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# **BOLIVIA – NOA – BRAZIL**

**BUSINESS UNIT**

## **GENERAL INFORMATION**

**September 2003**



*Safe harbor statement under the Private Securities Litigation Reform Act of 1995:*

*This document contains statements that Repsol YPF believes constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements may include statements regarding the intent, belief or current expectations of Repsol YPF and its management, including with respect to trends affecting Repsol YPF's financial condition, results of operations, business, strategy, production volume and reserves, as well as Repsol YPF's plans with respect to capital expenditures and investments. These statements are not guarantees of future performance and are subject to material risks, uncertainties, changes and other factors which may be beyond Repsol YPF's control or may be difficult to predict.*

*Repsol YPF's future financial condition, results of operations, business, strategy, production volumes, reserves, capital expenditures and investments could differ materially from those expressed or implied in any such forward-looking statements. Such factors include, but are not limited to, currency fluctuations, the price of petroleum products, the ability to realize cost reductions and operating efficiencies without unduly disrupting business operations, environmental and regulatory considerations and general economic and business conditions, as well as those factors described in the filings made by Repsol YPF and its affiliates with the Comisión Nacional del Mercado de Valores in Spain, the Comisión Nacional de Valores in Argentina and the Securities and Exchange Commission in the United States; in particular, those described in Section 1.3 "Key Information about Repsol YPF—Risk Factors" and Section 3 "Operating and Financial Review and Prospects" in Repsol YPF's annual report on Form 20-F for the fiscal year ended December 31, 2002 filed with the Securities and Exchange Commission.*

*Repsol YPF does not undertake to publicly update or revise these forward looking statements even if experience or future changes make it clear that the projected results or condition expressed or implied therein will not be realized.*



RESERVES : 1,577 MBoe

OIL PRODUCTION : 22,792 Bbl/d

GAS PRODUCTION : 13.98 Mm3/d

EXPLORATION AREAS (On Sh.) : 13,197 Km2

EXPLORATION AREAS (Off Sh.) : 4,289 Km2

EXPLOITATION AREAS : 3,390 Km2





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# **BUSINESS UNITS IN BOLIVIA**



- REPSOL begins activities in the Secure Block in 1995.
- YPF S.A. acquired Maxus Bolivia, Inc, in 1996.
- YPF S.A. constitutes Andina S.A. (YPFB Capitalization) on 10 April 1997 – MM\$US 264.78

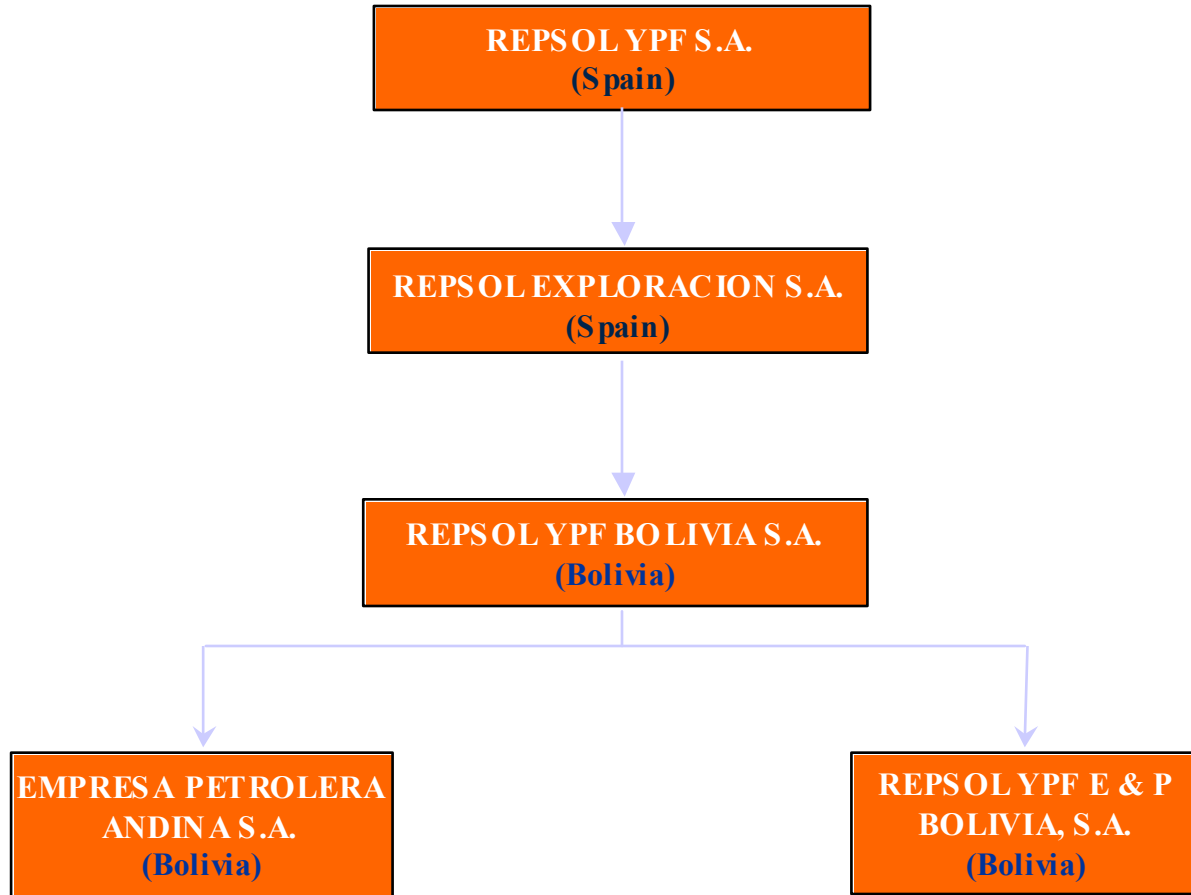
<b>AFP</b>	<b>48.00 %</b>
<b>YPF S.A.</b>	<b>20.25 %</b>
<b>Pecom S.A.</b>	<b>20.25 %</b>
<b>Pluspetrol</b>	<b>9.50 %</b>

- Repsol S.A. acquired YPF S.A. in 1999.
- Repsol-YPF, acquired Pecom's and Pluspetrol's stakes in Andina S.A. in 2000

<b>AFP</b>	<b>49.00 %</b>
<b>Andina S.A.</b>	<b>50.00 %</b>

- Repsol YPF- Bolivia holding created in 2001-02

<b>Andina S.A.</b>	<b>50.00 %</b>
<b>Repsol E&amp;P (Secure + Maxus Inc.)</b>	<b>100.00 %</b>





## ANDINA

- Is one of the companies in which the Exploration and Production areas were spun-off from YPFB (Bolivian Government Oil Company)
- It is a private Company in which Repsol YPF has a 50% controlling stake. The remaining shares are held by 2 Pension Funds (49%) and other investors (1%).
- It has a 100% stake in 6 exploration blocks and 17 exploitation fields.
- It owns the largest stake (50%) in two exploration and exploitation blocks, which have 70% of the gas supply contract for Brazil. These areas are operated by Petrobras.



## MAXUS - REPSOL

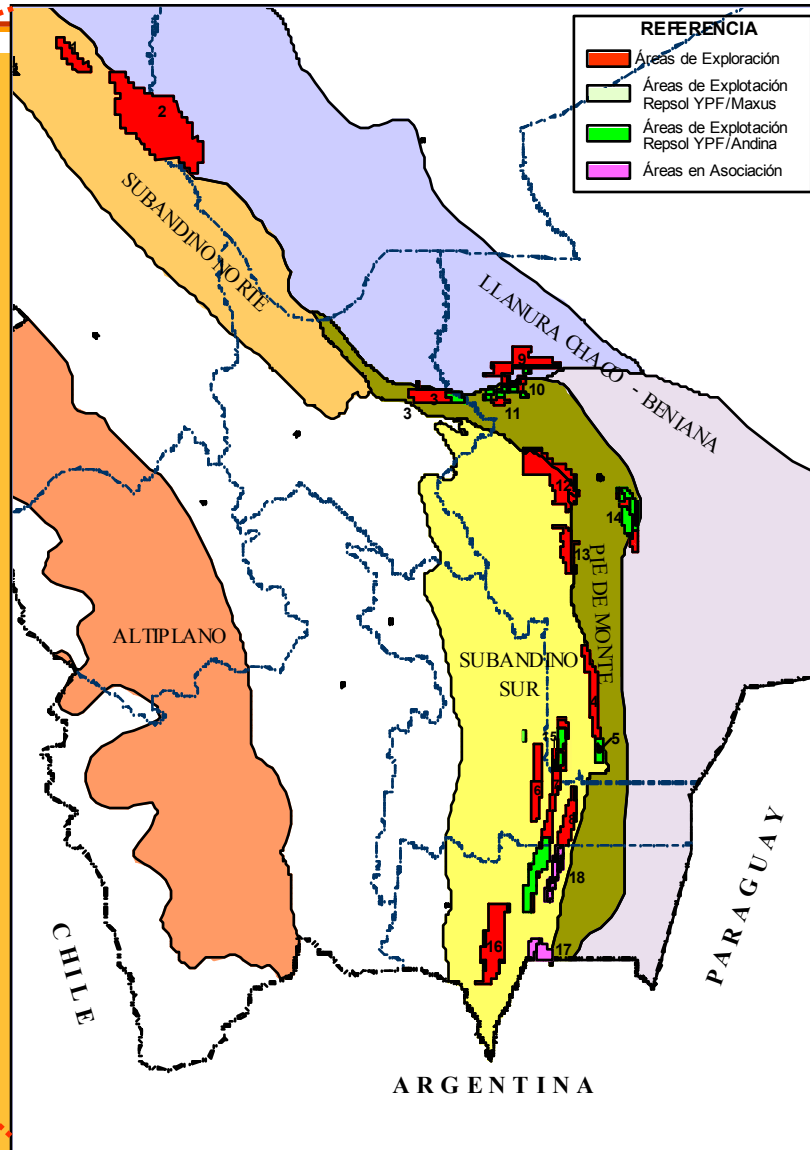
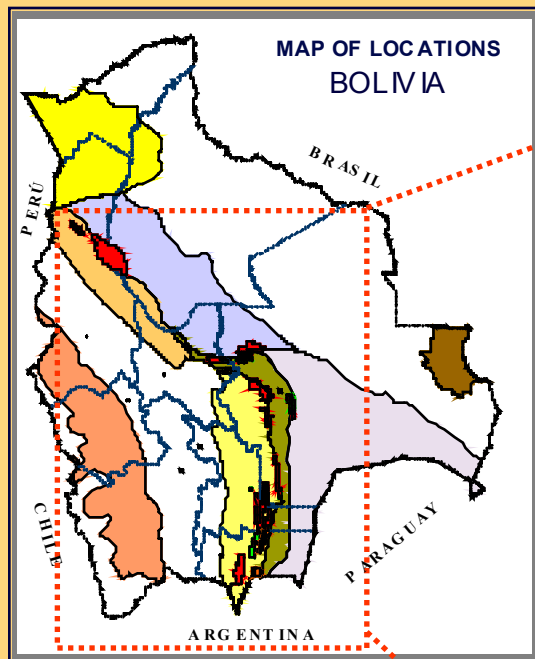
- Comprises the areas operated by Maxus Sucusal Bolivia (a YPF International subsidiary) and the areas operated by Repsol Secure. All of these areas will become Repsol YPF E&P Bolivia S.A.
- At present, there are 5 Exploration Blocks and 6 Exploitation Fields, one of which is a Retention Area.
- All the areas are operated by Repsol YPF, most of these through Joint Venture Agreements.
- Among the most important areas, we would mention Mamore, the main producer of liquids in Bolivia, where Repsol YPF has a 50% stake. Repsol YPF has a 37.5% interest in the Margarita Field, which has the largest gas reserves in Bolivia (P1+P2).







# Exploration and Exploitation Areas



**REFERENCIA**

- Áreas de Exploración
- Áreas de Explotación Repsol YPF/Maxus
- Áreas de Explotación Repsol YPF/Andina
- Áreas en Asociación

EXPLORATION AREAS	
COMPANY	BLOCK
REPSOL YPF SÉCURE BOLIVIA	Tuichi (1-2)
REPSOL YPF MAXUS INC.	Mamoré (3) Charagua (4) Cambeiti (5) Caipipendi (6-7-8)
REPSOL YPF ANDINA SA.	Sara Boomer. I (9) Sara Boomer. III (10-11) * Amboró Espejos (12-13) Grigotá (14) Camiri (15) Cambarí (16)
ASOCIACIÓN	San Alberto (17) San Antonio (18)

EXPLOITATION AREAS	
COMPANY	BLOCK
REPSOL YPF ANDINA SA.	Vibora Rio Grande La Peña / Tundy Sirari Los Sauces Yapacani Los Penccos Arroyo Negro Camiri Guairuy Cascabel Cobra Boquerón Enconada Palacios Patujú Puerto Palos
REPSOL YPF MAXUS INC.	Surubí/Paloma Margarita Monteagudo Cambeiti * Itatiqui

\* Área sujeta a compensación  
\* Área de Retención



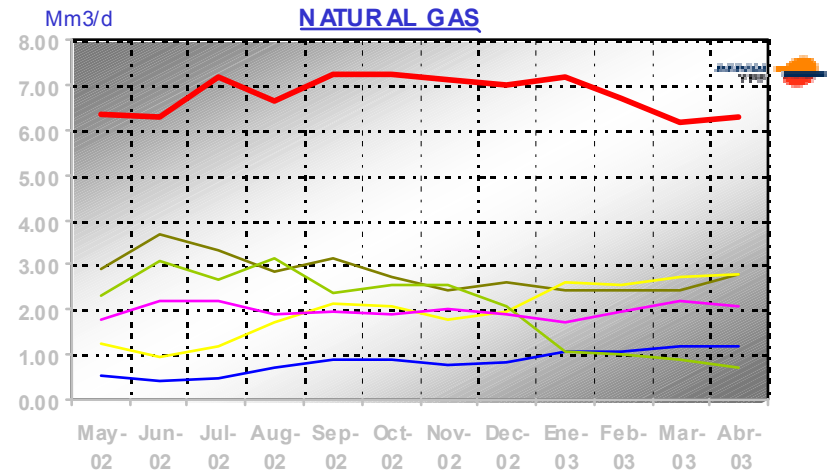
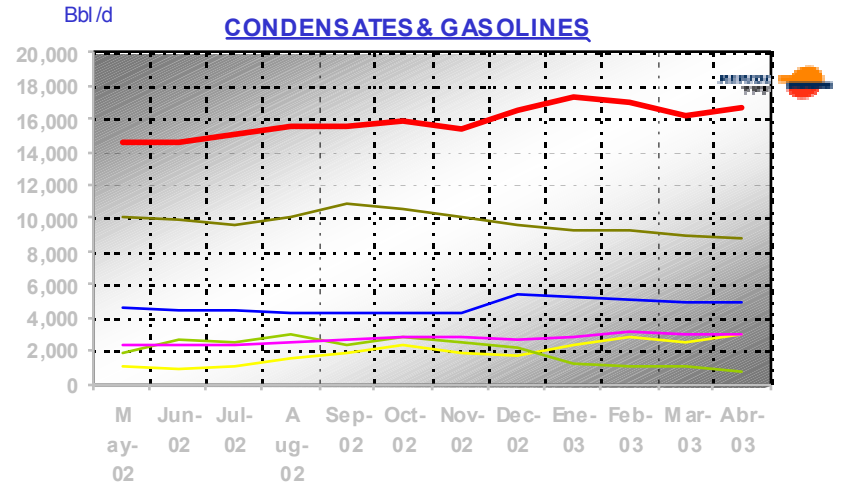
ANDINA S.A.

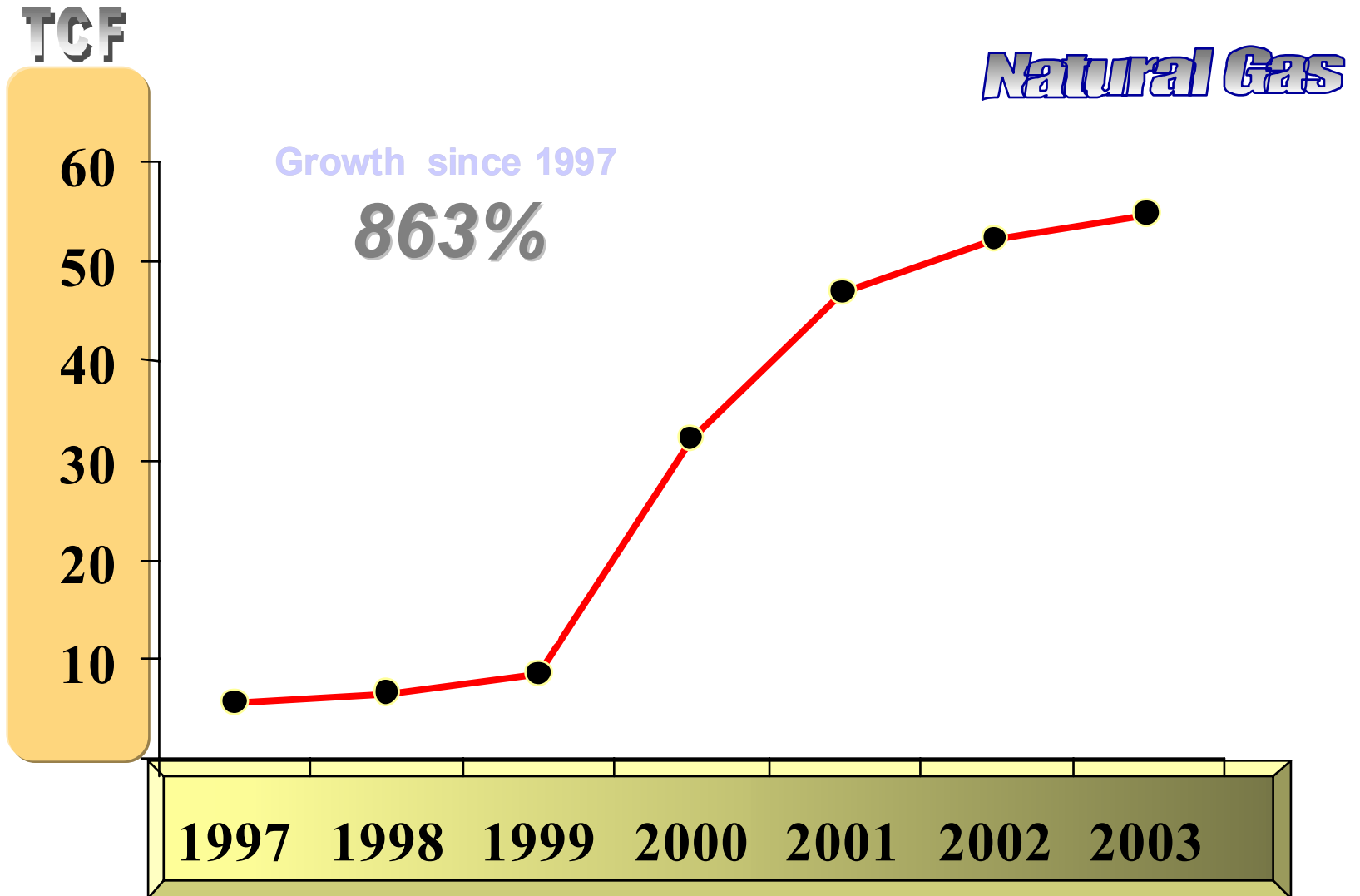
<b>NAME</b>	<b>% STAKE</b>	<b>ACTIVITY</b>
<b>Transierra S.A.</b>	<b>44,50%</b>	<b>Gas Pipeline</b>
<b>Planta Comp. Rio Grande</b>	<b>50.00%</b>	<b>Compression Plant</b>



## Repsol YPF, leader in the Exploration and Production Sector in Bolivia.

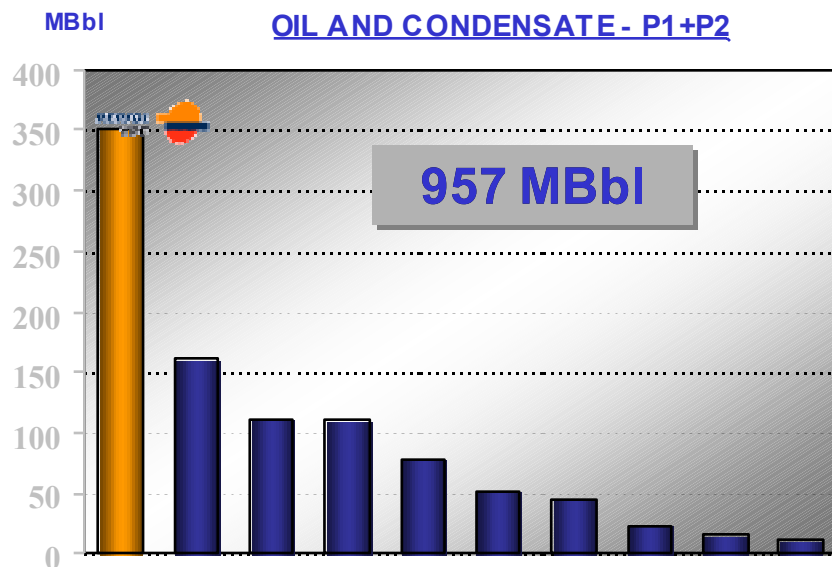
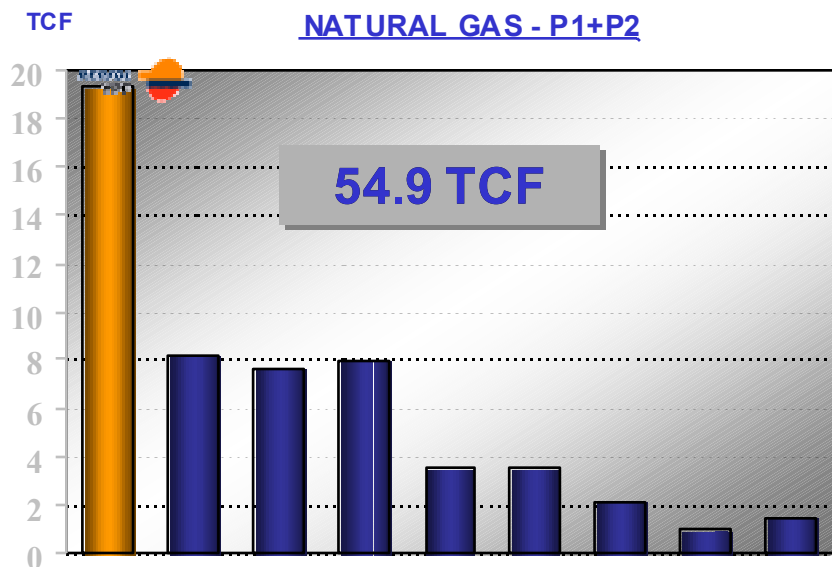
- Repsol YPF, is the main producer in Bolivia, with a 43% share in the production of liquids (oil, condensate, and gasoline) and 42% of natural gas production.
- The Company also has the largest share in gas marketing in Bolivia, more than 43% of gas exports to Brazil and approximately 39% of sales in the Bolivian market.
- Repsol YPF also produces LPG with 37% of domestic production.







## It has the highest Gas and Liquids Certified Reserves



The Bolivian Government performs a National Certification of Hydrocarbon Reserves every year. In the January 2003 certification, Repsol YPF was granted rights over 35% of the Gas Reserves (26% Andina and 9% Maxus) and 37% of the Oil and Condensate reserves (22% Andina and 15% Maxus).



# BOLIVIA: GAS MARKETS



- Bolivia has an approximate 3,500 km internal gas pipeline network which is operated by different companies.
  - ✓ Transredes
  - ✓ GTB
  - ✓ GOB
  - ✓ Transierra
- The Gas pipeline network is connected to Brazil through two points.
  - ✓ Pto Suarez (connects to Sao Paulo)
  - ✓ San Matias (connects to Cuiaba).
- The Gas pipeline network comes together at the Rio Grande Field. This field is operated by Repsol YPF through Andina S.A.



# PRODUCTION FACILITIES

AREA OPERATED BY REPSOL-YPF  
(ASSOCIATION)

**MAMORE BLOCK**

**SURUBI-PALOMA-BLOQUE BAJO**

**WELLS = 36**

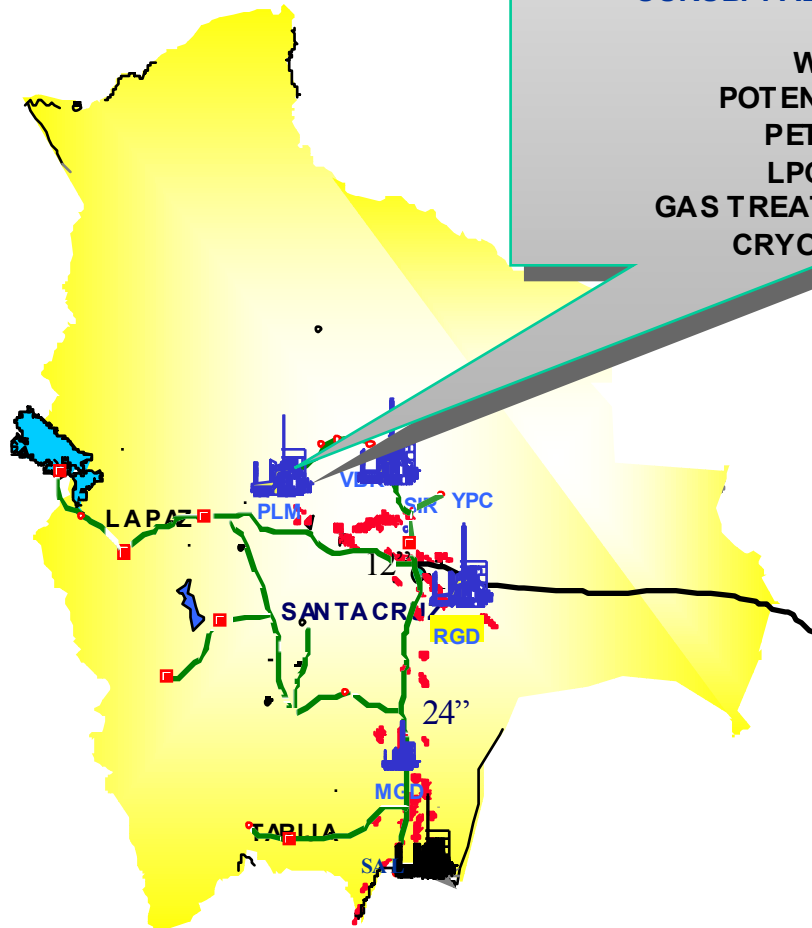
**POTENTIAL : 50 MPCD**

**PET. 12000 BPD**

**LPG : 270 MCD**

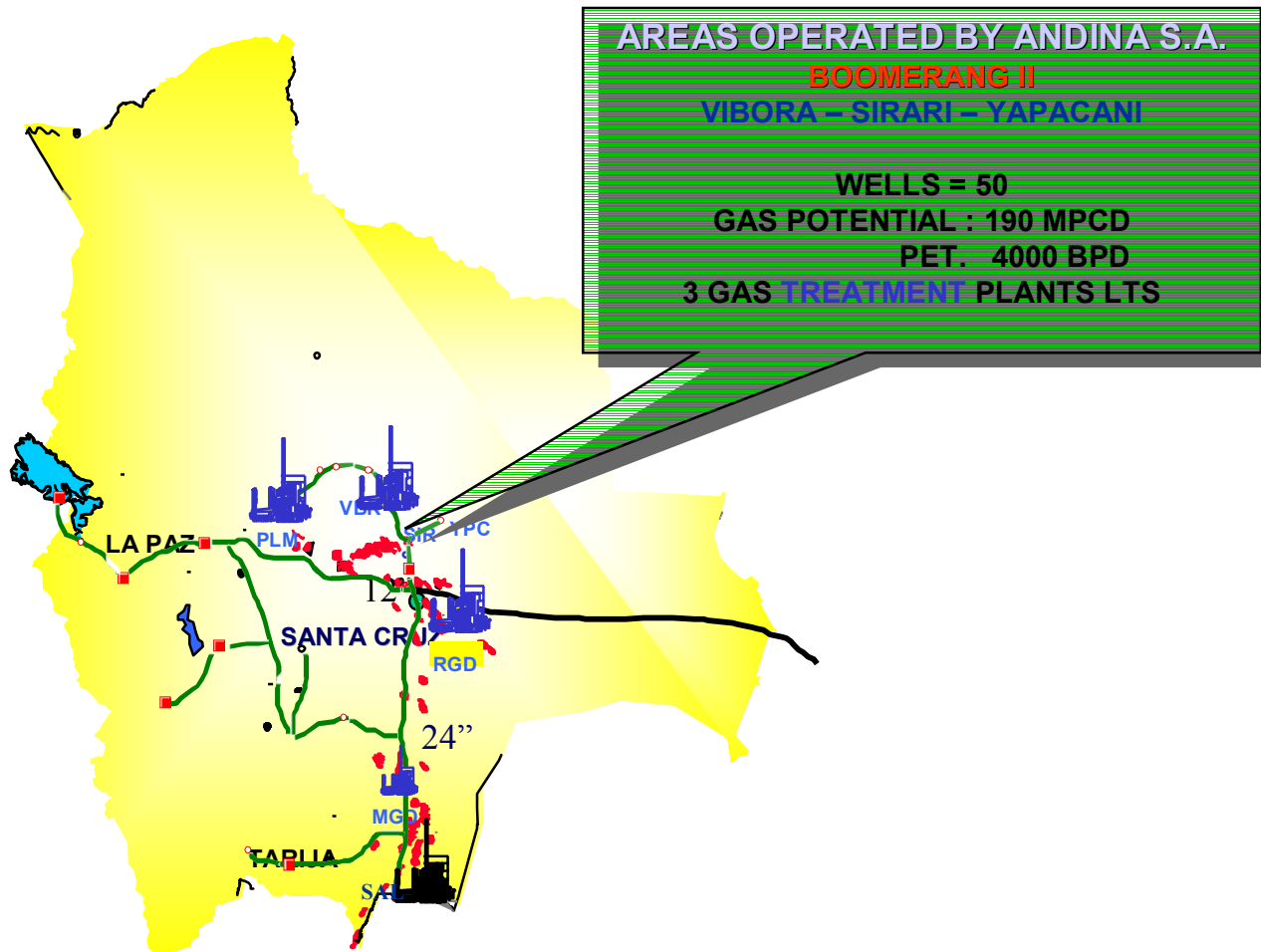
**GAS TREATMENT : 40 MMPCD**

**CRYOGENIC PLANT**





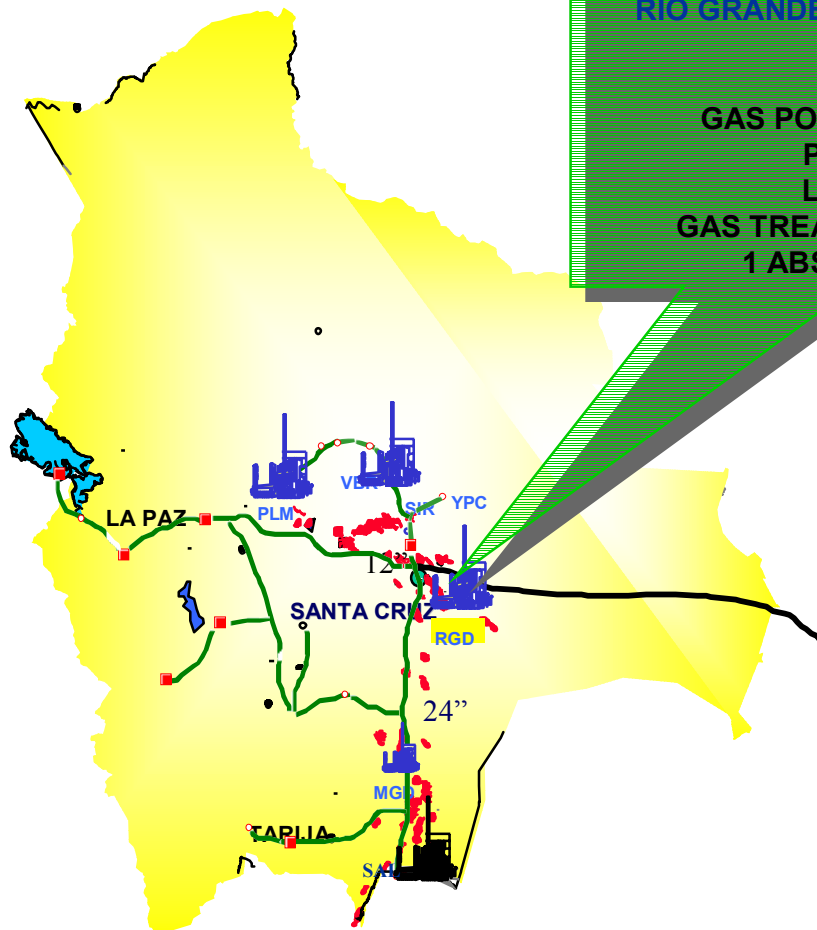
# PRODUCTION FACILITIES







# PRODUCTION FACILITIES



AREA OPERATED BY ANDINA S.A.

**GRIGOTA BLOCK**

**RIO GRANDE- LA PEÑA-LOS SAUCES**

WELLS = 45

GAS POTENTIAL : 180 MPCD

PET. 4000 BPD

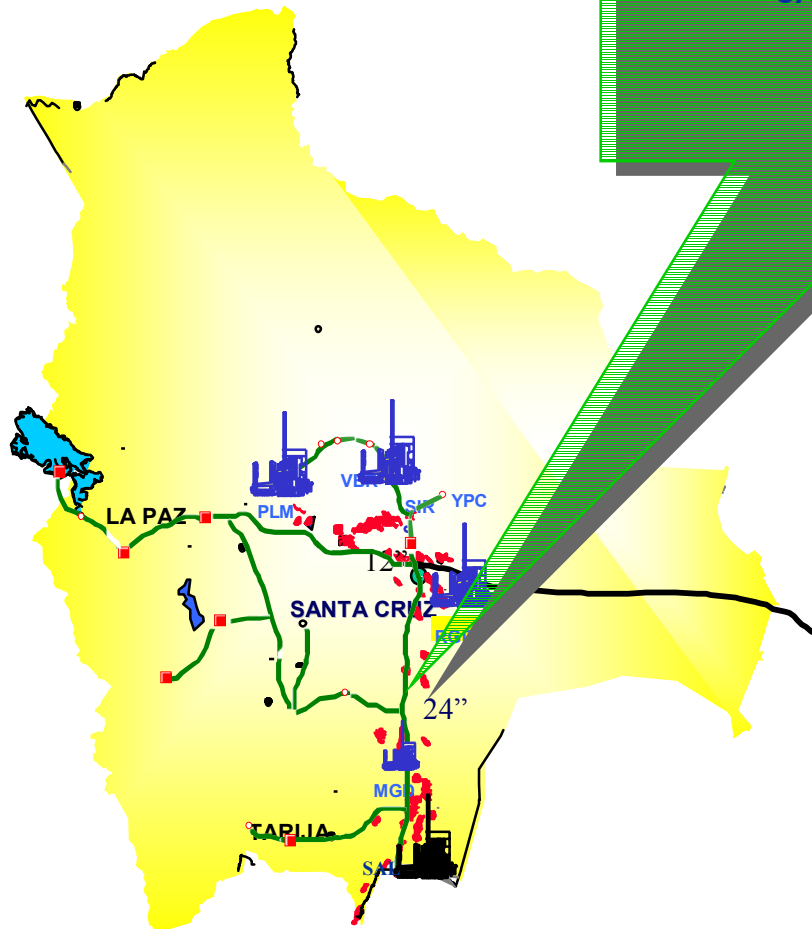
LPG : 500 MCD

GAS TREATMENT : 180 MMPCD

1 ABSORPTION PLANT



# PRODUCTION FACILITIES



**AREA OPERATED BY ANDINA-REPSOL YPF**

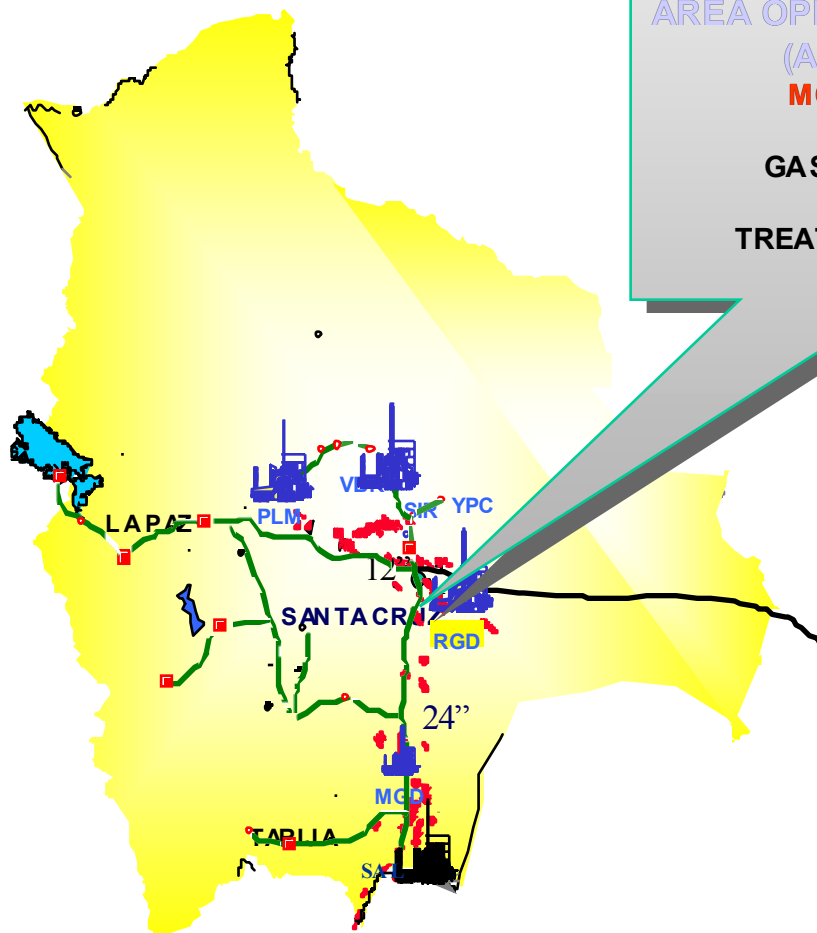
**CAMIRI – GUAIRUY - CAMBEITI**

**WELLS = 34**

**POTENTIAL PET: 500 BPD**



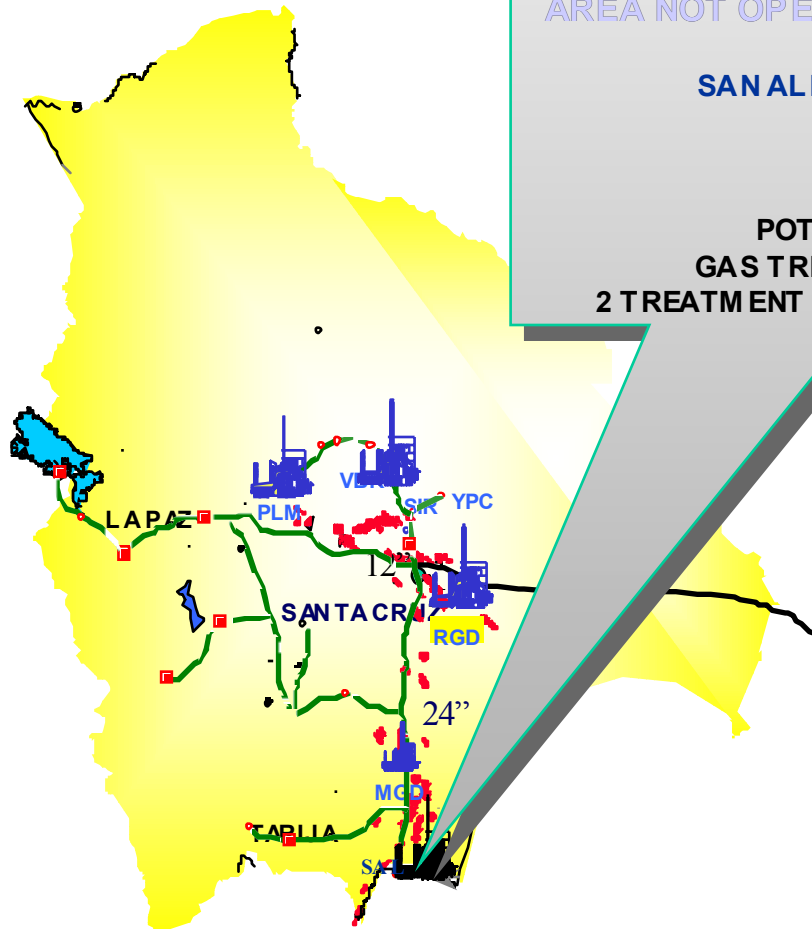
# PRODUCTION FACILITIES



AREA OPERATED BY REPSOL YPF  
(ASSOCIATION 50%)  
**MONTEAGUDO BLOCK**  
WELLS = 22  
GAS POTENTIAL : 5 MPCD  
PET : 600 BPD  
TREATMENT PLANT D. POINT



# PRODUCTION FACILITIES



AREA NOT OPERATED (ASSOCIATION 50%)

SAN ALBERTO-SAN ANTONIO

WELLS = 9

POTENTIAL : 800 MPCD

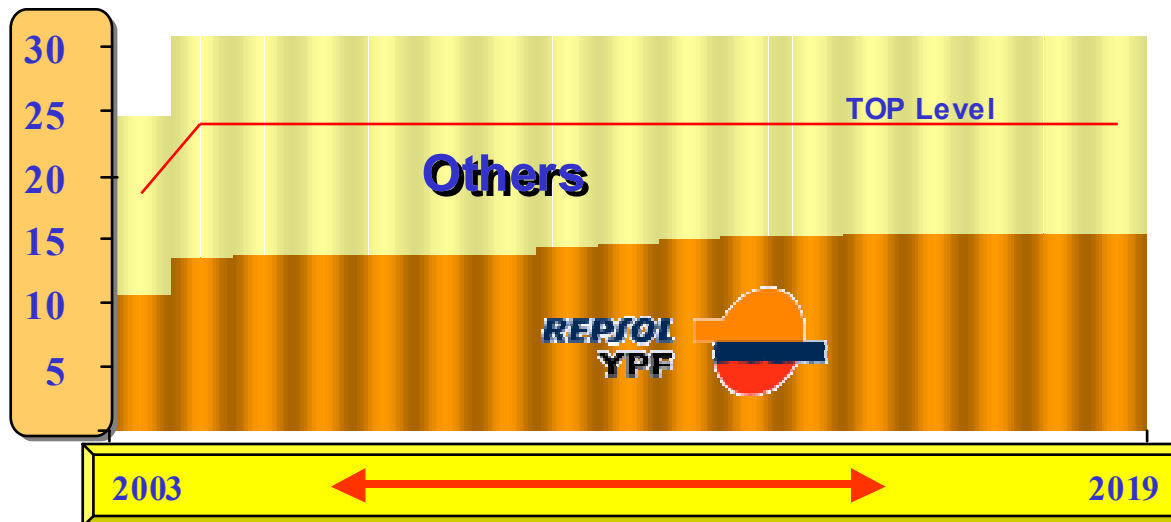
GAS TREATMENT : 800 MMPCD

2 TREATMENT PLANTS D.POINT (24.0 MM3d)



## GSA – Petrobras – YPFB Sales Agreement

- Petrobras – YPFB Agreements.
  - ✓ As part of this agreement, YPFB's rights and obligations are transferred to the Producers (including Repsol YPF companies) under the same terms and conditions through Back-to-Back Agreements.
- Supply date: as of 1 July 1999 - Contract term: until 2019.
- Repsol YPF is the main supplier under this agreement.



**Repsol YPF's  
Share  
47.2%**



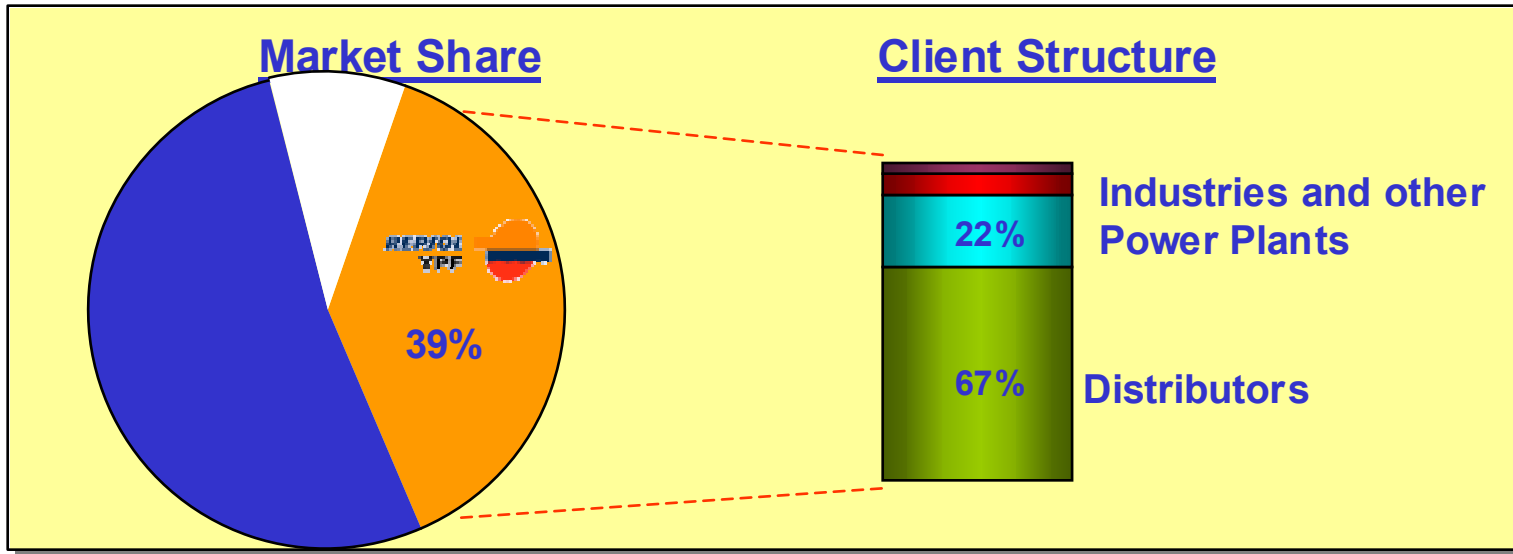
## **Sales Agreement: Central Eléctrica Cuiaba - Brazil**

- Agreement between, Andina S.A., YPF S.A. and Southern Cone Gas Ltd. for the supply of gas to the Thermoelectric Generation Plant located in Cuiabá (Matto Grosso – Brazil).
- Supply date: as of 2002 – Contract Term: 19 years
- Volume (DCQ): 2,292 MMm3d (at 9,200 Kcal per m3).
  - ✓ Through Bolivia 50%
  - ✓ Through Argentina 50%
- We are currently delivering 100% from Bolivia.
- Reception Agreement (Take or Pay): 55% of DCQ.



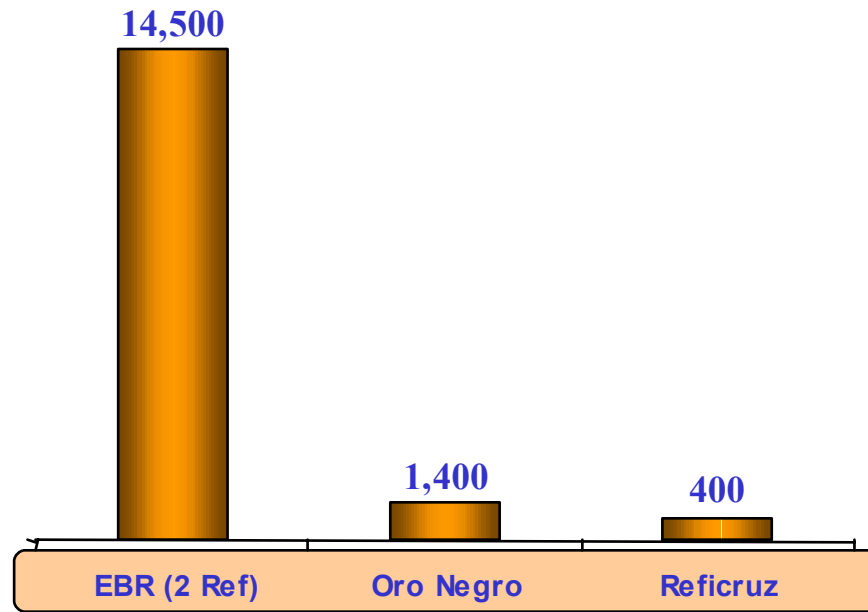
## Sales Agreement – Internal Market

- There are approximately 19 sales agreements at present.
- Repsol YPF has a 39% market share in sales to the local market.





- Repsol YPF sells its production of liquids mainly in the local market through 4 or 5 of the country's refineries.



- Surplus production is exported via Arica (Chile) to international markets. Repsol YPF has been exporting part of this production to Brazil since July 2003.
  - ✓ The possibility of exporting to the Argentinean refinery, Refinor, is under consideration.





- San Alberto and San Antonio
  - ✓ The development of the San Alberto and San Antonio areas for the supply of gas pursuant to the Petrobras-YPFB agreement is in its final stage, with one well nearing completion.
  - ✓ Production at this project began in January, 2000 and will deliver 70% of gas for the Petrobras-YPFB agreement until 2019.
- Pacific LNG
  - ✓ The purpose of this Project is to monetize the Margarita Field gas reserves by selling Natural Liquid Gas to the U.S. (California).
  - ✓ At present, there are plans to drill 2 additional wells to delimit the reserves of the field.
- Gas to Liquid
  - ✓ A joint project with Syntroleum Co. and Ivanhoe Energy is currently underway to study the possibility of installing a Synthetic Diesel, Gasoline, and LPG producing GTL plant. This project will also enable the monetization of gas reserves.
- Urea and Others

# VISION DEL PROYECTO



Inversión Total  
5 - 6 billones de US\$

Viaje con Carga

West Coast Australia  
9,900 nautical miles  
Sakhalin Island  
4,000 nautical miles

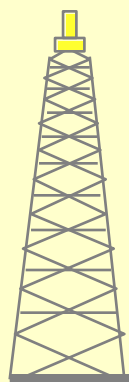
# LNG

para BOLIVIA

VMEH



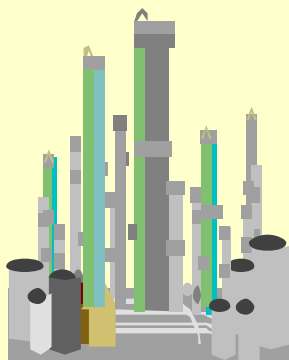
# Bolivia – California Capex and Gas Tariff Chain



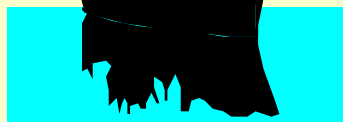
**Production**  
Margarita Field  
Wells - Plant



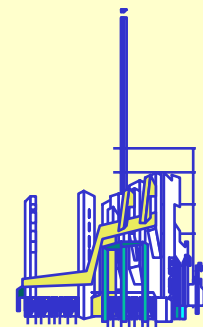
Gas Lines



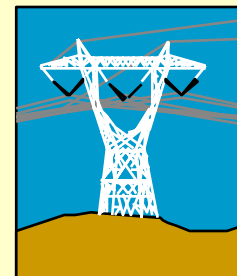
**LNG Plant**  
Mejillones,  
Chile



**Transport**  
LNG Vessel



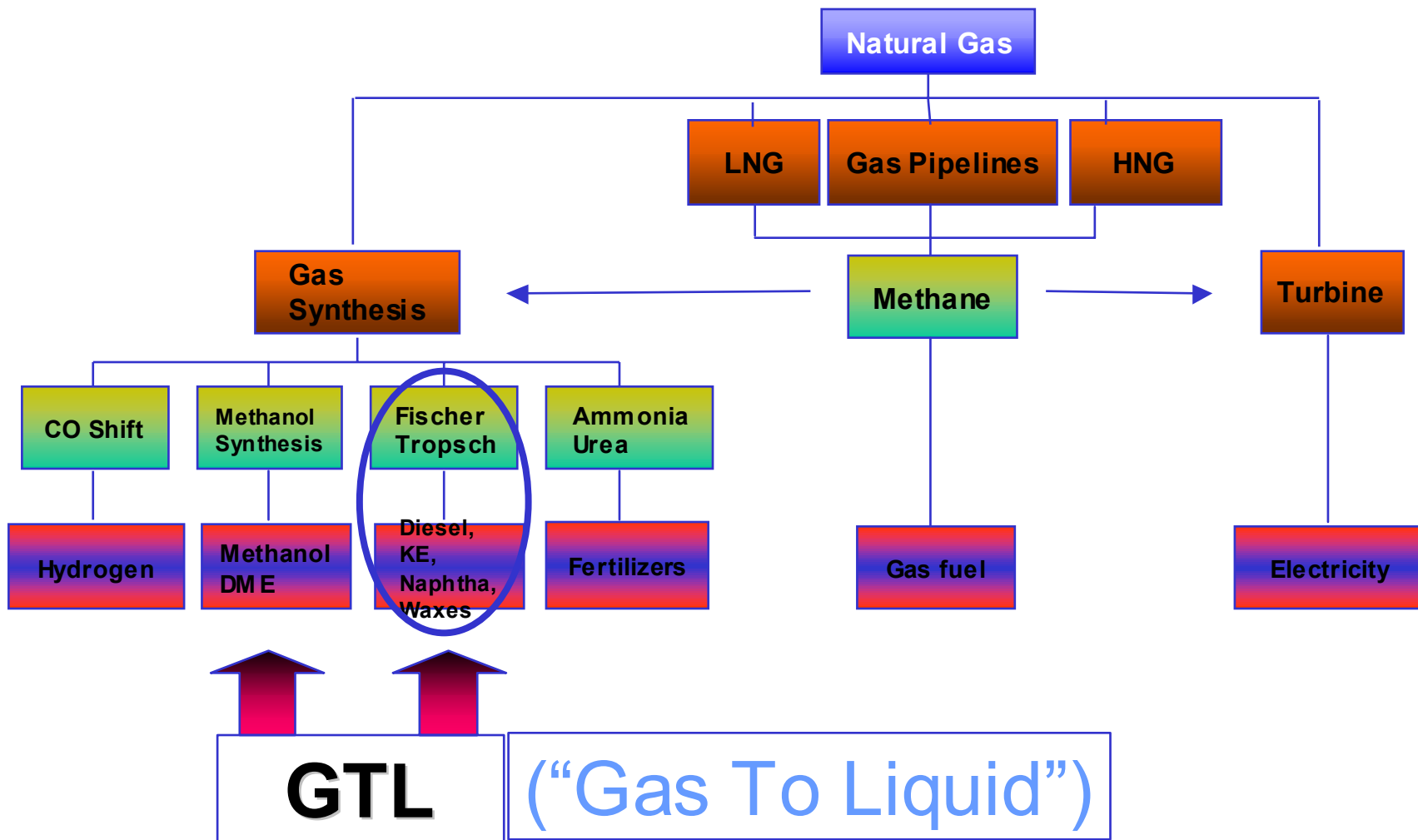
**LNG Regas**  
Ensenada  
Mexico  
Gas pipeline to U.S



**Client**  
California  
IPP/Distribution

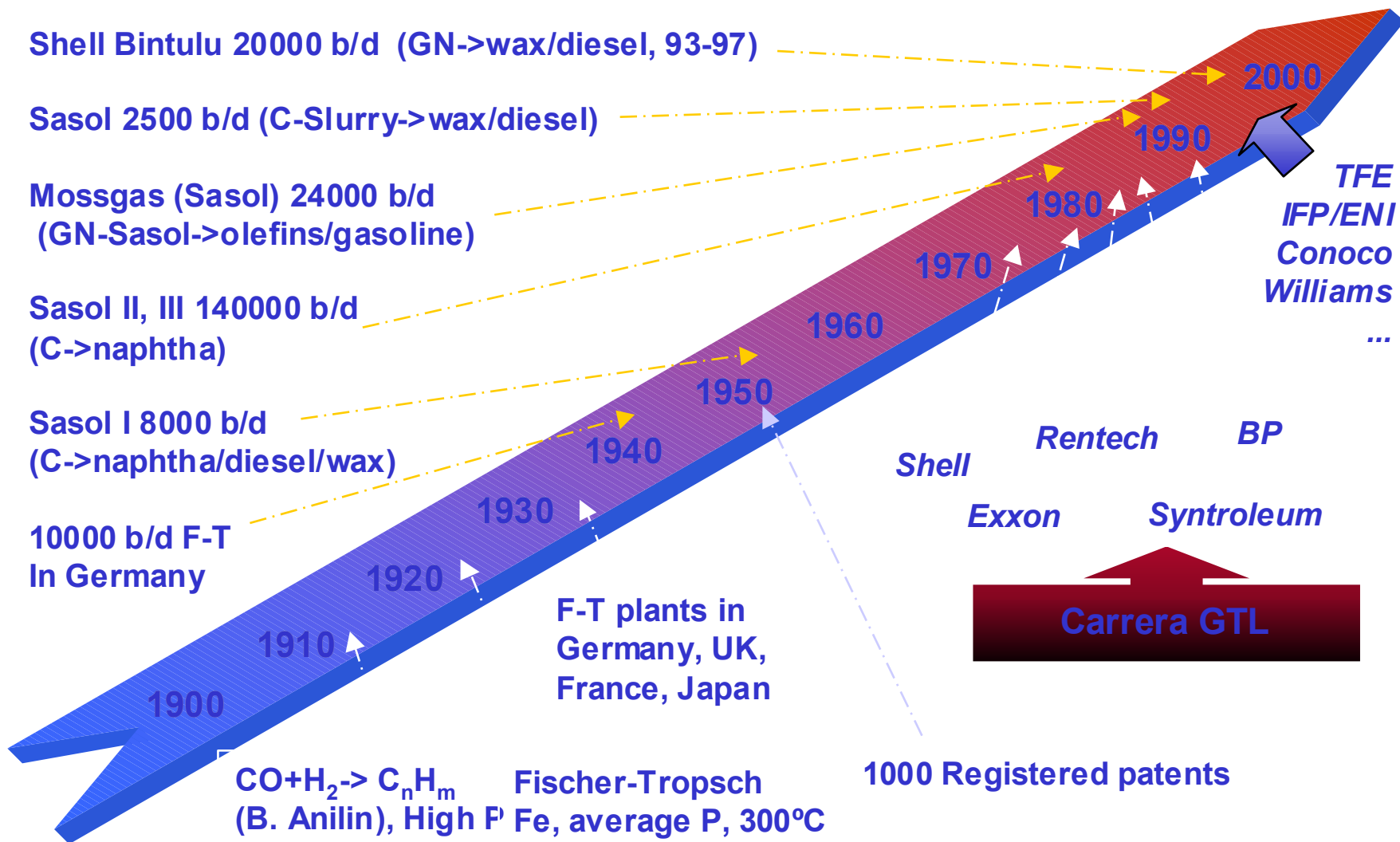


# NATURAL GAS UTILIZATION PROCESS





# FT/GTL DEVELOPMENT: 10+ YEARS TO DEMO, 20+ TO INDUSTRIAL

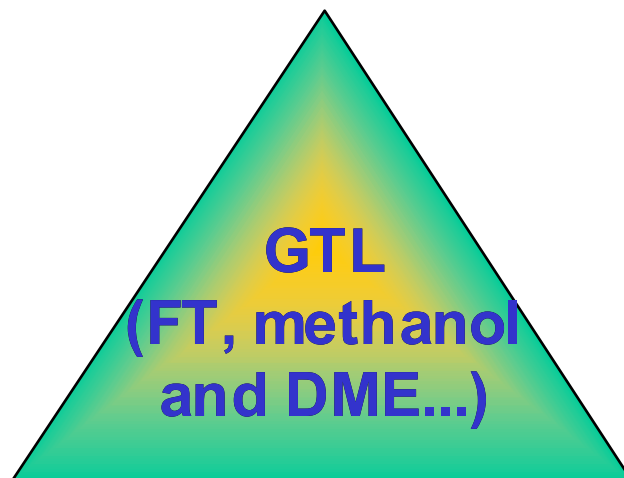




# With what does GTL compete?

## Process technology (MAKFinning)

- Ultra-Low desulphurization
- MIDW (MAKFinning isomerization dewaxing)
- MPHC (Moderate pressure hydrocracking)
- HDAr (MAKFinning aromatic saturation catalyst)



## Other products:

- LPG
- CNG
- Biodiesel
- Ethanol

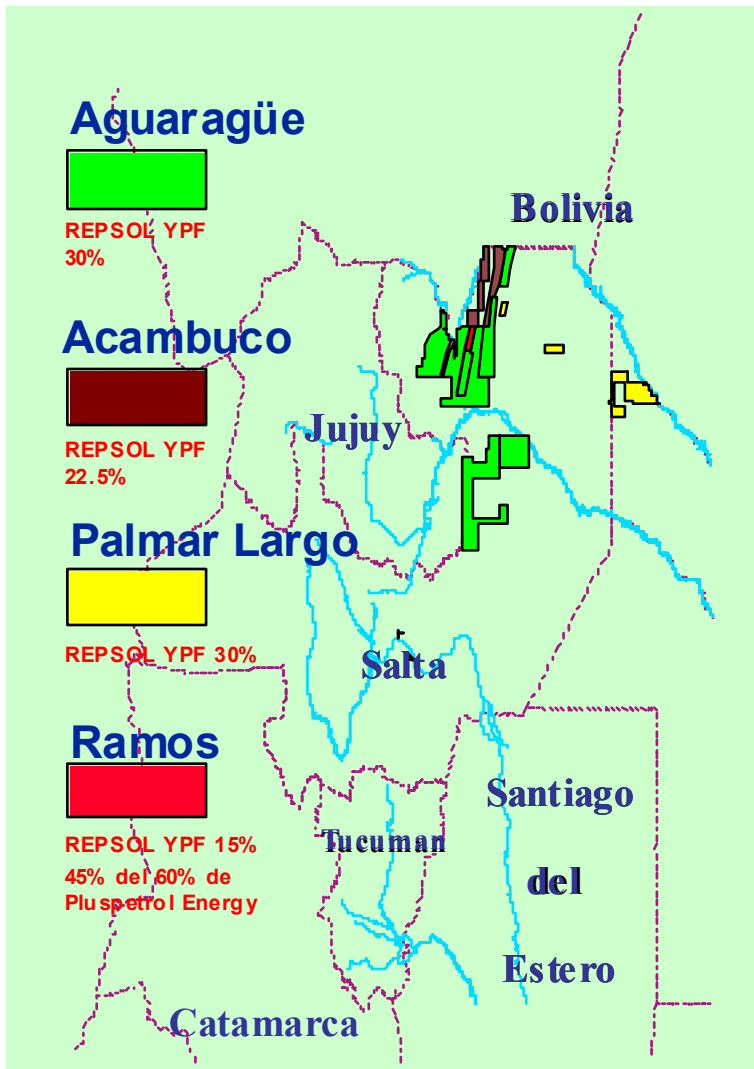
## Other transportation:

- LNG
- HNG



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**BUSINESS UNIT : NOA**



- NOA has an area of 5,905 Km<sup>2</sup>.
- It has 1.14 TCF of proven Gas reserves and 7.1 MBbl of proven oil reserves.
- First quarter 2003 production was 7.32 Mm<sup>3</sup>/d of Gas and 6.3 KBbl/d of Petroleum and LNG.
- Repsol YPF, participates in the different NOA areas as a “Non-Operator”.





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BUSINESS UNIT

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