

MINISTERIO DE MINAS Y ENERGIA

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL

1987

2005

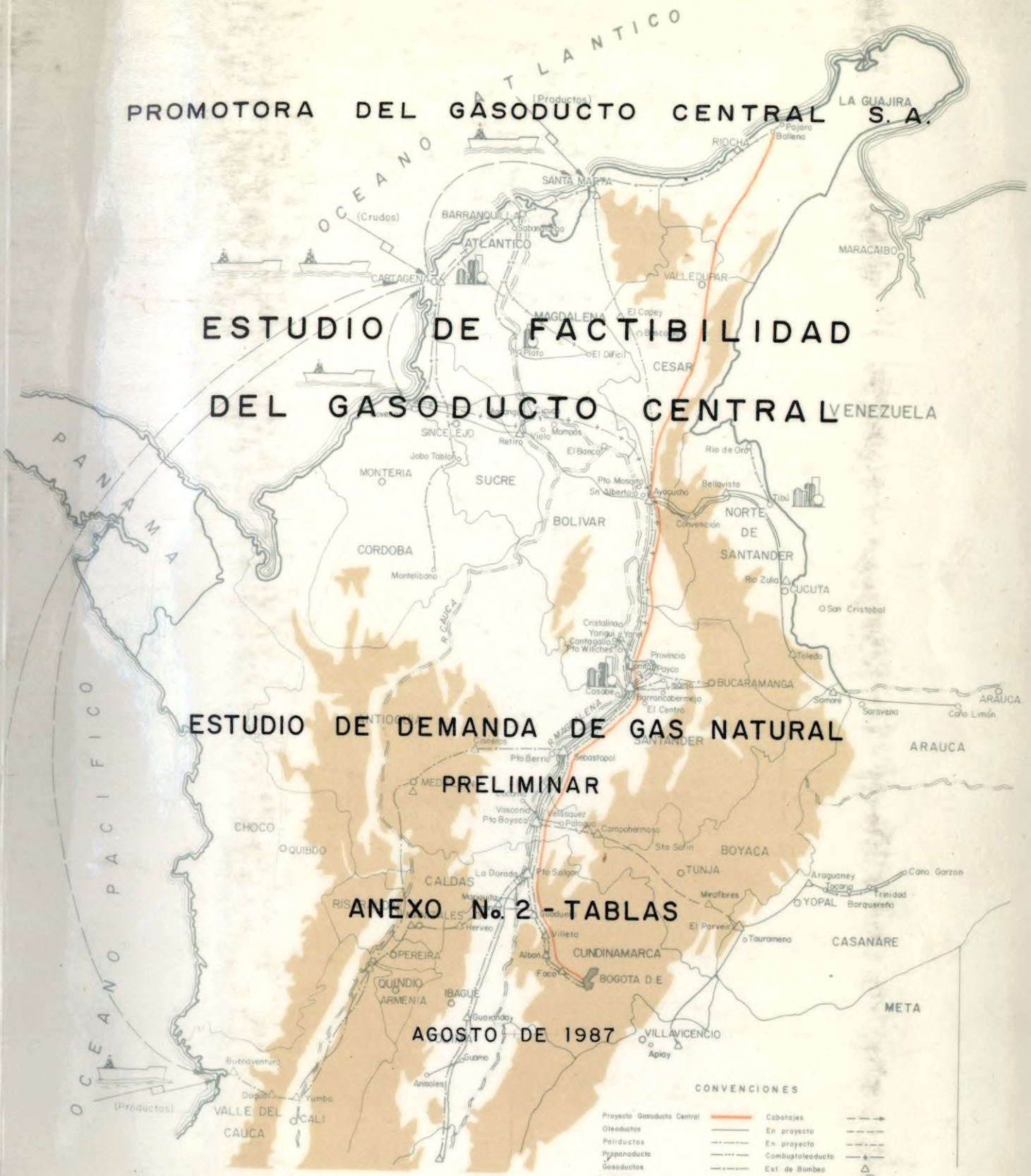
PROMOTORA DEL GASODUCTO CENTRAL S.A.

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL VENEZUELA

ESTUDIO DE DEMANDA DE GAS NATURAL PRELIMINAR

ANEXO No. 2 - TABLAS

AGOSTO DE 1987



CONVENCIONES

- Proyecto Gasoducto Central
- Oleoductos
- Petroductos
- Piperoeductos
- Gasoductos
- Importados
- Cableajes
- En proyecto
- En proyecto
- Combustoleoducto
- Est. de Bombeo
- Refineria



ESTUDIOS TECNICOS S.A.

Novacorp International

PROMOTORA DEL GASODUCTO CENTRAL S. A.

ESTUDIO DE FACTIBILIDAD

DEL GASODUCTO CENTRAL VENEZUELA

ESTUDIO DE DEMANDA DE GAS NATURAL

PRELIMINAR

ANEXO N.º 2 - TABLAS

AGOSTO DE 1987

CONVENCIONES

- | | | | |
|----------------------------|--|------------------|--|
| Proyecto Gasoducto Central | | Cabotajes | |
| Ductos | | En proyecto | |
| Poliductos | | En proyecto | |
| Propanoductos | | Combustoleoducto | |
| Gasoductos | | Est. de Bombeo | |
| Importados | | Refinería | |



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TABLA A1

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
TRAYECTO BALLENAS - BARRANCABERMEJA :																						
MPC/DIA	2.00	2.79	3.63	4.51	5.26	5.63	5.94	6.18	6.43	6.65	6.88	7.11	7.36	7.62	7.89	8.18	8.46	8.76	9.07	9.40	9.73	
MPC/ANO	731.36	1018.39	1323.20	1644.87	1920.42	2055.78	2167.37	2255.87	2347.93	2427.09	2511.79	2593.84	2685.24	2781.34	2881.14	2985.63	3087.52	3196.76	3311.70	3430.34	3552.03	
AREA BARRANCABERMEJA - BUCARAMANGA																						
MPC/DIA	42.91	57.55	75.74	89.20	101.10	117.32	142.72	147.02	150.73	154.25	157.38	129.80	130.23	130.68	131.14	131.62	132.11	132.61	133.14	133.68	134.24	
MPC/ANO	15663.79	21007.35	27643.79	32559.54	36899.77	42821.87	52094.31	53662.74	55016.97	56301.08	57442.42	47377.25	47535.07	47698.93	47866.91	48041.06	48220.47	48404.19	48595.31	48791.90	48996.05	
TOTAL FASE I :																						
MPC/DIA	44.92	60.34	79.36	93.71	106.36	122.95	148.66	153.20	157.16	160.90	164.26	136.91	137.59	138.30	139.04	139.80	140.57	141.37	142.21	143.07	143.97	
MPC/ANO	16395.15	22025.74	28967.00	34204.41	38820.19	44877.65	54261.69	55918.61	57364.90	58728.17	59954.21	49971.10	50220.31	50480.27	50748.05	51026.69	51307.99	51600.95	51907.01	52222.24	52548.07	
DEMANDA TRAYECTO BARRANCA - BOGOTA																						
MPC/DIA	10.47	14.72	19.02	23.44	28.02	31.42	31.47	31.51	31.56	31.60	31.64	31.68	31.71	31.75	31.78	31.82	31.86	31.90	31.94	31.98	32.03	
MPC/ANO	3822.75	5373.13	6943.21	8554.09	10226.26	11469.87	11486.23	11502.84	11519.70	11532.90	11549.94	11562.36	11575.04	11587.98	11601.20	11614.69	11628.46	11642.52	11656.87	11671.52	11689.56	
AREA BOGOTA :																						
ALTERNATIVA No.1 :																						
MPC/DIA	5.0	23.3	45.4	66.0	87.8	108.5	122.1	130.3	140.5	139.3	143.7	149.1	153.5	157.5	161.3	167.1	170.9	173.1	175.3	177.6	179.9	
MPC/ANO	1,816.9	8,516.5	16,568.0	24,095.7	32,037.4	39,590.8	44,566.6	47,566.7	51,278.6	50,846.4	52,435.6	54,410.7	56,040.6	57,496.3	58,856.5	60,975.6	62,384.1	63,173.6	63,982.8	64,812.0	65,662.3	
ALTERNATIVA No.2 :																						
MPC/DIA	5.5	24.7	47.8	69.9	93.3	115.4	128.5	137.3	147.4	146.2	150.5	155.9	160.4	164.4	168.1	174.0	177.8	180.0	182.2	184.5	186.8	
MPC/ANO	2,018.6	9,020.2	17,433.2	25,507.1	34,070.1	42,127.4	46,906.0	50,111.4	53,811.1	53,366.8	54,944.0	56,921.4	58,553.5	60,011.5	61,374.0	63,495.4	64,906.3	65,698.2	66,509.7	67,341.3	68,194.2	
ALTERNATIVA No.3 :																						
MPC/DIA	4.1	21.3	42.2	61.4	81.7	99.8	110.9	115.9	122.9	119.0	120.6	123.3	126.0	128.3	130.7	135.9	137.4	139.0	140.6	142.2	143.9	
MPC/ANO	1,501.9	7,781.5	15,413.0	22,415.7	29,832.4	36,441.8	40,473.6	42,294.2	44,853.1	43,424.9	44,018.1	45,007.7	45,974.7	46,846.0	47,696.1	49,617.0	50,167.7	50,732.8	51,315.7	51,914.0	52,528.6	
ALTERNATIVA No.4 :																						
MPC/DIA	4.7	22.7	44.6	65.3	87.3	106.8	117.3	122.8	129.8	125.9	127.5	130.2	132.8	135.2	137.6	142.8	144.4	145.9	147.5	149.2	150.9	
MPC/ANO	1,703.6	8,285.2	16,278.2	23,827.1	31,865.1	38,978.4	42,813.0	44,838.9	47,385.6	45,945.3	46,526.5	47,518.4	48,487.6	49,361.2	50,213.6	52,136.8	52,689.9	53,257.4	53,842.7	54,443.4	55,060.4	
TOTAL FASE II :																						
ALTERNATIVA No.1 :																						
MPC/DIA	15.45	38.05	64.41	89.45	115.79	139.89	153.57	161.83	172.05	170.90	175.30	180.75	185.25	189.27	193.03	198.88	202.77	204.98	207.23	209.54	211.92	
MPC/ANO	5639.67	13889.62	23511.20	32649.79	42263.63	51060.69	56052.84	59069.59	62798.35	62379.27	63985.51	65973.09	67615.64	69084.25	70457.71	72590.27	74012.56	74816.11	75639.63	76483.48	77351.90	
ALTERNATIVA No.2 :																						
MPC/DIA	16.00	39.43	66.78	93.32	121.36	146.84	159.98	168.81	178.99	177.81	182.18	187.63	192.13	196.16	199.93	205.78	209.68	211.89	214.16	216.47	218.86	
MPC/ANO	5841.36	14393.35	24376.36	34061.17	44296.39	53597.23	58392.27	61614.26	65330.83	64899.67	66493.96	68483.78	70128.57	71599.46	72975.21	75110.11	76534.74	77340.67	78166.60	79012.87	79883.75	
ALTERNATIVA No.3 :																						
MPC/DIA	14.59	36.04	61.25	84.85	109.75	131.26	142.36	147.39	154.45	150.57	152.24	154.99	157.67	160.09	162.46	167.76	169.30	170.89	172.53	174.21	175.94	
MPC/ANO	5324.67	13154.62	22356.20	30969.79	40058.63	47911.69	51959.84	53797.09	56372.85	54957.77	55568.01	56570.09	57549.74	58433.95	59297.31	61231.67	61796.20	62375.32	62972.62	63585.53	64218.14	
ALTERNATIVA No.4 :																						
MPC/DIA	15.14	37.42	63.62	88.72	115.32	138.21	148.77	154.36	161.38	157.47	159.11	161.87	164.56	166.98	169.36	174.66	176.21	177.81	179.45	181.14	182.88	

TABLA A1

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TOTAL FASE I + II :	MPC/AÑO 5526.36	13658.35	23221.36	32381.17	42091.39	50448.23	54299.27	56341.76	58905.33	57478.17	58076.46	59080.78	60062.67	60949.16	61814.81	63751.51	64318.38	64899.88	65499.58	66114.92	66749.99
ALTERNATIVA No.1 :	MPC/DIA 60.37	98.40	143.78	183.16	222.15	262.84	302.23	315.04	329.21	331.80	339.56	317.66	322.84	327.57	332.07	338.68	343.34	346.35	349.44	352.62	355.89
	MPC/AÑO 22034.82	35915.36	52478.20	66854.20	81083.83	95938.34	110314.52	114988.20	120163.25	121107.43	123939.72	115944.19	117835.95	119564.53	121205.75	123616.97	125320.55	126417.06	127546.64	128705.72	129899.98
ALTERNATIVA No.2 :	MPC/DIA 60.92	99.78	146.15	187.03	227.72	269.79	308.64	322.01	336.15	338.71	346.43	324.53	329.72	334.47	338.97	345.58	350.25	353.26	356.37	359.55	362.83
	MPC/AÑO 22236.51	36419.09	53343.36	68265.58	83116.58	98474.87	112653.96	117532.87	122695.72	123627.84	126448.18	118454.87	120348.89	122079.73	123723.26	126136.80	127842.73	128941.62	130073.61	131235.11	132431.83
ALTERNATIVA No.3 :	MPC/DIA 59.51	96.38	140.61	178.56	216.11	254.22	291.02	300.59	311.61	311.47	316.50	291.89	295.26	298.40	301.49	307.56	309.87	312.26	314.74	317.28	319.91
	MPC/AÑO 21719.82	35180.36	51323.20	65174.20	78878.83	92789.34	106221.52	109715.70	113737.75	113685.93	115522.22	106541.19	107770.05	108914.23	110045.35	112258.37	113104.19	113976.27	114879.63	115807.77	116766.22
ALTERNATIVA No.4 :	MPC/DIA 60.06	97.76	142.98	182.43	221.68	261.17	297.43	307.56	318.55	318.37	323.37	298.77	302.15	305.29	308.39	314.46	316.78	319.18	321.66	324.21	326.84
	MPC/AÑO 21921.51	35684.09	52188.36	66585.58	80911.58	95325.87	108560.96	112260.37	116270.22	116206.34	118030.68	109051.87	110282.99	111429.43	112562.86	114778.20	115626.37	116500.84	117406.59	118337.16	119298.06

AGOSTO 10 DE 1987

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- ALTERNATIVA 1 SECTOR INDUSTRIAL : SUSTITUCION DE COMBUSTIBLES LIQUIDOS. PRECIO DEL GAS NATURAL IGUAL AL PRECIO DEL CRUDO DE CASTILLA.
 SECTOR RESIDENCIAL : SUSTITUCION DE COCINOL, PROPANO Y ELECTRICIDAD. (COCCION Y CALENTAMIENTO DE AGUA)
- ALTERNATIVA 2 SECTOR INDUSTRIAL : SUSTITUCION DE COMBUSTIBLES LIQUIDOS. PRECIO DEL GAS NATURAL IGUAL A 0.90 DEL PRECIO DEL CRUDO DE CASTILLA.
 SECTOR RESIDENCIAL : SUSTITUCION DE COCINOL, PROPANO Y ELECTRICIDAD. (COCCION Y CALENTAMIENTO DE AGUA)
- ALTERNATIVA 3 SECTOR INDUSTRIAL : SUSTITUCION DE COMBUSTIBLES LIQUIDOS. PRECIO DEL GAS NATURAL IGUAL AL PRECIO DEL CRUDO DE CASTILLA.
 SECTOR RESIDENCIAL : SIN SUSTITUCION DE PROPANO Y ELECTRICIDAD.
- ALTERNATIVA 4 SECTOR INDUSTRIAL : SUSTITUCION DE COMBUSTIBLES LIQUIDOS. PRECIO DEL GAS NATURAL IGUAL A 0.90 DEL PRECIO DEL CRUDO DE CASTILLA.
 SECTOR RESIDENCIAL : SIN SUSTITUCION DE PROPANO Y ELECTRICIDAD.
- *****

			1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
COMBUSTIBLES																								
INDUSTRIAL																								
=====																								
SUSTITUCION FUEL OIL	CONS.POT.		1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.29	1.30	1.31	1.33	1.34	1.35	1.37	1.38	1.39	1.41	
	DEM.A SUST.		1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.29	1.30	1.31	1.33	1.34	1.35	1.37	1.38	1.39	1.41	
	DEM. TOTAL :		1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.29	1.30	1.31	1.33	1.34	1.35	1.37	1.38	1.39	1.41	
SUSTITUCION PROPANO	CONS.POT.		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
	DEM.A SUST.		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
	DEM. TOTAL :		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
TOTAL INDUSTRIAL :			1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.31	1.32	1.33	1.35	1.36	1.37	1.39	1.40	1.42	1.43	
RESIDENCIAL																								
=====																								
SUSTITUCION DEL PROPANO	T.CREC. :	4.00%	CONS.POT.	1.96	2.04	2.12	2.21	2.30	2.39	2.48	2.58	2.69	2.79	2.91	3.02	3.14	3.27	3.40	3.54	3.68	3.82	3.98	4.14	4.30
	PENET. :	5	DEM.A SUST.	0.47	0.95	1.42	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			DEM. TOTAL :	0.47	0.95	1.42	1.90	2.30	2.39	2.48	2.58	2.69	2.79	2.91	3.02	3.14	3.27	3.40	3.54	3.68	3.82	3.98	4.14	4.30
SUSTITUCION DEL QUEROSENO	T.CONS. :	4.00%	CONS.POT.	0.63	0.65	0.68	0.70	0.73	0.76	0.79	0.82	0.86	0.89	0.93	0.96	1.00	1.04	1.09	1.13	1.17	1.22	1.27	1.32	1.37
	P.SUST. :	5	DEM.A SUST.	0.15	0.30	0.45	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			DEM. TOTAL :	0.15	0.30	0.45	0.61	0.73	0.76	0.79	0.82	0.86	0.89	0.93	0.96	1.00	1.04	1.09	1.13	1.17	1.22	1.27	1.32	1.37
SUSTITUCION ELECTRICIDAD	T.CONS. :	4.00%	CONS.POT.	0.34	0.36	0.37	0.38	0.40	0.42	0.43	0.45	0.47	0.49	0.51	0.53	0.55	0.57	0.59	0.62	0.64	0.67	0.69	0.72	0.75
	P.SUST. :	10	DEM.A SUST.	0.05	0.10	0.15	0.19	0.25	0.30	0.35	0.40	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			DEM. TOTAL :	0.05	0.10	0.15	0.19	0.25	0.30	0.35	0.40	0.45	0.49	0.51	0.53	0.55	0.57	0.59	0.62	0.64	0.67	0.69	0.72	0.75
TOTAL RESIDENCIAL :			0.67	1.34	2.02	2.71	3.28	3.45	3.62	3.80	4.00	4.17	4.35	4.51	4.69	4.88	5.08	5.29	5.49	5.71	5.94	6.18	6.42	
TRANSPORTE																								
=====																								
VALLEDUPAR	-BUSES		7.00	27.00	54.00	88.00	121.00	156.00	176.00	184.00	191.00	199.00	207.00	215.00	223.00	233.00	242.00	252.00	262.00	272.00	283.00	294.00	306.00	
	-BUSETAS		5.00	17.00	35.00	57.00	78.00	100.00	114.00	118.00	123.00	128.00	133.00	138.00	144.00	150.00	156.00	162.00	169.00	175.00	182.00	189.00	197.00	
	-TAXIS		2.00	11.00	23.00	39.00	53.00	69.00	84.00	94.00	100.00	105.00	111.00	117.00	124.00	130.00	137.00	144.00	151.00	159.00	167.00	175.00	184.00	
	GBTU/ANO		14.00	55.00	112.00	184.00	252.00	325.00	374.00	396.00	414.00	432.00	451.00	470.00	491.00	513.00	535.00	558.00	582.00	606.00	632.00	658.00	687.00	
	GBTU/DIA		0.04	0.15	0.31	0.50	0.69	0.89	1.02	1.08	1.13	1.18	1.24	1.29	1.35	1.41	1.47	1.53	1.59	1.66	1.73	1.80	1.88	
TOTAL TRANSPORTE :																								
TOTAL DEMANDA TRAYECTO BALLENAS - BARRANCABERMEJA :	GBTU/DIA		2.00	2.79	3.63	4.51	5.26	5.63	5.94	6.18	6.43	6.65	6.88	7.11	7.36	7.62	7.89	8.18	8.46	8.76	9.07	9.40	9.73	
	GBTU/ANO		731.36	1018.39	1323.20	1644.87	1920.42	2055.78	2167.37	2255.87	2347.93	2427.09	2511.79	2593.84	2685.24	2781.34	2881.14	2985.63	3087.52	3196.76	3311.70	3430.34	3552.03	

PROMOTORA DEL GASODUCTO CENTRAL

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
 PROYECCION DE DEMANDA SOBRE EL GASODUCTO CENTRAL
 AREA BARRANCABERMEJA Y BUCARAMANGA

ESTUDIOS TECNICOS S.A.

TABLA A3

PERIODOS COMBUSTIBLES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
DEMANDA TOTAL BARRANCA :																					
GBTU/DIA	37.43	51.13	68.20	80.40	91.05	106.11	130.92	134.92	138.31	141.51	144.31	116.41	116.51	116.62	116.73	116.85	116.97	117.09	117.22	117.36	117.50
GBTU/AÑO	13662.80	18664.10	24894.22	29347.12	33232.99	38730.98	47787.43	49244.05	50482.66	51651.28	52673.31	42489.53	42526.95	42565.63	42606.61	42649.95	42693.71	42738.94	42786.70	42837.05	42889.05
DEMANDA TOTAL BUCARAMANGA :																					
GBTU/DIA	5.48	6.42	7.53	8.80	10.05	11.21	11.80	12.11	12.42	12.74	13.07	13.39	13.72	14.06	14.41	14.77	15.14	15.52	15.91	16.31	16.73
GBTU/AÑO	2000.98	2343.25	2749.57	3212.42	3666.78	4090.89	4306.89	4418.69	4534.31	4649.80	4769.11	4887.73	5008.12	5133.31	5260.30	5391.11	5526.76	5665.25	5808.61	5954.86	6107.00
TOTAL DEMANDA BARRANCA - BUCARAMANGA [*]																					
GBTU/DIA	42.91	57.55	75.74	89.20	101.10	117.32	142.72	147.02	150.73	154.25	157.38	129.80	130.23	130.68	131.14	131.62	132.11	132.61	133.14	133.68	134.24
GBTU/AÑO	15663.79	21007.35	27643.79	32559.54	36899.77	42821.87	52094.31	53662.74	55016.97	56301.08	57442.42	47377.25	47535.07	47698.93	47866.91	48041.06	48220.47	48404.19	48595.31	48791.90	48996.05

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 [*] DESCONTANDO LA PRODUCCION ESPERADA DE LOS POZOS DE PAYOA, PROVINCIA, LIZAMA Y MENORES DE LA ZONA.

TABLA A3.1

COMBUSTIBLES		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
INDUSTRIA Y TERMoeLECTRICA																						
=====																						
SUSTITUCION DE FUEL OIL [*]	CONS.POT.	36.70	50.10	67.00	79.00	89.40	104.20	128.80	132.70	136.00	139.10	141.80	113.80	113.80	113.80	113.80	113.80	113.80	113.80	113.80	113.80	113.80
	DEM.A SUST.	36.70	50.10	67.00	79.00	89.40	104.20	128.80	132.70	136.00	139.10	141.80	113.80	113.80	113.80	113.80	113.80	113.80	113.80	113.80	113.80	113.80
	DEM. TOTAL :	36.70	50.10	67.00	79.00	89.40	104.20	128.80	132.70	136.00	139.10	141.80	113.80	113.80	113.80	113.80	113.80	113.80	113.80	113.80	113.80	113.80
RESIDENCIAL																						
=====																						
PROPANO	CONS.POT.	1.04	1.08	1.12	1.16	1.21	1.26	1.31	1.36	1.42	1.47	1.53	1.59	1.66	1.72	1.79	1.86	1.94	2.02	2.10	2.18	2.27
	DEM.A SUST.	0.59	0.79	0.85	0.91	1.03	1.16	1.21	1.26	1.31	1.36	1.53	1.60	1.66	1.73	1.79	1.87	1.94	2.02	2.10	2.18	2.27
	DEM. TOTAL :	0.59	0.79	0.85	0.91	1.03	1.16	1.31	1.36	1.42	1.47	1.53	1.59	1.66	1.72	1.79	1.86	1.94	2.02	2.10	2.18	2.27
QUEROSENO	CONS.POT.	0.29	0.30	0.31	0.33	0.34	0.35	0.37	0.38	0.40	0.41	0.43	0.45	0.46	0.48	0.50	0.52	0.54	0.56	0.59	0.61	0.63
	DEM.A SUST.	0.11	0.16	0.21	0.26	0.30	0.35	0.37	0.38	0.40	0.41	0.43	0.45	0.46	0.48	0.50	0.52	0.54	0.56	0.59	0.61	0.63
	DEM. TOTAL :	0.11	0.16	0.21	0.26	0.30	0.35	0.37	0.38	0.40	0.41	0.43	0.45	0.46	0.48	0.50	0.52	0.54	0.56	0.59	0.61	0.63
ENERGIA ELECTRICA	CONS.POT.	0.07	0.08	0.08	0.08	0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.14	0.14	0.15	0.15	0.16
	DEM.A SUST.	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.14	0.14	0.15	0.15	0.16
	DEM. TOTAL :	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.14	0.14	0.15	0.15	0.16
TOTAL RESIDENCIAL :		0.72	0.97	1.08	1.21	1.38	1.58	1.75	1.82	1.90	1.99	2.07	2.15	2.24	2.33	2.42	2.52	2.62	2.72	2.83	2.95	3.06
TRANSPORTE BARRANCA																						
=====																						
	-BUSES	4.00	17.00	33.00	55.00	77.00	98.00	111.00	115.00	119.00	123.00	128.00	132.00	136.00	141.00	146.00	151.00	156.00	162.00	167.00	173.00	180.00
	-BUNETAS	1.00	2.00	3.00	5.00	6.00	9.00	10.00	10.00	10.00	11.00	11.00	12.00	12.00	12.00	13.00	14.00	14.00	14.00	15.00	16.00	16.00
	-TAXIS	1.00	4.00	8.00	12.00	15.00	16.00	17.00	18.00	19.00	21.00	22.00	23.00	25.00	26.00	27.00	29.00	31.00	32.00	34.00	36.00	38.00
	GBTU/ANO	6.00	23.00	44.00	72.00	98.00	123.00	138.00	143.00	148.00	155.00	161.00	167.00	173.00	179.00	186.00	194.00	201.00	208.00	216.00	225.00	234.00
	GBTU/DIA	0.02	0.06	0.12	0.20	0.27	0.34	0.38	0.39	0.41	0.42	0.44	0.46	0.47	0.49	0.51	0.53	0.55	0.57	0.59	0.62	0.64
DEMANDA TOTAL BARRANCA : [*]	GBTU/DIA	37.43	51.13	68.20	80.40	91.05	106.11	130.92	134.92	138.31	141.51	144.31	116.41	116.51	116.62	116.73	116.85	116.97	117.09	117.22	117.36	117.50
	GBTU/ANO	13662.80	18664.10	24894.22	29347.12	33232.99	38730.98	47787.43	49244.05	50482.66	51651.28	52673.31	42489.53	42526.95	42565.63	42606.61	42649.95	42693.71	42738.94	42786.70	42837.05	42889.05

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[*] DEMANDA TOTAL DESCONTANDO LA PRODUCCION ESPERADA DE LOS POZOS DE PAYOA, PROVINCIA, LIZAMA Y MENORES DE LA ZONA.

TABLA A3.2

COMBUSTIBLES		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
INDUSTRIA																						
=====	CONS.POT.	3.37	3.40	3.44	3.47	3.51	3.54	3.58	3.61	3.65	3.68	3.72	3.76	3.80	3.83	3.87	3.91	3.95	3.99	4.03	4.07	4.11
	DEM.A SUST.	3.37	3.40	3.44	3.47	3.51	3.54	3.58	3.61	3.65	3.68	3.72	3.76	3.80	3.83	3.87	3.91	3.95	3.99	4.03	4.07	4.11
	DEM. TOTAL :	3.37	3.40	3.44	3.47	3.51	3.54	3.58	3.61	3.65	3.68	3.72	3.76	3.80	3.83	3.87	3.91	3.95	3.99	4.03	4.07	4.11
RESIDENCIAL																						
=====																						
GAS NATURAL :	CONS.POT.	1.73	1.77	1.81	1.86	1.90	1.94	1.99	2.03	2.07	2.12	2.16	2.20	2.24	2.29	2.34	2.38	2.43	2.48	2.53	2.58	2.63
	DEM.A SUST.	1.73	1.77	1.81	1.86	1.90	1.94	1.99	2.03	2.07	2.12	2.16	2.20	2.24	2.29	2.34	2.38	2.43	2.48	2.53	2.58	2.63
	DEM. TOTAL :	1.73	1.77	1.81	1.86	1.90	1.94	1.99	2.03	2.07	2.12	2.16	2.20	2.24	2.29	2.34	2.38	2.43	2.48	2.53	2.58	2.63
SUSTITUCION PROPANO :																						
	CONS.POT.	2.37	2.43	2.49	2.56	2.61	2.67	2.73	2.79	2.85	2.91	2.96	3.02	3.08	3.15	3.21	3.27	3.34	3.40	3.47	3.54	3.61
	DEM.A SUST.	0.17	0.51	0.85	1.19	1.53	1.87	1.91	1.95	1.99	2.03	2.07	2.12	2.16	2.20	2.25	2.29	2.34	2.38	2.43	2.48	2.53
	DEM. TOTAL :	0.17	0.51	0.85	1.19	1.53	1.87	1.91	1.95	1.99	2.03	2.07	2.12	2.16	2.20	2.25	2.29	2.34	2.38	2.43	2.48	2.53
SUSTITUCION ENERGIA ELECTRICA																						
	CONS.POT.	0.26	0.26	0.27	0.27	0.28	0.28	0.29	0.29	0.30	0.31	0.31	0.32	0.32	0.33	0.34	0.34	0.35	0.36	0.36	0.37	0.38
	DEM.A SUST.	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.12	0.14	0.16	0.16	0.16	0.17	0.17	0.17	0.18	0.18	0.18	0.19	0.19
	DEM. TOTAL :	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.12	0.14	0.16	0.16	0.16	0.17	0.17	0.17	0.18	0.18	0.18	0.19	0.19
TOTAL RESIDENCIAL BUCARAMANGA :		1.91	2.31	2.70	3.10	3.49	3.89	3.99	4.09	4.19	4.29	4.39	4.48	4.57	4.66	4.75	4.85	4.94	5.04	5.14	5.24	5.35
TRANSPORTE BUCARAMANGA																						
=====																						
	-BUSES	45.00	170.00	341.00	559.00	779.00	999.00	1130.00	1169.00	1210.00	1252.00	1296.00	1341.00	1388.00	1437.00	1487.00	1539.00	1593.00	1648.00	1706.00	1766.00	1828.00
	-BUSETAS	7.00	24.00	47.00	78.00	108.00	138.00	156.00	162.00	167.00	173.00	179.00	186.00	192.00	199.00	206.00	213.00	221.00	228.00	236.00	244.00	253.00
	-TAXIS	21.00	64.00	120.00	177.00	226.00	242.00	260.00	277.00	296.00	315.00	334.00	355.00	376.00	398.00	420.00	443.00	467.00	493.00	519.00	545.00	573.00

	GBTU/ANO	73.00	258.00	508.00	814.00	1113.00	1379.00	1546.00	1608.00	1673.00	1740.00	1809.00	1882.00	1956.00	2034.00	2113.00	2195.00	2281.00	2369.00	2461.00	2555.00	2654.00
	GBTU/DIA	0.20	0.71	1.39	2.23	3.05	3.78	4.24	4.41	4.58	4.77	4.96	5.16	5.36	5.57	5.79	6.01	6.25	6.49	6.74	7.00	7.27
DEMANDA TOTAL BUCARAMANGA :																						
	GBTU/DIA	5.48	6.42	7.53	8.80	10.05	11.21	11.80	12.11	12.42	12.74	13.07	13.39	13.72	14.06	14.41	14.77	15.14	15.52	15.91	16.31	16.73
	GBTU/ANO	2000.98	2343.25	2749.57	3212.42	3666.78	4090.89	4306.89	4418.69	4534.31	4649.80	4769.11	4887.73	5008.12	5133.31	5260.30	5391.11	5526.76	5665.25	5808.61	5954.86	6107.00

PERIODOS COMBUSTIBLES		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
INDUSTRIAL (COCINA - CRUDO)	DEM. TOTAL :	10.00	14.43	18.56	22.67	26.81	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
RESIDENCIAL :																						
PROPANO :	CONS.POT.	1.13	1.16	1.19	1.22	1.24	1.27	1.30	1.33	1.35	1.38	1.41	1.44	1.47	1.50	1.53	1.55	1.57	1.62	1.65	1.67	1.73
	DEM.A SUST.	0.15	0.24	0.40	0.66	1.03	1.27	1.50	1.73	1.76	1.78	1.81	1.84	1.87	1.90	1.93	1.95	1.97	1.99	2.04	2.07	2.13
	DEM. TOTAL :	0.15	0.24	0.40	0.66	1.03	1.27	1.50	1.73	1.76	1.78	1.81	1.84	1.87	1.90	1.93	1.95	1.97	1.99	2.04	2.07	2.13
QUEROSENO :	CONS.POT.	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.11	0.11
	DEM.A SUST.	0.01	0.02	0.03	0.04	0.06	0.07	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.11	0.11
	DEM. TOTAL :	0.01	0.02	0.03	0.04	0.06	0.07	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.11	0.11
ENERGIA ELECTRICA	CONS.POT.	0.11	0.12	0.12	0.12	0.13	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.16	0.16	0.17	0.17	0.17	0.18	0.18	0.19
	DEM.A SUST.	0.01	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.12	0.13	0.15	0.15	0.15	0.16	0.16	0.17	0.17	0.17	0.18	0.18	0.19
	DEM. TOTAL :	0.01	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.12	0.13	0.15	0.15	0.15	0.16	0.16	0.17	0.17	0.17	0.18	0.18	0.19
TOTAL DEMANDA RESIDENCIAL :		0.17	0.29	0.46	0.75	1.20	1.42	1.47	1.81	1.86	1.89	1.94	1.98	1.97	1.75	1.78	1.82	1.86	1.90	1.94	1.98	2.03
DEMANDA TOTAL TRAYECTO :	GBTU/DIA	10.47	14.72	19.02	23.44	28.02	31.42	31.47	31.81	31.86	31.89	31.94	31.98	31.71	31.75	31.78	31.82	31.86	31.90	31.94	31.98	32.03
	GBTU/ANO	3822.75	5373.13	6943.21	8354.09	10226.26	11469.87	11826.23	11502.39	11319.70	11332.70	11537.91	11562.36	11375.04	11327.98	11201.20	11414.67	11628.46	11842.52	11656.87	11671.52	11689.56

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		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
SECTOR TRANSPORTE	[GBTU/AÑO]	746.0	2,941.0	5,903.0	9,750.0	13,565.0	17,403.0	19,477.0	20,010.0	20,265.0	20,529.0	20,802.0	21,084.0	21,377.0	21,680.0	21,993.0	22,317.0	22,653.0	23,000.0	23,360.0	23,732.0	24,117.0
	[GBTU/DIA]	2.0	8.1	16.2	26.7	37.2	47.7	53.4	54.8	55.5	56.2	57.0	57.8	58.6	59.4	60.3	61.1	62.1	63.0	64.0	65.0	66.1
SECTOR INDUSTRIAL [1]	[GBTU/AÑO]	2,145.2	5,608.5	9,335.7	11,549.2	14,208.6	15,720.8	16,371.3	16,570.7	16,491.3	16,412.7	16,334.9	16,349.4	16,364.0	16,378.9	16,393.8	16,409.0	16,424.3	16,439.8	16,455.4	16,471.2	16,487.2
	[GBTU/DIA]	5.9	15.4	25.6	31.6	38.9	43.1	44.9	45.4	45.2	45.0	44.8	44.8	44.8	44.9	44.9	45.0	45.0	45.0	45.1	45.1	45.2
SECTOR RESIDENCIAL [2]	[GBTU/AÑO]	2,985	4,347	5,709	7,177	8,644	10,373	12,259	14,381	16,019	17,190	18,365	19,532	20,381	21,153	21,857	22,250	23,307	23,734	24,167	24,609	25,058
	[GBTU/DIA]	8.2	11.9	15.6	19.7	23.7	28.4	33.6	39.4	43.9	47.1	50.3	53.5	55.8	58.0	59.9	61.0	63.9	65.0	66.2	67.4	68.7
TOTAL	[GBTU/AÑO]	5,875.9	12,896.5	20,948.0	28,475.7	36,417.4	43,496.8	48,107.6	50,961.7	52,775.6	54,131.4	55,501.6	56,965.7	58,121.6	59,212.3	60,243.5	60,975.6	62,384.1	63,173.6	63,982.8	64,812.0	65,662.3
	[GBTU/DIA]	16.1	35.3	57.4	78.0	99.8	119.2	131.8	139.6	144.6	148.3	152.1	156.1	159.2	162.2	165.1	167.1	170.9	173.1	175.3	177.6	179.9
TOTAL	[MPC/AÑO]	5,875.9	12,896.5	20,948.0	28,475.7	36,417.4	43,496.8	48,107.6	50,961.7	52,775.6	54,131.4	55,501.6	56,965.7	58,121.6	59,212.3	60,243.5	60,975.6	62,384.1	63,173.6	63,982.8	64,812.0	65,662.3
	[MPC/DIA]	16.1	35.3	57.4	78.0	99.8	119.2	131.8	139.6	144.6	148.3	152.1	156.1	159.2	162.2	165.1	167.1	170.9	173.1	175.3	177.6	179.9
PRODUCCION GAS NATURAL APIAY	[MPC/AÑO]	4,059.0	4,380.0	4,380.0	4,380.0	4,380.0	3,906.0	3,541.0	3,395.0	1,497.0	3,285.0	3,066.0	2,555.0	2,081.0	1,716.0	1,387.0						
	[MPC/DIA]	11.1	12.0	12.0	12.0	12.0	10.7	9.7	9.3	4.1	9.0	8.4	7.0	5.7	4.7	3.8						
DEMANDA SOBRE EL GASODUCTO	[MPC/AÑO]	1,816.9	8,516.5	16,568.0	24,095.7	32,037.4	39,590.8	44,566.6	47,566.7	51,278.6	50,846.4	52,435.6	54,410.7	56,040.6	57,496.3	58,856.5	60,975.6	62,384.1	63,173.6	63,982.8	64,812.0	65,662.3
	[MPC/DIA]	5.0	23.3	45.4	66.0	87.8	108.5	122.1	130.3	140.5	139.3	143.7	149.1	153.5	157.5	161.3	167.1	170.9	173.1	175.3	177.6	179.9

SECTOR INDUSTRIAL [1] PRECIO DEL GAS NATURAL IGUAL AL PRECIO DEL CRUDO DE CASTILLA

SECTOR RESIDENCIAL [2] SUSTITUCION DE PROPANO, COCINOL Y ELECTRICIDAD

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
SECTOR TRANSPORTE	[GBTU/AÑO]	746.0	2,941.0	5,903.0	9,750.0	13,565.0	17,403.0	19,477.0	20,010.0	20,265.0	20,529.0	20,802.0	21,084.0	21,377.0	21,680.0	21,993.0	22,317.0	22,653.0	23,000.0	23,360.0	23,732.0	24,117.0
	[GBTU/DIA]	2.0	8.1	16.2	26.7	37.2	47.7	53.4	54.8	55.5	56.2	57.0	57.8	58.6	59.4	60.3	61.1	62.1	63.0	64.0	65.0	66.1
SECTOR INDUSTRIAL [1]	[GBTU/AÑO]	2,346.9	6,112.2	10,200.9	12,960.5	16,241.3	18,257.3	18,710.7	19,115.4	19,023.8	18,933.1	18,843.4	18,860.1	18,877.0	18,894.1	18,911.3	18,928.8	18,946.5	18,964.3	18,982.4	19,000.6	19,019.1
	[GBTU/DIA]	6.4	16.7	27.9	35.5	44.5	50.0	51.3	52.4	52.1	51.9	51.6	51.7	51.7	51.8	51.8	51.9	51.9	52.0	52.0	52.1	52.1
SECTOR RESIDENCIAL [2]	[GBTU/AÑO]	2,985	4,347	5,709	7,177	8,644	10,373	12,259	14,381	16,019	17,190	18,365	19,532	20,381	21,153	21,857	22,250	23,307	23,734	24,167	24,609	25,058
	[GBTU/DIA]	8.2	11.9	15.6	19.7	23.7	28.4	33.6	39.4	43.9	47.1	50.3	53.5	55.8	58.0	59.9	61.0	63.9	65.0	66.2	67.4	68.7
TOTAL	[GBTU/AÑO]	6,077.6	13,400.2	21,813.2	29,887.1	38,450.1	46,033.4	50,447.0	53,506.4	55,308.1	56,651.8	58,010.0	59,476.4	60,634.5	61,727.5	62,761.0	63,495.4	64,906.3	65,698.2	66,509.7	67,341.3	68,194.2
	[GBTU/DIA]	16.7	36.7	59.8	81.9	105.3	126.1	138.2	146.6	151.5	155.2	158.9	162.9	166.1	169.1	171.9	174.0	177.8	180.0	182.2	184.5	186.8
TOTAL	[MPC/AÑO]	6,077.6	13,400.2	21,813.2	29,887.1	38,450.1	46,033.4	50,447.0	53,506.4	55,308.1	56,651.8	58,010.0	59,476.4	60,634.5	61,727.5	62,761.0	63,495.4	64,906.3	65,698.2	66,509.7	67,341.3	68,194.2
	[MPC/DIA]	16.7	36.7	59.8	81.9	105.3	126.1	138.2	146.6	151.5	155.2	158.9	162.9	166.1	169.1	171.9	174.0	177.8	180.0	182.2	184.5	186.8
PRODUCCION GAS NATURAL APIAY	[MPC/AÑO]	4,059.0	4,380.0	4,380.0	4,380.0	4,380.0	3,906.0	3,541.0	3,395.0	1,497.0	3,285.0	3,066.0	2,555.0	2,081.0	1,716.0	1,387.0						
	[MPC/DIA]	11.1	12.0	12.0	12.0	12.0	10.7	9.7	9.3	4.1	9.0	8.4	7.0	5.7	4.7	3.8						
DEMANDA SOBRE EL GASODUCTO	[MPC/AÑO]	2,018.6	9,020.2	17,433.2	25,507.1	34,070.1	42,127.4	46,906.0	50,111.4	53,811.1	53,366.8	54,944.0	56,921.4	58,553.5	60,011.5	61,374.0	63,495.4	64,906.3	65,698.2	66,509.7	67,341.3	68,194.2
	[MPC/DIA]	5.5	24.7	47.8	69.9	93.3	115.4	128.5	137.3	147.4	146.2	150.5	155.9	160.4	164.4	168.1	174.0	177.8	180.0	182.2	184.5	186.8

SECTOR INDUSTRIAL [1] PRECIO DEL GAS NATURAL IGUAL A 0.90 DEL PRECIO DEL CRUDO DE CASTILLA

SECTOR RESIDENCIAL [2] SUSTITUCION DE PROPANO, COCINOL Y ELECTRICIDAD

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
 PROYECCION DE DEMANDA DE GAS NATURAL SOBRE EL GASODUCTO CENTRAL
 AREA BOGOTA - ALTERNATIVA No. 3

TABLA A5.3

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
SECTOR TRANSPORTE	[GBTU/ANO]	746.0	2,941.0	5,903.0	9,750.0	13,565.0	17,403.0	19,477.0	20,010.0	20,265.0	20,529.0	20,802.0	21,084.0	21,377.0	21,680.0	21,993.0	22,317.0	22,653.0	23,000.0	23,360.0	23,732.0	24,117.0
	[GBTU/DIA]	2.0	8.1	16.2	26.7	37.2	47.7	53.4	54.8	55.5	56.2	57.0	57.8	58.6	59.4	60.3	61.1	62.1	63.0	64.0	65.0	66.1
SECTOR INDUSTRIAL [1]	[GBTU/ANO]	2,145.2	5,608.5	9,335.7	11,549.2	14,208.6	15,720.8	16,371.3	16,570.7	16,491.3	16,412.7	16,334.9	16,349.4	16,364.0	16,378.9	16,393.8	16,409.0	16,424.3	16,439.8	16,455.4	16,471.2	16,487.2
	[GBTU/DIA]	5.9	15.4	25.6	31.6	38.9	43.1	44.9	45.4	45.2	45.0	44.8	44.8	44.8	44.9	44.9	45.0	45.0	45.0	45.1	45.1	45.2
SECTOR RESIDENCIAL [2]	[GBTU/ANO]	2,670	3,612	4,554	5,497	6,439	7,224	8,166	9,109	9,594	9,768	9,947	10,129	10,315	10,503	10,696	10,891	11,090	11,293	11,500	11,711	11,924
	[GBTU/DIA]	7.3	9.9	12.5	15.1	17.6	19.8	22.4	25.0	26.3	26.8	27.3	27.8	28.3	28.8	29.3	29.8	30.4	30.9	31.5	32.1	32.7
TOTAL	[GBTU/ANO]	5,560.9	12,161.5	19,793.0	26,795.7	34,212.4	40,347.8	44,014.6	45,689.2	46,350.1	46,709.9	47,084.1	47,562.7	48,055.7	48,562.0	49,083.1	49,617.0	50,167.7	50,732.8	51,315.7	51,914.0	52,528.6
	[GBTU/DIA]	15.2	33.3	54.2	73.4	93.7	110.5	120.6	125.2	127.0	128.0	129.0	130.3	131.7	133.0	134.5	135.9	137.4	139.0	140.6	142.2	143.9
TOTAL	[MPC/ANO]	5,560.9	12,161.5	19,793.0	26,795.7	34,212.4	40,347.8	44,014.6	45,689.2	46,350.1	46,709.9	47,084.1	47,562.7	48,055.7	48,562.0	49,083.1	49,617.0	50,167.7	50,732.8	51,315.7	51,914.0	52,528.6
	[MPC/DIA]	15.2	33.3	54.2	73.4	93.7	110.5	120.6	125.2	127.0	128.0	129.0	130.3	131.7	133.0	134.5	135.9	137.4	139.0	140.6	142.2	143.9
PRODUCCION GAS NATURAL APIAY	[MPC/ANO]	4,059.0	4,380.0	4,380.0	4,380.0	4,380.0	3,906.0	3,541.0	3,395.0	1,497.0	3,285.0	3,066.0	2,555.0	2,081.0	1,716.0	1,387.0						
	[MPC/DIA]	11.1	12.0	12.0	12.0	12.0	10.7	9.7	9.3	4.1	9.0	8.4	7.0	5.7	4.7	3.8						
DEMANDA SOBRE EL GASODUCTO	[MPC/ANO]	1,501.9	7,781.5	15,413.0	22,415.7	29,832.4	36,441.8	40,473.6	42,294.2	44,853.1	43,424.9	44,018.1	45,007.7	45,974.7	46,846.0	47,696.1	49,617.0	50,167.7	50,732.8	51,315.7	51,914.0	52,528.6
	[MPC/DIA]	4.1	21.3	42.2	61.4	81.7	99.8	110.9	115.9	122.9	119.0	120.6	123.3	126.0	128.3	130.7	135.9	137.4	139.0	140.6	142.2	143.9

SECTOR INDUSTRIAL [1] PRECIO DEL GAS NATURAL IGUAL AL PRECIO DEL CRUDO DE CASTILLA
 SECTOR RESIDENCIAL [2] SIN SUSTITUCION DEL PROPANO Y ELECTRICIDAD

AGOSTO 10 DE 1987

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
SECTOR TRANSPORTE	[GBTU/AÑO]	746.0	2,941.0	5,903.0	9,750.0	13,565.0	17,403.0	19,477.0	20,010.0	20,265.0	20,529.0	20,802.0	21,084.0	21,377.0	21,680.0	21,993.0	22,317.0	22,653.0	23,000.0	23,360.0	23,732.0	24,117.0
	[GBTU/DIA]	2.0	8.1	16.2	26.7	37.2	47.7	53.4	54.8	55.5	56.2	57.0	57.8	58.6	59.4	60.3	61.1	62.1	63.0	64.0	65.0	66.1
SECTOR INDUSTRIAL [1]	[GBTU/AÑO]	2,346.9	6,112.2	10,200.9	12,960.5	16,241.3	18,257.3	18,710.7	19,115.4	19,023.8	18,933.1	18,843.4	18,860.1	18,877.0	18,894.1	18,911.3	18,928.8	18,946.5	18,964.3	18,982.4	19,000.6	19,019.1
	[GBTU/DIA]	6.4	16.7	27.9	35.5	44.5	50.0	51.3	52.4	52.1	51.9	51.6	51.7	51.7	51.8	51.8	51.9	51.9	52.0	52.0	52.1	52.1
SECTOR RESIDENCIAL [2]	[GBTU/AÑO]	2,670	3,612	4,554	5,497	6,439	7,224	8,166	9,109	9,594	9,768	9,947	10,129	10,315	10,503	10,696	10,891	11,090	11,293	11,500	11,711	11,924
	[GBTU/DIA]	7.3	9.9	12.5	15.1	17.6	19.8	22.4	25.0	26.3	26.8	27.3	27.8	28.3	28.8	29.3	29.8	30.4	30.9	31.5	32.1	32.7
TOTAL	[GBTU/AÑO]	5,762.6	12,665.2	20,658.2	28,207.1	36,245.1	42,884.4	46,354.0	48,233.9	48,882.6	49,230.3	49,592.5	50,073.4	50,568.6	51,077.2	51,600.6	52,136.8	52,689.9	53,257.4	53,842.7	54,443.4	55,060.4
	[GBTU/DIA]	15.8	34.7	56.6	77.3	99.3	117.5	127.0	132.1	133.9	134.9	135.9	137.2	138.5	139.9	141.4	142.8	144.4	145.9	147.5	149.2	150.9
TOTAL	[MPC/AÑO]	5,762.6	12,665.2	20,658.2	28,207.1	36,245.1	42,884.4	46,354.0	48,233.9	48,882.6	49,230.3	49,592.5	50,073.4	50,568.6	51,077.2	51,600.6	52,136.8	52,689.9	53,257.4	53,842.7	54,443.4	55,060.4
	[MPC/DIA]	15.8	34.7	56.6	77.3	99.3	117.5	127.0	132.1	133.9	134.9	135.9	137.2	138.5	139.9	141.4	142.8	144.4	145.9	147.5	149.2	150.9
PRODUCCION GAS NATURAL APIAY	[MPC/AÑO]	4,059.0	4,380.0	4,380.0	4,380.0	4,380.0	3,906.0	3,541.0	3,395.0	1,497.0	3,285.0	3,066.0	2,555.0	2,081.0	1,716.0	1,387.0						
	[MPC/DIA]	11.1	12.0	12.0	12.0	12.0	10.7	9.7	9.3	4.1	9.0	8.4	7.0	5.7	4.7	3.8						
DEMANDA SOBRE EL GASODUCTO	[MPC/AÑO]	1,703.6	8,285.2	16,278.2	23,827.1	31,865.1	38,978.4	42,813.0	44,838.9	47,385.6	45,945.3	46,526.5	47,518.4	48,487.6	49,361.2	50,213.6	52,136.8	52,689.9	53,257.4	53,842.7	54,443.4	55,060.4
	[MPC/DIA]	4.7	22.7	44.6	65.3	87.3	106.8	117.3	122.8	129.8	125.9	127.5	130.2	132.8	135.2	137.6	142.8	144.4	145.9	147.5	149.2	150.9

SECTOR INDUSTRIAL [1] PRECIO DEL GAS NATURAL IGUAL A 0.90 DEL PRECIO DEL CRUDO DE CASTILLA

SECTOR RESIDENCIAL [2] SUSTITUCION DE PROPANO, COCINOL Y ELECTRICIDAD

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TABLA I8.2 ANALISIS DE PENETRACION. PRONOSTICO DE LA PENETRACION ESPERADA EN LA INDUSTRIA ENCUESTADA. PRECIO DEL GAS NATURAL IGUAL A 0.9 DEL PRECIO DEL CRUDO DE CASTILLA

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LISTADO DE EMPRESAS ENTREVISTADAS EN BOGOTA

TABLA I.1

No. ORDEN	NOMBRE EMPRESA	DIRECCION	ACTIVIDAD ECONOMICA CLASIFIC. DANE	No. EMPLEADOS	No. ORDEN	NOMBRE EMPRESA	DIRECCION	ACTIVIDAD ECONOMICA CLASIFIC. DANE	No. EMPLEADOS
1	HILACOL	C99-K49	321	400	90	COLCERAMICA	MADRID	361	1200
2	ELEFANTE LA LLAVE	C14-K43	352	180	91	PRODIERO	BOSA	381	320
3	FUNDID. NACIONAL	C20-K33	303	93	92	CONALVIDRIOS	CKM16-KAS	362	850
4	PROQUINAL S.A	C11-K34	321	600	93	LAFAYETTE	C23-K36	321	460
5	POLIQUIMICOS	C435-K53	351	50	94	COLTABACO	CAM-K52	314	220
6	PFIZER	AUT-SUR	352	200	95	VECOL	CAD-K82	352	280
7	SANICOL	C8-K27	352	230	96	KAPITOL	C5-K68	384	750
8	CROYDON	C61KAUTS	355	1236	97	FLORES BOSQUE	FUNZA	430	250
9	LAB. WYETH	C13-K65	319	300	98	ACEITALES	C12-K37	311	1000
10	PROLECHE	CHIA	317	155	99	COLMENA	C61S-KAS	371	200
11	TUBOS MOORE	C305-K5	369	200	100	CORPACERO	C22-K68	371	250
12	ASTRO FUNDICIONES	MOSQUERA	371	230	101	DISCOS CBS	C61S-KAS	383	142
13	ICASA	CAM-K63	382	1000	102	BAVARIA	C12-K83	313	1000
14	PAVCO	C75SKAFLL	356	950	103	GRASAS DEL INTER.	MOSQUERA	311	100
15	MULTIPLAS	C10-K68	356	1200	104	COLAUTOM	C13-K58	384	1090
16	ARTECTO	C26-K35	332	300	105	ACC. CUL. POPULAR	C15-K39	342	400
17	COM. RICOS	C90-K41	312	200	106	TEXTILES EGO	C15-K63	321	200
18	FUND. SANTA FE	C3-K63	382	12	107	ALCALIS	ZIPAQUIRA	351	1000
19	NATESA	C475-K60	321	160	108	MATAD. DISTRITAL	C13-K31	318	150
20	SWANTEX	C16-K34	321	330	109	PROMASA	FACA	315	130
21	TRES M	SOACHA	390	320	110	QUIM. PANAMERICANA	MUNA	351	40
22	INDUACERO	C13-K39	383	270	111	CHAMBOURCY	FACA	317	146
23	LAB. UNDR	C19-K68	352	300	112	PENNWOLT	C18-K50	351	80
24	CHARMS	C18-K33	316	600	113	COLCH. PARAISO	C65-K94	332	220
25	PROTELA	C66-K93	321	1000	114	E Y M	C17-K68	355	500
26	PROFICOL	CHZUCA	351	145	115	COLMOTORES	C565-KAB	384	1000
27	COLORTEK	C10-K54	321	240	116	SEUAS JACOB	C17-K68	321	261
28	ICOBORADOS	C16-K68	321	350	117	NAL. DE CHOCOLATES	C12-K65	316	300
29	INMA BOL	C9-K22	324	380	118	SPLENDIO	C17-K36	316	400
30	FIBERGLAS	MOSQUERA	362	150	119	PELDAR	COGUA	362	1000
31	MARGARITA	C21-K69	312	330	120	FLORES COLOMBIA	ENGATIVA	430	450
32	PUPY FASHIONS	C10-K38	322	200	121	HOT. COSMOS	C100-K21	440	100
33	COMAPAN	C13-K42	315	380	122	HOSP. SIMON BVAR	C165-K7	410	620
34	DORIA	C16-K41	315	450	123	HOT. EL PARQUE	C24-K4	440	35
35	LICORERA C/MARCA	C10-K36	313	300	124	HOSP. SAN JUAN DIOS	C1-K10	410	1500
36	SPECIA	CAM-K53	352	200	125	HOT. HILTON	C16-K7	440	350
37	YALE	C12-K32	381	200	126	CERVEC. ANDINA	C22-K30	313	750
38	LADR. SANTA FE	SOACHA	369	400	127	HOSP. SANJOSE	C10-K18	410	1200
39	LADR. SANTA FE	USME	369	450	128	HOSP. MILITAR	C49-K5	410	777
40	COOVINAL	CAORIENTE	362	280	129	HOSP. MISERICORDIA	C1-K14	410	544
41	VPJOHN	C45-K93	352	225	130	HOT. TEQUENDAMA	C26-K13	440	800
42	FADALT	C18-K68	383	269	131	HOSP. INFANTIL	C68-K38	410	900
43	PHARMETIQ	C13-K65B	352	300	132	HOSP. ROOSEVEL	C46-K1	410	220
44	EMCABLES	C110-K9	381	250	133	CLUB MILITAR	C13-K50	420	310
45	RAMO	MOSQUERA	315	400	134	SENA	C185-K30	450	214
46	QUIMICA ANDINA	CKM4-KAS	361	200	135	TULIPAN	C475-K60	312	75
47	MEALS	C98-K49	317	500	136	HOT. BACATA	C19-K5	440	150
48	PABSA	MOSQUERA	369	270	137	INDARTES	C20-K68	321	60
49	PANAM	C101-K50	356	800	138	MATAD. SAN MARTIN	C98-K48	318	500
50	CERAMITA	SOPO	361	220	139	COGRA LEVER	C13-K45	311	600
51	HILAT	C575-K67	321	230	140	CONSERVAS	C61-K85	319	100
52	MERCK	C10-K65	352	290	141	INST. CANCEROLOGIA	C1-K9	410	800
53	CANTAFLARO	MOSQUERA	318	70	142	HOT. DANN	C19-K5	440	60
54	DESA SA	C6-K35	352	200	143	FLORES AMERICA	FUNZA	430	2000
55	AVIANCA	AEROPUERT	384	1200	144	LACT. SANTA FE	C9-K27	317	7777
56	CARTON DE COL.	CAM-K56	341	160	145	SOLLA	MOSQUERA	312	60
57	SILICAL	C169-K7	369	41	146	FAVIDRIO	MADRID	362	190
58	ALFAGRES	SOACHA	369	250	147	ENVASES ROK	MOSQUERA	381	110
59	COCHOLA	CAD-K83	313	40	148	HOSP. SAN IGNACIO	C40-K7	410	700
60	BAYER	CAM-K57	352	400	149	LECH. ALGARRA	C18-K38	317	50
61	PURINA	MOSQUERA	312	150	150	IMAL	C92-K129	381	220
62	TEXNYLON	C13-K44	321	550	151	ENV. DIANA	C32-K122	381	70
63	LA CAMPINA	CAM-K42	317	305	152	HOT. PRESIDENTE	C23-K9	440	45
64	AQUAFORJA	C20-K65	385	194	153	S.OO.PP.	C9-K34	354	100
65	ETERNA	C13-K66	355	250	154	CLUB EMPLEAD. OFIC.	C63-K50	420	200
66	CERV. ALEMANA	C-ORIENTE	313	160	155	CLINICA PALERMO	C42-K22	410	200
67	IND. CRUZ	CKM5-KAS	381	210	156	CURTIEM. COLON	CKM13-KAS	323	110
68	ORGAN. FARMACEUTICA	C18-K34	352	500	157	FILMTEX	C625-K74	356	74
69	HILASINTEC	C11-K68	321	150	158	BATALL. GUARDIA	C7-K8	460	1500
70	GRIVAL	FUNZA	356	300	159	SEGURA	C31-K116	383	150
71	FINCA S.A	C15-K34	312	190	160	FRIG. SUIZO	C22-K129	318	274
72	DISTRACO	C12-K44	318	500	161	ETERNIT	SIBATE	369	1053
73	QUIBI SA	C1-K17	352	300	162	ICOLLANTAS	MUNA	355	1050
74	CIBA	C11-K65	352	250	163	ELIOT	C21-K68	322	500
75	AZUL K	C525-K70	352	123	164	SIDEMUNA	CHUSACA	371	310
76	TEXTILIM	C12-K60	321	990	165	ESPECTADOR	C22-K68	342	1300
77	HILANDERI	C24-K95	321	550	166	COLCURTIIDOS	BOSA	323	490
78	ALAMB. Y MALLAS	C425-K54	381	320	167	CARBOQUIMICA	CKM4-KAS	351	350
79	PROTELA	C66-K93	321	250	168	COLCAKBURO	CAJICA	351	170
80	FAB. NAL. MUÑECOS	CAM-K55	390	00	169	ALPINA	SOPO	317	1000
81	GASEOSAS LUX	CAM-K53	313	438	170	ACEGRASAS	C575-KAS	311	250
82	TEXTILES CARON	C12-K58	321	250	171	ACEGRACOL	C435-K55	311	79
83	BRISTOL	C4-K19	352	80	172	LIQUIDO CARBONICO	C34-K21	351	50
84	ARTEFAC. AMERICAN	C9-K53	381	190	173	MOBIL	C78-KAS	354	38
85	QUIMICA SCHERING	C18-K33	352	300	174	DURATEX	C23-K68	321	20
86	ABBOTT	CAD-K96	352	200	175	ASITEX	C19-K63	321	110
87	ITALMEX	CAD-K91	352	300	176	FLORES DE FUNZA	FUNZA	430	250
88	COLINAGRO	BOSA	382	200	177	GRASCO	C7-K35	311	642
89	INDEGA	C42-K94	313	850					

ZONIFICACION Y CONSUMO ESTIMADO DE COMBUSTIBLES
PARA 1986 DE LA INDUSTRIA ENCUESTADA

TABLA I.2

No. ORDEN	ZONA	NOMBRE EMPRESA	DIRECCION	CRUDO DE CASTILLA [GAL/MES]	FUEL OIL [GAL/MES]	DIESEL [GAL/MES]	QUEROSENE [GAL/MES]	PROPANO [GAL/MES]	CARBON [TON/MES]
11	1	TUBOS MOORE	C305-K5						5
39	1	LADR. SANTA FE	USME	25,000					2,000
40	1	COOVINAL	CAORIENTE	24,000		36,000		15,000	
66	1	CERV. ALEMANA	C-ORIENTE	0		144			180
124	1	HOSP. SAN JUAN DIOS	C1-K10	10,000				N.I.	
141	1	INST. ONCOLOGIA	C1-K9		6,700	1,600			
No. EMPRESAS 6				59,000	6,700	37,744	0	15,000	2,185
5	3	PALMANTICOS	C43S-K53	1,480					
6	3	PFIZER	AUT-SUR	2,500		250		45	
8	3	CROYDON	C61KRAUTS	18,200					
14	3	PAVCO	C75SKAFLL	27,734		3,783	5,708	1,071	
19	3	NATESA	C47S-K60	32,000		12,000			
21	3	TRES M	SOACHA	4,200					
26	3	PROFICOL	CAZUCA			4,881			
38	3	LADR. SANTA FE	SOACHA	25,000			1,000		
46	3	QUIMICA ANDINA	CKM4-KAS			12,000			800
51	3	HILAT	C57S-K67	21,600		2,400		358	
58	3	ALFAGRES	SOACHA	80,000				N.I.	
67	3	IND. CRUZ	CKM5-KAS						
75	3	AZUL K	C52S-K70	17,000			900	1,200	
78	3	ALAMB. Y MALLAS	C42S-K54			12,200			
88	3	COLINAGRO	BOSA						528
91	3	PRODIEPO	BOSA			8,000			188
92	3	CONALVIARIOS	CKM16-KAS	350,000		200	52,000	1,500	
99	3	COLMENA	C61S-KAS	10,080		2,520			
101	3	DISCOS CBS	C61S-KAS	7,000					
110	3	QUIM. PANAMERICANA	MUNA			1,000		1,000	
115	3	COLMOTAFES	C56S-KAB			50,000			
135	3	TU IYAH	C47S-K60	5,000		300			
156	3	CURTI M. COLON	CKM13-KAS	5,000					
157	3	FILMTEX	C62S-K74	9,000		450			
161	3	ETERNIL	SIDATE			800			450
162	3	ICULLANTIS	MUNA	100,000	9,000				6,000
164	3	SIDEMUNA	CHUSACA	74,129			11,000	1,943	550
166	3	CULCURTIDOS	BOSA	62,000					
167	3	CARBOQUIMICA	CKM4-KAS	90,000		500		1,500	
170	3	ALEGRASAS	C57S-KAS	130,000		9,600		672	
171	3	ACEGRACOL	C43S-K55	31,000					
172	3	LIQUIDO CARBONICO	C34-K21		75,000				
173	3	MOBIL	C78-KAS		7,600	1,000			
No. EMPRESAS 33				1,102,923	91,600	121,884	70,608	16,455	1,350
2	4	ELEFANTE LA LLAVE	C14-K43	120,000		15,000			
3	4	FUNDID. NACIONAL	C20-K33						
4	4	PROQUINAL S.A.	C11-K34		49,000	21,000			
9	4	LAR. WYETH	C13-K65	25,000	2,000	250		179	
12	4	ASTRO FUNDICIONES	MOSQUERA			450		1,075	
13	4	ICASA	CAM-K63	32,216		31,414		707	
15	4	MULTIPLAS	C10-K68		13,890				
16	4	ARTECTO	C26-K95						32
18	4	FUND. SANTA FE	C3-K63			1,100			5
20	4	SWANTEX	C16-K34	5,000		1,000			
22	4	INDURCERO	C13-K39	10,800			8,000	5,000	
23	4	LAB. UNORA	C19-K68			6,225			
24	4	CHARMS	C18-K39	9,000		2,000		2,000	
27	4	COLORTEX	C10-K54	35,000		35,000			
28	4	ICOBORDADOS	C16-K68		1,397	932			N.I.
29	4	INMA BUL	C9-K22			2,444			
30	4	FIBERGLAS	MOSQUERA	51,000			33,000	39,000	
31	4	MARGARITA	C21-K69			7,000			
32	4	PUPY FASHIONS	C10-K38			120			
33	4	COMAPAN	C13-K42			24,000			
34	4	DURJA	C16-K41	13,812		2,438		80	
35	4	LICORERA C/MARCA	C10-K36	54,000		9,000		179	
36	4	SPECIA	CAM-K53			300			
37	4	YALE	C12-K32			793			
41	4	VPJOHN	C45-K93			1,700		70	
42	4	FADALT	C18-K68			2,600			
43	4	PHARMETIQU	C13-K65B			2,700			
45	4	RAMO	MOSQUERA				20,000	130	
48	4	PABSA	MOSQUERA				10,000	591	
52	4	MERCK	C10-K65			1,500		250	
53	4	CANTAFLARO	MOSQUERA					680	
54	4	DESA SA	C6-K35	150,000		15,000			89
55	4	AVIANCA	AEROPUERT			5,000			
56	4	CARTON DE COL.	CAM-K56	22,600					
59	4	COCCACOLA	CAD-K93			2,200			
60	4	BAYER	CAM-K57			2,000		717	
61	4	PURINA	MOSQUERA	9,000		834			
62	4	TEXNYLON	C13-K44	10,000		250		200	
63	4	LA CAMPINA	CAM-K42		3,500			800	
64	4	AQUAFORJA	C20-K65			2,400		3,000	
65	4	ETERNA	C13-K66	25,000		1,250			
68	4	ORGAN. FARMACEUTICA	C18-K34		4,000				
69	4	HILASINTEC	C11-K68		10,000				
70	4	GRIVAL	FUNZA			3,000	3,000		
71	4	FINCA S.A.	C15-K34	52,000		200			
72	4	DISTRACO	C12-K44			4,500			
73	4	QUIBI SA	C1-K17		12,000				
74	4	CIBA	C11-K65			2,500		448	
76	4	TEXTILIA	C12-K60	75,000		17,000			
77	4	HILANDERI	C24-K95	17,000		1,600			
80	4	FAB. NAL. MUNECOS	CAM-K55					627	
81	4	GASEOSAS LUX	CAM-K53		15,100				
82	4	TEXTILES CARON	C12-K58			12,000			
83	4	BRISTOL	C4-K19			1,450			
84	4	ARTEFAC. AMERICAN	C9-K53				1,000	5,000	
85	4	QUIMICA SCHERING	C18-K33			3,000			
86	4	ABBOTT	CAD-K96	6,679		373		5,874	
87	4	ITALMEX	CAD-K91	1,600		100		81	
89	4	INDEGA	C42-K94	37,300				242	
90	4	COLCERAMICA	MADRID	0		9,000	225,000		

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL A PRECIO CRUDO DE CASTILLA

TABLA I.4.1

CRUDO DE CASTILLA

DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	PRECIO [\$/GAL.]	PRECIO [\$/MBTU]	DEMANDA AHORRO [\$]	ALMACEN [GAL.]	ALMACEN [MBTU]	ALMACENAMIENTO AHORRO * [\$]	GASTOS MANTENIMIENTO [\$]	GASTOS MANTENIMIENTO AHORRO [\$]	TOTAL AHORROS [\$]	COSTO CONVERSION CALDERAS/EMPRESA [\$]	COSTO CONVERSION HORNOS/EMPRESA [\$]	TOTAL COSTOS [\$]	PERIODO RECUPER. N
5,200	780	\$56.85	\$379.00	\$0.00	3,000	450	\$13,644.00	\$13,333.33	\$6,666.67	\$20,310.67	\$1,588,500.00		\$1,588,500.00	NO PAGA
120,000	18,000	\$56.85	\$379.00	\$0.00	60,000	9,000	\$272,080.00	\$8,000.00	\$4,000.00	\$276,080.00	\$6,267,700.00		\$6,267,700.00	NO PAGA
4,480	222	\$53.00	\$393.33	\$38,184.00	3,000	450	\$14,160.00	\$12,840.00	\$6,420.00	\$20,580.00	\$1,131,500.00		\$1,131,500.00	NO PAGA
2,500	375	\$63.00	\$420.00	\$184,500.00	3,500	525	\$17,640.00	\$447,260.47	\$223,630.24	\$420,890.71	\$2,263,000.00		\$2,263,000.00	7.2
16,200	2,730	\$58.80	\$392.00	\$425,880.00	13,000	1,950	\$61,152.00	\$670,000.00	\$435,000.00	\$922,092.00	\$3,177,000.00		\$3,177,000.00	4.2
25,000	3,750	\$57.00	\$380.00	\$45,000.00	25,000	3,750	\$114,000.00	\$1,731,733.16	\$865,866.58	\$1,024,866.58	\$3,177,000.00		\$3,177,000.00	3.7
96,000	5,400	\$56.85	\$379.00	\$0.00	10,000	1,500	\$45,480.00	\$300,000.00	\$150,000.00	\$450,480.00	\$4,765,500.00		\$4,765,500.00	NO PAGA
96,000	4,832	\$56.85	\$379.00	\$0.00	8,250	1,238	\$37,521.00	\$465,987.06	\$232,993.53	\$270,514.53	\$2,263,000.00	\$755,204.04	\$2,018,204.04	29.0
77,734	4,160	\$65.12	\$434.13	\$2,752,322.16	7,040	1,056	\$36,675.56	\$2,824,383.75	\$1,412,191.87	\$4,236,577.62	\$6,881,000.00		\$6,881,000.00	1.8
4,000	4,800	\$56.85	\$379.00	\$0.00	14,000	2,100	\$63,672.00	\$1,454,545.45	\$727,272.73	\$1,181,545.18	\$3,177,000.00		\$3,177,000.00	5.0
5,000	750	\$60.00	\$400.00	\$185,000.00	3,000	450	\$14,400.00	\$208,333.33	\$104,166.67	\$248,500.00	\$1,131,500.00		\$1,131,500.00	4.5
10,000	630	\$57.30	\$332.00	\$22,680.00	9,000	1,350	\$41,256.00	\$120,000.00	\$60,000.00	\$120,256.00	\$2,115,500.00		\$2,115,500.00	NO PAGA
10,000	1,620	\$56.85	\$379.00	\$0.00	3,100	465	\$14,093.30	\$54,453.78	\$27,226.89	\$41,320.69	\$1,131,500.00		\$1,131,500.00	NO PAGA
5,000	1,350	\$65.40	\$436.00	\$923,400.00	12,000	1,800	\$12,784.00	\$132,923.08	\$66,461.54	\$199,385.52	\$2,263,000.00		\$2,263,000.00	2.5
5,000	5,250	\$57.16	\$331.07	\$130,200.00	8,000	1,200	\$36,562.40	\$300,000.00	\$150,000.00	\$316,562.40	\$3,704,000.00		\$3,704,000.00	35.6
5,000	7,650	\$60.00	\$400.00	\$1,927,800.00	20,000	3,000	\$96,000.00	\$7,297,560.98	\$3,648,780.49	\$5,646,780.49	\$4,000,000.00		\$4,000,000.00	0.8
13,012	2,072	\$56.85	\$379.00	\$0.00	4,250	638	\$19,329.00	\$418,673.61	\$209,336.80	\$228,665.80	\$1,923,550.00		\$1,923,550.00	14.5
15,000	6,100	\$56.85	\$379.00	\$0.00	15,000	2,250	\$68,220.00	\$1,337,709.92	\$668,854.96	\$737,074.96	\$4,526,000.00		\$4,526,000.00	8.8
15,000	3,750	\$56.85	\$379.00	\$0.00	20,000	3,000	\$90,960.00	\$125,684.89	\$62,842.44	\$153,802.44	\$1,100,000.00		\$1,100,000.00	11.0
15,000	3,750	\$56.85	\$379.00	\$0.00	30,000	4,500	\$136,440.00	\$56,170.33	\$28,085.16	\$164,525.16	\$1,100,000.00		\$1,100,000.00	9.9
24,000	3,600	\$58.40	\$389.33	\$448,400.00	5,000	750	\$23,360.00	\$71,680.00	\$35,840.00	\$107,200.00	\$1,760,000.00		\$1,760,000.00	4.2
15,000	2,250	\$56.85	\$379.00	\$0.00	1,700	255	\$7,731.60	\$264,596.93	\$132,298.47	\$140,030.07	\$1,131,500.00		\$1,131,500.00	13.5
10,000	1,500	\$61.00	\$406.67	\$438,000.00	3,500	525	\$17,060.00	\$1,158,487.20	\$579,243.60	\$1,737,730.80	\$1,588,500.00		\$1,588,500.00	1.6
40,000	6,000	\$58.95	\$379.00	\$48,000.00	25,000	3,750	\$113,960.00	\$1,043,478.26	\$521,739.13	\$663,699.13	\$1,100,000.00		\$1,100,000.00	1.0
21,000	3,240	\$64.35	\$429.00	\$1,344,000.00	8,100	1,215	\$41,696.80	\$146,315.41	\$73,157.71	\$219,854.51	\$3,333,600.00		\$3,333,600.00	1.8
150,000	22,500	\$56.85	\$379.00	\$0.00	30,000	4,500	\$136,440.00	\$636,363.64	\$318,181.82	\$454,621.92	\$5,023,050.00		\$5,023,050.00	NO PAGA
22,600	3,390	\$56.85	\$379.00	\$0.00	5,000	750	\$22,740.00	\$176,600.00	\$88,300.00	\$111,040.00	\$1,588,500.00		\$1,588,500.00	NO PAGA
27,000	4,050	\$56.85	\$379.00	\$0.00	3,000	450	\$13,644.00	\$445,500.00	\$222,750.00	\$236,394.00	\$3,177,000.00		\$3,177,000.00	NO PAGA
80,000	12,000	\$56.85	\$379.00	\$0.00	85,000	12,750	\$366,580.00	\$1,800,000.00	\$900,000.00	\$1,266,580.00	\$8,000,000.00		\$8,000,000.00	8.9
10,000	1,350	\$56.85	\$379.00	\$0.00	7,500	1,125	\$34,110.00	\$329,469.19	\$164,734.59	\$198,844.59	\$1,588,500.00		\$1,588,500.00	13.2
10,000	1,500	\$56.85	\$379.00	\$0.00	4,000	600	\$18,192.00	\$477,990.43	\$238,995.22	\$257,187.22	\$2,263,000.00		\$2,263,000.00	15.8
28,000	3,750	\$56.85	\$379.00	\$0.00	15,000	2,250	\$68,220.00	\$2,380,952.38	\$1,190,476.19	\$1,258,696.19	\$4,526,000.00		\$4,526,000.00	4.4
52,000	7,800	\$56.85	\$379.00	\$0.00	5,000	750	\$12,740.00	\$42,337.16	\$21,168.58	\$43,908.58	\$1,131,500.00		\$1,131,500.00	NO PAGA
17,000	2,550	\$56.85	\$379.00	\$0.00	6,000	900	\$27,288.00	\$300,000.00	\$150,000.00	\$177,288.00	\$2,720,000.00		\$2,720,000.00	NO PAGA
75,000	11,250	\$56.85	\$379.00	\$0.00	40,000	6,000	\$181,520.00	\$2,036,043.48	\$1,019,021.74	\$1,200,941.74	\$7,455,500.00		\$7,455,500.00	9.0
17,000	2,550	\$63.00	\$420.00	\$642,600.00	4,000	600	\$19,200.00	\$1,370,967.74	\$685,483.87	\$1,347,283.87	\$2,720,000.00		\$2,720,000.00	2.3
106,000	15,900	\$57.00	\$380.00	\$190,800.00	44,000	6,600	\$200,640.00	\$4,382,332.16	\$2,191,166.08	\$2,582,606.08	\$10,158,900.00		\$10,158,900.00	4.9
6,679	1,062	\$56.85	\$379.00	\$0.00	8,000	1,200	\$36,384.00	\$1,550,143.50	\$775,071.75	\$811,455.75	\$3,704,000.00		\$3,704,000.00	5.9
1,600	240	\$56.85	\$379.00	\$0.00	2,830	425	\$12,870.84	\$215,654.54	\$107,827.27	\$120,698.11	\$2,263,000.00		\$2,263,000.00	NO PAGA
37,300	5,595	\$57.65	\$384.33	\$358,080.00	6,000	900	\$17,672.00	\$420,423.70	\$210,211.85	\$230,683.85	\$4,308,500.00		\$4,308,500.00	11.2
302,000	52,500	\$56.85	\$379.00	\$0.00	617,000	92,550	\$2,806,116.00	\$2,567,129.06	\$1,283,564.53	\$4,089,688.59	\$9,245,689.66		\$9,245,689.66	2.6
88,000	10,200	\$56.85	\$379.00	\$0.00	25,000	3,750	\$113,700.00	\$566,666.67	\$283,333.33	\$397,033.33	\$5,819,500.00		\$5,819,500.00	NO PAGA
5,509	826	\$57.00	\$380.00	\$9,916.20	9,000	1,350	\$41,040.00	\$355,355.67	\$177,677.84	\$228,634.04	\$3,704,000.00		\$3,704,000.00	NO PAGA
180,000	27,000	\$56.85	\$379.00	\$0.00	120,000	18,000	\$545,760.00	\$158,732.77	\$79,366.38	\$625,126.38	\$8,462,000.00		\$8,462,000.00	NO PAGA
10,000	1,512	\$56.85	\$379.00	\$0.00	5,500	825	\$25,014.00	\$240,000.00	\$120,000.00	\$145,014.00	\$905,200.00		\$905,200.00	NO PAGA
40,000	6,000	\$62.78	\$418.53	\$2,846,400.00	20,000	3,000	\$100,448.00	\$1,085,130.64	\$542,565.32	\$3,489,413.32	\$2,263,000.00		\$2,263,000.00	1.4
7,000	1,050	\$60.52	\$403.47	\$308,280.00	5,000	750	\$24,208.00	\$500,000.00	\$250,000.00	\$552,488.00	\$2,263,000.00		\$2,263,000.00	4.8
470,000	70,500	\$56.85	\$379.00	\$0.00	320,000	48,000	\$1,455,360.00	\$4,230,000.00	\$2,115,000.00	\$3,570,360.00	\$8,462,000.00		\$8,462,000.00	2.7
18,925	2,895	\$57.53	\$393.67	\$158,970.00	8,000	1,200	\$36,832.00	\$207,212.52	\$103,606.26	\$299,408.26	\$1,572,615.00		\$1,572,615.00	7.1
17,600	2,640	\$56.85	\$379.00	\$0.00	40,000	6,000	\$181,920.00	\$3,000,000.00	\$1,500,000.00	\$1,681,920.00	\$6,346,500.00		\$6,346,500.00	4.7
26,000	4,200	\$56.85	\$379.00	\$0.00	60,000	9,000	\$272,880.00	\$414,540.00	\$207,270.00	\$480,150.00	\$3,177,000.00		\$3,177,000.00	9.8
28,000	3,450	\$56.85	\$379.00	\$0.00	15,000	2,250	\$68,220.00	\$42,592.59	\$21,296.30	\$89,516.30	\$3,851,500.00		\$3,851,500.00	NO PAGA
7,500	1,125	\$56.85	\$379.00	\$0.00	2,940	441	\$13,371.12	\$588,235.29	\$294,117.65	\$307,488.77	\$2,263,000.00		\$2,263,000.00	11.5
N. I.	N. I.	N. I.	N. I.	\$0.00	N. I.	N. I.	N. I.	N. I.	N. I.	N. I.				
4,000	600	\$58.50	\$390.00	\$79,200.00	5,000	750	\$23,400.00	\$96,000.00	\$48,000.00	\$150,600.00	\$1,697,250.00	\$2,750,000.00	\$4,447,250.00	NO PAGA
7,000	1,050	\$59.00	\$393.33	\$180,600.00	12,000	1,800	\$56,640.00	\$96,000.00	\$48,000.00	\$285,240.00	\$1,131,500.00		\$1,131,500.00	5.0
1,200,000	180,000	\$56.85	\$379.00	\$0.00	900,000	120,000	\$3,638,400.00	\$3,224,615.80	\$1,612,307.90	\$5,250,707.90	\$643,968,871.60		\$643,968,871.60	NO PAGA
2,500	375	\$56.85	\$379.00	\$0.00	500	75	\$2,274.00	\$8,737.83	\$4,368.92	\$6,642.92	\$2,263,000.00		\$2,263,000.00	NO PAGA
10,000	1,500	\$56.85	\$379.00	\$0.00	2,600	390	\$11,624.80	\$150,000.00	\$75,000.00	\$86,824.80	\$3,177,000.00		\$3,177,000.00	NO PAGA
130,000	19,500	\$56.85	\$379.00	\$0.00	80,000	12,000	\$363,840.00	\$4,326,704.05	\$2,163,352.03	\$2,527,192.03	\$4,231,000.00		\$4,231,000.00	1.9
31,898	4,755	\$56.85	\$379.00	\$0.00	20,000	3,000	\$90,960.00	\$1,469,859.03	\$734,929.52	\$825,889.52	\$7,408,000.00		\$7,408,000.00	16.4
24,976	3,746	\$61.40	\$409.33	\$1,363,689.60	40,000	6,000	\$196,480.00	\$99,000.00	\$49,500.00	\$1,609,669.60	\$5,292,500.00		\$5,292,500.00	4.0
12,000	1,800	\$56.85	\$379.00	\$0.00	3,000	450	\$13,644.00	\$1,326,601.08	\$663,300.54	\$676,944.54	\$2,263,000.00		\$2,263,000.00	4.0
5,000	750	\$57.05	\$390.33	\$12,000.00	2,500	375	\$11,410.00	\$156,749.15	\$78,374.58	\$101,784.58	\$1,131,500.00		\$1,131,500.00	28.6
2,500	375	\$56.85	\$379.00	\$0.00										

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
 ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
 CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
 PRECIO DEL GAS NATURAL IGUAL A PRECIO CRUDO DE CASTILLA

TABLA 1.4.2

FORM.	FUEL OIL DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	PRECIO [\$/GAL.]	PRECIO [\$/MBTU]	DEMANDA AHORRO [GAL.]	ALMACEN [GAL.]	ALMACEN [MBTU]	ALMACENAMIENTO AHORRO * [GAL.]	GASTOS MANTENIMIENTO [GAL.]	GASTOS MANTENIMIENTO [GAL.]	TOTAL AHORROS [GAL.]	COSTO CONVERSION CALDERAS/EMPRESA [GAL.]	COSTO CONVERSION HORNOS/EMPRESA [GAL.]	TOTAL COSTOS [GAL.]	PERIODO RECUPER. N
4	49,000	7,350	\$94.50	\$630.00	\$22,136,200.00	75,000	11,250	\$567,000.00	\$70,140.00	\$35,070.00	\$22,740,270.00	\$3,015,950.00		\$3,015,950.00	0.1
9	2,000	300	\$93.00	\$620.00	\$186,600.00	3,000	450	\$22,320.00	\$138,538.65	\$69,269.33	\$959,189.33	\$1,131,500.00		\$1,131,500.00	1.3
15	13,890	2,084	\$93.00	\$620.00	\$6,025,482.00	15,000	2,250	\$111,600.00	\$1,680,000.00	\$840,000.00	\$6,977,062.00	\$2,263,000.00		\$2,263,000.00	0.3
28	1,397	210	\$83.50	\$556.67	\$446,760.60	2,700	405	\$18,036.00	\$149,957.06	\$74,978.53	\$599,775.13	\$1,632,000.00		\$1,632,000.00	3.6
63	3,500	525	\$71.40	\$476.00	\$611,100.00	5,000	750	\$23,560.00	\$184,441.86	\$92,220.93	\$731,880.93	\$1,131,500.00		\$1,131,500.00	1.7
68	4,000	600	\$99.00	\$660.00	\$2,023,200.00	1,500	225	\$11,880.00	\$150,000.00	\$75,000.00	\$2,110,080.00	\$1,588,500.00		\$1,588,500.00	0.8
69	10,000	1,500	\$75.00	\$500.00	\$2,176,000.00	10,000	1,500	\$60,000.00	\$240,000.00	\$120,000.00	\$2,358,000.00	\$1,588,500.00		\$1,588,500.00	0.7
73	12,000	1,800	\$56.30	\$375.33	(\$79,200.00)	3,020	453	\$13,602.08	\$750,000.00	\$375,000.00	\$309,402.08	\$2,263,000.00		\$2,263,000.00	11.4
81	15,100	2,265	\$92.95	\$619.67	\$6,541,320.00	2,000	300	\$14,872.00	\$300,000.00	\$150,000.00	\$6,706,192.00	\$1,588,500.00		\$1,588,500.00	0.2
106	4,000	600	\$93.00	\$620.00	\$1,735,200.00	100	15	\$744.00	\$546,341.46	\$273,170.73	\$2,009,114.73	\$1,131,500.00		\$1,131,500.00	0.6
127	11,000	1,650	\$96.00	\$640.00	\$5,167,800.00	3,000	450	\$23,040.00	\$242,053.58	\$121,026.79	\$5,311,866.79	\$3,177,000.00		\$3,177,000.00	0.6
134	N.I.		\$93.00	\$620.00		0	0	\$0.00				\$1,131,500.00		\$1,131,500.00	NO PAGA
136	2,400	360	\$93.00	\$620.00	\$1,041,120.00	800	120	\$5,952.00	\$117,193.03	\$58,596.52	\$1,105,668.52	\$2,263,000.00		\$2,263,000.00	2.3
141	6,700	1,005	\$93.00	\$620.00	\$2,906,460.00	N.I.			\$116,402.41	\$58,201.20	\$2,964,661.20	\$2,040,000.00		\$2,040,000.00	0.7
146	4,500	675	\$114.00	\$760.00	\$3,066,100.00	4,000	600	\$36,480.00	\$9,250.65	\$4,675.32	\$3,127,255.32	\$2,200,000.00	\$2,200,000.00	\$2,200,000.00	0.6
149	3,500	525	\$86.00	\$573.33	\$1,224,300.00	3,000	450	\$20,640.00	\$38,888.89	\$19,444.44	\$1,264,384.44	\$735,475.00		\$735,475.00	0.6
154	12,000	1,800	\$86.00	\$573.33	\$4,197,600.00	7,500	1,125	\$51,600.00	\$1,661,538.45	\$830,769.23	\$5,079,969.23	\$6,354,000.00		\$6,354,000.00	1.4
155	5,000	750	\$78.00	\$520.00	\$1,269,000.00	4,000	600	\$24,960.00	\$14,292.80	\$7,196.40	\$1,301,156.40	\$2,263,000.00		\$2,263,000.00	1.9
158	3,000	450	\$92.95	\$619.67	\$1,299,600.00	2,500	375	\$18,590.00	\$507,945.21	\$253,972.60	\$1,572,162.60	\$1,131,500.00		\$1,131,500.00	0.8
162	9,000	1,350	\$74.00	\$493.33	\$1,852,200.00	5,000	750	\$29,600.00	\$77,785.84	\$38,892.92	\$1,920,692.92	\$2,115,500.00		\$2,115,500.00	1.2
172	75,000	11,250	\$93.00	\$620.00	\$32,535,000.00	42,000	6,300	\$312,480.00	\$150,000.00	\$75,000.00	\$32,922,480.00	\$2,115,500.00		\$2,115,500.00	0.1
173	7,600	1,140	\$18.00	\$120.00	(\$3,543,120.00)	8,000	1,200	\$11,520.00	\$106,646.51	\$53,023.26	(\$3,478,576.74)	\$2,720,000.00		\$2,720,000.00	NO PAGA
174	1,350	203	\$99.00	\$660.00	\$682,830.00	3,500	525	\$27,720.00	\$72,537.31	\$36,268.66	\$746,818.66	\$1,588,500.00		\$1,588,500.00	2.4
177	145,016	21,752	\$93.00	\$620.00	\$62,907,940.80	40,000	6,000	\$257,600.00	\$750,458.05	\$375,229.03	\$63,580,769.83	\$4,231,000.00		\$4,231,000.00	0.1
	23				\$157,114,493.40			\$1,709,796.08	\$4,037,005.89	\$162,860,295.37	\$49,199,925.00	\$2,200,000.00	\$51,399,925.00		0.3

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL A PRECIO CRUDO DE CASTILLA

DIESEL

DEMANDA AL./MES	DEMANDA [MBTU/MES]	PRECIO [\$/GAL]	PRECIO [\$/MBTU]	DEMANDA AHORRO [\$]	ALMACEN [GAL.]	ALMACEN [MBTU]	ALMACENAMIENTO AHORRO \$	GASTOS MANTENIMIENTO [\$]	GASTOS MANTENIMIENTO AHORRO [\$]	TOTAL AHORROS [\$]	COSTO CONVERSION CALDERAS/EMPRESA [\$]	COSTO CONVERSION HORNOS/EMPRESA [\$]	TOTAL COSTOS [\$]	PERIODO RECUPER. N
3,000	416	\$130.00	\$937.34	\$2,787,713.64	1,500	208	\$15,600.00	\$7,692.31	\$1,538.46	\$2,804,852.10	\$1,131,500.00		\$1,131,500.00	0.4
15,000	2,080	\$108.00	\$778.72	\$9,978,568.20	2,000	277	\$17,280.00	\$1,000.00	\$200.00	\$9,996,048.20	\$226,300.00		\$226,300.00	.0
21,000	2,912	\$133.55	\$962.94	\$20,408,595.48	35,000	4,854	\$373,940.00	\$30,060.00	\$6,012.00	\$20,788,547.48	\$1,292,550.00		\$1,292,550.00	0.1
250	35	\$131.00	\$944.55	\$235,309.47	1,000	139	\$10,480.00	\$44,726.05	\$8,945.21	\$254,734.68				
1,000	139	\$134.50	\$969.79	\$983,237.88	800	111	\$10,608.00	\$49,164.21	\$9,832.84	\$1,001,678.72	\$1,131,500.00		\$1,131,500.00	1.2
250	35	\$131.00	\$944.55	\$235,309.47	500	69	\$5,240.00	\$17,317.33	\$4,463.47	\$244,012.94				
450	62	\$131.00	\$944.55	\$423,557.05	100	14	\$1,048.00	\$95,901.09	\$19,180.22	\$443,785.26				
31,414	4,357	\$126.79	\$914.20	\$27,081,011.48	27,100	3,758	\$274,880.72	\$337,453.97	\$19,490.79	\$28,335,303.00	\$2,200,000.00		\$2,200,000.00	6.6
3,783	525	\$130.00	\$937.34	\$3,515,306.90	360	139	\$9,984.00	\$385,254.33	\$77,050.87	\$3,602,341.77				
2,400	333	\$128.00	\$922.92	\$2,172,570.91	800	111	\$10,608.00	\$500,000.00	\$100,000.00	\$2,200,762.91	\$1,100,000.00		\$1,100,000.00	0.5
1,100	153	\$130.00	\$937.34	\$1,022,161.67	110	15	\$1,144.00	\$49,163.25	\$9,832.65	\$1,033,139.32				
12,000	1,664	\$133.00	\$958.97	\$11,582,854.56	2,600	361	\$27,664.00	\$545,454.55	\$109,090.91	\$11,719,609.47				
1,000	139	\$131.00	\$944.55	\$441,237.08	1,500	208	\$15,720.00	\$41,666.67	\$8,333.33	\$455,291.21	\$2,263,000.00		\$2,263,000.00	2.7
6,225	863	\$126.00	\$900.50	\$4,485,705.80	N.I.			\$40,000.00	\$8,000.00	\$4,493,705.80	\$2,263,000.00		\$2,263,000.00	0.4
2,000	277	\$131.00	\$944.55	\$1,882,475.76	1,750	243	\$18,340.00	\$36,430.77	\$7,286.15	\$1,908,101.91				
150	21	\$130.00	\$937.34	\$139,385.68	100	14	\$1,048.00	\$1,250.00	\$250.00	\$140,675.68	\$1,131,500.00		\$1,131,500.00	13.4
4,881	677	\$124.31	\$896.32	\$4,202,335.41	3,000	416	\$1,834.40	\$420,000.00	\$84,000.00	\$4,316,169.81	N.I.		N.I.	
35,000	4,854	\$126.17	\$909.73	\$30,914,725.80	8,000	1,110	\$80,748.80	\$300,000.00	\$60,000.00	\$31,055,474.60	\$6,114,500.00		\$6,114,500.00	0.2
932	129	\$130.00	\$937.34	\$866,049.70	1,800	250	\$18,720.00	\$100,042.94	\$20,008.59	\$904,778.29	\$1,088,000.00		\$1,088,000.00	1.3
2,444	339	\$175.00	\$1,261.81	\$3,590,817.98	N.I.			\$2,480.00	\$496.00	\$3,591,313.98				
7,000	971	\$72.00	\$519.14	\$1,632,665.16	5,000	693	\$28,000.00	\$24,000.00	\$4,800.00	\$1,666,265.16	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	3.1
120	17	\$129.00	\$930.13	\$110,068.55	300	42	\$3,096.00	\$23,458.00	\$4,691.60	\$117,856.15	\$1,131,500.00		\$1,131,500.00	19.0
24,000	3,329	\$124.00	\$894.08	\$20,573,709.12	3,000	416	\$29,760.00	\$3,552,000.00	\$710,400.00	\$21,313,869.12	\$4,526,000.00	\$8,800,000.00	\$13,326,000.00	0.7
2,438	338	\$130.00	\$937.34	\$2,265,481.95	750	104	\$7,800.00	\$82,859.15	\$16,571.83	\$2,289,863.78	\$339,450.00		\$339,450.00	0.2
9,000	1,248	\$130.00	\$937.34	\$8,363,140.92	1,500	208	\$15,600.00	\$195,016.81	\$39,003.36	\$8,417,744.28				
300	42	\$88.00	\$634.51	\$127,571.36	1,000	139	\$7,040.00	\$20,000.00	\$4,000.00	\$138,611.36	\$1,131,500.00		\$1,131,500.00	13.8
793	110	\$130.00	\$937.34	\$736,885.64	1,500	208	\$15,600.00	\$111,000.00	\$22,200.00	\$774,685.64	\$1,100,000.00		\$1,100,000.00	1.6
36,000	4,993	\$129.00	\$930.13	\$33,020,563.68	500	69	\$5,160.00	\$107,520.00	\$21,504.00	\$33,047,227.68	\$2,640,000.00		\$2,640,000.00	0.1
1,700	236	\$131.10	\$945.27	\$1,602,144.40	1,700	236	\$17,829.60	\$21,322.03	\$4,264.41	\$1,624,238.40	\$1,131,500.00		\$1,131,500.00	0.7
2,600	361	\$140.00	\$1,009.45	\$2,728,018.49	3,000	416	\$33,600.00	\$111,000.00	\$22,200.00	\$2,783,818.49	\$1,131,500.00		\$1,131,500.00	0.4
2,700	374	\$130.00	\$937.34	\$2,508,942.28	4,000	555	\$41,600.00	\$46,749.12	\$9,349.82	\$2,559,892.10	\$1,100,000.00		\$1,100,000.00	1.4
25,852	3,585	\$135.00	\$973.39	\$25,573,777.67	6,000	832	\$64,800.00	\$421,822.19	\$84,364.44	\$25,722,942.11	\$1,131,500.00	\$4,646,551.72	\$5,778,051.72	0.2
12,000	1,664	\$125.00	\$901.29	\$10,430,854.56	4,000	555	\$40,000.00	\$111,000.00	\$22,200.00	\$10,493,054.56	\$2,720,000.00		\$2,720,000.00	0.3
2,960	411	\$126.00	\$908.50	\$2,608,464.12	1,300	180	\$13,104.00	\$600.00	\$120.00	\$2,621,688.12	\$1,131,500.00		\$1,131,500.00	0.5
2,400	333	\$130.00	\$937.34	\$2,230,170.91	300	125	\$9,360.00	\$16,257.27	\$3,251.45	\$2,242,782.37	\$370,400.00		\$370,400.00	0.2
1,500	208	\$130.00	\$937.34	\$1,393,856.82	500	69	\$5,200.00	\$55,045.87	\$11,009.17	\$1,410,065.99	\$1,131,500.00		\$1,131,500.00	0.9
15,000	2,080	\$124.31	\$896.32	\$12,914,368.20	5,000	693	\$49,724.00	\$63,636.36	\$12,727.27	\$12,976,819.47	\$2,602,450.00	\$1,200,000.00	\$3,802,450.00	0.3
5,000	693	\$129.00	\$930.13	\$4,586,189.40	N.I.			\$74,000.00	\$14,800.00	\$4,600,989.40	\$1,131,500.00		\$1,131,500.00	0.3
3,000	416	\$123.00	\$886.87	\$2,535,713.64	1,500	208	\$14,760.00	\$49,500.00	\$9,900.00	\$2,560,373.64				
N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.
2,200	305	\$125.00	\$901.29	\$1,912,323.34	2,000	277	\$20,000.00	\$100,000.00	\$20,000.00	\$1,952,323.34	\$2,263,000.00		\$2,263,000.00	1.3
2,000	277	\$124.00	\$894.08	\$1,714,475.76	200	28	\$1,984.00	\$408,588.08	\$81,717.62	\$1,798,177.38	\$1,131,500.00		\$1,131,500.00	0.7
834	116	\$133.00	\$958.97	\$805,008.39	10,000	1,387	\$106,400.00	\$30,530.81	\$6,106.16	\$917,514.55	\$1,100,000.00		\$1,100,000.00	1.3
250	35	\$131.00	\$944.55	\$235,309.47	750	104	\$7,860.00	\$11,949.76	\$2,389.95	\$245,559.42				
2,400	333	\$130.00	\$937.34	\$2,230,170.91	1,200	166	\$12,480.00	\$11,111.11	\$2,222.22	\$2,244,873.13	\$1,100,000.00		\$1,100,000.00	0.5
1,250	173	\$123.57	\$930.98	\$1,065,097.35	1,000	139	\$9,885.60	\$119,047.62	\$23,809.52	\$1,098,792.47				
144	20	\$128.14	\$923.93	\$130,596.17	500	69	\$5,125.60	\$1,495.20	\$299.04	\$136,020.81				
3,000	416	\$130.00	\$937.34	\$2,787,713.64	1,000	139	\$10,400.00	\$111,000.00	\$22,200.00	\$2,820,313.64	\$565,750.00	\$1,650,000.00	\$2,215,750.00	0.8
200	28	\$104.77	\$755.43	\$125,295.58	500	69	\$4,190.80	\$162.84	\$32.57	\$129,518.94				
4,500	624	\$113.00	\$814.77	\$3,263,570.46	3,000	416	\$27,120.00	\$45,000.00	\$9,000.00	\$3,299,690.46	\$2,263,000.00	\$1,100,000.00	\$3,363,000.00	1.1
2,500	347	\$131.00	\$944.55	\$2,353,094.70	200	28	\$2,096.00	\$6,784.44	\$1,356.83	\$2,356,547.59	\$1,131,500.00		\$1,131,500.00	0.5
17,000	2,358	\$124.31	\$896.32	\$14,636,283.96	1,300	180	\$12,928.24	\$461,956.52	\$92,391.30	\$14,741,603.50	\$3,394,500.00		\$3,394,500.00	0.2
1,600	222	\$131.00	\$944.55	\$1,505,980.61	700	97	\$7,336.00	\$79,569.89	\$15,913.98	\$1,529,230.59				
12,200	1,692	\$130.00	\$937.34	\$11,336,702.14	5,000	693	\$52,000.00	\$48,000.00	\$9,600.00	\$11,398,302.14	\$1,131,500.00	\$4,400,000.00	\$5,531,500.00	0.5
7,200	999	\$126.17	\$909.73	\$6,359,600.74	5,000	693	\$50,468.00	\$297,667.84	\$59,533.57	\$6,469,602.30	\$953,100.00		\$953,100.00	0.2
12,000	1,664	\$131.00	\$944.55	\$11,294,854.56	2,000	277	\$20,960.00	\$185,000.00	\$37,000.00	\$11,352,814.56	\$3,394,500.00		\$3,394,500.00	0.3
1,450	201	\$123.55	\$830.84	\$1,235,164.93	2,000	277	\$19,768.00	\$60,600.00	\$12,120.00	\$1,267,052.93	\$1,131,500.00		\$1,131,500.00	1.0
3,000	416	\$132.00	\$951.76	\$2,859,713.64	1,500	208	\$15,840.00	\$60,000.00	\$12,000.00	\$2,887,553.64	\$2,263,000.00		\$2,263,000.00	0.8
373	52	\$124.31	\$896.32	\$321,137.29	7,000	971	\$69,613.60	\$86,570.37	\$17,314.07	\$408,064.96				
100	14	\$131.00	\$944.55	\$94,123.79	170	24	\$1,781.60	\$13,478.41	\$2,695.68	\$98,601.07				
9,000	1,248	\$130.00	\$937.34	\$8,363,140.92	10,000	1,387	\$104,000.00	\$14,230.77	\$2,846.15	\$8,469,987.07				
8,000	1,110	\$122.81	\$885.50	\$6,749,663.04	2,500	347	\$24,562.00	\$4,885.12	\$977.02	\$6,769,202.06	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	0.7
200	28	\$130.00	\$937.34	\$185,847.58	1,000	139	\$10,400.00	\$1,283.13	\$256.63	\$196,504.20				
26,000	3,606	\$123.55	\$890.84	\$22,147,784.88	8,000	1,110	\$79,072.00	\$216,666.67	\$43,333.33	\$22,270,190.21	\$1,131,500.00		\$1,131,500.00	0.7
72	10	\$120.00	\$865.24	\$858,265.13	3,000	416	\$28,800.00	\$4,644.33	\$920.87	\$87,993.99				
25,178	3,492	\$130.00	\$937.34	\$23,396,351.34	4,000	555	\$41,600.00	\$371,693.76	\$74,338.75	\$23,512,290.09	\$2,720,000.00		\$2,720,000.00	0.1
60	8	\$140.00	\$1,009.45	\$62,954.27	200	28	\$2,240.00	\$10.53	\$2.11	\$65,196.38				
15,000	2,080	\$131.00	\$944.55	\$14,118,568.20	18,000	2,496	\$188,640.00	\$13,227.73	\$2,645.55	\$14,309,853.75	\$5,440,000.00		\$5,440,000.00	0.4
2,520	349	\$130.00	\$937.34	\$2,341,679.46	1,500	208	\$15,600.00	\$60,000.00	\$12,000.00	\$				

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL A PRECIO CRUDO DE CASTILLA

TABLA I.4.3

DIESEL

DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	PRECIO [\$/GAL]	PRECIO [\$/MBTU]	DEMANDA AHORRO [\$]	ALMACEN [GAL.]	ALMACEN [MBTU]	ALMACENAMIENTO AHORRO * [\$]	GASTOS MANTENIMIENTO [\$]	GASTOS MANTENIMIENTO AHORRO [\$]	TOTAL AHORROS [\$]	COSTO CONVERSION CALDERAS/EMPRESA [\$]	COSTO CONVERSION HORNOS/EMPRESA [\$]	TOTAL COSTOS [\$]	PERIODO RECUPER. N
N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	\$6,000.25	\$1,216.05	\$1,216.05		\$1,100,000.00	\$1,100,000.00	NO PAGA
1,491	207	\$100.99	\$728.17	\$860,446.76	2,000	277	\$16,158.40	\$72,378.64	\$14,475.73	\$897,080.89	\$2,263,000.00	\$1,100,000.00	\$2,263,000.00	2.9
7,926	1,099	\$130.00	\$937.34	\$7,365,139.44	3,000	416	\$31,200.00	\$338,517.02	\$67,703.40	\$7,464,042.84	\$4,526,000.00	\$1,100,000.00	\$4,526,000.00	0.6
500	69	\$130.00	\$937.34	\$464,618.94	500	69	\$5,200.00	\$55,000.00	\$111,000.00	\$580,818.94		\$3,300,000.00	\$3,300,000.00	7.9
300	42	\$131.00	\$944.55	\$282,371.36	1,500	208	\$15,720.00	\$9,404.95	\$1,880.99	\$299,972.35		\$3,300,000.00	\$3,300,000.00	4.7
70	10	\$130.00	\$937.34	\$65,046.65	80	11	\$832.00	\$19,066.15	\$3,813.23	\$69,691.08	\$1,131,500.00		\$33,945.00	0.5
250	35	\$130.00	\$937.34	\$232,309.47	100	14	\$1,040.00	\$3,061.22	\$612.24	\$243,961.71		\$1,100,000.00	\$1,100,000.00	6.1
600	111	\$123.50	\$990.48	\$680,990.30	300	42	\$2,964.00	\$6,792.45	\$1,359.49	\$685,312.79	\$33,945.00		\$452,600.00	0.7
1,600	222	\$130.00	\$937.34	\$1,496,790.61	N.I.	N.I.	N.I.	\$24,963.06	\$4,992.77	\$1,491,773.59	\$452,600.00		\$452,600.00	1.3
110	15	\$131.00	\$944.55	\$103,536.17	N.I.	N.I.	N.I.	\$8,297.96	\$1,647.59	\$105,183.76	\$680,000.00	\$1,100,000.00	\$1,780,000.00	1.3
700	97	\$130.00	\$937.34	\$650,466.52	700	97	\$7,200.00	\$16,709.68	\$3,341.34	\$661,009.45		\$1,131,500.00	\$1,131,500.00	1.9
490	60	\$129.81	\$935.97	\$398,591.89	1,600	222	\$16,615.60	\$12,988.99	\$2,597.80	\$417,005.37				
6,000	832	\$129.00	\$930.13	\$5,503,427.28	5,000	693	\$51,600.00	\$12,467.53	\$2,493.51	\$5,557,520.79				
2,000	277	\$125.05	\$901.65	\$1,739,675.76	2,500	347	\$25,010.00	\$44,400.00	\$8,880.00	\$1,779,565.76				
1,000	139	\$124.50	\$897.69	\$863,237.88	800	111	\$7,968.00	\$11,111.11	\$2,222.22	\$879,428.10	\$396,025.00		\$1,100,000.00	0.7
25,000	3,467	\$124.31	\$896.32	\$21,523,947.00	50,000	6,935	\$497,240.00	\$1,000,000.00	\$200,000.00	\$22,221,187.00		\$1,100,000.00	\$1,100,000.00	0.5
3,000	416	\$131.00	\$944.55	\$2,823,713.64	1,500	208	\$15,720.00	\$70,935.84	\$14,187.17	\$2,853,620.91	\$2,263,000.00		\$9,900,000.00	0.5
50,000	6,935	\$131.00	\$944.55	\$47,061,834.00	5,000	693	\$52,400.00	\$6,000,000.00	\$1,200,000.00	\$48,314,294.00			\$2,263,000.00	0.9
1,500	208	\$109.00	\$778.72	\$997,856.82	2,500	347	\$21,600.00	\$4,317.84	\$863.57	\$1,020,320.39	N.I.			
450	62	\$130.00	\$937.34	\$418,157.05	250	35	\$2,600.00	\$2,857.14	\$571.43	\$421,328.47	\$158,850.00		\$158,850.00	0.4
500	69	\$130.00	\$937.34	\$464,618.94	200	28	\$2,080.00	\$76,027.40	\$15,205.48	\$481,904.42	\$1,131,500.00		\$1,131,500.00	2.7
100	14	\$130.00	\$937.34	\$92,923.79	100	14	\$1,040.00	\$3,935.12	\$787.02	\$94,750.81				
800	111	\$130.00	\$937.34	\$743,390.30	N.I.	N.I.	N.I.	\$959,040.00	\$191,808.00	\$959,198.30				
21,000	2,912	\$107.00	\$771.50	\$13,717,995.48	12,000	1,664	\$102,720.00	\$332,361.98	\$66,472.40	\$13,887,187.88	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	0.2
1,500	208	\$107.00	\$771.50	\$979,856.82	1,200	166	\$10,272.00	\$104,062.50	\$20,812.50	\$1,010,941.32	\$1,131,500.00		\$1,131,500.00	1.2
500	69	\$126.10	\$909.80	\$441,698.94	600	83	\$6,056.64	\$16,304.35	\$3,260.87	\$451,016.45				
15,366	2,131	\$123.50	\$990.48	\$13,080,121.26	10,000	1,387	\$98,800.00	\$301,230.40	\$60,246.08	\$13,239,167.34				
5,284	733	\$124.45	\$977.32	\$4,538,178.56	20,000	2,774	\$199,120.00	\$117,920.63	\$23,584.13	\$4,780,802.68	\$1,100,000.00		\$1,100,000.00	0.1
9,600	1,331	\$104.50	\$753.40	\$5,983,083.65	10,000	1,387	\$98,800.00	\$113,334.15	\$22,666.84	\$6,089,350.49				
1,000	139	\$131.00	\$944.55	\$941,237.88	1,500	208	\$15,720.00	\$13,953.49	\$2,790.70	\$959,748.58	\$1,131,500.00		\$1,131,500.00	1.3
2,000	277	\$131.00	\$944.55	\$1,882,475.76	300	42	\$3,144.00	\$107,462.69	\$21,492.54	\$1,907,112.30	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	1.3
8,000	1,110	\$124.00	\$894.08	\$6,857,903.04	3,000	416	\$29,760.00	\$605,714.29	\$137,142.86	\$7,024,805.90	\$1,131,500.00		\$1,131,500.00	0.2
14,211	1,971	\$130.00	\$937.34	\$13,205,399.51	3,000	416	\$31,200.00	\$66,044.95	\$13,208.99	\$13,249,808.50				
127				\$718,802,451.37			\$4,956,243.84		\$6,382,608.46	\$730,141,303.67	\$112,752,855.00	\$86,981,114.22	\$199,733,969.22	0.3

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL A PRECIO CRUDO DE CASTILLA

TABLA I.4.4

QUEROSENE														
DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	PRECIO [\$/GAL]	PRECIO [\$/MBTU]	DEMANDA AHORRO [\$]	ALMACEN [GAL.]	ALMACEN [MBTU]	ALMACENAMIENTO AHORRO * [\$]	GASTOS MANTENIMIENTO [\$]	GASTOS MANTENIMIENTO AHORRO [\$]	TOTAL AHORROS [\$]	COSTO CONVERSION CALDERAS/EMPRESA [\$]	COSTO CONVERSION HORNO/EMPRESA [\$]	TOTAL COSTOS [\$]	PERIODO RECUPER. N
5,700	771	\$124.31	\$920.81	\$5,010,139.92	5,000	675	\$49,724.00	\$581,293.09	\$116,258.62	\$5,176,122.54		\$2,200,000.00	\$2,200,000.00	0.4
8,000	1,080	\$124.00	\$918.52	\$6,992,160.00	6,000	810	\$59,520.00	\$40,336.13	\$8,067.23	\$7,059,747.23		\$3,300,000.00	\$3,300,000.00	0.5
33,000	4,455	\$115.00	\$851.85	\$25,278,660.00	20,000	2,700	\$184,000.00	\$4,721,951.22	\$944,390.24	\$26,407,050.24				
1,000	135	\$124.00	\$918.52	\$874,020.00	N.I.			\$6,964.67	\$1,392.93	\$875,412.93				
20,000	2,700	\$123.55	\$915.19	\$17,372,400.00	10,000	1,350	\$98,840.00	\$801,311.05	\$160,262.21	\$17,631,502.21	\$1,131,500.00	\$1,100,000.00	\$1,100,000.00	1.4
10,000	1,350	\$127.77	\$946.44	\$9,192,600.00	10,000	1,350	\$102,216.00	\$459,512.20	\$91,902.44	\$9,386,718.44	\$2,263,000.00	\$5,500,000.00	\$6,631,500.00	0.4
900	122	\$125.00	\$925.93	\$797,418.00	300	41	\$3,000.00	\$38,571.43	\$7,714.29	\$808,132.29				
3,000	405	\$124.00	\$918.52	\$2,622,060.00	500	68	\$4,960.00	\$175,800.00	\$35,160.00	\$2,662,180.00	\$565,750.00	\$1,650,000.00	\$2,215,750.00	0.9
1,000	135	\$124.00	\$918.52	\$874,020.00	500	68	\$4,960.00	\$140,000.00	\$28,000.00	\$906,980.00				
225,000	30,375	\$124.00	\$918.52	\$196,654,500.00	200,000	27,000	\$1,984,000.00	\$563,461.54	\$112,692.31	\$198,751,192.31		\$32,400,000.00	\$32,400,000.00	0.2
52,000	7,020	\$123.80	\$917.04	\$45,324,240.00	130,000	17,550	\$1,287,520.00	\$528,372.55	\$105,674.51	\$46,717,434.51		\$1,154,310.34	\$1,154,310.34	.0
255,000	34,425	\$122.36	\$906.37	\$217,856,700.00	50,000	6,750	\$489,440.00	\$949,279.63	\$189,855.93	\$218,535,995.93		\$136,843,385.21	\$136,843,385.21	0.7
N.I.		N.I.			400	54								
11,000	1,485	\$124.00	\$918.52	\$9,614,220.00	5,000	675	\$49,600.00	\$56,849.50	\$11,369.90	\$9,675,189.90				
14				\$538,463,137.92			\$4,317,780.00		\$1,812,740.60	\$544,593,658.52	\$3,960,250.00	\$189,647,695.56	\$193,607,945.56	0.4

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL A PRECIO CRUDO DE CASTILLA

TABLA I.4.5

ORD.	DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	PRECIO [\$/GAL.]	PRECIO [\$/MBTU]	DEMANDA AHORRO [\$/]	ALMACEN [GAL.]	ALMACEN [MBTU]	ALMACENAMIENTO AHORRO [\$/]	GASTOS MANTENIMIENTO [\$/]	GASTOS MANTENIMIENTO AHORRO [\$/]	TOTAL AHORROS [\$/]	PROPANO COSTO CONVERSION HORNOS/EMPRESA [\$/]	PROPANO TOTAL COSTOS [\$/]	PERIODO RECUPER. M
1	3,500	318	\$74.00	\$751.27	\$1,420,466.96	1,000	99	\$5,920.00	\$8,974.36	\$0.00	\$1,426,386.96	\$1,100,000.00	\$1,100,000.00	0.8
6	45	4	\$74.11	\$752.39	\$18,233.28	269	26	\$1,594.85	\$8,013.48	\$0.00	\$19,828.12			
7	17	2	\$120.00	\$1,218.27	\$15,554.60	200	20	\$1,920.00	\$835.79	\$0.00	\$17,474.60			
9	179	16	\$74.11	\$752.39	\$72,933.10	100	10	\$592.88	\$12,410.86	\$0.00	\$73,525.98			
12	1,075	98	\$62.71	\$636.64	\$301,943.17	269	26	\$1,349.49	\$229,098.91	\$0.00	\$303,294.66			
13	707	64	\$74.10	\$752.28	\$287,716.83	300	30	\$1,778.40	\$11,217.58	\$0.00	\$289,495.23			
14	1,071	97	\$76.60	\$777.66	\$465,482.90	3,500	345	\$21,448.00	\$109,068.83	\$0.00	\$486,930.90	\$1,100,000.00	\$1,100,000.00	2.6
22	5,000	454	\$74.11	\$752.39	\$2,035,325.92	2,000	197	\$11,857.60	\$25,210.08	\$0.00	\$2,047,183.52	\$1,100,000.00	\$1,100,000.00	0.6
24	2,000	182	\$74.10	\$752.28	\$813,909.01	1,000	99	\$5,928.00	\$45,686.15	\$0.00	\$819,837.01			
28	N.I.	N.I.				800	79							
30	39,000	3,543	\$74.11	\$752.39	\$15,875,542.21	8,000	788	\$47,430.40	\$5,580,487.80	\$0.00	\$15,922,972.61			
34	80	7	\$74.11	\$752.39	\$32,565.21	500	49	\$2,964.40	\$3,409.68	\$0.00	\$35,529.61			
35	179	16	\$74.11	\$752.39	\$72,933.10	179	18	\$1,061.26	\$4,868.63	\$0.00	\$73,994.36			
40	15,000	1,363	\$74.11	\$752.39	\$6,105,977.77	4,000	394	\$23,715.20	\$44,800.00	\$0.00	\$6,129,692.97	\$4,400,000.00	\$4,400,000.00	0.8
41	70	6	\$68.00	\$690.36	\$23,760.77	N.I.			\$1,101.02	\$0.00	\$23,760.77			
43	130	12	\$74.00	\$751.27	\$52,760.20	100	10	\$592.00	\$2,250.88	\$0.00	\$53,352.20			
44	4,500	409	\$74.11	\$752.39	\$1,831,793.33	4,100	404	\$24,308.08	\$92,079.73	\$0.00	\$1,856,101.41	\$853,448.28	\$853,448.28	0.5
45	591	54	\$56.39	\$572.52	\$124,739.93	1,613	159	\$7,276.97	\$23,688.95	\$0.00	\$132,016.90			
47	358	33	\$74.11	\$752.39	\$145,866.21	134	13	\$794.46	\$41,512.80	\$0.00	\$146,660.67			
48	250	23	\$77.27	\$784.47	\$110,510.03	120	12	\$741.79	\$11,487.80	\$0.00	\$111,251.82			
50	75,000	6,814	\$74.11	\$752.39	\$30,529,888.86	15,000	1,478	\$88,932.00	\$1,956,521.74	\$0.00	\$30,618,820.86	\$14,400,000.00	\$14,400,000.00	0.5
51	358	33	\$74.11	\$752.39	\$145,866.21	269	26	\$1,594.85	\$2,427.32	\$0.00	\$147,461.06			
52	680	62	\$74.11	\$752.39	\$276,804.33	500	49	\$2,964.40	\$24,954.13	\$0.00	\$279,768.73			
60	717	65	\$74.11	\$752.39	\$291,732.42	358	35	\$2,122.51	\$183,608.46	\$0.00	\$293,854.93			
62	200	18	\$74.11	\$752.39	\$81,413.04	150	15	\$889.32	\$9,559.81	\$0.00	\$82,302.36			
63	800	73	\$60.00	\$609.14	\$200,716.33	600	59	\$2,880.00	\$47,479.07	\$0.00	\$203,596.33	\$1,100,000.00	\$1,100,000.00	7.4
64	3,000	273	\$74.10	\$752.28	\$1,220,863.51	1,600	158	\$9,484.80	\$13,888.89	\$0.00	\$1,230,348.31			
67	1,200	109	\$75.00	\$761.42	\$500,298.87	500	49	\$3,000.00	\$51,428.57	\$0.00	\$503,298.87	\$1,100,000.00	\$1,100,000.00	2.5
74	448	41	\$74.11	\$752.39	\$182,332.76	448	44	\$2,656.10	\$1,215.56	\$0.00	\$184,988.86			
79	N.I.	N.I.				N.I.								
80	627	57	\$74.11	\$752.39	\$255,265.87	179	18	\$1,061.26	\$12,500.00	\$0.00	\$256,327.12			
84	5,000	454	\$74.11	\$752.39	\$2,035,325.92	1,800	177	\$10,671.84	\$700,000.00	\$0.00	\$2,045,997.76	\$2,200,000.00	\$2,200,000.00	1.2
86	5,874	534	\$147.26	\$1,495.03	\$7,146,777.90	896	88	\$10,555.66	\$1,363,286.13	\$0.00	\$7,157,333.56			
87	81	7	\$74.11	\$752.39	\$32,819.90	N.I.			\$10,867.06	\$0.00	\$32,819.90			
88	528	48	\$74.11	\$752.39	\$215,067.29	544	54	\$3,225.27	\$46,400.00	\$0.00	\$218,292.56			
89	242	22	\$66.38	\$673.93	\$77,770.51	N.I.			\$2,726.30	\$0.00	\$77,770.51			
91	188	17	\$74.11	\$752.39	\$76,579.76	179	18	\$1,061.26	\$114.88	\$0.00	\$77,641.02			
92	1,500	136	\$75.00	\$761.42	\$625,373.58	4,000	394	\$24,000.00	\$12,068.37	\$0.00	\$649,373.58			
93	26,000	2,362	\$74.11	\$752.39	\$10,583,694.80	5,000	493	\$29,644.00	\$216,666.67	\$0.00	\$10,613,338.80			
95	224	20	\$74.11	\$752.39	\$91,166.38	500	49	\$2,964.40	\$3,306.24	\$0.00	\$94,130.78			
96	150	14	\$74.11	\$752.39	\$61,059.78	700	69	\$4,150.16	\$92,800.00	\$0.00	\$65,209.94			
98	45	4	\$74.11	\$752.39	\$18,233.28	358	35	\$2,122.51	\$39.68	\$0.00	\$20,355.79			
100	100	9	\$74.11	\$752.39	\$40,706.52	139	14	\$824.10	\$2,712.83	\$0.00	\$41,530.62			
103	90	8	\$74.11	\$752.39	\$36,466.55	N.I.			\$1,300.35	\$0.00	\$36,466.55			
104	N.I.	N.I.				89	9							
105	2,500	227	\$51.00	\$517.77	\$378,208.09	N.I.			\$15,300.00	\$0.00	\$378,208.09			
110	1,000	91	\$74.00	\$751.27	\$405,847.70	500	49	\$2,960.00	\$90,000.00	\$0.00	\$408,807.70	\$1,100,000.00	\$1,100,000.00	3.1
113	150	14	\$74.11	\$752.39	\$61,059.78	N.I.			\$139,200.00	\$0.00	\$61,059.78			
119	78,000	7,086	\$74.11	\$752.39	\$31,751,084.41	25,000	2,463	\$148,220.00	\$229,915.87	\$0.00	\$31,899,304.41	\$41,857,976.65	\$41,857,976.65	1.4
120	N.I.	N.I.				500	49	\$2,984.00	\$2,984.00	\$0.00	\$2,984.00			
121	2,150	195	\$74.11	\$752.39	\$875,197.26	1,075	106	\$6,373.46	\$7,514.60	\$0.00	\$881,570.72			
123	300	27	\$63.00	\$639.59	\$85,229.84	500	49	\$2,520.00	\$30,000.00	\$0.00	\$87,749.84	\$1,100,000.00	\$1,100,000.00	NO PAGA
124	N.I.	N.I.				200	20							
125	300	27	\$74.11	\$752.39	\$122,119.56	500	49	\$2,964.40	\$1,792.04	\$0.00	\$125,083.96			
127	1,433	130	\$74.11	\$752.39	\$583,464.84	985	97	\$5,839.87	\$31,540.57	\$0.00	\$589,304.71			
128	450	41	\$74.11	\$752.39	\$183,179.33	89	9	\$527.66	\$20,866.82	\$0.00	\$183,707.00			
131	700	64	\$74.10	\$752.28	\$284,868.15	200	20	\$1,185.60	\$77,385.06	\$0.00	\$286,053.75			
132	157	14	\$113.00	\$1,147.21	\$131,487.58	200	20	\$1,808.00	\$7,621.36	\$0.00	\$133,295.58			
133	503	46	\$74.11	\$752.39	\$204,753.79	1,129	111	\$6,693.62	\$21,482.98	\$0.00	\$211,447.40			
136	1,792	163	\$74.11	\$752.39	\$729,331.05	448	44	\$2,656.10	\$98,530.81	\$0.00	\$731,987.15			
139	448	41	\$74.11	\$752.39	\$182,332.76	448	44	\$2,656.10	\$4,121.78	\$0.00	\$184,988.86			
145	179	16	\$74.11	\$752.39	\$72,933.10	N.I.			\$5,412.13	\$0.00	\$72,933.10			
146	4,500	409	\$78.00	\$791.88	\$2,025,539.03	1,500	148	\$9,360.00	\$9,350.65	\$0.00	\$2,034,899.03			
147	3,000	273	\$74.10	\$752.28	\$1,220,863.51	2,500	246	\$14,820.00	\$89,520.00	\$0.00	\$1,235,683.51	\$1,100,000.00	\$1,100,000.00	1.0
148	800	73	\$74.00	\$751.27	\$324,678.16	500	49	\$2,960.00	\$31,764.71	\$0.00	\$327,638.16			
151	7,800	709	\$73.00	\$741.12	\$3,079,281.52	3,000	296	\$17,520.00	\$232,000.00	\$0.00	\$3,096,801.52	\$2,200,000.00	\$2,200,000.00	0.8
152	806	73	\$74.11	\$752.39	\$328,198.97	500	49	\$2,964.40	\$19,064.16	\$0.00	\$331,163.37			
154	1,000	91	\$73.00	\$741.12	\$394,779.68	400	39	\$2,336.00	\$138,461.54	\$0.00	\$397,115.68	\$2,200,000.00	\$2,200,000.00	7.6
155	448	41	\$74.11	\$752.39	\$182,332.76	2,688	265	\$15,936.61	\$1,289.37	\$0.00	\$198,269.38			
158	150	14	\$71.40	\$724.87	\$56,560.63	450	44	\$2,570.40	\$28,602.74	\$0.00	\$59,131.03			
159	5,000	454	\$70.00	\$710.66	\$1,807,878.11	N.I.			\$6,160.72	\$0.00	\$1,807,878.11			
160	350	32	\$74.36	\$754.92	\$143,441.27	1,000	99	\$5,948.80	\$17,272.00	\$0.00	\$149,390.07	\$6,600,000.00	\$6,600,000.00	NO PAGA
161	450	41	\$74.11	\$752.39	\$183,179.33	N.I.			\$676,512.00	\$0.00	\$183,179.33			
162	6,000	545	\$74.11	\$752.39	\$2,442,391.11	8,000	788	\$47,430.40	\$51,857.23	\$0.00	\$2,489,821.51	\$1,100,000.00	\$1,100,000.00	0.5
163	108	10	\$74.11	\$752.39	\$49,759.86	582	57	\$3,450.56	\$2,133.64	\$0.00	\$47,210.42			
164	1,943	177	\$74.11	\$752.39	\$790,927.65	1,000	99	\$5,928.80	\$10,041.69	\$0.00	\$796,856.45			
165	6,500	591	\$74.00	\$751.27	\$2,638,010.07	2,600	256	\$15,392.00	\$565,500.00	\$0.00	\$2,653,402.07	\$1,100,000.00	\$1,100,000.00	0.4
167	1,500	136	\$79.62	\$808.32	\$702,074.96	3,000	296	\$19,108.80	\$48,913.04	\$0.00	\$721,183.76			
168	179	16	\$74.11	\$752.39	\$72,933.10	268	26	\$1,588.92	\$4,404.69	\$0.00	\$74,522.02			
169	896	81	\$74.11	\$752.39	\$364,665.52	268	26	\$1,588.92	\$25,071.14	\$0.00	\$366,254.44			
170	672	61	\$74.11	\$752.39	\$273,499.14	269	26	\$1,594.85	\$7,931.98	\$0.00	\$275,093.99			
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ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
 ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
 CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
 PRECIO DEL GAS NATURAL IGUAL 0.9 A PRECIO CRUDO DE CASTILLA

TABLA I.4.6

DEMANDA AL./MES]		DEMANDA [MBTU/MES]	PRECIO [\$/GAL.]	PRECIO [\$/MBTU]	DEMANDA AHORRO [#]	ALMACEN [GAL.]	ALMACEN [MBTU]	ALMACENAMIENTO AHORRO M [#]	GASTOS MANTENIMIENTO [#]	GASTOS MANTENIMIENTO AHORRO [#]	TOTAL AHORROS [#]	COSTO CONVERSION CALDERAS/EMPRESA [#]	COSTO CONVERSION HORNO/EMPRESA [#]	TOTAL COSTOS [#]	PERIODO RECUPER. N
5,200		780	\$56.85	\$379.00	\$354,744.00	3,000	450	\$13,644.00	\$13,333.33	\$6,666.67	\$375,054.67	\$1,588,500.00		\$1,588,500.00	5.4
120,000		18,000	\$56.85	\$379.00	\$8,186,400.00	60,000	9,000	\$272,880.00	\$8,000.00	\$4,000.00	\$8,463,280.00	\$6,263,700.00		\$6,263,700.00	0.8
1,480		222	\$59.00	\$393.33	\$139,149.60	3,000	450	\$14,160.00	\$12,840.00	\$6,420.00	\$159,729.60	\$1,131,500.00		\$1,131,500.00	10.9
2,500		375	\$63.00	\$420.00	\$355,050.00	3,500	525	\$17,640.00	\$447,260.47	\$223,630.24	\$596,320.24	\$2,263,000.00		\$2,263,000.00	4.7
18,200		2,730	\$58.80	\$392.00	\$1,667,484.00	13,000	1,950	\$61,152.00	\$870,000.00	\$435,000.00	\$2,163,636.00	\$3,177,000.00		\$3,177,000.00	1.6
25,000		3,750	\$57.00	\$380.00	\$1,750,500.00	25,000	3,750	\$114,000.00	\$1,731,733.16	\$865,866.58	\$2,730,366.58	\$3,177,000.00		\$3,177,000.00	1.3
36,000		5,400	\$56.85	\$379.00	\$2,455,920.00	10,000	1,500	\$45,480.00	\$300,000.00	\$150,000.00	\$2,651,400.00	\$4,765,500.00		\$4,765,500.00	2.0
32,216		4,832	\$56.85	\$379.00	\$2,197,775.52	8,250	1,238	\$37,521.00	\$465,987.06	\$232,993.53	\$2,468,290.05	\$2,263,000.00		\$2,263,000.00	1.3
27,734		4,160	\$65.12	\$434.13	\$4,644,335.64	7,040	1,056	\$36,675.58	\$2,824,383.75	\$1,412,191.87	\$6,093,203.10	\$6,881,000.00	\$755,204.04	\$3,019,204.04	1.3
32,000		4,800	\$56.85	\$379.00	\$2,183,040.00	14,000	2,100	\$63,672.00	\$1,454,545.45	\$727,272.73	\$2,973,984.73	\$3,177,000.00		\$3,177,000.00	1.2
5,000		750	\$60.00	\$400.00	\$530,100.00	3,000	450	\$14,400.00	\$208,333.33	\$104,166.67	\$648,666.67	\$1,131,500.00		\$1,131,500.00	1.2
4,200		630	\$57.30	\$382.00	\$309,204.00	3,000	1,350	\$41,256.00	\$120,000.00	\$60,000.00	\$410,460.00	\$2,115,500.00		\$2,115,500.00	2.0
10,800		1,620	\$56.85	\$379.00	\$736,776.00	3,100	465	\$14,098.80	\$54,453.78	\$27,226.89	\$778,101.69	\$2,115,500.00		\$2,115,500.00	6.9
9,000		1,350	\$65.40	\$436.00	\$1,537,380.00	12,000	1,800	\$62,784.00	\$132,923.08	\$66,461.54	\$1,666,625.54	\$2,263,000.00		\$2,263,000.00	1.6
35,000		5,250	\$57.16	\$381.07	\$2,517,900.00	8,000	1,200	\$36,582.40	\$300,000.00	\$150,000.00	\$2,704,482.40	\$3,704,000.00		\$3,704,000.00	1.5
51,000		7,650	\$60.00	\$400.00	\$5,407,020.00	20,000	3,000	\$96,000.00	\$7,297,560.98	\$3,648,780.49	\$9,151,800.49	\$3,704,000.00		\$3,704,000.00	1.5
13,812		2,072	\$56.85	\$379.00	\$942,254.64	4,250	638	\$19,329.00	\$418,673.61	\$209,336.80	\$1,170,920.44	\$4,000,000.00		\$4,000,000.00	0.5
54,000		8,100	\$56.85	\$379.00	\$3,693,880.00	15,000	2,250	\$68,220.00	\$1,337,709.92	\$668,854.96	\$4,420,954.96	\$1,923,550.00		\$1,923,550.00	1.8
25,000		3,750	\$56.85	\$379.00	\$1,705,500.00	20,000	3,000	\$90,960.00	\$125,684.89	\$63,842.44	\$1,859,302.44	\$4,526,000.00		\$4,526,000.00	1.1
25,000		3,750	\$56.85	\$379.00	\$1,705,500.00	30,000	4,500	\$136,440.00	\$56,170.33	\$28,085.16	\$1,870,025.16	\$1,100,000.00		\$1,100,000.00	0.6
24,000		3,600	\$58.40	\$389.33	\$2,083,680.00	5,000	750	\$23,360.00	\$71,680.00	\$35,840.00	\$2,142,880.00	\$1,100,000.00		\$1,100,000.00	0.6
15,000		2,250	\$56.85	\$379.00	\$1,023,300.00	1,700	255	\$7,731.60	\$264,596.93	\$132,298.47	\$1,163,330.07	\$1,760,000.00		\$1,760,000.00	0.9
10,000		1,500	\$61.00	\$406.67	\$1,180,200.00	3,500	525	\$17,080.00	\$1,158,487.20	\$579,243.60	\$1,776,523.60	\$1,131,500.00		\$1,131,500.00	1.1
40,000		6,000	\$56.95	\$379.67	\$2,776,800.00	25,000	3,750	\$113,900.00	\$1,043,478.26	\$521,739.13	\$3,412,439.13	\$1,588,500.00		\$1,588,500.00	1.0
21,600		3,240	\$64.35	\$429.00	\$3,417,552.00	8,100	1,215	\$41,698.80	\$146,315.41	\$73,157.71	\$3,532,408.51	\$1,100,000.00		\$1,100,000.00	0.3
150,000		22,500	\$56.85	\$379.00	\$10,233,000.00	30,000	4,500	\$136,440.00	\$636,363.64	\$318,181.82	\$10,687,621.82	\$3,333,600.00		\$3,333,600.00	1.0
22,600		3,390	\$56.85	\$379.00	\$1,541,772.00	5,000	750	\$22,740.00	\$176,600.00	\$88,300.00	\$1,652,812.00	\$2,800,000.00		\$2,800,000.00	0.8
27,000		4,050	\$56.85	\$379.00	\$1,841,940.00	3,000	450	\$13,644.00	\$445,500.00	\$222,750.00	\$2,078,334.00	\$1,588,500.00		\$1,588,500.00	1.0
80,000		12,000	\$56.85	\$379.00	\$5,457,600.00	85,000	12,750	\$386,580.00	\$1,800,000.00	\$900,000.00	\$6,744,180.00	\$3,177,000.00		\$3,177,000.00	1.7
9,000		1,350	\$56.85	\$379.00	\$613,980.00	7,500	1,125	\$34,110.00	\$329,469.19	\$164,734.59	\$812,824.59	\$8,000,000.00		\$8,000,000.00	1.3
10,000		1,500	\$56.85	\$379.00	\$682,200.00	4,000	600	\$18,192.00	\$477,990.43	\$238,995.22	\$939,387.22	\$1,588,500.00		\$1,588,500.00	2.2
25,000		3,750	\$56.85	\$379.00	\$1,705,500.00	15,000	2,250	\$68,220.00	\$2,380,952.38	\$1,190,476.19	\$2,964,196.19	\$2,263,000.00		\$2,263,000.00	2.8
52,000		7,800	\$56.85	\$379.00	\$3,547,440.00	5,000	750	\$22,740.00	\$42,337.16	\$21,168.58	\$3,591,348.58	\$4,526,000.00		\$4,526,000.00	1.7
17,000		2,550	\$56.85	\$379.00	\$1,159,740.00	6,000	900	\$27,288.00	\$300,000.00	\$150,000.00	\$1,307,028.00	\$1,100,000.00		\$1,100,000.00	0.7
75,000		11,250	\$56.85	\$379.00	\$5,116,500.00	40,000	6,000	\$181,920.00	\$2,038,043.48	\$1,019,021.74	\$6,317,441.74	\$2,720,000.00		\$2,720,000.00	2.3
17,000		2,550	\$60.00	\$400.00	\$1,802,340.00	4,000	600	\$19,200.00	\$1,370,967.74	\$685,483.87	\$2,507,023.87	\$7,485,500.00		\$7,485,500.00	1.3
106,000		15,900	\$57.00	\$380.00	\$7,422,120.00	44,000	6,600	\$200,640.00	\$4,382,332.16	\$2,191,166.08	\$9,813,926.08	\$10,158,900.00		\$10,158,900.00	1.2
6,679		1,002	\$56.85	\$379.00	\$455,641.38	8,000	1,200	\$36,384.00	\$1,550,143.50	\$775,071.75	\$1,267,097.19	\$3,704,000.00		\$3,704,000.00	1.1
1,600		240	\$56.85	\$379.00	\$109,152.00	2,830	425	\$12,870.84	\$215,654.54	\$107,827.27	\$229,850.11	\$2,263,000.00		\$2,263,000.00	3.5
37,300		5,595	\$57.65	\$384.33	\$2,902,686.00	6,000	900	\$27,672.00	\$420,423.70	\$210,211.85	\$3,140,569.85	\$4,308,500.00		\$4,308,500.00	20.1
350,000		52,500	\$56.85	\$379.00	\$23,877,000.00	617,000	92,550	\$2,806,116.00	\$2,567,129.06	\$1,283,564.53	\$27,966,680.53	\$9,245,689.66		\$9,245,689.66	0.3
68,000		10,200	\$56.85	\$379.00	\$4,638,960.00	25,000	3,750	\$113,700.00	\$566,666.67	\$283,333.33	\$5,035,993.33	\$5,819,500.00		\$5,819,500.00	1.3
5,509		826	\$57.00	\$380.00	\$385,740.18	9,000	1,350	\$41,040.00	\$355,355.67	\$177,677.84	\$604,458.02	\$3,704,000.00		\$3,704,000.00	1.3
180,000		27,000	\$56.85	\$379.00	\$12,279,600.00	120,000	18,000	\$545,760.00	\$158,732.77	\$79,366.38	\$12,904,726.38	\$8,462,000.00		\$8,462,000.00	8.8
10,080		1,512	\$56.85	\$379.00	\$687,657.60	5,500	825	\$25,014.00	\$240,000.00	\$120,000.00	\$832,671.60	\$8,462,000.00		\$8,462,000.00	0.7
40,000		6,000	\$62.78	\$418.53	\$5,575,200.00	20,000	3,000	\$100,448.00	\$1,085,130.64	\$542,565.32	\$6,218,213.32	\$905,200.00		\$905,200.00	5.9
7,000		1,050	\$60.52	\$403.47	\$785,820.00	5,000	750	\$24,208.00	\$500,000.00	\$250,000.00	\$1,060,028.00	\$2,263,000.00		\$2,263,000.00	0.8
470,000		70,500	\$56.85	\$379.00	\$32,063,400.00	320,000	48,000	\$1,455,360.00	\$4,230,000.00	\$2,115,000.00	\$35,633,760.00	\$8,462,000.00		\$8,462,000.00	2.4
18,925		2,839	\$57.55	\$383.67	\$1,450,033.50	8,000	1,200	\$36,832.00	\$207,212.52	\$103,606.26	\$1,590,471.76	\$8,462,000.00		\$8,462,000.00	0.2
17,600		2,640	\$56.85	\$379.00	\$1,200,672.00	40,000	6,000	\$181,920.00	\$3,000,000.00	\$1,500,000.00	\$4,700,000.00	\$1,572,615.00		\$1,572,615.00	1.1
28,000		4,200	\$56.85	\$379.00	\$1,910,160.00	60,000	9,000	\$272,880.00	\$414,540.00	\$207,270.00	\$2,390,310.00	\$6,346,500.00		\$6,346,500.00	2.5
23,000		3,450	\$56.85	\$379.00	\$1,569,060.00	15,000	2,250	\$68,220.00	\$42,592.59	\$21,296.30	\$1,658,576.30	\$3,177,000.00		\$3,177,000.00	1.5
7,500		1,125	\$56.85	\$379.00	\$511,650.00	2,940	441	\$13,371.12	\$588,235.29	\$294,117.65	\$819,138.77	\$3,851,500.00		\$3,851,500.00	2.7
N.I.		N.I.	N.I.	N.I.	\$0.00	N.I.	N.I.	N.I.	N.I.	N.I.	\$19,138.77	\$2,263,000.00		\$2,263,000.00	3.2
4,000		600	\$58.50	\$390.00	\$352,080.00	5,000	750	\$23,400.00	\$96,000.00	\$48,000.00	\$423,480.00	\$1,697,250.00		\$1,697,250.00	23.8
7,000		1,050	\$59.00	\$393.33	\$658,140.00	12,000	1,800	\$56,640.00	\$96,000.00	\$48,000.00	\$762,780.00	\$1,131,500.00		\$1,131,500.00	1.6
1,200,000		180,000	\$56.85	\$379.00	\$81,864,000.00	800,000	120,000	\$3,638,400.00	\$3,224,615.80	\$1,612,307.90	\$87,114,707.90	\$643,968,871.60		\$643,968,871.60	11.6
2,500		375	\$56.85	\$379.00	\$170,550.00	500	75	\$2,274.00	\$8,737.83	\$4,368.92	\$177,192.92	\$2,263,000.00		\$2,263,000.00	NO PAGA
10,000		1,500	\$56.85	\$379.00	\$682,200.00	2,600	390	\$11,824.80	\$150,000.00	\$75,000.00	\$807,024.80	\$3,177,000.00		\$3,177,000.00	5.2
130,000		19,500	\$56.85	\$379.00	\$8,868,600.00	80,000	12,000	\$363,840.00	\$4,326,704.05	\$2,163,352.03	\$11,395,792.03	\$4,231,000.00		\$4,231,000.00	0.4
31,698		4,755	\$56.85	\$379.00	\$2,162,437.56	20,000	3,000	\$90,960.00	\$1,469,859.03	\$734,929.52	\$2,988,327.08	\$7,408,000.00		\$7,408,000.00	2.9

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL A 0.9 PRECIO CRUDO DE CASTILLA

TABLA I.4.7

FUEL OIL														
DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	PRECIO [\$/GAL]	PRECIO [\$/MBTU]	DEMANDA AHORRO [\$]	ALMACEN [GAL.]	ALMACEN [MBTU]	ALMACENAMIENTO AHORRO * [\$]	GASTOS MANTENIMIENTO [\$]	GASTOS MANTENIMIENTO AHORRO [\$]	TOTAL AHORROS [\$]	COSTO CONVERSION CALDERAS/EMPRESA [\$]	COSTO CONVERSION HORNOS/EMPRESA [\$]	TOTAL COSTOS [\$]	PERIODO RECUPER. N
49,000	7,350	\$94.50	\$630.00	\$25,480,980.00	75,000	11,250	\$567,000.00	\$70,140.00	\$35,070.00	\$26,089,050.00	\$3,015,950.00		\$3,015,950.00	
2,000	300	\$93.00	\$620.00	\$1,004,040.00	3,000	450	\$22,320.00	\$138,538.65	\$69,269.33	\$1,095,629.33	\$1,131,500.00		\$1,131,500.00	0.1
13,890	2,084	\$93.00	\$620.00	\$6,973,057.80	15,000	2,250	\$111,600.00	\$1,680,000.00	\$840,000.00	\$7,924,657.80	\$2,263,000.00		\$2,263,000.00	1.1
1,397	210	\$89.50	\$556.67	\$542,063.94	2,700	405	\$18,036.00	\$149,957.06	\$74,978.53	\$635,078.47	\$1,632,000.00		\$1,632,000.00	0.3
3,500	525	\$71.40	\$476.00	\$849,870.00	5,000	750	\$28,560.00	\$184,441.86	\$92,220.93	\$970,650.93	\$1,131,500.00		\$1,131,500.00	3.0
4,000	600	\$99.00	\$660.00	\$2,296,080.00	1,500	225	\$11,880.00	\$150,000.00	\$75,000.00	\$2,382,960.00	\$1,588,500.00		\$1,588,500.00	1.3
10,000	1,500	\$75.00	\$500.00	\$2,860,200.00	10,000	1,500	\$60,000.00	\$240,000.00	\$120,000.00	\$3,040,200.00	\$1,588,500.00		\$1,588,500.00	0.7
12,000	1,800	\$56.30	\$375.33	\$739,440.00	3,020	453	\$13,602.08	\$750,000.00	\$375,000.00	\$1,128,042.08	\$2,263,000.00		\$2,263,000.00	0.6
15,100	2,265	\$92.95	\$619.67	\$7,571,442.00	2,000	300	\$14,872.00	\$300,000.00	\$150,000.00	\$7,736,314.00	\$1,588,500.00		\$1,588,500.00	2.3
4,000	600	\$93.00	\$620.00	\$2,008,080.00	100	15	\$744.00	\$546,341.46	\$273,170.73	\$2,281,994.73	\$1,131,500.00		\$1,131,500.00	0.2
11,000	1,650	\$96.00	\$640.00	\$5,918,220.00	3,000	450	\$23,040.00	\$242,053.58	\$121,026.79	\$6,062,286.79	\$3,177,000.00		\$3,177,000.00	0.5
N.I.		\$93.00	\$620.00		0	0	\$0.00				\$1,131,500.00		\$1,131,500.00	0.6
2,400	360	\$93.00	\$620.00	\$1,204,848.00	800	120	\$5,952.00	\$117,193.03	\$58,596.52	\$1,269,396.52	\$2,263,000.00		\$2,263,000.00	NO PAGAR
6,700	1,005	\$93.00	\$620.00	\$3,363,534.00	N.I.			\$116,402.41	\$58,201.20	\$3,421,735.20	\$2,040,000.00		\$2,040,000.00	2.0
4,500	675	\$114.00	\$760.00	\$3,393,090.00	4,000	600	\$36,480.00	\$9,350.65	\$4,675.32	\$3,494,245.32	\$2,040,000.00		\$2,040,000.00	0.6
3,500	525	\$86.00	\$573.33	\$1,463,070.00	3,000	450	\$20,640.00	\$38,888.89	\$19,444.44	\$1,503,154.44	\$735,475.00	\$2,200,000.00	\$735,475.00	0.7
12,000	1,800	\$86.00	\$573.33	\$5,016,240.00	7,500	1,125	\$51,600.00	\$1,661,538.46	\$830,769.23	\$5,898,609.23	\$6,354,000.00		\$6,354,000.00	0.5
5,000	750	\$78.00	\$520.00	\$1,610,100.00	4,000	600	\$24,960.00	\$14,392.80	\$7,196.40	\$1,642,256.40	\$2,263,000.00		\$2,263,000.00	1.2
3,000	450	\$92.95	\$619.67	\$1,504,260.00	2,500	375	\$18,590.00	\$507,945.21	\$253,972.60	\$1,776,822.60	\$2,263,000.00		\$2,263,000.00	1.5
9,000	1,350	\$74.00	\$493.33	\$2,466,180.00	5,000	750	\$29,600.00	\$77,785.84	\$38,892.92	\$2,534,672.92	\$1,131,500.00		\$1,131,500.00	0.7
75,000	11,250	\$93.00	\$620.00	\$37,651,500.00	42,000	6,300	\$312,480.00	\$150,000.00	\$75,000.00	\$38,038,980.00	\$2,115,500.00		\$2,115,500.00	0.9
7,600	1,140	\$18.00	\$120.00	(\$3,024,648.00)	8,000	1,200	\$11,520.00	\$106,046.51	\$53,023.26	(\$2,960,104.74)	\$2,720,000.00		\$2,720,000.00	0.1
1,350	203	\$99.00	\$660.00	\$774,927.00	3,500	525	\$27,720.00	\$72,537.31	\$36,268.66	\$838,915.66	\$1,588,500.00		\$1,588,500.00	NO PAGAR
145,016	21,752	\$93.00	\$620.00	\$72,800,932.32	40,000	6,000	\$297,600.00	\$750,458.05	\$375,229.03	\$73,473,761.35	\$4,231,000.00		\$4,231,000.00	2.1
				\$184,467,507.06				\$1,708,796.08	\$4,037,005.89	\$190,213,309.03	\$49,199,925.00	\$2,200,000.00	\$51,399,925.00	0.3

ESTUDIO DE FACTIBILIDAD DEL BASODUCTO CENTRAL

ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION PRECIO DEL GAS NATURAL IGUAL A 0.9 PRECIO CRUDO DE CASTILLA

TABLA I.4.8

Table with columns: DEMANDA [MBTU/MES], PRECIO [\$/GAL], PRECIO [\$/MBTU], DEMANDA AHORRO [\$], ALMACEN [GAL.], ALMACEN [MBTU], ALMACENAMIENTO AHORRO M [\$], GASTOS MANTENIMIENTO [\$], GASTOS MANTENIMIENTO AHORRO [\$], TOTAL AHORROS [\$], COSTO CALDERAS/EMPRESA [\$], COSTO CONVERSION HORNOS/EMPRESA [\$], TOTAL COSTOS [\$], PERIODO RECUPER. M. Rows list various demand and storage scenarios with associated costs and payback periods.

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL A 0.9 PRECIO CRUDO DE CASTILLA

DIESEL

DEMANDA GAL./MES	DEMANDA [MBTU/MES]	PRECIO [\$/GAL]	PRECIO [\$/MBTU]	DEMANDA AHORRO [\$/]	ALMACEN [GAL.]	ALMACEN [MBTU]	ALMACENAMIENTO AHORRO [\$/]	GASTOS MANTENIMIENTO [\$/]	GASTOS MANTENIMIENTO AHORRO [\$/]	TOTAL AHORROS [\$/]	COSTO CONVERSION CALDERAS/EMPRESA [\$/]	COSTO CONVERSION HORNOS/EMPRESA [\$/]	TOTAL COSTOS [\$/]	PERIODO RECUPER. N
N.I.		N.I.			N.I.			\$6,080.25	\$1,216.05	\$1,216.05		\$1,100,000.00	\$1,100,000.00	NO PAGA
1,491	207	\$100.99	\$728.17	\$960,493.39	2,000	277	\$16,158.40	\$72,378.64	\$14,475.73	\$991,127.52	\$2,263,000.00	\$1,100,000.00	\$2,263,000.00	2.6
7,926	1,099	\$130.00	\$937.34	\$7,865,081.49	3,000	416	\$31,200.00	\$398,517.02	\$67,703.40	\$7,963,984.90	\$4,526,000.00	\$1,100,000.00	\$4,526,000.00	0.6
500	69	\$130.00	\$937.34	\$496,157.05	500	69	\$5,200.00	\$555,000.00	\$111,000.00	\$612,357.05		\$3,300,000.00	\$3,300,000.00	7.3
300	42	\$131.00	\$944.55	\$301,294.23	1,500	208	\$15,720.00	\$9,404.95	\$1,880.99	\$318,895.22	\$1,131,500.00		\$1,131,500.00	4.3
70	10	\$130.00	\$937.34	\$69,461.99	80	11	\$832.00	\$19,066.15	\$3,813.23	\$74,107.22	\$33,945.00		\$33,945.00	0.5
250	35	\$130.00	\$937.34	\$248,078.52	100	14	\$1,040.00	\$3,061.22	\$612.24	\$249,730.77		\$1,100,000.00	\$1,100,000.00	5.6
800	111	\$123.50	\$890.48	\$731,451.27	300	42	\$2,964.00	\$6,792.45	\$1,358.49	\$735,773.76	\$452,600.00		\$452,600.00	0.7
1,600	222	\$130.00	\$937.34	\$1,587,702.55	N.I.			\$24,963.86	\$4,992.77	\$1,592,695.32	\$680,000.00	\$1,100,000.00	\$1,780,000.00	1.2
110	15	\$131.00	\$944.55	\$110,474.55	N.I.			\$8,237.96	\$1,647.59	\$112,122.14				
700	97	\$130.00	\$937.34	\$694,619.86	700	97	\$7,280.00	\$16,709.68	\$3,341.94	\$705,241.80	\$1,131,500.00		\$1,131,500.00	1.8
430	60	\$129.81	\$935.97	\$425,714.66	1,600	222	\$16,615.68	\$12,988.99	\$2,597.80	\$444,928.14				
6,000	832	\$129.00	\$930.13	\$5,881,884.55	5,000	693	\$51,600.00	\$12,467.53	\$2,493.51	\$5,935,978.06				
2,000	277	\$125.05	\$901.65	\$1,865,828.18	2,500	347	\$25,010.00	\$44,400.00	\$8,880.00	\$1,899,718.18				
1,000	139	\$124.50	\$897.69	\$926,314.09	800	111	\$7,968.00	\$11,111.11	\$2,222.22	\$936,504.31	\$396,025.00	\$1,100,000.00	\$1,100,000.00	0.6
25,000	3,467	\$124.31	\$896.32	\$23,100,852.30	50,000	6,935	\$497,240.00	\$1,000,000.00	\$200,000.00	\$23,798,092.30	\$9,900,000.00	\$1,100,000.00	\$9,900,000.00	0.4
3,000	416	\$131.00	\$944.55	\$3,012,942.28	1,500	208	\$15,720.00	\$70,935.84	\$14,187.17	\$3,042,849.44	\$2,263,000.00		\$2,263,000.00	0.8
50,000	6,935	\$131.00	\$944.55	\$50,215,704.60	5,000	693	\$52,400.00	\$6,000,000.00	\$1,200,000.00	\$51,468,104.60	N.I.			
1,500	208	\$108.00	\$778.72	\$1,092,471.14	2,500	947	\$21,600.00	\$4,317.84	\$863.57	\$1,114,934.71				
450	62	\$130.00	\$937.34	\$446,541.34	250	35	\$2,600.00	\$2,857.14	\$571.43	\$449,712.77	\$158,850.00		\$158,850.00	0.4
500	69	\$130.00	\$937.34	\$496,157.05	200	28	\$2,080.00	\$76,027.40	\$15,205.48	\$513,442.53	\$1,131,500.00		\$1,131,500.00	2.5
100	14	\$130.00	\$937.34	\$99,231.41	100	14	\$1,040.00	\$3,935.12	\$787.02	\$101,058.43				
800	111	\$130.00	\$937.34	\$793,851.27	N.I.			\$959,040.00	\$191,808.00	\$985,659.27				
21,000	2,912	\$107.00	\$771.50	\$15,042,595.93	12,000	1,664	\$102,720.00	\$332,361.98	\$66,472.40	\$15,211,788.33	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	0.2
1,500	208	\$107.00	\$771.50	\$1,074,471.14	1,200	166	\$10,272.00	\$104,062.50	\$20,812.50	\$1,105,555.64	\$1,131,500.00		\$1,131,500.00	1.1
500	69	\$126.18	\$909.80	\$473,237.05	600	83	\$6,056.64	\$16,304.35	\$3,260.87	\$482,554.56				
15,366	2,131	\$123.50	\$890.48	\$14,049,350.34	10,000	1,387	\$98,800.00	\$301,230.40	\$60,246.08	\$14,208,996.42	\$1,100,000.00	\$1,100,000.00	\$1,100,000.00	0.1
5,284	733	\$124.45	\$897.32	\$4,891,473.26	20,000	2,774	\$199,120.00	\$117,920.63	\$23,584.13	\$5,114,177.39				
9,600	1,331	\$104.50	\$753.48	\$6,588,615.28	10,000	1,387	\$93,600.00	\$113,334.19	\$22,666.84	\$6,694,882.12				
1,000	139	\$131.00	\$944.55	\$1,004,314.09	1,500	208	\$15,720.00	\$13,953.49	\$2,790.70	\$1,022,824.79	\$1,131,500.00		\$1,131,500.00	1.2
2,000	277	\$131.00	\$944.55	\$2,008,628.18	300	42	\$3,144.00	\$107,462.69	\$21,492.54	\$2,033,264.72	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	1.2
8,000	1,110	\$124.00	\$894.08	\$7,362,512.74	3,000	416	\$29,760.00	\$685,714.29	\$137,142.86	\$7,529,415.59	\$1,131,500.00		\$1,131,500.00	0.2
14,211	1,971	\$130.00	\$937.34	\$14,101,775.56	3,000	416	\$31,200.00	\$66,044.95	\$13,208.99	\$14,146,184.55	N.I.			
				\$770,106,939.15			\$4,956,243.84			\$6,382,608.46	\$781,445,791.45	\$86,981,114.22	\$199,733,969.22	0.3

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
 ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
 CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
 PRECIO DEL GAS NATURAL IGUAL A 0.9 PRECIO CRUDO DE CASTILLA

TABLA I.4.9

FORM.	DEMANDA		PRECIO		DEMANDA AHORRO (\$)	ALMACEN		ALMACENAMIENTO AHORRO (\$)	GASTOS MANTENIMIENTO (\$)	GASTOS MANTENIMIENTO AHORRO (\$)	TOTAL AHORROS (\$)	COSTO CONVERSION CALDERAS/EMPRESA (\$)	COSTO CONVERSION HORNOS/EMPRESA (\$)	TOTAL COSTOS (\$)	PERIODO RECUPER. N
	[GAL./MES]	[MBTU/MES]	[\$/GAL.]	[\$/MBTU]		[GAL.]	[MBTU]								
14	5,708	771	\$124.81	\$920.81	\$5,360,599.70	5,000	675	\$49,724.00	\$581,293.09	\$116,258.62	\$5,526,582.32		\$2,200,000.00	\$2,200,000.00	0.4
22	8,000	1,080	\$124.00	\$918.52	\$7,483,344.00	6,000	810	\$59,520.00	\$40,336.13	\$8,067.23	\$7,550,931.23		\$3,300,000.00	\$3,300,000.00	0.5
30	93,000	4,455	\$115.00	\$851.85	\$27,304,794.00	20,000	2,700	\$184,000.00	\$4,721,951.22	\$944,390.24	\$28,433,184.24				
38	1,000	135	\$124.00	\$918.52	\$935,418.00	N.I.			\$6,964.67	\$1,392.93	\$936,810.93				
45	20,000	2,700	\$123.55	\$915.19	\$18,600,360.00	10,000	1,350	\$98,840.00	\$801,311.05	\$160,262.21	\$18,859,462.21	\$1,131,500.00	\$1,100,000.00	\$1,100,000.00	1.3
48	10,000	1,350	\$127.77	\$946.44	\$9,806,580.00	10,000	1,350	\$102,216.00	\$459,512.20	\$91,902.44	\$10,000,698.44	\$2,263,000.00	\$5,500,000.00	\$6,631,500.00	0.4
67	900	122	\$125.00	\$925.93	\$852,676.20	300	41	\$3,000.00	\$38,571.43	\$7,714.29	\$863,390.49				
70	3,000	405	\$124.00	\$918.52	\$2,806,254.00	500	68	\$4,960.00	\$175,800.00	\$35,160.00	\$2,846,374.00	\$565,750.00	\$1,650,000.00	\$2,215,750.00	0.8
84	1,000	135	\$124.00	\$918.52	\$935,418.00	500	68	\$4,960.00	\$140,000.00	\$28,000.00	\$968,378.00				
90	225,000	30,375	\$124.00	\$918.52	\$210,469,050.00	200,000	27,000	\$1,984,000.00	\$563,461.54	\$112,692.31	\$212,565,742.31		\$32,400,000.00	\$32,400,000.00	0.2
92	52,000	7,020	\$123.80	\$917.04	\$48,516,936.00	130,000	17,550	\$1,287,520.00	\$528,372.55	\$105,674.51	\$49,910,130.51		\$1,154,310.34	\$1,154,310.34	.0
119	255,000	34,425	\$122.36	\$906.37	\$233,513,190.00	50,000	6,750	\$489,440.00	\$949,279.63	\$189,855.93	\$234,192,485.93		\$136,843,385.21	\$136,843,385.21	0.6
120	N.I.		N.I.			400	54								
164	11,000	1,485	\$124.00	\$918.52	\$10,289,598.00	5,000	675	\$49,600.00	\$56,849.50	\$11,369.90	\$10,350,567.90				
14					\$576,874,217.90	\$4,317,780.00			\$1,812,740.60	\$583,004,738.50	\$3,960,250.00	\$189,647,695.56	\$193,607,945.56	0.3	

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL A 0.9 PRECIO CRUDO DE CASTILLA

TABLA 1.4.10

PROPANO

DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	PRECIO [\$/GAL.]	PRECIO [\$/MBTU]	DEMANDA AHORRO [\$]	ALMACEN [GAL.]	ALMACEN [MBTU]	ALMACEN AHORRO [\$]	BASTOS MANTENIMIENTO [\$]	GASTOS MANTENIMIENTO AHORRO [\$]	TOTAL AHORROS [\$]	PROPANO COSTO CONVERSION HORNOS/EMPRESA [\$]	PROPANO TOTAL COSTOS [\$]	PERIODO RECUPER. M
3,500	318	\$74.00	\$751.27	\$1,565,081.99	1,000	99	\$5,920.00	\$8,974.36	\$0.00	\$1,571,001.99			
45	4	\$74.11	\$752.39	\$20,084.02	269	26	\$1,594.85	\$8,013.48	\$0.00	\$21,678.87	\$1,100,000.00	\$1,100,000.00	0.7
17	2	\$120.00	\$1,218.27	\$16,257.02	200	20	\$1,920.00	\$835.79	\$0.00	\$18,177.02			
179	16	\$74.11	\$752.39	\$80,336.08	100	10	\$592.88	\$12,410.86	\$0.00	\$80,928.96			
1,075	98	\$62.71	\$636.64	\$346,363.00	269	26	\$1,349.49	\$229,098.91	\$0.00	\$347,712.50			
707	64	\$74.10	\$752.28	\$316,929.07	300	30	\$1,778.40	\$11,217.58	\$0.00	\$318,707.47			
1,071	97	\$76.60	\$777.66	\$509,735.10	3,500	345	\$21,448.00	\$109,068.83	\$0.00	\$531,183.10	\$1,100,000.00	\$1,100,000.00	2.4
5,000	454	\$74.11	\$752.39	\$2,241,918.82	2,000	197	\$11,857.60	\$25,210.08	\$0.00	\$2,253,776.42	\$1,100,000.00	\$1,100,000.00	0.5
2,000	182	\$74.10	\$752.28	\$896,546.17	1,000	99	\$5,928.00	\$45,686.15	\$0.00	\$902,474.17			
N.I.	N.I.	N.I.	N.I.	N.I.	800	79	N.I.	N.I.	\$0.00	N.I.			
39,000	3,549	\$74.11	\$752.39	\$17,486,966.83	8,000	788	\$47,430.40	\$5,580,487.80	\$0.00	\$17,534,397.23			
80	7	\$74.11	\$752.39	\$35,870.70	500	49	\$2,964.40	\$3,409.68	\$0.00	\$38,835.10			
179	16	\$74.11	\$752.39	\$80,336.08	179	18	\$1,061.26	\$4,868.63	\$0.00	\$81,397.33			
15,000	1,363	\$74.11	\$752.39	\$6,725,756.47	4,000	394	\$23,715.20	\$44,800.00	\$0.00	\$6,749,471.67	\$4,400,000.00	\$4,400,000.00	0.7
70	6	\$68.00	\$690.36	\$26,653.07	N.I.	N.I.	N.I.	\$1,101.02	\$0.00	\$26,653.07			
130	12	\$74.00	\$751.27	\$58,131.62	100	10	\$592.00	\$2,250.88	\$0.00	\$58,723.62			
4,500	409	\$74.11	\$752.39	\$2,017,726.94	4,100	404	\$24,308.08	\$92,079.73	\$0.00	\$2,042,035.02	\$853,448.28	\$853,448.28	0.4
591	54	\$56.39	\$572.52	\$149,169.74	1,613	159	\$7,276.97	\$23,688.95	\$0.00	\$156,446.71			
358	33	\$74.11	\$752.39	\$160,672.15	134	13	\$794.46	\$41,512.80	\$0.00	\$161,466.61			
250	23	\$77.27	\$784.47	\$120,839.68	120	12	\$741.79	\$11,487.80	\$0.00	\$121,581.47			
75,000	6,814	\$74.11	\$752.39	\$33,628,782.36	15,000	1,478	\$88,932.00	\$1,956,521.74	\$0.00	\$33,717,714.36	\$14,400,000.00	\$14,400,000.00	0.5
358	33	\$74.11	\$752.39	\$160,672.15	269	26	\$1,594.85	\$2,427.32	\$0.00	\$162,267.00			
680	62	\$74.11	\$752.39	\$304,900.96	500	49	\$2,964.40	\$24,954.13	\$0.00	\$307,865.36			
717	65	\$74.11	\$752.39	\$321,344.31	358	35	\$2,122.51	\$183,608.46	\$0.00	\$323,466.82			
200	18	\$74.11	\$752.39	\$89,676.75	150	15	\$889.32	\$9,559.81	\$0.00	\$90,566.07			
800	73	\$60.00	\$609.14	\$233,771.20	600	59	\$2,880.00	\$47,479.07	\$0.00	\$236,651.20	\$1,100,000.00	\$1,100,000.00	6.0
3,000	273	\$74.10	\$752.28	\$1,344,819.25	1,600	158	\$9,484.80	\$13,888.89	\$0.00	\$1,354,304.05	\$1,100,000.00	\$1,100,000.00	2.9
1,200	109	\$75.00	\$761.42	\$549,881.16	500	49	\$3,000.00	\$51,428.57	\$0.00	\$552,881.16			
448	41	\$74.11	\$752.39	\$200,840.19	448	44	\$2,656.10	\$1,215.56	\$0.00	\$203,496.80			
N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	\$0.00	N.I.			
627	57	\$74.11	\$752.39	\$281,176.27	179	18	\$1,061.26	\$12,500.00	\$0.00	\$282,237.53			
5,000	454	\$74.11	\$752.39	\$2,241,918.82	1,800	177	\$10,671.84	\$700,000.00	\$0.00	\$2,252,590.66	\$2,200,000.00	\$2,200,000.00	1.1
5,874	534	\$147.26	\$1,495.03	\$7,389,479.12	896	88	\$10,555.66	\$1,363,286.13	\$0.00	\$7,400,034.78			
81	7	\$74.11	\$752.39	\$36,151.23	N.I.	N.I.	N.I.	\$10,867.06	\$0.00	\$36,151.23			
528	48	\$74.11	\$752.39	\$236,897.39	544	54	\$3,225.27	\$46,400.00	\$0.00	\$240,122.66			
242	22	\$66.38	\$673.93	\$87,764.52	N.I.	N.I.	N.I.	\$2,726.30	\$0.00	\$87,764.52			
188	17	\$74.11	\$752.39	\$84,352.88	179	18	\$1,061.26	\$114.88	\$0.00	\$85,414.14			
1,500	136	\$75.00	\$761.42	\$687,351.45	4,000	394	\$24,000.00	\$12,068.37	\$0.00	\$711,951.45			
26,000	2,362	\$74.11	\$752.39	\$11,657,977.88	5,000	493	\$29,644.00	\$216,666.67	\$0.00	\$11,687,621.88			
224	20	\$74.11	\$752.39	\$100,420.10	500	49	\$2,964.40	\$3,306.24	\$0.00	\$103,984.50			
150	14	\$74.11	\$752.39	\$67,257.56	700	69	\$4,150.16	\$92,800.00	\$0.00	\$71,407.72			
45	4	\$74.11	\$752.39	\$20,084.02	358	35	\$2,122.51	\$39.68	\$0.00	\$22,206.53			
100	9	\$74.11	\$752.39	\$44,838.38	139	14	\$824.10	\$2,712.83	\$0.00	\$45,662.48			
90	8	\$74.11	\$752.39	\$40,168.04	N.I.	N.I.	N.I.	\$1,300.35	\$0.00	\$40,168.04			
N.I.	N.I.	N.I.	N.I.	N.I.	89	9	N.I.	\$15,300.00	\$0.00	\$481,504.54			
2,500	227	\$51.00	\$517.77	\$481,504.54	N.I.	N.I.	N.I.	\$90,000.00	\$0.00	\$450,126.28	\$1,100,000.00	\$1,100,000.00	2.8
1,000	91	\$74.00	\$751.27	\$447,166.28	500	49	\$2,960.00	\$139,200.00	\$0.00	\$67,257.56			
150	14	\$74.11	\$752.39	\$67,257.56	N.I.	N.I.	N.I.	\$229,915.87	\$0.00	\$2,984.00			
78,000	7,086	\$74.11	\$752.39	\$34,973,933.65	25,000	2,463	\$148,220.00	\$229,915.87	\$0.00	\$35,122,153.65	\$41,857,976.65	\$41,857,976.65	1.3
N.I.	N.I.	\$74.60	\$757.36	\$964,032.93	500	49	\$2,984.00	\$7,514.60	\$0.00	\$970,406.99			
2,150	195	\$74.11	\$752.39	\$964,032.93	1,075	106	\$6,373.46	\$30,000.00	\$0.00	\$100,145.42	\$1,100,000.00	\$1,100,000.00	27.4
300	27	\$69.00	\$639.59	\$97,625.42	500	49	\$2,520.00	\$30,000.00	\$0.00	\$97,625.42			
N.I.	N.I.	N.I.	N.I.	N.I.	200	20	N.I.	\$5,412.13	\$0.00	\$80,336.08			
300	27	\$74.11	\$752.39	\$134,515.13	500	49	\$2,964.40	\$1,792.04	\$0.00	\$137,479.53			
1,433	130	\$74.11	\$752.39	\$642,688.62	985	97	\$5,839.87	\$31,540.57	\$0.00	\$648,528.49			
450	41	\$74.11	\$752.39	\$201,772.69	89	9	\$527.66	\$20,866.82	\$0.00	\$202,300.36			
700	64	\$74.10	\$752.28	\$313,791.16	200	20	\$1,185.60	\$77,385.06	\$0.00	\$314,976.76			
157	14	\$113.00	\$1,147.21	\$137,974.59	200	20	\$1,808.00	\$7,621.36	\$0.00	\$139,782.59			
503	46	\$74.11	\$752.39	\$225,537.03	1,129	111	\$6,693.62	\$21,482.98	\$0.00	\$232,230.65			
1,792	163	\$74.11	\$752.39	\$803,360.77	448	44	\$2,656.10	\$98,530.81	\$0.00	\$806,016.87			
448	41	\$74.11	\$752.39	\$200,840.19	448	44	\$2,656.10	\$4,121.78	\$0.00	\$203,496.30			
179	16	\$74.11	\$752.39	\$80,336.08	N.I.	N.I.	N.I.	\$5,412.13	\$0.00	\$80,336.08			
4,500	409	\$78.00	\$791.88	\$2,211,472.64	1,500	148	\$9,360.00	\$9,350.65	\$0.00	\$2,220,832.64			
3,000	273	\$74.10	\$752.28	\$1,344,819.25	2,500	246	\$14,820.00	\$83,520.00	\$0.00	\$1,359,639.25	\$1,100,000.00	\$1,100,000.00	0.9
800	73	\$74.00	\$751.27	\$357,733.03	500	49	\$2,960.00	\$31,764.71	\$0.00	\$360,693.03			
7,800	709	\$73.00	\$741.12	\$3,401,566.45	3,000	296	\$17,520.00	\$232,000.00	\$0.00	\$3,419,086.45	\$2,200,000.00	\$2,200,000.00	0.7
806	73	\$74.11	\$752.39	\$361,512.35	500	49	\$2,964.40	\$19,064.16	\$0.00	\$364,476.75			
1,000	91	\$73.00	\$741.12	\$436,098.26	400	39	\$2,336.00	\$138,461.54	\$0.00	\$438,434.26	\$2,200,000.00	\$2,200,000.00	6.7
448	41	\$74.11	\$752.39	\$200,840.19	2,688	265	\$15,936.61	\$1,289.37	\$0.00	\$216,776.81			
150	14	\$71.40	\$724.87	\$62,758.41	450	44	\$2,570.40	\$28,602.74	\$0.00	\$65,328.81			
5,000	454	\$70.00	\$710.66	\$2,014,471.01	N.I.	N.I.	N.I.	\$6,160.72	\$0.00	\$2,014,471.01			
350	32	\$74.36	\$754.92	\$157,902.77	1,000	99	\$5,948.80	\$17,272.00	\$0.00	\$163,851.57	\$6,600,000.00	\$6,600,000.00	NO PAGA
450	41	\$74.11	\$752.39	\$201,772.69	N.I.	N.I.	N.I.	\$676,512.00	\$0.00	\$201,772.69			
6,000	545	\$74.11	\$752.39	\$2,690,302.59	8,000	788	\$47,430.40	\$51,857.23	\$0.00	\$2,737,732.99	\$1,100,000.00	\$1,100,000.00	0.4
108	10	\$74.11	\$752.39	\$48,201.65	582	57	\$3,450.56	\$2,133.64	\$0.00	\$51,652.21			
1,943	177	\$74.11	\$752.39	\$871,209.65	1,000	99	\$5,928.00	\$10,041.69	\$0.00	\$877,138.45			
6,500	591	\$74.00	\$751.27	\$2,906,580.84	2,600	256	\$15,392.00	\$565,500.00	\$0.00	\$2,921,972.84	\$1,100,000.00	\$1,100,000.00	0.4
1,500	136	\$79.62	\$808.32	\$764,052.83	3,000	296	\$19,108.80	\$48,913.04	\$0.00	\$783,161.63			
179	16	\$74.11	\$752.39	\$80,336.08	268	26	\$1,588.92	\$4,404.69	\$0.00	\$81,925.00			
896	81	\$74.11	\$752.39	\$401,680.39	268	26	\$1,588.92	\$25,071.14	\$0.00	\$403,269.30			
672	61	\$74.11	\$752.39	\$301,260.29	269	26	\$1,594.85	\$7,931.98	\$0.00	\$302,855.14			
81				\$151,252,808.58			\$723,966.48		\$0.00	\$151,976,775.07	\$85,711,424.93	\$85,711,424.93	0.6

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL

ANALISIS DE PENETRACION
ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL A PRECIO DEL CRUDO DE CASTILLA
TOTAL POR EMPRESA

TABLA I.4.11

ZONA	NOMBRE EMPRESA	DIRECCION	TOTAL DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	DEMANDA AHORRO [GAL.]	ALMACEN [GAL.]	ALMACENAMIENTO AHORRO [GAL.]	GASTOS MANTENIMIENTO [GAL.]	MANTENIMIENTO AHORRO [GAL.]	TOTAL AHORROS [GAL.]	COSTO CONVERSION CALDERAS/EMPRESA [GAL.]	COSTO CONVERSION HORNOS/EMPRESA [GAL.]	TOTAL COSTOS [GAL.]	PERIODO RECUPER. M
	HILACOL	C99-K49	11,700	1,514	\$4,208,180.60	5,500	\$35,164.00	\$30,000.00	\$8,205.13	\$4,251,549.73	\$2,720,000.00	\$1,100,000.00	\$3,820,000.00	1.0
	ELEFANTE LA LLAVE	C14-K49	135,000	20,080	\$9,978,568.20	62,000	\$290,160.00	\$9,000.00	\$4,200.00	\$10,272,928.20	\$6,494,000.00	\$0.00	\$6,494,000.00	0.7
	FUNDID. NACIONAL	C20-K33	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	PROQUINAL S.A	C11-K34	70,000	10,262	\$42,546,795.48	110,000	\$940,940.00	\$100,200.00	\$41,082.00	\$43,528,817.48	\$4,308,500.00	\$0.00	\$4,308,500.00	0.1
	POLIQUIMICOS	C495-K53	1,480	222	\$98,184.00	3,000	\$14,160.00	\$12,840.00	\$6,420.00	\$58,764.00	\$1,131,500.00	\$0.00	\$1,131,500.00	NO PAGAR
	PFIZER	AUT-SUR	2,795	414	\$438,042.75	4,769	\$29,714.85	\$500,000.00	\$232,575.44	\$700,333.04	\$2,263,000.00	\$0.00	\$2,263,000.00	3.9
	SANICOL	C8-K27	1,017	140	\$998,792.48	1,000	\$10,528.00	\$50,000.00	\$9,832.84	\$1,019,153.32	\$1,131,500.00	\$0.00	\$1,131,500.00	1.2
	CROYDON	C61KAUTS	18,200	2,730	\$425,880.00	13,000	\$61,152.00	\$870,000.00	\$435,000.00	\$922,032.00	\$3,177,000.00	\$0.00	\$3,177,000.00	4.2
	LAB. WYETH	C13-K65	27,429	4,101	\$1,220,842.57	28,600	\$142,152.88	\$1,900,000.00	\$938,599.37	\$2,301,594.83	\$4,308,500.00	\$0.00	\$4,308,500.00	2.1
	PROLECHE	CHIA	36,000	5,400	\$0.00	10,000	\$45,480.00	\$300,000.00	\$150,000.00	\$195,480.00	\$4,765,500.00	\$0.00	\$4,765,500.00	NO PAGAR
	TUBOS MOORE	C305-K5	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	ASTRO FUNDICIONES	MOSQUERA	1,525	160	\$725,502.22	369	\$2,397.49	\$325,000.00	\$19,180.22	\$747,079.93	\$0.00	\$2,200,000.00	\$2,200,000.00	3.5
	ICASA	CAM-K63	64,337	9,253	\$28,268,128.32	35,650	\$314,180.12	\$874,658.61	\$312,484.32	\$28,895,392.76	\$2,263,000.00	\$5,500,000.00	\$7,763,000.00	0.3
	PAVCO	C75SKAFLL	38,296	5,553	\$11,743,251.88	16,500	\$117,831.58	\$3,900,000.00	\$1,605,501.36	\$13,466,584.82	\$6,881,000.00	\$3,300,000.00	\$10,181,000.00	0.8
	MULTIPLAS	C10-K68	13,890	2,084	\$6,025,482.00	15,000	\$111,600.00	\$1,680,000.00	\$840,000.00	\$6,977,082.00	\$2,263,000.00	\$0.00	\$2,263,000.00	0.3
	ARTECTO	C26-K35	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	COM.RICOS	C90-K41	2,400	339	\$2,172,570.91	800	\$8,192.00	\$500,000.00	\$100,000.00	\$2,280,762.91	\$0.00	\$1,100,000.00	\$1,100,000.00	0.5
	FUND. SANTA FE	C3-K63	1,100	153	\$1,022,161.67	110	\$1,144.00	\$49,163.25	\$9,832.65	\$1,033,138.32	\$0.00	\$1,100,000.00	\$1,100,000.00	1.2
	NATESA	C475-K60	44,000	6,464	\$11,582,854.56	16,600	\$91,336.00	\$2,000,000.00	\$836,363.64	\$12,510,554.20	\$3,177,000.00	\$0.00	\$3,177,000.00	0.3
	SWANTEX	C16-K34	6,000	889	\$1,130,237.88	4,500	\$30,120.00	\$250,000.00	\$112,500.00	\$1,272,857.88	\$3,394,500.00	\$0.00	\$3,394,500.00	3.1
	TRES M	SOACHA	4,200	630	\$22,680.00	9,000	\$41,256.00	\$120,000.00	\$60,000.00	\$123,936.00	\$2,115,500.00	\$0.00	\$2,115,500.00	NO PAGAR
	INDUACERO	C19-K39	23,800	3,154	\$9,027,485.92	11,100	\$85,476.40	\$120,000.00	\$35,294.12	\$9,148,256.44	\$1,131,500.00	\$4,400,000.00	\$5,531,500.00	0.6
	LAB. UNDRAL	C19-K68	6,225	863	\$5,485,705.80	0	\$0.00	\$40,000.00	\$8,000.00	\$5,493,705.80	\$2,263,000.00	\$0.00	\$2,263,000.00	0.4
	CHARMS	C18-K33	13,000	1,809	\$3,619,784.77	14,750	\$87,052.00	\$215,040.00	\$73,747.69	\$3,780,584.46	\$2,263,000.00	\$0.00	\$2,263,000.00	0.6
	PROTELA	C66-K93	150	21	\$139,385.68	100	\$1,040.00	\$1,250.00	\$250.00	\$140,675.68	\$1,131,500.00	\$0.00	\$1,131,500.00	13.4
	PROFICOL	CAZUCA	4,881	677	\$4,202,335.41	3,000	\$29,834.40	\$420,000.00	\$84,000.00	\$4,316,169.81	\$0.00	\$0.00	\$0.00	
	COLORTEX	C10-K54	70,000	10,104	\$31,044,925.80	16,000	\$117,391.20	\$600,000.00	\$210,000.00	\$31,372,257.00	\$9,818,500.00	\$0.00	\$9,818,500.00	0.3
	ICOBORDADOS	C16-K68	2,329	339	\$1,312,810.30	5,300	\$36,756.00	\$250,000.00	\$94,987.12	\$1,444,553.42	\$2,720,000.00	\$0.00	\$2,720,000.00	2.1
	INMA BOL	C9-K22	2,444	339	\$3,590,817.38	0	\$0.00	\$2,480.00	\$496.00	\$3,591,313.38	\$0.00	\$0.00	\$0.00	
	FIBERGLAS	MOSQUERA	123,000	15,648	\$43,082,002.21	48,000	\$327,430.40	\$17,600,000.00	\$4,593,170.73	\$48,002,603.34	\$0.00	\$4,000,000.00	\$4,000,000.00	0.1
	MARGARITA	C21-K69	7,000	971	\$1,632,665.16	5,000	\$28,800.00	\$24,000.00	\$4,800.00	\$1,666,265.16	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	3.1
	PUPY FASHIONS	C10-K38	120	17	\$110,068.55	300	\$3,096.00	\$23,458.00	\$4,691.60	\$117,856.15	\$1,131,500.00	\$0.00	\$1,131,500.00	19.0
	COMPAN	C13-K42	24,000	3,329	\$20,573,709.12	3,000	\$29,760.00	\$3,552,000.00	\$710,400.00	\$21,313,869.12	\$4,526,000.00	\$8,800,000.00	\$13,326,000.00	0.7
	DORIA	C16-K41	16,330	2,417	\$2,298,047.17	5,500	\$30,093.40	\$2,504,942.44	\$225,908.63	\$2,554,049.20	\$2,263,000.00	\$0.00	\$2,263,000.00	1.0
	LICORERA C/MARCA	C10-K36	63,179	9,364	\$8,436,074.02	16,679	\$84,881.26	\$1,537,595.36	\$707,858.32	\$9,228,813.60	\$4,526,000.00	\$0.00	\$4,526,000.00	0.5
	SPECIA	CAM-K53	300	42	\$127,571.36	1,000	\$7,040.00	\$20,000.00	\$4,000.00	\$138,611.36	\$1,131,500.00	\$0.00	\$1,131,500.00	13.8
	YALE	C12-K32	793	110	\$736,885.64	1,500	\$15,600.00	\$111,000.00	\$22,200.00	\$774,685.64	\$0.00	\$1,100,000.00	\$1,100,000.00	1.6
	LADR. SANTA FE	SOACHA	26,000	3,885	\$874,020.00	20,000	\$90,960.00	\$132,649.55	\$64,235.38	\$1,029,215.38	\$0.00	\$2,200,000.00	\$2,200,000.00	2.4
	LADR. SANTA FE	USME	25,000	3,750	\$0.00	30,000	\$136,440.00	\$56,170.33	\$28,085.16	\$164,525.16	\$0.00	\$1,100,000.00	\$1,100,000.00	2.4
	COOVINAL	CAORIENTE	75,000	9,956	\$39,572,941.45	9,500	\$52,235.20	\$224,000.00	\$57,344.00	\$39,682,520.65	\$0.00	\$8,800,000.00	\$8,800,000.00	0.2
	VPJOHN	C45-K93	1,770	242	\$1,625,905.17	1,700	\$17,829.60	\$22,423.05	\$4,264.41	\$1,647,999.17	\$1,131,500.00	\$0.00	\$1,131,500.00	0.7
	FADALT	C18-K68	2,600	361	\$2,729,018.49	3,000	\$33,600.00	\$111,000.00	\$22,200.00	\$2,783,818.49	\$1,131,500.00	\$0.00	\$1,131,500.00	0.4
	PHARMETIQ	C13-K65B	2,830	386	\$2,561,702.48	4,100	\$42,192.00	\$49,000.00	\$9,349.82	\$2,613,244.30	\$2,263,000.00	\$1,100,000.00	\$3,363,000.00	1.4
	EMCABLES	C110-K9	45,352	6,244	\$27,405,571.01	11,800	\$96,839.68	\$778,498.85	\$216,662.90	\$27,719,073.59	\$2,263,000.00	\$5,500,000.00	\$7,763,000.00	0.3
	RAMO	MOSQUERA	20,591	2,754	\$17,497,139.93	11,613	\$106,116.97	\$825,000.00	\$160,262.21	\$17,763,519.11	\$1,131,500.00	\$5,500,000.00	\$6,631,500.00	0.4
	QUIMICA ANDINA	CKM4-KAS	12,000	1,664	\$10,430,854.56	4,000	\$40,000.00	\$111,000.00	\$22,200.00	\$10,493,054.56	\$2,720,000.00	\$0.00	\$2,720,000.00	0.3
	MEALS	C98-K49	10,358	1,539	\$643,866.21	3,634	\$17,874.46	\$1,200,000.00	\$579,243.60	\$1,240,984.27	\$1,588,500.00	\$0.00	\$1,588,500.00	1.4
	PABSA	MOSQUERA	10,250	1,373	\$9,303,110.03	10,120	\$102,957.79	\$471,000.00	\$91,902.44	\$9,497,970.26	\$2,263,000.00	\$5,500,000.00	\$7,763,000.00	0.9
	PANAM	C101-K50	411	130	\$2,608,464.12	1,300	\$13,104.00	\$600.00	\$120.00	\$2,621,688.12	\$1,131,500.00	\$0.00	\$1,131,500.00	0.5
	CERAMITA	SOPO	115,000	12,814	\$30,577,888.86	40,000	\$202,832.00	\$3,000,000.00	\$521,739.13	\$31,302,459.99	\$0.00	\$15,500,000.00	\$15,500,000.00	0.5
	HILAT	C575-K67	24,358	3,605	\$4,320,037.12	9,269	\$52,653.65	\$165,000.00	\$76,409.16	\$4,449,099.93	\$3,704,000.00	\$0.00	\$3,704,000.00	0.9
	MERCK	C10-K65	2,180	270	\$1,670,661.15	1,000	\$8,164.40	\$80,000.00	\$11,009.17	\$1,689,834.72	\$1,131,500.00	\$0.00	\$1,131,500.00	0.7
	CANTACLARO	MOSQUERA	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	DESA SA	C6-K35	165,000	24,580	\$12,914,368.20	35,000	\$186,164.00	\$700,000.00	\$330,909.09	\$13,431,441.29	\$7,625,500.00	\$4,000,000.00	\$11,625,500.00	0.9
	AVIANCA	AEROPUERT	5,000	693	\$4,586,189.40	0	\$0.00	\$74,000.00	\$14,800.00	\$4,600,989.40	\$1,131,500.00	\$0.00	\$1,131,500.00	0.3
	CARTON DE COL.	CAM-K56	22,600	3,390	\$0.00	5,000	\$22,740.00	\$176,600.00	\$88,300.00	\$111,040.00	\$1,588,500.00	\$0.00	\$1,588,500.00	NO PAGAR
	SILICAL	C169-K7	30,000	4,466	\$2,535,713.64	4,500	\$28,404.00	\$495,000.00	\$232,650.00	\$2,796,767.64	\$3,177,000.00	\$0.00	\$3,177,000.00	1.2
	ALFAGRES	SOACHA	80,000	12,000	\$0.00	85,000	\$386,580.00	\$1,800,000.00	\$900,000.00	\$1,286,580.00	\$0.00	\$8,000,000.00	\$8,000,000.00	8.9
	COCACOLA	CAD-K83	2,200	305	\$1,912,323.34	2,000	\$20,000.00	\$100,000.00	\$20,000.00	\$1,952,323.34	\$2,263,000.00	\$0.00	\$2,263,000.00	1.3
	BAYER	CAM-K57	2,717	342	\$2,006,208.18	558	\$4,106.51	\$592,196.54	\$81,717.62	\$2,092,032.31	\$1,131,500.00	\$0.00	\$1,131,500.00	0.6

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL

TABLA I.4.11

ANALISIS DE PENETRACION
ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL A PRECIO DEL CRUDO DE CASTILLA
TOTAL POR EMPRESA

NOMBRE EMPRESA	DIRECCION	TOTAL DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	DEMANDA AHORRO [\$]	ALMACEN [GAL.]	ALMACENAMIENTO AHORRO M [\$]	GASTOS MANTENIMIENTO [\$]	MANTENIMIENTO AHORRO [\$]	TOTAL AHORROS [\$]	COSTO CONVERSION CALDERAS/EMPRESA [\$]	COSTO CONVERSION HORNOS/EMPRESA [\$]	TOTAL COSTOS [\$]	PERIODO RECUPER. N
KAPITOL	C5-K68	150	14	\$61,059.78	700	\$4,150.16	\$92,800.00	\$0.00	\$65,209.94	\$0.00	\$0.00	\$0.00	
FLORES BOSQUE	FUNZA	60	8	\$62,954.27	200	\$2,240.00	\$10.53	\$2.11	\$65,196.38	\$0.00	\$0.00	\$0.00	
ACEITALES	C12-K37	195,045	29,084	\$14,136,801.48	138,358	\$736,522.51	\$172,000.18	\$82,011.93	\$14,955,335.92	\$13,902,000.00	\$0.00	\$13,902,000.00	1.0
COLMENA	C615-KAS	12,600	1,861	\$2,341,679.46	7,000	\$40,614.00	\$300,000.00	\$132,000.00	\$2,514,299.46	\$1,131,500.00	\$3,600,000.00	\$4,731,500.00	2.1
CORPACERO	C22-K68	42,100	6,286	\$4,590,792.28	21,139	\$111,156.10	\$1,135,301.90	\$552,057.01	\$5,253,995.39	\$2,263,000.00	\$3,300,000.00	\$5,563,000.00	1.2
DISCOS CBS	C615-KAS	7,000	1,050	\$308,280.00	5,000	\$24,208.00	\$500,000.00	\$250,000.00	\$582,488.00	\$2,263,000.00	\$0.00	\$2,263,000.00	4.8
BAVARIA	C12-K83	470,000	70,500	\$0.00	320,000	\$1,455,360.00	\$4,230,000.00	\$2,115,000.00	\$3,570,360.00	\$8,462,000.00	\$0.00	\$8,462,000.00	2.7
GRASAS DEL INTER.	MOSQUERA	19,180	2,870	\$348,760.80	8,000	\$36,832.00	\$210,422.72	\$103,988.23	\$489,581.03	\$1,588,500.00	\$0.00	\$1,588,500.00	3.9
COLAUTOM	C13-K58	35,200	5,081	\$14,992,946.69	52,089	\$300,528.00	\$6,000,000.00	\$2,100,000.00	\$17,392,874.69	\$6,346,500.00	\$2,200,000.00	\$8,546,500.00	0.5
ACC.CUL.POPULAR	C15-K39	2,500	227	\$378,208.09	0	\$0.00	\$15,300.00	\$0.00	\$378,208.09	\$0.00	\$0.00	\$0.00	
TEXTILES EGO	C15-K63	4,100	614	\$1,840,123.79	200	\$1,864.00	\$560,000.00	\$275,902.44	\$2,117,890.23	\$1,131,500.00	\$0.00	\$1,131,500.00	0.6
ALCALIS	ZIPAQUIRA	18,197	2,524	\$15,675,585.10	20,000	\$198,960.00	\$116,193.32	\$23,238.66	\$15,897,783.77	\$0.00	\$1,100,000.00	\$1,100,000.00	0.1
MATAD.DISTRITAL	C13-K31	6,500	901	\$6,134,426.22	3,200	\$6,134,426.22	\$33,589.76	\$20,000.00	\$6,188,015.98	\$1,588,500.00	\$0.00	\$1,588,500.00	0.3
PROMASA	FACA	40,000	5,864	\$14,030,854.56	67,000	\$356,880.00	\$569,940.00	\$238,350.00	\$14,626,084.56	\$3,177,000.00	\$0.00	\$3,177,000.00	0.2
QUIM. PANAMERICANA	MUNA	2,000	230	\$1,359,085.58	1,000	\$8,240.00	\$180,000.00	\$18,000.00	\$1,385,325.58	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	1.8
CHAMBOURCY	FACA	27,000	4,005	\$3,476,951.52	17,000	\$88,220.00	\$50,000.00	\$22,777.78	\$3,587,949.30	\$3,851,500.00	\$0.00	\$3,851,500.00	1.2
PENNHOLT	C18-K50	500	69	\$524,618.94	170	\$1,904.00	\$245,000.00	\$49,000.00	\$575,522.94	\$1,131,500.00	\$0.00	\$1,131,500.00	2.2
COLCH. PARAISO	C65-K94	7,150	14	\$61,059.78	0	\$0.00	\$139,200.00	\$0.00	\$61,059.78	\$0.00	\$0.00	\$0.00	
E Y M	C17-K68	7,650	1,146	\$139,385.68	3,000	\$13,995.12	\$600,000.00	\$296,470.59	\$449,851.39	\$2,263,000.00	\$0.00	\$2,263,000.00	6.7
COLMOTORES	C565-KAB	50,000	6,935	\$43,461,894.00	38,500	\$385,000.00	\$4,200,000.00	\$840,000.00	\$44,686,894.00	\$6,346,500.00	\$4,400,000.00	\$10,746,500.00	0.3
SEDAS JACOB	C17-K68	3,500	485	\$3,252,332.58	6,000	\$62,400.00	\$132,000.00	\$26,400.00	\$3,341,132.58	\$2,263,000.00	\$0.00	\$2,263,000.00	0.7
NAL. DE CHOCOLATES	C12-K65	8,000	1,155	\$3,508,151.52	10,000	\$79,000.00	\$192,000.00	\$67,200.00	\$3,648,351.52	\$3,994,500.00	\$5,500,000.00	\$8,894,500.00	2.8
SPLENDID	C17-K36	14,000	2,021	\$6,143,465.16	15,500	\$91,234.00	\$214,400.00	\$71,680.00	\$6,306,379.16	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	0.4
PELDAR	COGUA	1,542,000	222,760	\$257,214,925.33	881,000	\$4,335,100.00	\$4,424,965.69	\$1,806,394.70	\$263,356,420.04	\$0.00	\$827,500,000.00	\$827,500,000.00	3.8
FLORES COLOMBIA	ENGATIVA	1,200	166	\$1,129,485.46	3,400	\$29,184.00	\$18,746.52	\$3,749.30	\$1,162,418.76	\$0.00	\$0.00	\$0.00	
HOT. COSMOS	C100-K21	5,150	640	\$1,345,816.20	1,575	\$8,647.46	\$18,000.00	\$4,718.43	\$1,359,182.09	\$2,263,000.00	\$0.00	\$2,263,000.00	1.9
HOSP. SIMON BVAR	C165-K7	5,000	693	\$4,706,189.40	2,000	\$20,960.00	\$750,000.00	\$150,000.00	\$4,877,149.40	\$3,177,000.00	\$0.00	\$3,177,000.00	0.7
HOT. EL PARQUE	C24-K4	1,000	124	\$744,096.36	1,100	\$8,808.00	\$100,000.00	\$14,000.00	\$766,904.36	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	3.4
HOSP. SAN JUAN DIOS	C1-K10	10,000	1,500	\$0.00	2,800	\$11,824.80	\$150,000.00	\$75,000.00	\$86,824.80	\$3,177,000.00	\$0.00	\$3,177,000.00	NO PAGAR
HOT. HILTON	C16-K7	11,300	1,533	\$9,674,496.24	6,500	\$62,930.80	\$67,500.00	\$13,141.59	\$9,750,568.63	\$3,994,500.00	\$0.00	\$3,994,500.00	0.4
CERVEC. ANDINA	C22-K30	145,500	21,650	\$13,441,567.14	90,000	\$463,704.00	\$4,842,580.30	\$2,266,527.28	\$16,171,798.42	\$4,231,000.00	\$1,100,000.00	\$5,331,000.00	0.3
HOSP. SANJOSE	C10-K18	13,633	1,947	\$6,880,750.29	5,185	\$41,455.87	\$300,000.00	\$126,307.96	\$7,048,514.12	\$3,177,000.00	\$1,100,000.00	\$4,277,000.00	0.6
HOSP. MILITAR	C49-K5	32,348	4,823	\$371,426.91	23,089	\$122,927.66	\$1,500,000.00	\$736,784.35	\$1,231,138.92	\$7,408,000.00	\$1,100,000.00	\$8,508,000.00	10.5
HOSP. MISERICORDIA	C1-K14	500	69	\$470,018.94	500	\$5,236.00	\$5,255.55	\$1,051.11	\$476,306.05	\$1,131,500.00	\$0.00	\$1,131,500.00	2.7
HOT. TEQUENDAMA	C26-K13	24,976	3,746	\$1,363,689.60	40,000	\$196,480.00	\$99,000.00	\$49,500.00	\$1,609,669.60	\$5,292,500.00	\$0.00	\$5,292,500.00	4.0
HOSP. INFANTIL	C68-K38	12,700	1,864	\$284,868.15	3,200	\$14,829.60	\$1,410,066.40	\$664,516.59	\$964,214.35	\$2,263,000.00	\$1,100,000.00	\$3,363,000.00	4.3
HOSP. ROOSEVELT	C46-K1	1,648	221	\$997,934.34	2,200	\$17,966.40	\$80,000.00	\$14,475.73	\$1,030,376.46	\$2,263,000.00	\$0.00	\$2,263,000.00	2.5
CLUB MILITAR	C13-K50	8,429	1,145	\$7,569,893.22	4,129	\$37,893.62	\$360,000.00	\$67,703.40	\$7,675,490.24	\$4,526,000.00	\$0.00	\$4,526,000.00	0.6
SENA	C185-K30	500	69	\$464,618.94	500	\$5,200.00	\$555,000.00	\$111,000.00	\$580,818.94	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	12.2
TULIPAN	C475-K60	5,300	792	\$294,371.36	4,000	\$27,130.00	\$166,154.10	\$80,255.57	\$401,756.93	\$2,263,000.00	\$0.00	\$2,263,000.00	7.8
HOT. BACATA	C19-K5	4,192	523	\$1,770,451.05	1,248	\$8,608.10	\$215,723.85	\$58,596.52	\$1,837,655.67	\$2,263,000.00	\$0.00	\$2,263,000.00	1.3
INDARTES	C20-K68	2,570	385	\$65,046.65	3,000	\$14,112.16	\$700,000.00	\$344,280.16	\$423,438.97	\$1,131,500.00	\$0.00	\$1,131,500.00	3.1
MATAD. SAN MARTIN	C98-K48	12,250	1,835	\$253,909.47	4,100	\$19,280.00	\$150,000.00	\$74,081.63	\$347,271.10	\$3,177,000.00	\$1,100,000.00	\$4,277,000.00	54.8
COGRA LEVER	C13-K45	87,033	13,028	\$545,989.76	40,448	\$185,696.10	\$800,880.00	\$398,379.11	\$1,130,064.98	\$5,362,500.00	\$0.00	\$5,362,500.00	6.2
CONSERVAS	C61-K85	5,300	786	\$770,090.30	800	\$5,304.00	\$45,000.00	\$20,462.26	\$795,856.57	\$2,263,000.00	\$0.00	\$2,263,000.00	3.4
INST.CANCEROLOGIA	C1-K9	8,300	1,227	\$4,393,240.61	0	\$0.00	\$141,366.27	\$63,193.98	\$4,456,434.58	\$2,720,000.00	\$1,100,000.00	\$3,820,000.00	0.9
HOT. DANN	C19-K5	4,110	615	\$103,536.17	500	\$2,274.00	\$307,800.00	\$151,428.61	\$257,238.78	\$1,131,500.00	\$0.00	\$1,131,500.00	5.6
FLORES AMERICA	FUNZA	50,000	7,500	\$0.00	26,000	\$118,248.00	\$732,000.00	\$366,000.00	\$484,248.00	\$9,052,000.00	\$0.00	\$9,052,000.00	NO PAGAR
LACT. SANTA FE	C9-K27	3,100	457	\$741,186.52	3,100	\$18,800.00	\$58,516.13	\$24,245.16	\$784,231.68	\$2,263,000.00	\$0.00	\$2,263,000.00	3.4
SOLLA	MOSQUERA	4,469	655	\$710,072.99	4,200	\$29,511.68	\$135,000.00	\$60,897.24	\$800,481.91	\$1,131,500.00	\$0.00	\$1,131,500.00	1.6
FAVIDRIO	MADRID	231,000	34,316	\$10,615,066.31	80,500	\$415,800.00	\$480,000.00	\$231,584.42	\$11,262,450.72	\$0.00	\$7,600,000.00	\$7,600,000.00	0.7
ENVASES ROK	MOSQUERA	5,000	550	\$2,960,539.27	5,000	\$39,830.00	\$127,920.00	\$8,880.00	\$3,009,249.27	\$0.00	\$2,200,000.00	\$2,200,000.00	0.8
HOSP. SAN IGNACIO	C40-K7	6,800	973	\$407,478.16	2,500	\$12,240.00	\$270,000.00	\$119,117.65	\$538,835.81	\$2,263,000.00	\$0.00	\$2,263,000.00	5.3
LECH. ALGARRA	C18-K38	4,500	664	\$2,087,537.88	3,800	\$28,608.00	\$50,000.00	\$21,666.67	\$2,137,812.55	\$1,131,500.00	\$0.00	\$1,131,500.00	0.6
IMAL	C32-K129	25,000	3,467	\$21,523,947.00	50,000	\$497,240.00	\$1,000,000.00	\$200,000.00	\$22,221,187.00	\$0.00	\$9,900,000.00	\$9,900,000.00	0.5
ENV.DIANA	C32-K122	7,800	709	\$3,079,281.52	3,000	\$17,520.00	\$232,000.00	\$0.00	\$3,096,801.52	\$2,200,000.00	\$0.00	\$2,200,000.00	0.8
HOT. PRESIDENTE	C23-K9	3,806	489	\$3,151,912.61	2,000	\$18,684.40	\$90,000.00	\$14,187.17	\$3,184,784.18	\$2,263,000.00	\$0.00	\$2,263,000.00	0.8
S.OO.PP.	C3-K34	50,000	6,935	\$47,061,894.00	5,000	\$52,400.00	\$6,000,000.00	\$1,200,000.00	\$48,314,294.00	\$0.00	\$0.00	\$0.00	
CLUB EMPLEAD. OFIC.	C63-K50	13,000	1,891	\$4,592,379.68	7,900	\$53,936.00	\$1,800,000.00	\$830,769.23	\$5,477,084.91	\$6,354,000.00	\$2,200,000.00	\$8,554,000.00	1.7
CLINICA PALERMO	C42-K22	6,948	999	\$2,449,189.58	9,188	\$62,496.61	\$20,000.00	\$8,059.97	\$2,519,746.16	\$2,263,000.00	\$0.00	\$2,263,000.00	1.0
CURTIEM. COLON	CKM13-KAS	5,000	750	\$189,000.00	2,500	\$12,000.00	\$52,500.00	\$26,250.00	\$227,250.00	\$2,263,000.00	\$0.00	\$2,263,000.00	20.7
FILMTEX	C625-K74	9,450	1,412	\$866,357.05	5,000	\$25,780.00	\$60,000.00	\$29,142.86	\$921,279.90	\$3,177,000.00	\$0.00	\$3,177,000.00	4.2
BATALL. GUARDIA	C7-K8	3,650	533	\$1,820,779.57	3,150	\$23,240.40	\$612,575.34	\$269,178.08	\$2,113,198.05	\$2,263,000.00	\$0.00	\$2,263,000.00	1.2
SEGURA	C31-K116	10,000	1,204	\$1,996,878.11	0	\$0.00	\$12,321.44	\$3,080.36	\$1,999,958.47	\$0.00	\$1,100,000.00	\$1,100,000.00	0.6
FRIG. SUIZO	C22-K129	11,283	1,671	\$671,851.65	9,600	\$47,924.80	\$508,562.51	\$244,464.72	\$964,241.17	\$2,263,000.00	\$6,600,000.00	\$8,863,000.00	17.3
ETERNIT	SIBATE	1,250	152	\$926,569.64	0	\$0.00	\$1,635,552.00	\$191,808.00	\$1,118,377.64	\$0.00	\$0.00	\$0.00	
ICOLLANTAS	MUNA	115,000	16,										

ANALISIS DE PENETRACION
ESTIMATIVO DE AHORROS Y DE COSTOS DE CONVERSION A GAS NATURAL
CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL A 0.9 PRECIO DEL CRUDO DE CASTILLA
TOTAL POR EMPRESA

NOMBRE EMPRESA	DIRECCION	TOTAL DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	DEMANDA AHORRO [\$]	ALMACEN [GAL.]	ALMACENAMIENTO AHORRO M [\$]	GASTOS MANTENIMIENTO [\$]	GASTOS MANTENIMIENTO AHORRO [\$]	TOTAL AHORROS [\$]	TOTAL COSTO CONVERSION CALDERAS/EMPRESA [\$]	TOTAL COSTO CONVERSION HORNOS/EMPRESA [\$]	TOTAL COSTOS [\$]	PERIODO RECUPERACION
HILACOL	C99-K49	11,700	1,514	\$4,896,768.26	5,500	\$35,164.00	\$30,000.00	\$8,205.13	\$4,940,137.39	\$2,720,000.00	\$1,100,000.00	\$3,820,000.00	0.8
ELEFANTE LA LLAVE	C14-K43	195,000	20,080	\$19,111,111.38	62,000	\$290,160.00	\$9,000.00	\$4,200.00	\$19,405,471.38	\$6,494,000.00	\$0.00	\$6,494,000.00	0.4
FUNDIO NACIONAL	C20-K33	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0.4
PROQUINAL S.A	C11-K34	70,000	10,262	\$47,214,175.93	110,000	\$940,940.00	\$100,200.00	\$41,082.00	\$48,196,197.93	\$4,308,500.00	\$0.00	\$4,308,500.00	0.1
POLQUIMICOS	C435-K53	1,480	222	\$139,149.60	3,000	\$14,160.00	\$12,840.00	\$6,420.00	\$159,729.60	\$1,131,500.00	\$0.00	\$1,131,500.00	10.9
PFIZER	AUT-SUR	2,795	414	\$626,212.54	4,769	\$29,714.85	\$500,000.00	\$232,575.44	\$888,502.83	\$2,263,000.00	\$0.00	\$2,263,000.00	3.0
SANICOL	C8-K27	1,017	140	\$1,062,571.11	1,000	\$10,528.00	\$50,000.00	\$9,832.84	\$1,082,931.95	\$1,131,500.00	\$0.00	\$1,131,500.00	1.1
CROYDON	C61KAUTS	18,200	2,730	\$1,667,484.00	13,000	\$61,152.00	\$870,000.00	\$435,000.00	\$1,667,484.00	\$3,177,000.00	\$0.00	\$3,177,000.00	1.6
LAB. WYETH	C13-K65	27,429	4,101	\$3,085,954.60	28,600	\$142,152.88	\$1,900,000.00	\$938,599.37	\$4,166,706.85	\$4,308,500.00	\$0.00	\$4,308,500.00	1.1
PROLECHE	CHIA	36,000	5,400	\$2,455,920.00	10,000	\$45,480.00	\$300,000.00	\$150,000.00	\$2,651,400.00	\$4,765,500.00	\$0.00	\$4,765,500.00	2.0
TUBOS MOORE	C30S-K5	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0.0
ASTRO FUNDICIONES	MOSQUERA	1,525	160	\$798,304.35	369	\$2,397.49	\$325,000.00	\$19,180.22	\$819,882.06	\$0.00	\$2,200,000.00	\$2,200,000.00	3.1
ICASA	CAM-K63	64,337	9,253	\$32,477,192.20	35,650	\$314,180.12	\$874,658.61	\$312,484.32	\$33,103,856.64	\$2,263,000.00	\$5,500,000.00	\$7,763,000.00	0.2
PAVCO	C75SKAFLL	38,296	5,553	\$14,268,594.65	16,500	\$117,831.58	\$3,900,000.00	\$1,605,501.36	\$15,991,927.59	\$6,891,000.00	\$3,300,000.00	\$10,181,000.00	0.7
MULTIPLAS	C10-K68	13,890	2,084	\$6,973,057.80	15,000	\$111,600.00	\$1,680,000.00	\$840,000.00	\$7,924,657.80	\$2,263,000.00	\$0.00	\$2,263,000.00	0.3
ARTECTO	C26-K35	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0.0
COM.RICOS	C90-K41	2,400	333	\$2,323,953.82	800	\$8,192.00	\$500,000.00	\$100,000.00	\$2,432,145.82	\$0.00	\$1,100,000.00	\$1,100,000.00	0.5
FUND. SANTA FE	C3-K69	1,100	153	\$1,091,545.50	110	\$1,144.00	\$49,163.25	\$9,832.65	\$1,102,522.15	\$0.00	\$1,100,000.00	\$1,100,000.00	1.1
NATESA	C47S-K60	44,000	6,464	\$14,522,809.10	16,600	\$91,336.00	\$2,000,000.00	\$836,363.64	\$15,450,508.74	\$3,177,000.00	\$0.00	\$3,177,000.00	0.2
SWANTEX	C16-K34	6,000	889	\$1,534,414.09	4,500	\$30,120.00	\$250,000.00	\$112,500.00	\$1,677,034.09	\$3,394,500.00	\$0.00	\$3,394,500.00	2.3
TRES M	SORCHA	4,200	630	\$309,204.00	9,000	\$41,256.00	\$120,000.00	\$60,000.00	\$410,460.00	\$2,115,500.00	\$0.00	\$2,115,500.00	6.9
INDUCERO	C13-K39	23,800	3,154	\$10,462,038.82	11,100	\$85,476.40	\$120,000.00	\$35,294.12	\$10,582,809.34	\$4,400,000.00	\$5,531,500.00	\$5,531,500.00	0.6
LAB. UNORA	C19-K68	6,225	863	\$5,878,355.22	0	\$0.00	\$40,000.00	\$8,000.00	\$5,886,355.22	\$2,263,000.00	\$0.00	\$2,263,000.00	0.4
CHARMS	C18-K33	13,000	1,809	\$4,442,554.35	14,750	\$87,052.00	\$215,040.00	\$73,747.69	\$4,603,354.05	\$2,263,000.00	\$0.00	\$2,263,000.00	0.5
PROTELA	C66-K93	150	21	\$148,847.11	100	\$1,040.00	\$1,250.00	\$250.00	\$150,137.11	\$1,131,500.00	\$0.00	\$1,131,500.00	12.0
PROFICOL	CAZUCA	4,881	677	\$4,510,210.40	3,000	\$29,834.40	\$420,000.00	\$84,000.00	\$4,624,044.80	\$0.00	\$0.00	\$0.00	0.0
COLORTEK	C10-K54	70,000	10,104	\$35,640,293.22	16,000	\$117,331.20	\$600,000.00	\$210,000.00	\$35,967,624.42	\$9,818,500.00	\$0.00	\$9,818,500.00	0.3
ICOBORDADOS	C16-K68	2,329	339	\$1,466,900.67	5,300	\$36,756.00	\$250,000.00	\$94,987.12	\$1,598,643.79	\$2,720,000.00	\$0.00	\$2,720,000.00	1.9
INMA BOL	C9-K22	2,444	339	\$3,744,975.64	0	\$0.00	\$2,480.00	\$496.00	\$3,745,471.64	\$0.00	\$0.00	\$0.00	0.0
FIBERGLAS	MOSQUERA	123,000	15,648	\$50,198,780.83	48,000	\$327,430.40	\$17,600,000.00	\$4,593,170.73	\$55,119,381.96	\$4,000,000.00	\$4,000,000.00	\$4,000,000.00	0.1
MARGARITA	C21-K69	7,000	971	\$2,074,198.64	5,000	\$28,800.00	\$24,000.00	\$4,800.00	\$2,107,798.64	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	2.4
PUPY FASHIONS	C10-K38	120	17	\$117,637.69	300	\$3,096.00	\$23,458.00	\$4,691.60	\$125,425.29	\$1,131,500.00	\$0.00	\$1,131,500.00	16.6
COMAPAN	C13-K42	24,000	3,329	\$22,087,538.21	3,000	\$29,760.00	\$3,552,000.00	\$710,400.00	\$22,827,698.21	\$4,526,000.00	\$8,800,000.00	\$13,326,000.00	0.6
DORIA	C16-K41	16,330	2,417	\$3,397,387.10	5,500	\$30,093.40	\$504,942.44	\$225,908.63	\$3,653,389.13	\$2,263,000.00	\$0.00	\$2,263,000.00	0.7
LICORERA C/MARCA	C10-K36	63,179	9,364	\$12,695,042.91	16,679	\$84,881.26	\$1,537,595.36	\$707,858.32	\$13,487,782.48	\$4,526,000.00	\$0.00	\$4,526,000.00	0.4
SPECIA	CAM-K53	300	42	\$146,494.23	1,000	\$7,040.00	\$20,000.00	\$4,000.00	\$157,534.23	\$1,131,500.00	\$0.00	\$1,131,500.00	11.1
YALE	C12-K32	793	110	\$786,905.07	1,500	\$15,600.00	\$111,000.00	\$22,200.00	\$824,705.07	\$0.00	\$1,100,000.00	\$1,100,000.00	1.5
LAOR. SANTA FE	SORCHA	26,000	3,885	\$2,640,918.00	20,000	\$90,960.00	\$132,649.55	\$64,235.38	\$2,796,113.38	\$2,200,000.00	\$0.00	\$2,200,000.00	0.8
LAOR. SANTA FE	USME	25,000	3,750	\$1,705,500.00	30,000	\$136,440.00	\$56,170.33	\$28,085.16	\$1,870,025.16	\$0.00	\$1,100,000.00	\$1,100,000.00	0.6
COOVINAL	CAORIENTE	75,000	9,956	\$44,100,743.78	9,500	\$52,235.20	\$224,000.00	\$57,344.00	\$44,210,322.98	\$8,800,000.00	\$0.00	\$8,800,000.00	0.2
VPJOHN	C45-K93	1,770	242	\$1,736,027.03	1,700	\$17,829.60	\$22,423.05	\$4,264.41	\$1,758,121.03	\$1,131,500.00	\$0.00	\$1,131,500.00	0.7
FADALT	C18-K68	2,600	361	\$2,892,016.64	3,000	\$33,600.00	\$111,000.00	\$22,200.00	\$2,947,816.64	\$1,131,500.00	\$0.00	\$1,131,500.00	0.4
PHARMETIQ	C13-K65B	2,890	386	\$2,737,379.67	4,100	\$42,192.00	\$49,000.00	\$9,349.82	\$2,788,921.49	\$2,263,000.00	\$1,100,000.00	\$3,363,000.00	1.3
EMCABLES	C110-K9	45,352	6,244	\$30,245,450.85	11,800	\$96,839.68	\$778,498.85	\$216,662.90	\$30,558,953.43	\$2,263,000.00	\$5,500,000.00	\$7,763,000.00	0.3
RAMO	MOSQUERA	20,591	2,754	\$18,749,529.74	11,613	\$106,116.97	\$825,000.00	\$160,262.21	\$19,015,908.92	\$1,131,500.00	\$5,500,000.00	\$6,631,500.00	0.4
QUIMICA ANDINA	CKM4-KAS	12,000	1,664	\$11,187,769.10	4,000	\$40,000.00	\$111,000.00	\$22,200.00	\$11,249,969.10	\$2,720,000.00	\$0.00	\$2,720,000.00	0.3
MEALS	C98-K49	10,358	1,533	\$1,340,872.15	3,634	\$17,874.46	\$1,200,000.00	\$579,243.60	\$1,937,990.22	\$1,588,500.00	\$0.00	\$1,588,500.00	0.9
PABSA	MOSQUERA	10,250	1,373	\$9,927,419.68	10,120	\$102,957.79	\$471,000.00	\$91,902.44	\$10,122,279.91	\$2,263,000.00	\$5,500,000.00	\$7,763,000.00	0.8
PANAM	C101-K50	2,960	411	\$2,795,169.71	1,300	\$13,104.00	\$600.00	\$120.00	\$2,808,399.71	\$1,131,500.00	\$0.00	\$1,131,500.00	0.4
CERAMITA	SOPO	115,000	12,814	\$36,405,582.36	40,000	\$202,832.00	\$3,000,000.00	\$521,739.13	\$37,130,153.49	\$0.00	\$15,500,000.00	\$15,500,000.00	0.4
HILAT	C57S-K67	24,358	3,605	\$5,959,777.98	9,269	\$52,653.65	\$165,000.00	\$76,409.16	\$6,088,840.78	\$3,704,000.00	\$0.00	\$3,704,000.00	0.6
MERCK	C10-K65	2,180	270	\$1,793,372.10	1,000	\$8,164.40	\$80,000.00	\$11,009.17	\$1,812,545.67	\$1,131,500.00	\$0.00	\$1,131,500.00	0.7
CANTAFLARO	MOSQUERA	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0.0
DESA SA	C6-K35	165,000	24,580	\$24,093,511.38	35,000	\$186,164.00	\$700,000.00	\$330,909.09	\$24,610,584.47	\$7,625,500.00	\$4,000,000.00	\$11,625,500.00	0.5
AVIANCA	AEROPUERT	5,000	693	\$4,901,570.46	0	\$0.00	\$74,000.00	\$14,800.00	\$4,916,370.46	\$1,131,500.00	\$0.00	\$1,131,500.00	0.2
CARTON DE COL.	CAM-K56	22,600	3,390	\$1,541,772.00	5,000	\$22,740.00	\$176,600.00	\$88,300.00	\$1,652,812.00	\$1,588,500.00	\$0.00	\$1,588,500.00	1.0
SILICAL	C169-K7	30,000	4,466	\$4,566,892.28	4,500	\$28,404.00	\$495,000.00	\$232,650.00	\$4,827,936.28	\$3,177,000.00	\$0.00	\$3,177,000.00	0.7
ALFAGRES	SORCHA	80,000	12,000	\$5,457,600.00	85,000	\$386,580.00	\$1,800,000.00	\$900,000.00	\$6,744,180.00	\$0.00	\$8,000,000.00	\$8,000,000.00	1.3
COCACOLA	CAD-K83	2,200	305	\$2,051,091.00	2,000	\$20,000.00	\$100,000.00	\$20,000.00	\$2,091,091.00	\$2,263,000.00	\$0.00	\$2,263,000.00	1.2
BAYER	CAM-K57	2,717	342	\$2,161,972.49	558	\$4,106.51	\$592,196.54	\$81,717.62	\$2,247,796.62	\$1,131,500.00	\$0.00	\$1,131,500.00	0.5
PURINA	MOSQUERA	9,834	1,466	\$1,471,593.95	17,500	\$140,510.00	\$360,000.00	\$170,840.76	\$1,782,944.71	\$1,588,500.00	\$1,100,000.00	\$2,688,500.00	1.7
TENNYLON	C13-K44	10,450	1,										

ANALISIS DE PENETRACION
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CALCULO DEL PERIODO DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL A 0.9 PRECIO DEL CRUDO DE CASTILLA
TOTAL POR EMPRESA

ZONA	NOMBRE EMPRESA	DIRECCION	TOTAL DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	DEMANDA AHORRO [\$]	ALMACEN [GAL.]	ALMACENAMIENTO AHORRO M [\$]	GASTOS MANTENIMIENTO [\$]	GASTOS MANTENIMIENTO AHORRO [\$]	TOTAL AHORROS [\$]	TOTAL COSTO CONVERSION CALDERAS/EMPRESA [\$]	TOTAL COSTO CONVERSION HORNOS/EMPRESA [\$]	TOTAL COSTOS [\$]	PERIODO RECUPER. N
4	KAPITOL	C5-K68	150	14	\$67,257.56	700	\$4,150.16	\$92,800.00	\$0.00	\$71,407.72	\$0.00	\$0.00	\$0.00	
4	FLORES BOSQUE	FUNZA	60	8	\$66,738.85	200	\$2,240.00	\$10.53	\$2.11	\$68,980.95	\$0.00	\$0.00	\$0.00	
4	ACEITALES	C12-K37	195,045	29,084	\$27,364,395.40	138,358	\$736,522.51	\$172,000.18	\$82,011.93	\$28,182,929.84	\$13,902,000.00	\$0.00	\$13,902,000.00	0.5
4	COLMENA	C61S-KAS	12,600	1,861	\$3,188,289.11	7,000	\$40,614.00	\$300,000.00	\$132,000.00	\$3,360,903.11	\$1,131,500.00	\$3,600,000.00	\$4,731,500.00	1.6
4	CORPACERO	C22-K68	42,100	6,286	\$7,449,866.56	21,139	\$111,156.10	\$1,135,301.90	\$552,057.01	\$8,113,079.67	\$2,263,000.00	\$3,300,000.00	\$5,563,000.00	0.7
4	DISCOS CBS	C61S-KAS	7,000	1,050	\$785,820.00	5,000	\$24,208.00	\$500,000.00	\$250,000.00	\$1,060,028.00	\$2,263,000.00	\$0.00	\$2,263,000.00	2.4
4	BAVARIA	C12-K83	470,000	70,500	\$32,063,400.00	320,000	\$1,455,360.00	\$4,230,000.00	\$2,115,000.00	\$35,633,760.00	\$8,462,000.00	\$0.00	\$8,462,000.00	0.2
4	GRASAS DEL INTER.	MOSQUERA	19,180	2,870	\$1,653,933.36	8,000	\$36,832.00	\$210,422.72	\$103,988.23	\$1,794,753.59	\$1,588,500.00	\$0.00	\$1,588,500.00	1.0
4	COLAUTOM	C13-K58	35,200	5,081	\$17,303,160.02	52,089	\$300,528.00	\$6,000,000.00	\$2,100,000.00	\$19,703,688.02	\$6,346,500.00	\$2,200,000.00	\$8,546,500.00	0.5
4	ACC.CUL.POPULAR	C15-K39	2,500	227	\$481,504.54	0	\$0.00	\$15,300.00	\$0.00	\$481,504.54	\$0.00	\$0.00	\$0.00	
4	TEXTILES EGO	C15-K63	4,100	614	\$2,119,311.41	200	\$1,864.00	\$560,000.00	\$275,902.44	\$2,397,077.85	\$1,131,500.00	\$0.00	\$1,131,500.00	0.5
7	ALCALIS	ZIPAQUIRA	18,197	2,524	\$16,823,382.93	20,000	\$198,960.00	\$116,193.32	\$23,238.66	\$17,045,581.60	\$1,100,000.00	\$1,100,000.00	\$1,100,000.00	0.1
4	MATAD.DISTRITAL	C13-K31	6,500	901	\$6,544,421.60	3,200	\$33,589.76	\$100,000.00	\$20,000.00	\$6,598,011.36	\$1,588,500.00	\$0.00	\$1,588,500.00	0.3
4	PROMASA	FACA	40,000	5,864	\$16,697,929.10	67,000	\$356,880.00	\$569,940.00	\$238,350.00	\$17,293,159.10	\$3,177,000.00	\$0.00	\$3,177,000.00	0.2
4	QUIM. PANAMERICANA	MUNA	2,000	230	\$1,463,480.37	1,000	\$8,240.00	\$180,000.00	\$18,000.00	\$1,489,720.37	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	1.7
4	CHAMBOURCY	FACA	27,000	4,005	\$5,298,316.37	17,000	\$88,220.00	\$50,000.00	\$22,777.78	\$5,409,314.15	\$3,851,500.00	\$0.00	\$3,851,500.00	0.8
4	PENNWOLT	C18-K50	500	69	\$556,157.05	170	\$1,904.00	\$245,000.00	\$49,000.00	\$607,061.05	\$1,131,500.00	\$0.00	\$1,131,500.00	2.1
4	COLCH. PARAISO	C65-K94	150	14	\$67,257.56	0	\$0.00	\$139,200.00	\$0.00	\$67,257.56	\$0.00	\$0.00	\$0.00	
4	E Y M	C17-K68	7,650	1,146	\$660,497.11	3,000	\$13,995.12	\$600,000.00	\$296,470.59	\$970,962.82	\$2,263,000.00	\$0.00	\$2,263,000.00	2.7
4	COLMOTORES	C56S-KAB	50,000	6,935	\$46,615,704.60	38,500	\$385,000.00	\$4,200,000.00	\$840,000.00	\$47,840,704.60	\$6,346,500.00	\$4,400,000.00	\$10,746,500.00	0.2
4	SEDAS JACOB	C17-K68	3,500	485	\$3,473,099.32	6,000	\$62,400.00	\$132,000.00	\$26,400.00	\$3,561,899.32	\$2,263,000.00	\$0.00	\$2,263,000.00	0.7
4	NAL. DE CHOCOLATES	C12-K65	8,000	1,155	\$4,033,336.37	10,000	\$73,000.00	\$192,000.00	\$67,200.00	\$4,173,536.37	\$3,394,500.00	\$5,500,000.00	\$8,894,500.00	2.4
4	SPLENDID	C17-K36	14,000	2,021	\$7,062,538.64	15,500	\$91,234.00	\$214,400.00	\$71,680.00	\$7,225,452.64	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	0.3
4	PELDAR	COGUA	1,542,000	222,760	\$358,525,950.48	881,000	\$4,335,100.00	\$4,424,965.69	\$1,806,394.70	\$364,667,445.19	\$0.00	\$827,500,000.00	\$827,500,000.00	2.6
6	FLORES COLOMBIA	ENGATIVA	1,200	166	\$1,205,176.91	3,400	\$29,184.00	\$18,746.52	\$3,749.30	\$1,238,110.21	\$0.00	\$0.00	\$0.00	
7	HOT. COSMOS	C100-K21	5,150	640	\$1,636,739.97	1,575	\$8,647.46	\$18,000.00	\$4,718.43	\$1,650,105.86	\$2,263,000.00	\$0.00	\$2,263,000.00	1.5
7	HOSP. SIMON BYAR	C165-K7	5,000	693	\$5,021,570.46	2,000	\$20,960.00	\$750,000.00	\$150,000.00	\$5,192,530.46	\$3,177,000.00	\$0.00	\$3,177,000.00	0.7
6	HOT. EL PARQUE	C24-K4	1,000	124	\$800,645.28	1,100	\$8,808.00	\$100,000.00	\$14,000.00	\$823,453.28	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	3.2
4	HOT. SAN JUAN DIOS	C1-K10	10,000	1,500	\$682,200.00	2,800	\$11,824.80	\$150,000.00	\$75,000.00	\$769,024.80	\$3,177,000.00	\$0.00	\$3,177,000.00	5.2
4	HOT. HILTON	C16-K7	11,300	1,553	\$10,380,730.14	6,500	\$62,930.80	\$67,500.00	\$13,141.59	\$10,456,802.53	\$3,394,500.00	\$0.00	\$3,394,500.00	0.3
4	CERVEC.ANDINA	C22-K30	145,500	21,650	\$23,287,848.43	90,000	\$463,704.00	\$4,842,580.30	\$2,266,527.28	\$26,018,079.70	\$4,231,000.00	\$1,100,000.00	\$5,331,000.00	0.2
4	HOSP. SANJOSE	C10-K18	13,633	1,947	\$7,766,085.53	5,185	\$41,455.87	\$300,000.00	\$126,307.96	\$7,933,849.36	\$3,177,000.00	\$1,100,000.00	\$4,277,000.00	0.6
4	HOSP. MILITAR	C49-K5	32,348	4,823	\$2,565,073.07	23,089	\$122,927.66	\$1,500,000.00	\$736,784.35	\$3,424,785.08	\$7,408,000.00	\$1,100,000.00	\$8,508,000.00	2.9
4	HOSP. MISERICORDIA	C1-K14	500	69	\$501,557.05	500	\$5,236.00	\$5,255.55	\$1,051.11	\$507,844.16	\$1,131,500.00	\$0.00	\$1,131,500.00	2.6
4	HOT. TEQUENOMA	C26-K13	24,976	3,746	\$3,067,552.32	40,000	\$196,480.00	\$99,000.00	\$49,500.00	\$3,313,532.32	\$5,292,500.00	\$0.00	\$5,292,500.00	1.8
4	HOSP. INFANTIL	C68-K38	12,700	1,864	\$1,132,431.16	3,200	\$14,829.60	\$1,410,066.40	\$664,516.59	\$1,811,777.35	\$2,263,000.00	\$1,100,000.00	\$3,363,000.00	2.1
4	HOSP. ROOSEVELT	C46-K1	1,648	221	\$1,098,467.99	2,200	\$17,966.40	\$80,000.00	\$14,475.73	\$1,130,910.11	\$2,263,000.00	\$0.00	\$2,263,000.00	2.3
4	CLUB MILITAR	C13-K50	8,429	1,145	\$8,090,618.53	4,129	\$37,893.62	\$360,000.00	\$67,703.40	\$8,196,215.55	\$4,526,000.00	\$0.00	\$4,526,000.00	0.6
4	SENA	C185-K30	500	69	\$496,157.05	500	\$5,200.00	\$555,000.00	\$111,000.00	\$612,357.05	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	11.2
4	TULIPAN	C47S-K60	5,300	792	\$654,394.23	4,000	\$27,130.00	\$166,154.10	\$80,255.57	\$761,779.79	\$2,263,000.00	\$0.00	\$2,263,000.00	3.5
4	HOT. BACATA	C19-K5	4,192	523	\$2,008,208.77	1,248	\$8,608.10	\$215,723.85	\$58,596.52	\$2,075,413.39	\$2,263,000.00	\$0.00	\$2,263,000.00	1.2
4	INDARTES	C20-K68	2,570	385	\$240,011.99	3,000	\$14,112.16	\$700,000.00	\$344,280.16	\$598,404.30	\$1,131,500.00	\$0.00	\$1,131,500.00	2.1
4	MATAD. SAN MARTIN	C98-K48	12,250	1,835	\$1,088,318.52	4,100	\$19,280.00	\$150,000.00	\$74,081.63	\$1,181,680.16	\$3,177,000.00	\$1,100,000.00	\$4,277,000.00	4.4
4	COGRA LEVER	C13-K45	87,033	13,028	\$6,471,325.89	40,448	\$185,696.10	\$800,880.00	\$398,379.11	\$7,055,401.11	\$5,362,500.00	\$0.00	\$5,362,500.00	0.8
4	CONSERVAS	C61-K85	5,300	786	\$1,127,541.27	800	\$5,304.00	\$45,000.00	\$20,462.26	\$1,153,307.54	\$2,263,000.00	\$0.00	\$2,263,000.00	2.2
4	INST.CANCEROLOGIA	C1-K9	8,300	1,227	\$4,951,236.55	0	\$0.00	\$141,366.27	\$63,193.98	\$5,014,430.52	\$2,720,000.00	\$1,100,000.00	\$3,820,000.00	0.8
4	HOT. DANN	C19-K5	4,110	615	\$383,354.55	500	\$2,274.00	\$307,800.00	\$151,428.61	\$537,057.16	\$1,131,500.00	\$0.00	\$1,131,500.00	2.4
4	FLORES AMERICA	FUNZA	50,000	7,500	\$3,411,000.00	26,000	\$118,248.00	\$732,000.00	\$366,000.00	\$3,895,248.00	\$9,052,000.00	\$0.00	\$9,052,000.00	2.7
4	LACT. SANTA FE	C9-K27	3,100	457	\$949,067.86	3,100	\$18,800.00	\$58,516.13	\$24,245.16	\$992,113.03	\$2,263,000.00	\$0.00	\$2,263,000.00	2.6
4	SOLLA	MOSQUERA	4,469	655	\$1,007,927.94	4,200	\$29,511.68	\$135,000.00	\$60,897.24	\$1,098,336.86	\$1,131,500.00	\$0.00	\$1,131,500.00	1.1
4	FAVIDRID	MADRID	231,000	34,316	\$26,221,967.19	80,500	\$415,800.00	\$480,000.00	\$231,584.42	\$26,869,351.60	\$7,600,000.00	\$7,600,000.00	\$7,600,000.00	0.3
4	ENVASES ROK	MOSQUERA	5,000	550	\$3,210,647.44	5,000	\$39,830.00	\$127,920.00	\$8,880.00	\$3,259,357.44	\$2,200,000.00	\$2,200,000.00	\$2,200,000.00	0.7
4	HOSP. SAN IGNACIO	C40-K7	6,800	973	\$849,853.03	2,500	\$12,240.00	\$270,000.00	\$119,117.65	\$981,210.67	\$2,263,000.00	\$0.00	\$2,263,000.00	2.7
4	LECH. ALGARRA	C18-K38	4,500	664	\$2,389,384.09	3,800	\$28,608.00	\$50,000.00	\$21,666.67	\$2,439,658.76	\$1,131,500.00	\$0.00	\$1,131,500.00	0.5
4	IMAL	C32-K129	25,000	3,467	\$23,100,852.30	50,000	\$497,240.00	\$1,000,000.00	\$200,000.00	\$23,798,092.30	\$9,900,000.00	\$2,200,000.00	\$9,900,000.00	0.4
4	ENV.DIANA	C32-K122	7,800	709	\$3,401,566.45	3,000	\$17,520.00	\$232,000.00	\$0.00	\$3,419,086.45	\$2,200,000.00	\$0.00	\$2,200,000.00	0.7
4	HOT. PRESIDENENTE	C23-K9	3,806	489	\$3,374,454.62	2,000	\$18,684.40	\$90,000.00	\$14,187.17	\$3,407,326.19	\$2,263,000.00	\$0.00	\$2,263,000.00	0.7
4	S.OO.PP.	C3-K34	50,000	6,935	\$50,215,704.60	5,000	\$52,400.00	\$6,000,000.00	\$1,200,000.00	\$51,468,104.60	\$0.00	\$0.00	\$0.00	
4	CLUB EMPLEAD. OFIC.	C63-K50	13,000	1,891	\$5,452,338.26	7,900	\$53,936.00	\$1,800,000.00	\$830,769.23	\$6,337,043.49	\$2,200,000.00	\$2,200,000.00	\$4,537,000.00	1.5
4	CLINICA PALERMO	C42-K22	6,948	999	\$2,903,411.33	9,188	\$62,496.61	\$20,000.00	\$8,059.97	\$2,973,967.91	\$6,354,000.00	\$2,200,000.00	\$8,554,000.00	0.8
4	CURTLEM. COLON	CKM13-KAS	5,000	750	\$530,100.00	2,500	\$12,000.00	\$52,500.00	\$26,250.00	\$568,350.00	\$2,263,000.00	\$0.00	\$2,263,000.00	5.0
4	FILMTEX	C62S-K74	9,450	1,412	\$1,508,721.34	5,000	\$25,780.00	\$60,000.00	\$29,142.86	\$1,563,644.20	\$2,263,000.00	\$0.00	\$2,263,000.00	0.8
4	BATALL. GUARDIA	C7-K8	3,650	533	\$2,063,175.46	3,150	\$23,240.40	\$612,575.34	\$269,178.08	\$2,355,593.94	\$3,177,000.00	\$0.00	\$3,177,000.00	2.3
4	SEGURA	C31-K116	10,000	1,204										

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL

ANALISIS DE PENETRACION
CLASIFICACION DE LA INDUSTRIA ENCUESTADA POR PERIODO DE RECUPERACION DE LA INVERSION Y POR ZONAS DE LA CIUDAD
PRECIO DEL GAS NATURAL IGUAL A PRECIO DEL CRUDO DE CASTILLA

TABLA I.5.1

EMPRESA	DIRECCION	TOTAL DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	DEMANDA AHORRO [GAL.]	ALMACEN [GAL.]	ALMACENAMIENTO AHORRO [GAL.]	GASTOS MANTENIMIENTO [GAL.]	MANTENIMIENTO AHORRO [GAL.]	TOTAL AHORROS [GAL.]	COSTO CONVERSION CALDERAS/EMPRESA [GAL.]	COSTO CONVERSION HORNOS/EMPRESA [GAL.]	TOTAL COSTOS [GAL.]	PERIODO RECUPER. N
CERV. ALEMANA	C-ORIENTE	144	20	\$130,596.17	500	\$5,125.60	\$1,495.20	\$299.04	\$136,020.81	\$0.00	\$0.00	\$0.00	
TUBOS MOORE	C305-K5	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
COOVINAL	CAORIENTE	75,000	9,956	\$39,572,941.45	9,500	\$52,235.20	\$224,000.00	\$57,344.00	\$39,682,520.65	\$0.00	\$0.00	\$0.00	
INST.CANCEROLOGIA	C1-K9	8,300	1,227	\$4,393,240.61	0	\$0.00	\$141,366.27	\$63,193.98	\$4,456,434.58	\$2,720,000.00	\$8,800,000.00	\$8,800,000.00	0.2
LADR. SANTA FE	USME	25,000	3,750	\$0.00	30,000	\$136,440.00	\$56,170.33	\$28,085.16	\$164,525.16	\$0.00	\$1,100,000.00	\$3,820,000.00	0.9
HOSP. SAN JUAN DIOS	C1-K10	10,000	1,500	\$0.00	2,800	\$11,824.80	\$150,000.00	\$75,000.00	\$86,824.80	\$0.00	\$1,100,000.00	\$1,100,000.00	9.9
ETERNIT	SIBATE	1,250	152	\$926,569.64	0	\$0.00	\$1,635,552.00	\$191,808.00	\$1,118,377.64	\$3,177,000.00	\$0.00	\$3,177,000.00	NO PAGAR
PROFICOL	CAZUCA	4,881	677	\$4,202,335.41	3,000	\$29,834.40	\$420,000.00	\$84,000.00	\$4,316,169.81	\$0.00	\$0.00	\$0.00	
COLINAGRO	BOSA	528	48	\$215,067.29	544	\$3,225.27	\$46,400.00	\$0.00	\$218,292.56	\$0.00	\$0.00	\$0.00	
LIQUIDO CARBONICO	C34-K21	75,000	11,250	\$32,535,000.00	42,000	\$312,480.00	\$150,000.00	\$75,000.00	\$32,922,480.00	\$2,115,500.00	\$0.00	\$2,115,500.00	0.1
CONALVIDRIOS	CKM16-KAS	403,700	59,684	\$46,135,461.16	752,000	\$4,128,036.00	\$3,108,853.11	\$1,389,495.67	\$51,652,992.83	\$0.00	\$10,400,000.00	\$10,400,000.00	0.2
COLMOTORES	C565-KAB	50,000	6,935	\$43,461,894.00	38,500	\$385,000.00	\$4,200,000.00	\$840,000.00	\$44,686,894.00	\$6,346,500.00	\$4,400,000.00	\$10,746,500.00	0.3
NATESA	C475-K60	44,000	6,464	\$11,582,854.56	16,600	\$91,336.00	\$2,000,000.00	\$400,000.00	\$12,510,554.20	\$3,177,000.00	\$0.00	\$3,177,000.00	0.3
QUIMICA ANDINA	CKM4-KAS	12,000	1,664	\$10,430,854.56	4,000	\$40,000.00	\$111,000.00	\$22,200.00	\$10,493,054.56	\$2,720,000.00	\$0.00	\$2,720,000.00	0.3
SIDEMUNA	CHUSACA	87,072	12,781	\$10,405,147.65	41,000	\$214,708.80	\$450,000.00	\$202,924.30	\$10,822,780.76	\$0.00	\$4,000,000.00	\$4,000,000.00	0.4
ALAMB. Y MALLAS	C425-K54	12,200	1,692	\$11,336,702.14	5,000	\$52,000.00	\$48,000.00	\$9,600.00	\$11,398,302.14	\$1,131,500.00	\$4,400,000.00	\$5,531,500.00	0.5
PRODIERO	BOSA	8,188	1,127	\$6,820,242.80	2,679	\$25,623.26	\$5,000.00	\$977.02	\$6,846,843.08	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	0.7
PAVCO	C75SKAFLL	38,296	5,553	\$11,743,251.88	16,500	\$117,831.58	\$3,900,000.00	\$1,605,501.36	\$13,466,584.82	\$6,881,000.00	\$3,300,000.00	\$10,181,000.00	0.8
HILAT	C575-K67	24,358	3,605	\$4,320,037.12	9,269	\$52,653.65	\$165,000.00	\$76,409.16	\$4,449,099.93	\$3,704,000.00	\$0.00	\$3,704,000.00	0.9
IND. CRUZ	CKM5-KAS	2,100	231	\$1,297,716.87	800	\$6,000.00	\$90,000.00	\$7,714.29	\$1,311,431.15	\$0.00	\$1,100,000.00	\$1,100,000.00	0.9
ICOLLANTAS	MUNA	115,000	16,895	\$4,294,591.11	63,000	\$304,430.40	\$993,930.20	\$471,036.49	\$5,070,057.99	\$4,231,000.00	\$1,100,000.00	\$5,331,000.00	1.1
ACEGRASAS	C575-KAS	140,272	20,892	\$6,256,582.79	40,269	\$221,634.85	\$1,656,000.00	\$790,033.75	\$7,942,500.00	\$0.00	\$0.00	\$7,942,500.00	1.2
QUIM. PANAMERICANA	MUNA	2,000	230	\$1,359,085.58	1,000	\$8,240.00	\$180,000.00	\$18,000.00	\$1,385,325.58	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	1.8
COLMENA	C615-KAS	12,600	1,861	\$2,341,679.46	7,000	\$40,614.00	\$300,000.00	\$132,000.00	\$2,514,293.46	\$1,131,500.00	\$3,600,000.00	\$4,731,500.00	2.1
CARBOQUIMICA	CKM4-KAS	92,000	13,706	\$1,143,773.90	53,600	\$252,565.44	\$3,000,000.00	\$1,470,652.17	\$2,866,991.52	\$3,704,000.00	\$2,200,000.00	\$5,904,000.00	2.3
ACEGRACOL	C435-K55	31,000	4,650	\$0.00	25,000	\$113,700.00	\$1,269,000.00	\$634,500.00	\$748,200.00	\$1,588,500.00	\$0.00	\$1,588,500.00	2.4
LADR. SANTA FE	SOACHA	26,000	3,885	\$874,020.00	20,000	\$90,960.00	\$132,649.55	\$64,235.38	\$1,029,215.38	\$0.00	\$2,200,000.00	\$2,200,000.00	2.4
PFIZER	AUT-SUR	2,795	414	\$438,042.75	4,769	\$29,714.85	\$500,000.00	\$232,575.44	\$700,333.04	\$2,263,000.00	\$0.00	\$2,263,000.00	3.9
CROYDON	C61KAUTS	18,200	2,730	\$425,880.00	13,000	\$61,152.00	\$870,000.00	\$435,000.00	\$922,032.00	\$3,177,000.00	\$0.00	\$3,177,000.00	4.2
FILMTEX	C625-K74	9,450	1,412	\$866,357.05	5,000	\$25,780.00	\$60,000.00	\$29,142.86	\$921,279.90	\$3,177,000.00	\$0.00	\$3,177,000.00	4.2
DISCOS CBS	C615-KAS	7,000	1,050	\$308,280.00	5,000	\$24,208.00	\$500,000.00	\$250,000.00	\$582,488.00	\$2,263,000.00	\$0.00	\$2,263,000.00	4.8
TULIPAN	C475-K60	5,300	792	\$294,371.36	4,000	\$27,130.00	\$166,154.10	\$80,255.57	\$401,756.93	\$2,263,000.00	\$0.00	\$2,263,000.00	7.8
ALFAGRES	SOACHA	80,000	12,000	\$0.00	85,000	\$386,580.00	\$1,800,000.00	\$900,000.00	\$1,286,580.00	\$0.00	\$8,000,000.00	\$8,000,000.00	8.9
COLCURTIDOS	BOSA	62,000	9,300	\$148,800.00	90,000	\$410,760.00	\$450,000.00	\$225,000.00	\$784,560.00	\$5,967,000.00	\$0.00	\$5,967,000.00	12.2
CURTIEM. COLON	CKM13-KAS	5,000	750	\$189,000.00	2,500	\$12,000.00	\$52,500.00	\$26,250.00	\$227,250.00	\$2,263,000.00	\$0.00	\$2,263,000.00	20.7
AZUL K	C525-K70	17,000	2,550	\$0.00	6,000	\$27,288.00	\$300,000.00	\$150,000.00	\$177,288.00	\$2,720,000.00	\$0.00	\$2,720,000.00	NO PAGAR
TRES M	SOACHA	4,200	630	\$22,680.00	9,000	\$41,256.00	\$120,000.00	\$60,000.00	\$123,936.00	\$2,115,500.00	\$0.00	\$2,115,500.00	NO PAGAR
POLIQUIMICOS	C435-K59	1,480	222	\$38,184.00	3,000	\$14,160.00	\$12,840.00	\$6,420.00	\$58,764.00	\$1,131,500.00	\$0.00	\$1,131,500.00	NO PAGAR
MOBIL	C78-KAS	8,600	1,279	(\$2,601,882.12)	9,500	\$27,240.00	\$120,000.00	\$55,813.95	(\$2,518,828.17)	\$3,851,500.00	\$0.00	\$3,851,500.00	NO PAGAR
CANTAFLARO	MOSQUERA	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	NO PAGAR
S.OO.PP.	C3-K34	50,000	6,935	\$47,061,894.00	5,000	\$52,400.00	\$6,000,000.00	\$1,200,000.00	\$48,314,294.00	\$0.00	\$0.00	\$0.00	
FUNID.NACIONAL	C20-K33	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
FLORES BOSQUE	FUNZA	60	8	\$62,954.27	200	\$2,240.00	\$10.53	\$2.11	\$65,196.38	\$0.00	\$0.00	\$0.00	
ACC.CUL.POPULAR	C15-K39	2,500	227	\$378,208.09	0	\$0.00	\$15,300.00	\$0.00	\$378,208.09	\$0.00	\$0.00	\$0.00	
ARTECTO	C26-K35	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
INMA BOL	C9-K22	2,444	339	\$3,590,817.38	0	\$0.00	\$2,480.00	\$496.00	\$3,591,313.38	\$0.00	\$0.00	\$0.00	
KAPITOL	C5-K68	150	14	\$61,059.78	700	\$4,150.16	\$92,800.00	\$0.00	\$65,209.94	\$0.00	\$0.00	\$0.00	
FAB. NAL. MUNECOS	CAM-K55	627	57	\$255,265.87	179	\$1,061.26	\$12,500.00	\$0.00	\$256,327.12	\$0.00	\$0.00	\$0.00	
GRASCO	C7-K35	159,227	23,723	\$76,113,340.31	43,000	\$328,800.00	\$816,503.01	\$388,438.02	\$76,830,578.33	\$4,231,000.00	\$0.00	\$4,231,000.00	0.1
FIBERGLAS	MOSQUERA	123,000	15,648	\$43,082,002.21	48,000	\$327,430.40	\$17,600,000.00	\$4,593,170.73	\$48,002,603.34	\$0.00	\$4,000,000.00	\$4,000,000.00	0.1
PROQUINAL S.A	C11-K34	70,000	10,262	\$42,546,795.48	110,000	\$940,940.00	\$100,200.00	\$41,082.00	\$43,528,817.48	\$4,308,500.00	\$0.00	\$4,308,500.00	0.1
VECOL	CAD-K82	25,402	3,512	\$23,487,517.72	4,500	\$44,564.40	\$375,000.00	\$74,338.75	\$23,606,420.88	\$2,720,000.00	\$0.00	\$2,720,000.00	0.1
COLCERAMICA	MADRID	234,000	31,623	\$205,017,640.92	210,000	\$2,088,000.00	\$577,692.31	\$115,538.46	\$207,221,179.38	\$0.00	\$32,400,000.00	\$32,400,000.00	0.2
LAFFAYETTE	C23-K36	120,000	16,168	\$32,731,479.68	38,000	\$222,416.00	\$1,000,000.00	\$326,666.67	\$33,280,562.35	\$5,819,500.00	\$0.00	\$5,819,500.00	0.2
PROMASA	FACA	40,000	5,864	\$14,030,854.56	67,000	\$356,880.00	\$569,940.00	\$238,350.00	\$14,626,084.56	\$3,177,000.00	\$0.00	\$3,177,000.00	0.2
GASEOSAS LUX	CAM-K59	15,100	2,265	\$6,541,320.00	2,000	\$14,872.00	\$300,000.00	\$150,000.00	\$6,706,192.00	\$1,588,500.00	\$0.00	\$1,588,500.00	0.2
AVIANCA	AEROPUERT	5,000	693	\$4,586,189.40	0	\$0.00	\$74,000.00	\$14,800.00	\$4,600,989.40	\$1,131,500.00	\$0.00	\$1,131,500.00	0.3
MATAD.DISTRITAL	C13-K31	6,500	901	\$6,134,426.22	3,200	\$33,589.76	\$100,000.00	\$20,000.00	\$6,188,015.98	\$1,588,500.00	\$0.00	\$1,588,500.00	0.3
ICASA	CAM-K69	64,337	9,253	\$28,268,728.32	35,650	\$314,180.12	\$874,658.61	\$312,484.32	\$28,895,392.76	\$2,263,000.00	\$5,500,000.00	\$7,763,000.00	0.3
TEXTILES CARON	C12-K58	12,000	1,664	\$11,294,854.56	2,000	\$20,960.00	\$185,000.00	\$37,000.00	\$11,352,814.56	\$3,394,500.00	\$0.00	\$3,394,500.00	0.3
COLOTEX	C10-K54	70,000	10,104	\$31,044,925.80	16,000	\$117,331.20	\$600,000.00	\$210,000.00	\$31,372,257.00	\$9,818,500.00	\$0.00	\$9,818,500.00	0.3
AQUAFORJA	C20-K65	5,400	605	\$3,451,034.43	2,800	\$21,964.80	\$25,000.00	\$2,222.22	\$3,475,221.45	\$0.00	\$1,100,000.00	\$1,100,000.00	0.3
MULTIPLAS	C10-K68	13,890	2,084	\$6,025,482.00	15,000	\$111,600.00	\$1,680,000.00	\$840,000.00	\$6,977,082.00	\$2,263,000.00	\$0.00	\$2,263,000.00	0.3
CERVEC.ANDINA	C22-K30	145,500	21,650	\$13,441,567.14	90,000	\$463,704.00	\$4,842,580.30	\$2,266,527.28	\$16,171,798.42	\$4,231,000.00	\$1,100,000.00	\$5,331,000.00	0.3
SPLENDID	C17-K36	14,000	2,021	\$6,143,465.16	15,500	\$91,234.00	\$214,400.00	\$71,680.00	\$6,306,379.16	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	0.4
RAMO	MOSQUERA	20,591	2,754	\$17,497,139.93	11,613	\$106,116.97	\$825,000.00	\$160,262.21	\$17,763,519.11	\$1,131,500.00	\$5,500,000.00	\$6,631,500.00	0.4
FADALT	C18-K68	2,600	361	\$2,728,018.49	3,000	\$33,600.00	\$111,000.00	\$22,200.00	\$2,783,818.49	\$1,131,500.00	\$0.00	\$1,131,500.00	0.4
LAB. UNDRAL	C19-K68	6,225	863	\$5,485,705.80	0	\$0.00	\$40,000.00	\$8,000.00	\$5,493,705.80	\$2,263,00			

ANALISIS DE PENETRACION
CLASIFICACION DE LA INDUSTRIA ENCUESTADA POR PERIODO DE RECUPERACION DE LA INVERSION Y POR ZONAS DE LA CIUDAD
PRECIO DEL GAS NATURAL IGUAL A PRECIO DEL CRUDO DE CASTILLA

TABLA I.5.1

ZONA	NOMBRE EMPRESA	DIRECCION	TOTAL	DEMANDA	DEMANDA	DEMANDA	ALMACEN	ALMACENAMIENTO	GASTOS	MANTENIMIENTO	TOTAL	COSTO CONVERSION	COSTO CONVERSION	TOTAL	PERIODO
			DEMANDA	DEMANDA	AHORRO	[GAL.]	ALMACEN	ALMACENAMIENTO	MANTENIMIENTO	AHORROS	CONVERSION	CONVERSION	COSTOS	RECUPER.	
			[GAL./MES]	[MBTU/MES]	[\$]	[GAL.]	ALMACEN	ALMACENAMIENTO	ALMACEN	ALMACENAMIENTO	ALMACEN	CONVERSION	CONVERSION	COSTOS	RECUPER.
4	GRIVAL	FUNZA	6,000	821	\$5,409,773.64	1,500	\$15,360.00	\$286,800.00	\$57,360.00	\$5,482,493.64	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	0.9	
4	PABSA	MOSQUERA	10,250	1,373	\$9,303,110.03	10,120	\$102,957.79	\$471,000.00	\$91,902.44	\$9,497,970.26	\$2,263,000.00	\$5,500,000.00	\$7,763,000.00	0.9	
4	DERSA SA	C6-K35	165,580	24,580	\$12,914,368.20	35,000	\$186,164.00	\$700,000.00	\$330,909.09	\$13,431,441.29	\$7,625,500.00	\$4,000,000.00	\$11,625,500.00	0.9	
4	DORIA	C16-K41	16,330	2,417	\$2,298,047.17	5,500	\$30,093.40	\$504,942.44	\$225,908.63	\$2,554,049.20	\$2,263,000.00	\$0.00	\$2,263,000.00	1.0	
4	BRISTOL	C4-K19	1,450	201	\$1,235,164.93	2,000	\$19,768.00	\$60,600.00	\$12,120.00	\$1,267,052.93	\$1,131,500.00	\$0.00	\$1,131,500.00	1.0	
4	ACEITALES	C12-K37	195,045	29,084	\$14,136,801.48	138,358	\$736,522.51	\$172,000.18	\$82,011.93	\$14,955,335.92	\$13,902,000.00	\$0.00	\$13,902,000.00	1.0	
4	HILANDERI	C24-K95	18,600	2,772	\$2,148,580.61	4,700	\$26,536.00	\$1,450,537.63	\$701,397.85	\$2,876,514.46	\$2,720,000.00	\$0.00	\$2,720,000.00	1.0	
4	DISTRACO	C12-K44	4,500	624	\$3,263,570.46	3,000	\$27,120.00	\$45,000.00	\$9,000.00	\$3,299,690.46	\$2,263,000.00	\$1,100,000.00	\$3,363,000.00	1.1	
4	CORPACERO	C22-K68	42,100	6,286	\$4,590,782.28	21,139	\$111,156.10	\$1,135,301.90	\$552,057.01	\$5,253,995.39	\$2,263,000.00	\$3,300,000.00	\$5,563,000.00	1.2	
4	FUND. SANTA FE	C3-K63	1,100	153	\$1,022,161.67	110	\$1,144.00	\$49,163.25	\$9,832.65	\$1,033,138.32	\$0.00	\$1,100,000.00	\$1,100,000.00	1.2	
4	CHAMBOURCY	FACA	27,000	4,005	\$3,476,951.52	17,000	\$88,220.00	\$50,000.00	\$22,777.78	\$3,587,949.30	\$3,851,500.00	\$0.00	\$3,851,500.00	1.2	
4	COCACOLA	CAD-K83	2,200	305	\$1,912,323.34	2,000	\$20,000.00	\$100,000.00	\$20,000.00	\$1,952,323.34	\$2,263,000.00	\$0.00	\$2,263,000.00	1.3	
4	PHARMETIQ	C13-K65B	2,830	386	\$2,561,702.48	4,100	\$42,192.00	\$49,000.00	\$9,349.82	\$2,613,244.30	\$2,263,000.00	\$1,100,000.00	\$3,363,000.00	1.4	
4	SOLLA	MOSQUERA	4,469	655	\$710,072.99	4,200	\$29,511.68	\$135,000.00	\$60,897.24	\$800,481.91	\$1,131,500.00	\$0.00	\$1,131,500.00	1.6	
4	YALE	C12-K32	793	110	\$736,885.64	1,500	\$15,600.00	\$111,000.00	\$22,200.00	\$774,685.64	\$0.00	\$1,100,000.00	\$1,100,000.00	1.6	
4	DURATEX	C23-K68	3,350	480	\$2,565,305.76	3,800	\$30,864.00	\$180,000.00	\$57,761.19	\$2,653,930.95	\$2,720,000.00	\$1,100,000.00	\$3,820,000.00	1.6	
4	LAB. WYETH	C13-K65	27,429	4,101	\$1,220,842.57	28,600	\$142,152.88	\$1,900,000.00	\$938,599.37	\$2,301,594.83	\$4,308,500.00	\$0.00	\$4,308,500.00	2.1	
4	ICOBORDADOS	C16-K68	2,329	339	\$1,312,810.30	5,300	\$36,756.00	\$250,000.00	\$94,987.12	\$1,444,553.42	\$2,720,000.00	\$0.00	\$2,720,000.00	2.1	
4	ETERNA	C13-K66	26,250	3,923	\$1,065,097.35	16,000	\$78,105.60	\$2,500,000.00	\$1,214,285.71	\$2,357,488.66	\$4,526,000.00	\$0.00	\$4,526,000.00	2.2	
4	PENNWOLT	C18-K50	500	69	\$524,618.94	170	\$1,904.00	\$245,000.00	\$49,000.00	\$575,522.94	\$1,131,500.00	\$0.00	\$1,131,500.00	2.2	
4	BAVARIA	C12-K83	470,000	70,500	\$0.00	320,000	\$1,455,360.00	\$4,230,000.00	\$2,115,000.00	\$3,570,360.00	\$8,462,000.00	\$0.00	\$8,462,000.00	2.7	
4	HOSP. MISERICORDIA	C1-K14	500	69	\$470,018.94	500	\$5,236.00	\$5,255.55	\$1,051.11	\$476,306.05	\$1,131,500.00	\$0.00	\$1,131,500.00	2.7	
4	LA CAMPINA	CAM-K42	4,300	598	\$811,816.33	5,600	\$31,440.00	\$231,920.93	\$92,220.93	\$935,477.26	\$1,131,500.00	\$0.00	\$2,231,500.00	2.8	
4	PURINA	MOSQUERA	9,834	1,466	\$805,008.39	17,500	\$140,510.00	\$360,000.00	\$170,840.76	\$1,116,359.15	\$1,588,500.00	\$1,100,000.00	\$2,688,500.00	2.8	
4	NAL. DE CHOCOLATES	C12-K65	8,000	1,155	\$3,508,151.52	10,000	\$73,000.00	\$192,000.00	\$67,200.00	\$3,648,351.52	\$3,394,500.00	\$5,500,000.00	\$8,894,500.00	2.8	
4	MARGARITA	C21-K69	7,000	971	\$1,632,665.16	5,000	\$28,800.00	\$24,000.00	\$4,800.00	\$1,666,265.16	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	3.1	
4	SWANTEX	C16-K34	6,000	889	\$1,130,237.88	4,500	\$30,120.00	\$250,000.00	\$112,500.00	\$1,272,857.88	\$3,394,500.00	\$0.00	\$3,394,500.00	3.1	
4	INDARTES	C20-K68	2,570	385	\$65,046.65	3,000	\$14,112.16	\$700,000.00	\$344,280.16	\$423,498.97	\$1,131,500.00	\$0.00	\$1,131,500.00	3.1	
4	ASTRO FUNDICIONES	MOSQUERA	1,525	160	\$725,502.22	369	\$2,397.49	\$325,000.00	\$19,180.22	\$747,079.93	\$0.00	\$2,200,000.00	\$2,200,000.00	3.5	
4	GRASAS DEL INTER.	MOSQUERA	19,180	2,870	\$348,760.80	8,000	\$36,832.00	\$210,422.72	\$103,988.23	\$489,581.03	\$1,588,500.00	\$0.00	\$1,588,500.00	3.9	
4	TEXNYLON	C13-K44	10,450	1,553	\$316,722.51	4,900	\$26,941.32	\$499,500.00	\$241,385.17	\$585,048.99	\$2,263,000.00	\$0.00	\$2,263,000.00	4.8	
4	COGRA LEVER	C13-K45	87,028	13,028	\$545,989.76	40,448	\$185,696.10	\$800,880.00	\$398,379.11	\$1,130,064.98	\$5,362,500.00	\$0.00	\$5,362,500.00	6.2	
4	E Y M	C17-K68	7,650	1,146	\$139,385.68	3,000	\$13,995.12	\$600,000.00	\$296,470.59	\$449,851.39	\$2,263,000.00	\$0.00	\$2,263,000.00	6.7	
4	INDEGA	C42-K94	37,542	5,617	\$435,850.51	6,000	\$27,672.00	\$423,150.00	\$210,211.85	\$673,734.36	\$4,308,500.00	\$0.00	\$4,308,500.00	9.3	
4	QUIBI SA	C1-K17	12,000	1,800	\$79,200.00	3,020	\$13,602.08	\$750,000.00	\$375,000.00	\$309,402.08	\$2,263,000.00	\$0.00	\$2,263,000.00	11.4	
4	SENA	C185-K30	500	69	\$464,618.94	500	\$5,200.00	\$555,000.00	\$111,000.00	\$580,818.94	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	12.2	
4	SPECIA	CAM-K53	300	42	\$127,571.36	1,000	\$7,040.00	\$20,000.00	\$4,000.00	\$138,611.36	\$1,131,500.00	\$0.00	\$1,131,500.00	13.8	
4	ITALMEX	CAD-K91	1,781	261	\$126,943.69	3,000	\$14,652.44	\$240,000.00	\$110,522.95	\$252,119.08	\$2,263,000.00	\$0.00	\$2,263,000.00	16.5	
4	FRIG. SUIZO	C22-K129	11,283	1,671	\$671,851.65	9,600	\$47,924.80	\$508,562.51	\$244,464.72	\$964,241.17	\$2,263,000.00	\$6,600,000.00	\$8,863,000.00	17.3	
4	PUPY FASHIONS	C10-K38	120	17	\$110,068.55	300	\$3,096.00	\$23,458.00	\$4,691.60	\$117,856.15	\$1,131,500.00	\$0.00	\$1,131,500.00	19.0	
4	FLORES AMERICA	FUNZA	50,000	7,500	\$0.00	26,000	\$118,248.00	\$732,000.00	\$366,000.00	\$484,248.00	\$9,052,000.00	\$0.00	\$9,052,000.00	NO PAGAR	
4	FINCA S.A	C15-K34	52,200	7,828	\$125,295.58	5,500	\$26,930.80	\$42,500.00	\$21,201.15	\$173,427.53	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	NO PAGAR	
4	COLTABACO	CAM-K52	5,581	836	\$68,181.33	12,000	\$69,840.00	\$360,000.00	\$178,606.70	\$316,628.03	\$4,835,500.00	\$0.00	\$4,835,500.00	NO PAGAR	
4	FLORES DE FUNZA	FUNZA	2,000	300	\$0.00	1,000	\$4,548.00	\$14,450.87	\$7,225.43	\$11,773.43	\$1,131,500.00	\$0.00	\$1,131,500.00	NO PAGAR	
4	CARTON DE COL.	CAM-K56	22,600	3,390	\$0.00	5,000	\$22,740.00	\$176,600.00	\$88,300.00	\$111,040.00	\$1,588,500.00	\$0.00	\$1,588,500.00	NO PAGAR	
4			4,941,097	718,561	\$1,157,791,259.85	3,372,537	\$20,311,559.22	\$115,007,860.30	\$41,043,045.63	\$1,219,145,864.71	\$332,668,000.00	\$199,400,000.00	\$532,068,000.00	0.5	
5	COLCH. PARAISO	C65-K94	150	14	\$61,059.78	0	\$0.00	\$139,200.00	\$0.00	\$61,059.78	\$0.00	\$0.00	\$0.00	0.5	
5	FLORES COLOMBIA	ENGATIVA	1,200	166	\$1,129,485.46	3,400	\$29,184.00	\$18,746.52	\$3,749.30	\$1,162,418.76	\$0.00	\$0.00	\$0.00	0.5	
5	PANAM	C101-K50	2,960	411	\$2,608,464.12	1,300	\$13,104.00	\$600.00	\$120.00	\$2,621,688.12	\$1,131,500.00	\$0.00	\$1,131,500.00	0.5	
5	COM. RICOS	C90-K41	2,400	333	\$2,172,570.91	800	\$8,192.00	\$500,000.00	\$100,000.00	\$2,280,762.91	\$0.00	\$1,100,000.00	\$1,100,000.00	0.5	
5	HILACOL	C99-K49	11,700	1,514	\$4,208,180.60	5,500	\$35,164.00	\$30,000.00	\$8,205.13	\$4,251,549.73	\$2,720,000.00	\$1,100,000.00	\$3,820,000.00	1.0	
5	PROTELA	C66-K93	113,200	16,899	\$6,550,400.74	49,000	\$251,108.00	\$4,680,000.00	\$2,250,699.65	\$9,052,208.38	\$11,112,000.00	\$0.00	\$11,112,000.00	1.3	
5	MEALS	C98-K49	10,358	1,533	\$643,866.21	3,634	\$17,874.46	\$1,200,000.00	\$579,243.60	\$1,240,984.27	\$1,588,500.00	\$0.00	\$1,588,500.00	1.4	
5	CLUB EMPLEAD. OFIC.	C63-K50	13,000	1,891	\$4,592,379.68	7,900	\$53,936.00	\$1,800,000.00	\$830,769.23	\$5,477,084.91	\$6,354,000.00	\$2,200,000.00	\$8,554,000.00	1.7	
5	CONSERVAS	C61-K85	5,300	786	\$770,090.30	800	\$5,304.00	\$45,000.00	\$20,462.26	\$795,856.57	\$2,263,000.00	\$0.00	\$2,263,000.00	3.4	
5	HOSP. INFANTIL	C68-K38	12,700	1,864	\$284,868.15	3,200	\$14,829.60	\$1,410,066.40	\$664,516.59	\$964,214.35	\$2,263,000.00	\$1,100,000.00	\$3,363,000.00	4.3	
5	PROTELA	C66-K93	150	21	\$139,385.68	100	\$1,040.00	\$1,250.00	\$250.00	\$140,635.68	\$1,131,500.00	\$0.00	\$1,131,5		

CLASIFICACION DE LA INDUSTRIA ENCUESTADA POR PERIODO DE RECUPERACION DE LA INVERSION Y POR ZONAS DE LA CIUDAD
PRECIO DEL GAS NATURAL IGUAL A 0.9 PRECIO DEL CRUDO DE CASTILLA

TABLA I.5.2

ZONA	NOMBRE EMPRESA	DIRECCION	TOTAL DEMANDA (GAL./MES)	DEMANDA (MBTU/MES)	DEMANDA AHORRO (\$)	ALMACEN (GAL.)	ALMACENAMIENTO AHORRO (\$)	GASTOS MANTENIMIENTO (\$)	BASTOS MANTENIMIENTO AHORRO (\$)	TOTAL AHORROS (\$)	TOTAL COSTO CONVERSION CALDERAS/EMPRESA (\$)	TOTAL COSTO CONVERSION HORNOS/EMPRESA (\$)	TOTAL COSTOS (\$)	PERIODO RECUPER. (N)
1	TUBOS MOORE	C305-K5	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
1	CERV. ALEMANA	C-ORIENTE	144	20	\$139,679.15	500	\$5,125.60	\$1,495.20	\$0.00	\$145,103.79	\$0.00	\$0.00	\$0.00	
1	COOVINAL	CAORIENTE	75,000	9,956	\$44,100,743.78	9,500	\$52,235.20	\$224,000.00	\$299.04	\$44,210,322.98	\$0.00	\$0.00	\$0.00	
1	LADR. SANTA FE	USME	25,000	3,750	\$1,705,500.00	30,000	\$136,440.00	\$56,170.33	\$57,344.00	\$1,870,025.16	\$0.00	\$0.00	\$8,800,000.00	0.2
1	INST. CANCEROLOGIA	C1-K9	8,300	1,227	\$4,951,236.55	0	\$0.00	\$141,366.27	\$63,193.98	\$5,014,430.52	\$0.00	\$0.00	\$1,100,000.00	0.6
1	HOSP. SAN JUAN DIOS	C1-K10	10,000	1,500	\$682,200.00	2,800	\$11,824.80	\$150,000.00	\$75,000.00	\$769,024.80	\$2,720,000.00	\$0.00	\$3,820,000.00	0.8
3	PROFICOL	CAZUCA	4,881	677	\$4,510,210.40	3,000	\$29,834.40	\$420,000.00	\$84,000.00	\$4,624,044.80	\$3,177,000.00	\$0.00	\$3,177,000.00	5.2
3	COLINAGRO	BOSA	528	48	\$236,897.39	544	\$3,225.27	\$46,400.00	\$0.00	\$240,122.66	\$0.00	\$0.00	\$0.00	
3	ETERNIT	SIBATE	1,250	152	\$995,623.97	0	\$0.00	\$1,635,552.00	\$191,808.00	\$1,187,431.97	\$0.00	\$0.00	\$0.00	
3	LIQUIDO CARBONICO	C34-K21	75,000	11,250	\$37,651,500.00	42,000	\$312,480.00	\$150,000.00	\$75,000.00	\$38,038,980.00	\$2,115,500.00	\$0.00	\$2,115,500.00	0.1
3	CONALVIDRIOS	CKM16-KAS	403,700	59,684	\$73,279,750.27	752,000	\$4,128,036.00	\$3,108,853.11	\$1,389,495.67	\$78,797,281.94	\$0.00	\$10,400,000.00	\$10,400,000.00	0.1
3	NATESA	C475-K60	44,000	6,464	\$14,522,809.10	16,600	\$91,336.00	\$2,000,000.00	\$836,363.64	\$15,450,508.74	\$0.00	\$0.00	\$3,177,000.00	0.2
3	COLMOTORES	C565-KAB	50,000	6,935	\$46,615,704.60	38,500	\$385,000.00	\$4,200,000.00	\$840,000.00	\$47,840,704.60	\$0.00	\$4,400,000.00	\$10,400,000.00	0.2
3	SIDEMUNA	CHUSACA	87,072	12,781	\$16,217,888.03	41,000	\$214,708.80	\$450,000.00	\$202,924.30	\$16,635,521.14	\$6,346,500.00	\$0.00	\$4,400,000.00	0.3
3	QUIMICA ANDINA	CKM4-KAS	12,000	1,664	\$11,187,769.10	4,000	\$40,000.00	\$111,000.00	\$22,200.00	\$11,249,969.10	\$0.00	\$0.00	\$2,720,000.00	0.3
3	ICOLLANTAS	MUNA	115,000	16,895	\$11,978,482.59	63,000	\$304,430.40	\$993,930.20	\$471,036.49	\$12,753,949.47	\$4,231,000.00	\$0.00	\$4,000,000.00	0.4
3	ALAMB. Y MALLAS	C425-K54	12,200	1,692	\$12,106,231.92	5,000	\$52,000.00	\$48,000.00	\$9,600.00	\$12,167,831.92	\$1,100,000.00	\$0.00	\$5,331,000.00	0.4
3	ACEGRASAS	C575-KAS	140,272	20,892	\$15,758,475.57	40,269	\$221,634.85	\$1,656,000.00	\$790,033.75	\$16,770,144.17	\$7,942,500.00	\$0.00	\$7,942,500.00	0.5
3	ACEGRACOL	C435-K55	31,000	4,650	\$2,114,820.00	25,000	\$113,700.00	\$1,269,000.00	\$634,500.00	\$2,863,020.00	\$1,588,500.00	\$0.00	\$1,588,500.00	0.5
3	PRODIERO	BOSA	8,188	1,127	\$7,332,625.62	2,679	\$25,623.26	\$5,000.00	\$977.02	\$7,359,225.90	\$0.00	\$0.00	\$1,588,500.00	0.6
3	HILAT	C575-K67	24,358	3,605	\$5,959,777.98	9,269	\$52,653.65	\$165,000.00	\$76,409.16	\$6,088,840.78	\$3,300,000.00	\$0.00	\$4,431,500.00	0.6
3	PAVCO	C755KAFLL	38,296	5,553	\$14,268,594.65	16,500	\$117,831.58	\$3,900,000.00	\$1,605,501.36	\$15,991,927.59	\$3,704,000.00	\$0.00	\$3,704,000.00	0.6
3	CARBOQUIMICA	CKM4-KAS	92,000	13,706	\$7,377,089.88	53,600	\$252,565.44	\$3,000,000.00	\$1,470,652.17	\$9,100,307.49	\$3,704,000.00	\$0.00	\$10,181,000.00	0.7
3	IND. CRUZ	CKM5-KAS	2,100	231	\$1,402,557.36	800	\$6,000.00	\$90,000.00	\$7,714.29	\$1,416,271.65	\$0.00	\$0.00	\$5,904,000.00	0.7
3	LADR. SANTA FE	SOACHA	26,000	3,885	\$2,640,918.00	20,000	\$90,960.00	\$132,649.55	\$64,235.38	\$2,796,113.38	\$0.00	\$0.00	\$1,100,000.00	0.8
3	ALFAGRAS	SOACHA	80,000	12,000	\$5,457,600.00	85,000	\$386,580.00	\$1,800,000.00	\$900,000.00	\$6,744,180.00	\$0.00	\$0.00	\$2,200,000.00	0.8
3	COLCORTIDOS	BOSA	62,000	9,300	\$4,378,440.00	90,000	\$410,760.00	\$450,000.00	\$225,000.00	\$5,014,200.00	\$5,967,000.00	\$0.00	\$5,967,000.00	1.3
3	COLMENA	C615-KAS	12,600	1,861	\$3,188,289.11	7,000	\$40,614.00	\$300,000.00	\$132,000.00	\$3,360,903.11	\$0.00	\$0.00	\$4,731,500.00	1.3
3	CROYDON	C61KAUTS	18,200	2,730	\$1,667,484.00	13,000	\$61,152.00	\$870,000.00	\$435,000.00	\$2,163,636.00	\$3,600,000.00	\$0.00	\$4,731,500.00	1.6
3	QUIM. PANAMERICANA	MUNA	2,000	230	\$1,463,480.37	1,000	\$8,240.00	\$180,000.00	\$180,000.00	\$1,643,720.37	\$0.00	\$0.00	\$3,177,000.00	1.6
3	FILMTEX	C625-K74	9,450	1,412	\$1,508,721.34	5,000	\$25,780.00	\$60,000.00	\$18,000.00	\$1,489,720.37	\$1,100,000.00	\$0.00	\$2,231,500.00	1.7
3	AZUL K	C525-K70	17,000	2,550	\$1,159,740.00	6,000	\$27,288.00	\$300,000.00	\$150,000.00	\$1,337,028.00	\$0.00	\$0.00	\$3,177,000.00	2.3
3	DISCOS CBS	C615-KAS	7,000	1,050	\$785,820.00	5,000	\$24,208.00	\$500,000.00	\$250,000.00	\$1,060,028.00	\$0.00	\$0.00	\$2,263,000.00	2.4
3	PFIZER	AUT-SUR	2,795	414	\$626,212.54	4,769	\$29,714.85	\$500,000.00	\$232,575.44	\$888,502.83	\$0.00	\$0.00	\$2,263,000.00	3.0
3	TULIPAN	C475-K60	5,300	792	\$654,394.23	4,000	\$27,130.00	\$166,154.10	\$80,255.57	\$761,779.79	\$0.00	\$0.00	\$2,263,000.00	3.5
3	CURTIEM. COLON	CKM13-KAS	5,000	750	\$530,100.00	2,500	\$12,000.00	\$52,500.00	\$26,250.00	\$568,350.00	\$0.00	\$0.00	\$2,263,000.00	5.0
3	TRES M	SOACHA	4,200	630	\$309,204.00	9,000	\$41,256.00	\$120,000.00	\$60,000.00	\$410,460.00	\$0.00	\$0.00	\$2,115,500.00	6.9
3	POLIQUIMICOS	C435-K53	1,480	222	\$139,149.60	3,000	\$14,160.00	\$12,840.00	\$6,420.00	\$159,729.60	\$0.00	\$0.00	\$1,131,500.00	10.9
3	MOBIL	C78-KAS	8,600	1,279	\$2,020,333.91	9,500	\$27,240.00	\$120,000.00	\$55,813.95	\$2,147,387.86	\$3,851,500.00	\$0.00	\$3,851,500.00	NO PAGA
4	FUNDID. NACIONAL	C20-K33	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
4	INMA BOL	C9-K22	2,444	339	\$3,744,975.64	0	\$0.00	\$2,480.00	\$496.00	\$3,745,471.64	\$0.00	\$0.00	\$0.00	
4	S.OO.PP.	C3-K34	50,000	6,935	\$50,215,704.60	5,000	\$52,400.00	\$6,000,000.00	\$1,200,000.00	\$51,468,104.60	\$0.00	\$0.00	\$0.00	
4	KAPITOL	C5-K68	150	14	\$67,257.56	700	\$4,150.16	\$92,800.00	\$0.00	\$71,407.72	\$0.00	\$0.00	\$0.00	
4	CANTAFLARO	MOSQUERA	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
4	FLORES BOSQUE	FUNZA	60	8	\$66,738.85	200	\$2,240.00	\$10.53	\$2.11	\$68,980.95	\$0.00	\$0.00	\$0.00	
4	FAB. NAL. MUNECOS	CAM-K55	627	57	\$281,176.27	179	\$1,061.26	\$12,500.00	\$0.00	\$292,237.53	\$0.00	\$0.00	\$0.00	
4	ARTECTO	C26-K35	0	0	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
4	ACC. CUL. POPULAR	C15-K39	2,500	227	\$481,504.54	0	\$0.00	\$15,300.00	\$0.00	\$496,804.54	\$0.00	\$0.00	\$0.00	
4	GRASCO	C7-K35	159,227	23,723	\$86,902,707.88	43,000	\$328,800.00	\$816,503.01	\$388,438.02	\$87,619,945.90	\$4,231,000.00	\$0.00	\$4,231,000.00	0.1
4	FIBERGLAS	MOSQUERA	123,000	15,648	\$50,198,780.83	48,000	\$327,430.40	\$17,600,000.00	\$4,593,170.73	\$55,119,381.96	\$0.00	\$4,000,000.00	\$4,000,000.00	0.1
4	PROQUINAL S.A	C11-K34	70,000	10,262	\$47,214,175.93	110,000	\$940,940.00	\$100,200.00	\$41,082.00	\$48,196,197.93	\$0.00	\$0.00	\$4,308,500.00	0.1
4	VECOL	CAD-K82	25,402	3,512	\$25,084,904.30	4,500	\$44,564.40	\$375,000.00	\$74,338.75	\$25,203,807.46	\$2,720,000.00	\$0.00	\$2,720,000.00	0.1
4	LAFAYETTE	C23-K36	120,000	16,168	\$40,084,704.28	38,000	\$222,416.00	\$1,000,000.00	\$326,666.67	\$40,633,786.94	\$5,819,500.00	\$0.00	\$5,819,500.00	0.1
4	COLCERAMICA	MADRID	234,000	31,623	\$219,399,876.83	210,000	\$2,088,000.00	\$577,692.31	\$115,538.46	\$221,603,415.29	\$0.00	\$32,400,000.00	\$32,400,000.00	0.2
4	PROMASA	FACA	40,000	5,864	\$16,697,929.10	67,000	\$356,880.00	\$569,940.00	\$238,350.00	\$17,293,159.10	\$3,177,000.00	\$0.00	\$3,177,000.00	0.2
4	CERVEC. ANDINA	C22-K30	145,500	21,650	\$23,287,848.43	90,000	\$463,704.00	\$4,842,580.30	\$2,266,527.28	\$26,018,079.70	\$4,231,000.00	\$1,100,000.00	\$5,331,000.00	0.2
4	GASEOSAS LUX	CAM-K53	15,100	2,265	\$7,571,442.00	2,000	\$14,872.00	\$300,000.00	\$150,000.00	\$7,736,314.00	\$0.00	\$0.00	\$1,588,500.00	0.2
4	AVIANCA	AEROPUERT	5,000	693	\$4,901,570.46	0	\$0.00	\$74,000.00	\$14,800.00	\$4,916,370.46	\$0.00	\$0.00	\$1,131,500.00	0.2
4	ICASA	CAM-K63	64,337	9,253	\$32,477,192.20	35,650	\$314,180.12	\$874,658.61	\$312,484.32	\$33,103,856.64	\$2,263,000.00	\$5,500,000.00	\$7,763,000.00	0.2
4	BAVARIA	C12-K83	470,000	70,500	\$32,063,400.00	320,000	\$1,455,360.00	\$4,230,000.00	\$2,115,000.00	\$35,638,760.00	\$8,462,000.00	\$0.00	\$8,462,000.00	0.2
4	MATAD. DISTRITAL	C10-K31	6,500	901	\$6,544,421.60	3,200	\$33,589.76	\$100,000.00	\$20,000.00	\$6,598,011.36	\$0.00	\$0.00	\$1,588,500.00	0.2
4	COLORTEK	C10-K54	70,000	10,104	\$35,640,293.22	16,000	\$117,331.20	\$600,000.00	\$210,000.00	\$35,967,624.42	\$0.00	\$0.00	\$9,818,500.00	0.3
4	TEXTILES CARON	C12-K58	12,000	1,664	\$12,051,769.10	2,000	\$20,960.00	\$185,000.00	\$37,000.00	\$12,109,729.10	\$0.00	\$0.00	\$9,818,500.00	0.3
4	FAVIDRIO	MADRID	231,000	34,316	\$26,221,967.19	80,500	\$415,800.00	\$480,000.00	\$231,584.42	\$26,869,351.60	\$7,600,000.00	\$0.00	\$7,600,000.00	0.3
4	MULTIPLAS	C10-K68	13,890	2,084	\$6,973,057.80	15,000	\$111,600.00	\$1,680,000.00	\$840,000.00	\$7,924,657.80	\$2,263,000.00	\$0.00	\$2,263,000.00	0.3
4	AQUAFORJA	C20-K65	5,400	605	\$3,726,373.07	2,800	\$21,964.80	\$25,000.00	\$2,222.22	\$3,750,560.10	\$0.00	\$0.00	\$1,100,000.00	0.3
4	SPLENOID	C17-K36	14,000	2,021	\$7,062,538.64	15,500	\$91,234.00	\$214,400.00	\$71,680.00	\$7,225,452.64	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	0.3
4	ELEFANTE LA LLAVE													

ANALISIS DE PENETRACION
CLASIFICACION DE LA INDUSTRIA ENCUESTADA POR PERIODO DE RECUPERACION DE LA INVERSION Y POR ZONAS DE LA CIUDAD
PRECIO DEL GAS NATURAL IGUAL A 0.9 PRECIO DEL CRUDO DE CASTILLA

TABLA I.5.2

ZONA	NOMBRE EMPRESA	DIRECCION	TOTAL DEMANDA [GAL./MES]	DEMANDA [MBTU/MES]	DEMANDA AHORRO [GAL.]	ALMACEN [GAL.]	ALMACEN AHORRO [GAL.]	GASTOS MANTENIMIENTO [GAL.]	GASTOS MANTENIMIENTO AHORRO [GAL.]	TOTAL AHORROS [GAL.]	TOTAL COSTO CONVERSION CALDERAS/EMPRESA [GAL.]	TOTAL COSTO CONVERSION HORNOS/EMPRESA [GAL.]	TOTAL COSTOS [GAL.]	PERIODO RECUPER. N
4	VPJOHN	C45-K93	1,770	242	\$1,736,027.03	1,700	\$17,829.60	\$22,423.05	\$4,264.41	\$1,758,121.03	\$1,131,500.00	\$0.00	\$1,131,500.00	0.7
4	HILANDERI	C24-K95	18,600	2,772	\$3,409,242.55	4,700	\$26,536.00	\$1,450,537.63	\$701,397.85	\$4,137,176.40	\$2,720,000.00	\$0.00	\$2,720,000.00	0.7
4	ORGAN. FARMACEUTICA	C18-K34	4,000	600	\$2,296,080.00	1,500	\$11,880.00	\$150,000.00	\$75,000.00	\$2,382,960.00	\$1,588,500.00	\$0.00	\$1,588,500.00	0.7
4	ENVASES ROK	MOSQUERA	5,000	550	\$3,210,647.44	5,000	\$39,830.00	\$127,920.00	\$8,880.00	\$3,259,357.44	\$0.00	\$2,200,000.00	\$2,200,000.00	0.7
4	ARTEFAC. AMERICAN	C9-K53	6,000	589	\$3,177,336.82	2,300	\$15,631.84	\$840,000.00	\$28,000.00	\$3,220,968.66	\$0.00	\$2,200,000.00	\$2,200,000.00	0.7
4	CORPACERO	C22-K68	42,100	6,286	\$7,449,866.56	21,139	\$111,156.10	\$1,135,301.90	\$552,057.01	\$8,113,079.67	\$2,263,000.00	\$3,300,000.00	\$5,563,000.00	0.7
4	CHAMBOURCY	FACA	27,000	4,005	\$5,298,316.37	17,000	\$88,220.00	\$50,000.00	\$22,777.78	\$5,409,314.15	\$3,851,500.00	\$0.00	\$3,851,500.00	0.8
4	QUIMICA SCHERING	C18-K33	3,000	416	\$3,048,942.28	1,500	\$15,840.00	\$60,000.00	\$12,000.00	\$3,076,782.28	\$2,263,000.00	\$0.00	\$2,263,000.00	0.8
4	GRIVAL	FUNZA	6,000	821	\$5,783,196.28	1,500	\$15,360.00	\$286,800.00	\$57,360.00	\$5,855,916.28	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	0.8
4	COGRA LEVER	C13-K45	87,033	13,028	\$6,471,325.89	40,448	\$185,696.10	\$800,880.00	\$398,379.11	\$7,055,401.11	\$5,362,500.00	\$0.00	\$5,362,500.00	0.8
4	PABSA	MOSQUERA	10,250	1,373	\$9,927,419.68	10,120	\$102,957.79	\$471,000.00	\$91,902.44	\$10,122,279.91	\$2,263,000.00	\$5,500,000.00	\$7,763,000.00	0.8
4	BRISTOL	C4-K19	1,450	201	\$1,326,625.43	2,000	\$19,768.00	\$60,600.00	\$12,120.00	\$1,358,513.43	\$1,131,500.00	\$0.00	\$1,131,500.00	0.9
4	GRASAS DEL INTER.	MOSQUERA	19,180	2,870	\$1,653,933.36	8,000	\$36,832.00	\$210,422.72	\$103,988.23	\$1,794,753.39	\$1,588,500.00	\$0.00	\$1,588,500.00	1.0
4	DISTRACO	C12-K44	4,500	624	\$3,547,413.41	3,000	\$27,120.00	\$45,000.00	\$9,000.00	\$3,583,533.41	\$2,263,000.00	\$1,100,000.00	\$3,363,000.00	1.0
4	CARTON DE COL.	CAM-K56	22,600	3,390	\$1,541,772.00	5,000	\$22,740.00	\$176,600.00	\$88,300.00	\$1,652,812.00	\$1,588,500.00	\$0.00	\$1,588,500.00	1.0
4	FUND. SANTA FE	C3-K63	1,100	153	\$1,091,545.50	110	\$1,144.00	\$49,163.25	\$9,832.65	\$1,102,522.15	\$0.00	\$1,100,000.00	\$1,100,000.00	1.1
4	SOLLA	MOSQUERA	4,469	655	\$1,007,927.94	4,200	\$29,511.68	\$135,000.00	\$60,897.24	\$1,098,336.86	\$1,131,500.00	\$0.00	\$1,131,500.00	1.1
4	LAB. WYETH	C13-K65	27,429	4,101	\$3,085,954.60	28,600	\$142,152.88	\$1,900,000.00	\$938,599.37	\$4,166,706.85	\$4,308,500.00	\$0.00	\$4,308,500.00	1.1
4	COCACOLA	CAD-K83	2,200	305	\$2,051,091.00	2,000	\$20,000.00	\$100,000.00	\$20,000.00	\$2,091,091.00	\$2,263,000.00	\$0.00	\$2,263,000.00	1.2
4	ETEPNA	C13-K66	26,250	3,923	\$2,849,442.61	16,000	\$78,105.60	\$2,500,000.00	\$1,214,285.71	\$4,141,833.93	\$4,526,000.00	\$0.00	\$4,526,000.00	1.2
4	PHARMETIQ	C13-K65B	2,830	386	\$2,787,379.67	4,100	\$42,192.00	\$49,000.00	\$9,349.82	\$2,788,921.49	\$2,263,000.00	\$1,100,000.00	\$3,363,000.00	1.3
4	DURATEX	C23-K68	3,350	480	\$2,783,555.18	3,800	\$30,864.00	\$180,000.00	\$57,761.19	\$2,872,180.38	\$2,720,000.00	\$1,100,000.00	\$3,820,000.00	1.5
4	YALE	C12-K32	793	110	\$786,905.07	1,500	\$15,600.00	\$111,000.00	\$22,200.00	\$824,705.07	\$0.00	\$1,100,000.00	\$1,100,000.00	1.5
4	INDEGA	C42-K94	37,542	5,617	\$2,990,450.52	6,000	\$27,672.00	\$423,150.00	\$210,211.85	\$3,228,334.37	\$4,308,500.00	\$0.00	\$4,308,500.00	1.5
4	PURINA	MOSQUERA	9,834	1,466	\$1,471,593.95	17,500	\$140,510.00	\$360,000.00	\$170,840.76	\$1,782,944.71	\$1,588,500.00	\$1,100,000.00	\$2,688,500.00	1.7
4	ICOBORDADOS	C16-K68	2,329	339	\$1,466,900.67	5,300	\$36,756.00	\$250,000.00	\$94,987.12	\$1,598,643.79	\$2,720,000.00	\$0.00	\$2,720,000.00	1.9
4	TEXNYLON	C13-K44	10,450	1,553	\$1,022,955.28	4,900	\$26,941.32	\$499,500.00	\$241,385.17	\$1,291,281.76	\$2,263,000.00	\$0.00	\$2,263,000.00	2.0
4	LA CAMPINA	CAM-K42	4,300	598	\$1,083,641.20	5,600	\$31,440.00	\$231,920.93	\$92,220.93	\$1,207,302.13	\$1,131,500.00	\$1,100,000.00	\$2,231,500.00	2.1
4	PENNWOLT	C18-K50	500	69	\$556,157.05	170	\$1,904.00	\$245,000.00	\$49,000.00	\$607,061.05	\$1,131,500.00	\$0.00	\$1,131,500.00	2.1
4	INDARTES	C20-K68	2,570	385	\$240,011.99	3,000	\$14,112.16	\$700,000.00	\$344,280.16	\$598,404.30	\$1,131,500.00	\$0.00	\$1,131,500.00	2.1
4	QUIBI SA	C1-K17	12,000	1,800	\$739,440.00	3,020	\$13,602.08	\$750,000.00	\$375,000.00	\$1,128,042.08	\$2,263,000.00	\$0.00	\$2,263,000.00	2.3
4	SWANTEX	C16-K34	6,000	889	\$1,534,414.09	4,500	\$30,120.00	\$250,000.00	\$112,500.00	\$1,677,034.09	\$3,394,500.00	\$0.00	\$3,394,500.00	2.3
4	MARGARITA	C21-K69	7,000	971	\$2,074,198.64	5,000	\$28,800.00	\$24,000.00	\$4,800.00	\$2,107,798.64	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	2.4
4	NAL. DE CHOCOLATES	C12-K65	8,000	1,155	\$4,033,336.37	10,000	\$73,000.00	\$192,000.00	\$67,200.00	\$4,173,536.37	\$3,394,500.00	\$5,500,000.00	\$8,894,500.00	2.4
4	HOSP. MISERICORDIA	C1-K14	500	69	\$501,557.05	500	\$5,236.00	\$5,255.55	\$1,051.11	\$507,844.16	\$1,131,500.00	\$0.00	\$1,131,500.00	2.6
4	FLORES AMERICA	FUNZA	50,000	7,500	\$3,411,000.00	26,000	\$118,248.00	\$732,000.00	\$366,000.00	\$3,895,248.00	\$9,052,000.00	\$0.00	\$9,052,000.00	2.7
4	E Y M	C17-K68	7,650	1,146	\$660,497.11	3,000	\$13,995.12	\$600,000.00	\$296,470.59	\$970,967.82	\$2,263,000.00	\$0.00	\$2,263,000.00	2.7
4	ASTRO FUNDICIONES	MOSQUERA	1,525	160	\$798,304.35	369	\$2,397.49	\$325,000.00	\$19,180.22	\$819,882.06	\$0.00	\$2,200,000.00	\$2,200,000.00	3.1
4	FRIG. SUIZO	C22-K129	11,283	1,671	\$1,431,648.04	9,600	\$47,924.80	\$208,562.51	\$244,464.72	\$1,724,037.56	\$2,263,000.00	\$6,600,000.00	\$8,863,000.00	6.9
4	ITALMEX	CAD-K91	1,781	261	\$245,734.64	3,000	\$14,652.44	\$50,000.00	\$110,522.95	\$370,910.03	\$2,263,000.00	\$0.00	\$2,263,000.00	8.7
4	COLTABACO	CAM-K52	5,581	836	\$448,546.79	12,000	\$69,840.00	\$360,000.00	\$178,606.70	\$696,993.50	\$4,835,500.00	\$0.00	\$4,835,500.00	10.5
4	SPECIA	CAM-K53	300	42	\$146,494.23	1,000	\$7,040.00	\$20,000.00	\$4,000.00	\$157,534.23	\$1,131,500.00	\$0.00	\$1,131,500.00	11.1
4	SENA	C185-K30	500	69	\$496,157.05	500	\$5,200.00	\$555,000.00	\$111,000.00	\$612,357.05	\$1,131,500.00	\$3,300,000.00	\$4,431,500.00	11.2
4	FLORES DE FUNZA	FUNZA	2,000	300	\$136,440.00	1,000	\$4,548.00	\$14,450.87	\$7,225.43	\$148,213.43	\$1,131,500.00	\$0.00	\$1,131,500.00	12.3
4	PUPY FASHIONS	C10-K38	120	17	\$117,637.69	300	\$3,096.00	\$23,458.00	\$4,691.60	\$125,425.29	\$1,131,500.00	\$0.00	\$1,131,500.00	16.6
4			4,941,097	718,561	\$1,484,592,653.10	3,372,537	\$20,311,559.22	\$115,007,860.30	\$41,043,045.63	\$1,545,947,257.96	\$332,668,000.00	\$199,400,000.00	\$532,068,000.00	0.4
5	COLCH. PARAISO	C65-K94	150	14	\$67,257.56	0	\$0.00	\$139,200.00	\$0.00	\$67,257.56	\$0.00	\$0.00	\$0.00	
5	FLORES COLOMBIA	ENGATIVA	1,200	166	\$1,205,176.91	3,400	\$29,184.00	\$18,746.52	\$3,749.30	\$1,238,110.21	\$0.00	\$0.00	\$0.00	
5	PANAM	C101-K50	2,960	411	\$2,795,169.71	1,300	\$13,104.00	\$600.00	\$120.00	\$2,808,393.71	\$1,131,500.00	\$0.00	\$1,131,500.00	0.4
5	COM. RICOS	C90-K41	2,400	333	\$2,323,953.82	800	\$8,192.00	\$500,000.00	\$100,000.00	\$2,432,145.82	\$0.00	\$1,100,000.00	\$1,100,000.00	0.5
5	PROTELA	C66-K93	113,200	16,899	\$14,235,869.46	49,000	\$251,108.00	\$4,680,000.00	\$2,250,699.65	\$16,737,677.11	\$11,112,000.00	\$0.00	\$11,112,000.00	0.7
5	HILACOL	C99-K49	11,700	1,514	\$4,896,768.26	5,500	\$35,164.00	\$30,000.00	\$8,205.13	\$4,940,137.39	\$2,720,000.00	\$1,100,000.00	\$3,820,000.00	0.8
5	MEALS	C98-K49	10,358	1,533	\$1,340,872.15	3,634	\$17,874.46	\$1,200,000.00	\$579,243.60	\$1,937,990.22	\$1,588,500.00	\$0.00	\$1,588,500.00	0.9
5	CLUB EMPLEAD. OFIC.	C63-K50	13,000	1,891	\$5,452,338.26	7,900	\$53,936.00	\$1,800,000.00	\$830,769.23	\$6,391,049.49	\$6,354,000.00	\$2,200,000.00	\$8,554,000.00	1.5
5	HOSP. INFANTIL	C68-K38	12,700	1,864	\$1,132,431.16	3,200	\$14,829.60	\$1,410,066.40	\$664,516.59	\$1,811,777.35	\$2,263,000.00	\$1,100,000.00	\$3,363,000.00	2.1
5	CONSERVAS	C61-K85	5,300	786	\$1,127,541.27	800	\$5,304.00	\$45,000.00	\$20,462.26	\$1,153,307.54	\$2,263,000.00	\$0.00	\$2,263,000.00	2.2
5	MATAD. SAN MARTIN	C98-K48	12,250	1,835	\$1,088,318.52	4,100	\$19,280.00	\$150,000.00	\$74,081.63	\$1,181,680.16	\$9,177,000.00	\$1,100,000.00	\$4,277,000.00	4.4
5	PROTELA	C66-K93	150	21	\$148,847.11	100	\$1,040.00	\$1,250.00	\$250.00	\$150,197.11	\$1,131,500.00	\$0.00	\$1,131,500.00	12.0

TABLA I.6.1

ANALISIS DE PENETRACION
ESTIMACION DE LA DEMANDA POTENCIAL DE GAS NATURAL EN CADA ZONA
POR RANGOS DE PERIODOS DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL AL PRECIO DEL CRUDO DE CASTILLA

AO CONSTRUCCION	ZONA	GRUPO 1 [0 A 3]	GRUPO 2 [3 A 6]	GRUPO 3 [6 A 10]	GRUPO 4 [MAS DE 10]	TOTAL
	1	134,430	0	45,000	0	179,430
	2	0	0	0	0	0
	3	2,087,774	67,274	153,499	120,600	2,429,147
	4	5,336,004	81,923	237,495	46,313	5,701,734
1990	SUBTOTAL	7,558,207	149,197	435,994	166,913	8,310,311
1991	5	273,113	31,795	0	22,266	327,174
1992	6	159,462	70,989	0	57,880	288,331
1993	7	464,011	2,673,114	0	0	3,137,125
	TOTAL	8,454,793	2,925,095	435,994	247,058	12,062,940

TABLA I.6.2

ANALISIS DE PENETRACION
ESTIMACION DE LA DEMANDA POTENCIAL DE GAS NATURAL EN CADA ZONA
POR RANGOS DE PERIODOS DE RECUPERACION DE LA INVERSION
PRECIO DEL GAS NATURAL IGUAL AL 0.9 PRECIO DEL CRUDO DE CASTILLA

AO CONSTRUCCION	ZONA	GRUPO 1 [0 A 3]	GRUPO 2 [3 A 6]	GRUPO 3 [6 A 10]	GRUPO 4 [MAS DE 10]	TOTAL
	1	179,430	18,000	0	0	197,430
	2	0	0	0	0	0
	3	2,441,248	18,499	7,560	2,664	2,469,971
	4	5,899,713	1,921	23,182	15,167	5,939,983
1990	SUBTOTAL	8,520,391	38,420	30,742	17,831	8,607,384
1991	5	304,908	22,016	0	250	327,174
1992	6	286,839	1,492	0	0	288,331
1993	7	3,201,925	0	0	0	3,201,925
	TOTAL	12,314,062	61,928	30,742	18,081	12,424,813

ANALISIS DE PENETRACION
CRITERIO DE PENETRACION DEL GAS NATURAL EN LA INDUSTRIA

TABLA I.7

do los valores de la TABLA I.6 por letras

ZONA(S)	GRUPO 1 [0 a 3]	GRUPO 2 [3 a 6]	GRUPO 3 [6 a 10]	GRUPO 4 [MAS DE 10]
1,2,3 y 4	A	B	C	D
5	E	F	G	H
6	I	J	K	L
7	M	N	O	P

PENETRACION ACUMULADA
[%]

1990	1991	1992	1993	1994	1995	1996	1997
20	50 20	80 50 20	90 80 50 20	100 90 80 50	100 100 90 80	100 100 100 90	100 100 100 100
10	30 10	50 30 10	65 50 30 10	70 65 50 30	70 70 65 50	70 70 70 65	70 70 70 70
7	20 7	30 20 7	37 30 20 7	40 37 30 20	40 40 37 30	40 40 40 37	40 40 40 40
4	9 4	14 9 4	18 14 9 4	20 18 14 9	20 20 18 14	20 20 20 18	20 20 20 20

ANALISIS DE PENETRACION

TABLA I.8.1

PRONOSTICO DE LA PENETRACION ESPERADA EN LA INDUSTRIA ENCUESTADA
PRECIO DEL GAS NATURAL IGUAL AL PRECIO DEL CRUDO DE CASTILLA

	1990	1991	1992	1993	1994	1995	1996	1997
1	1,511,641	3,833,726	6,215,015	7,193,410	8,163,584	8,346,045	8,408,392	8,454,793
2	14,920	47,939	91,236	401,483	962,533	1,509,394	1,913,911	2,047,566
3	30,520	87,199	130,798	161,318	174,398	174,398	174,398	174,398
4	6,677	15,913	27,687	38,371	45,494	48,254	49,412	49,412
5	1,563,757	3,984,776	6,464,736	7,794,582	9,346,008	10,078,091	10,546,112	10,726,169

ANALISIS DE PENETRACION

TABLA I.8.2

PRONOSTICO DE LA PENETRACION ESPERADA EN LA INDUSTRIA ENCUESTADA
PRECIO DEL GAS NATURAL IGUAL AL 0.9 PRECIO DEL CRUDO DE CASTILLA

	1990	1991	1992	1993	1994	1995	1996	1997
1	1,704,078	4,321,177	7,026,134	8,696,082	10,625,241	11,644,994	11,993,870	12,314,062
2	3,842	13,728	25,964	36,429	41,951	43,275	43,350	43,350
3	2,152	6,148	9,223	11,374	12,297	12,297	12,297	12,297
4	713	1,615	2,519	3,245	3,611	3,616	3,616	3,616
5	1,710,785	4,342,668	7,063,840	8,747,130	10,683,100	11,704,182	12,053,133	12,373,325

UCTO

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
 PROYECCION DE DEMANDA DE GAS NATURAL A CORTO Y LARGO PLAZO
 SECTOR INDUSTRIAL - BOGOTA
 PRECIO DEL GAS NATURAL IGUAL AL PRECIO DEL CRUDO DE CASTILLA

ESTUDIOS TECNICOS S.A.
 NOVACORP INTERNATIONAL
 TABLA I.10.1

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TOTAL SEGUN MUESTRA INDUSTRIAL																			
776	6,464,736	7,794,582	9,346,008	10,078,091	10,546,112	10,726,169	10,726,169	10,726,169	10,726,169	10,726,169	10,726,169	10,726,169	10,726,169	10,726,169	10,726,169	10,726,169	10,726,169	10,726,169	10,726,169
TOTAL INDUSTRIA																			
879	8,119,708	9,789,995	11,738,587	12,658,082	13,245,917	13,472,068	13,472,068	13,472,068	13,472,068	13,472,068	13,472,068	13,472,068	13,472,068	13,472,068	13,472,068	13,472,068	13,472,068	13,472,068	13,472,068
PROYECCION A 1990																			
329	8,868,345	10,692,633	12,820,884	13,825,157	14,467,190	14,714,193	14,714,193	14,714,193	14,714,193	14,714,193	14,714,193	14,714,193	14,714,193	14,714,193	14,714,193	14,714,193	14,714,193	14,714,193	14,714,193
PROYECCIONES																			
484	9,395,714	11,549,162	14,208,568	15,720,798	16,371,317	16,570,695	16,491,331	16,412,733	16,334,900	16,349,394	16,364,048	16,378,863	16,393,840	16,408,983	16,424,292	16,439,769	16,455,417	16,471,237	16,487,231

UCTO

ESTUDIO DE FACTIBILIDAD DEL GASODUCTO CENTRAL
 PROYECCION DE DEMANDA DE GAS NATURAL A CORTO Y LARGO PLAZO
 SECTOR INDUSTRIAL - BOGOTA
 PRECIO DEL GAS NATURAL IGUAL AL 0.9 PRECIO DEL CRUDO DE CASTILLA

ESTUDIOS TECNICOS S.A.
 NOVACORP INTERNATIONAL
 TABLA I.10.2

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TOTAL SEGUN MUESTRA INDUSTRIAL																			
668	7,063,840	8,747,130	10,683,100	11,704,182	12,053,133	12,373,325	12,373,325	12,373,325	12,373,325	12,373,325	12,373,325	12,373,325	12,373,325	12,373,325	12,373,325	12,373,325	12,373,325	12,373,325	12,373,325
TOTAL INDUSTRIA																			
391	8,872,183	10,986,395	13,417,973	14,700,452	15,138,734	15,540,896	15,540,896	15,540,896	15,540,896	15,540,896	15,540,896	15,540,896	15,540,896	15,540,896	15,540,896	15,540,896	15,540,896	15,540,896	15,540,896
PROYECCION A 1990																			
286	9,690,198	11,999,341	14,655,110	16,055,834	16,534,526	16,973,767	16,973,767	16,973,767	16,973,767	16,973,767	16,973,767	16,973,767	16,973,767	16,973,767	16,973,767	16,973,767	16,973,767	16,973,767	16,973,767
PROYECCIONES																			
208	10,200,879	12,960,543	16,241,324	18,257,335	18,710,748	19,115,361	19,023,810	18,933,142	18,843,357	18,860,077	18,876,981	18,894,071	18,911,348	18,928,816	18,946,476	18,964,330	18,982,381	19,000,630	19,019,080

TABLAS DE LA EVALUACION DE LA DEMANDA DE GAS NATURAL EN EL SECTOR RESIDENCIAL BOGOTA

TABLA R1 PENETRACION DE GAS NATURAL EN EL SECTOR RESIDENCIAL DE BOGOTA Y SOACHA

TABLA R2 DEMANDA RESIDENCIAL PROYECTADA

TABLAS DE LA EVALUACION DE LA DEMANDA DE GAS NATURAL EN EL SECTOR TRANSPORTE

TABLA T1 PROYECCION DE LA DEMANDA SOBRE EL GASODUCTO CENTRAL. DEMANDA DE GAS NATURAL EN EL SECTOR TRANSPORTE

TABLA T2 PROYECCION DE LA DEMANDA SOBRE EL GASODUCTO CENTRAL. DEMANDA DE GAS NATURAL EN EL SECTOR TRANSPORTE AREA BOGOTA

ZONA	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BOGOTA	413.00	1529.00	3068.00	5030.00	7004.00	8989.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00
BUSES	413.00	1529.00	3068.00	5030.00	7004.00	8989.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00
BUSSETAS	219.00	811.00	1626.00	2667.00	3713.00	4764.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00
TAXIS	114.00	601.00	1209.00	2053.00	2848.00	3650.00	4460.00	4993.00	5248.00	5512.00	5785.00	6067.00	6360.00	6663.00	6976.00	7300.00	7636.00	7983.00	8343.00	8715.00	9100.00
BUCARAMANGA	746.00	2941.00	5903.00	9750.00	13565.00	17403.00	20010.00	20265.00	20529.00	20802.00	21084.00	21377.00	21680.00	21993.00	22317.00	22653.00	23000.00	23360.00	23732.00	24117.00	24517.00
SUB-TOTAL GRTU/DIA	746.00	2941.00	5903.00	9750.00	13565.00	17403.00	20010.00	20265.00	20529.00	20802.00	21084.00	21377.00	21680.00	21993.00	22317.00	22653.00	23000.00	23360.00	23732.00	24117.00	24517.00
SUB-TOTAL GRTU/DIA	2.04	8.06	16.17	26.71	37.16	47.68	54.82	55.52	56.24	56.96	57.76	58.57	59.40	60.25	61.14	62.06	63.01	64.00	65.02	66.07	67.14
BARANCA	45.00	170.00	341.00	559.00	779.00	999.00	1130.00	1169.00	1210.00	1252.00	1296.00	1341.00	1388.00	1437.00	1487.00	1539.00	1593.00	1648.00	1706.00	1766.00	1828.00
BUSES	45.00	170.00	341.00	559.00	779.00	999.00	1130.00	1169.00	1210.00	1252.00	1296.00	1341.00	1388.00	1437.00	1487.00	1539.00	1593.00	1648.00	1706.00	1766.00	1828.00
BUSSETAS	7.00	24.00	47.00	78.00	108.00	138.00	156.00	162.00	167.00	173.00	179.00	186.00	192.00	199.00	206.00	213.00	221.00	228.00	236.00	244.00	253.00
TAXIS	21.00	64.00	120.00	177.00	226.00	242.00	260.00	277.00	296.00	315.00	334.00	353.00	376.00	398.00	420.00	443.00	467.00	493.00	519.00	545.00	573.00
VALLEUPAR	6.00	23.00	46.00	72.00	98.00	123.00	138.00	143.00	148.00	153.00	158.00	163.00	167.00	173.00	179.00	185.00	194.00	201.00	208.00	216.00	225.00
SUB-TOTAL GRTU/DIA	6.00	23.00	46.00	72.00	98.00	123.00	138.00	143.00	148.00	153.00	158.00	163.00	167.00	173.00	179.00	185.00	194.00	201.00	208.00	216.00	225.00
SUB-TOTAL GRTU/DIA	0.02	0.06	0.12	0.18	0.24	0.27	0.28	0.29	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.42
AGOSTO 10 DE 1987	839.00	3277.00	6647.00	10820.00	15028.00	19230.00	21335.00	22157.00	22500.00	22856.00	23223.00	23603.00	23997.00	24406.00	24827.00	25264.00	25717.00	26183.00	26669.00	27170.00	27692.00
TOTAL GRTU/DIA	839.00	3277.00	6647.00	10820.00	15028.00	19230.00	21335.00	22157.00	22500.00	22856.00	23223.00	23603.00	23997.00	24406.00	24827.00	25264.00	25717.00	26183.00	26669.00	27170.00	27692.00
TOTAL GRTU/DIA	2.30	8.98	18.21	29.64	41.17	52.68	59.00	60.70	61.64	62.62	63.62	64.67	65.75	66.87	68.02	69.22	70.46	71.73	73.07	74.44	75.87

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TABLA T2

ZONA	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BOGOTA																					
BUSES	413.00	1529.00	3068.00	5030.00	7004.00	8989.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00	9815.00
BUSSETAS	219.00	811.00	1626.00	2667.00	3713.00	4764.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00	5202.00
TAXIS	114.00	601.00	1209.00	2053.00	2848.00	3650.00	4460.00	4993.00	5248.00	5512.00	5785.00	6067.00	6360.00	6663.00	6976.00	7300.00	7636.00	7983.00	8343.00	8715.00	9100.00
TOTAL GBT/AÑO	746.00	2941.00	5903.00	9750.00	13565.00	17403.00	19477.00	20010.00	20265.00	20529.00	20802.00	21084.00	21377.00	21680.00	21993.00	22317.00	22653.00	23000.00	23360.00	23732.00	24117.00
TOTAL GBT/DIA	2.04	8.06	16.17	26.71	37.16	47.68	53.36	54.82	55.52	56.24	56.99	57.76	58.57	59.40	60.25	61.14	62.06	63.01	64.00	65.02	66.07

AGOSTO 10 DE 1987

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Estudio de factibilidad del gasoducto central/Estudio de demanda de gas natural. Preliminar/Promotora del Gasoducto Central S.A.

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