

LISTADO DE LOS PROYECTOS HIDROELECTRICOS CON HIDROLOGIA BUENA
 ORDENADO EN FORMA ASCENDENTE POR : FFC CON 0.00 MW \$ PI \$= 5000.00 MW

RANK	PROYECTO	ALT. (M)	QM (M**3/S)	HN (M)	PI (MW)	PG (MW)	FP (GWH)	FS (GWH)	FF (GWH)	INV (10**6 \$)	FFC (\$/MWH)	FFC1 (-)	KFSP (\$/KW)	PROYECTOS CONDICIONANTES
1	OLMUS10	1	32.4	396.9	107.4	66.7	439.8	309.5	749.3	35.7	7.047	0.133	332.4	AGRICULTURA
2	JFQUF70	1	35.5	105.1	29.4	12.7	121.7	43.1	164.8	14.4	11.826	0.229	489.8	AGRICULTURA
3	CHALU10	8	17.1	1061.4	151.4	151.3	1325.3	0.0	1325.3	139.5	12.345	0.313	921.4	AGRICULTURA
4	CRIS10	3	31.8	755.0	200.2	200.2	1549.1	50.9	1600.0	171.7	12.794	0.312	857.6	AGRICULTURA
5	HUAL90	9	149.5	642.8	801.4	584.6	3987.3	1669.4	5656.7	548.9	13.352	0.272	684.9	
6	PISCO60	1	30.2	933.1	234.7	199.4	1237.5	606.1	1845.6	193.4	13.619	0.303	824.0	CHALO10
7	PISCO70	1	30.2	359.7	90.5	76.9	477.1	244.2	721.3	102.0	14.716	0.410	1127.1	CHALO10
8	JORGE10	1	31.8	332.7	88.2	44.3	274.9	376.6	651.5	112.3	16.350	0.490	1273.2	CRIS10
9	URUB63	1	148.8	321.3	398.7	56.6	351.0	2034.9	2385.9	196.3	16.829	0.219	492.4	
10	MAN250	1	282.5	184.4	434.4	179.1	1791.5	848.1	2639.6	319.2	16.901	0.324	734.8	
11	MO10	1	16.6	2140.5	296.3	199.5	1239.8	574.0	1813.8	221.3	17.004	0.328	746.9	
12	PAM240	7	175.4	908.7	1329.3	1254.3	8503.7	1137.1	9640.8	1348.0	17.429	0.396	1014.1	
13	YNUTA295	14	131.0	778.0	850.0	849.9	7278.5	29.0	7307.5	1098.0	17.660	0.445	1291.8	
14	MAN230	2	162.0	147.3	199.0	85.7	685.3	486.8	1172.1	144.9	18.305	0.328	728.1	
15	CHICA30	2	51.9	67.3	29.1	10.8	110.6	58.1	168.7	102.3	18.784	1.607	3532.6	CRIS10
16	HUAL140	1	231.5	105.7	204.1	50.8	507.2	766.2	1273.4	147.9	19.491	0.314	724.6	
17	PISCO80	2	47.1	359.7	141.2	86.3	535.6	409.6	945.2	216.8	20.233	0.634	1535.4	CHALO10
18	MARA180	5	109.4	176.3	160.9	46.1	349.4	699.8	1049.2	120.8	20.270	0.316	750.8	
19	ANDA20	1	6.5	687.9	37.3	5.6	34.6	151.7	186.3	19.1	20.279	0.257	512.1	
20	FULA30	1	32.0	452.7	120.8	120.8	779.6	93.1	872.7	125.7	20.511	0.407	1040.6	FULA10
21	MAN190	2	148.6	129.6	160.7	59.5	593.5	360.9	954.4	137.5	20.833	0.383	855.6	
22	SGAB10	2	49.8	940.7	390.7	91.7	583.3	1504.6	2087.9	241.0	21.166	0.296	616.8	
23	HUAL10	1	38.0	1044.2	330.9	330.9	2501.3	0.0	2501.3	456.1	21.390	0.522	1378.4	AGUA POTABLEF
24	ICA10	1	23.6	179.9	35.4	35.4	227.2	27.7	254.9	148.7	21.584	1.648	4200.6	CHALO10
25	HUAL120	2	208.5	201.0	349.5	50.6	410.2	1755.8	2166.0	241.7	22.011	0.301	691.6	
26	MAN210	5	156.1	89.9	117.1	39.9	398.4	290.9	689.3	104.0	22.441	0.400	888.1	
27	FULA20	1	32.0	854.3	228.0	228.0	1471.3	175.7	1647.0	325.2	22.571	0.558	1426.3	FULA10
28	APUR240	6	221.0	65.0	119.8	24.3	239.4	541.9	781.3	98.2	22.580	0.345	819.7	
29	SALCA20	2	49.0	456.6	186.6	126.8	848.4	297.3	1145.7	194.6	22.891	0.457	104.7	
30	ANDA30	1	6.5	875.8	47.5	7.1	44.0	193.2	237.2	28.6	23.861	0.302	60.2	
31	MAN105	1	154.9	156.3	176.1	78.9	791.0	319.4	1110.4	194.0	23.931	0.474	1101.6	
32	QTOCA10	1	9.6	754.4	60.4	60.4	529.0	0.0	529.0	56.6	24.195	0.318	937.1	URAB10
33	MAN170	8	138.6	120.6	139.4	64.6	648.5	239.3	887.8	160.1	24.457	0.491	1148.5	
34	PAT110	1	18.9	679.9	107.3	42.6	264.1	393.2	657.3	96.5	24.559	0.394	899.3	
35	PALCA15	2	22.4	655.5	122.5	33.5	207.7	590.9	798.6	105.6	24.610	0.362	862.0	
36	YNUTA140	1	104.0	108.4	94.0	62.6	654.2	52.5	706.7	147.1	25.355	0.595	1564.9	
37	HUA20	2	24.8	895.0	185.3	122.2	769.5	463.0	1232.5	216.4	25.356	0.484	1167.8	
38	MAN140	4	123.0	110.0	112.8	70.1	703.5	91.0	794.5	168.8	26.440	0.596	1496.5	
39	HUAL130	2	224.0	102.3	191.2	31.2	307.9	877.1	1185.0	173.5	27.263	0.395	907.4	
40	HUA40	1	30.0	287.8	72.0	31.7	196.5	277.1	473.6	78.2	27.369	0.454	1086.1	
41	CHICA20	2	50.6	105.5	44.5	20.9	189.4	80.3	269.7	256.8	27.859	2.549	5770.8	CRIS10
42	LAMB10	1	17.2	346.7	49.8	0.0	0.0	315.8	315.8	37.9	28.166	0.326	761.0	
43	TACNA30	1	4.3	976.3	35.0	20.9	129.9	110.1	240.0	44.7	28.376	0.519	1277.1	
44	CASMA20	1	20.0	741.1	123.6	110.6	686.5	128.1	814.6	99.9	29.226	0.337	808.3	
45	MAJES20	1	35.0	981.0	286.4	149.8	939.0	879.4	1818.4	247.4	29.482	0.370	863.8	APU10
46	URUB90	3	149.8	319.3	398.9	24.9	154.7	2301.1	2455.8	328.9	29.560	0.360	824.5	
47	PUNA10	4	13.4	932.8	104.4	104.4	777.4	19.9	797.3	202.9	30.222	0.730	1943.5	
48	LUCUM20	1	4.6	372.1	14.3	14.3	122.5	2.5	125.0	32.0	30.357	0.762	2237.8	
49	MARA150	1	104.0	61.8	53.6	8.8	89.3	197.1	286.4	49.4	30.872	0.443	921.6	
50	PALCA30	1	23.1	286.4	55.2	3.1	19.5	318.7	338.2	47.4	31.066	0.376	858.7	
51	APUR25	1	57.3	56.7	27.1	13.2	133.5	27.8	161.3	39.2	31.211	0.647	1446.5	
52	LAMB50	1	41.1	422.7	144.8	30.1	186.6	659.1	845.7	137.4	31.224	0.430	948.9	
53	URAB10	3	9.6	1228.8	98.4	98.4	861.6	0.0	861.6	230.3	31.350	0.795	2340.4	
54	PAM180	11	146.2	371.2	452.6	393.2	2910.2	787.8	3698.0	885.0	31.418	0.700	1955.4	
55	CASMA30	1	20.0	934.6	155.9	139.5	865.7	161.6	1027.3	180.7	31.564	0.484	1159.1	CASMA10
56	YNUTA200	1	109.0	53.5	48.6	8.9	120.3	171.5	291.8	55.4	31.565	0.507	1139.9	
57	MARA160	1	107.3	68.3	61.1	12.6	125.8	272.8	398.6	70.6	31.569	0.485	1155.5	
58	MARA120	2	93.6	104.4	81.5	20.5	206.5	256.9	443.4	88.5	31.925	0.515	1085.9	
59	CORAL10	1	13.0	1424.4	154.4	86.6	546.8	266.7	813.5	189.8	32.212	0.586	1229.3	
60	UTUCA20	1	11.6	713.9	69.1	69.1	526.5	50.1	576.6	157.9	32.224	0.805	2285.1	URAB10
61	MAJES10	1	34.0	745.6	211.4	113.6	727.5	625.9	1353.4	190.6	32.301	0.384	901.6	APU10
62	SANTA110	11	86.9	278.8	202.1	66.2	410.8	857.8	1268.6	233.4	32.601	0.498	1154.9	
63	HUA10	1	10.2	898.2	76.7	31.1	193.4	331.5	524.9	102.9	33.604	0.545	1341.6	
64	MARA130	4	100.2	220.2	184.0	39.9	275.3	708.0	983.3	183.2	34.152	0.478	995.7	
65	TACNA50	1	4.3	321.5	11.5	6.9	42.8	36.3	79.1	17.8	34.349	0.628	1547.8	
66	PAT120	1	22.5	735.3	133.0	110.4	717.7	223.5	941.2	246.7	34.887	0.728	1787.7	
67	ANDA10	4	6.5	786.7	42.6	42.6	373.5	0.0	373.5	111.2	34.906	0.836	2610.3	
68	CANFT110	4	41.6	465.4	161.5	32.0	198.8	602.8	801.6	148.9	34.917	0.464	922.0	
69	CANFT50	1	31.3	332.2	101.5	20.1	124.9	378.8	503.7	93.9	35.020	0.465	925.1	
70	TACNA40	1	4.3	557.6	12.8	7.7	47.6	40.4	88.0	20.3	35.133	0.642	1589.9	
71	MAN150	2	74.5	38.0	54.7	20.1	199.8	124.5	324.3	78.9	35.333	0.647	1442.4	
72	SANTA60	3	52.0	214.8	93.2	65.2	470.5	175.9	646.4	194.7	35.399	0.728	2089.1	
73	MAN60	2	56.1	64.0	29.9	3.8	87.6	97.3	184.9	41.3	35.531	0.601	1381.3	
74	OLMUS20	1	32.4	269.8	73.0	27.9	173.3	328.4	501.7	103.9	36.104	0.577	1423.3	
75	TAMBO70	2	50.7	809.4	342.2	202.0	1253.7	1131.2	2384.9	349.1	36.283	0.409	1020.2	TAMBO10
76	MAN90	4	134.6	130.9	146.9	76.0	763.6	209.7	973.3	271.6	36.688	0.769	1848.9	
77	SANTA120	13	100.9	409.4	344.5	195.1	1391.5	807.2	2198.7	579.2	36.811	0.697	1681.3	
78	VILCA170	8	69.4	505.9	293.0	151.7	1037.8	645.8	1683.6	439.9	37.926	0.687	1501.4	
79	JEQUE10	2	8.5	674.5	47.8	28.6	177.7	100.2	277.9	73.8	37.981	0.701	1543.9	
80	APUR148	2	88.2	293.0	215.5	102.2	737.6	492.9	1230.5	319.3	38.060	0.681	1481.7	
81	TACNA20	1	4.3	482.9	17.3	10.4	64.2	54.5	118.7	29.8	38.199	0.698	1722.5	
82	CHIL130	1	12.9	645.3	69.5	28.4	179.7	168.8	348.5	90.0	38.330	0.621	1295.0	
83	CHANC10	1	9.2	1093.4	84.3	22.8	141.2	395.3	536.5	110.8	38.372	0.562	1314.4	
84	LAMB20	1	30.2	269.3	67.9	41.1	291.2	135.2	426.4	119.2	38.982	0		

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RANK	PROYECTO	ALT.	QM (M**3/S)	HN (M)	PI (MW)	PG (MW)	FP (GWH)	FS (GWH)	FT (GWH)	INV (10**6 \$)	FFC (\$/MWH)	FEC1 (-)	KFSP (\$/KW)	PROYECTOS CONDICIONANTES
111	CHANC20	1	15.7	719.4	94.0	25.4	157.4	440.8	598.2	153.8	47.755	0.699	1636.2	
112	HUAL50	1	23.4	542.1	105.8	65.3	431.8	196.0	627.8	220.2	48.751	0.933	2081.3	
113	SAMA10	1	30.0	1392.2	348.3	272.6	1695.6	1040.2	2735.8	258.1	48.818	0.273	741.0	LOCUM10
114	APUR100	3	70.9	260.8	154.3	50.7	373.2	407.5	780.7	241.8	49.163	0.779	1567.1	
115	CANFT130	1	57.6	269.8	129.6	25.7	159.6	483.9	643.5	169.5	49.508	0.658	1307.9	
116	MUCHE10	3	5.8	1512.3	73.5	41.9	265.6	118.7	384.3	163.7	49.859	0.915	2227.2	
117	SANTA40	10	18.3	524.0	80.1	80.0	576.2	46.9	625.1	277.3	50.113	1.186	3461.9	
118	VFL37	8	20.7	605.0	104.6	64.8	425.2	161.2	586.4	221.0	51.257	0.983	2112.8	
119	PISCO40	1	16.9	361.4	50.9	0.0	0.0	229.6	229.6	50.7	51.820	0.532	996.1	
120	ANTA60A	4	82.6	251.8	173.4	49.6	345.0	583.0	928.0	282.0	51.976	0.780	1626.3	
121	SANJU20	1	20.0	533.9	89.1	18.5	118.7	277.1	395.8	114.2	52.054	0.691	1281.7	
122	TAMBU60	4	31.5	449.7	118.1	105.2	652.6	286.8	939.4	189.2	54.041	0.585	1602.0	TAMBO10
123	CHICHA10	5	17.8	614.9	91.4	29.2	186.4	270.7	457.1	149.0	54.306	0.816	1630.2	
124	QUIRO10	2	13.0	151.7	16.4	9.9	69.4	31.5	100.9	39.6	54.599	1.056	2414.6	
125	PATI50	1	44.9	337.2	126.3	51.6	320.5	440.0	760.5	252.5	54.806	0.887	1999.2	
126	SANTA10	1	7.2	238.1	14.4	14.4	118.6	1.9	120.5	85.8	55.031	1.370	5958.3	
127	APUR173A	2	97.7	286.1	235.1	65.2	441.7	805.1	1246.6	411.2	57.132	0.846	1764.0	
128	PAMI01	1	44.8	64.7	24.2	8.9	89.5	50.5	140.0	56.3	57.548	1.061	2326.4	
129	CHIL140	1	24.1	539.6	108.6	43.0	266.7	322.5	589.2	211.1	57.857	0.924	1943.8	
130	APUR45	3	66.2	199.5	110.1	64.3	529.1	117.3	646.4	291.1	58.095	1.193	2644.0	
131	UCONA50	6	85.1	238.4	169.3	52.2	364.8	445.8	810.6	294.0	58.688	0.894	1736.6	
132	STOM170	2	95.7	171.8	137.2	25.5	158.3	574.5	732.8	223.0	58.707	0.781	1625.4	
133	SANJU10	1	14.3	530.6	63.3	11.4	74.3	206.6	280.9	89.0	58.740	0.758	1406.0	
134	MARABO	4	76.3	249.6	158.8	103.1	787.8	207.7	995.5	448.7	59.030	1.220	2825.6	
135	URUM15	10	21.2	563.4	99.6	80.0	544.8	150.3	695.1	312.3	59.082	1.257	3135.5	
136	VNUTA60	2	91.1	97.6	74.1	40.9	489.0	49.4	538.4	258.8	59.101	1.361	3492.6	
137	SAMA30	1	30.0	314.8	78.8	8.3	51.5	310.0	361.5	104.6	59.424	0.702	1327.4	
138	JFQUF60	1	33.0	144.9	39.9	18.4	139.7	69.6	209.3	133.7	60.493	1.629	3350.9	JFQUF10
139	JFQUF50	3	32.5	196.3	53.2	30.7	247.4	67.5	314.9	189.2	60.598	1.596	3556.4	JFQUF10
140	RIMAC10	1	5.1	1253.1	53.3	53.3	338.9	82.4	421.3	199.6	61.599	1.373	3744.8	
141	CANF190	10	31.8	283.3	75.2	14.9	92.6	280.8	375.4	122.4	61.605	0.819	1627.7	
142	MARASO	3	32.4	346.2	93.4	52.3	352.1	162.7	514.8	227.9	61.667	1.148	2440.0	
143	SAMA20	1	30.0	314.8	78.8	8.3	51.5	310.0	361.5	109.0	61.907	0.751	1383.2	
144	VNUTA90	2	94.4	165.5	130.3	59.5	538.1	238.4	776.5	347.9	62.090	1.193	2670.0	
145	COLCA70	1	52.9	269.8	119.1	5.7	35.7	606.8	642.5	179.6	62.141	0.720	1508.0	
146	APUR90	1	69.6	73.7	42.7	9.4	94.1	119.8	213.9	81.8	62.287	0.958	1915.7	
147	CHILL20	2	8.4	359.7	25.3	6.8	42.4	118.8	161.2	54.5	62.842	0.920	2154.1	
148	RIMAC20	1	27.0	224.8	50.6	10.3	64.0	202.1	266.1	95.7	63.534	0.917	1891.3	RIMAC10
149	CHILL120	1	8.3	223.8	15.5	11.7	83.5	14.1	97.6	122.3	64.120	1.375	7890.3	
150	JFQUF40	3	17.2	171.0	24.5	12.6	92.8	41.0	133.8	114.7	64.799	2.215	4681.6	JFQUF10
151	YANA10	3	32.0	274.9	73.4	20.9	138.4	340.1	475.5	172.5	65.599	0.988	2350.1	
152	CANF140	3	20.3	481.9	81.7	25.9	174.9	235.6	410.5	167.9	65.775	1.003	2055.1	
153	APUR115	1	72.8	249.1	151.3	28.4	176.5	631.8	808.3	276.9	65.956	0.879	1830.1	
154	PAM84	1	36.6	59.4	18.1	6.6	66.7	38.2	104.9	48.3	66.035	1.214	2668.5	
155	ICHU20	1	13.2	352.4	38.8	18.5	122.5	84.5	207.0	94.0	66.918	1.164	2422.7	
156	CHAL10	1	20.2	294.8	49.8	27.7	193.2	82.7	275.9	135.5	67.664	1.275	2716.9	
157	VIL10	9	21.6	275.6	49.6	32.3	244.9	35.1	330.0	167.3	68.278	1.398	3373.0	
158	CHILL10	1	8.4	940.6	66.2	11.5	71.3	282.1	353.4	123.7	68.314	0.897	1868.6	
159	COLCA50	2	37.0	539.6	166.5	8.0	49.9	848.3	893.2	276.8	68.496	0.793	1662.5	
160	ANTA27	2	33.9	379.5	107.3	40.9	279.2	306.4	585.6	254.4	69.014	1.123	2370.9	
161	VILCA120	6	46.1	367.7	141.4	90.4	663.5	211.0	874.5	453.4	69.154	1.397	3206.5	
162	TAMBO30	1	31.5	359.7	94.5	84.1	522.1	229.4	751.5	231.1	69.478	0.893	2445.5	TAMBO10
163	SANTABU	5	62.7	215.8	112.9	37.0	229.5	479.2	703.7	278.1	69.541	1.063	2463.2	
164	SAMA40	1	30.0	107.9	27.0	27.0	236.5	0.0	236.5	68.8	70.356	0.866	2548.1	LOCUM10
165	PISCO30	1	12.0	539.6	54.0	4.0	24.9	214.4	239.3	79.3	70.469	0.793	1468.5	
166	JY10	2	5.7	1879.0	89.3	52.4	247.5	89.6	337.1	175.8	70.540	1.102	1968.6	
167	SAMA50	1	33.2	60.9	16.9	14.7	147.8	0.0	147.8	30.5	70.615	0.464	1804.7	LOCUM10
168	MALAZU	1	16.0	539.6	72.0	5.3	33.2	285.9	319.1	105.7	71.075	0.800	1481.9	
169	CHOTA10	1	17.2	108.0	15.5	7.6	76.6	31.7	103.3	57.1	72.457	1.476	3683.9	
170	LOCUM10	1	32.5	1355.9	367.5	367.4	3218.7	0.0	3218.7	1357.6	73.018	1.853	3694.1	
171	QUIRU20	2	20.4	257.6	45.8	29.1	198.3	78.6	276.9	148.4	73.293	1.455	3388.1	
172	VIL20	1	37.2	94.0	29.2	8.0	76.1	87.6	163.7	75.2	73.553	1.199	2575.3	
173	CUTAH20	4	30.3	359.7	90.8	0.0	0.0	316.7	316.7	105.1	77.874	0.682	1157.5	
174	HUAN10	2	19.1	343.1	54.8	54.8	405.7	40.7	446.4	284.4	78.307	1.861	5189.8	
175	TAMBU20	1	24.2	302.6	61.1	61.1	529.8	3.7	533.5	235.0	79.019	1.291	3846.2	TAMBO10
176	PUCH20	9	28.8	440.9	105.9	53.6	363.2	241.7	604.9	333.2	80.745	1.446	3146.4	
177	TAMBU90	1	54.3	179.9	81.5	45.4	281.9	276.0	557.9	170.9	81.628	0.852	2096.9	TAMBO10
178	COLCABO	3	60.8	224.8	114.0	17.0	105.6	463.9	569.5	238.4	82.848	1.048	2091.2	
179	MALAT10	1	16.0	584.5	78.0	5.8	35.9	309.7	345.6	142.1	82.990	0.934	1821.8	
180	COLCA60	8	46.4	89.9	34.8	1.7	10.4	177.4	187.8	70.5	83.439	0.966	2025.9	
181	SANJU30	1	20.0	359.7	60.0	4.5	27.6	238.2	265.8	104.6	83.589	0.941	1743.3	
182	BLANC10	1	3.9	390.1	12.7	11.0	71.6	10.1	81.7	89.5	84.615	1.847	7047.2	
183	CANFT10	2	5.4	1022.2	45.6	45.6	341.9	11.9	353.8	290.2	85.316	2.062	6364.0	
184	CHILL30	1	8.4	179.9	12.7	3.4	21.2	59.4	80.6	37.0	85.322	1.250	2913.4	
185	TACNA10	1	4.3	472.0	16.9	16.9	136.0	2.2	138.2	100.2	85.670	2.118	5929.0	
186	UYU20	1	7.9	972.5	64.2	0.0	0.0	164.3	164.3	61.0	87.043	0.678	950.2	
187	SANJU40	1	20.0	354.1	59.1	7.6	49.5	217.6	267.1	118.4	87.752	1.069	2003.4	
188	MUCHE20	3	5.8	582.8	28.3	1.3	7.8	117.9	125.7	50.0	87.871	0.951	1766.8	
189	CUTAH10	3	21.5	562.2	100.8	46.3	309.3	149.7	459.0	291.2	88.899	1.533	2888.9	
190	TAMBO100	1	54.3	179.9	81.5	45.4	281.9	276.0	557.9	212.6	89.068	1.060	2608.6	TAMBO10
191	CUNAS10	1	14.2	180.5	21.4	19.6	141.0	19.2	160.2	114.7	89.307	2.043	5359.8	
192	PUCH10	1	15.4	223.7	28.7	9.6	64.5	89.8	154.3	85.0	91.111	1.416	2961.7	
193	SANTA20	1	13.1	303.7	33.3	19.7	137.4	86.4	223.8	161.0	92.133	1.753	4834.8	
194	SANTA70	3	52.0	170.9	74.1	21.9	136.0	320.7	456.7	236.6	93.647	1.395	3193.0	
195	TAMBO110	1	56.5	107.5	50.6	26.4	268.6	110.1	378.					

6.40

MINISTERIO DE ENERGIA Y MINAS
 CONSORCIO LAHMEYER - SALZGITTER
 PROYECTO DE EVALUACION DEL POTENCIAL HIDROELECTRICO DEL PFRU

TABLA 6-15 3/3
 FECHA : 27/ 4/79

LISTADO DE LOS PROYECTOS HIDROELECTRICOS CON HIDROLOGIA BUENA
 ORDENADO EN FORMA ASCENDENTE POR : FFC CON 0.00.MW \$ PI \$= 5000.00 MW

RANK	PROYECTO	ALT. (M)**3/S)	QM (M)	HN (M)	PI (MW)	PG (MW)	FP (GWH)	FS (GWH)	FT (GWH)	INV (10**6 \$)	FFC (\$/MWH)	FFCI (-)	KFSP (\$/KW)	PROYECTOS CONDICIONANTES
221	YAUCA40	1	7.4	197.8	12.2	0.0	0.0	35.3	35.3	41.2	273.788	2.225	3577.0	
222	PARA10	1	3.5	1030.9	30.4	14.4	22.7	48.6	71.3	110.4	275.395	2.775	3631.6	
223	YAUCA10	2	5.4	507.3	22.8	7.8	38.6	35.1	73.7	182.7	372.865	4.828	3013.2	

PI - CORRESPONDE A QT = QM

POTENCIAL TECNICO 25321.3

R

LISTADO DE LOS PROYECTOS HIDROELECTRICOS
 ORDENADO ALFABETICAMENTE CON 0.00 MW \$ PI ρ = 5000.00 MW

RANK	PROYECTO	ALT. (M)	QM (M ³ /S)	HN (M)	PI (MW)	PG (MW)	FP (GWH)	FS (GWH)	FT (GWH)	INV (10 ⁶ \$)	FFC (\$/MWH)	FFC1 (-)	KFSP (\$/KW)	PROYECTOS CONDICIONANTES
1	ALMAD10	2	249.0	131.9	273.9	178.9	1787.7	222.6	2010.3	259.8	16.049	0.367	948.5	
2	ANDA10	4	6.5	786.7	42.6	42.6	373.5	0.0	373.5	111.2	34.906	0.886	2610.3	
3	ANDA20	1	6.5	687.9	37.3	5.6	34.6	151.7	186.3	19.1	20.279	0.257	512.1	
4	ANDA30	1	6.5	875.8	47.5	7.1	44.0	193.2	237.2	28.6	23.861	0.302	602.1	
5	ANTA27	2	33.9	379.5	107.3	40.9	279.2	306.4	585.6	254.4	69.014	1.123	2370.9	
6	ANTA60A	4	82.6	251.8	173.4	49.6	345.0	583.0	928.0	282.0	51.976	0.780	1626.3	
7	APUR100	3	70.9	260.8	154.3	50.7	373.2	407.5	780.7	241.8	49.163	0.779	1567.1	
8	APUR115	1	72.8	249.1	151.3	28.4	176.5	631.8	808.3	276.9	65.956	0.879	1830.1	
9	APUR148	2	88.2	293.0	215.5	102.2	737.6	492.9	1230.5	319.3	38.060	0.681	1481.7	
10	APUR173A	2	97.7	286.1	235.1	65.2	441.7	805.1	1246.8	411.2	57.132	0.846	1764.0	
11	APUR240	6	221.0	65.0	119.8	24.3	239.4	541.9	781.3	98.2	22.580	0.345	819.7	
12	APUR25	1	57.3	56.7	27.1	13.2	133.5	27.8	161.3	39.2	31.211	0.647	1446.5	
13	APUR250	5	226.7	162.0	306.4	82.5	556.4	1441.6	1998.0	429.7	39.463	0.589	1402.4	
14	APUR45	3	66.2	199.5	110.1	64.3	529.1	117.3	646.4	291.1	58.095	1.193	2644.0	
15	APUR660	5	315.5	158.8	417.8	115.4	1151.4	1601.2	2752.6	297.2	17.861	0.297	711.3	
16	APUR670	1	325.0	155.7	419.3	110.1	1088.6	1532.1	2620.7	389.0	24.600	0.401	927.7	
17	APUR680	4	325.7	225.2	611.8	182.4	1514.9	2301.9	3816.8	694.1	30.538	0.492	1134.5	
18	APUR690	1	326.4	39.0	106.8	6.0	61.0	601.0	662.0	76.0	24.673	0.310	711.6	
19	APUR717	1	335.1	94.3	265.6	45.3	447.0	1187.1	1634.1	191.2	21.549	0.316	725.3	
20	APUR720	2	482.8	152.0	612.0	141.4	1404.2	2403.5	3807.7	567.5	25.542	0.402	927.3	
21	APUR734	1	522.7	52.0	226.7	34.1	211.3	1193.6	1404.9	167.1	24.258	0.321	737.1	
22	APUR737	3	544.8	199.3	905.3	488.9	4864.5	1577.5	6442.0	771.2	16.001	0.357	851.9	
23	APUR741	1	566.7	23.7	112.0	7.2	72.0	622.3	694.3	87.5	26.777	0.340	781.2	
24	APUR765	1	760.7	50.0	317.3	59.8	598.1	1369.7	1967.8	194.3	17.763	0.266	612.4	
25	APUR810	2	818.3	61.5	420.1	96.6	957.2	1655.5	2612.7	1208.8	79.436	1.249	2877.4	
26	APUR90	1	69.6	73.7	42.7	9.4	94.1	119.8	213.9	81.8	62.287	0.958	1915.7	
27	ARMA20	1	9.4	1164.0	90.8	0.0	0.0	232.1	232.1	97.4	98.425	0.767	1072.7	
28	ARMA30	2	9.4	1217.5	94.9	0.0	0.0	242.8	242.8	115.9	111.975	0.872	1221.3	
29	CAJA10	3	14.7	65.6	8.1	3.9	41.1	14.2	55.3	59.2	143.888	2.976	7308.6	
30	CANET130	1	57.6	269.8	129.6	25.7	159.6	433.9	643.5	169.5	49.508	0.658	1307.9	
31	CANET360	1	31.8	427.2	113.4	22.5	139.6	423.4	563.0	122.7	40.964	0.544	1082.0	
32	CANET80	1	31.8	382.2	101.5	20.1	124.9	378.8	503.7	93.9	35.020	0.465	925.1	
33	CANET90	10	31.8	283.3	75.2	14.9	92.6	280.8	373.4	122.4	61.605	0.819	1627.7	
34	CASMA20	1	20.0	741.1	123.6	110.6	686.5	128.1	814.6	99.9	29.226	0.337	808.3	CASMA10
35	CASMA30	1	20.0	934.6	155.9	139.5	865.7	161.6	1027.3	180.7	31.564	0.484	1159.1	CASMA10
36	CASMA60	1	24.3	80.9	16.4	13.3	82.4	31.2	113.6	54.6	47.377	1.341	3329.3	CASMA10
37	CHAL10	1	20.2	294.8	49.8	27.7	193.2	82.7	275.9	135.3	67.664	1.275	2716.9	
38	CHAL50	9	35.4	503.9	148.8	73.3	524.6	329.6	854.2	242.9	41.325	0.748	1632.4	
39	CHAMA10	2	29.2	169.9	41.4	37.9	286.0	35.0	321.0	239.7	92.676	2.153	5789.9	
40	CHAMA30	2	51.6	129.4	55.7	21.2	150.9	210.9	361.8	128.3	58.703	0.971	2303.4	
41	CHAMA40	7	51.6	89.9	38.7	6.1	37.9	213.2	251.1	127.4	103.409	1.388	3292.0	
42	CHAMA50	2	87.0	54.6	39.6	19.7	175.6	86.8	262.4	84.6	45.293	0.888	2136.4	
43	CHAN25	2	32.0	522.7	139.5	113.2	722.0	222.2	944.2	207.0	29.143	0.608	1483.9	
44	CHAN29	1	52.0	377.7	163.8	9.3	57.8	946.1	1003.9	229.1	50.625	0.613	1398.7	
45	CHAN30	4	77.1	150.6	96.8	46.5	441.2	228.0	669.2	191.5	40.459	0.798	1978.3	
46	CHANC10	1	9.2	1093.4	34.3	22.8	141.2	395.3	536.5	110.8	38.372	0.562	1314.4	
47	CHANC20	1	15.7	719.4	94.0	25.4	157.4	440.8	598.2	153.8	47.755	0.699	1636.2	
48	CHFC10	1	6.6	1246.0	68.4	50.3	319.2	153.7	472.9	136.5	40.442	0.806	1995.6	
49	CHICHA10	5	17.8	614.9	91.4	29.2	186.4	270.7	457.1	149.0	54.306	0.816	1630.2	
50	CHILL10	1	24.1	539.6	103.6	43.0	266.7	322.5	589.2	211.1	57.857	0.924	1943.8	
51	CHILL10	1	8.4	940.6	66.2	11.5	71.3	282.1	353.4	123.7	68.314	0.897	1868.6	
52	CHILL20	2	8.4	359.7	25.3	6.8	42.4	118.8	161.2	54.5	62.842	0.920	2154.1	
53	CHILL30	1	8.4	179.9	12.7	3.4	21.2	59.4	80.6	37.0	85.322	1.250	2913.4	
54	CHIN10	1	69.3	99.8	57.7	40.8	411.3	57.7	469.0	130.3	34.734	0.811	2258.2	
55	CHIN20	1	77.2	73.4	47.3	34.9	352.3	32.5	384.8	73.3	23.323	0.556	1549.7	
56	CHIR10	1	26.0	264.1	57.3	18.9	125.6	330.4	456.0	80.8	32.597	0.515	1410.1	
57	CHON10	1	24.1	220.6	44.3	32.6	232.3	63.2	295.5	72.4	32.190	0.676	1634.3	
58	CHUN20	1	30.6	214.8	54.8	39.4	255.0	108.7	363.7	193.4	73.337	1.465	3529.2	
59	CHUTA10	1	17.2	108.0	15.5	7.6	76.6	31.7	108.3	57.1	72.457	1.476	3683.9	
60	CHUTA20	2	6.3	236.3	12.4	7.9	55.2	23.3	78.5	78.9	138.564	2.730	6362.9	
61	CHUTA30	2	17.5	105.8	15.4	10.6	95.5	18.4	113.9	86.6	96.996	2.161	5623.4	
62	CULCA40	1	32.1	89.9	24.1	13.5	84.1	80.5	164.6	181.3	142.337	3.063	7922.8	APU10
63	CULCA50	2	37.0	539.6	166.5	8.0	49.9	348.3	898.2	276.8	88.496	0.793	1662.5	
64	CULCA60	8	46.4	89.9	34.8	1.7	10.4	177.4	187.3	70.5	63.439	0.966	2025.9	
65	CULCA70	1	52.9	269.8	119.1	5.7	35.7	606.8	642.5	179.6	62.141	0.720	1508.0	
66	CULCA80	3	60.8	224.8	114.0	17.0	105.6	463.9	569.5	238.4	82.848	1.048	2091.2	
67	CONAS10	1	14.2	180.5	21.4	19.6	141.0	19.2	160.2	114.7	89.307	2.043	5359.0	
68	CUNDF10	1	7.5	306.4	19.2	10.3	69.3	56.5	125.8	176.7	212.603	3.859	9203.1	
69	CUTAH10	3	21.5	562.2	100.8	46.3	309.3	149.7	459.0	291.2	88.899	1.533	2838.9	
70	CUTAH20	4	30.3	359.7	90.8	0.0	0.0	316.7	316.7	105.1	77.874	0.682	1157.5	
71	ENF40	2	1469.5	181.7	2227.1	1864.5	18650.8	61.6	18712.4	1197.7	7.520	0.188	537.8	
72	EULA20	1	32.0	854.3	228.0	228.0	1471.3	175.7	1647.0	325.2	22.571	0.558	1426.3	FULA10
73	EULA30	1	32.0	452.7	120.8	120.8	779.6	93.1	872.7	125.7	20.511	0.407	1040.6	FULA10
74	HUA10	1	10.2	898.2	76.7	31.1	193.4	331.5	524.9	102.9	33.604	0.545	1341.6	
75	HUA20	2	24.8	895.0	185.3	122.2	769.5	463.0	1232.5	216.4	25.356	0.484	1167.8	
76	HUA40	1	30.0	287.8	72.0	31.7	196.5	277.1	473.6	78.2	27.369	0.454	1036.1	
77	HUABA20	1	141.4	65.7	77.4	19.0	189.9	293.0	482.9	146.0	50.897	0.817	1886.3	
78	HUABA40	3	440.0	96.5	354.1	155.2	1562.4	864.9	2427.3	246.6	14.499	0.283	696.4	
79	HUAL120	2	208.5	201.0	349.5	50.6	410.2	1755.8	2166.0	241.7	22.011	0.301	691.6	
80	HUAL130	2	224.0	102.3	191.2	31.2	307.9	877.1	1185.0	173.5	27.263	0.395	907.4	
81	HUAL140	1	231.5	105.7	204.1	50.8	507.2	766.2	1273.4	147.9	19.491	0.314	724.6	
82	HUAL150	3	236.0	26.7	52.5	2.8	27.9	297.3	325.2	49.3	32.747	0.409	939.0	
83	HUAL170	6	765.0	131.7	840.6	699.7	6996.9	26.3	7023.2	589.0	9.855	0.247	700.7	
84	HUAL190	2	1630.0	62.0	843.5	514.9	5210.7	782.6	5993.3	635.0	13.296	0.298	752.8	
85	HUAL210	2	2125.0	61.8	1095.2	244.8	2419.0	4385.6	6804.6	688.0	17.498	0.		

LISTADO DE LOS PROYECTOS HIDROELECTRICOS
 ORDENADO ALFABETICAMENTE CON 0.00 MW a 5000.00 MW

RANK	PROYECTO	ALT. (M)	QM (M**3/S)	HN (M)	PI (MW)	PG (MW)	FP (GWH)	FS (GWH)	FF (GWH)	INV (10**6 \$)	FFC (\$/MWH)	FFCT (-)	KFSP (\$/KW)	PROYECTOS CONDICIONANTES
111	MALA20	1	15.0	539.6	72.0	5.3	33.2	285.9	319.1	106.7	71.075	0.800	1481.9	
112	MAN105	1	164.9	136.3	176.1	78.9	791.0	319.4	1110.4	194.0	25.931	0.474	1101.6	
113	MAN130	2	74.5	88.0	54.7	20.1	199.8	124.5	324.3	78.9	35.333	0.647	1442.4	
114	MAN140	4	123.0	110.0	112.8	70.1	703.5	91.0	794.5	168.8	26.440	0.596	1496.5	
115	MAN170	8	138.6	120.6	139.4	64.6	648.5	239.3	887.8	160.1	24.457	0.491	1148.5	
116	MAN190	2	148.6	129.6	160.7	59.5	593.5	360.9	954.4	137.5	20.833	0.333	855.6	
117	MAN210	5	156.1	89.9	117.1	39.9	398.4	290.9	639.3	104.0	22.441	0.400	838.1	
118	MAN230	2	162.0	147.3	199.0	85.7	685.3	486.5	1172.1	144.9	18.305	0.328	728.1	
119	MAN250	1	282.5	184.4	434.4	179.1	1791.5	848.1	2639.6	319.2	16.901	0.324	754.8	
120	MAN260	3	286.0	132.2	315.2	111.6	1113.5	803.8	1917.3	245.2	18.981	0.343	777.9	
121	MAN270	2	307.5	111.3	285.5	103.0	1011.5	725.8	1737.3	190.1	16.228	0.293	665.8	
122	MAN290	1	337.9	150.1	423.1	194.3	1943.4	796.0	2739.4	346.7	17.367	0.346	819.4	
123	MAN310	1	353.9	110.0	324.6	68.7	639.7	964.5	1654.2	265.8	26.602	0.405	818.9	
124	MAN320	2	358.9	88.3	263.9	95.4	945.0	663.0	1608.0	204.5	18.790	0.341	774.9	
125	MAN340	5	376.4	114.6	359.8	103.0	1022.7	1023.8	2046.5	297.1	22.708	0.331	825.7	
126	MAN60	2	56.1	64.0	29.9	8.8	87.6	97.3	184.9	41.3	35.531	0.601	1381.3	
127	MAN70	2	58.8	44.3	21.7	8.4	85.0	49.1	134.1	37.0	39.578	0.742	1705.1	
128	MAN80	3	92.5	87.8	67.7	24.7	245.9	167.5	413.4	120.8	42.932	0.784	1784.3	
129	MAN90	4	134.6	130.9	146.9	76.0	763.6	209.7	973.3	271.6	36.688	0.769	1348.9	
130	MANTA10	4	9.8	954.6	77.9	12.7	79.0	344.6	423.6	92.4	43.140	0.563	1186.1	
131	MARA120	2	93.6	104.4	81.5	20.5	206.5	236.9	443.4	38.5	31.925	0.515	1055.9	
132	MARA130	4	100.2	220.2	184.0	39.9	275.3	708.0	983.3	183.2	34.152	0.478	995.7	
133	MARA150	1	104.0	61.8	53.6	8.8	89.3	197.1	286.4	49.4	30.672	0.443	921.6	
134	MARA160	1	107.3	68.3	61.1	12.6	125.3	272.8	398.6	70.6	31.569	0.465	1155.5	
135	MARA180	5	109.4	176.3	160.9	46.1	349.4	699.8	1049.2	120.8	20.270	0.315	750.9	
136	MARA200	1	162.0	75.1	101.4	26.2	265.4	393.5	663.9	75.1	18.952	0.310	740.6	
137	MARA210	1	211.0	97.2	171.0	64.4	645.1	541.2	1186.3	156.3	20.018	0.368	914.0	
138	MARA230	2	222.6	106.1	196.9	58.3	581.0	729.4	1310.4	162.6	20.168	0.342	825.3	
139	MARA250	2	244.7	61.6	125.6	12.4	126.2	652.3	778.5	97.3	25.241	0.337	774.7	
140	MARA290	3	262.0	130.2	284.6	117.4	1168.1	746.6	1914.7	211.5	16.092	0.306	743.1	
141	MARA300	2	269.0	113.1	253.7	51.4	515.1	1059.4	1574.5	178.1	19.999	0.305	702.0	
142	MARA320	3	281.8	144.1	338.7	102.3	1026.6	1127.2	2153.8	267.1	19.702	0.337	788.6	
143	MARA350	4	294.7	136.2	334.7	146.7	1472.0	820.8	2292.8	293.6	18.297	0.356	877.2	
144	MARA370	1	338.0	39.5	111.4	11.4	114.4	575.9	690.3	86.3	25.147	0.337	774.7	
145	MARA400	3	645.9	105.8	569.7	182.6	1822.0	1831.1	3653.1	339.2	14.532	0.253	595.4	
146	MARA410	2	360.6	88.1	265.0	73.8	732.1	934.2	1666.3	207.2	20.270	0.337	781.9	
147	MARA440	3	428.8	176.0	629.4	397.3	3980.5	553.4	4533.9	438.1	12.071	0.273	696.1	
148	MARA460	2	463.9	123.2	476.5	283.7	2847.1	523.0	3370.1	521.7	19.685	0.435	1094.9	
149	MARA50	3	32.4	346.2	93.4	52.3	352.1	162.7	514.8	227.9	61.667	1.148	2440.0	
150	MARA500	3	893.7	158.5	1181.3	855.0	8537.0	603.5	9140.5	657.8	8.730	0.207	556.8	
151	MARA570	5	2177.0	110.7	2009.3	1673.3	16733.2	62.3	16795.5	1307.3	9.147	0.229	650.6	
152	MARA80	4	76.3	249.6	158.8	103.1	787.8	207.7	995.5	448.7	59.030	1.220	2825.5	
153	MARCA40	1	32.4	156.9	42.4	16.7	167.4	115.1	282.5	248.6	129.631	2.428	5863.2	
154	MARCA50	4	51.0	434.1	184.7	151.2	1088.7	217.1	1305.8	403.8	39.559	0.868	2186.2	
155	MARCA70	2	64.0	179.9	96.0	7.4	46.1	548.9	595.0	138.5	50.690	0.628	1442.7	
156	MAYU50	1	351.0	97.7	285.9	33.1	829.7	978.9	1308.6	555.7	49.411	0.834	1943.7	
157	MAYU60	1	365.0	75.3	229.3	41.5	418.5	1003.4	1421.9	216.5	27.594	0.411	944.2	
158	MAYU65	3	391.0	172.5	562.4	166.7	1279.3	2218.4	3497.7	601.4	29.534	0.464	1069.3	
159	MAYU70	2	405.0	105.4	355.8	82.9	828.9	1386.0	2214.9	344.9	26.583	0.421	959.4	
160	WU10	1	16.6	2140.5	296.3	199.5	1239.8	574.0	1813.8	221.3	17.004	0.328	746.9	
161	MUGHF20	3	5.8	582.8	28.3	1.3	7.8	117.9	125.7	50.0	37.871	0.951	1766.8	
162	UCUNA05	1	19.6	351.0	57.4	21.3	155.8	100.2	256.0	236.4	134.648	2.214	4118.5	
163	UCUNA15	1	20.0	772.3	128.8	69.8	464.5	176.6	641.1	312.3	66.254	1.218	2424.7	
164	UCUNA35	3	37.0	500.4	154.4	57.3	395.0	374.9	769.9	397.6	80.080	1.292	2575.1	
165	UCUNA50	6	35.1	238.4	169.3	52.2	364.8	445.3	810.6	294.0	58.688	0.894	1756.6	
166	UCUNA60	1	36.5	197.3	142.4	57.1	450.5	312.4	762.9	415.3	30.303	1.398	2916.4	
167	UCUNA70	2	89.7	217.8	163.0	90.9	723.2	261.4	934.6	437.6	60.117	1.189	2584.7	
168	UCUNA80	1	89.7	127.9	95.7	22.1	164.0	273.8	442.8	208.2	80.481	1.144	2175.5	
169	UTUCA10	1	9.6	754.4	60.4	60.4	529.0	0.0	529.0	56.5	24.195	0.316	937.1	URAB10
170	UTUCA20	1	11.6	713.9	69.1	69.1	526.5	50.1	576.6	157.9	32.224	0.805	2235.1	URAB30
171	UXAZ0	9	11.5	1164.4	111.7	55.7	358.5	394.7	753.0	204.3	43.227	0.753	1833.5	
172	QXA30	7	16.1	264.5	35.5	23.5	172.8	76.8	249.6	141.9	78.817	1.594	3997.2	
173	UYU10	2	5.7	1879.0	89.3	52.4	247.5	89.6	337.1	175.8	70.540	1.102	1968.6	
174	UYU20	1	7.9	972.5	64.2	0.0	0.0	164.3	164.3	61.0	87.043	0.678	950.2	
175	PACHA30	8	104.9	407.2	356.2	217.7	1534.1	1013.1	2597.2	878.5	49.288	0.958	2466.3	
176	PACHA70	2	129.1	500.3	538.7	197.3	1345.4	2016.1	3361.5	484.2	24.135	0.389	898.8	
177	PALCA10	7	15.5	1143.3	147.8	111.9	715.2	205.5	920.7	275.2	39.464	0.307	1862.0	
178	PALCA15	2	22.4	655.5	122.5	33.5	207.7	390.9	798.6	105.6	24.610	0.362	862.0	
179	PALCA30	1	23.1	286.4	55.2	3.1	19.5	318.7	338.2	47.4	31.066	0.376	858.7	
180	PAM101	1	44.8	64.7	24.2	8.9	89.5	50.5	140.0	56.3	57.548	1.061	2326.4	
181	PAM125	8	89.8	257.5	192.8	190.0	1636.2	17.7	1653.9	562.7	40.126	1.007	2918.6	
182	PAM180	11	146.2	371.2	452.6	393.2	2910.2	787.8	3698.0	885.0	31.418	0.700	1955.4	
183	PAM240	7	175.4	908.7	1329.3	1254.3	6503.7	1137.1	9640.8	1348.0	17.429	0.396	1014.1	
184	PAMB4	1	36.6	59.4	18.1	6.6	66.7	38.2	104.9	48.3	66.035	1.214	2669.5	
185	PARA10	1	3.5	1030.9	30.4	14.4	22.7	48.6	71.3	110.4	275.395	2.775	3631.6	
186	PARA20	1	7.2	765.8	46.3	0.0	0.0	133.7	133.7	71.0	124.603	1.012	1533.5	
187	PAT110	1	18.9	679.9	107.3	42.6	264.1	393.2	657.3	96.5	24.559	0.394	899.3	
188	PAT120	1	22.5	735.3	138.0	110.4	711.7	223.5	941.2	246.7	34.887	0.728	1787.7	
189	PAT150	1	44.9	337.2	126.3	51.6	320.5	440.0	760.5	252.5	54.806	0.887	1999.2	
190	PAUC270	2	61.0	157.4	80.1	64.7	648.5	7.6	656.1	297.4	53.476	1.326	3712.9	
191	PAUC280	5	72.0	191.7	115.1	66.2	493.1	289.9	783.0	261.4	48.063	0.927	2271.1	
192	PFR10	2	250.0	101.8	212.2	101.2	1002.2	478.6	1480.8	267.9	25.307	0.506	1262.5	
193	PER20	3	259.7	31.0	67.1	8.9	89.8	326.3	416.1	58.6	27.157	0.380	873.3	
194	PFR70	8	314.0	151.0	395.6	291.9	2909.4	178.3	3087.7	462.1	18.076	0.4		

MINISTERIO DE ENERGIA Y MINAS
 CONSORCIO LAHMEYER - SALZGITTER
 PROYECTO DE EVALUACION DEL POTENCIAL HIDROELECTRICO DEL PERU

TABLA 6-16 3/3
 FECHA : 27/ 4/79

LISTADO DE LOS PROYECTOS HIDROELECTRICOS														
ORDENADO ALFABETICAMENTE CON 0.00 MW \$ PI \$= \$,000.00 MW														
RANK	PROYECTO	ALT. (M)	QM (M ³ /S)	HN (M)	PI (MW)	PG (MW)	EP (GWH)	ES (GWH)	ET (GWH)	INV (10 ⁶ \$)	FFC (\$/MWH)	FFC1 (-)	KFSP (\$/KW)	PROYECTOS CONDICIONANTES
221	SANJU20	1	20.0	533.9	89.1	18.5	118.7	277.1	395.8	114.2	52.054	0.691	1281.7	
222	SANJU30	1	20.0	359.7	60.0	4.5	27.6	238.2	265.8	104.6	83.589	0.941	1743.3	
223	SANJU40	1	20.0	354.1	59.1	7.6	49.5	217.6	267.1	118.4	87.752	1.069	2003.4	
224	SANJU50	1	20.0	171.5	28.6	10.1	73.2	74.9	148.1	104.7	111.008	1.793	3660.8	
225	SANTA10	1	7.2	238.1	14.4	14.4	118.6	1.9	120.5	85.8	55.031	1.370	5958.3	
226	SANTA110	11	86.9	278.8	202.1	66.2	410.8	857.8	1268.6	233.4	32.601	0.498	1154.9	
227	SANTA145	5	130.0	251.7	272.9	183.7	1578.7	273.4	1852.1	620.3	42.418	0.929	2273.0	
228	SANTA70	3	52.0	170.9	74.1	21.9	136.0	320.7	456.7	236.6	93.647	1.395	3193.0	
229	SANTA80	5	62.7	215.8	112.9	37.0	229.5	479.2	708.7	278.1	69.541	1.063	2463.2	
230	SGAB10	2	49.8	940.7	390.7	91.7	583.3	1504.6	2087.9	241.0	21.166	0.296	616.8	
231	SGAB30	3	62.0	914.4	472.8	186.9	1248.2	1709.8	2958.0	547.8	30.552	0.501	1158.6	
232	SGAB60	4	75.0	109.3	68.5	19.7	198.8	235.7	432.5	175.5	65.211	1.102	2569.5	
233	SONDU20	3	6.3	458.7	26.0	16.3	109.2	45.5	154.7	109.8	97.560	1.889	4223.1	
234	SONDU30	5	13.2	583.2	64.2	49.9	338.7	54.4	393.1	293.7	94.154	2.007	4574.8	
235	STOM120	4	83.0	257.2	178.0	48.7	302.0	658.8	1160.6	273.0	43.784	0.645	1533.7	
236	STOM170	2	95.7	171.8	137.2	25.5	158.3	574.5	732.8	223.0	58.707	0.781	1625.4	
237	STOM30	1	25.7	300.2	64.4	32.0	223.0	145.3	368.3	238.0	94.427	1.693	3695.7	
238	STOMB35A	2	69.6	289.1	167.7	79.0	592.6	370.7	963.3	299.9	45.220	0.819	1788.3	
239	TAB10	1	75.0	36.9	54.3	24.7	248.5	176.3	424.8	95.4	33.221	0.649	1756.9	
240	TACHA10	1	4.3	472.0	16.9	16.9	136.0	2.2	138.2	100.2	85.670	2.118	5929.0	
241	TACHA20	1	4.3	482.9	17.3	10.4	64.2	54.5	118.7	29.8	38.199	0.698	1722.5	
242	TACHA30	1	4.3	976.3	35.0	20.9	129.9	110.1	240.0	44.7	28.376	0.519	1277.1	
243	TACHA40	1	4.3	357.6	12.8	7.7	47.6	40.4	88.0	20.3	35.133	0.642	1585.9	
244	TACHA50	1	4.3	321.5	11.5	6.9	42.8	36.3	79.1	17.8	34.349	0.628	1547.8	
245	TACHA40	4	2071.5	74.5	1286.5	427.6	4345.8	3979.0	8324.8	827.5	15.321	0.272	643.2	
246	TAMB0	2	2172.5	32.0	579.8	196.2	1948.0	1800.5	3748.5	534.3	22.002	0.390	921.5	
247	TAMB0100	1	54.3	179.9	81.5	45.4	281.9	276.0	557.9	212.6	39.068	1.060	2603.6	TAMB010
248	TAMB030	1	51.3	359.7	94.5	84.1	522.1	229.4	751.5	231.1	69.478	0.893	2445.5	TAMB010
249	TAMB050	2	51.5	544.1	142.9	127.3	789.7	347.0	1136.7	120.1	39.779	0.307	840.4	TAMB010
250	TAMB060	4	51.5	449.7	118.1	105.2	652.6	286.8	939.4	189.2	54.041	0.585	1602.0	TAMB010
251	TAMB070	2	50.7	309.4	342.2	202.0	1253.7	1131.2	2384.9	349.1	36.283	0.409	1020.2	TAMB010
252	TAMB080	2	54.3	179.9	81.5	45.4	281.9	276.0	557.9	356.0	114.596	1.775	4363.1	TAMB010
253	TAMB090	1	54.3	179.9	81.5	45.4	281.9	276.0	557.9	170.9	81.628	0.852	2096.9	TAMB010
254	TUTUR10	1	14.8	179.9	22.2	3.0	18.5	108.9	127.4	27.5	44.251	0.568	1238.7	
255	TULU10	1	41.1	453.6	155.5	44.3	303.1	528.9	832.0	171.1	35.351	0.528	1100.3	
256	TULU20	2	51.0	389.1	165.5	45.2	280.7	793.5	1079.2	111.1	19.163	0.282	671.3	
257	TULU30	5	76.3	338.7	215.5	53.6	379.4	956.7	1336.1	213.9	29.244	0.432	992.6	
258	TULU50	7	82.5	353.2	243.0	79.5	544.1	966.6	1510.7	265.7	30.335	0.475	1093.4	
259	TULU70	1	116.0	205.3	198.6	62.6	497.2	742.6	1239.8	331.0	44.711	0.722	1666.7	
260	URUB190	4	178.0	324.4	481.6	335.4	2478.6	942.6	3421.2	496.7	19.752	0.408	1031.4	
261	URUB250	1	236.4	56.8	112.0	33.4	337.8	374.0	711.8	109.4	24.453	0.418	976.8	
262	URUB320	5	624.2	180.8	941.2	676.4	6727.5	515.9	7243.4	593.8	10.055	0.238	636.2	
263	URUB88	1	148.6	321.3	398.7	56.6	351.0	2034.9	2385.9	196.3	16.829	0.219	492.4	
264	URUB90	3	149.8	319.3	398.9	24.9	154.7	2301.1	2458.8	328.9	29.560	0.360	824.5	
265	URUH15	10	21.2	563.4	99.6	80.0	544.8	150.3	695.1	312.3	59.082	1.257	3135.5	
266	UTC30	1	50.0	131.1	54.7	33.5	336.2	51.2	387.4	186.3	60.410	1.352	3405.9	
267	UTC50	2	59.0	440.3	216.7	174.9	1239.8	291.8	1531.6	348.8	29.525	0.640	1609.6	
268	UTC70	1	68.5	135.8	100.2	57.3	576.4	132.3	708.7	239.2	43.672	0.948	2387.2	
269	VELL37	8	20.7	605.0	104.6	64.8	425.2	161.2	586.4	221.0	51.257	0.983	2112.8	
270	VIL10	9	21.6	275.6	49.6	32.3	244.9	85.1	330.0	167.3	68.278	1.398	3373.0	
271	VIL20	1	37.2	94.0	29.2	8.0	76.1	87.6	163.7	75.2	73.558	1.199	2575.3	
272	VILCA120	6	45.1	367.7	141.4	90.4	663.5	211.0	874.5	453.4	69.154	1.397	3206.5	
273	VILCA170	3	69.4	505.9	293.0	151.7	1037.8	645.8	1683.6	439.9	37.926	0.687	1501.4	
274	VILCA70	1	26.4	344.2	75.9	22.6	155.2	251.1	406.3	233.6	118.482	1.792	3736.5	
275	VIZCA10	2	15.6	248.0	32.4	13.3	91.6	76.7	168.3	121.4	109.619	1.833	3746.9	
276	VNOTA140	1	104.0	103.4	94.0	62.6	654.2	52.5	706.7	147.1	25.355	0.595	1564.9	
277	VNOTA200	1	109.0	53.5	48.6	8.9	120.3	171.5	291.8	55.4	31.565	0.507	1139.9	
278	VNOTA295	14	131.0	778.0	850.0	849.9	7278.5	29.0	7307.5	1098.0	17.660	0.445	1291.8	
279	VNOTA60	2	91.1	97.6	74.1	40.9	489.0	49.4	538.4	258.8	59.101	1.361	3492.6	
280	VNOTA90	2	94.4	165.5	130.3	59.5	538.1	238.4	776.5	347.9	62.090	1.193	2670.0	
281	YANAI0	3	52.0	274.9	73.4	20.9	138.4	340.1	478.5	172.5	65.599	0.988	2350.1	
282	YAUCA40	1	7.4	197.8	12.2	0.0	0.0	35.3	35.3	41.2	273.788	2.225	3377.0	

PI = CORRESPONDIENTE A QF = QM

POTENCIAL TECNICO 55158.7

R

LISTADO DE LOS PROYECTOS HIDROELECTRICOS CON BOMBEO

ORDENADO ALFABETICAMENTE CON 0.00 M < HN <= 4000.00 M

RANK	PROYECTO	ALT.	QM (M**3/S)	HN (M)	PI (MM)	PG (MM)	EP (GWH)	ES (GWH)	ET (GWH)	INV (10**6 \$)	FEC (\$/MWH)	FEC1 (-)	KESP (\$/KW)	PROYECTOS CONDICIONANTES
1	CHALO10	8	17.1	1061.4	151.4	151.3	1325.3	0.0	1325.3	139.5	12.345	0.313	921.4	
2	EULA10	1	38.0	1044.2	330.9	330.9	2501.3	0.0	2501.3	456.1	21.390	0.522	1378.4	
3	LOCUM10	1	32.5	1355.9	367.5	367.4	3218.7	0.0	3218.7	1357.6	73.018	1.853	3694.1	

PI - CORRESPONDE A QT = QM

POTENCIAL TECNICO 849.8

LISTADO DE LOS PROYECTOS HIDROELECTRICOS DONDE SE CONSIDERAN TODAS LAS INVERSIONES Y LOS BENEFICIOS

ORDENADO EN FORMA ASCENDENTE POR : FEC CON 0.00 M < HN < 4000.00 M

RANK	PROYECTO	ALT.	QM (M**3/S)	HN (M)	PI (MM)	PG (MM)	EP (GWH)	ES (GWH)	ET (GWH)	INV (10**6 \$)	FEC (\$/MWH)	FEC1 (-)	KESP (\$/KW)	PROYECTOS CONDICIONANTES
1	CRISTO	3	31.8	755.0	200.2	200.2	1549.1	50.9	1600.0	663.2	31.309	0.763	3312.7	
2	OLMOS10	1	32.4	396.9	107.4	66.7	439.8	309.5	749.3	289.0	54.745	1.036	2690.9	
3	COLCA10	1	11.2	171.0	16.0	12.1	89.1	16.3	105.4	80.2	55.588	1.203	5012.5	
4	HUAN10	2	19.1	343.1	54.8	54.8	405.7	40.7	446.4	327.2	56.049	1.332	5970.8	
5	EULA10	1	38.0	1044.2	330.9	330.9	2501.3	0.0	2501.3	456.1	21.390	0.522	1378.4	
6	CHALO10	8	17.1	1061.4	151.4	151.3	1325.3	0.0	1325.3	139.5	12.345	0.313	921.4	
7	JEQUE10	1	33.5	105.1	29.4	12.7	121.7	43.1	164.8	159.0	95.935	1.855	5408.2	
8	APU10	1	11.8	171.0	16.8	16.8	133.8	1.8	135.6	133.0	115.805	2.857	7916.7	
9	COLCA30	1	32.1	128.8	34.5	12.0	86.6	108.3	194.9	221.8	126.723	2.041	6429.0	
10	JEQUE10	2	8.5	674.5	47.8	28.6	177.7	100.2	277.9	313.1	157.285	2.903	6550.2	

PI - CORRESPONDE A QT = QM

POTENCIAL TECNICO 989.2

LISTADO DE LOS PROYECTOS HIDROELECTRICOS DONDE SE CONSIDERAN SOLAMENTE LAS INVERSIONES
CORRESPONDIENTES A LA GENERACION HIDROELECTRICA SIN TOMARSE EN CUENTA LOS BENEFICIOS SECUNDARIOS

ORDENADO ALFABETICAMENTE CON 0.00 M < HN <= 4000.00 M

RANK	PROYECTO	ALT.	QM (M**3/S)	HN (M)	PI (MM)	PG (MM)	EP (GWH)	ES (GWH)	ET (GWH)	INV (10**6 \$)	FEC (\$/MWH)	FEC1 (-)	KESP (\$/KW)	PROYECTOS CONDICIONANTES
1	APU10	1	11.8	171.0	16.8	16.8	133.8	1.8	135.6	133.0	115.805	2.857	7916.7	
2	CHALO10	8	17.1	1061.4	151.4	151.3	1325.3	0.0	1325.3	139.5	12.345	0.313	921.4	
3	COLCA10	1	11.2	171.0	16.0	12.1	89.1	16.3	105.4	36.1	43.584	0.943	2256.3	
4	COLCA30	1	32.1	128.8	34.5	12.0	86.6	108.3	194.9	221.8	126.723	2.041	6429.0	
5	CRISTO	3	31.8	755.0	200.2	200.2	1549.1	50.9	1600.0	663.2	31.309	0.763	3312.7	
6	EULA10	1	38.0	1044.2	330.9	330.9	2501.3	0.0	2501.3	456.1	21.390	0.522	1378.4	
7	HUAN10	2	19.1	343.1	54.8	54.8	405.7	40.7	446.4	327.2	56.049	1.332	5970.8	
8	JEQUE10	2	8.5	674.5	47.8	28.6	177.7	100.2	277.9	73.8	37.981	0.701	1543.9	
9	JEQUE70	1	33.5	105.1	29.4	12.7	121.7	43.1	164.8	14.4	11.826	0.229	489.8	
10	OLMOS10	1	32.4	396.9	107.4	66.7	439.8	309.5	749.3	35.7	7.047	0.133	332.4	

PI - CORRESPONDE A QT = QM

POTENCIAL TECNICO 989.2

LISTADO DE LOS PROYECTOS HIDROELECTRICOS DE ACUMULACION POR BOMBEO
ORDENADO ALFABETICAMENTE CON 0.00 MW < PI < 5000.00 MW

RANK	PROYECTO	ALT.	QM (M**3/S)	HN (M)	PI (MM)	PG (MM)	EP (GWH)	ES (GWH)	ET (GWH)	INV (10**6 \$)	FEC (\$/MWH)	FEC1 (-)	KESP (\$/KW)	PROYECTOS CONDICIONANTES
1	ANCON1000	3	294.0	418.3	1025.7	1025.6	1497.3	0.0	1497.3	363.6	30.302	0.408	354.5	
2	ANCON300	3	88.3	418.3	307.9	307.9	449.5	0.0	449.5	118.0	32.774	0.442	383.2	
3	ANCON400	3	117.7	418.3	410.6	410.6	599.4	0.0	599.4	146.7	30.549	0.411	357.3	
4	ANCON500	3	147.1	418.3	513.2	513.1	749.2	0.0	749.2	181.5	30.243	0.407	353.7	
5	ANCON600	3	176.5	418.3	615.6	615.7	898.9	0.0	898.9	217.7	30.220	0.407	353.5	
6	ANCON700	3	205.9	418.3	718.4	718.2	1048.6	0.0	1048.6	256.7	30.544	0.411	357.3	
7	ANCON800	3	235.4	418.3	821.3	821.1	1198.9	0.0	1198.9	283.0	29.455	0.397	344.6	
8	ANCON900	3	264.8	418.3	923.9	923.7	1348.6	0.0	1348.6	322.4	29.838	0.402	349.0	
9	BOZA1000	2	185.0	668.3	1031.2	1031.0	1505.2	0.0	1505.2	366.1	30.351	0.409	355.0	
10	BOZA300	2	55.5	668.3	309.4	309.3	451.6	0.0	451.6	146.2	30.406	0.394	472.5	
11	BOZA400	2	74.0	668.3	412.5	412.4	602.1	0.0	602.1	175.0	36.275	0.489	424.2	
12	BOZA500	2	92.5	668.3	515.6	515.5	752.6	0.0	752.6	211.9	35.133	0.473	411.0	
13	BOZA600	2	111.0	668.3	618.7	618.6	903.1	0.0	903.1	243.5	33.647	0.453	393.6	
14	BOZA700	2	129.5	668.3	721.8	721.7	1053.7	0.0	1053.7	277.1	32.826	0.442	383.9	
15	BOZA800	2	148.0	668.3	824.9	824.8	1204.2	0.0	1204.2	304.0	31.509	0.424	368.5	
16	BOZA900	2	166.5	668.3	928.0	927.9	1354.7	0.0	1354.7	331.7	30.560	0.412	357.4	
17	CHANCA1000	7	228.0	543.3	1033.2	1033.0	1508.1	0.0	1508.1	354.2	29.310	0.395	342.8	
18	CHANCA300	7	68.2	543.3	309.0	308.9	451.1	0.0	451.1	116.9	32.343	0.436	378.3	
19	CHANCA400	7	90.9	543.3	411.9	411.9	601.3	0.0	601.3	157.0	32.575	0.439	381.2	
20	CHANCA500	7	113.6	543.3	514.8	514.7	751.4	0.0	751.4	185.2	30.754	0.414	359.8	
21	CHANCA600	7	136.4	543.3	618.0	618.0	902.2	0.0	902.2	211.8	29.291	0.395	342.7	
22	CHANCA700	7	159.1	543.3	720.9	720.8	1052.4	0.0	1052.4	258.7	30.677	0.413	358.9	
23	CHANCA800	7	181.8	543.3	823.8	823.7	1202.5	0.0	1202.5	284.2	29.490	0.397	345.0	
24	CHANCA900	7	200.3	543.3	908.5	908.4	1326.2	0.0	1326.2	310.8	29.247	0.394	342.1	

PI - CORRESPONDE A QT = QM

POTENCIAL TECNICO 16039.2

LISTADO DE LOS PROYECTOS HIDROELCTRICOS
ORDENADO ALFABETICAMENTE CON 0.00 MW \$ PI \$= 5000.00 MW

RANK	PROYECTO	ALT.	QM (M**3/S)	HN (M)	PI (MW)	PG (MW)	FP (GWH)	ES (GWH)	ET (GWH)	INV (10**6 \$)	FFC (\$/MWH)	FFC1 (-)	KFSP (\$/KW)	PROYECTOS CONDICIONANTEFS
1	ALMAD10	2	249.0	131.9	273.9	178.9	1787.7	222.6	2010.3	259.8	16.049	0.367	948.5	
2	ANTA27	2	33.9	379.5	107.3	40.9	279.2	306.4	585.6	254.4	69.014	1.123	2370.9	
3	ANTA60A	4	82.6	251.8	173.4	49.6	345.0	583.0	928.0	282.0	51.976	0.780	1626.3	
4	APU10	1	11.8	171.0	16.8	16.8	133.8	1.8	135.6	135.0	115.805	2.857	7916.7	AGRICULTURA
5	APUR100	3	70.9	260.8	154.3	50.7	373.2	407.5	780.7	241.8	49.163	0.779	1567.1	
6	APUR115	1	72.8	249.1	151.3	28.4	176.5	631.8	808.3	276.9	65.956	0.879	1830.1	
7	APUR148	2	88.2	293.0	215.5	102.2	737.6	492.9	1230.5	319.3	38.060	0.681	1481.7	
8	APUR173A	2	97.7	286.1	233.1	65.2	441.7	805.1	1246.8	411.2	57.132	0.846	1764.0	
9	APUR240	6	221.0	65.0	119.8	24.3	239.4	541.9	781.3	98.2	22.580	0.345	819.7	
10	APUR25	1	57.3	56.7	27.1	13.2	133.5	27.8	161.3	39.2	31.211	0.647	1446.5	
11	APUR250	5	226.7	162.0	306.4	82.5	556.4	1441.6	1998.0	429.7	39.463	0.589	1402.4	
12	APUR45	3	66.2	199.5	110.1	64.3	529.1	117.3	646.4	291.1	58.095	1.193	2644.0	
13	APUR660	5	315.5	158.8	417.8	115.4	1151.4	1601.2	2752.6	297.2	17.861	0.297	711.3	
14	APUR670	1	323.0	155.7	419.3	110.1	1088.6	1532.1	2620.7	389.0	24.600	0.401	927.7	
15	APUR680	4	325.7	225.2	611.8	182.4	1514.9	2301.9	3816.8	694.1	30.538	0.492	1134.5	
16	APUR690	1	328.4	39.0	106.8	6.0	61.0	601.0	662.0	76.0	24.673	0.310	711.6	
17	APUR717	1	335.1	94.3	263.6	45.3	447.0	1187.1	1634.1	191.2	21.549	0.316	725.3	
18	APUR720	2	482.8	152.0	612.0	141.4	1404.2	2403.5	3807.7	567.5	25.542	0.402	927.3	
19	APUR734	1	522.7	52.0	226.7	34.1	211.3	1193.6	1404.9	167.1	24.258	0.321	737.1	
20	APUR737	3	544.8	199.3	905.3	488.9	4864.5	1577.5	6442.0	771.2	16.001	0.337	851.9	
21	APUR741	1	566.7	23.7	112.0	7.2	72.0	622.3	694.3	87.5	26.777	0.340	781.2	
22	APUR765	1	760.7	50.0	317.3	59.8	598.1	1369.7	1967.8	194.3	17.763	0.266	612.4	
23	APUR810	2	818.3	61.5	420.1	96.6	957.2	1655.5	2612.7	1208.8	79.436	1.249	2877.4	
24	APUR90	1	69.6	73.7	42.7	9.4	94.1	119.8	213.9	81.8	62.287	0.958	1915.7	
25	ARMA20	1	9.4	1164.0	90.8	0.0	0.0	232.1	232.1	97.4	98.425	0.767	1072.7	
26	ARMA30	2	9.4	1217.5	94.9	0.0	0.0	242.8	242.8	115.9	111.975	0.872	1221.3	
27	BLANC10	1	3.9	390.1	12.7	11.0	71.6	10.1	81.7	89.5	84.615	1.847	7047.2	
28	CAJA10	3	14.7	65.6	8.1	3.9	41.1	14.2	55.3	59.2	143.888	2.976	7308.6	
29	CANET10	2	5.4	1022.2	45.6	45.6	341.9	11.9	353.8	290.2	85.316	2.062	6364.0	
30	CANET40	3	20.3	481.9	81.7	25.9	174.9	235.6	410.5	167.9	65.775	1.003	2055.1	
31	CANET60	1	31.8	427.2	113.4	22.5	139.6	423.4	563.0	122.7	40.964	0.544	1082.0	
32	CANET80	1	31.8	382.2	101.5	20.1	124.9	378.8	503.7	93.9	35.020	0.465	925.1	
33	CANET90	10	31.8	283.3	75.2	14.9	92.6	280.8	373.4	122.4	61.605	0.819	1627.7	
34	CASMA10	2	20.0	672.4	112.2	88.0	574.3	170.7	745.0	269.8	44.712	0.930	2404.6	
35	CASMA20	1	20.0	741.1	123.6	110.6	686.5	128.1	814.6	99.9	29.226	0.337	808.3	CASMA10
36	CASMA30	1	20.0	934.6	155.9	139.5	865.7	161.6	1027.3	180.7	31.564	0.484	1159.1	CASMA10
37	CASMA50	1	24.3	269.8	54.7	44.3	274.8	101.0	375.8	125.5	43.881	0.867	2294.3	CASMA10
38	CASMA60	1	24.3	80.9	16.4	13.3	82.4	31.2	113.6	54.6	47.377	1.341	3329.3	CASMA10
39	CHAL10	1	20.2	294.8	49.8	27.7	193.2	82.7	275.9	135.3	67.664	1.275	2716.9	
40	CHAL50	9	35.4	503.9	148.8	73.3	524.6	329.6	854.2	242.9	41.325	0.748	1632.4	
41	CHAN29	1	52.0	377.7	163.8	9.3	57.8	946.1	1003.9	229.1	50.625	0.613	1398.7	
42	CHAN30	4	77.1	150.6	96.8	46.5	441.2	228.0	669.2	191.5	40.459	0.798	1978.3	
43	CHAN10	1	9.2	1093.4	84.3	22.8	141.2	395.3	536.5	110.8	38.372	0.562	1314.4	
44	CHANC20	1	15.7	719.4	94.0	25.4	157.4	440.8	598.2	153.8	47.755	0.699	1636.2	
45	CHICA10	4	7.0	527.9	30.8	21.0	139.3	39.5	178.8	178.2	131.387	2.630	5785.7	
46	CHICA20	2	50.6	105.5	44.5	20.9	189.4	80.3	269.7	256.8	27.859	2.549	5770.8	CRIS10
47	CHICA30	2	51.9	67.3	29.1	10.8	110.6	58.1	168.7	102.8	18.784	1.607	3532.6	CRIS10
48	CHICHA10	5	17.8	614.9	91.4	29.2	186.4	270.7	457.1	149.0	54.306	0.816	1630.2	
49	CHIL120	1	8.3	223.8	15.5	11.7	83.5	14.1	97.6	122.3	64.120	1.375	7890.3	
50	CHIL140	1	24.1	539.6	108.6	43.0	266.7	322.5	589.2	211.1	57.857	0.924	1943.8	
51	CHILL10	1	8.4	940.6	66.2	11.5	71.3	282.1	353.4	123.7	68.314	0.897	1868.6	
52	CHILL20	2	8.4	359.7	25.3	6.8	42.4	118.8	161.2	54.5	62.842	0.920	2154.1	
53	CHILL30	1	8.4	179.9	12.7	3.4	21.2	59.4	80.6	37.0	85.322	1.250	2913.4	
54	CHIN10	1	69.3	99.8	57.7	40.8	411.3	57.7	469.0	130.3	34.734	0.811	2258.2	
55	CHIN20	1	77.2	73.4	47.3	34.9	352.3	32.5	384.8	73.3	23.323	0.556	1549.7	
56	CHIR10	1	26.0	264.1	57.3	18.9	125.6	330.4	456.0	80.8	32.597	0.515	1410.1	
57	COLCA10	1	11.2	171.0	16.0	12.1	89.1	16.3	105.4	36.1	43.584	0.943	2256.3	AGRICULTURA
58	COLCA30	1	32.1	128.8	34.5	23.1	166.8	84.6	251.4	221.8	121.050	2.500	6429.0	APU10
59	COLCA40	1	32.1	89.9	24.1	13.5	84.1	80.5	164.6	181.3	142.337	3.063	7522.8	APU10
60	COLCA50	2	37.0	539.6	166.5	8.0	49.9	848.3	898.2	276.8	68.496	0.793	1662.5	
61	COLCA60	8	46.4	89.9	34.8	1.7	10.4	177.4	187.8	70.5	83.439	0.966	2025.9	
62	COLCA70	1	52.9	269.8	119.1	5.7	35.7	606.8	642.5	179.6	62.141	0.720	1508.0	
63	CONAS10	1	14.2	180.5	21.4	19.6	141.0	19.2	160.2	114.7	89.307	2.043	5359.8	
64	CONDE10	1	7.5	306.4	19.2	10.3	69.3	56.5	125.8	176.7	212.603	3.859	9203.1	
65	COTAH10	3	21.5	562.2	100.8	46.3	309.3	149.7	459.0	291.2	88.899	1.533	2888.9	
66	COTAH20	4	30.3	559.7	90.8	0.0	0.0	316.7	316.7	105.1	77.874	0.682	1157.5	
67	COTAH25	6	33.0	585.0	161.0	102.2	715.0	257.7	972.7	473.7	65.854	1.303	2942.2	
68	ENE40	2	1469.5	181.7	2227.1	1864.5	18650.8	61.6	18712.4	1197.7	7.520	0.188	537.8	
69	EULA30	1	32.0	452.7	120.8	120.8	779.6	93.1	872.7	125.7	20.511	0.407	1040.6	EULA10
70	HUA40	1	30.0	287.8	72.0	31.7	196.5	277.1	473.6	78.2	27.369	0.454	1086.1	
71	HUABA20	1	141.4	65.7	77.4	19.0	189.9	293.0	482.9	146.0	50.897	0.817	1886.3	
72	HUABA40	3	440.0	96.5	354.1	155.2	1562.4	864.9	2427.3	246.6	14.499	0.283	691.6	
73	HUAL120	2	208.5	201.0	349.5	50.6	410.2	1755.8	2166.0	241.7	22.011	0.301	696.4	
74	HUAL150	3	236.0	26.7	52.5	2.8	27.9	297.3	325.2	49.3	32.747	0.409	939.0	
75	HUAL190	2	1630.0	62.0	843.5	514.9	5210.7	782.6	5993.3	635.0	13.296	0.298	752.8	
76	HUAN10	2	19.1	343.1	54.8	54.8	405.7	40.7	446.4	284.4	78.307	1.861	5189.8	
77	INA140	1	336.0	39.6	110.9	8.4	83.5	603.6	687.1	75.1	22.854	0.295	677.2	
78	INA200	4	857.0	189.6	1355.2	995.8	9877.6	653.2	10530.8	806.8	9.275	0.221	595.3	
79	INA30	8	63.3	495.9	261.8	228.6	1577.8	274.0	1851.8	455.0	31.125	0.690	1738.0	
80	INA65	1	159.0	130.1	172.6	95.1	912.8	317.4	1230.2	189.1	20.698	0.433	1095.6	
81	INA80	1	167.0	119.1	165.9	55.5	553.5	517.8	1071.3	151.9	21.939	0.387	915.6	
82	INA85	1	250.0	88.4	184.3	56.9	574.0	602.8	1176.8	179.8	24.096	0.416	975.6	
83	INA90	2	323.4	149.1	402.1	163.7	1644.3	1058.9	2703.2	290.9	15.697	0.298	723.5	
84	JEPE10	1	123.0	53.3	54.7	9.0	89.7	249.4	339.1	85.4	46.724	0.679	1561.2	
85	JFQUE20	4	8.5	360.8	25.6	15.7	97.1	57.9	159.0</					

LISTADO DE LOS PROYECTOS HIDROELECTRICOS
 ORDENADO ALFABETICAMENTE

RANK	PROYECTO	ALT.	QM (M**3/S)	HN (M)	PI (MM)	PG (MM)	FP (GWH)	FS (GWH)	ET (GWH)	INV (10**6 \$)	FFC (\$/MWH)	FFC1 (-)	KFSP (\$/KW)	PROYECTOS CONDICIONANTES
111	MARA130	4	100.2	220.2	184.0	39.9	275.3	708.0	983.3	183.2	34.152	0.478	995.7	
112	MARA150	1	104.0	61.8	53.6	8.8	89.3	197.1	286.4	49.4	30.872	0.443	921.6	
113	MARA160	1	107.3	68.3	61.1	12.6	125.8	272.8	398.6	70.6	31.569	0.485	1155.5	
114	MARA180	5	109.4	176.3	160.9	46.1	349.4	699.8	1049.2	120.8	20.270	0.316	750.8	
115	MARA200	1	162.0	75.1	101.4	26.2	265.4	398.5	663.9	75.1	18.952	0.310	740.6	
116	MARA210	1	211.0	97.2	171.0	64.4	645.1	541.2	1186.3	156.3	20.018	0.368	914.0	
117	MARA230	2	222.6	106.1	196.9	58.3	581.0	729.4	1310.4	162.6	20.168	0.342	825.8	
118	MARA250	2	244.7	61.6	125.6	12.4	126.2	652.3	778.5	97.3	25.241	0.337	774.7	
119	MARA290	3	262.0	130.2	284.6	117.4	1168.1	746.6	1914.7	211.5	16.092	0.306	743.1	
120	MARA300	2	269.0	113.1	253.7	51.4	515.1	1059.4	1574.5	178.1	19.999	0.305	702.0	
121	MARA350	4	294.7	136.2	334.7	146.7	1472.0	820.8	2292.8	293.6	18.297	0.356	877.2	
122	MARA370	1	338.0	39.5	111.4	11.4	114.4	575.9	690.3	86.3	25.147	0.337	774.7	
123	MARA400	3	645.9	105.8	569.7	182.6	1822.0	1831.1	3653.1	339.2	14.532	0.253	595.4	
124	MARA410	2	360.6	88.1	265.0	75.8	732.1	934.2	1666.3	207.2	20.270	0.337	781.9	
125	MARA440	3	428.8	176.0	629.4	397.3	3980.5	553.4	4533.9	438.1	12.071	0.273	696.1	
126	MARA460	2	463.9	123.2	476.5	283.7	2847.1	523.0	3370.1	521.7	19.685	0.435	1094.9	
127	MARA50	3	32.4	346.2	93.4	52.3	352.1	162.7	514.8	227.9	61.667	1.148	2440.0	
128	MARCA40	1	32.4	156.9	42.4	16.7	167.4	115.1	282.5	248.6	129.631	2.428	5863.2	
129	MARCA50	4	51.0	434.1	184.7	151.2	1088.7	217.1	1305.8	403.8	39.559	0.868	2186.2	
130	MARCA70	2	64.0	179.9	96.0	7.4	46.1	548.9	595.0	138.5	50.690	0.628	1442.7	
131	MAYO50	1	351.0	97.7	285.9	83.1	829.7	978.9	1808.6	555.7	49.411	0.834	1943.7	
132	MAYO60	1	365.0	75.3	229.3	41.5	418.5	1003.4	1421.9	216.5	27.594	0.411	944.2	
133	MAYO65	3	391.0	172.5	562.4	166.7	1279.3	2218.4	3497.7	601.4	29.534	0.464	1069.3	
134	MAYO70	2	405.0	105.4	355.8	82.9	828.9	1386.0	2214.9	344.9	26.583	0.421	969.4	
135	MOCHE10	3	5.8	1512.3	73.5	41.9	265.6	118.7	384.3	163.7	49.859	0.915	2227.2	
136	MOCHE20	3	5.8	582.8	28.3	1.3	7.8	117.9	125.7	50.0	87.871	0.951	1766.8	
137	MOCHE30	3	9.9	216.5	17.8	7.3	51.4	45.5	96.9	143.7	168.583	2.838	8073.0	
138	OCONA05	1	19.6	351.0	57.4	21.3	155.8	100.2	256.0	236.4	134.648	2.214	4118.5	
139	OCONA15	1	20.0	772.3	128.8	69.8	464.5	176.6	641.1	312.3	66.254	1.218	2424.7	
140	OCONA35	3	37.0	500.4	154.4	57.3	395.0	374.9	769.9	397.6	80.080	1.292	2575.1	
141	OCONA50	6	85.1	238.4	169.3	52.2	364.8	445.8	810.6	294.0	58.688	0.894	1736.6	
142	OCONA60	1	86.5	197.3	142.4	57.1	450.5	312.4	762.9	415.3	80.308	1.398	2916.4	
143	OCONA70	2	89.7	217.8	163.0	90.9	723.2	261.4	984.6	437.6	60.117	1.189	2684.7	
144	OCONA80	1	89.7	127.9	95.7	22.1	164.0	278.8	442.8	208.2	80.481	1.144	2175.5	
145	OTOCA10	1	9.6	754.4	60.4	60.4	529.0	0.0	529.0	56.6	24.195	0.318	937.1	URAB10
146	OTOCA20	1	11.6	713.9	69.1	69.1	526.5	50.1	576.6	157.9	32.224	0.805	2285.1	URAB10
147	OXA20	9	11.5	1164.4	111.7	55.7	358.3	394.7	753.0	204.8	43.227	0.753	1833.5	
148	OXA30	7	16.1	264.5	35.5	23.3	172.8	76.8	249.6	141.9	78.817	1.594	3997.2	
149	OYO10	2	5.7	1879.0	89.3	52.4	247.5	89.6	337.1	175.8	70.540	1.102	1968.6	
150	OYO20	1	7.9	972.5	64.2	0.0	0.0	164.3	164.3	61.0	87.043	0.678	950.2	
151	PACHA30	8	104.9	407.2	356.2	217.7	1584.1	1013.1	2597.2	878.5	49.288	0.958	2466.3	
152	PACHA70	2	129.1	500.3	358.7	197.3	1345.4	2016.1	3361.5	484.2	24.135	0.389	898.8	
153	PALCA10	7	15.5	1143.3	147.8	111.9	715.2	205.5	920.7	275.2	39.464	0.807	1862.0	
154	PALCA15	2	22.4	655.5	122.5	33.5	207.7	590.9	798.6	105.6	24.610	0.362	862.0	
155	PAM101	1	44.8	64.7	24.2	8.9	89.5	50.5	140.0	56.3	57.548	1.061	2326.4	
156	PAM125	8	89.8	257.5	192.8	190.0	1636.2	171.7	1653.9	562.7	40.126	1.007	2918.6	
157	PAM180	11	146.2	371.2	452.6	393.2	2910.2	787.8	3698.0	885.0	31.418	0.700	1955.4	
158	PAM240	7	175.4	908.7	329.3	1254.3	8503.7	1137.1	9640.8	1348.0	17.429	0.396	1014.1	
159	PAM84	1	36.6	59.4	18.1	6.6	66.7	38.2	104.9	48.3	66.035	1.214	2668.5	
160	PARA10	1	3.5	1030.9	30.4	14.4	22.7	48.6	71.3	110.4	275.395	2.775	3631.6	
161	PARA20	1	7.2	765.8	46.3	0.0	0.0	133.7	133.7	71.0	124.603	1.012	1533.5	
162	PAT110	1	18.9	679.9	107.3	42.6	264.1	393.2	657.3	96.5	24.559	0.394	899.3	
163	PAUC270	2	61.0	157.4	80.1	64.7	648.5	7.6	656.1	297.4	53.476	1.326	3712.9	
164	PAUC280	5	72.0	191.7	115.1	66.2	493.1	289.9	783.0	261.4	48.063	0.927	2271.1	
165	PER10	2	250.0	101.8	212.2	101.2	1002.2	478.6	1480.8	267.9	25.307	0.506	1262.5	
166	PER20	3	259.7	31.0	67.1	8.9	89.8	326.3	416.1	58.6	27.157	0.380	873.3	
167	PER70	8	314.0	151.0	395.6	291.9	2909.4	178.3	3087.7	462.1	18.076	0.432	1168.1	
168	PISCO10	1	9.1	353.1	26.8	15.4	111.5	33.7	145.2	143.0	124.395	2.417	5335.8	
169	PISCO30	1	12.0	539.6	54.0	4.0	24.9	214.4	239.3	79.3	70.469	0.793	1468.5	
170	PISCO40	1	16.9	361.4	50.9	0.0	0.0	229.6	229.6	50.7	51.820	0.532	996.1	
171	PISCO60	1	30.2	933.1	234.7	199.4	1237.5	608.1	1845.6	193.4	13.619	0.303	824.0	CHALO10
172	PISCO70	1	30.2	359.7	90.5	76.9	477.1	244.2	721.3	102.0	14.716	0.410	1127.1	CHALO10
173	PISCO80	2	47.1	359.7	141.2	86.3	535.6	409.6	945.2	216.8	20.233	0.634	1355.4	CHALO10
174	PUZ20	7	48.6	237.4	96.2	96.2	675.1	58.7	733.8	261.6	43.557	1.023	2719.3	
175	PUZ27	2	62.2	458.4	237.8	52.6	340.2	1133.5	1473.7	263.6	34.088	0.482	1108.5	
176	POZ30	15	155.1	301.6	390.1	290.8	2188.8	573.6	2762.4	545.4	25.843	0.555	1398.1	
177	PUCH10	1	15.4	223.7	28.7	9.6	64.5	89.8	154.3	85.0	91.111	1.416	2967.7	
178	PUCH20	9	28.8	440.9	105.9	53.6	363.2	241.7	604.9	333.2	80.745	1.446	3146.4	
179	PUNA10	4	13.4	932.8	104.4	104.4	777.4	19.9	797.3	202.9	30.222	0.730	1943.5	
180	QUIRO10	2	13.0	151.7	16.4	9.9	69.4	31.5	100.9	39.6	54.599	1.056	2414.6	
181	QUIRO20	2	20.4	257.6	43.8	29.1	198.3	78.6	276.9	148.4	73.293	1.455	3388.1	
182	RIMAC20	1	27.0	224.8	50.6	10.3	64.0	202.1	266.1	95.7	63.534	0.917	1891.3	RIMAC10
183	SAMA10	1	30.0	1392.2	348.3	272.6	1695.6	1040.2	2735.8	258.1	48.818	0.273	741.0	LOCUM10
184	SAMA20	1	30.0	314.8	78.8	8.3	51.5	310.0	361.5	109.0	61.907	0.731	1383.2	
185	SAMA30	1	30.0	314.8	78.8	8.3	51.5	310.0	361.5	104.6	59.424	0.702	1327.4	
186	SAMA40	1	30.0	107.9	27.0	27.0	236.5	0.0	236.5	68.8	70.356	0.866	2548.1	LOCUM10
187	SAMA50	1	33.2	60.9	16.9	14.7	147.8	0.0	147.8	30.5	70.615	0.464	1804.7	LOCUM10
188	SANJU10	1	14.3	530.6	63.3	11.4	74.3	206.6	280.9	89.0	58.740	0.758	1406.0	
189	SANJU20	1	20.0	533.9	89.1	18.5	118.7	277.1	395.8	114.2	52.054	0.691	1281.7	
190	SANJU30	1	20.0	539.7	60.0	4.5	27.6	238.2	265.8	104.6	85.589	0.941	1743.3	
191	SANJU40	1	20.0	354.1	59.1	7.6	49.5	217.6	267.1	118.4	87.752	1.069	2003.4	
192	SANJU50	1	20.0	171.5	28.6	10.1	73.2	74.9	148.1	104.7	111.008	1.793	3660.8	
193	SANTA10	1	7.2	238.1	14.4	14.4	118.6	1.9	120.5	85.8	55.031	1.370	5958.3	
194	SANTA120	13	100.9	409.4	344.5	195.1	1391.5</							

LISTADO DE LOS PROYECTOS HIDROELECTRICOS
 ORDENADO ALFABETICAMENTE CON 0.00 MW \$ PI \$= 5000.00 MW

RANK	PROYECTO	ALT.	QM (M**3/S)	HN (M)	PI (MW)	PG (MW)	EP (GWH)	FS (GWH)	FT (GWH)	INV (10**6 \$)	FEC \$/(MWH)	FEC1 (-)	KESP \$/KW	PROYECTOS CONDICIONANTFS
221	TULU50	7	82.5	353.2	243.0	79.5	544.1	966.6	1510.7	265.7	30.335	0.475	1093.4	
222	TULU70	1	116.0	205.3	198.6	62.6	497.2	742.6	1239.8	331.0	44.711	0.722	1666.7	
223	URAB10	3	9.6	1228.8	98.4	98.4	861.6	0.0	861.6	230.3	31.350	0.795	2340.4	
224	URUB190	4	178.0	324.4	481.6	335.4	2478.6	942.6	3421.2	496.7	19.752	0.408	1031.4	
225	URUB250	1	236.4	56.8	112.0	33.4	337.8	374.0	711.8	109.4	24.453	0.418	976.8	
226	URUB320	5	624.2	180.8	941.2	676.4	6727.5	515.9	7243.4	598.8	10.055	0.238	636.2	
227	URUB88	1	148.8	321.3	398.7	56.6	351.0	2034.9	2385.9	196.3	16.829	0.219	492.4	
228	URUB90	3	149.8	319.3	398.9	24.9	154.7	2301.1	2455.8	328.9	29.560	0.360	824.5	
229	URUM15	10	21.2	563.4	99.6	80.0	544.8	150.3	695.1	312.3	59.082	1.257	3135.5	
230	UTC30	1	50.0	131.1	54.7	33.5	336.2	51.2	387.4	186.3	60.410	1.352	3405.9	
231	UTC50	2	59.0	440.3	216.7	174.9	1239.8	291.8	1531.6	348.8	29.525	0.640	1609.6	
232	UTC70	1	88.5	135.8	100.2	57.3	576.4	132.3	708.7	239.2	43.672	0.948	2387.2	
233	VELL37	8	20.7	605.0	104.6	64.8	425.2	161.2	586.4	221.0	51.257	0.983	2112.8	
234	VIL10	5	21.6	275.6	49.6	32.3	244.9	85.1	330.0	167.3	68.278	1.398	3373.0	
235	VIL20	1	37.2	94.0	29.2	8.0	76.1	87.6	163.7	75.2	73.558	1.199	2575.3	
236	VILCA120	6	46.1	367.7	141.4	90.4	663.5	211.0	874.5	453.4	69.154	1.397	3206.5	
237	VILCA170	8	69.4	505.9	293.0	151.7	1037.8	645.8	1683.6	439.9	37.926	0.687	1501.4	
238	VILCA70	1	26.4	344.2	75.9	22.6	155.2	251.1	406.3	283.6	118.482	1.792	3736.5	
239	VIZCA10	2	15.6	248.0	32.4	13.3	91.6	76.7	168.3	121.4	109.619	1.833	3746.9	
240	VNOTA140	1	104.0	108.4	94.0	62.6	654.2	52.5	706.7	147.1	25.355	0.595	1564.9	
241	VNOTA200	1	109.0	53.5	48.6	8.9	120.3	171.5	291.8	55.4	31.565	0.507	1139.9	
242	VNOTA295	14	131.0	778.0	850.0	849.9	7278.5	29.0	7307.5	1098.0	17.660	0.445	1291.8	
243	VNOTA60	2	91.1	97.6	74.1	40.9	489.0	49.4	538.4	258.8	59.101	1.361	3492.6	
244	VNOTA90	2	94.4	165.5	130.3	59.5	538.1	238.4	776.5	347.9	62.090	1.193	2670.0	
245	YANA10	3	32.0	274.9	73.4	20.9	138.4	340.1	478.5	172.5	65.599	0.988	2350.1	
246	YAUCA10	2	5.4	507.3	22.8	7.8	38.6	35.1	73.7	182.7	372.865	4.828	8013.2	
247	YAUCA20	2	7.4	699.5	43.2	14.7	70.9	82.4	153.3	148.1	154.000	1.985	3428.2	
248	YAUCA40	1	7.4	197.8	12.2	0.0	0.0	35.3	35.3	41.2	273.788	2.225	3377.0	

PI - CORRESPONDE A QT = QM

POTENCIAL TFCNICO 43143.9

LISTADO DE LOS PROYECTOS HIDROELECTRICOS
ORDENADO EN FORMA ASCENDENTE POR : FEC CON

24.00 \$/MWH \$ FEC \$= 500.00 \$/MWH

RANK	PROYECTO	ALT. (M**3/S)	QM (M)	HN (M)	PI (MW)	PG (MW)	FP (GWH)	FS (GWH)	FT (GWH)	INV (10**6 \$)	FFC (\$/MWH)	FFC1 (-)	KFSP (\$/KW)	PROYECTOS CONDICIONANTES
1	INAB5	1	250.0	88.4	184.3	56.9	574.0	602.8	1176.8	179.8	24.096	0.416	975.6	
2	PACHA70	2	129.1	500.3	538.7	197.3	1345.4	2016.1	3361.5	484.2	24.135	0.389	898.8	
3	OTUCA10	1	9.6	754.4	60.4	60.4	529.0	0.0	529.0	56.6	24.195	0.318	937.1	URAB10
4	APUR734	1	522.7	52.0	226.7	34.1	211.3	1193.6	1404.9	167.1	24.258	0.321	737.1	
5	URUB250	1	235.4	56.8	112.0	33.4	337.8	374.0	711.8	109.4	24.453	0.418	976.8	
6	MAN170	8	138.6	120.6	139.4	64.6	648.5	239.3	887.8	160.1	24.457	0.491	1148.5	
7	PAT110	1	18.9	679.9	107.3	42.6	264.1	393.2	657.3	96.5	24.559	0.394	899.3	
8	APUR670	1	323.0	155.7	419.3	110.1	1088.6	1532.1	2620.7	389.0	24.600	0.401	927.7	
9	PALCA15	2	22.4	655.5	122.5	33.5	207.7	590.9	798.6	105.6	24.610	0.362	862.0	
10	APUR690	1	328.4	39.0	106.8	6.0	61.0	601.0	662.0	76.0	24.673	0.310	711.6	
11	MARA370	1	338.0	39.5	111.4	11.4	114.4	575.9	690.3	86.3	25.147	0.337	774.7	
12	MARA250	2	244.7	61.6	125.6	12.4	126.2	652.3	778.5	97.3	25.241	0.337	774.7	
13	PER10	2	250.0	101.8	212.2	101.2	1002.2	478.6	1480.8	267.9	25.307	0.506	1262.5	
114	YNOTA140	1	104.0	108.4	94.0	62.6	654.2	52.5	706.7	147.1	25.355	0.595	1564.9	
115	HUA20	2	24.8	895.0	185.3	122.2	769.5	463.0	1232.5	216.4	25.356	0.484	1167.8	
16	APUR720	2	482.8	152.0	612.0	141.4	1404.2	2403.5	3807.7	567.5	25.542	0.402	927.3	
17	POZ30	15	155.1	301.6	390.1	290.8	2188.8	573.6	2762.4	545.4	25.843	0.555	1398.1	
18	MAN140	4	123.0	110.0	112.8	70.1	703.5	91.0	794.5	168.8	26.440	0.596	1496.5	
19	MAYU70	2	405.0	105.4	355.8	82.9	828.9	1386.0	2214.9	344.9	26.583	0.421	969.4	
20	MAN310	1	353.9	110.0	324.6	68.7	689.7	964.5	1654.2	265.8	26.602	0.405	818.9	
21	APUR741	1	566.7	23.7	112.0	7.2	72.0	622.3	694.3	87.5	26.777	0.340	781.2	
22	PER20	3	259.7	31.0	67.1	8.9	89.8	326.3	416.1	58.6	27.157	0.380	873.3	
23	HUAL130	2	224.0	102.3	191.2	31.2	307.9	877.1	1185.0	173.5	27.263	0.395	907.4	
24	HUA40	1	30.0	287.8	72.0	31.7	196.5	277.1	473.6	78.2	27.369	0.454	1086.1	
25	MAYU60	1	365.0	75.3	229.3	41.5	418.5	1003.4	1421.9	216.5	27.594	0.411	944.2	
26	CHICA20	2	50.6	105.5	44.5	20.9	189.4	80.3	269.7	256.8	27.899	2.549	5770.8	CRIS10
27	POZ50	1	183.7	90.2	138.3	37.3	378.5	490.0	868.5	149.6	28.136	0.466	1081.7	
28	LAMB10	1	17.2	346.7	49.8	0.0	0.0	315.8	315.8	37.9	28.166	0.326	761.0	
29	TACNA30	1	4.3	976.3	35.0	20.9	129.9	110.1	240.0	44.7	28.376	0.519	1277.1	
30	CHAN25	2	32.0	522.7	139.5	113.2	722.0	222.2	944.2	207.0	29.143	0.608	1483.9	
31	CASMA20	1	20.0	741.1	123.6	110.6	686.5	128.1	814.6	99.9	29.226	0.337	808.3	CASMA10
32	TULU30	5	76.3	338.7	215.5	53.6	379.4	956.7	1336.1	213.9	29.244	0.432	992.6	
33	MAJES20	1	35.0	981.0	286.4	149.8	939.0	879.4	1818.4	247.4	29.482	0.370	863.8	APU10
34	UTC50	2	59.0	440.3	216.7	174.9	1239.8	291.8	1531.6	348.8	29.525	0.640	1609.6	
35	MAYU65	3	391.0	172.5	562.4	166.7	1279.3	2218.4	3497.7	601.4	29.534	0.464	1069.3	
36	URUB90	3	149.8	319.3	398.9	24.9	154.7	2301.1	2455.8	328.9	29.560	0.360	824.5	
37	PUNA10	4	13.4	932.8	104.4	104.4	777.4	19.9	797.3	202.9	30.222	0.730	1943.5	
38	TULU50	7	82.5	353.2	243.0	79.5	544.1	966.6	1510.7	265.7	30.335	0.475	1093.4	
39	LUCUM20	1	4.6	372.1	14.3	14.3	122.5	2.5	125.0	32.0	30.357	0.762	2237.8	
40	APUR680	4	325.7	225.2	611.8	182.4	1514.9	2301.9	3816.8	694.1	30.538	0.492	1134.5	
41	SGAB30	3	62.0	914.4	472.8	186.9	1248.2	1709.8	2958.0	547.8	30.552	0.501	1158.6	
42	MARA150	1	104.0	61.8	53.6	8.8	89.3	197.1	286.4	49.4	30.872	0.443	921.6	
43	PALCA30	1	23.1	286.4	55.2	3.1	19.5	318.7	338.2	47.4	31.066	0.376	858.7	
44	INA30	8	63.5	495.9	261.8	228.6	1577.8	274.0	1851.8	455.0	31.125	0.690	1738.0	
45	APUR25	1	57.3	56.7	27.1	13.2	135.5	27.8	161.3	39.2	31.211	0.647	1446.5	
46	LAMB50	1	41.1	422.7	144.8	30.1	186.6	659.1	845.7	137.4	31.224	0.430	948.9	
47	URAB10	3	9.6	1228.8	98.4	98.4	861.6	0.0	861.6	230.3	31.350	0.795	2340.4	
48	PAM180	11	146.2	371.2	452.6	393.2	2910.2	787.8	3698.0	885.0	31.418	0.700	1955.4	
49	CASMA30	1	20.0	934.6	155.9	139.5	865.7	161.6	1027.3	180.7	31.564	0.484	1159.1	CASMA10
50	YNOTA200	1	109.0	53.5	48.6	8.9	120.3	171.5	291.8	55.4	31.565	0.507	1139.9	
51	MARA160	1	107.3	68.3	61.1	12.6	125.8	272.8	398.6	70.6	31.569	0.485	1155.5	
52	MARA120	2	93.6	104.4	81.5	20.5	206.5	236.9	443.4	88.5	31.925	0.515	1085.9	
53	CHON10	1	24.1	220.6	44.3	32.6	232.3	63.2	295.5	72.4	32.190	0.676	1634.3	
54	CURAL20	1	13.0	1424.4	154.4	86.6	546.8	266.7	813.5	189.8	32.212	0.586	1229.3	
55	OTUCA20	1	11.6	715.9	69.1	69.1	526.5	50.1	576.6	157.9	32.224	0.805	2285.1	URAB10
56	MAJES10	1	34.0	745.6	211.4	113.6	727.5	625.9	1353.4	190.6	32.301	0.384	901.6	APU10
57	CHIR10	1	26.0	264.1	57.3	18.9	125.6	330.4	456.0	80.8	32.597	0.515	1410.1	
58	SANTA110	11	86.9	278.8	202.1	66.2	410.8	857.8	1268.6	233.4	32.601	0.498	1154.9	
59	HUAL150	3	236.0	26.7	52.5	2.8	27.9	297.3	325.2	49.3	32.747	0.409	939.0	
60	TAB10	1	75.0	86.9	54.3	24.7	248.5	176.3	424.8	95.4	33.221	0.649	1756.9	
61	HUA10	1	10.2	898.2	76.7	31.1	193.4	331.5	524.9	102.9	33.604	0.545	1341.6	
62	POZ27	2	62.2	458.4	237.8	52.6	340.2	1133.5	1473.7	263.6	34.088	0.482	1108.5	
63	MARA130	4	100.2	220.2	184.0	39.9	275.3	708.0	983.3	183.2	34.152	0.478	995.7	
64	TACNA50	1	4.3	321.5	11.5	6.9	42.8	36.3	79.1	17.8	34.349	0.628	1547.8	
65	CHIN10	1	69.3	99.8	57.7	40.8	411.3	57.7	469.0	130.3	34.734	0.811	2258.2	
66	PAT120	1	22.5	735.3	138.0	110.4	717.7	223.5	941.2	246.7	34.887	0.728	1787.7	
67	ANDA10	4	6.5	786.7	42.6	42.6	373.5	0.0	373.5	111.2	34.906	0.886	2610.3	
68	CANET110	4	41.6	465.4	161.5	32.0	198.8	602.8	801.6	148.9	34.917	0.464	922.0	
69	CANET80	1	31.8	382.2	101.5	20.1	124.9	378.8	503.7	93.9	35.020	0.465	925.1	
70	TACNA40	1	4.3	357.6	12.8	7.7	47.6	40.4	88.0	20.3	35.133	0.642	1585.9	
71	MAN130	2	74.5	88.0	54.7	20.1	199.8	124.5	324.3	78.9	35.333	0.647	1442.4	
72	TULU10	1	41.1	453.6	155.5	44.3	303.1	528.9	832.0	171.1	35.351	0.528	1100.3	
73	SANTA60	3	52.0	214.8	93.2	65.2	470.5	175.9	646.4	194.7	35.399	0.728	2089.1	
74	MAN60	2	56.1	64.0	29.9	8.8	87.6	97.3	184.9	41.3	35.531	0.601	1381.3	
75	OLMOS20	1	32.4	269.8	73.0	27.9	173.3	328.4	501.7	103.9	36.104	0.577	1423.3	
76	TAMBO70	2	50.7	809.4	342.2	202.0	1253.7	1131.2	2384.9	349.1	36.283	0.409	1020.2	TAMBO10
77	MAN90	4	134.6	130.9	146.9	76.0	763.6	209.7	973.3	271.6	36.688	0.769	1848.9	
78	SANTA120	13	100.9	409.4	344.5	195.1	1391.5	807.2	2198.7	579.2	36.811	0.697	1681.3	
79	VILCA170	8	69.4	505.9	293.0	151.7	1037.8	645.8	1683.6	439.9	37.926	0.687	1501.4	
80	JFQUE10	2	8.5	674.5	47.8	28.6	177.7	100.2	277.9	73.8	37.981	0.701	1543.9	
81	APUR148	2	88.2	293.0	215.5	102.2	737.6	492.9	1230.5	319.3	38.060	0.681	1481.7	
82	TACNA20	1	4.3	482.9	17.3	10.4	64.2	54.5	118.7	29.8	38.199	0.698	1722.5	
83	CHIL130	1	12.9	645.3	69.5	28.4	179.7	168.8	348.5	90.0	38.330	0.621	1295.0	
84	CHANC10	1	9.2	1093.4	84.3	22.8	141.2	395.3	536.5	110.8	38.372	0.562	1314.4	
85	LAMB20	1	30.2	269.3	67.9	41.1	291.2	135.2</						