

Colombo

Description of Existing Intake Facilities

No./Name <b>Capivari Intake (Colombo)</b>					
<Location>					
Basin Upper Iguacu	River Capivari (w = 25 m)	Municipality Colombo	Proprietor SANEPAR	Others	
<Description of System>					
Intake Method Surface Water Direct with Well (weir height = 2 m)	Intake Rate (Operation hour) 0.08 (mean, 24 hours) (m <sup>3</sup> /sec)	Supply System Integrated Sys. with 1 well nearby intake site	Supply Connection 12,000 (connections)	Operation Year 1984/85	
<Description of Pipeline>					
Length 25 (km)	Diameter 250 300 (mm)	Water Head 250 (m)	Intake Pump 100CV, 2 pumps 150CV, 3pumps (1 is standby)	Intermediate Pump Non	Others
<Future Plan / or Other informations, if any>					
Left wing of existing intake weir is collapsed by flood last year.					
<Location Map>					
<p>The map shows the Capivari Intake facility (marked with a square) located on the Capivari River. It is situated between the municipalities of Branco do Sul and Bocaiuvu, near the city of Colombo. The map includes various geographical features like rivers, roads, and other municipalities such as Santa Clara, Aranhas, and Estiva. A legend in the bottom right corner identifies symbols for existing surface and well intakes, planned surface intakes, existing and planned sewage plants, and existing and planned dam reservoirs. The scale is 1:150,000.</p>					

Description of Existing Intake Facilities

No./Name <b>Capivari Well (Colombo)</b>					
<Location>					
Basin	Source	Municipality	Proprietor	Others	
Upper Iguacu	Karst Aquifer	Colombo	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Groundwater Direct from 1 well	137.30 (24 hours/day) (m3/hour)	Integrated with Capivari Intake	(inhabitants)	1995	
<Description of Pipeline>					
Length	Diameter	Depth of Well	Intake Pump	Intermediate Pump	Others
400 (km)	(inches)	120 (m)			
<Future Plan / or Other informations, if any>					
<Location Map>					

Description of Existing Intake Facilities

No./Name <b>Colombo Sede Wells (Colombo)</b>					
<Location>					
Basin Upper Iguacu	Source Karst Aquifer	Municipality Colombo	Proprietor SANEPAR	Others	
<Description of System>					
Intake Method Groundwater Direct from 3 wells		Intake Rate (Operation hour)  (m3/hour)		Supply System supply area is only Colombo Sede area	Supply Connection  8,000 (inhabitants)
<Description of Pipeline>					
Length  0.8 (km)	Diameter  (inches)	Depth of Well  (m)	Intake Pump	Intermediate Pump	Others
<Future Plan / or Other informations, if any>					
<Location Map>					

Campina Grande do Sul

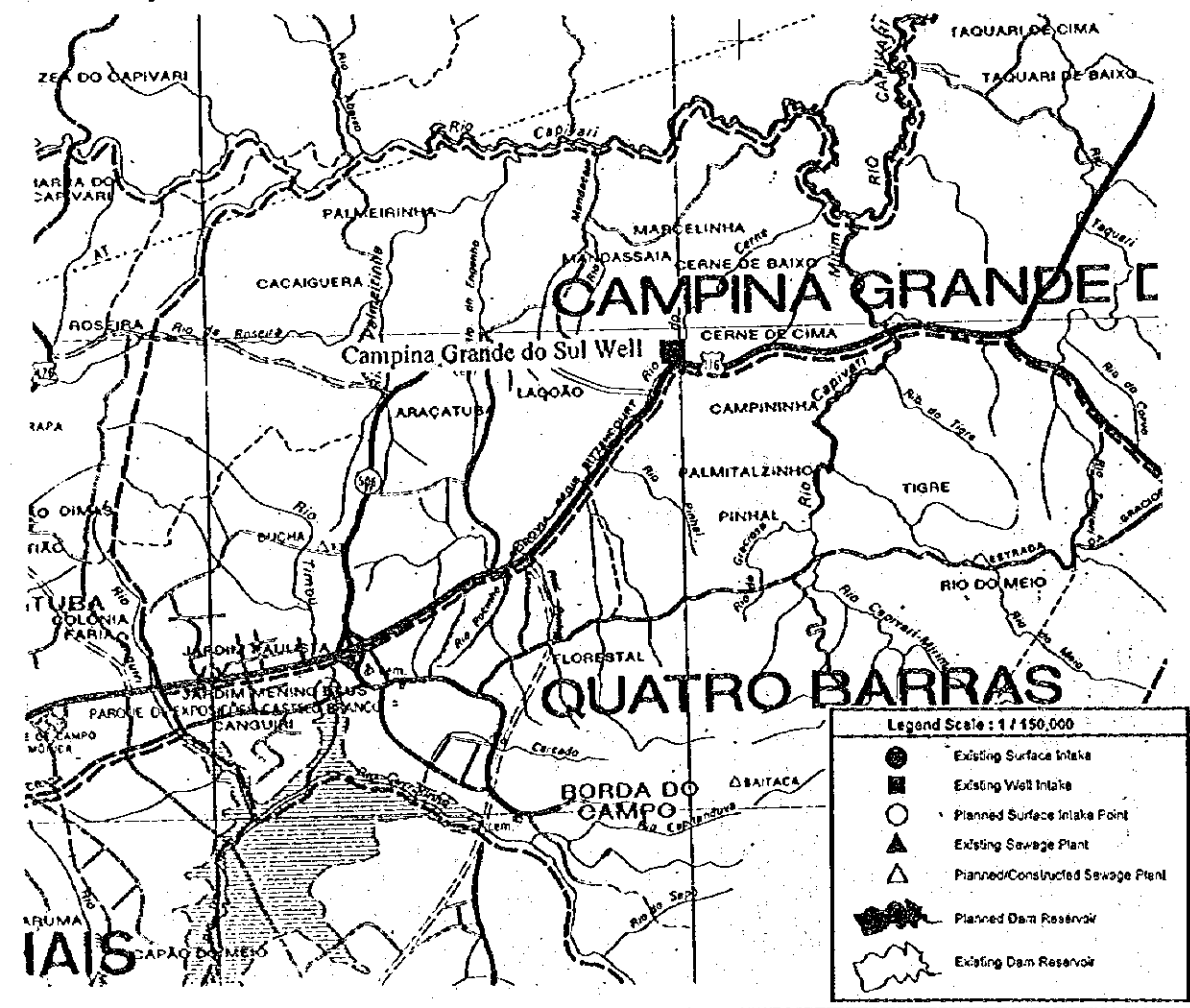
Description of Existing Intake Facilities

No./Name Campina Grande do Sul Well (P-04)					
Location					
Basin Upper Iguacu	Source Karst Aquifer	Municipality Campina Grande do Sul	Proprietor SANEPAR	Others	
Description of System					
Intake Method Groundwater Direct from Well	Intake Rate (Operation hour) 35.00 (15 hours/day) (m <sup>3</sup> /hour)	Supply System Urban area	Supply Connection 750 (Inhabitants)	Operation Year Mar-79	
Description of Pipeline					
Length (km)	Diameter (inches)	Depth of Well (m)	Intake Pump	Intermediate Pump	Others
	3	150			

Future Plan / or Other informations, if any

Wells located at Pinhais municipality have tested to supply to Campina Grande do Sul urban area in near future.

Location Map



Quatro Barras

Description of Existing Intake Facilities

No./Name <b>Capitanduva Intake (Quatro Barras)</b>					
<Location>					
Basin Upper Iguacu	River Capitanduva (w = 8 m)	Municipality Quatro Barras	Proprietor SANEPAR	Others	
<Description of System>					
Intake Method Surface Water Direct with weir (weir height = 1 m)	Intake Rate (Operation hour) 0.030 (19 hour/day) (m3/sec)	Supply System	Supply Connection 3,300 (inhabitants)	Operation Year 1986/87	
<Description of Pipeline>					
Length 11 (km)	Diameter 300 225 (mm)	Water Head 50 (m)	Intake Pump Natural gravity	Intermediate Pump	Others
<Future Plan / or Other informations, if any>					
<Location Map>					

Piraquara

Description of Existing Intake Facilities

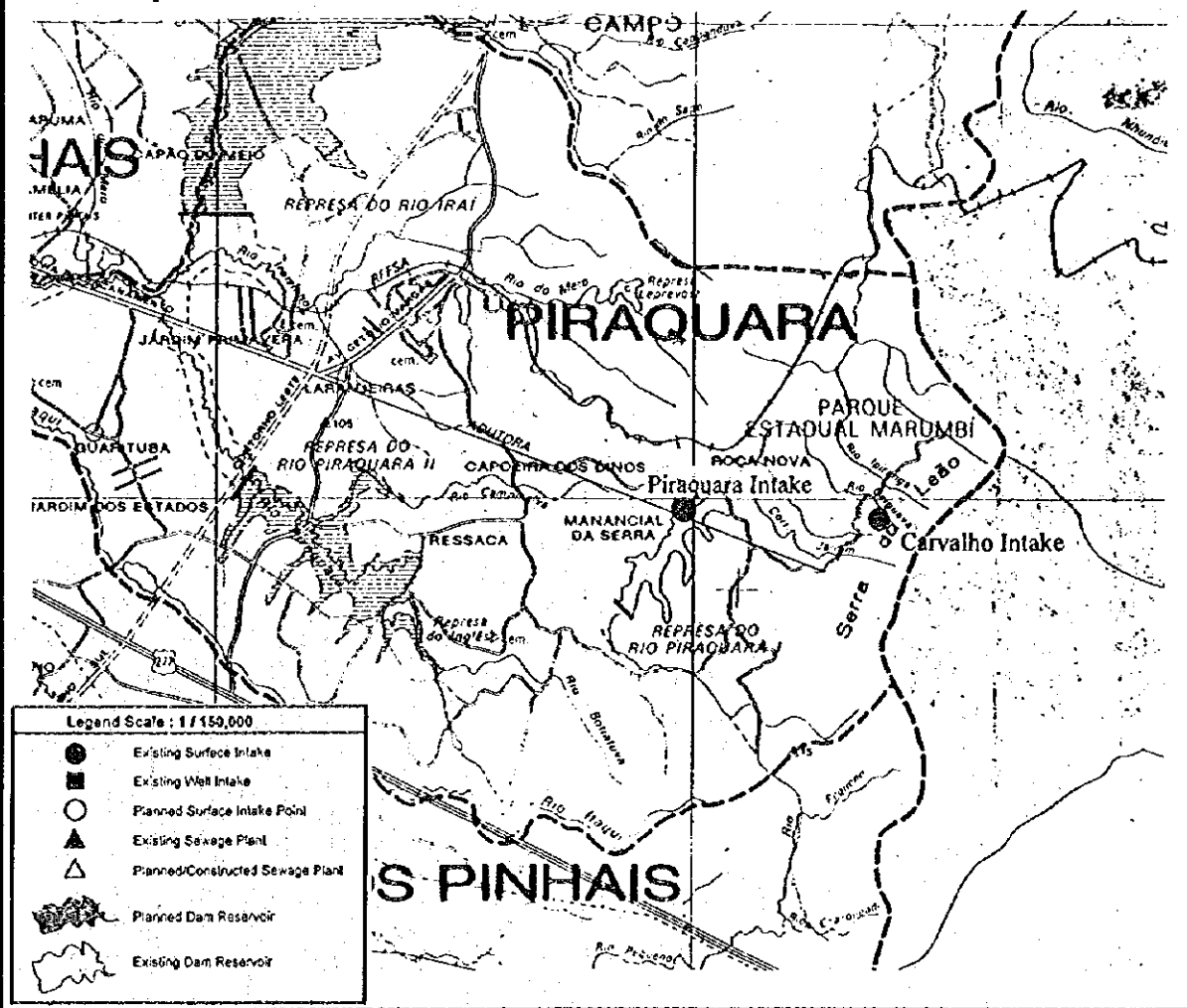
No./Name <b>Carvalho Intake (Piraquara)</b>					
<Location>					
Basin Upper Iguacu	River Caiguava (w = 4 m)	Municipality Piraquara	Proprietor SANEPAR	Others	
<Description of System>					
Intake Method Surface Water Direct with dam reservoir (H = 4 m, V = 800 m3)	Intake Rate (Operation hour) 0.060 (24 hours/day) (m3/sec)	Supply System Integrated Sys with Piraquara reservoir intake	Supply Connection (inhabitants)	Operation Year 1972	
<Description of Pipeline>					
Length 10 (km)	Diameter 450 (mm)	Water Head 84 (m)	Intake Pump Natural Gravity	Intermediate Pump	Others
<Future Plan / or Other Informations, if any>					
Some lengths of existing pipeline exists under Piracuara reservoir bottom.					
<Location Map>					

Piraquara

Description of Existing Intake Facilities

No./Name Piraquara Reservoir Intake (Piraquara)					
<Location>					
Basin Upper Iguacu	River Piraquara Reservoir	Municipality Piraquara	Proprietor SANEPAR	Others	
<Description of System>					
Intake Method Intake from the existing Piraquara dam reservoir	Intake Rate (Operation hour) 0.030 (24 hours/day) (m3/sec)	Supply System Integrated Sys with Carvalho intake	Supply Connection (inhabitants)	Operation Year 1994	
<Description of Pipeline>					
Length 0.5 (km)	Diameter 200/450 (mm)	Water Head (m)	Intake Pump 2 pumps	Intermediate Pump	Others
<Future Plan / or Other informations, if any>					
Additional 0.03 m3/sec intake rate is planned at the same intake site in near future.					

<Location Map>



## Campo Largo

### Description of Existing Intake Facilities

<b>No./Name</b> Sao Caetano Spring Intake (Campo Largo)					
<b>&lt;Location&gt;</b>					
<b>Basin</b> Upper Iguacu	<b>River</b> Natural Spring	<b>Municipality</b> Campo Largo	<b>Proprietor</b> Private	<b>Others</b>	
<b>&lt;Description of System&gt;</b>					
<b>Intake Method</b> Pumping from natural spring	<b>Intake Rate (Operation hour)</b> 0.009 <small>(m3/sec)</small>	<b>Supply System</b> Supply to a particular area	<b>Supply Connection</b> <small>(connections)</small>	<b>Operation Year</b>	
<b>&lt;Description of Pipeline&gt;</b>					
<b>Length</b> <small>(km)</small>	<b>Diameter</b> <small>(mm)</small>	<b>Water Head</b> <small>(m)</small>	<b>Intake Pump</b>	<b>Intermediate Pump</b>	<b>Others</b>
<b>&lt;Future Plan / or Other informations, if any&gt;</b>					
<b>&lt;Location Map&gt;</b>					
<div style="display: flex; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; width: 25%;"> <p><b>Legend Scale: 1:150,000</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Existing Surface Intake</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Existing Well Intake</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Planned Surface Intake Point</li> <li><span style="display: inline-block; width: 0; height: 0; border-left: 5px solid transparent; border-right: 5px solid transparent; border-bottom: 10px solid black; margin-right: 5px;"></span> Existing Sewage Plant</li> <li><span style="display: inline-block; width: 0; height: 0; border-left: 5px solid transparent; border-right: 5px solid transparent; border-bottom: 10px solid black; margin-right: 5px;"></span> Planned/Constructed Sewage Plant</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: black; border: 1px solid black; margin-right: 5px;"></span> Planned Dam Reservoir</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: black; border: 1px solid black; margin-right: 5px;"></span> Existing Dam Reservoir</li> </ul> </div> <div style="flex-grow: 1;"> <p>The map shows the location of the Sao Caetano Spring Intake (marked with a solid circle) and the Itaqui Intake (marked with a solid square) in Campo Largo. It details the Rio Iguacu and Rio Itaqui, along with various municipalities like São Carlos, Bugre, and Itaqui. A legend in the top-left corner explains the symbols used for intakes, sewage plants, and reservoirs.</p> </div> </div>					



Campo Largo

Description of Existing Intake Facilities

No./Name Campo Largo Spring Intake (Campo Largo)					
<Location>					
Basin Upper Iguacu	River Natural Spring	Municipality Campo Largo	Proprietor SANEPAR	Others	
<Description of System>					
Intake Method Pumping from natural spring	Intake Rate (Operation hour) 0.033 (m3/sec)	Supply System Integrated with Itaquí Intake	Supply Connection (connections)	Operation Year	
<Description of Pipeline>					
Length (km)	Diameter (mm)	Water Head (m)	Intake Pump	Intermediate Pump	Others
<Future Plan / or Other informations, if any>					
<Location Map>					
<p>Legend Scale : 1 / 150,000</p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/Constructed Sewage Plant</li> <li>■ Planned Dam Reservoir</li> <li>■ Existing Dam Reservoir</li> </ul>					

Campo Largo

Description of Existing Intake Facilities

No./Name <b>Itaqui Intake (Campo Largo)</b>					
<Location>					
Basin Upper Iguacu	River Itaqui (w = 10 m)	Municipality Campo Largo	Proprietor SANEPAR	Others	
<Description of System>					
Intake Method Surface Water Direct with weir (weir height = 3 m)	Intake Rate (Operation hour) 0.07 (24 hours/day)  (m3/sec)	Supply System Integrated with Campo Largo Spring	Supply Connection  12,000 (connections)	Operation Year 1980	
<Description of Pipeline>					
Length Double Pipes 6 (km)	Diameter 200 (mm)	Water Head 133 (Pump Capa.) (m)	Intake Pump 2 pumps 200CV (1 is standby)	Intermediate Pump	Others
<Future Plan / or Other Informations, if any>					
There is a plan to intake from a existing dam reservoir owned by PETROBRAS. There exist two springs in the municipality, such as "Campo Largo" owned by SANEPAR and "Sao Caetano" owned by private. Only the first one integrated with SANEPAR system.					
<Location Map>					
<p>Legend Scale : 1:1150,000</p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/Constructed Sewage Plant</li> <li>■ Planned Dam Reservoir</li> <li>■ Existing Dam Reservoir</li> </ul>					

Description of Existing Intake Facilities

No./Name <b>Balsa Nova Intake (Balsa Nova)</b>					
<Location>					
Basin Upper Iguacu	River Iguacu	Municipality Balsa Nova	Proprietor SANEPAR	Others	
<Description of System>					
Intake Method Surface Water Direct from reservoir	Intake Rate (Operation hour) 0.01 (6 hours/day) (m3/sec)	Supply System Integrated Sys.with 1 well nearby intake site	Supply Connection 855 (connections)	Operation Year Dec-87	
<Description of Pipeline>					
Length 0.2 (km)	Diameter 100 150 (mm)	Water Head 20 (m)	Intake Pump 2 pumps (Submerged Pumps)	Intermediate Pump	Others
<Future Plan / or Other Informations, if any>					
<Location Map>					
<p><b>Legend Scale: 1/150,000</b></p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/Constructed Sewage Plant</li> <li>■ Planned Dam Reservoir</li> <li>■ Existing Dam Reservoir</li> </ul>					

Balsa Nova

Description of Existing Intake Facilities

No./Name <b>Balsa Nova Well (Balsa Nova)</b>				
<Location>				
Basin Upper Iguacu	Source	Municipality Balsa Nova	Proprietor SANEPAR	Others
<Description of System>				
Intake Method Groundwater Direct from 1 well	Intake Rate (Operation hour) 3.6 (20 hours/day) (m <sup>3</sup> /hour)	Supply System Integrated with Balsa Nova Intake	Supply Connection (connections)	Operation Year 1985
<Description of Pipeline>				
Length 0.2 (km)	Diameter 6 (inches)	Depth of Well 100 (m)	Intake Pump 2 pump, 15 CV (1 is standby)	Intermediate Pump/ Others
<Future Plan / or Other informations, if any>				
<Location Map>				

Faz. Rio Grande

Description of Existing Intake Facilities

No./Name <b>Mauricio Intake (Fazenda Rio Grande)</b>					
<Location>					
Basin Upper Iguacu	River Mauricio (w = 7 m)	Municipality Fazenda Rio Grande	Proprietor SANEPAR	Others	
<Description of System>					
Intake Method Surface Water Direct with weir (weir height = 1.2 m)	Intake Rate (Operation hour) 0.045 (24 hours/day) (m3/sec)	Supply System	Supply Connection 8,000 (connections)	Operation Year 1993	
<Description of Pipeline>					
Length 6.2 (km)	Diameter 250 (mm)	Water Head (m)	Intake Pump 2 pumps Submerged (1 is standby)	Intermediate Pump	Others
<Future Plan / or Other informations, if any>					
SANEPAR has a plan to increase the pump capacity or to add another pump unit for near future.					
<Location Map>					

Mandirituba

Description of Existing Intake Facilities

<b>No./Name</b> Mandirituba Intake (Mandirituba)					
<b>&lt;Location&gt;</b>					
<b>Basin</b> Upper Iguacu	<b>River</b> Rib. Curral das Eguas	<b>Municipality</b> Mandirituba	<b>Proprietor</b> SANEPAR	<b>Others</b> The river width is 1.0 - 1.5 m.	
<b>&lt;Description of System&gt;</b>					
<b>Intake Method</b> Surface Water Direct from reservoir	<b>Intake Rate (Operation hour)</b> 0.01 (13 hours/day) (m3/sec)		<b>Supply System</b> Integrated with two wells	<b>Supply Connection</b> 950 (connections)	<b>Operation Year</b> Aug-88
<b>&lt;Description of Pipeline&gt;</b>					
<b>Length</b> 3 (km)	<b>Diameter</b> 100 (mm)	<b>Water Head</b> (m)	<b>Intake Pump</b> 2 pumps, 25CV (Submerged) (1 is standby)	<b>Intermediate Pump</b>	<b>Others</b>
<b>&lt;Future Plan / or Other informations, if any&gt;</b>					
<b>&lt;Location Map&gt;</b>					
<p><b>Legend Scale : 1/150,000</b></p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/Constructed Sewage Plant</li> <li>■ Planned Dam Reservoir</li> <li>■ Existing Dam Reservoir</li> </ul>					

Mandirituba

Description of Existing Intake Facilities

No./Name <b>Mandirituba Wells (Mandirituba)</b>					
<Location>					
Basin Upper Iguacu	Source	Municipality Mandirituba	Proprietor SANEPAR	Others	
<Description of System>					
Intake Method Groundwater Direct from 2 wells	Intake Rate (Operation hour) 11.4 (total of 2 wells) (m3/hour)	Supply System Integrated with Mandirituba Intake	Supply Connection (connections)	Operation Year	
<Description of Pipeline>					
No. of Well No.1	Length	Diameter 8	Depth of Well 107	Intake Rate 5.7	Intake Pump 1 pump, 15 CV
No.2		8	102	5.7	1 pump, 15 CV
	(km)	(inches)	(m)	(m3/hour)	
<Future Plan / or Other Informations, if any>					
The water from the wells are directly pumped to reserve tank of distribution.					
<Location Map>					

Contenda

Description of Existing Intake Facilities

No./Name Contenda Wells (Contenda)						
<Location>						
Basin	Source	Municipality	Proprietor	Others		
Upper Iguacu		Contenda	SANEPAR			
<Description of System>						
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year		
Groundwater Direct from 4 wells	42.700 (m3/hour)		(connections)			
<Description of Pipeline>						
No. of Well	Length	Diameter	Depth of Well	Intake Rate	Intake Pump	Others
No.1						
No.2		8	112	24	1 pump, 15 CV	
No.3		6	80	13	1 pump, 10 CV	
No.4		6	150	5.7	1 pump, 5 CV	
	(km)	(inches)	(m)	(m3/hour)		
<Future Plan / or Other informations, if any>						
<Location Map>						



Foz do Iguacu

Description of Existing Intake Facilities

No./Name <b>Tamandua Intake (Foz do Iguacu)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Iguacu	Tamandua (w = 16 m)	Foz do Iguacu	SANEPAR		
<Description of System>					
Intake Method		Intake Rate (Operation hour)		Supply System	Supply Connection
Surface Water		0.42 (7:00 - 24:00)		Integrated Sys. with Vila "C"	33,000 (connects)
Direct with weir (weir height = 2 m)		0.30 (0:00 - 7:00) (m <sup>3</sup> /sec)			
					Aug. 1978
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
(km)	500 (mm)	20 (m)	3 Pumps		Gross Water Loss 50 %
<Future Plan / or Other informations, if any>					
<Location Map>					
				<p>Legend (Scale : 1/50,000)</p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/constructed Sewage Plant</li> </ul>	

Foz do Iguacu

Description of Existing Intake Facilities

No./Name Vila "C" Intake (Foz do Iguacu)					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Parana	Itaipu Reservoir	Foz do Iguacu	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Surface Water Direct	0.30 (21 hour/day) (m3/sec)	Integrated Sys. with Tamandua	33,000 (connects)	Sep. 1992	
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
5 (km)	500 (mm)	29 (m)	2 Pumps (175 CV/Pump)		Gross Water Loss 50 %
<Future Plan / or Other informations, if any>					
3 more pumps will be installed in the future as same intake rate of existing pump.					
<Location Map>					
<p>The map shows the Vila "C" Intake facility (marked with a solid circle) and the Existing Treatment Plant (marked with an open circle). It also identifies the ZEP (Zona de Expansão Urbana) and a Hospital. Infrastructure like 'FAZDA DE TRANSMISSÃO DE ENERGIA' is also shown. A legend in the bottom right corner defines symbols for Existing Surface Intake (solid circle), Existing Well Intake (solid square), Planned Surface Intake Point (open circle), Existing Sewage Plant (solid triangle), and Planned/constructed Sewage Plant (open triangle). The map scale is 1/20,000.</p>					

Cascavel

Description of Existing Intake Facilities

No./Name Cascavel Intake (Collecting System from Peroba intake and Saltinho intake) (Cascavel)					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Iguacu	Cascavel (w = 5 m)	Cascavel	SANEPAR	Intake site exists 50 m upstream from confluence of Quanti river (outlet of Sewage treatment).	
<Description of System>					
Intake Method		Intake Rate (Operation hour)		Supply System	Supply Connection
Surface Water		0.48 (max.)		Integrated Sys.	188,327 inhabitants
Direct		0.11 (mean, 24 hours) (m3/sec)			
					Jan.1973
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
7.2 (km)	700 (mm)	173.3 (m)			
<Future Plan / or Other informations, if any>					
Additional water are collected from other 2 intake sites (Saltinho river and Pez river) when water shortage occurs. Total intake capacity of 3 intake systems reaches 824.94 lit/sec.					
<Location Map>					
<p><b>Legend (Scale : 1/50,000)</b></p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/constructed Sewage Plant</li> </ul>					

Cascavel

Description of Existing Intake Facilities

No./Name <b>Peroba Intake (Emergency Intake) (Cascavel)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Iguacu	Rio de Pez (w = 7 m)	Cascavel	SANEPAR	This river is one of tributary of Cascavel river.	
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Surface Water Direct with weir (weir hight = 2 m)	0.13 (12 hour/day)  (m3/sec)	Supply to Cascavel intake	(188,327 inhabitants)	1982	
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
1.8 (km)	500 400 (mm)	26.6 (m)	2 pumps (1 is standby) (75 CV/pump)		
<Future Plan / or Other informations, if any>					
This intake water supply to Cascavel intake site when water shortage occurs.					
<Location Map>					
<p><b>Legend (Scale : 1/50,000)</b></p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/constructed Sewage Plant</li> </ul>					

Cascavel

Description of Existing Intake Facilities

No./Name Saltinho Intake (Emergency Intake) (Cascavel)					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Iguacu	Saltinho	Cascavel	SANEPAR	This river is one of tributary of Cascavel river.	
<Description of System>					
Intake Method		Intake Rate (Operation hour)		Supply System	Supply Connection
Surface Water		0.06		Supply to	(188,327 inhabitants)
Direct with weir		(m <sup>3</sup> /sec)		Peroba intake	
Operation Year		1982			
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pum	Others
3.99	400	106	2 pumps		
(km)	(mm)	(m)	(1 is standby)		
			(75 CV/pump)		
<Future Plan / or Other Informations, if any>					
This intake water supply to Cascavel intake site when water shortage occurs.					
<Location Map>					

Guaraniacu

Description of Existing Intake Facilities

No./Name <b>Firela Intake (Guaraniacu)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Piquiri	Firela (w = 15 m)	Guaraniacu	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Surface Water Direct with weir (weir height = 2 m)	0.025 (12 hour/day) (m <sup>3</sup> /sec)		7,961 (inhabitants)	Sep.1980	
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
5.1 (km)	150 (mm)	258.5 (m)	4 pumps (2 is standby) (100, 75 CV)		
<Future Plan / or Other informations, if any>					
There is a future plan at San Francisco river, because upstream of existing intake is affected by outlet of hog yard.					
<Location Map>					
				<b>Legend (Scale : 1/50,000)</b> ● Existing Surface Intake ■ Existing Well Intake ○ Planned Surface Intake Point ▲ Existing Sewage Plant △ Planned/constructed Sewage Plant	

Description of Existing Intake Facilities

No./Name <b>Cobras Intake (Nova Laranjeiras)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Iguacu	Cobras (w = 7 m)	Nova Laranjeiras	SANEPAR		
<Description of System>					
Intake Method		Intake Rate (Operation hour)		Supply System	Supply Connection
Surface Water Direct with weir		0.006 (5 hour/day) (m <sup>3</sup> /sec)			711 (inhabitants)
Operation Year 1983					
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
0.2 (km)	75 (mm)	10-12 (m)	2 pumps (1 is standby)		
<Future Plan / or Other informations, if any>					
<Location Map>					
				<b>Legend (Scale : 1/50,000)</b> ● Existing Surface Intake ■ Existing Well Intake ○ Planned Surface Intake Point ▲ Existing Sewage Plant △ Planned/constructed Sewage Plant	
				(The legend symbols are: a solid black circle for Existing Surface Intake, a solid black square for Existing Well Intake, an open circle for Planned Surface Intake Point, a solid black triangle for Existing Sewage Plant, and an open triangle for Planned/constructed Sewage Plant.)	



Laranjeiras do Sul

Description of Existing Intake Facilities

No./Name <b>Leao Intake (Laranjeiras do Sul)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Iguacu	Leao	Laranjeiras do Sul	SANEPAR		
<Description of System>					
Intake Method		Intake Rate (Operation hour)		Supply System	Supply Connection
Surface Water Direct with weir (weir height = 1 m)		0.050 (18.5 hour/day) (m <sup>3</sup> /sec)			19,780 (inhabitants)
Operation Year		1978			
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
5.1 0.6 (km)	150 x 2 200 (mm)	160 (m)	4 pumps (2 is standby) (100, 125 CV)		
<Future Plan / or Other informations, if any>					
There is a future plan at 4 km downstream of the existing intake, facility design has finished on 1983.					
<Location Map>					



Guarapuava

Description of Existing Intake Facilities

No./Name <b>Pedras Intake (Guarapuava)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Iguacu	Rio das Pedras	Guarapuava	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Surface Water Direct with weir	0.300 (17 hour/day) (m3/sec)		26,334 (connections)	1966 1983(updating)	
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
1.12 (km)	400 350 (mm)	200 (m)	3 pumps (1 is standby) 600 x 2, 450 CV		Gross water loss 34 %
<Future Plan / or Other informations, if any>					
There is a future plan at bananas river. (2004)					
<Location Map>					
				<b>Legend (Scale : 1/50,000)</b> ● Existing Surface Intake ■ Existing Well Intake ○ Planned Surface Intake Point ▲ Existing Sewage Plant △ Planned/constructed Sewage Plant	

Pinhao

Description of Existing Intake Facilities

No./Name <b>Invernada Intake (Pinhao)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Iguacu	Invernada	Pinhao	SANEPAR	Intake river is a tributary of Pinhao river.	
<Description of System>					
Intake Method		Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water Direct		0.019 (16 hour/day) (m3/sec)	370 ha supply area	2,310 (connections)	1980
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
1.5 (km)	150 (mm)	40 (m)	2 pumps (1 is standby) (20 CV/pump)		
<Future Plan / or Other Informations, if any>					
There is a future plan at Arr.Laj.Bonito river.					
<Location Map>					
<p><b>Legend (Scale : 1/100,000)</b></p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/constructed Sewage Plant</li> </ul>					

Description of Existing Intake Facilities

No./Name <b>Tibagi Intake - BEB13 (Londrina)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Tibagi	Tibagi (w = 150 m)	Londrina	SANEPAR	Integrated sys. with Cafezal Intake	
<Description of System>					
Intake Method		Intake Rate (Operation hour)		Supply System	Supply Connection
Surface Water		1.20 (16 hours/day)		supply to Londrina and Cambe urban area	140,000 (economy)
Direct		(m3/sec)			
					Dec. 1991
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
12.036 (km)	900 800 (mm)	230 (m)	4 pumps (2 is standby) (150 CV/pump)	Two intermediate pump stations (3 pumps, 1500 CV)	Gross water loss with Cafezal intake is 40 % (Dec.1994)
<Future Plan / or Other Informations, if any>					
There is a plan of hydroelectric dam by COPEL at Jataizinho (Sep. 2002), backwater of future reservoir will cover this intake facility. (about 10 m heigher) Additional 2 intake pumps, pipeline and treatment plant are planned to install in the future (1998). The future intake rate will be 2.4 m3/sec.					
<Location Map>					
<p><b>Legend (Scale : 1/100,000)</b></p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/constructed Sewage Plant</li> </ul>					

Londrina

Description of Existing Intake Facilities

<b>No./Name</b> Cafezal Intake - EEB1 (Londrina)					
<b>&lt;Location&gt;</b>					
<b>Basin</b> Tibagi	<b>River</b> Cafezal (w = 10 m)	<b>Municipality</b> Londrina	<b>Proprietor</b> SANEPAR	<b>Others</b>	
<b>&lt;Description of System&gt;</b>					
<b>Intake Method</b> Surface Water Direct with weir (weir height = 2 m)	<b>Intake Rate (Operation hour)</b> 0.55 (16 hours/day) 0.90 (Max.capacity) (m3/sec)	<b>Supply System</b> supply to particular area in Londrina (downtown, west)	<b>Supply Connection</b> (140,000) (economy)	<b>Operation Year</b> 1959	
<b>&lt;Description of Pipeline&gt;</b>					
<b>Length</b> 5.7 (km)	<b>Diameter</b> 600, 500(1st) 400, 550(2nd) (mm)	<b>Water Head</b> (m)	<b>Intake Pump</b> 3 pumps (500 CV/pump)	<b>Intermediate Pump</b> 1 intermediate pump station with 2 pumps (600 CV)	<b>Others</b> Gross water loss with Tibagi intake is 40 % (Dec.1994)
<b>&lt;Future Plan / or Other informations, if any&gt;</b>					
<b>&lt;Location Map&gt;</b>					
<p><b>Legend (Scale : 1/100,000)</b></p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/constructed Sewage Plant</li> </ul>					

Description of Existing Intake Facilities

No./Name Caviuna Intake (Apucarana)					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Ivai	Caviuna (w = 5 m)	Apucarana	SANEPAR		
<Description of System>					
Intake Method		Intake Rate (Operation hour)		Supply System	Supply Connection
Surface Water		0.25 (22 hours/day)		Apucarana Urban	
Direct		(Max. capacity)		(18 km <sup>2</sup> )	26,678
		(m <sup>3</sup> /sec)			(connections)
					1976
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
6.043	400	267	3 pumps		Gross water loss is 36 %. (Feb/1995)
(km)	(mm)	(m)	(No standby)		
<Future Plan / or Other Informations, if any>					
In target 1999 year, there is a future intake plan at Rio Cerne (Tibagi basin).					
<Location Map>					
				<p>Legend (Scale : 1/50,000)</p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/constructed Sewage Plant</li> </ul>	

Ortigueira

Description of Existing Intake Facilities

No./Name <b>Formigas Intake (Ortigueira)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Tibagi	Formigas (w = 8 m)	Ortigueira	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Surface Water Direct with weir (weir high = 1.5m)	0.013 (15-18 h/day) 0.12 (Max. capacity) (m <sup>3</sup> /sec)	Integrated sys. with well intake	1,530 (connections)	1982	
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
4 (km)	100 (PVC) 150 (mm)	35 (m)	2 pumps		Water treatment plant exists at same location of intake.
<Future Plan / or Other informations, if any>					
<Location Map>					
<p>Legend (Scale : 1/100,000)</p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/constructed Sewage Plant</li> </ul>					

Telemaco Borba

Description of Existing Intake Facilities

No./Name <b>Tibagi Intake (Telemaco Borba)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Tibagi	Tibagi (w = 80 m)	Telemaco Borba	SANEPAR	Industry Activity is paper factory 50 %, Agriculture 25 % and commercial 25 %.	
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Surface Water	0.16 (18 hours/day)				
Direct	0.17 (Max. capacity) (m3/sec)		13,800 (connections)	1963/64	
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
6 (km)	200 350 (mm)	183.3 (m)	3 Pumps (1 is standby) (75 CV/pump)		Distribution water loss 38 %
<Future Plan / or Other informations, if any>					
There is the biggest paper factory (" Klabin Paper Factory") in South-America at downstream of SANEPAR intake site. This factory has own treatment plant, sewage plant and hydroelectric power station.					
<Location Map>					
				<b>Legend (Scale : 1/100,000)</b>	
				<ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/constructed Sewage Plant</li> </ul>	

Tibagi

Description of Existing Intake Facilities

No./Name <b>Tibagi Intake (Tibagi)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Tibagi	Tibagi (w = 120 m)	Tibagi	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Surface Water Direct	0.03 (10 hours/day)  (m <sup>3</sup> /sec)		1,874 (connections)	1978	
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
0.8 (km)	100 and 150 Parallel pipe (mm)	60 (m)	2 Pumps (1 is standby) (75 CV/pump)		Gross water loss = 24.9 % (Dec/94)
<Future Plan / or Other Informations, if any>					
Distribution net work is under-construction. (50 % progress)					
<Location Map>					
<p><b>Legend (Scale : 1/100,000)</b></p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planne/constructed Sewage Plant</li> </ul>					



Description of Existing Intake Facilities

No./Name <b>Iapo Intake (Castro)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Tibagi	Iapo (w = 25 m)	Castro	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Surface Water Direct from nature swamp	0.058 (20 hours/day)  (m3/sec)	Integrated Sys. with Sao Cristovao dam reservoir	8,846 (connections)	1963	
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
0.273 (km)	250 (mm)	61.7 (m)	2 Pumps (1 is standby) (75 CV/pump)		
<Future Plan / or Other informations, if any>					
SANEPAR considers future intake at same location.					
<Location Map>					
<p><b>Legend (Scale : 1/100,000)</b></p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/constructed Sewage Plant</li> </ul>					

Description of Existing Intake Facilities

No./Name Sao Cristovao Dam Reservoir Intake (Castro)					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Tibagi	Sao Cristovao	Castro	SANEPAR	Catchment area at dam is 100 ha.	
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Surface Water	0.021 (24 hours/day)	Integrated Sys. with Iapo intake	(8,846)	1940	
Dam reservoir, V = 100 m <sup>3</sup> (Dam H = 4 m, W = 12 m)	0.055 (Max. capacity) (m <sup>3</sup> /sec)		(connections)		
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
0.5125 (km)	200 (mm)	27 (m)	2 Pumps (1 is standby) (75 CV/pump)		Pipeline is natural gravity flow.
<Future Plan / or Other informations, if any>					
Lightning the existing dam may be acceptable, but material of existing pipeline have to improve.					
<Location Map>					

Ponta Grossa

Description of Existing Intake Facilities

No./Name <b>Pitangui Intake (Ponta Grossa)</b>					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Tibagi	Pitangui (w = 15 m)	Ponta Grossa	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Surface Water Direct with gabion weir (weir height = 4 m)	0.30 (21 hours/day)  (m <sup>3</sup> /sec)	Integrated Sys. with Alagados Intake	302,180 (inhabitants)	1985	
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
6 (km)	700 (mm)	150 (m)	3 pumps (2 are standby) (800 CV/pump)		Net-work loss 36 % Production loss 7 % Gross water loss 43 %
<Future Plan / or Other informations, if any>					
There is a plan to install three more pumps at the existing station, but required intake rate may not enough from this point.					
<Location Map>					
<p><b>Legend (Scale : 1/50,000)</b></p> <ul style="list-style-type: none"> <li>● Existing Surface Intake</li> <li>■ Existing Well Intake</li> <li>○ Planned Surface Intake Point</li> <li>▲ Existing Sewage Plant</li> <li>△ Planned/constructed Sewage Plant</li> </ul>					

Ponta Grossa

Description of Existing Intake Facilities

No./Name <b>Alagados Intake (Ponta Grossa)</b>				
<Location>				
Basin	River	Municipality	Proprietor	Others
Tibagi	Alagados Reservoir	Ponta Grossa	SANEPAR	Alagados reservoir is one of COPEL's hydroelectric reservoir in Pitangui river. (Dam H=14 m)
<Description of System>				
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water Direct with COPEL's dam	0.40 (21 hours/day)  (m3/sec)	Integrated Sys. with Pitangui intake	(302,180) (inhabitants)	1971
<Description of Pipeline>				
Length	Diameter	Water Head	Intake Pump	Intermediate Pump
14.8 (km)	600 (mm)		5 pumps (1 is standby) (200 CV/pump)	
				Others Net-work loss 36 % Production loss 7 % Gross water loss 43 %
<Future Plan / or Other informations, if any>				
SANEPAR has a response to pay the water use fee to COPEL, when water level lower than normal stage.				
<Location Map>				

Description of Existing Intake Facilities

No./Name Santa Cruz Area (Well) (Cascavel)					
<Location>					
Basin	Source	Municipality	Proprietor	Others	
Parana 3	Serra Geral Aquifer	Cascavel	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Groundwater Direct from 1 well	92.70 (16 hours/day)  (m3/hour)	Santa Cruz Area	9,000 (inhabitants)	Aug. 1993 (date of drilling)	
<Description of Pipeline>					
Length	Diameter	Depth of Well	Intake Pump	Intermediate Pump	Others
  (km)	  (mm)	103 (m)	1 pump (60 CV/pump)		Gross Water loss 40 %
<Future Plan / or Other informations, if any>					
There exists one well. 3 additional well will be operated between March and July 1995. Intake rate will is expected 250 m3/hour and supply to 8,000 connections.					
<Location Map>					
				<b>Legend (Scale : 1/50,000)</b> ● Existing Surface Intake ■ Existing Well Intake ○ Planned Surface Intake Point ▲ Existing Sewage Plant △ Planned/constructed Sewage Plant	

Cascavel

Description of Existing Intake Facilities

No./Name Periolo Area (Well) (Cascavel)					
<Location>					
Basin	Source	Municipality	Proprietor	Others	
Piquiri	Serra Geral Aquifer	Cascavel	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Groundwater	48.00 (14 hours/day)	Periolo Area	35,000 (inhabitants)	Sep.1993 (date of drilling)	
Direct from 2 well	66.00 ( - " - ) (m3/hour)				
<Description of Pipeline>					
Length	Diameter	Depth of Well	Intake Pump	Intermediate Pump	Others
	12.25, 8	47	1 pump x 9CV		Gross Water loss 40 %
(km)	12.25, 9, 10 (inches)	75 (m)	1 pump x 11CV		
<Future Plan / or Other informations, if any>					
<Location Map>					



Description of Existing Intake Facilities

No./Name Mulumbi Area (Well) (Cascavel)					
<Location>					
Basin	Source	Municipality	Proprietor	Others	
Piquiri	Serra Geral Aquifer	Cascavel	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year	
Groundwater Direct from 2 well	55.00 (m3/hour)	Mulumbi Area	10,000 (inhabitants)		
<Description of Pipeline>					
Length	Diameter	Depth of Well	Intake Pump	Intermediate Pump	Others
(km)	(inches)	(m)			Gross Water loss 40 %
<Future Plan / or Other informations, if any>					
There is another well to be operated in the future, its intake rate will be 35 m3/hour.					
<Location Map>					