

POTENCIAL TEORICO DEL RIO YURUA

2/16/79

I	L	H	Q	AFO	DL	DH	PE	QC	PCT	ESP	CUM
=====											
AFLUENTE BEU											
21	29.0	260.0	0.6	0.0							0.00
22	0.0	220.0	7.7	0.0	29.0	40.0	0.14	4.17	1.64	0.06	1.64
SUBTOTAL					29.0	40.0			1.64	0.06	
=====											
AFLUENTE BREU											
23	20.0	310.0	1.2	0.0							0.00
24	30.0	240.0	20.3	0.0	40.0	70.0	0.18	10.77	7.40	0.18	7.40
25	0.0	200.0	39.0	0.0	30.0	40.0	0.13	29.67	11.64	0.39	19.04
SUBTOTAL					70.0	110.0			19.04	0.27	
=====											
AFLUENTE YURUA											
26	155.0	400.0	0.9	0.0							0.00
27	125.0	320.0	29.2	6.1	30.0	80.0	0.27	15.06	11.82	0.39	11.82
28	105.0	278.0	45.8	36.2	20.0	42.0	0.21	40.58	16.72	0.84	28.54
29	100.0	275.0	84.2	7.9	5.0	3.0	0.06	83.16	2.45	0.49	30.98
30	90.0	263.0	94.7	10.7	10.0	12.0	0.12	93.43	11.00	1.10	41.98
31	85.0	260.0	106.3	41.9	5.0	3.0	0.06	105.64	3.11	0.62	45.10
32	55.0	245.0	169.8	13.1	30.0	15.0	0.05	158.98	23.39	0.78	68.49
33	35.0	223.0	199.5	32.2	20.0	22.0	0.11	191.16	41.26	2.06	109.75
34	30.0	220.0	236.4	7.7	5.0	3.0	0.06	234.04	6.89	1.38	116.64
35	10.0	200.0	248.6	39.0	20.0	20.0	0.10	246.35	48.33	2.42	164.97
36	0.0	190.0	291.4	0.0	10.0	10.0	0.10	289.48	28.40	2.84	193.37
SUBTOTAL					155.0	210.0			193.37	1.25	
=====											

\*\*\*\*\*  
 \* EL POTENCIAL TEORICO TOTAL DEL RIO SUCHES ES DE 32.9 MW \*  
 \* Y TIENE UNA LONGITUD ACUMULADA DE 168.0 KM \*  
 \* Y UN POTENCIAL ESPECIFICO DE 0.20 MW/KM \*  
 \*\*\*\*\*

POTENCIAL TEORICO DEL RIO SUCHES 2/16/79

L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====										
AFLUENTE BLANCO										
1	23.0	5100.0	0.2	0.0	23.0	600.0	2.61	1.09	6.41	0.00
2	0.0	4500.0	2.0	0.0						6.41
SUBTOTAL					23.0	600.0			6.41	0.28
=====										
AFLUENTE TRAPICHE										
3	23.0	5400.0	0.2	0.0	20.0	900.0	4.50	0.29	2.55	0.00
4	3.0	4500.0	0.4	2.0	3.0	162.0	5.40	2.51	3.98	0.13
5	0.0	4338.0	2.6	0.0						1.33
SUBTOTAL					23.0	1062.0			6.53	0.28
=====										
AFLUENTE CHUENAHUERTA										
6	30.0	4650.0	0.0	0.0	10.0	298.0	2.98	0.11	0.32	0.00
7	20.0	4352.0	0.2	0.0	10.0	29.0	0.29	0.42	0.12	0.01
8	10.0	4323.0	0.6	0.0	10.0	6.0	0.06	0.90	0.05	0.01
9	0.0	4317.0	1.2	0.0						0.49
SUBTOTAL					30.0	333.0			0.49	0.02
=====										
AFLUENTE JAVIRCAVIRA										
10	11.0	4520.0	0.0	0.0	11.0	208.0	1.89	0.13	0.26	0.00
11	0.0	4312.0	0.2	0.0						0.26
SUBTOTAL					11.0	208.0			0.26	0.02
=====										
AFLUENTE SUCHES										
12	81.0	5400.0	0.1	0.0	10.0	600.0	6.00	0.44	2.60	0.00
13	71.0	4800.0	0.8	0.0	10.0	250.0	2.50	1.24	3.05	0.30
14	61.0	4550.0	1.7	0.0	10.0	212.0	2.12	1.88	3.92	0.39
15	51.0	4338.0	2.1	2.6	7.0	9.0	0.13	5.34	0.47	0.07
16	44.0	4329.0	6.0	0.0	9.0	3.0	0.03	6.15	0.18	0.02
17	35.0	4326.0	6.3	0.0	10.0	9.0	0.09	6.45	0.57	0.06
18	25.0	4317.0	6.6	0.0	10.0	5.0	0.05	7.01	0.34	0.03
19	15.0	4312.0	7.4	0.2	5.0	5.0	0.10	7.87	0.39	0.08
20	10.0	4307.0	8.1	0.0	10.0	92.0	0.92	8.55	7.72	0.77
21	0.0	4215.0	9.0	0.0						19.24
SUBTOTAL					81.0	1185.0			19.24	0.24
=====										

\*\*\*\*\*  
 \* EL POTENCIAL TEORICO TOTAL DEL RIO HUANCANE ES DE 63.6 MW \*  
 \* Y TIENE UNA LONGITUD ACUMULADA DE 437.0 KM \*  
 \* Y UN POTENCIAL ESPECIFICO DE 0.15 MW/KM \*  
 \*\*\*\*\*

POTENCIAL TEORICO DEL RIO HUANCANE 2/16/79

I	L	H	Q	AFQ	DL	OH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE PALCA											
1	23.0	4700.0	0.0	0.0							0.00
2	10.0	4400.0	0.5	0.0	13.0	300.0	2.31	0.26	0.77	0.06	0.77
3	0.0	4070.0	1.1	0.0	10.0	330.0	3.30	0.81	2.62	0.26	3.39
SUBTOTAL					23.0	630.0			3.39	0.15	
=====											
AFLUENTE TARUCANI											
4	24.0	4650.0	0.0	0.0							0.00
5	20.0	4400.0	0.1	0.0	4.0	250.0	6.25	0.06	0.14	0.04	0.14
6	10.0	4050.0	0.6	0.0	10.0	350.0	3.50	0.34	1.17	0.12	1.31
7	0.0	3880.0	1.3	0.0	10.0	170.0	1.70	0.94	1.57	0.16	2.88
SUBTOTAL					24.0	770.0			2.88	0.12	
=====											
AFLUENTE COMBUCCO											
8	18.0	4450.0	0.0	0.0							0.00
9	10.0	3995.0	0.4	0.0	8.0	455.0	5.69	0.20	0.88	0.11	0.88
10	0.0	3885.0	0.7	0.0	10.0	110.0	1.10	0.55	0.59	0.06	1.47
SUBTOTAL					18.0	565.0			1.47	0.08	
=====											
AFLUENTE FURCAPUNCO											
11	21.0	4800.0	0.0	0.0							0.00
12	10.0	4300.0	0.4	0.0	11.0	500.0	4.55	0.22	1.09	0.10	1.09
13	0.0	3950.0	0.8	0.0	10.0	350.0	3.50	0.64	2.18	0.22	3.27
SUBTOTAL					21.0	850.0			3.27	0.16	
=====											
AFLUENTE TOCOTOCO											
14	41.0	4785.0	0.0	0.0							0.00
15	34.0	4400.0	0.3	0.0	7.0	385.0	5.50	0.14	0.52	0.07	0.52
16	24.0	4090.0	1.4	0.0	10.0	310.0	3.10	0.85	2.59	0.26	3.11
17	14.0	3950.0	2.5	0.8	10.0	140.0	1.40	1.99	2.73	0.27	5.83
18	0.0	3880.0	4.5	0.0	14.0	70.0	0.50	3.92	2.69	0.19	8.52
SUBTOTAL					41.0	905.0			8.52	0.21	
=====											
AFLUENTE PONSORGOHI											
19	56.0	4650.0	0.0	0.0							0.00
20	50.0	4250.0	0.4	0.0	6.0	400.0	6.67	0.18	0.71	0.12	0.71
21	40.0	4025.0	0.7	0.0	10.0	225.0	2.25	0.51	1.13	0.11	1.84
22	30.0	3897.0	1.2	0.0	10.0	128.0	1.28	0.91	1.15	0.11	2.99
23	20.0	3885.0	2.2	0.7	10.0	12.0	0.12	1.66	0.20	0.02	3.18
24	12.0	3880.0	3.2	4.5	8.0	5.0	0.06	3.03	0.15	0.02	3.33
25	0.0	3875.0	7.9	0.0	12.0	5.0	0.04	7.78	0.38	0.03	3.71
SUBTOTAL					56.0	775.0			3.71	0.07	
=====											
AFLUENTE CANSANE											
26	21.0	4650.0	0.0	0.0							0.00
27	10.0	4150.0	0.6	0.0	11.0	500.0	4.55	0.29	1.43	0.13	1.43
28	0.0	3947.0	1.1	0.0	10.0	203.0	2.03	0.83	1.65	0.17	3.08
SUBTOTAL					21.0	703.0			3.08	0.15	

POTENCIAL TEORICO DEL RIO HUANCANE

2/16/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
AFLUENTE HUAYLLACUYO											
29	30.0	4300.0	0.0	0.0	10.0	270.0	2.70	0.27	0.72	0.07	0.00
30	20.0	4030.0	0.5	0.0	10.0	135.0	1.35	0.83	1.10	0.11	0.72
31	10.0	3895.0	1.1	0.0	10.0	20.0	0.20	1.59	0.31	0.03	1.82
32	0.0	3875.0	2.1	0.0							2.13
SUBTOTAL					30.0	425.0			2.13	0.07	
AFLUENTE TUYTO											
33	79.0	4650.0	0.0	0.0	9.0	550.0	6.11	0.28	1.50	0.17	0.00
34	70.0	4100.0	0.6	0.0	10.0	95.0	0.95	1.08	1.00	0.10	1.50
35	60.0	4005.0	1.6	0.0	10.0	58.0	0.58	1.83	1.04	0.10	2.51
36	50.0	3947.0	2.1	1.1	12.0	72.0	0.60	3.65	2.58	0.21	3.55
37	38.0	3875.0	4.1	2.1	8.0	20.0	0.25	6.42	1.26	0.16	6.13
38	30.0	3855.0	6.6	0.0	10.0	10.0	0.10	6.76	0.66	0.07	7.38
39	20.0	3845.0	6.9	0.0	10.0	7.0	0.07	7.26	0.50	0.05	8.05
40	10.0	3838.0	7.6	0.0	10.0	8.0	0.06	7.73	0.61	0.06	8.55
41	0.0	3830.0	7.8	0.0							9.15
SUBTOTAL					79.0	820.0			9.15	0.12	
AFLUENTE HUANCANE SUP											
42	124.0	4680.0	0.0	0.0	7.0	230.0	3.29	0.16	0.37	0.05	0.00
43	117.0	4450.0	0.3	0.0	10.0	200.0	2.00	0.85	1.67	0.17	0.37
44	107.0	4250.0	1.4	0.0	10.0	160.0	1.80	1.81	3.19	0.32	2.04
45	97.0	4070.0	2.2	1.1	4.0	75.0	1.87	3.42	2.52	0.63	5.22
46	93.0	3995.0	3.5	0.0	10.0	100.0	1.00	4.30	4.22	0.42	7.74
47	83.0	3895.0	5.1	0.0	10.0	15.0	0.15	5.37	0.79	0.08	11.96
48	73.0	3880.0	5.6	1.3	10.0	5.0	0.05	7.05	0.35	0.03	12.75
49	63.0	3875.0	7.1	7.9	10.0	28.0	0.28	15.35	4.22	0.42	13.09
50	53.0	3847.0	15.6	0.0	10.0	8.0	0.08	15.81	1.24	0.12	17.31
51	43.0	3839.0	16.0	0.0	10.0	9.0	0.09	16.15	1.43	0.14	18.55
52	33.0	3830.0	16.3	7.8	5.0	3.0	0.06	24.29	0.71	0.14	19.98
53	28.0	3827.0	24.4	0.0	10.0	4.0	0.04	25.01	0.98	0.10	20.69
54	18.0	3823.0	25.6	0.0	10.0	11.0	0.11	25.84	2.79	0.28	21.67
55	8.0	3812.0	26.1	0.0							24.46
SUBTOTAL					116.0	868.0			24.46	0.21	
AFLUENTE HUANCANE INF											
55	8.0	3812.0	26.1	0.0	8.0	6.0	0.07	26.44	1.56	0.19	0.00
56	0.0	3806.0	26.8	0.0							1.56
SUBTOTAL					8.0	6.0			1.56	0.19	

\*\*\*\*\*  
 \* EL POTENCIAL TEORICO TOTAL DEL RIO RAMIS ES DE 227.8 MW \*  
 \* Y TIENE UNA LONGITUD ACUMULADA DE 1426.0 KM \*  
 \* Y UN POTENCIAL ESPECIFICO DE 0.16 MW/KM \*  
 \*\*\*\*\*

POTENCIAL TEORICO DEL RIO RAMIS 2/16/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE MORRENAS											
1	20.0	4725.0	0.0	0.0	10.0	95.0	0.95	0.22	0.20	0.02	0.00
2	10.0	4630.0	0.4	0.0	10.0	40.0	0.40	0.54	0.21	0.02	0.20
3	0.0	4590.0	0.7	0.0							0.41
SUBTOTAL					20.0	135.0			0.41	0.02	
=====											
AFLUENTE CULLCO											
4	29.0	4602.0	0.0	0.0	9.0	272.0	3.02	0.15	0.41	0.05	0.00
5	20.0	4330.0	0.3	0.0	10.0	44.0	0.44	0.74	0.32	0.03	0.41
6	10.0	4286.0	1.2	0.0	10.0	137.0	1.37	1.30	1.75	0.18	0.73
7	0.0	4149.0	1.4	0.0							2.48
SUBTOTAL					29.0	453.0			2.48	0.09	
=====											
AFLUENTE AJOYANI											
8	31.0	4645.0	0.0	0.0	11.0	265.0	2.41	0.19	0.49	0.04	0.00
9	20.0	4380.0	0.3	0.0	10.0	184.0	1.84	0.94	1.70	0.17	0.49
10	10.0	4196.0	1.5	0.0	10.0	129.0	1.29	1.69	2.14	0.21	2.18
11	0.0	4067.0	1.8	0.0							4.32
SUBTOTAL					31.0	578.0			4.32	0.14	
=====											
AFLUENTE ANTAUTA											
12	38.0	4696.0	0.0	0.0	8.0	246.0	3.07	0.13	0.31	0.04	0.00
13	30.0	4450.0	0.2	0.0	10.0	152.0	1.52	0.46	0.69	0.07	0.31
14	20.0	4298.0	0.7	0.0	10.0	123.0	1.23	1.28	1.55	0.15	1.00
15	10.0	4175.0	1.9	0.0	10.0	109.0	1.09	2.03	2.17	0.22	2.54
16	0.0	4066.0	2.2	0.0							4.71
SUBTOTAL					38.0	630.0			4.71	0.12	
=====											
AFLUENTE CONDORIRE											
17	15.0	4378.0	0.1	0.0	5.0	178.0	3.56	0.15	0.26	0.05	0.00
18	10.0	4200.0	0.2	0.0	10.0	148.0	1.48	0.45	0.65	0.06	0.26
19	0.0	4052.0	0.7	0.0							0.90
SUBTOTAL					15.0	326.0			0.90	0.06	
=====											
AFLUENTE PIRHUANI											
20	31.0	4649.0	0.0	0.0	11.0	369.0	3.35	0.17	0.62	0.06	0.00
21	20.0	4280.0	0.3	0.0	10.0	228.0	2.28	0.47	1.05	0.11	0.62
22	10.0	4052.0	0.6	0.7	10.0	97.0	0.97	1.42	1.35	0.14	1.67
23	0.0	3955.0	1.5	0.0							3.02
SUBTOTAL					31.0	694.0			3.02	0.10	
=====											

POTENCIAL TEORICO DEL RIO RAMIS

2/16/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE SAN JUAN											
24	27.0	4653.0	0.0	0.0							0.00
25	20.0	4161.0	0.2	0.0	7.0	492.0	7.03	0.09	0.42	0.06	0.42
26	10.0	3995.0	0.5	0.0	10.0	166.0	1.66	0.34	0.55	0.05	0.97
27	0.0	3939.0	0.7	0.0	10.0	56.0	0.56	0.61	0.33	0.03	1.31
SUBTOTAL					27.0	714.0			1.31	0.05	
=====											
AFLUENTE VILUYO											
28	30.0	4746.0	0.0	0.0							0.00
29	20.0	4440.0	0.2	0.0	10.0	306.0	3.06	0.12	0.35	0.03	0.35
30	10.0	4231.0	1.0	0.0	10.0	209.0	2.09	0.63	1.29	0.13	1.64
31	0.0	4099.0	2.0	0.0	10.0	132.0	1.32	1.52	1.97	0.20	3.61
SUBTOTAL					30.0	647.0			3.61	0.12	
=====											
AFLUENTE JORAMUINA											
32	62.0	4798.0	0.0	0.0							0.00
33	52.0	4508.0	0.3	0.0	10.0	290.0	2.90	0.16	0.45	0.05	0.45
34	42.0	4347.0	0.7	0.0	10.0	161.0	1.61	0.50	0.79	0.08	1.24
35	32.0	4232.0	1.2	0.0	10.0	115.0	1.15	0.96	1.08	0.11	2.35
36	22.0	4099.0	1.8	2.0	10.0	135.0	1.33	1.53	1.99	0.20	4.32
37	10.0	3978.0	4.3	0.0	12.0	121.0	1.01	4.06	4.84	0.40	9.15
38	0.0	3920.0	5.1	0.0	10.0	58.0	0.58	4.70	2.68	0.27	11.84
SUBTOTAL					62.0	878.0			11.84	0.19	
=====											
AFLUENTE GRANDE											
39	141.0	5049.0	0.0	0.0							0.00
40	135.0	4730.0	0.1	0.0	6.0	319.0	5.32	0.06	0.20	0.03	0.20
41	125.0	4441.0	0.6	0.0	10.0	289.0	2.89	0.34	0.97	0.10	1.16
42	115.0	4358.0	0.9	0.0	10.0	83.0	0.83	0.75	0.61	0.06	1.77
43	105.0	4271.0	2.5	0.0	10.0	87.0	0.87	1.74	1.49	0.15	3.26
44	95.0	4148.0	3.7	0.0	10.0	123.0	1.23	3.10	3.75	0.37	7.00
45	85.0	4076.0	4.8	0.0	10.0	72.0	0.72	4.21	2.98	0.30	9.98
46	75.0	3993.0	5.1	0.0	10.0	83.0	0.83	4.94	4.02	0.40	14.00
47	65.0	3932.0	6.7	0.0	10.0	61.0	0.61	5.92	3.54	0.35	17.55
48	55.0	3920.0	7.0	5.1	5.0	4.0	0.08	12.22	0.48	0.10	18.36
49	50.0	3916.0	12.3	0.0	10.0	12.0	0.12	12.53	1.47	0.15	18.84
50	40.0	3904.0	12.7	0.0	10.0	13.0	0.13	12.90	1.65	0.16	20.31
51	30.0	3891.0	13.1	0.0	10.0	8.0	0.08	13.60	1.07	0.11	21.96
52	20.0	3883.0	14.1	0.0	10.0	8.0	0.08	14.44	1.13	0.11	23.03
53	10.0	3875.0	14.7	0.0	10.0	7.0	0.07	14.95	1.03	0.10	24.16
54	0.0	3868.0	15.2	0.0							25.19
SUBTOTAL					141.0	1181.0			25.19	0.18	
=====											

POTENCIAL TEORICO DEL RIO RAMIS

2/16/79

I	L	M	Q	AFQ	DL	DH	PE	GC	POT	ESP	CUM
=====											
AFLUENTE YOCARA											
55	33.0	4525.0	0.0	0.0	13.0	583.0	4.48	0.11	0.63	0.05	0.00
56	20.0	3942.0	0.2	0.0	10.0	32.0	0.32	0.30	0.09	0.01	0.63
57	10.0	3910.0	0.4	0.0	10.0	30.0	0.30	0.45	0.13	0.01	0.73
58	0.0	3880.0	0.5	0.0							0.86
SUBTOTAL					33.0	645.0			0.86	0.03	
=====											
AFLUENTE TINTIRI											
59	49.0	4772.0	0.0	0.0	9.0	664.0	7.38	0.08	0.51	0.06	0.00
60	40.0	4108.0	0.1	0.0	10.0	181.0	1.81	0.35	0.62	0.06	0.51
61	30.0	3927.0	0.5	0.0	10.0	50.0	0.50	1.22	0.60	0.06	1.13
62	20.0	3877.0	1.9	0.0	10.0	6.0	0.06	2.27	0.13	0.01	1.73
63	10.0	3871.0	2.6	0.0	10.0	6.0	0.06	2.94	0.17	0.02	1.86
64	0.0	3865.0	3.2	0.0							2.04
SUBTOTAL					49.0	907.0			2.04	0.04	
=====											
AFLUENTE SAN JOSE											
65	61.0	4730.0	0.0	0.0	11.0	436.0	3.96	0.13	0.58	0.05	0.00
66	50.0	4294.0	0.3	0.0	10.0	285.0	2.85	0.39	1.08	0.11	0.58
67	40.0	4009.0	0.5	0.0	10.0	86.0	0.86	0.70	0.59	0.06	1.65
68	30.0	3923.0	0.9	0.0	10.0	43.0	0.43	0.94	0.40	0.04	2.24
69	20.0	3880.0	1.0	0.5	14.0	15.0	0.11	1.62	0.24	0.02	2.64
70	6.0	3865.0	1.7	3.2	6.0	17.0	0.28	5.05	0.84	0.14	2.88
71	0.0	3848.0	5.1	0.0							3.72
SUBTOTAL					61.0	882.0			3.72	0.06	
=====											
AFLUENTE ANTAYMARCA											
72	35.0	5060.0	0.0	0.0	5.0	364.0	7.28	0.03	0.09	0.02	0.00
73	30.0	4696.0	0.0	0.0	10.0	247.0	2.47	0.18	0.44	0.04	0.04
74	20.0	4449.0	0.3	0.0	10.0	228.0	2.28	0.62	1.38	0.14	0.53
75	10.0	4221.0	0.9	0.0	10.0	137.0	1.37	1.36	1.83	0.18	1.91
76	0.0	4084.0	1.8	0.0							3.74
SUBTOTAL					35.0	976.0			3.74	0.11	
=====											
AFLUENTE MACARI											
77	56.0	4519.0	0.0	0.0	6.0	221.0	3.68	0.07	0.15	0.02	0.00
78	50.0	4298.0	0.1	0.0	10.0	252.0	2.52	0.48	1.19	0.12	0.15
79	40.0	4046.0	0.8	0.0	10.0	68.0	0.68	1.14	0.76	0.08	1.34
80	30.0	3978.0	1.4	0.0	10.0	29.0	0.29	1.80	0.51	0.05	2.10
81	20.0	3949.0	2.1	0.0	10.0	17.0	0.17	2.39	0.40	0.04	2.61
82	10.0	3932.0	2.6	0.0	10.0	40.0	0.40	2.86	1.12	0.11	3.01
83	0.0	3892.0	3.1	0.0							4.13
SUBTOTAL					56.0	627.0			4.13	0.07	
=====											
AFLUENTE PARINA											
84	33.0	4820.0	0.0	0.0	13.0	575.0	4.42	0.19	1.10	0.08	0.00
85	20.0	4245.0	0.4	0.0	10.0	219.0	2.19	0.62	1.32	0.13	1.10
86	10.0	4026.0	0.8	0.0	10.0	98.0	0.98	1.15	1.10	0.11	2.42
87	0.0	3928.0	1.4	0.0							3.53
SUBTOTAL					33.0	892.0			3.53	0.11	
=====											

POTENCIAL TEORICO DEL RIO RAMIS

2/16/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE SANTA ROSA											
88	69.0	4620.0	0.0	0.0	8.0	471.0	5.89	0.12	0.56	0.07	0.00
89	61.0	4149.0	0.2	0.0	10.0	130.0	1.30	0.70	0.89	0.09	0.56
90	51.0	4019.0	1.2	0.0	10.0	61.0	0.61	1.64	0.98	0.10	1.46
91	41.0	3958.0	2.1	0.0	10.0	30.0	0.30	2.34	0.69	0.07	2.44
92	31.0	3928.0	2.6	1.4	11.0	28.0	0.25	4.16	1.14	0.10	3.13
93	20.0	3900.0	4.3	0.0	10.0	8.0	0.08	4.65	0.36	0.04	4.27
94	10.0	3892.0	5.0	0.0	10.0	5.0	0.05	5.13	0.25	0.03	4.64
95	0.0	3887.0	5.3	0.0							4.89
SUBTOTAL					69.0	733.0			4.89	0.07	
=====											
AFLUENTE UMACHIRI											
96	45.0	4675.0	0.0	0.0	5.0	125.0	2.50	0.07	0.08	0.02	0.00
97	40.0	4550.0	0.1	0.0	10.0	560.0	5.60	0.27	1.48	0.15	0.08
98	30.0	3990.0	0.4	0.0	10.0	72.0	0.72	0.61	0.43	0.04	1.56
99	20.0	3918.0	0.8	0.0	10.0	20.0	0.20	1.24	0.24	0.02	1.99
100	10.0	3898.0	1.7	0.0	10.0	16.0	0.16	1.74	0.27	0.03	2.23
101	0.0	3882.0	1.8	0.0							2.51
SUBTOTAL					45.0	793.0			2.51	0.06	
=====											
AFLUENTE VENTILLA											
102	43.0	4900.0	0.0	0.0	13.0	937.0	7.21	0.55	5.10	0.39	0.00
103	30.0	3963.0	1.1	0.0	10.0	51.0	0.51	1.24	0.62	0.06	5.10
104	20.0	3912.0	1.4	0.0	10.0	22.0	0.22	1.92	0.41	0.04	5.72
105	10.0	3890.0	2.5	0.0	10.0	21.0	0.21	2.52	0.52	0.05	6.13
106	0.0	3869.0	2.6	0.0							6.65
SUBTOTAL					43.0	1031.0			6.65	0.15	
=====											
AFLUENTE PUCARA											
107	227.0	4823.0	0.0	0.0	7.0	285.0	4.07	0.13	0.38	0.05	0.00
108	220.0	4538.0	0.3	0.0	10.0	211.0	2.11	0.57	1.18	0.12	0.38
109	210.0	4327.0	0.9	0.0	10.0	144.0	1.44	1.48	2.10	0.21	1.56
110	200.0	4183.0	2.1	0.0	10.0	95.0	0.95	2.46	2.29	0.23	3.65
111	190.0	4088.0	2.8	1.8	13.0	101.0	0.78	5.58	5.52	0.42	5.95
112	177.0	3987.0	6.5	0.0	10.0	66.0	0.66	6.66	4.31	0.43	11.47
113	167.0	3921.0	6.8	0.0	10.0	3.0	0.03	7.15	0.21	0.02	15.78
114	157.0	3918.0	7.5	0.0	10.0	26.0	0.26	7.58	1.93	0.19	15.99
115	147.0	3892.0	7.7	3.1	2.0	5.0	0.25	10.88	0.53	0.27	17.93
116	145.0	3887.0	11.0	5.3	6.0	5.0	0.08	16.44	0.81	0.13	18.46
117	139.0	3882.0	16.7	1.8	8.0	2.0	0.02	18.64	0.37	0.05	19.27
118	131.0	3880.0	18.8	0.0	10.0	2.0	0.02	19.10	0.37	0.04	19.63
119	121.0	3878.0	19.4	0.0	10.0	2.0	0.02	19.62	0.38	0.04	20.01
120	111.0	3876.0	19.9	0.0	10.0	2.0	0.02	19.97	0.39	0.04	20.39
121	101.0	3874.0	20.1	0.0	10.0	5.0	0.05	20.44	1.00	0.10	20.79
122	91.0	3869.0	20.8	2.6	11.0	3.0	0.03	23.83	0.70	0.06	21.79
123	80.0	3866.0	24.3	0.0	10.0	5.0	0.05	24.37	1.20	0.12	22.49
124	70.0	3861.0	24.5	0.0	10.0	7.0	0.07	25.06	1.72	0.17	23.68
125	60.0	3854.0	25.7	0.0	10.0	8.0	0.08	25.91	2.03	0.20	25.41
126	50.0	3846.0	26.2	0.0	10.0	5.0	0.05	26.70	1.31	0.13	27.44
127	40.0	3841.0	27.2	0.0	10.0	7.0	0.07	27.60	1.89	0.19	28.75
128	30.0	3834.0	28.0	0.0	10.0	6.0	0.06	28.31	1.67	0.17	30.64
129	20.0	3828.0	28.7	0.0	10.0	6.0	0.06	28.81	1.70	0.17	32.31
130	10.0	3822.0	29.0	0.0	10.0	3.0	0.03	29.05	0.85	0.09	34.01
131	0.0	3819.0	29.1	0.0							34.86
SUBTOTAL					227.0	1004.0			34.86	0.15	
=====											



POTENCIAL TEORICO DEL RIO RAMIS

2/16/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
AFLUENTE RAMIS SUP											
132	351.0	4842.0	0.0	0.0	9.0	191.0	2.12	0.26	0.49	0.05	0.00
133	342.0	4651.0	0.5	0.0	10.0	175.0	1.75	1.05	1.80	0.18	0.49
134	332.0	4476.0	1.6	0.0	10.0	81.0	0.81	2.10	1.67	0.17	2.29
135	322.0	4395.0	2.6	0.0	10.0	51.0	0.51	3.34	1.67	0.17	3.95
136	312.0	4344.0	4.1	0.0	10.0	43.0	0.43	4.34	1.83	0.18	5.62
137	302.0	4301.0	4.6	0.0	10.0	45.0	0.45	5.28	2.33	0.23	7.46
138	292.0	4256.0	6.0	0.7	14.0	46.0	0.33	6.99	3.15	0.23	9.79
139	278.0	4210.0	7.4	0.0	10.0	61.0	0.61	7.85	4.70	0.47	12.94
140	268.0	4149.0	8.4	1.4	9.0	41.0	0.46	10.36	4.17	0.46	17.64
141	259.0	4108.0	10.9	0.0	10.0	17.0	0.17	11.90	1.98	0.20	21.81
142	249.0	4091.0	12.9	0.0	10.0	11.0	0.11	13.45	1.45	0.15	23.79
143	239.0	4080.0	14.0	0.0	10.0	13.0	0.13	14.49	1.85	0.18	25.24
144	229.0	4067.0	14.9	1.8	2.0	1.0	0.05	16.83	0.17	0.08	27.09
145	227.0	4066.0	16.9	2.2	6.0	17.0	0.28	19.23	3.21	0.53	27.26
146	221.0	4049.0	19.4	0.0	10.0	26.0	0.26	19.59	5.00	0.50	30.46
147	211.0	4023.0	19.8	0.0	10.0	35.0	0.35	20.27	6.96	0.70	35.46
148	201.0	3988.0	20.8	0.0	10.0	36.0	0.36	21.27	7.51	0.75	42.42
149	191.0	3952.0	21.8	1.5	6.0	13.0	0.22	23.40	2.98	0.50	49.93
150	185.0	3939.0	23.5	0.7	10.0	33.0	0.33	24.42	7.91	0.79	52.92
151	175.0	3906.0	24.7	0.0	10.0	17.0	0.17	24.89	4.15	0.42	60.82
152	165.0	3889.0	25.1	0.0	10.0	21.0	0.21	25.39	5.23	0.52	64.97
153	155.0	3868.0	25.6	15.2	13.0	7.0	0.05	40.96	2.81	0.22	70.20
154	142.0	3861.0	41.1	0.0	10.0	13.0	0.13	41.43	5.28	0.53	73.02
155	132.0	3848.0	41.7	5.1	8.0	4.0	0.05	47.04	1.85	0.23	78.30
156	124.0	3844.0	47.2	0.0	10.0	7.0	0.07	47.58	3.27	0.33	80.15
157	114.0	3837.0	47.9	0.0	10.0	4.0	0.04	48.23	1.89	0.19	83.41
158	104.0	3833.0	48.5	0.0	10.0	4.0	0.04	48.61	1.91	0.19	85.31
159	94.0	3829.0	48.7	0.0	10.0	4.0	0.04	48.88	1.92	0.19	87.21
160	84.0	3825.0	49.1	0.0	10.0	3.0	0.03	49.13	1.45	0.14	89.13
161	74.0	3822.0	49.2	0.0	10.0	3.0	0.03	49.28	1.45	0.15	90.58
162	64.0	3819.0	49.4	29.1	11.0	2.0	0.02	78.95	1.55	0.14	92.03
163	53.0	3817.0	79.4	0.0	10.0	2.0	0.02	79.55	1.56	0.16	93.58
164	43.0	3815.0	79.7	0.0	10.0	2.0	0.02	79.85	1.57	0.16	95.14
165	33.0	3813.0	80.0	0.0	10.0	2.0	0.02	80.07	1.57	0.16	96.70
166	23.0	3811.0	80.2	0.0	10.0	2.0	0.02	80.23	1.57	0.16	98.27
167	13.0	3809.0	80.3	0.0							99.85
SUBTOTAL					338.0	1033.0			99.85	0.30	
AFLUENTE RAMIS INF											
167	13.0	3809.0	80.3	0.0	7.0	3.0	0.04	81.98	2.41	0.34	0.00
168	6.0	3806.0	83.7	0.0	6.0	1.0	0.02	83.76	0.82	0.14	2.41
169	0.0	3805.0	83.9	0.0							3.23
SUBTOTAL					13.0	4.0			3.23	0.25	

\*\*\*\*\*  
 \* EL POTENCIAL TEORICO TOTAL DEL RIO COATA ES DE 151.8 MW \*  
 \* Y TIENE UNA LONGITUD ACUMULADA DE 557.0 KM \*  
 \* Y UN POTENCIAL ESPECIFICO DE 0.27 MW/KM \*  
 \*\*\*\*\*

POTENCIAL TEORICO DEL RIO COATA 2/16/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE ATICAYA											
1	27.0	4850.0	0.0	0.0	7.0	188.0	2.69	0.10	0.19	0.03	0.00
2	20.0	4642.0	0.2	0.0	10.0	259.0	2.59	0.49	1.25	0.12	0.19
3	10.0	4383.0	0.8	0.0	10.0	27.0	0.27	1.08	0.29	0.03	1.44
4	0.0	4356.0	1.4	0.0							1.72
SUBTOTAL					27.0	474.0			1.72	0.06	
=====											
AFLUENTE CAQUETE											
5	18.0	4800.0	0.0	0.0	8.0	260.0	3.25	0.18	0.45	0.06	0.00
6	10.0	4540.0	0.3	0.0	10.0	302.0	3.02	0.77	2.27	0.23	0.45
7	0.0	4238.0	1.2	0.0							2.73
SUBTOTAL					18.0	562.0			2.73	0.15	
=====											
AFLUENTE PARATIA											
8	30.0	4905.0	0.0	0.0	10.0	546.0	5.46	0.37	1.97	0.20	0.00
9	20.0	4559.0	0.7	0.0	10.0	121.0	1.21	1.94	2.30	0.23	1.97
10	10.0	4238.0	3.2	1.2	10.0	66.0	0.66	4.81	3.11	0.31	4.27
11	0.0	4172.0	5.3	0.0							7.39
SUBTOTAL					30.0	733.0			7.39	0.25	
=====											
AFLUENTE VERDE SUP											
12	54.0	4755.0	0.1	0.0	6.0	199.0	3.32	0.23	0.44	0.07	0.00
13	48.0	4556.0	0.4	0.0	10.0	131.0	1.31	1.03	1.32	0.13	0.44
14	38.0	4425.0	1.7	0.0	10.0	118.0	1.18	2.49	2.88	0.29	1.76
15	28.0	4307.0	3.3	0.0	10.0	135.0	1.35	3.83	5.08	0.51	4.64
16	18.0	4172.0	4.3	5.3	8.0	63.0	0.79	10.10	6.24	0.78	9.72
17	10.0	4109.0	10.6	0.0							15.96
SUBTOTAL					44.0	646.0			15.96	0.36	
=====											
AFLUENTE VERDE INF											
17	10.0	4109.0	10.6	0.0	10.0	60.0	0.60	11.15	6.57	0.66	0.00
18	0.0	4049.0	11.7	0.0							6.57
SUBTOTAL					10.0	60.0			6.57	0.66	
=====											
AFLUENTE COMPUERTA											
19	10.0	4140.0	1.4	0.0	10.0	143.0	1.43	1.65	2.32	0.23	0.00
20	0.0	3997.0	1.9	0.0							2.32
SUBTOTAL					10.0	143.0			2.32	0.23	
=====											

POTENCIAL TEORICO DEL RIO COATA

2/16/79

I	L	H	Q	AFQ	DL	DM	PE	QC	POT	ESP	CUM
=====											
AFLUENTE COTANA											
21	31.0	4650.0	0.0	0.0							0.00
22	20.0	4195.0	0.5	0.0	11.0	455.0	4.14	0.27	1.19	0.11	1.19
23	10.0	4024.0	1.4	0.0	10.0	171.0	1.71	0.96	1.61	0.16	2.80
24	0.0	3938.0	1.8	0.0	10.0	86.0	0.86	1.61	1.36	0.14	4.16
SUBTOTAL					31.0	712.0			4.16	0.13	
=====											
AFLUENTE PUMAHUASI											
25	17.0	4875.0	0.0	0.0							0.00
26	10.0	4230.0	0.5	0.0	7.0	645.0	9.21	0.25	1.57	0.22	1.57
27	0.0	4022.0	0.8	0.0	10.0	208.0	2.08	0.64	1.30	0.13	2.88
SUBTOTAL					17.0	853.0			2.88	0.17	
=====											
AFLUENTE ANTALLA											
28	22.0	4680.0	0.0	0.0							0.00
29	10.0	4160.0	1.0	0.0	12.0	520.0	4.33	0.52	2.66	0.22	2.66
30	0.0	3975.0	1.2	0.0	10.0	185.0	1.85	1.11	2.02	0.20	4.67
SUBTOTAL					22.0	705.0			4.67	0.21	
=====											
AFLUENTE CHURUCAMA											
31	28.0	4602.0	0.0	0.0							0.00
32	20.0	3949.0	0.3	0.0	8.0	653.0	8.16	0.17	1.09	0.14	1.09
33	10.0	3843.0	0.7	0.0	10.0	106.0	1.06	0.51	0.53	0.05	1.62
34	0.0	3836.0	1.1	0.0	10.0	7.0	0.07	0.92	0.06	0.01	1.68
SUBTOTAL					28.0	766.0			1.68	0.06	
=====											
AFLUENTE CHAGUIMAYO											
35	33.0	4588.0	0.0	0.0							0.00
36	23.0	3975.0	0.5	0.0	10.0	613.0	6.13	0.25	1.48	0.15	1.48
37	13.0	3861.0	0.6	0.0	10.0	114.0	1.14	0.56	0.62	0.06	2.10
38	3.0	3836.0	1.1	1.1	10.0	25.0	0.25	0.85	0.21	0.02	2.31
39	0.0	3827.0	2.5	0.0	3.0	9.0	0.30	2.35	0.21	0.07	2.52
SUBTOTAL					33.0	761.0			2.52	0.08	
=====											
AFLUENTE LAMPA											
40	92.0	4920.0	0.0	0.0							0.00
41	81.0	4270.0	0.6	0.0	11.0	650.0	5.91	0.30	1.89	0.17	1.89
42	71.0	4022.0	2.5	0.8	10.0	248.0	2.48	1.53	3.72	0.37	5.62
43	63.0	3975.0	3.8	1.2	8.0	47.0	0.59	3.53	1.63	0.20	7.24
44	57.0	3938.0	5.9	0.0	6.0	37.0	0.62	5.43	1.97	0.33	9.21
45	47.0	3870.0	6.1	0.0	10.0	68.0	0.68	5.99	4.00	0.40	13.21
46	37.0	3849.0	7.4	0.0	10.0	21.0	0.21	6.74	1.39	0.14	14.60
47	27.0	3843.0	7.4	0.0	10.0	6.0	0.06	7.40	0.44	0.04	15.04
48	17.0	3827.0	7.7	2.5	10.0	16.0	0.16	7.55	1.19	0.12	16.22
49	10.0	3827.0	10.5	0.0	7.0	0.0	0.00	10.32	0.00	0.00	16.22
50	0.0	3825.0	10.7	0.0	10.0	2.0	0.02	10.58	0.21	0.02	16.43
SUBTOTAL					92.0	1095.0			16.43	0.18	
=====											

POTENCIAL TEORICO DEL RIO COATA

2/16/79

I	L	H	Q	AFQ	DL	DH	PE	GC	POT	ESP	CUM
=====											
AFLUENTE COATA 'A'											
51	195.0	4830.0	0.5	0.0							
52	188.0	4562.0	1.2	0.0	7.0	268.0	3.83	0.84	2.21	0.32	2.21
53	178.0	4481.0	2.0	0.0	10.0	81.0	0.81	1.61	1.28	0.13	3.49
54	168.0	4310.0	2.1	1.4	10.0	171.0	1.71	2.06	3.46	0.35	6.95
55	162.0	4286.0	5.2	0.0	6.0	24.0	0.40	4.31	1.02	0.17	7.97
56	152.0	4198.0	6.3	0.0	10.0	88.0	0.88	5.74	4.96	0.50	12.92
57	142.0	4156.0	7.0	0.0	10.0	42.0	0.42	6.65	2.74	0.27	15.66
58	132.0	4130.0	7.1	0.0	10.0	26.0	0.26	7.04	1.80	0.18	17.46
=====											
SUBTOTAL					63.0	700.0			17.46	0.28	
=====											
AFLUENTE COATA 'B'											
58	132.0	4130.0	7.1	0.0							0.00
59	123.0	4047.0	7.4	11.7	9.0	83.0	0.92	7.24	5.90	0.66	5.90
60	122.0	4045.0	19.1	0.0	1.0	2.0	0.20	19.10	0.37	0.37	6.27
61	115.0	3996.0	19.4	1.9	7.0	49.0	0.70	19.27	9.26	1.32	15.54
62	103.0	3938.0	22.6	1.8	12.0	58.0	0.48	21.95	12.49	1.04	28.02
63	93.0	3905.0	24.8	0.0	10.0	33.0	0.33	24.57	7.96	0.80	35.98
64	83.0	3880.0	25.1	0.0	10.0	25.0	0.25	24.94	6.12	0.61	42.09
65	73.0	3854.0	25.9	0.0	10.0	26.0	0.26	25.52	6.51	0.65	48.60
66	63.0	3836.0	26.3	0.0	10.0	18.0	0.18	26.12	4.61	0.46	53.22
67	53.0	3825.0	26.5	10.7	10.0	11.0	0.11	26.39	2.85	0.28	56.06
68	45.0	3815.0	37.6	0.0	8.0	10.0	0.12	37.38	3.67	0.46	59.73
=====											
SUBTOTAL					87.0	315.0			59.73	0.69	
=====											
AFLUENTE COATA 'C'											
68	45.0	3815.0	37.6	0.0							0.00
69	40.0	3810.0	37.8	0.0	5.0	5.0	0.10	37.70	1.85	0.37	1.85
70	30.0	3806.0	38.3	0.0	10.0	4.0	0.04	38.03	1.49	0.15	3.34
71	20.0	3804.0	38.7	0.0	10.0	2.0	0.02	38.47	0.75	0.08	4.10
72	10.0	3802.0	39.0	0.0	10.0	2.0	0.02	38.81	0.76	0.08	4.86
73	0.0	3800.0	39.3	0.0	10.0	2.0	0.02	39.12	0.77	0.08	5.63
=====											
SUBTOTAL					45.0	15.0			5.63	0.13	

\*\*\*\*\*  
 \* EL POTENCIAL TEORICO TOTAL DEL RIO ILLPA ES DE 13.6 MW \*  
 \* Y TIENE UNA LONGITUD ACUMULADA DE 181.0 KM \*  
 \* Y UN POTENCIAL ESPECIFICO DE 0.08 MW/KM \*  
 \*\*\*\*\*

POTENCIAL TEORICO DEL RIO ILLPA 2/16/79

I	L	H	Q	AFG	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE CHALLAMAYO											
1	42.0	4346.0	0.1	0.0							0.00
2	30.0	3918.0	0.5	0.0	12.0	428.0	3.57	0.31	1.29	0.11	1.29
3	20.0	3849.0	1.2	0.0	10.0	69.0	0.69	0.86	0.58	0.06	1.87
4	10.0	3830.0	1.5	0.0	10.0	19.0	0.19	1.32	0.25	0.02	2.12
5	0.0	3827.0	1.9	0.0	10.0	3.0	0.03	1.66	0.05	0.00	2.17
SUBTOTAL					42.0	519.0			2.17	0.05	
=====											
AFLUENTE CONAVIRI											
6	47.0	4548.0	0.1	0.0							0.00
7	40.0	4200.0	0.4	0.0	7.0	348.0	4.97	0.21	0.72	0.10	0.72
8	30.0	3976.0	1.0	0.0	10.0	224.0	2.24	0.71	1.56	0.16	2.28
9	20.0	3863.0	1.2	0.0	10.0	113.0	1.13	1.12	1.24	0.12	3.52
10	10.0	3836.0	1.9	0.0	10.0	27.0	0.27	1.54	0.41	0.04	3.93
11	0.0	3829.0	2.1	0.0	10.0	7.0	0.07	2.01	0.14	0.01	4.07
SUBTOTAL					47.0	719.0			4.07	0.09	
=====											
AFLUENTE ILLPA SUP.											
12	92.0	4428.0	0.1	0.0							0.00
13	83.0	4191.0	0.6	0.0	9.0	237.0	2.63	0.32	0.74	0.08	0.74
14	73.0	3987.0	1.3	0.0	10.0	204.0	2.04	0.91	1.82	0.18	2.57
15	63.0	3869.0	1.8	0.0	10.0	118.0	1.18	1.52	1.76	0.18	4.33
16	53.0	3840.0	2.1	0.0	10.0	29.0	0.29	1.91	0.54	0.05	4.87
17	43.0	3836.0	2.7	1.9	10.0	4.0	0.04	2.40	0.09	0.01	4.96
18	34.0	3829.0	4.8	2.1	9.0	7.0	0.08	4.67	0.32	0.04	5.28
19	25.0	3822.0	7.2	0.0	9.0	7.0	0.08	7.03	0.48	0.05	5.77
20	15.0	3816.0	7.3	0.0	10.0	6.0	0.06	7.24	0.43	0.04	6.19
21	5.0	3814.0	7.5	0.0	10.0	2.0	0.02	7.41	0.15	0.01	6.34
22	0.0	3800.0	7.5	0.0	5.0	14.0	0.28	7.52	1.03	0.21	7.37
SUBTOTAL					92.0	628.0			7.37	0.08	
=====											

\*\*\*\*\*  
 \* EL POTENCIAL TEORICO TOTAL DEL RIO ILAVE ES DE 61.5 MW \*  
 \* Y TIENE UNA LONGITUD ACUMULADA DE 767.0 KM \*  
 \* Y UN POTENCIAL ESPECIFICO DE 0.08 MW/KM \*  
 \*\*\*\*\*

POTENCIAL TEORICO DEL RIO ILAVE 2/16/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE CHILA											
1	31.0	5000.0	0.0	0.0	11.0	475.0	4.52	0.07	0.31	0.03	0.00
2	20.0	4525.0	0.1	0.0	10.0	165.0	1.65	0.22	0.35	0.03	0.51
3	10.0	4360.0	0.3	0.0	10.0	180.0	1.80	0.37	0.66	0.07	0.66
4	0.0	4180.0	0.4	0.0							1.51
SUBTOTAL					31.0	820.0			1.31	0.04	
=====											
AFLUENTE LLUSTA											
5	34.0	4865.0	0.0	0.0	14.0	635.0	4.54	0.05	0.33	0.02	0.00
6	20.0	4230.0	0.1	0.0	10.0	130.0	1.30	0.21	0.27	0.03	0.33
7	10.0	4100.0	0.3	0.0	10.0	92.0	0.92	0.67	0.60	0.06	0.60
8	0.0	4008.0	1.0	0.0							1.20
SUBTOTAL					34.0	857.0			1.20	0.04	
=====											
AFLUENTE CHILISAYA											
9	42.0	4950.0	0.0	0.0	12.0	545.0	4.54	0.04	0.23	0.02	0.00
10	30.0	4405.0	0.1	0.0	10.0	265.0	2.65	0.18	0.46	0.05	0.23
11	20.0	4140.0	0.3	0.0	10.0	90.0	0.90	0.46	0.41	0.04	0.70
12	10.0	4050.0	0.7	0.0	10.0	91.0	0.91	0.76	0.67	0.07	1.10
13	0.0	3959.0	0.9	0.0							1.78
SUBTOTAL					42.0	991.0			1.78	0.04	
=====											
AFLUENTE CACHAKARA											
14	36.0	4750.0	0.0	0.0	6.0	430.0	7.17	0.02	0.09	0.02	0.00
15	30.0	4320.0	0.0	0.0	10.0	290.0	2.90	0.12	0.33	0.03	0.09
16	20.0	4030.0	0.2	0.0	10.0	65.0	0.65	0.45	0.29	0.03	0.42
17	10.0	3965.0	0.7	0.0	10.0	17.0	0.17	1.24	0.21	0.02	0.71
18	0.0	3948.0	1.8	0.0							0.92
SUBTOTAL					36.0	802.0			0.92	0.03	
=====											
AFLUENTE CONDORE											
19	46.0	5075.0	0.0	0.0	6.0	495.0	8.25	0.02	0.09	0.02	0.00
20	40.0	4580.0	0.0	0.0	10.0	370.0	3.70	0.14	0.53	0.05	0.09
21	30.0	4210.0	0.3	0.0	10.0	160.0	1.60	0.47	0.74	0.07	0.62
22	20.0	4050.0	0.7	0.0	10.0	75.0	0.75	1.11	0.82	0.08	1.36
23	10.0	3975.0	1.5	0.0	10.0	30.0	0.30	1.61	0.47	0.05	2.17
24	0.0	3945.0	1.7	0.0							2.65
SUBTOTAL					46.0	1130.0			2.65	0.06	
=====											
AFLUENTE TURNAVI											
25	28.0	5000.0	0.0	0.0	8.0	720.0	9.00	0.01	0.08	0.01	0.00
26	20.0	4280.0	0.0	0.0	10.0	275.0	2.75	0.15	0.40	0.04	0.08
27	10.0	4005.0	0.3	0.0	10.0	104.0	1.04	0.75	0.77	0.08	0.48
28	0.0	3901.0	1.2	0.0							1.25
SUBTOTAL					28.0	1099.0			1.25	0.04	

POTENCIAL TEORICO DEL RIO ILAVE

2/16/79

I	L	H	Q	AFQ	DL	DM	PE	QC	POT	ESP	CUM
=====											
AFLUENTE MALCOMAYO											
29	43.0	4550.0	0.0	0.0	13.0	594.0	4.57	0.10	0.60	0.05	0.00
30	30.0	3956.0	0.2	0.0	10.0	51.0	0.51	0.65	0.33	0.03	0.60
31	20.0	3905.0	1.1	0.0	10.0	20.0	0.20	1.45	0.28	0.03	0.92
32	10.0	3885.0	1.8	0.0	10.0	5.0	0.05	2.22	0.11	0.01	1.21
33	0.0	3860.0	2.6	0.0							1.32
SUBTOTAL					43.0	670.0			1.32	0.03	
=====											
AFLUENTE CHULLUMPI											
34	52.0	4780.0	0.0	0.0	7.0	630.0	9.00	0.05	0.28	0.04	0.00
35	45.0	4150.0	0.1	0.0	10.0	168.0	1.68	0.22	0.36	0.04	0.28
36	35.0	3982.0	0.4	0.0	10.0	59.0	0.59	0.63	0.37	0.04	0.64
37	25.0	3923.0	0.9	0.0	10.0	28.0	0.28	1.03	0.28	0.03	1.01
38	15.0	3895.0	1.2	0.0	10.0	9.0	0.09	1.27	0.11	0.01	1.29
39	5.0	3886.0	1.4	2.6	5.0	4.0	0.08	4.71	0.18	0.04	1.40
40	0.0	3882.0	5.4	0.0							1.59
SUBTOTAL					52.0	898.0			1.59	0.03	
=====											
AFLUENTE TUNQUIPA											
41	55.0	4660.0	0.0	0.0	5.0	400.0	8.00	0.02	0.09	0.02	0.00
42	50.0	4260.0	0.0	0.0	10.0	230.0	2.30	0.15	0.33	0.03	0.09
43	40.0	4030.0	0.3	0.0	10.0	81.0	0.81	0.38	0.30	0.03	0.42
44	30.0	3949.0	0.5	0.0	10.0	31.0	0.31	0.62	0.19	0.02	0.72
45	20.0	3918.0	0.7	0.0	10.0	28.0	0.28	0.84	0.23	0.02	0.91
46	10.0	3890.0	1.0	0.0	10.0	10.0	0.10	1.11	0.11	0.01	1.14
47	0.0	3880.0	1.3	0.0							1.25
SUBTOTAL					55.0	780.0			1.25	0.02	
=====											
AFLUENTE GRANDE											
48	74.0	4850.0	0.0	0.0	5.0	345.0	6.90	0.02	0.06	0.01	0.00
49	69.0	4505.0	0.0	0.0	10.0	405.0	4.05	0.13	0.51	0.05	0.06
50	59.0	4100.0	0.2	0.0	10.0	115.0	1.15	0.47	0.52	0.05	0.57
51	49.0	3985.0	0.7	0.0	10.0	45.0	0.45	1.23	0.54	0.05	1.09
52	39.0	3940.0	1.8	0.0	10.0	33.0	0.33	2.12	0.69	0.07	1.64
53	29.0	3907.0	2.5	0.0	10.0	25.0	0.25	2.77	0.68	0.07	2.32
54	19.0	3882.0	3.1	5.4	12.0	2.0	0.02	9.20	0.18	0.02	3.00
55	7.0	3880.0	9.9	1.3	7.0	10.0	0.14	11.42	1.12	0.16	3.18
56	0.0	3870.0	11.6	0.0							4.30
SUBTOTAL					74.0	980.0			4.30	0.06	
=====											
AFLUENTE AGUAS CALIEN											
57	124.0	4830.0	0.0	0.0	9.0	260.0	2.89	0.04	0.10	0.01	0.00
58	115.0	4570.0	0.1	0.0	10.0	120.0	1.20	0.19	0.22	0.02	0.10
59	105.0	4450.0	0.3	0.0	10.0	75.0	0.75	0.39	0.28	0.03	0.32
60	95.0	4375.0	0.5	0.0	10.0	70.0	0.70	0.73	0.50	0.05	0.60
61	85.0	4305.0	1.0	0.0	10.0	98.0	0.98	1.20	1.16	0.12	1.11
62	75.0	4207.0	1.4	0.0	10.0	92.0	0.92	1.48	1.34	0.13	2.26
63	65.0	4115.0	1.6	0.0	10.0	59.0	0.59	2.03	1.18	0.12	3.60
64	55.0	4056.0	2.5	0.0	10.0	44.0	0.44	2.70	1.16	0.12	4.78
65	45.0	4012.0	2.9	0.0	10.0	75.0	0.75	3.10	2.28	0.23	5.94
66	35.0	3937.0	3.3	0.0	10.0	36.0	0.36	3.50	1.24	0.12	8.23
67	25.0	3901.0	3.7	1.2	11.0	31.0	0.28	5.41	1.64	0.15	9.46
68	14.0	3870.0	5.9	11.6	4.0	14.0	0.35	17.67	2.43	0.61	11.10
69	10.0	3856.0	17.8	0.0	10.0	11.0	0.11	18.10	1.95	0.20	13.53
70	0.0	3845.0	18.4	0.0							15.48
SUBTOTAL					124.0	985.0			15.48	0.12	
=====											

POTENCIAL TEORICO DEL RIO ILAVE

2/16/79

I	L	H	Q	AFQ	DL	DH	PE	QC	PUT	ESP	CUM
=====											
AFLUENTE ILAVE 'A'											
71	202.0	5125.0	0.0	0.0							0.00
72	190.0	4663.0	0.2	0.0	12.0	562.0	4.68	0.11	0.63	0.05	0.63
73	180.0	4448.0	0.3	0.0	10.0	115.0	1.15	0.28	0.32	0.03	0.95
74	170.0	4375.0	1.0	0.0	10.0	73.0	0.73	0.65	0.47	0.05	1.42
75	160.0	4180.0	1.1	0.4	10.0	195.0	1.95	1.05	2.00	0.20	3.42
76	154.0	4085.0	1.7	0.0	6.0	95.0	1.58	1.64	1.52	0.25	4.94
SUBTOTAL					48.0	1040.0			4.94	0.10	
=====											
AFLUENTE ILAVE 'B'											
76	154.0	4085.0	1.7	0.0							0.00
77	148.0	4008.0	1.8	1.0	6.0	77.0	1.28	1.73	1.30	0.22	1.30
78	139.0	3985.0	3.0	0.0	9.0	23.0	0.26	2.89	0.65	0.07	1.96
SUBTOTAL					15.0	100.0			1.96	0.13	
=====											
AFLUENTE ILAVE 'C'											
78	139.0	3985.0	3.0	0.0							0.00
79	126.0	3959.0	4.0	0.9	13.0	26.0	0.20	3.51	0.90	0.07	0.90
80	120.0	3952.0	5.1	0.0	6.0	7.0	0.12	4.98	0.34	0.06	1.24
81	110.0	3948.0	6.2	1.8	10.0	4.0	0.04	5.63	0.22	0.02	1.46
82	108.0	3945.0	8.4	1.7	2.0	3.0	0.15	6.15	0.24	0.12	1.70
83	102.0	3930.0	10.5	0.0	6.0	15.0	0.25	10.30	1.52	0.25	3.21
84	92.0	3911.0	11.0	0.0	10.0	19.0	0.19	10.75	2.00	0.20	5.22
85	82.0	3882.0	11.5	0.0	10.0	29.0	0.29	11.25	3.20	0.32	8.42
86	72.0	3879.0	12.7	0.0	10.0	3.0	0.03	12.13	0.36	0.04	8.78
87	62.0	3848.0	13.8	0.0	10.0	31.0	0.31	13.25	4.03	0.40	12.80
88	52.0	3845.0	14.3	18.4	10.0	3.0	0.03	14.03	0.41	0.04	13.22
89	41.0	3841.0	33.5	0.0	11.0	4.0	0.04	33.11	1.30	0.12	14.52
90	31.0	3835.0	34.0	0.0	10.0	6.0	0.06	33.76	1.99	0.20	16.50
SUBTOTAL					108.0	150.0			16.50	0.15	
=====											
AFLUENTE ILAVE 'D'											
90	31.0	3835.0	34.0	0.0							0.00
91	20.0	3826.0	34.3	0.0	11.0	9.0	0.08	34.16	3.02	0.27	3.02
92	10.0	3824.0	34.7	0.0	10.0	2.0	0.02	34.50	0.68	0.07	3.69
93	0.0	3820.0	34.8	0.0	10.0	4.0	0.04	34.74	1.36	0.14	5.06
SUBTOTAL					31.0	15.0			5.06	0.16	



\*\*\*\*\*  
 \* EL POTENCIAL TEORICO TOTAL DEL RIO MAURE ES DE 12.3 MW \*  
 \* Y TIENE UNA LONGITUD ACUMULADA DE 227.0 KM \*  
 \* Y UN POTENCIAL ESPECIFICO DE 0.05 MW/KM \*  
 \*\*\*\*\*

POTENCIAL TEORICO DEL RIO MAURE 2/16/79

I	L	H	G	AFG	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE CHILICULCO											
1	38.0	4750.0	0.0	0.0	18.0	225.0	1.25	0.06	0.12	0.01	0.00
2	20.0	4525.0	0.1	0.0	10.0	125.0	1.25	0.22	0.27	0.03	0.12
3	10.0	4400.0	0.3	0.0	10.0	125.0	1.25	0.40	0.49	0.05	0.39
4	0.0	4275.0	0.5	0.0							0.89
SUBTOTAL					38.0	475.0			0.89	0.02	
=====											
AFLUENTE KANO											
5	22.0	5150.0	0.0	0.0	12.0	725.0	6.04	0.10	0.68	0.06	0.00
6	10.0	4425.0	0.2	0.0	10.0	205.0	2.05	0.20	0.41	0.04	0.68
7	0.0	4220.0	0.2	0.0							1.09
SUBTOTAL					22.0	930.0			1.09	0.05	
=====											
AFLUENTE KALLAPUMA											
8	23.0	5275.0	0.0	0.0	13.0	900.0	6.92	0.19	1.65	0.13	0.00
9	10.0	4375.0	0.4	0.0	10.0	165.0	1.65	0.48	0.78	0.08	1.65
10	0.0	4210.0	0.6	0.0							2.43
SUBTOTAL					23.0	1065.0			2.43	0.11	
=====											
AFLUENTE ANCOMARCA											
11	26.0	4400.0	0.0	0.0	6.0	125.0	2.08	0.03	0.04	0.01	0.00
12	20.0	4275.0	0.1	0.0	10.0	100.0	1.00	0.11	0.11	0.01	0.04
13	10.0	4175.0	0.2	0.0	10.0	15.0	0.15	0.32	0.05	0.00	0.15
14	0.0	4160.0	0.5	0.0							0.19
SUBTOTAL					26.0	240.0			0.19	0.01	
=====											
AFLUENTE HUANAMAURE											
15	17.0	4250.0	0.0	0.0	7.0	175.0	2.50	0.01	0.02	0.00	0.00
16	10.0	4075.0	0.0	0.0	10.0	20.0	0.20	0.03	0.01	0.00	0.02
17	0.0	4055.0	0.0	0.0							0.03
SUBTOTAL					17.0	195.0			0.03	0.00	
=====											
AFLUENTE MAURE A											
18	101.0	4475.0	0.0	0.0	5.0	50.0	1.00	0.15	0.08	0.02	0.00
19	96.0	4425.0	0.3	0.0							0.08
SUBTOTAL					5.0	50.0			0.08	0.02	
=====											

POTENCIAL TEORICO DEL RIO MAURE

2/16/79

I	L	M	W	AFQ	DL	DH	PE	GC	POT	ESP	CUM
=====											
AFLUENTE MAURE B											
19	96.0	4425.0	0.3	0.0	10.0	50.0	0.50	0.38	0.19	0.02	0.00
20	86.0	4375.0	0.5	0.0	10.0	25.0	0.25	0.60	0.15	0.01	0.19
21	76.0	4350.0	0.7	0.0	10.0	80.0	0.80	0.83	0.65	0.07	0.33
22	66.0	4270.0	0.9	0.0	8.0	25.0	0.31	1.02	0.25	0.03	0.99
23	58.0	4245.0	1.1	0.0							1.24
SUBTOTAL					38.0	180.0			1.24	0.03	
=====											
AFLUENTE MAURE C											
23	58.0	4245.0	1.1	0.0	2.0	5.0	0.25	1.11	0.05	0.03	0.00
24	56.0	4240.0	1.1	0.5	5.0	20.0	0.40	1.70	0.33	0.07	0.05
25	51.0	4220.0	1.8	0.2	4.0	10.0	0.25	2.02	0.20	0.05	0.39
26	47.0	4210.0	2.0	0.6	10.0	50.0	0.50	2.71	1.33	0.13	0.58
27	37.0	4160.0	2.8	0.5	2.0	11.0	0.55	3.28	0.35	0.18	1.91
28	35.0	4149.0	3.3	0.0							2.27
SUBTOTAL					23.0	96.0			2.27	0.10	
=====											
AFLUENTE MAURE D											
28	35.0	4149.0	3.3	0.0	9.0	39.0	0.43	3.32	1.27	0.14	0.00
29	26.0	4110.0	3.3	0.0	10.0	25.0	0.25	3.34	0.82	0.08	1.27
30	16.0	4085.0	3.3	0.0	10.0	30.0	0.30	3.35	0.99	0.10	2.09
31	6.0	4055.0	3.4	0.0	5.0	25.0	0.50	3.40	0.83	0.17	3.08
32	1.0	4030.0	3.4	0.0							3.91
SUBTOTAL					34.0	119.0			3.91	0.12	
=====											
AFLUENTE MAURE E											
32	1.0	4030.0	3.4	0.0	1.0	5.0	0.50	3.40	0.17	0.17	0.00
33	0.0	4025.0	3.4	0.0							0.17
SUBTOTAL					1.0	5.0			0.17	0.17	

```

*****
*
* EL POTENCIAL TEORICO TOTAL DEL RIO ZAPATILLA ES DE 2.3 MW
*
* Y TIENE UNA LONGITUD ACUMULADA DE 80.0 KM
*
* Y UN POTENCIAL ESPECIFICO DE 0.03 MW/KM
*
*****

```

POTENCIAL TEORICO DEL RIO ZAPATILLA 2/16/79

I	L	H	Q	AFU	DL	DH	PE	QC	PUT	ESP	CUM
AFLUENTE CAMILLAQUI											
1	15.0	4250.0	0.0	0.0							0.00
2	10.0	3880.0	0.1	0.0	5.0	370.0	7.40	0.04	0.16	0.03	0.16
3	0.0	3826.0	0.4	0.0	10.0	54.0	0.54	0.24	0.13	0.01	0.29
SUBTOTAL					15.0	424.0			0.29	0.02	
AFLUENTE ZAPATILLA											
4	65.0	4080.0	0.0	0.0							0.00
5	55.0	3925.0	0.2	0.0	10.0	155.0	1.55	0.12	0.18	0.02	0.18
6	45.0	3878.0	0.8	0.0	10.0	47.0	0.47	0.51	0.23	0.02	0.41
7	35.0	3861.0	1.2	0.0	10.0	17.0	0.17	1.00	0.17	0.02	0.58
8	25.0	3840.0	1.8	0.0	10.0	21.0	0.21	1.48	0.31	0.03	0.88
9	15.0	3824.0	2.3	0.4	10.0	16.0	0.16	2.01	0.31	0.03	1.20
10	13.0	3821.0	2.7	0.0	2.0	3.0	0.15	2.69	0.06	0.04	1.26
11	0.0	3800.0	3.9	0.0	13.0	21.0	0.16	3.33	0.69	0.05	1.96
SUBTOTAL					65.0	280.0			1.96	0.03	

\*\*\*\*\*  
 \* EL POTENCIAL TEORICO TOTAL DEL RIO CCALLACAME ES DE 6.4 MW \*  
 \* Y TIENE UNA LONGITUD ACUMULADA DE 149.0 KM \*  
 \* Y UN POTENCIAL ESPECIFICO DE 0.03 MW/KM \*  
 \*\*\*\*\*

POTENCIAL TEORICO DEL RIO CCALLACAME 2/19/79

I	L	H	Q	AFQ	DL	DM	PE	QC	POI	ESP	CUM
=====											
AFLUENTE YAURICA											
1	22.0	4100.0	0.0	0.0							0.00
2	10.0	3925.0	0.3	0.0	12.0	175.0	1.46	0.17	0.29	0.02	0.29
3	0.0	3875.0	1.2	0.0	10.0	50.0	0.50	0.75	0.57	0.04	0.66
SUBTOTAL					22.0	225.0			0.66	0.03	
=====											
AFLUENTE CAUSILLUMA											
4	24.0	4525.0	0.0	0.0							0.00
5	10.0	4085.0	0.1	0.0	14.0	440.0	3.14	0.06	0.26	0.02	0.26
6	0.0	3858.0	0.3	0.0	10.0	247.0	2.47	0.23	0.56	0.06	0.82
SUBTOTAL					24.0	687.0			0.82	0.03	
=====											
AFLUENTE ZORRILLO											
7	12.0	4300.0	0.0	0.0							0.00
8	0.0	3827.0	0.2	0.0	12.0	473.0	3.94	0.12	0.54	0.05	0.54
SUBTOTAL					12.0	473.0			0.54	0.05	
=====											
AFLUENTE CULCOJAHUIRA											
9	21.0	4400.0	0.0	0.0							0.00
10	10.0	3850.0	0.2	0.0	11.0	570.0	5.18	0.09	0.50	0.05	0.50
11	0.0	3812.0	1.1	0.0	10.0	18.0	0.18	0.65	0.12	0.01	0.62
SUBTOTAL					21.0	588.0			0.62	0.03	
=====											
AFLUENTE CCALLACAME											
12	110.0	4320.0	0.0	0.0							0.00
13	105.0	4252.0	0.0	0.0	5.0	68.0	1.36	0.03	0.02	0.00	0.02
14	95.0	4102.0	0.2	0.0	10.0	150.0	1.50	0.11	0.17	0.02	0.19
15	85.0	4010.0	0.6	0.0	10.0	92.0	0.92	0.40	0.36	0.04	0.55
16	75.0	3875.0	0.9	1.2	10.0	135.0	1.35	0.76	1.01	0.10	1.56
17	63.0	3865.0	2.3	0.0	12.0	10.0	0.08	2.19	0.22	0.02	1.78
18	53.0	3838.0	3.1	0.3	10.0	27.0	0.27	2.70	0.72	0.07	2.49
19	45.0	3827.0	3.8	0.2	8.0	11.0	0.14	3.61	0.39	0.05	2.88
20	33.0	3818.0	4.5	0.0	12.0	9.0	0.07	4.25	0.38	0.03	3.26
21	23.0	3812.0	4.9	1.1	10.0	6.0	0.06	4.70	0.28	0.03	3.53
22	10.0	3810.0	7.4	0.0	13.0	2.0	0.02	6.70	0.13	0.01	3.66
23	0.0	3809.0	8.3	0.0	10.0	1.0	0.01	7.83	0.08	0.01	3.74
SUBTOTAL					110.0	511.0			3.74	0.03	
=====											

## C L A V E

I	=	NUMERO DEL PUNTO
L	=	KILOMETRAJE
H	=	ALTURA
Q	=	CAUDAL EN EL PUNTO
AFQ	=	CAUDAL ADICIONAL DEBIDO AL PUENTE
DL	=	DISTANCIA ENTRE LOS PUNTOS
DH	=	DIFERENCIA DE NIVEL ENTRE LOS PUNTOS
PE	=	LA PENDIENTE DEL TRAMO
QC	=	CAUDAL DE CALCULO DEL TRAMO
POT	=	EL POTENCIAL TEORICO DEL TRAMO
ESP	=	EL POTENCIAL ESPECIFICO DEL TRAMO
CUM	=	POTENCIAL ACUMULADO