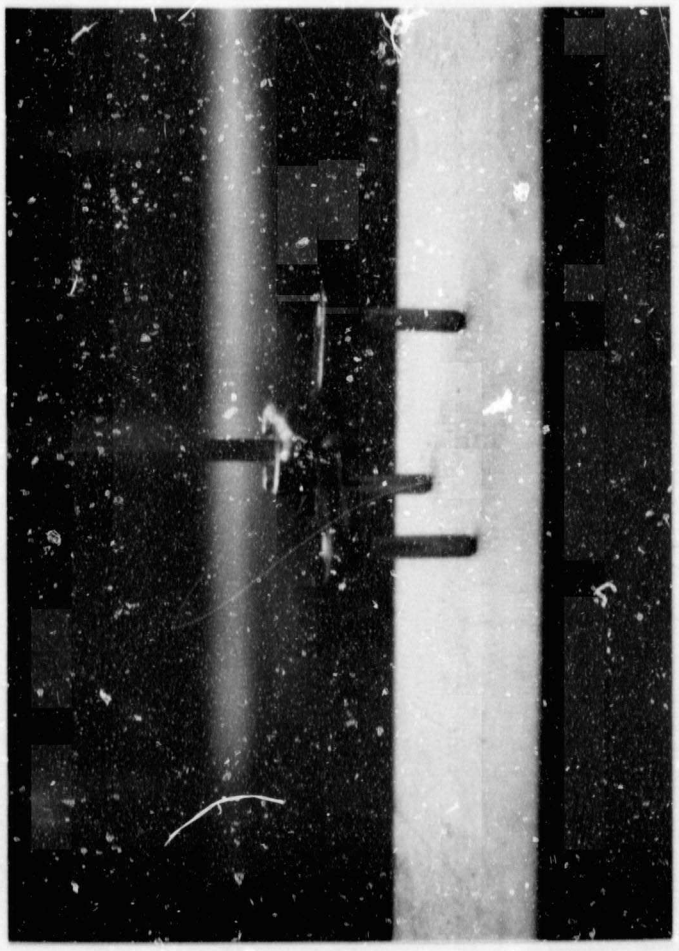
4L36 North
4L24 South







4L40 South
4L40 West



ETCOM Jet
ETCOM pressure gauges





APPENDIX E

MEASUREMENT OF RETREAT OF GOLD RESIDUE AT INDIVIDUAL PEGS

RETREAT MM

PEG NO.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	AVERAGE RETREAT
	W	5	4	5	18	4	4	13	7	11	5	8	3	5	12	5	13	7,6
3L39E	S	26	2	21	8	5	6	-2*	3	11	8	12	25	14	5	4	9	9,8
	Total	31	6	26	26	9	10	11	10	22	13	20	28	19	17	9	22	17,4
	W	7	-	9	-	25	4	8	5	13	16	4	10	6	11	6	7	9,3
4L34	S	9	-	21	-	35	21	92	30	19	3	6	10	8	5	24	5	20,6
	Total	16	-	30	-	60	25	100	35	32	19	10	20	14	16	30	12	29,9
	W	13	13	2	0	0	0	0	0	13	13	2	25	10	0	8	0	6,2
Balmoral	S	14	14	8	7	0	4	12	14	17	28	7	25	9	6	8	12	11,6
	Total	27	27	10	7	0	4	12	14	30	41	9	50	19	6	16	12	17,8
	W	4	12	7	3	1	6	6	2	5	4	5	5	6	8	2	1	4,8
4L37N	S	3	3	2	9	9	4	9	14	3	3	7	5	9	-7*	13	9	5,9
	Total	7	15	9	12	10	10	15	16	8	7	12	10	15	1	15	10	10,7
	W	30	17	4	16	30	16	5	10	5	16	6	6	11	21	6	15	13,4
4L37E	S	11	8	6	10	-9*	-6*	17	40	2	53	5	16	7	14	10	7	12,0
	Total	41	25	10	26	21	10	22	50	7	69	11	22	18	35	16	22	25,4

W = Winter reading mm

S = Summer reading mm

1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
Peg position & Nos.

Downslope

*Negative Numbers denotes silting

Appendix E.1. MEASUREMENT OF THE RETREAT OF GOLD RESIDUE AT INDIVIDUAL PEGS

RETREAT MM

PEG NO.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	AVERAGE RETREAT
	W	3	1	19	13	17	32	10	10	22	13	14	5	16	4	5	7	11,9
4L36N	S	1	4	3	3	8	28	18	27	17	11	-	13	12	6	14	12	11,1
	Total	4	5	22	16	25	60	28	37	39	24	14	18	28	10	19	19	23,0
	W	3	0	4	5	7	3	10	2	6	0	10	0	5	3	6	25	5,6
4L36E	S	5	3	-1*	2	9	7	27	8	9	1	10	6	18	-1*	5	4	7,0
	Total	8	3	3	7	16	10	37	10	15	1	20	6	23	2	11	29	12,6
	W	0	0	0	7	10	6	10	2	0	1	7	2	14	11	13	4	5,4
4L24S	S	0	0	0	0	9	5	5	14	4	3	14	1	8	4	5	8	5,0
	Total	0	0	0	7	19	11	15	16	4	4	21	3	22	15	18	12	10,4
	W	5	17	6	31	2	7	5	12	2	4	3	6	6	7	14	4	8,2
4L40S	S	2	11	3	-2*	0	5	6	7	5	-3*	5	7	10	5	7	27	5,9
	Total	7	28	9	29	2	12	11	19	7	1	8	13	16	12	21	31	14,1
	W	8	-	2	7	4	6	2	2	0	5	6	3	6	14	5	7	5,1
4L40W	S	2	-	-1*	-2*	3	15	1	8	9	1	11	4	13	5	-3	-1	4,3
	Total	10	-	1	5	7	21	3	10	9	6	17	7	19	19	2	6	9,4

W = Winter reading mm

S = Summer reading mm

1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
Peg position & Nos.

Downslope

*Negative Numbers denotes silting

Appendix E.2. MEASUREMENT OF THE RETREAT OF GOLD RESIDUE AT INDIVIDUAL PEGS

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