

## APPENDIX 4

### Basic Data Lists of Property

Population Area

Livestock and Poultry on Farms

Mineral Production

Manufacturing Production

Private Building Construction

Commercial Trade Total Gross Receipts

School

Crops Production

Fishpond Production

Household



° Fishpond Production

Production and Area of Fishponds in Operation

1973

	Production (t)	Area (ha)	Value (x10 <sup>3</sup> ₱)
Philippines	97,900	171,000	434,000
Region I	7,900	10,000	
Pangasinan	7,500	9,400	
Region III	26,000	30,000	
Tarlac	-	-	
Region V	3,700	10,000	
Camarines S	663	3,314	
Albay	99	497	
Region II	106	530	
Cagayan	91	455	
Isabela	15	74	

Source: Fisheries Statistic of the Philippines Bureau of Fisheries

Quantity and Value of Fish Production by Source Production

Year	Fishponds	
	Quantity (t)	Value (x10 <sup>3</sup> ₱)
1972	98,923	332,379
1971	97,915	328,016
1970	96,461	252,727
1969	94,573	191,038
1968	86,711	182,441
1967	63,912	135,493
1966	63,654	129,855
1965	63,198	106,172

Source: Fisheries Statistic of the Philippines Bureau of Fisheries

b. Retail Trade

Summary Statistics for Retail Trade by Region

1971

	Number of Establishments	Employment	Total Payrolls for Paid Employees (x10 <sup>3</sup> ₱)	Total Benefits for Paid Employees (x10 <sup>3</sup> ₱)	Total Gross Receipts (x10 <sup>3</sup> ₱)	Total Operating Costs (x10 <sup>3</sup> ₱)	Gross Margin (x10 <sup>3</sup> ₱)
Philippines	220,795	632,965	458,657	10,268	11,757,689	791,486	10,966,203
Region I	16,008	39,355	16,347	161	443,131	28,266	414,865
Pangasinan	7,411	18,000	7,500	75	205,000	13,086	192,067
Region III	22,791	55,607	27,478	530	898,472	51,064	847,408
Tarlac	3,438	6,000	4,100	80	136,000	7,702	127,814
Region V	14,215	37,919	14,620	230	380,044	26,264	353,780
Camarines	4,542	12,000	4,700	73	21,000	8,391	713,029
Albay	3,231	9,000	3,300	52	86,000	5,969	80,405
Region II	8,724	26,437	10,782	42	284,508	12,224	272,284
Cagayan	2,998	9,000	3,700	14	98,000	4,201	93,568
Isabela	3,343	10,000	4,000	16	109,000	4,684	104,323

Source: National Census and Statistics Office

° School

Summary Statistics for School by Province

	Private Schools	Public Schools
Pangasinan	133	1,459
Tarlac	40	589
Camarines S	53	998
Albay	50	709
Cagayan	61	612
Isabela	39	682

Elementary, Secondary and Collegiate Enrolment in Public and Private Schools 1975-76

	Elementary	Secondary	Collegiate
Philippines	8,653,937	2,294,543	916,190

Source: National Census and Statistics Office

° Private Building Construction

Number, Floor Area and Value of Private Building Construction  
for Selected Areas 1972

	Number	Floor Area (x10 <sup>3</sup> sq)	Value (x10 <sup>3</sup> q)
All selected areas	19,589	2,746	529,811
Manila	2,124	316	72,893
Suburbs	5,329	1,333	291,769
Other (32) Chartered Cities	12,136	1,096	163,148

Source: National Census and Statistics Office

° Commercial Trade Total Gross Receipts

a. Wholesale Trade

Summary Statistics for Wholesale Trade by Region

1971

	Number of Establish- ments	Employ- ment	Total Payrolls for Paid Employees (x10 <sup>3</sup> q)	Total Benefits for Paid Employees (x10 <sup>3</sup> q)	Total Gross Receipts (x10 <sup>3</sup> q)	Total Operating Costs (x10 <sup>3</sup> q)	Gross Margin (x10 <sup>3</sup> q)
Philippines	4,593	62,405	245,183	4,919	10,439,213	592,608	9,846,605
Region I	372	3,234	9,284	173	334,894	16,130	318,764
Pangasinan	172	1,497	4,298	80	155,044	7,468	147,576
Region III	232	2,542	10,510	163	303,794	12,201	291,593
Tarlac	35	383	1,585	25	45,821	1,840	43,981
Region V	480	3,636	7,685	79	397,804	17,630	380,174
Camarines	153	1,162	2,455	25	127,094	5,633	121,461
Albay	109	826	1,747	18	90,410	4,007	86,403
Region II	140	1,374	2,988	10	152,062	8,314	143,748
Cagayan	48	472	1,027	3	52,255	2,857	49,398
Isabela	54	526	1,145	4	58,261	3,185	55,076

Source: National Census and Statistics Office

° Household

**Total Number of Families and Total and Average Family Income  
1971**

	No. of Families (x10 <sup>3</sup> ₱)	Family Income (x10 <sup>3</sup> ₱)	Average Incom (x10 <sup>3</sup> ₱)
<b>Philippines</b>	3,959	5,824,296	1,471
<b>Region I</b>	296	1,261,079	4,255
Pangasinan	243	1,035,278	4,260
<b>Region III</b>	190	242,374	1,273
Tarlac	39	49,750	1,276
<b>Region V</b>	477	717,887	1,504
Camarines S.	180	270,901	1,505
Albay	140	210,701	1,505
<b>Region II</b>	286	369,315	1,292
Cagayan	119	153,666	1,291
Isabela	133	171,744	1,291

Source: National Census and Statistics Office.

5. Basic Data Lists of Property

° Population Area

Population

	Flooded area	Province area
Agno river basin	500,000	1,945,851
Pangasinan	400,000	1,386,143
Tarlac	100,000	559,708
Bicol river basin	200,000	1,622,417
Camarines S.	150,000	948,436
Albay	50,000	673,981
Cagayan river basin	180,000	1,229,360
Cagayan	100,000	581,237
Isabela	80,000	648,123

Target Area

	Flooded area	Province area
Agno river basin	1,538 km <sup>2</sup>	8,422 km <sup>2</sup>
Pangasinan	1,181	5,368
Tarlac	357	3,054
Bicol river basin	568	7,820
Camarines S.	480	5,267
Albay	88	2,553
Cagayan river basin	1,416	18,252
Cagayan	864	8,139
Isabela	552	10,113

° Crops Production

Croplands-Distribution by Major Crops in Philippines  
by the Region, 1974

	Total	Palay	Corn	Sugar Cane	Tobacco	Coconut	Abaca	Others
Philippines	10,117	3,437	2,763	491	59	2,206	170	991
Ilocos	559	351	63	6	14	11	-	114
C. Luzon	687	507	58	59	2	6	-	55
Cagayan	791	393	316	-	31	4	-	47
Bicol	889	341	151	4	-	221	70	102

x10<sup>3</sup>ha

Value of Agricultural Production in Philippines  
by the Region, 1974

	Total	Palay	Corn	Sugar Cane	Tobacco	Coconut	Abaca	Others
Philippines	17,546	5,594	2,289	3,450	48	1,800	126	4,239
Ilocos	1,009	540	35	19	11	13	-	391
C. Luzon	1,794	1,098	34	326	-	-	-	336
Cagayan	1,108	669	253	1	25	-	-	160
Bicol	1,292	548	102	11	-	91	61	479

x10<sup>6</sup>ton

Production of Agricultural Crops in Philippines  
by the Region, 1974

	Total	Palay	Corn	Sugar Cane	Tobacco	Coconut	Abaca	Others
Philippines	17,763	4,960	1,537	3,021	152	3,705	375	4,013
Ilocos	1,108	496	31	21	37	18	-	505
C. Luzon	1,900	1,101	35	287	2	-	-	475
Cagayan	943	552	161	1	77	-	-	152
Bicol	1,248	462	72	11	1	204	211	287

x10<sup>6</sup>¢

Source: Bureau of the Census and Statistics



° Mineral Production

Mineral Production of Region and Province

1972

	Metallics (x10 <sup>3</sup> ₱)	Non-Metallics (x10 <sup>3</sup> ₱)	Total (x10 <sup>3</sup> ₱)
Philippines	1,778,232	466,861	2,245,093
Region I	92,749	46,183	1,389,932
Pangasinan	6,361	27,920	34,281
Region III	62,934	116,307	179,241
Tarlac	-	100	100
Region V	40,084	1,093	41,177
Camarines S.	-	108	108
Albay	-	160	160
Region II	-	677	677
Cagayan	-	308	308
Isabela	-	143	143

Source: Bureau of Mines.

° Manufacturing Production

Manufacturing Industry, General Information in Region

1968

	Firms	Employment	Value of Fixed Asset x10 <sup>3</sup> ₱	Value of Production x10 <sup>3</sup> ₱
Philippines	4,260	365,827	4,196,000	10,553,000
Region I	85	2,978	30,200	90,200
Pangasinan	52	1,372	4,600	24,900
Region III	264	17,907	691,400	1,031,500
Tarlac	13	1,354	3,600	65,700
Region V	107	2,393	5,900	155,600
Camarines S.	54	1,202	3,700	16,500
Albay	24	380	1,000	139,100
Region II	90	3,787	11,600	55,300
Cagayan	29	945	6,900	22,800
Isabela	40	1,718	3,400	18,200

° Livestock and Poultry on farms

Population of Livestock and Poultry in Region

1970

x 10<sup>3</sup>

	Total	Carabao	Cattle	Swine	Horses	Goats	Chicken	Ducks
Philippines	119,879	4,750	2,143	10,914	520	2,205	94,468	4,877
Region I	9,864	513	368	1,074	47	233	7,497	130
Pangasinan	4,494	230	123	469	21	107	3,468	72
Region III	12,208	572	85	723	33	172	9,895	728
Tarlac	1,902	128	3	163	3	59	1,492	54
Region V	9,136	426	92	974	90	67	7,212	252
Camarines S.	3,334	145	20	399	2	16	2,641	109
Albay	1,652	71	12	176	1	6	1,320	64
Region II	7,873	469	121	853	25	36	5,901	465
Cagayan	2,504	177	21	285	11	11	1,929	48
Isabela	2,558	161	38	308	7	10	1,967	64

Source: Bureau of Animal Industry.

1973

	Total	Carabao	Cattle	Swine	Horses	Goats	Chicken	Ducks
Philippines (x 10 <sup>3</sup> )		4,937	2,099	8,627	-	1,248	49,965	2,906
Philippines (x 10 <sup>6</sup> )		2,051	784	753	-	30	165	10

Source: Bureau of Animal Industry.

## APPENDIX 5

### Flood Hydrographs and Hyetographs

#### The Agno River Basin

Oct. 1967  
Aug. 1968  
Oct. 1968  
July, Aug. 1969  
Sept. 1970  
July, Aug. 1972  
Oct. 1973  
Oct. 1974  
Sept. 1975  
May, June, 1976

#### The Bicol River Basin

Sept. Oct. 1968  
Dec. 1969, Jan. 1970  
Oct. Nov. 1970  
Dec. 1971, Jan. 1972  
June, July 1972  
Oct. 1973  
Dec. 1973, Jan. 1974  
June. 1974  
Dec. 1974, Jan. 1975  
Dec. 1975  
Jan. 1976

#### The Cagayan River Basin

June, July 1967  
Aug. 1967  
Aug. Sept. 1968  
Sept. Oct. 1968  
Nov. Dec. 1969  
Oct. Nov. 1970  
Oct. Nov. 1971  
Nov. Dec. 1971  
May, June 1972  
Oct. Nov. 1973  
Nov. Dec. 1973



1967

# FIG. 32, FLOOD HYDROGRAPHS CAGNO RIVER BASIN

## OCT 1967

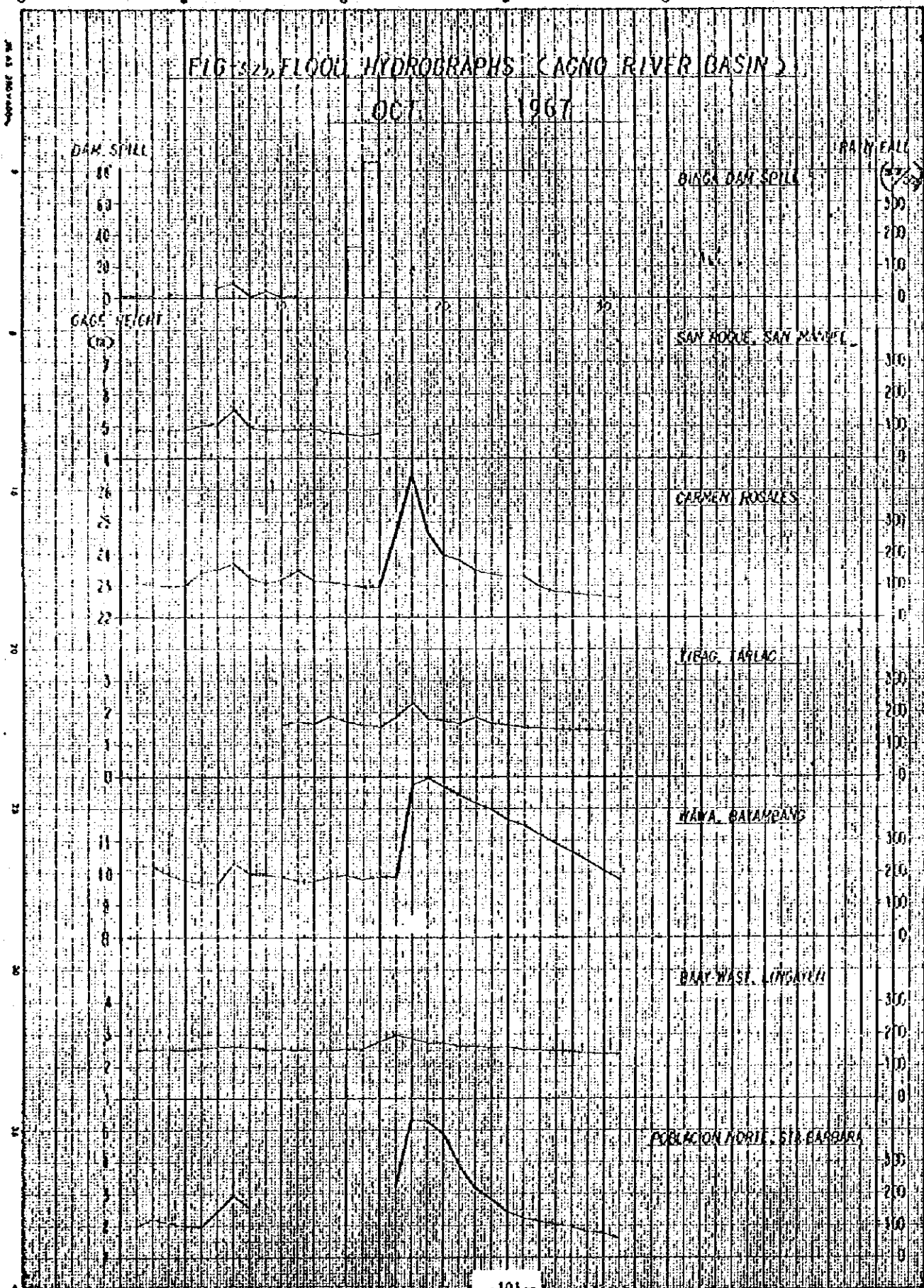
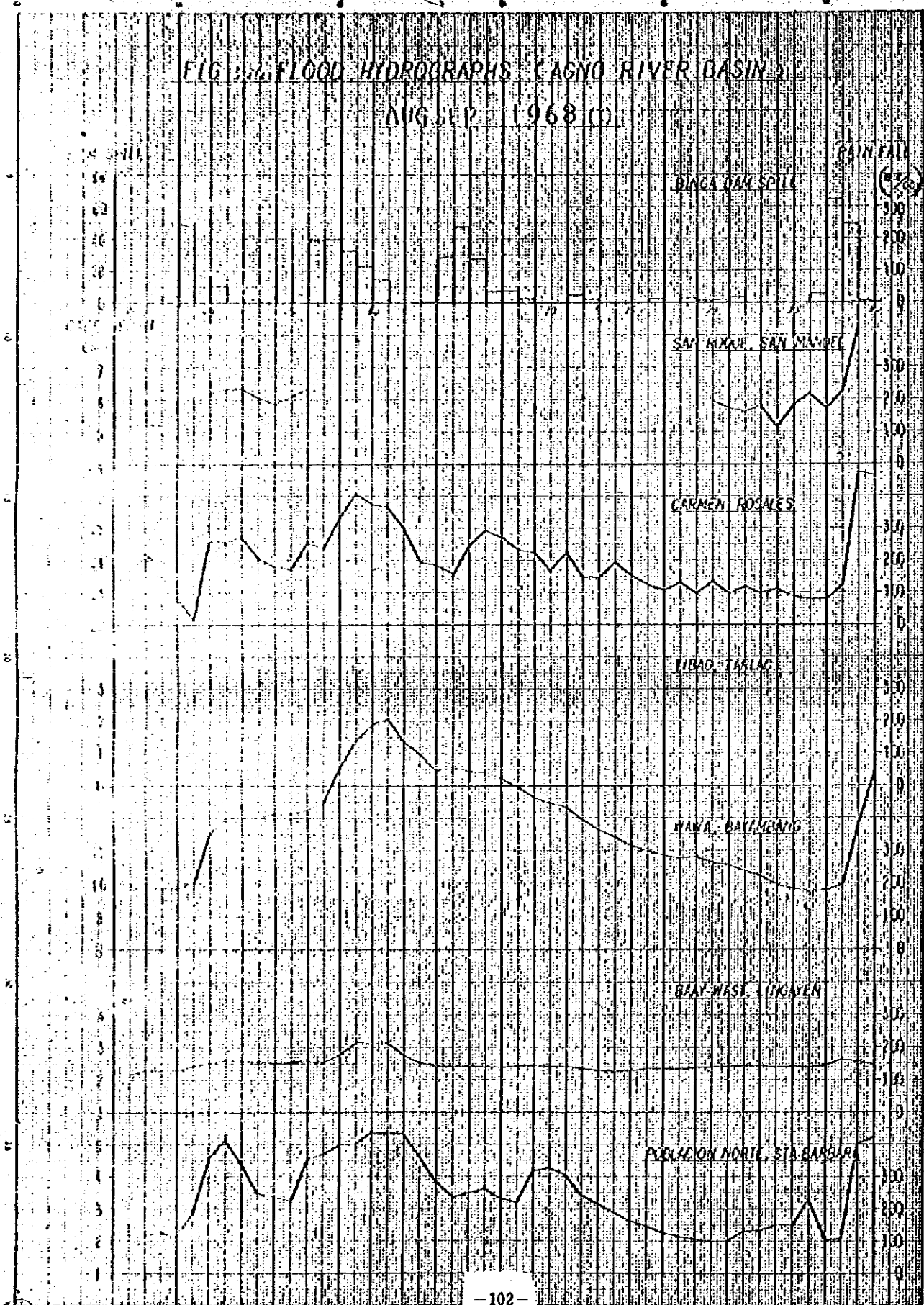


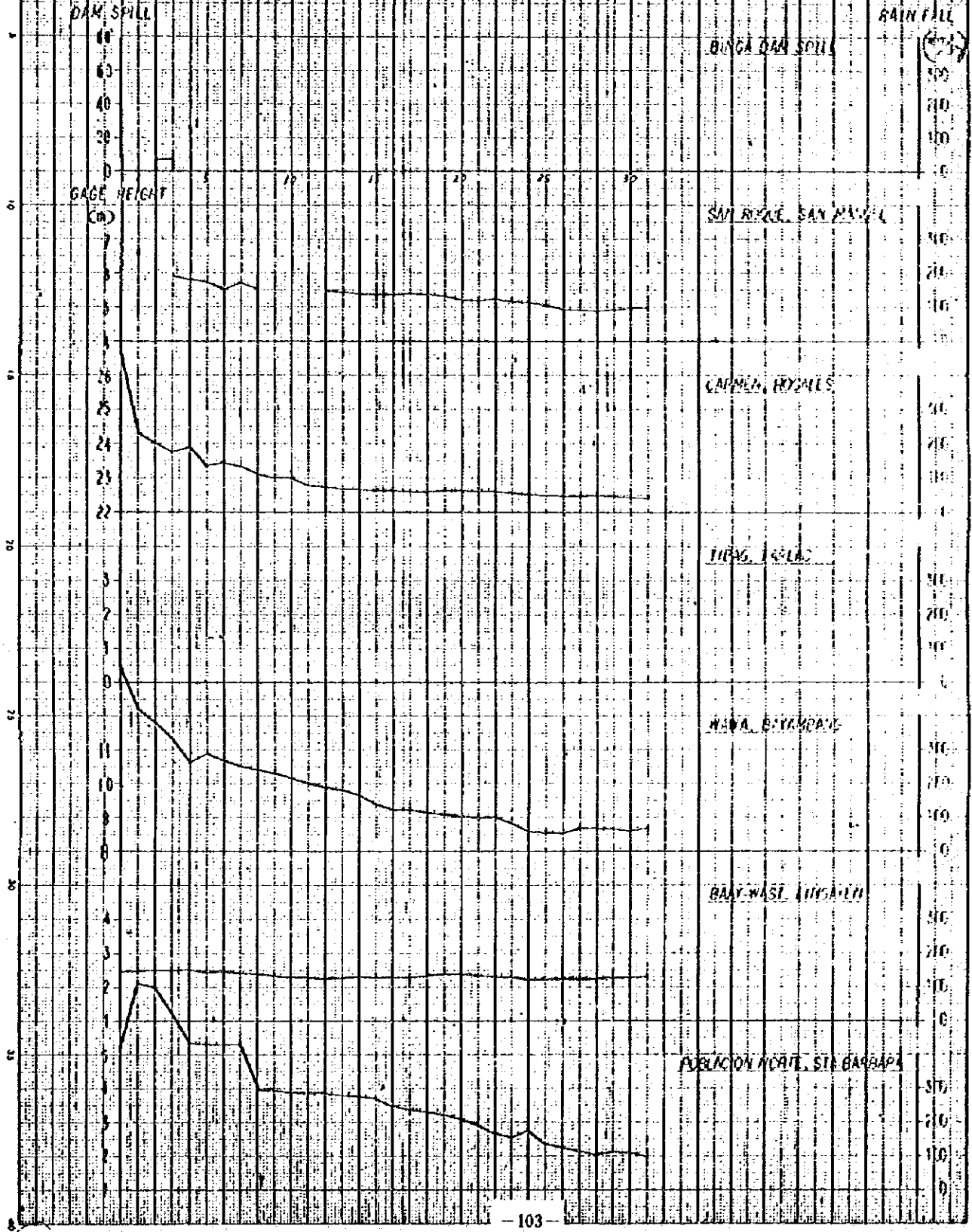
FIG. 10. FLOOD HYDROGRAPHS (AGNO RIVER BASIN)

AUGUST 1968 (D)



# FIG 5210 FLOOD HYDROGRAPHS (AGNO RIVER BASIN)

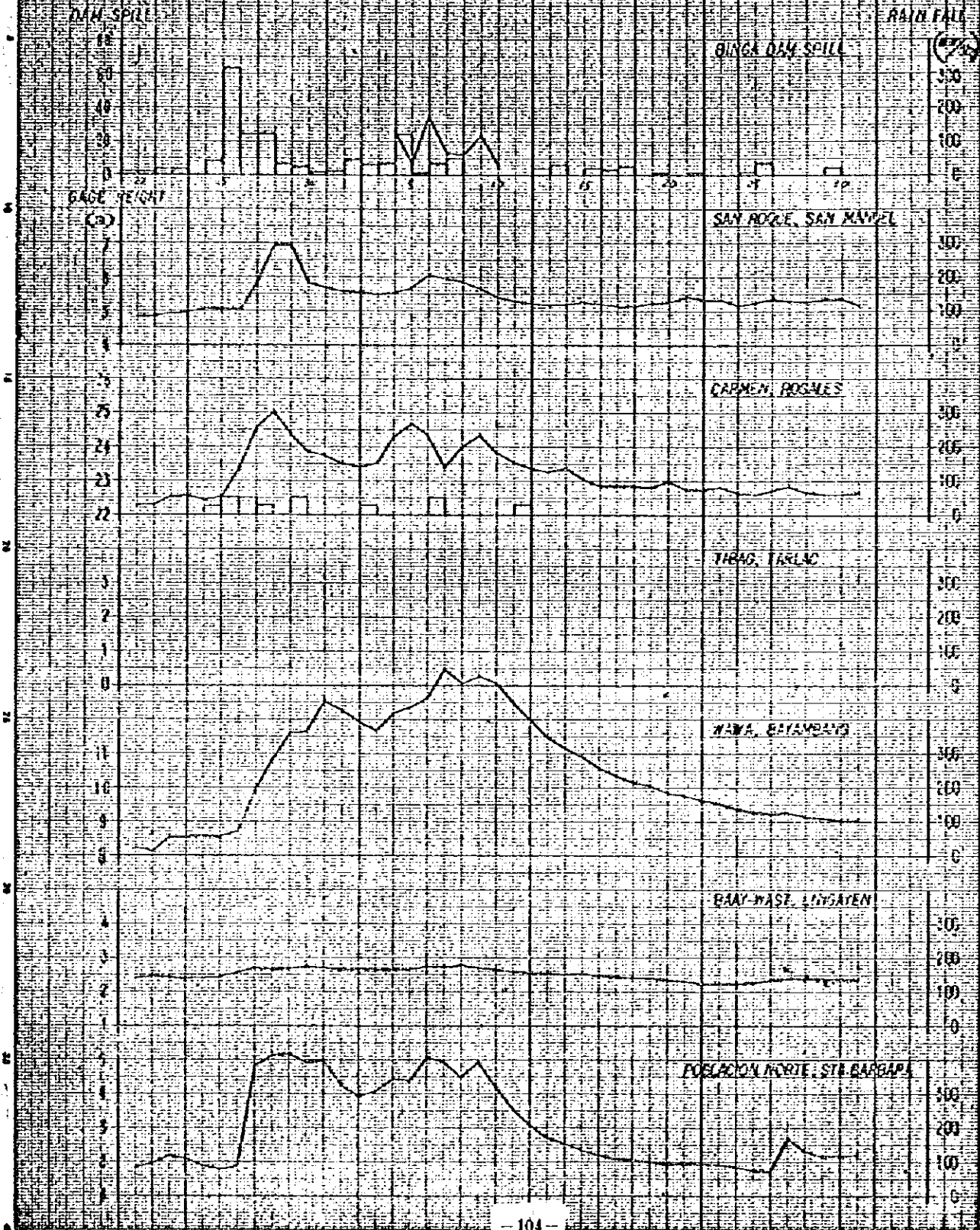
## OCT 1968 (II)





# FIG. 326 FLOOD HYDROGRAPHS (CAGNO RIVER BASIN)

## JUL AUG 1969

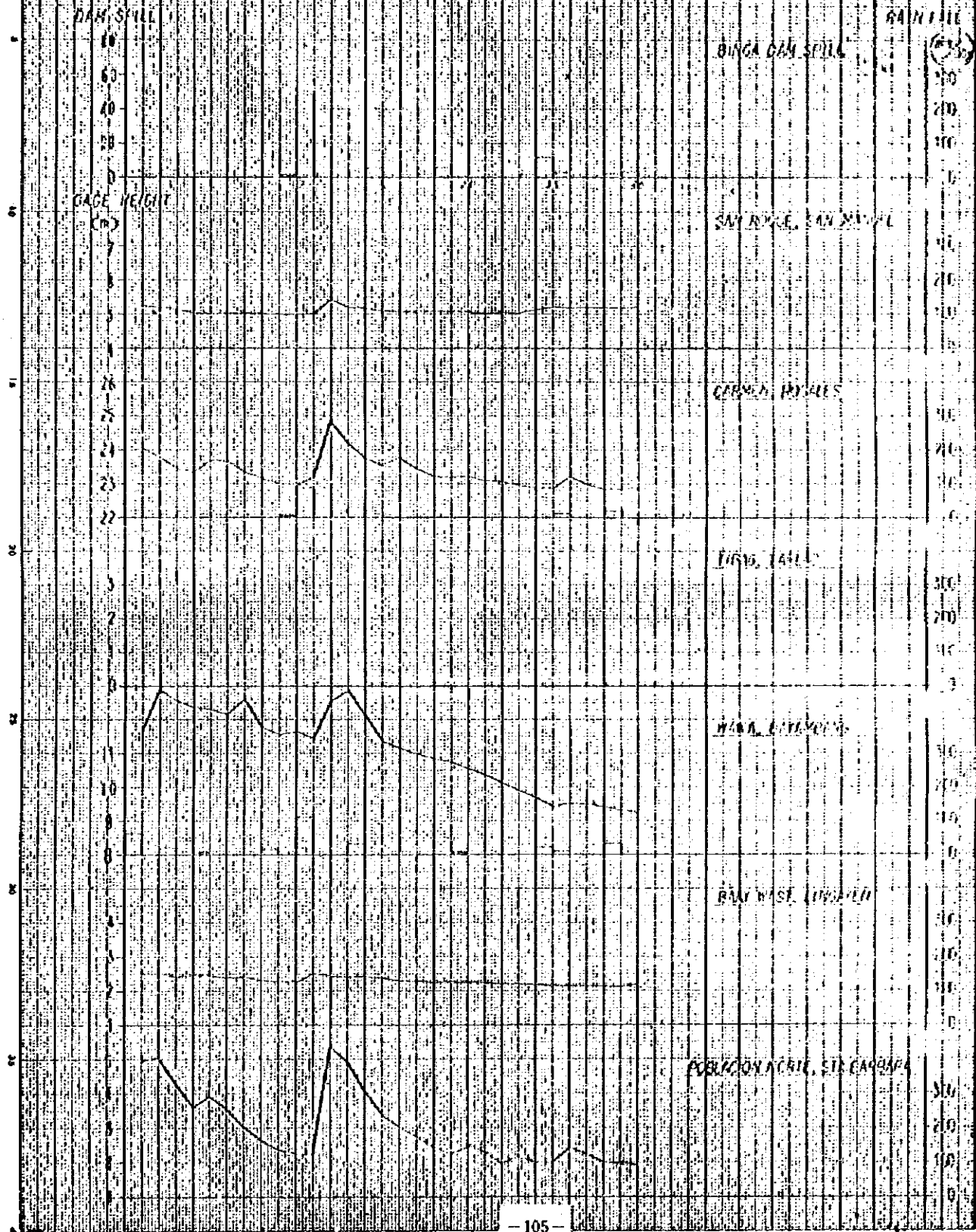




1970

# FIG. 2. FLOOD HYDROGRAPHS (AGNO RIVER BASIN)

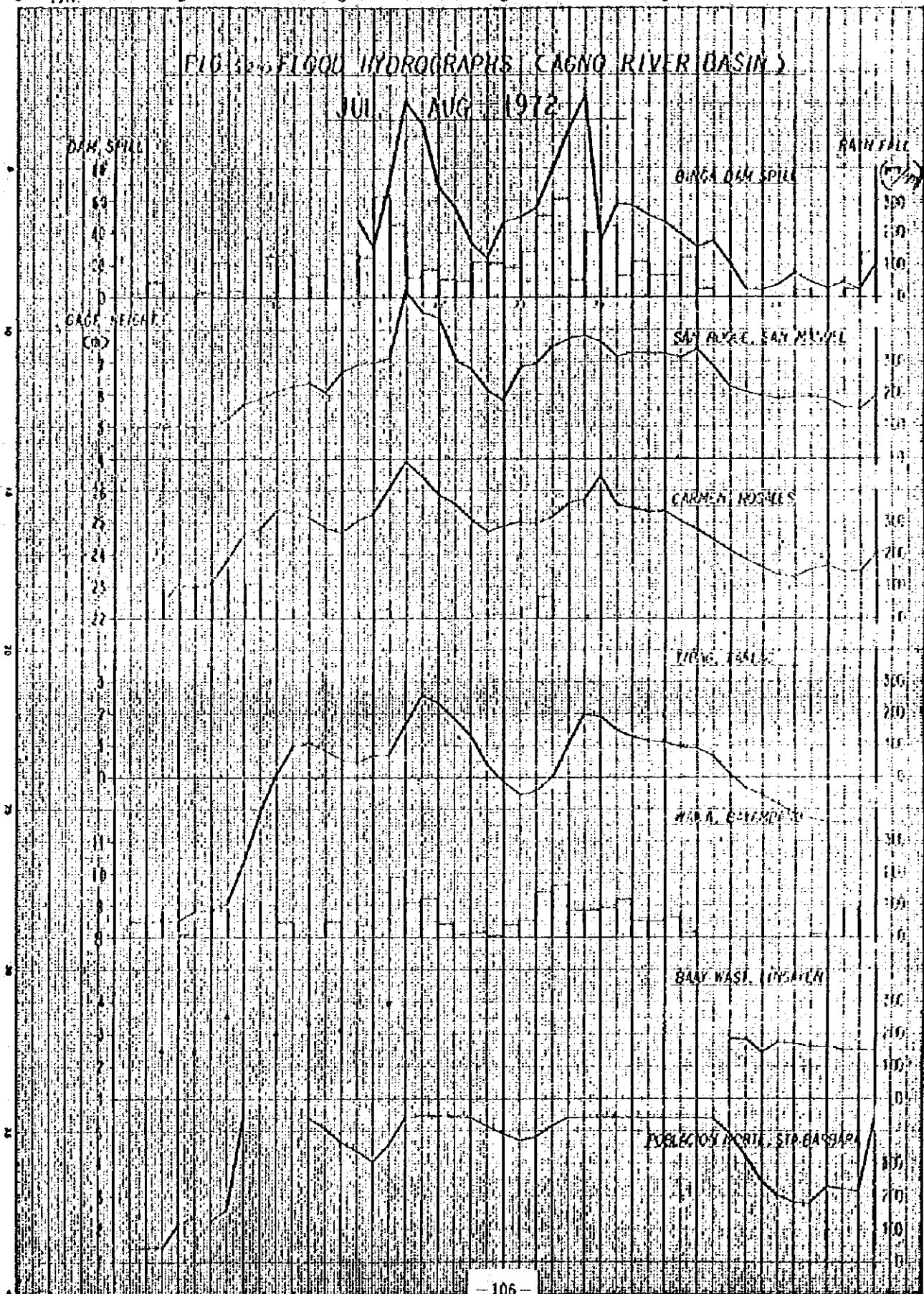
## S.P. 1970



1972

FIG. 32. FLOOD HYDROGRAPHS (CAGNO RIVER BASIN)

JUL. AUG. 1972



# FIG. 306 FLOOD HYDROGRAPHS CAGNO RIVER BASIN

## OCT. 1973

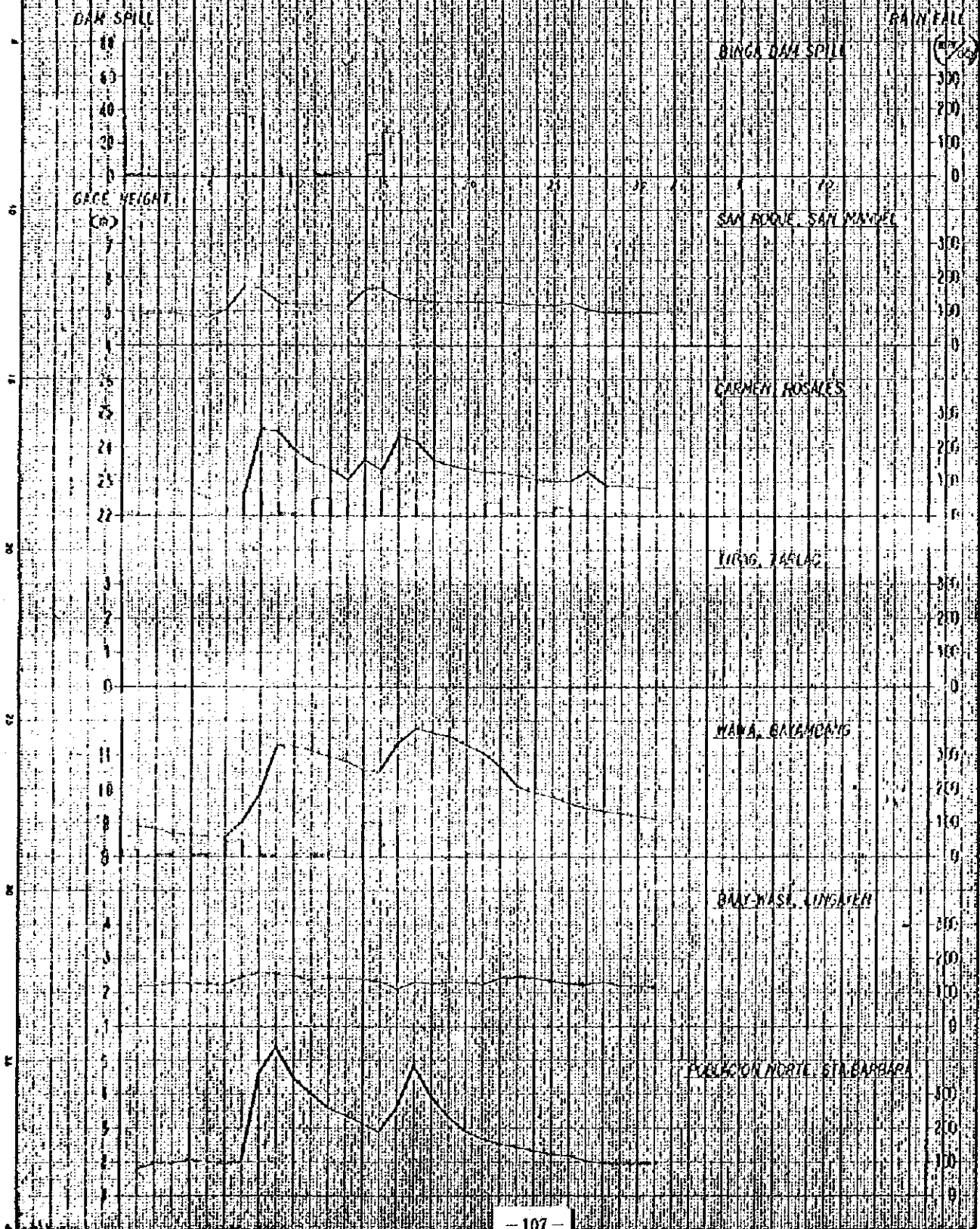
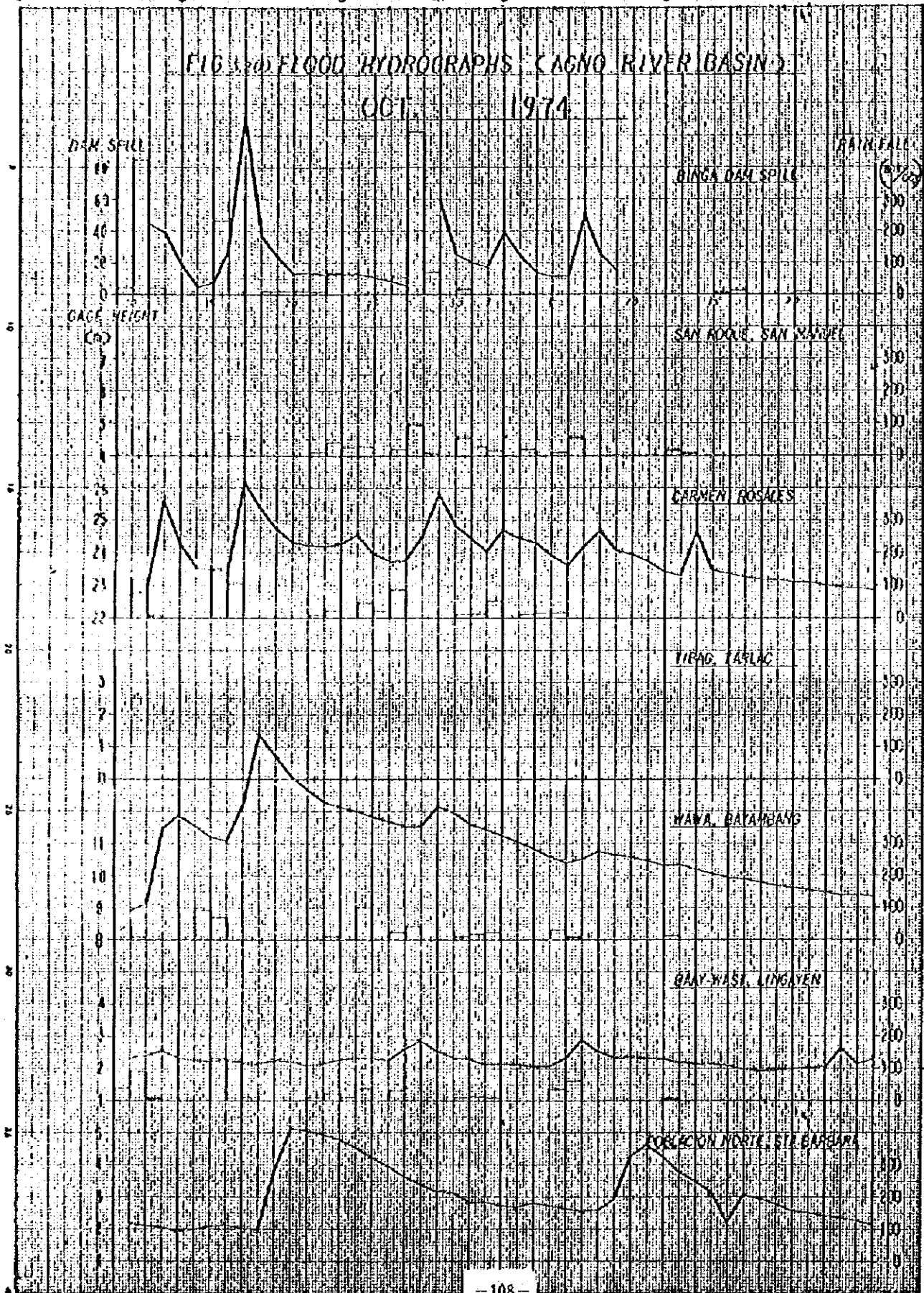


FIG. 3.20 FLOOD HYDROGRAPHS CAGNO RIVER BASIN

OCT. 1974





# FIG. 5.20 FLOOD HYDROGRAPHS CAGNO RIVER BASIN

## SEP 1975

DAM SPILL

RAIN FALL

60  
40  
20  
0

BINGA DAM SPILL

300  
200  
100  
0

DAGS WEIR

SAN ROQUE, SAN MATEO

300  
200  
100  
0

70  
50  
30  
20  
10  
0

CAPANA ROSALES

300  
200  
100  
0

80  
60  
40  
20  
0

TING, PASLA

300  
200  
100  
0

90  
70  
50  
30  
20  
10  
0

HANA, BIKAPONG

300  
200  
100  
0

100  
80  
60  
40  
20  
0

BANG WAI, LING-EN

300  
200  
100  
0

110  
90  
70  
50  
30  
20  
10  
0

POBL. JOY NORT. STA. BANGARA

300  
200  
100  
0

120  
100  
80  
60  
40  
20  
0

# FIG. 5. FLOOD HYDROGRAPHS, CAGNO RIVER BASIN

## MAY - JUN. 1976

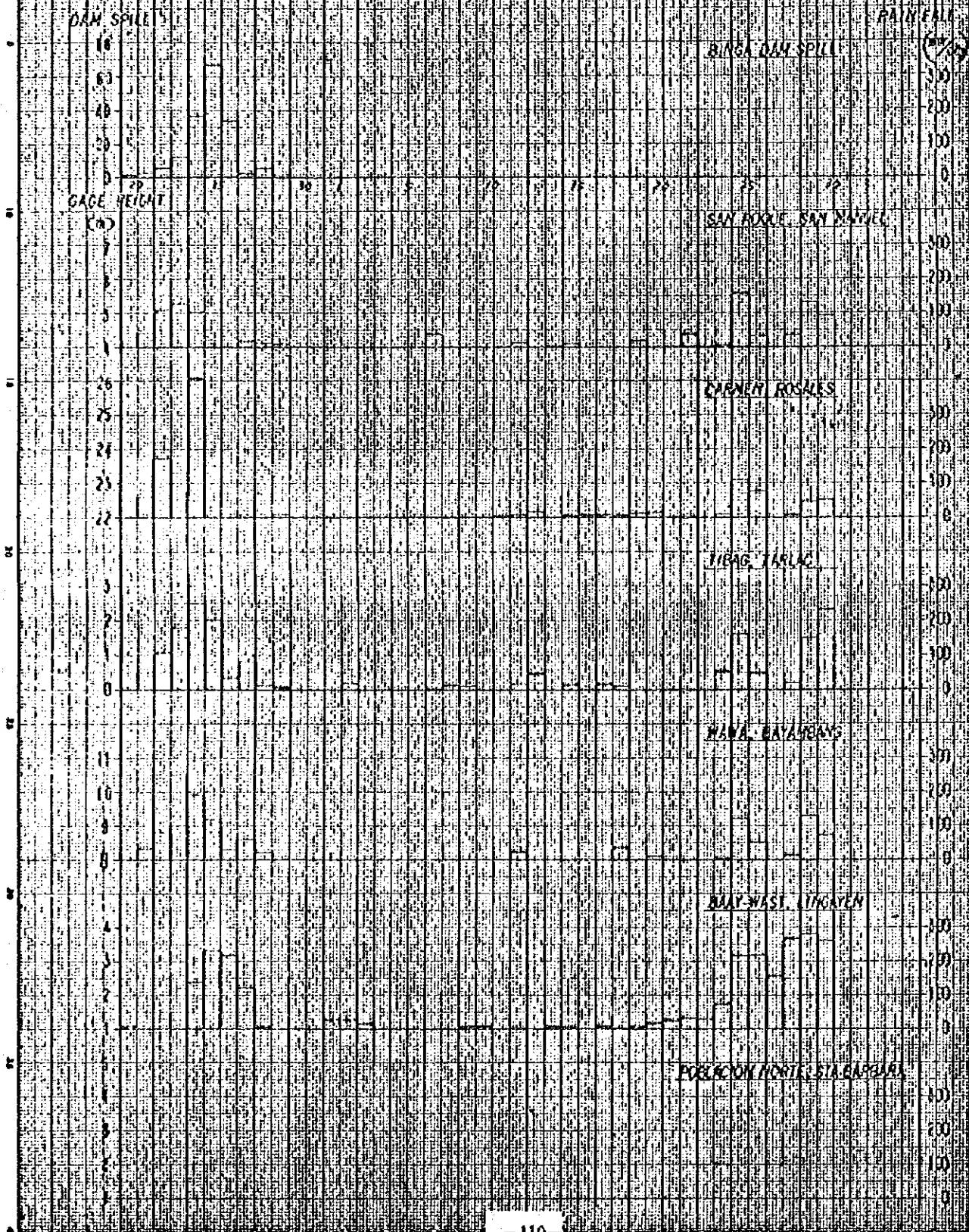


FIG FLOOD HYDROGRAPHS (BICOL RIVER BASIN)  
 SETIUCT. 1968

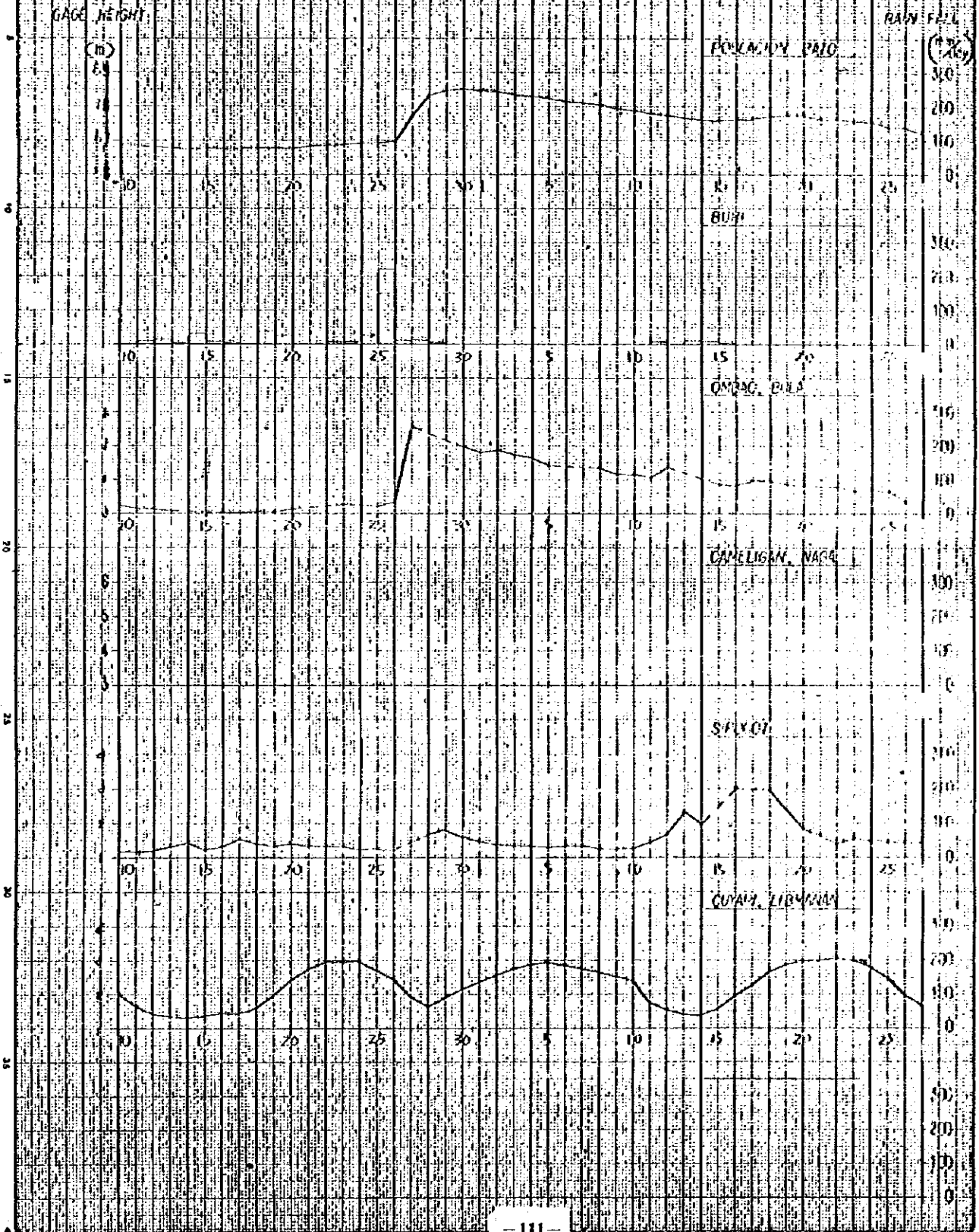


FIG. FLOOD HYDROGRAPHS (BICOL RIVER BASIN)

DEC. 1969 JAN., 1970

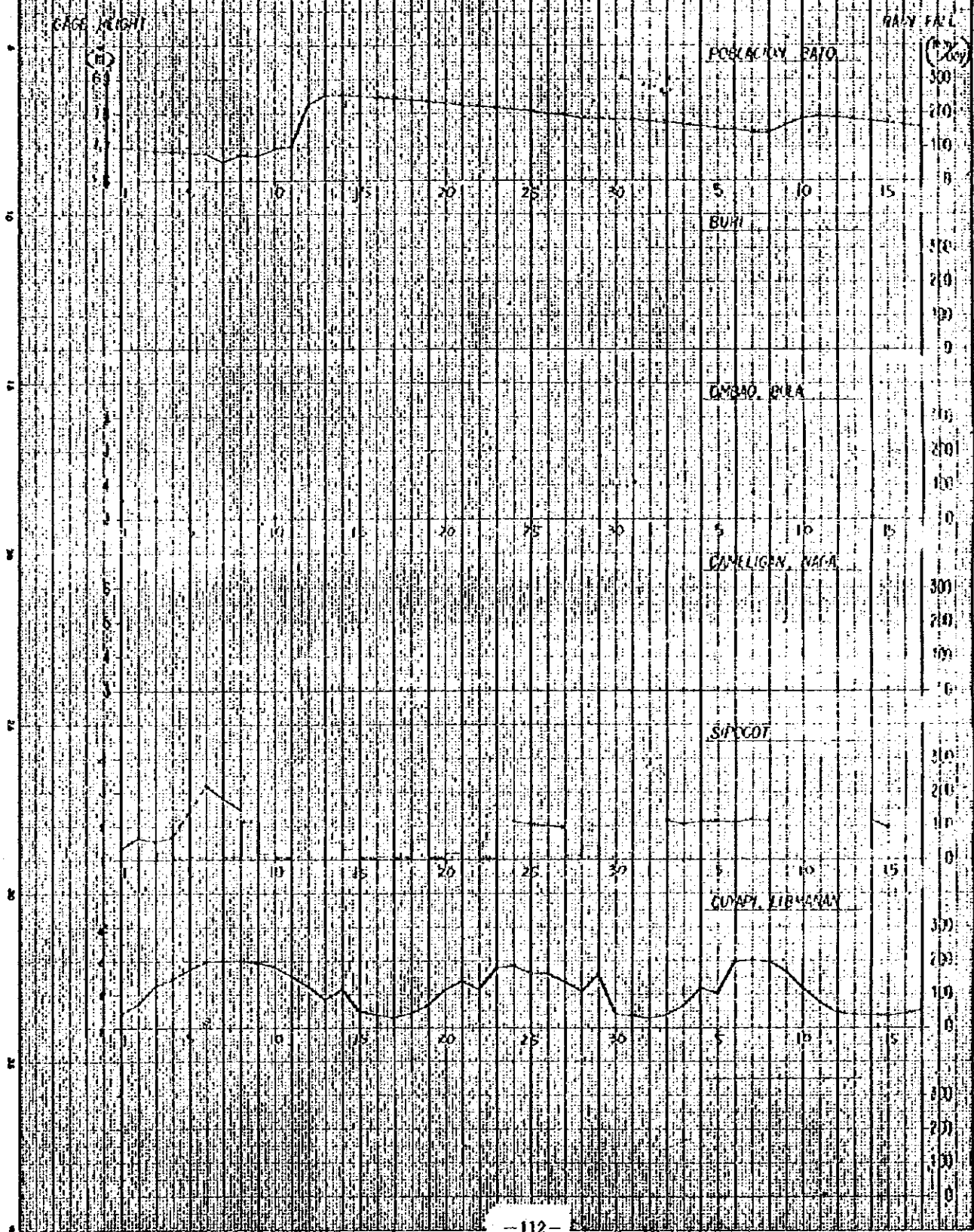




FIG. FLOOD HYDROGRAPHS (CIGOL RIVER BASIN)

00T NOV 1970

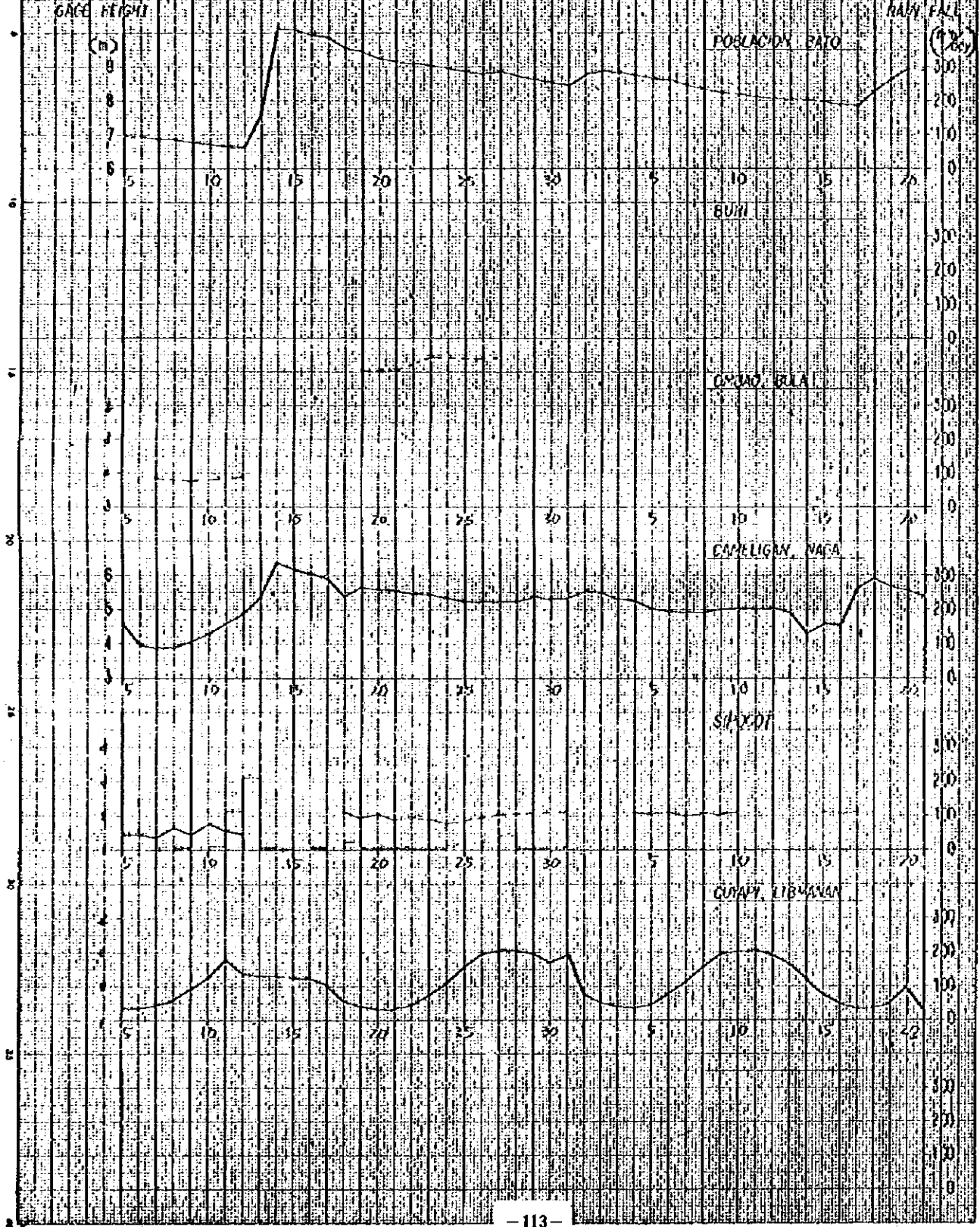
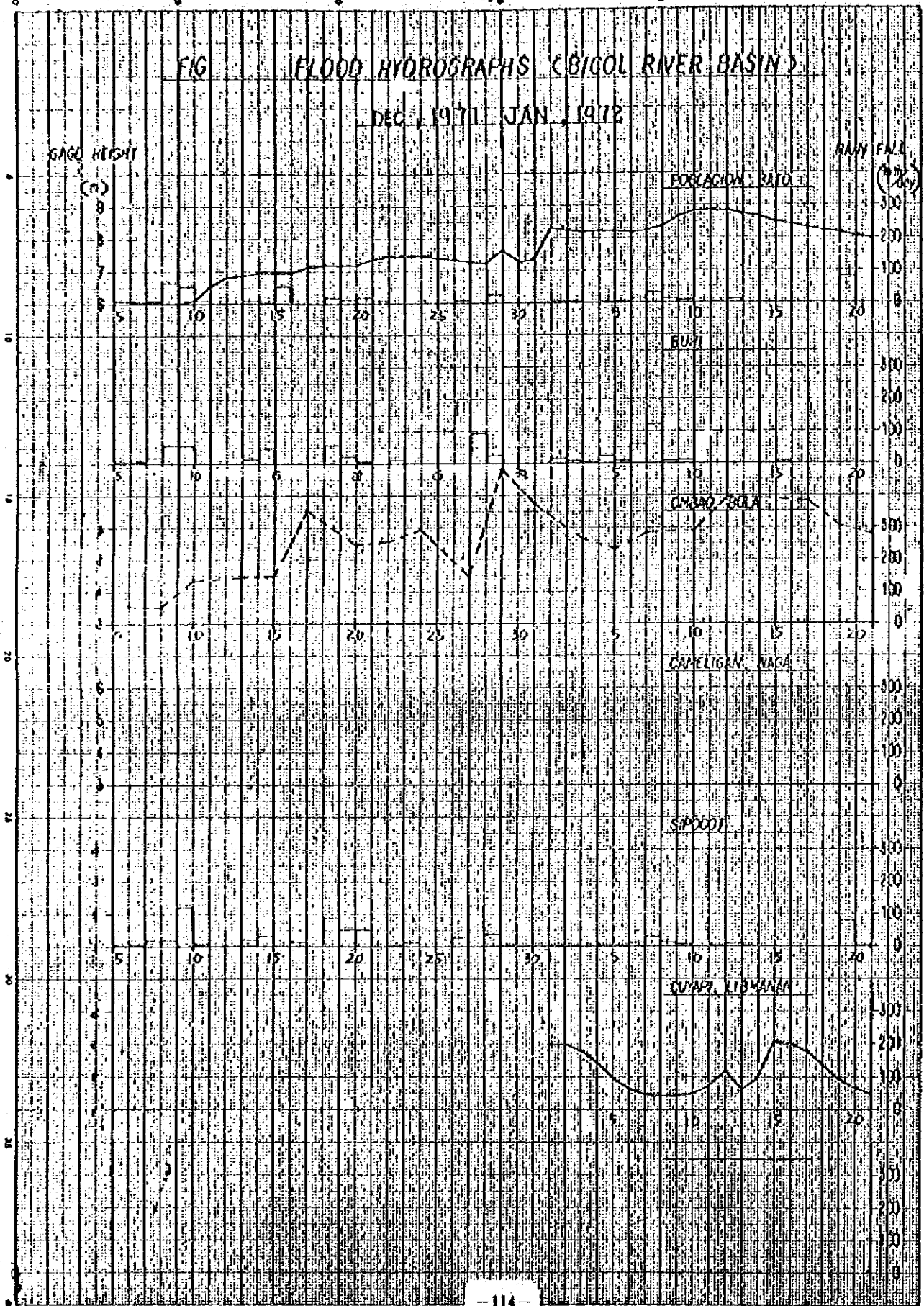


FIG FLOOD HYDROGRAPHS (BIGOL RIVER BASIN)

DEC. 1971 JAN. 1972



# FIG FLOOD HYDROGRAPHS (BIGOL RIVER BASIN)

JUN JULY AUG

GAGE HEIGHT

(m)

GAGE FALL

(%)

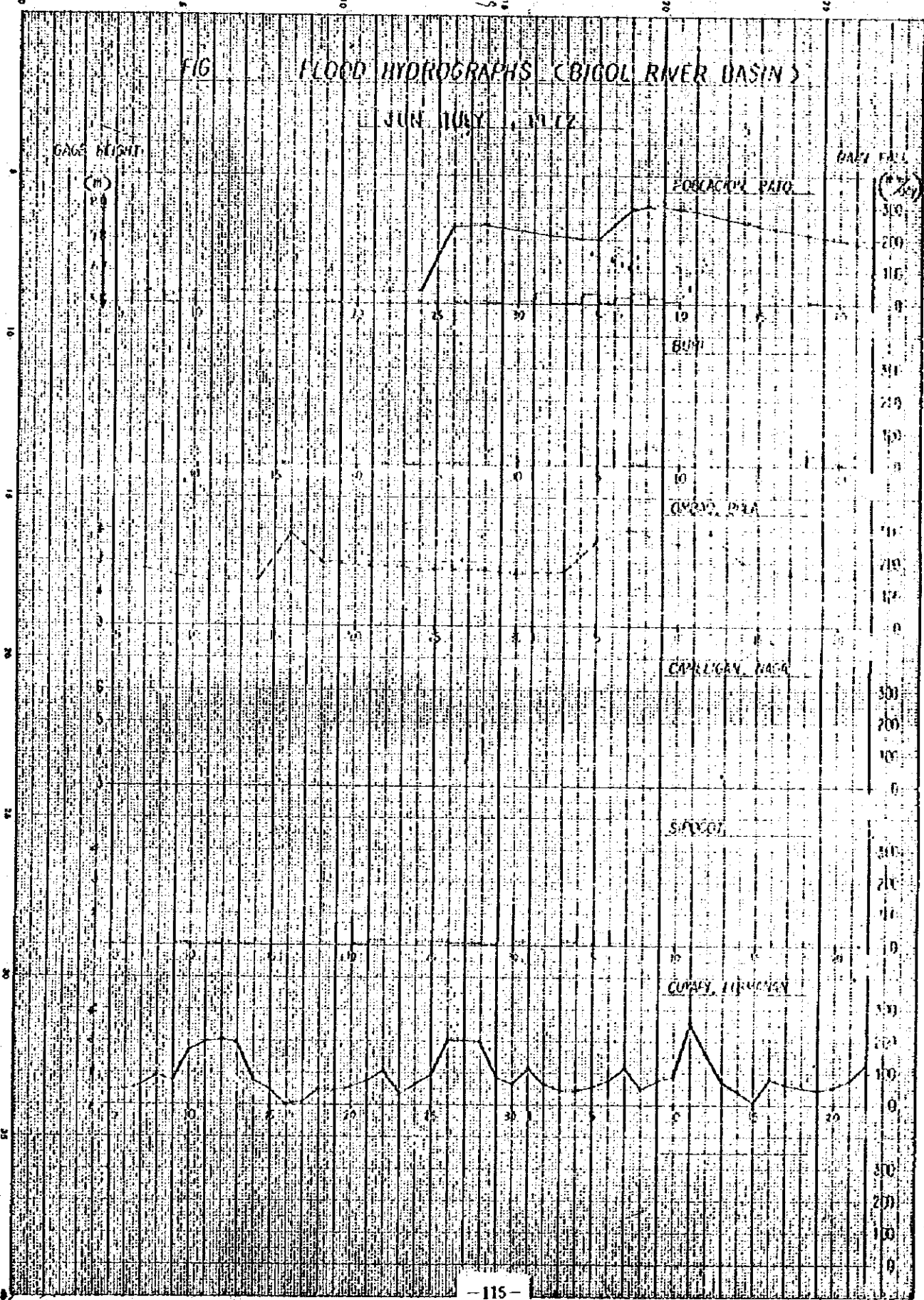
POBLACION, PAGO

AGUAY, PAGA

CAPULIGAN, PAGA

SAYOG

CUNAY, ITRUCANAN



# FIG. FLOOD HYDROGRAPHS (BIGOL RIVER BASIN)

OCT 1973

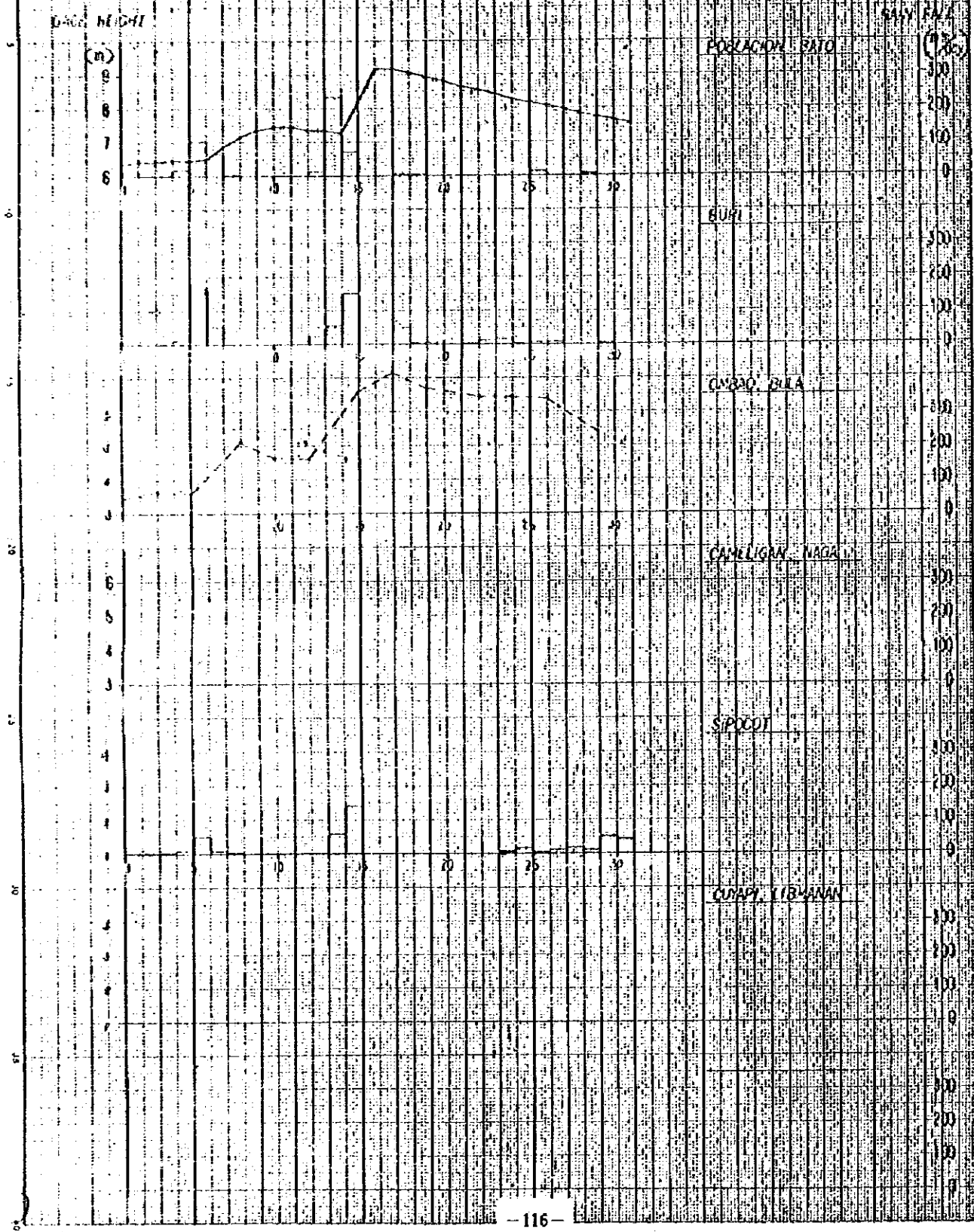




FIG FLOOD HYDROGRAPHS (BICOL RIVER BASIN)

DEC 1973 JAN 1974

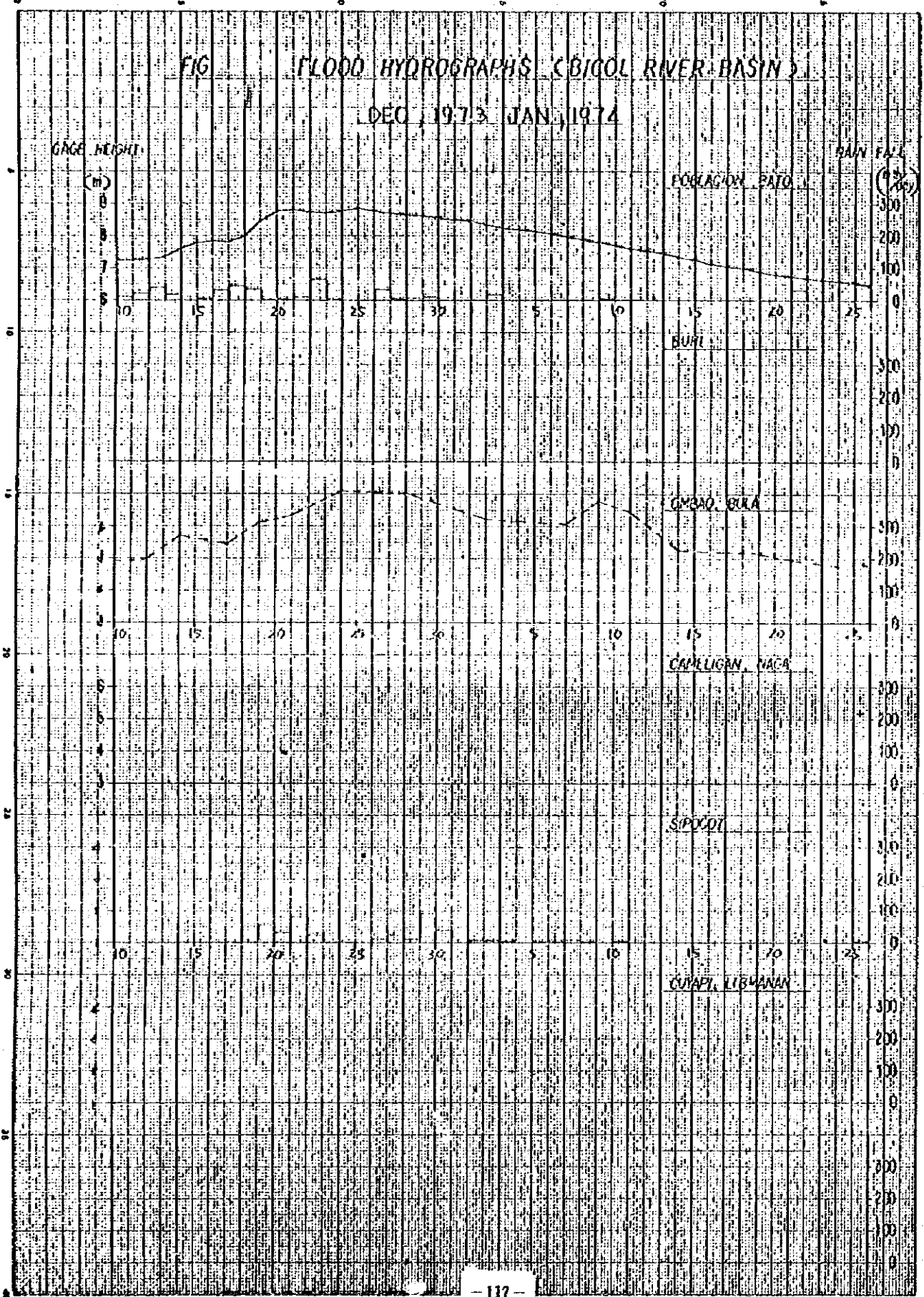


FIG FLOOD HYDROGRAPHS (BIGOL RIVER BASIN)

JUN 1971

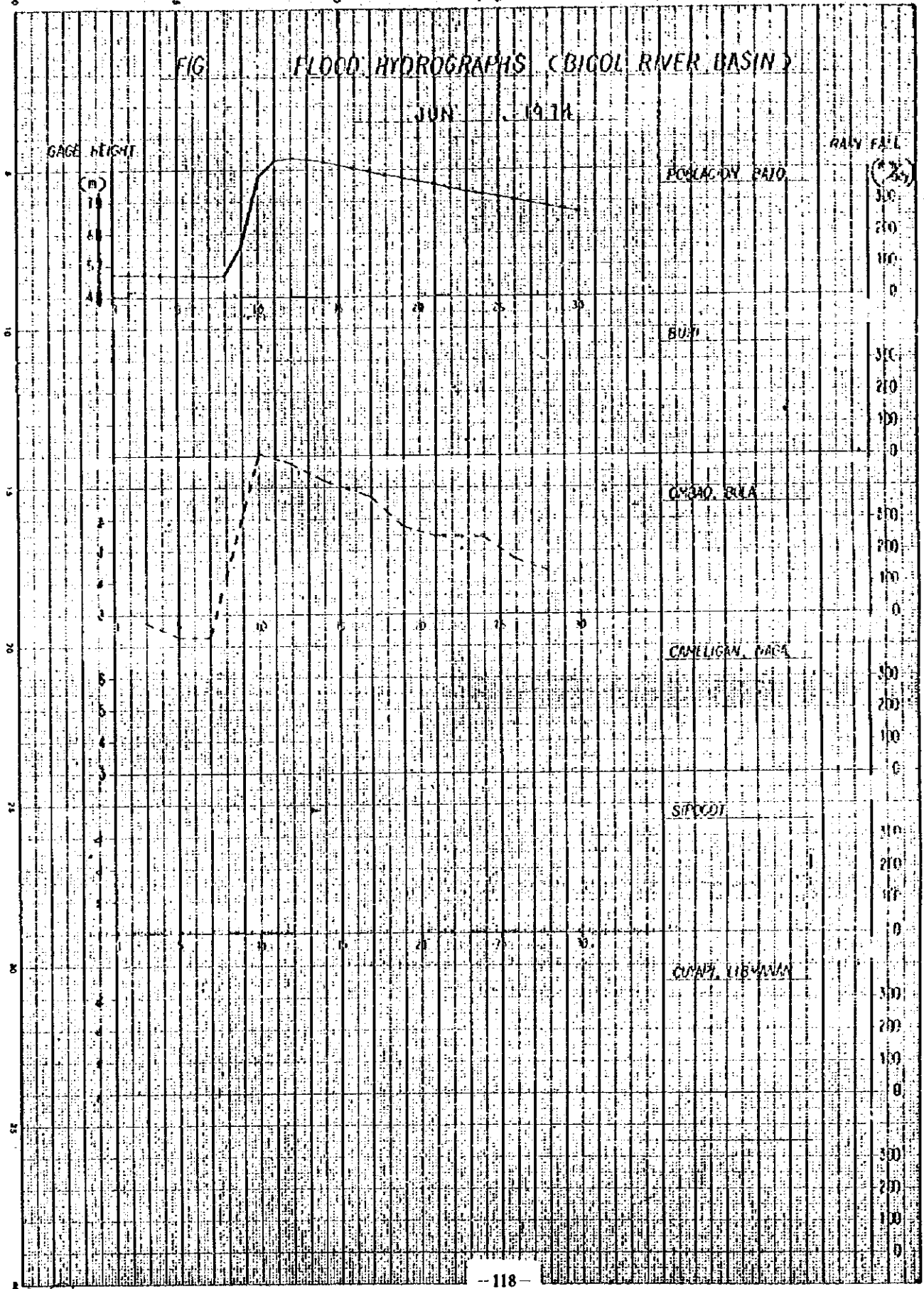


FIG FLOOD HYDROGRAPHS (BICOL RIVER BASIN)

DEC. 1974 JAN. 1975

