



TOTAL

Total in Venezuela

Venezuela Field Trip - September 2003

Agenda

- **The Venezuelan business context**
- **Jusepin**
- **Sincor**
- **Yucal Placer**
- **Business development perspectives**

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The Venezuelan oil and gas business context

■ Oil:

- Aggressive growth objectives (target: ≈ 5 Mb/d by 2008)
 - ▶ opportunities for IOCs
- Implementation of the new hydrocarbon law
- OPEP quota constraints

■ Gas:

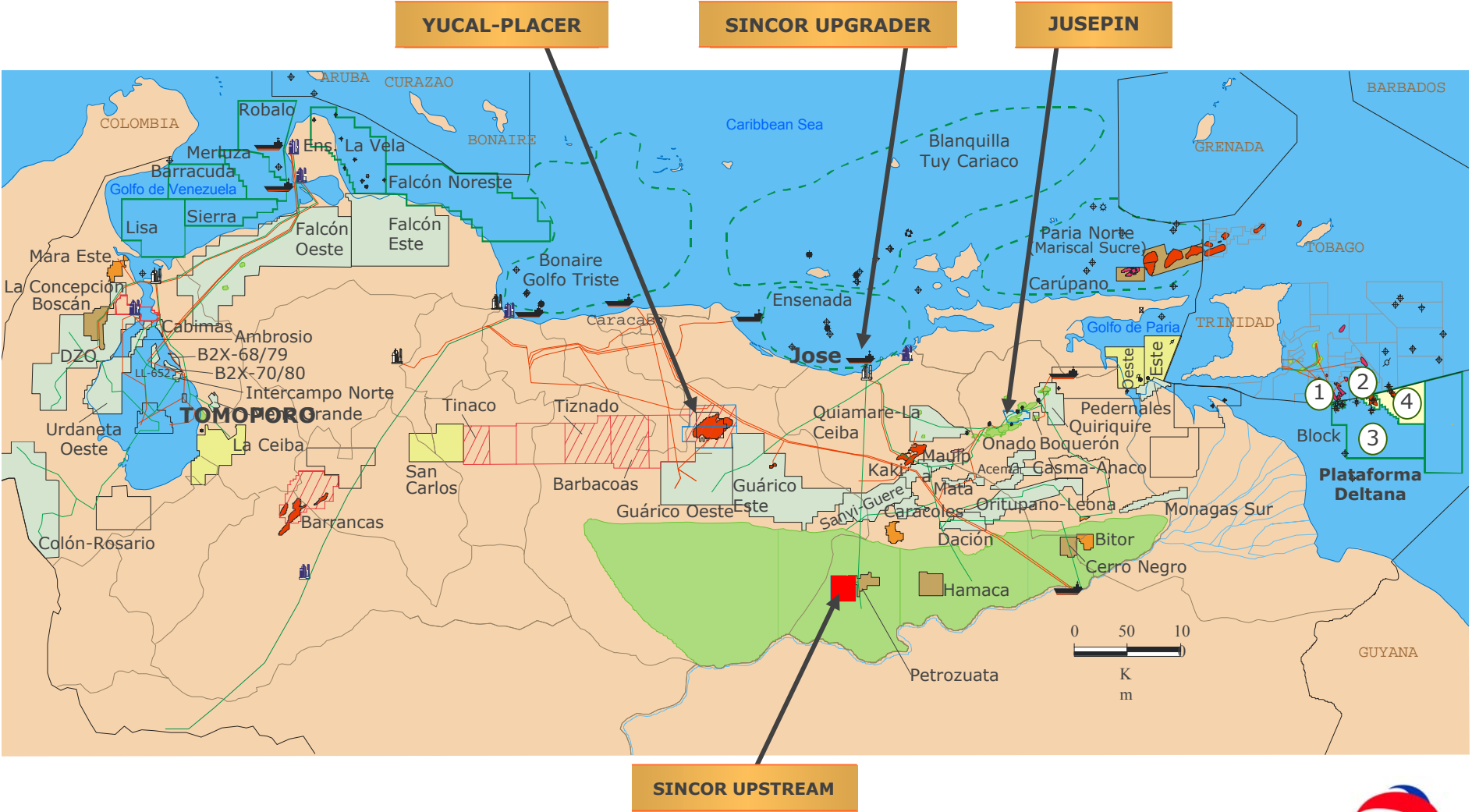
- “Apertura” licensing rounds open to private companies since 1999
- Main areas of future potential developments:
 - **Yucal Placer**
 - **Mariscal Sucre**
 - **Plataforma Deltana**
 - **New offshore areas**

■ Restructuring of PDVSA



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Jusepín background

- **“Reactivation of marginal fields”... “Apertura”**
 - 1991 First round: 3 licenses
 - 1993 Second round: 11 licenses (including Jusepin)
 - 1997 Third round: 18 licenses

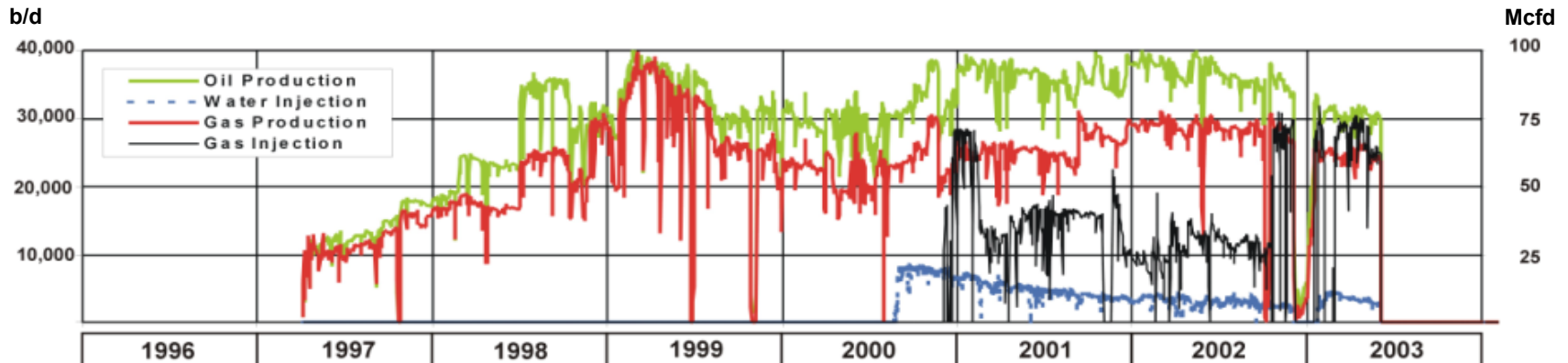
- **Total operator with 55%, BP as a partner (45%)**

- **Jusepin is a success story among the “Convenio Operativo” contracts**
 - Contract includes the possibility to also explore deeper horizons
 - This deep exploration led to substantial developments

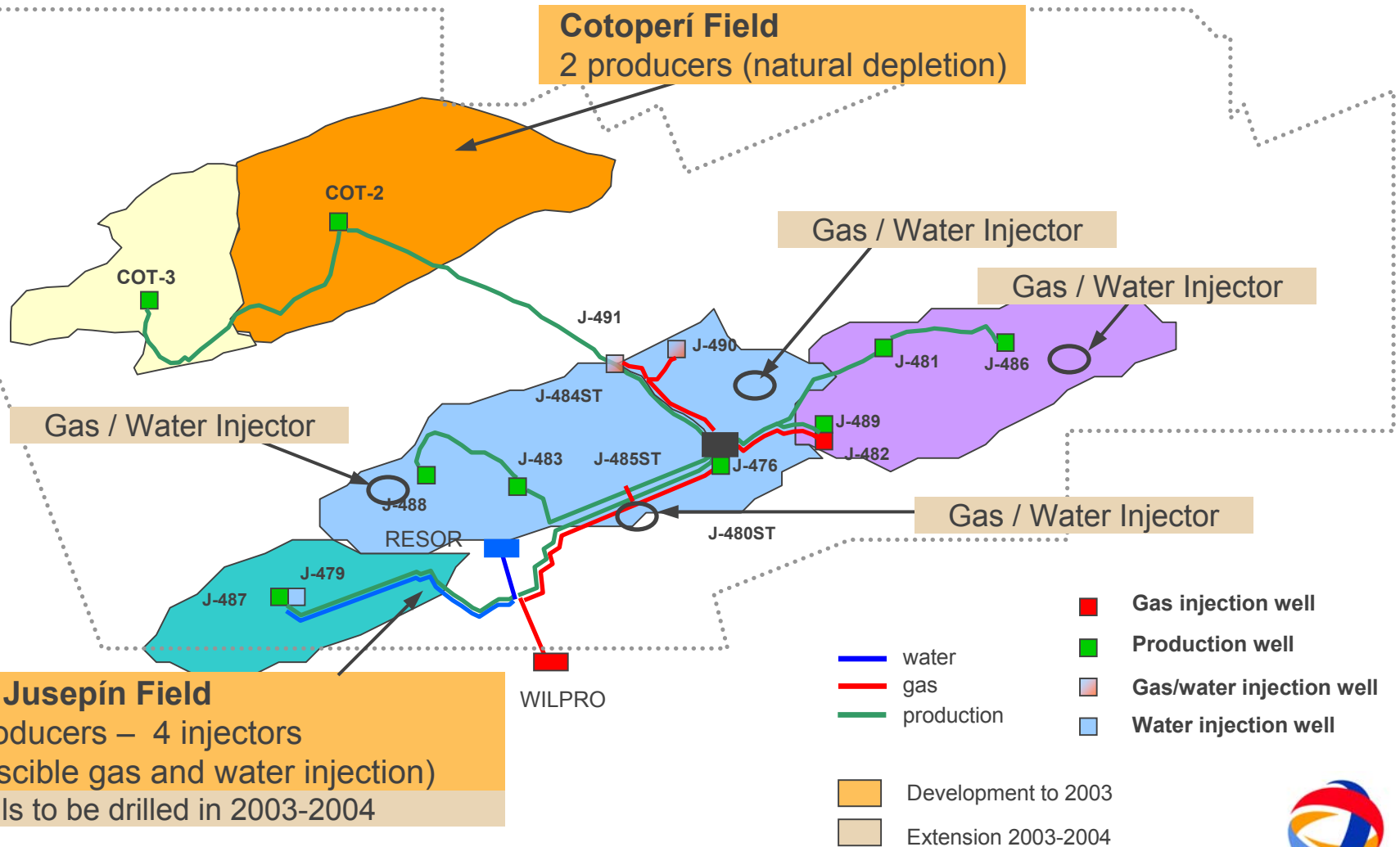
Jusepin development

History:

- 1993 : “Convenio Operativo” signed with PDVSA
- 1994-96 : Start up study pilot to evaluate shallow marginal field potential
- 1996 : Discovery of Deep Jusepín
- 1997 : Fast track start up of Deep Jusepín production
- 2000 : Start up of gas and water injection (enhanced recovery)
- 2004(e) : Completion of the injection scheme (water and gas)



Jusepin development scheme



Jusepin development overview



■ Production:

- 2003 average: 30 kb/d
- Cumulative production at end-August 2003: 67 Mb
- Future production 2003-2013(e): ≈ 100 Mb (API = 32°)

■ Investment needed for:

- 2 new wells in 2003
- 2 new wells in 2004
- Connections, injection lines
- Improvement modifications

■ Development cost:

- CAPEX: 4.1 \$/b
- OPEX: 2.0 \$/b

Jusepin challenges and solutions

■ Resolve high technical subsurface challenge

- Drill and complete deep HP/HT wells (depth: 6,000 m)
- “state of the art” 3D seismic processing in a deep and complex geology
- Implementing an enhanced recovery strategy (EOR):
 - Miscible gas alternated with water injection
 - Pressure maintenance in deep horizons

■ Optimize use of surface facilities

- Extend plateau through EOR at facilities maximum capacity
- Integrate with PDVSA facilities

■ Operate in a demanding environment

- Social development actions

■ Implement training and progressive HR regionalization policy



Jusepin contract

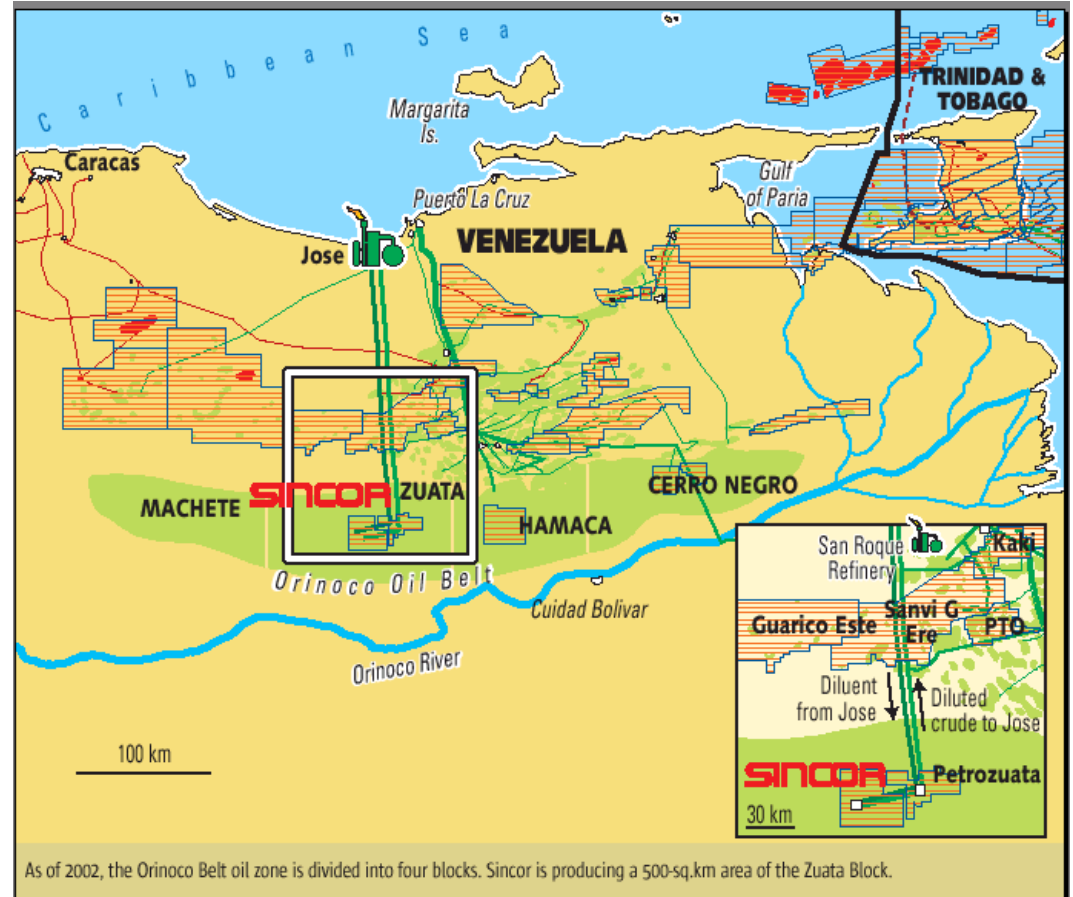
- **Remuneration of the “Convenio”:**
 - Opfee: an indexed lump sum per barrel
 - Capfee: recovery of invested Capex in 40 quarters
With an Interest of Libor + 1% for non recovered Capex
 - Overall fee capped by a maximum total fee
 - Incentive per barrel
- **Term: 2013 with possible extension**
- **Production of Deep Jusepin has successfully met the set objectives**
- **Financial results fully benefit from additional production**

Agenda

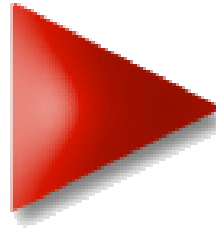
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The Faja story

- 54,000 km²
- Extra Heavy Oil in Place:
~ 1,200 trillion barrels
- Potential recoverable reserves: 100-300 Bb ?
- Developed: 8 to 10 Bb
- 4 strategic associations:
Sincor - Petrozuata
Cerro Negro - Ameriven



Sincor Zuata Sweet – El Néctar de la Faja



From extra heavy crude oil

To a light sweet crude

- **The only Faja synthetic crude to reach such level of conversion**
- **The lightest synthetic crude of the Faja: 32 ° API – 0.2% sulfur**
- **Main markets: United States, Europe, other possibilities**
- **An already well established product in the market, competing with Bonny, Brent, Cusiana, LLS**

Comparison of the Faja projects

Project	Petrozuata	Cerro Negro	SINCOR	Ameriven	Bitor
Partners	PDVSA 49.9% ConocoPhillips 50.1%	PDVSA 41.67% ExxonMobil 41.67% Veba 16.66%	PDVSA 38% Total 47% Statoil 15%	PDVSA 30% ConocoPhillips 40% ChevronTexaco 30%	PDVSA 100%
Extra-Heavy Oil Production	120,000 b/d 9.3 ° API	120,000 b/d 8.5 ° API	200,000 b/d 8 - 8.5 ° API	200,000 b/d 8.7 ° API	60,000 b/d 8 °API
Synthetic Crude Production Capacity	104,000 b/d 19 - 25 ° API	105,000 b/d 16 ° API	180,000 b/d 32 ° API	170,000 b/d 26 ° API	
Initial Production	Oct. 1998	Nov. 1999	Dec. 2000	Oct. 2001	
Upgrader Start-Up	Jan. 2001	Aug 2001	Mar 2002	2004	

Sincor = Highest added value and conversion rate in Venezuela

Sincor key figures

- **Strategic association: Total 47% - PDVSA 38% - Statoil 15%**
- **35-year contract ending in 2037**
- **Assigned area in Zuata zone: 500 km²**
- **Cumulative oil to be produced: 2.5 Gb**
- **Production capacity: 200 kb/d Extra-Heavy Oil ▶ 180 kb/d Syncrude**
- **By-products production: 6,000 t/d petcoke, 900 t/d sulfur**

Sincor implementation: a 10-year story

1992-96

Preliminary studies, Congress approval (1993), conceptual studies, choice of production scheme, definition of exploitation area...

1997

Basic engineering, appraisal program, association agreement

1998

Full field 3D seismic, call for tenders for EPC contracts, financing, award of EPC contracts

1999

Start up of development drilling (September)

2000

Start up of early production (Dec. 17, 2000): 40 kb/d 8.0 °API diluted with 25 kb/d Mesa Crude

2002

Start up of Upgrader (March 13, 2002)

2003

April: first stage completion test

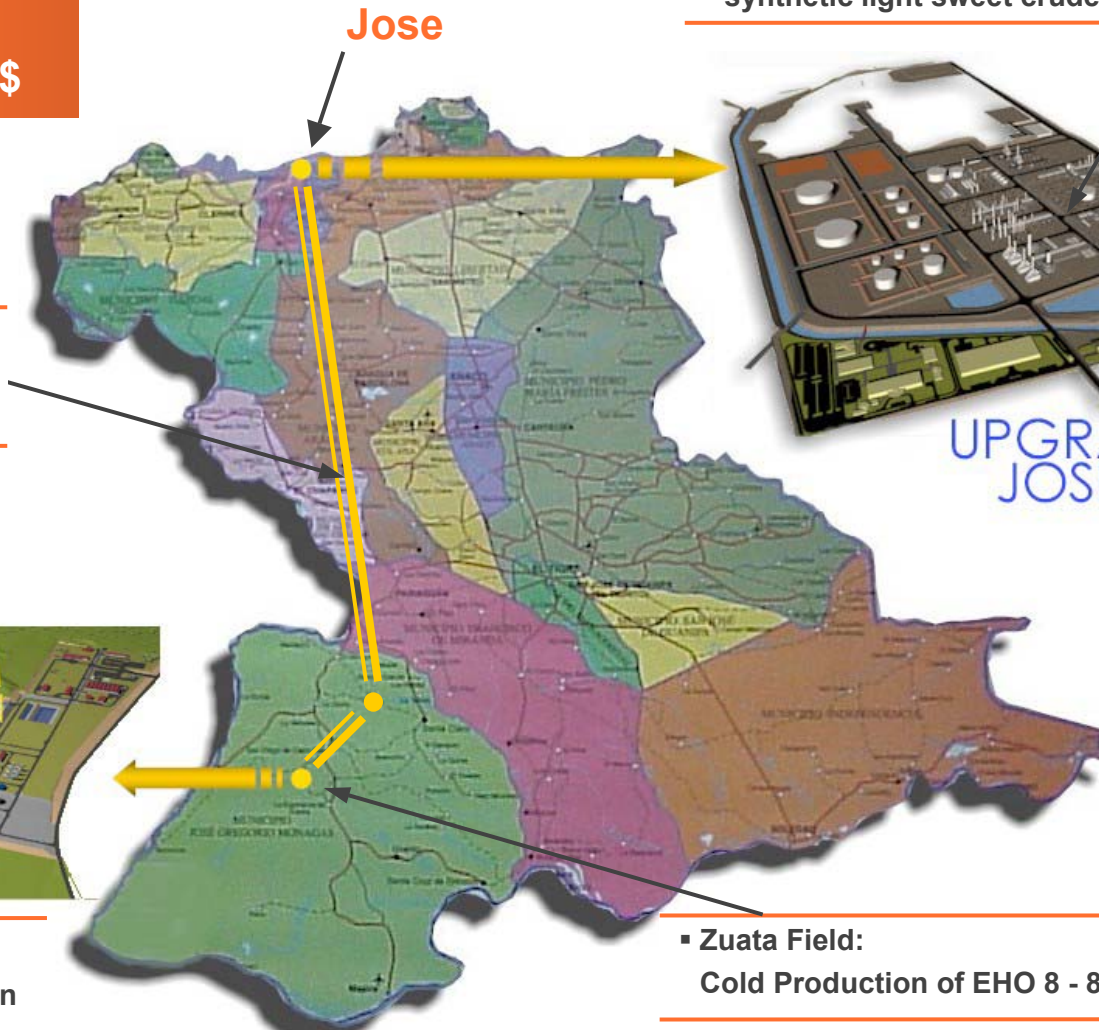
Sincor: largest single investment in Venezuela

Largest single investment in Venezuela: 4.2 B\$

▪ Zuataducto 220 km:
Transport of diluted crude and diluent



▪ Main Station:
EHO treatment and production of a diluted crude oil



▪ Upgrader: Production of a high quality synthetic light sweet crude (32° API)



▪ Zuata Field:
Cold Production of EHO 8 - 8.5° API

Sincor - Main Station



32 clusters - 335 wells (2003)

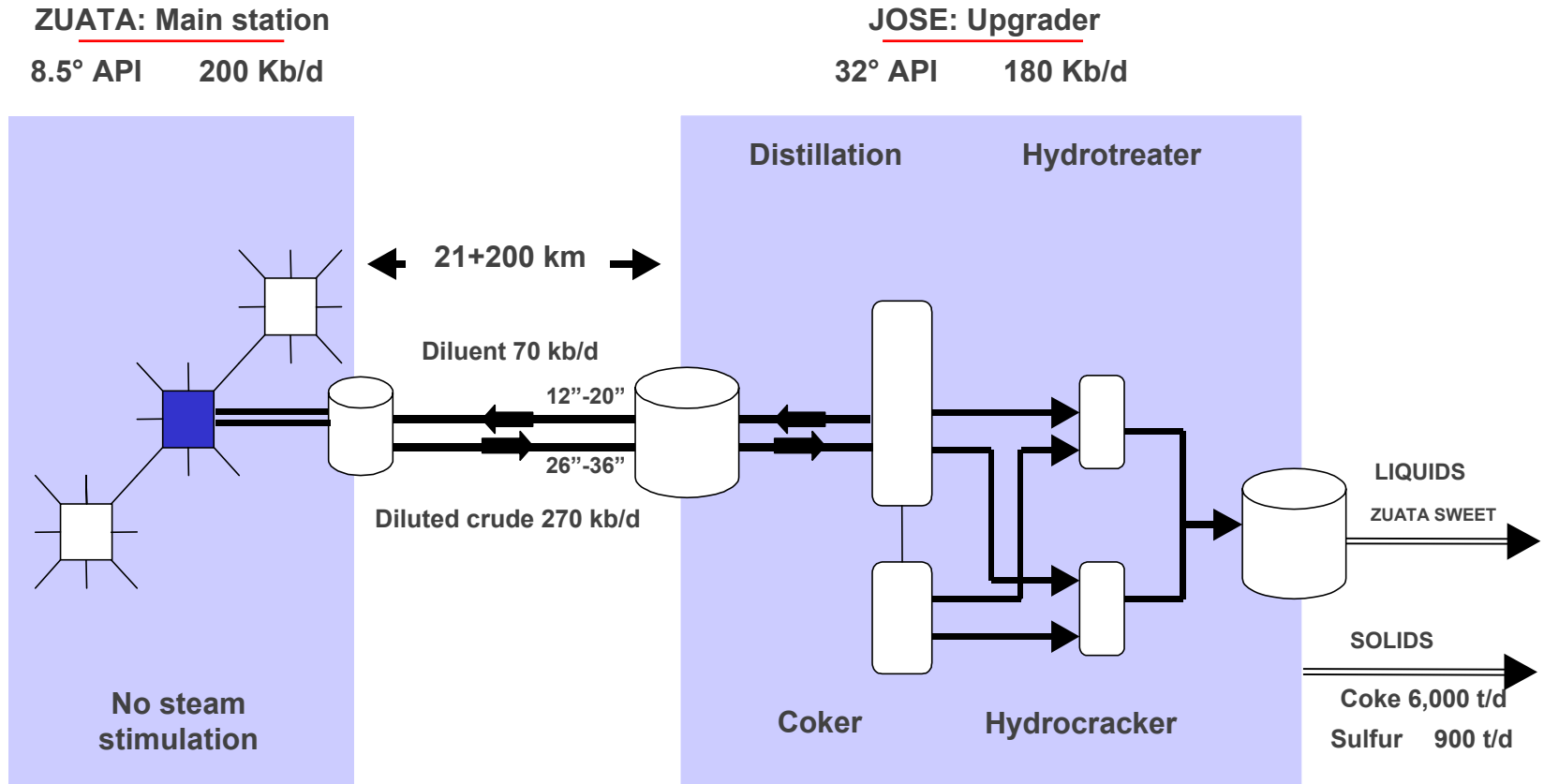


210 kb/d Extra-Heavy Oil 8.5°API



280 kb/d Diluted Crude Oil 17°API

Sincor process scheme



Sincor - Upgrader



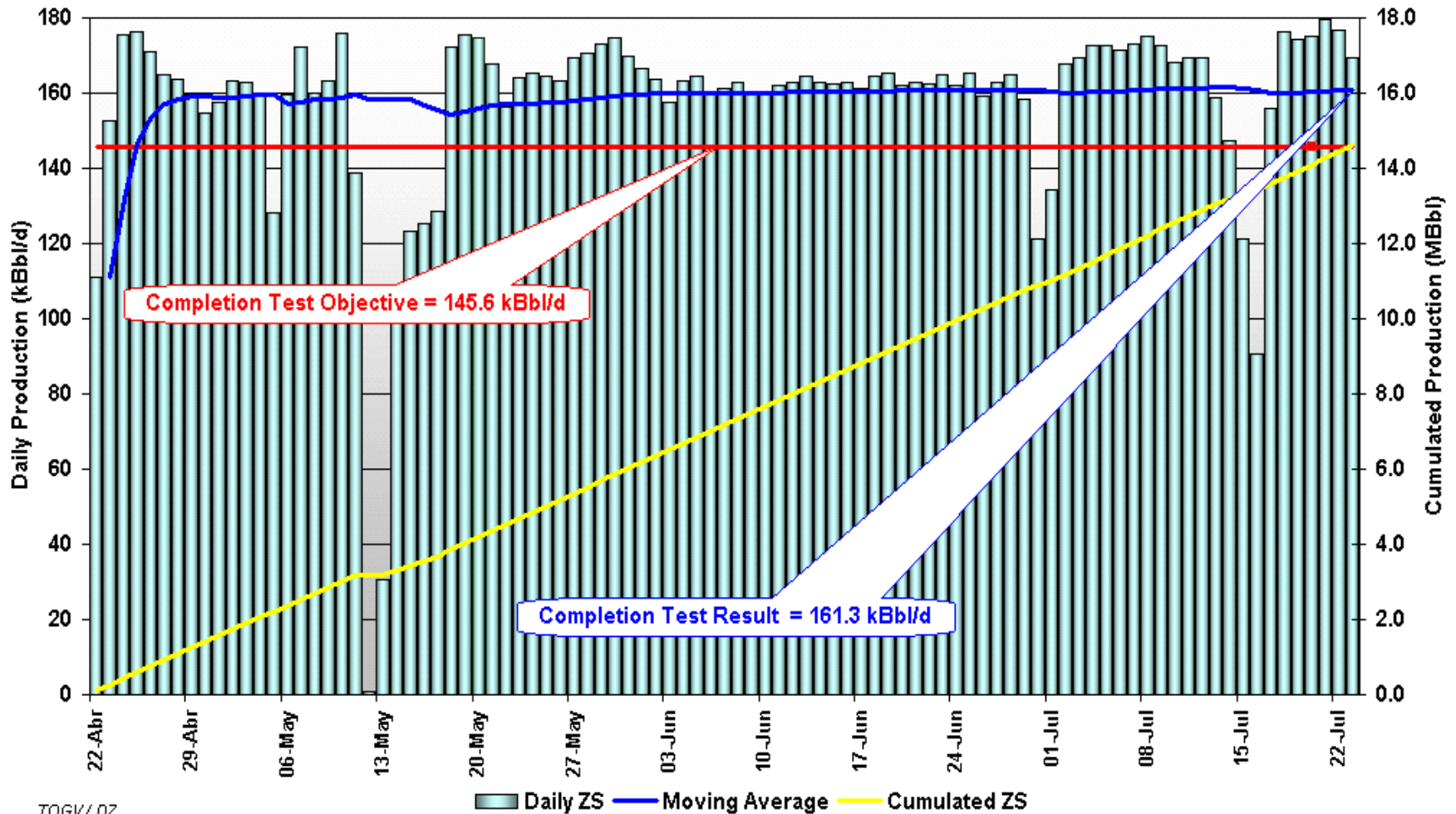
Sincor - Solids Terminal



- 2 Mt/y capacity
- ~ 260 M\$ investment
- More than 4 million man-hours of work
- Start up end of August 2002



First Stage Completion Test: a Success



TOGV / DZ

Completion test above target allows further significant reduction of parent company guarantees



Sincor future challenges

■ Short term:

- Upgrader 2004 turnaround (debottleneck and catalysts change)

■ Medium-to-long term:

- Upstream
 - Reservoir monitoring strategy
 - Improve well productivity to reduce future drilling investments
 - Stringent control of operating costs in well services
- Upgrader
 - Increase operational reliability and availability of the Upgrader
 - Align all units for maximum capacity production
 - Identify technical bottlenecks for potential capacity debottlenecking
- Marketing
 - Improve product quality to further increase sales prices



Key Indicators

- **Project investment** **4.2 B\$**
- **Investments 2003-2037** **~ 3.5 B\$**
- **Syncrude valuation** **Brent + 0.50 \$/b**
- **Unit costs**
 - **Technical cost** **Less than 7 \$/b**
 - **of which Operating cost** **3.2 \$/b**

Upstream

Order of magnitude: 1 \$/b

Challenges: reduce number and cost of workovers

Upgrader

Order of magnitude: 2.2 \$/b (not taking into account upgrader shut-downs)

Challenges

- Scheduled turnaround duration and costs
- Control variable costs (catalyst changes, utilities: gas, power, water)

Sincor future developments

- **Leverage the success of Sincor**
- **Sincor development should continue and will be phased**
 - Debottlenecking existing facilities
 - Expansions: new areas, additional production
 - Implementation of new technologies (after successful pilot phases)
 - New optimization (integration, adaptation to the market)

Social Responsibility - Safety - Environment

- **Great economic impact and benefit for the country**
- **Local employment: more than 30,000 people employed during the Upgrader construction with a peak of 13,000 early 2001**
- **Exceptional safety record: more than 56 million man-hours without fatality**
- **Social Responsibility: education programs, health investments**
- **Environmental protection: programs for reforestation, control of emissions and protection of the environment in Anzoategui**

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Yucal Placer



Venezuela gas business context

■ Status of new gas context in Venezuela

- Gas Hydrocarbons Law (September 23, 1999)
- Gas Licenses process (MEM-ENAGAS/PDVSA, September 2000)
- Selection process (finalized June 29, 2001)

■ The local gas market:

- Venezuela has the largest gas reserves in Latin America: around 150 Tcf, of which 90% are associated to oil production
- In the near term, only 30% of the associated gas production will be available for sale
- Gas demand will increase in the mid and long term
 - mainly driven by gas-fired power generation (to diversify from hydraulic power which represents ~ 60% of the 20 GW installed capacity)
 - large industrial projects (in particular in Puerto La Cruz area)

Yucal Placer

A non associated and dry gas reservoir

Discovery in 1946 (firstwell)

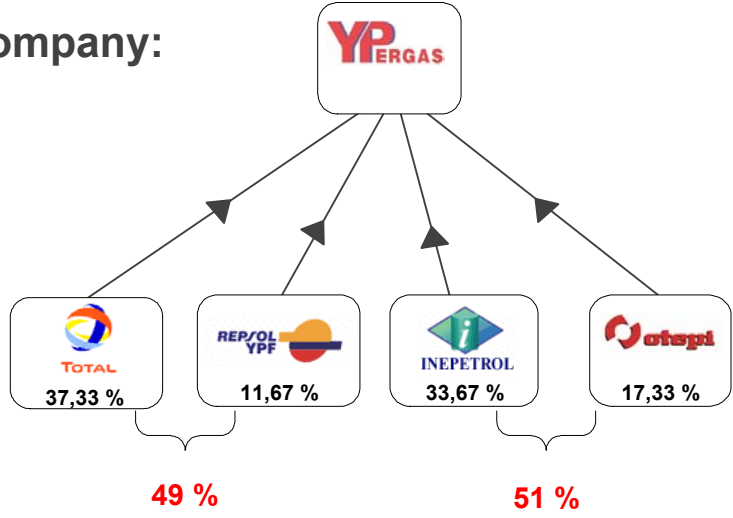
- Principal reservoirs : Roblecito and La Pascua
- Pressure : 3200 psi - 4100 psi
- Temperature : 310 °F @ 6200 feet
- Depth : between 4000 and 11000 feet
- CO₂ content : ~ 15%
- Number of wells : 35+ on the offered areas
- Production up to 1989
- Cumulative production : 143 Bcf (with 9 wells)
- Maximum production rate: 25 Mcfd from 6 wells

Yucal Placer Association & Structure

■ An association: TRIO



■ An operating company:



■ Working interest: Total 69.5%, Repsol-YPF 15%, Inepetrol 10.2%, Otepi 5.3%



Yucal Placer challenges

■ A technical challenge

- Application of latest 3D seismic and IOR techniques to optimize well implantation and maximize well productivity in tight reservoirs

■ A commercial challenge in entering local gas market

■ A regional development challenge

- Investment and employment for Guárico State
- Relations with local communities
- Protection of the environment

A phased development

- **Objective: a commercial phase**

- Targeting 300 Mcfd in first commercial phase
- And potentially more... in further steps

- **To mitigate uncertainties: an Early Production Scheme (EPS)**

- To evaluate the field potential for future developments
 - Reserves: quantity & quality
 - Productivity of wells
- Start up in early 2004

A phased development

2001 - 2007

Phase 100 Mcfd

Surface facilities +
7 wells (2 clusters)
Start up (beg. 2004)

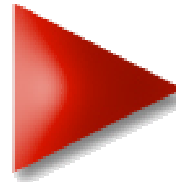
PHASE EPS 100

(“Early Production Scheme”)

Delineation Strategy

Seismic 3D HR 330km²
+ targeting deep horizons

Investment: 130 M\$



2007 - 2035

Phase 300 Mcfd

**With gas sweetening
Surface Facilities**

+ Compression
+ 33 productive wells
(7 clusters)
+ 2 inj. CO₂ + 1 inj. water

PHASE 300

(subject to EPS results)

Delineation Strategy

Seismic 3D HR 650km²
+ 2 exploration wells

Investment: 470 M\$



Planning

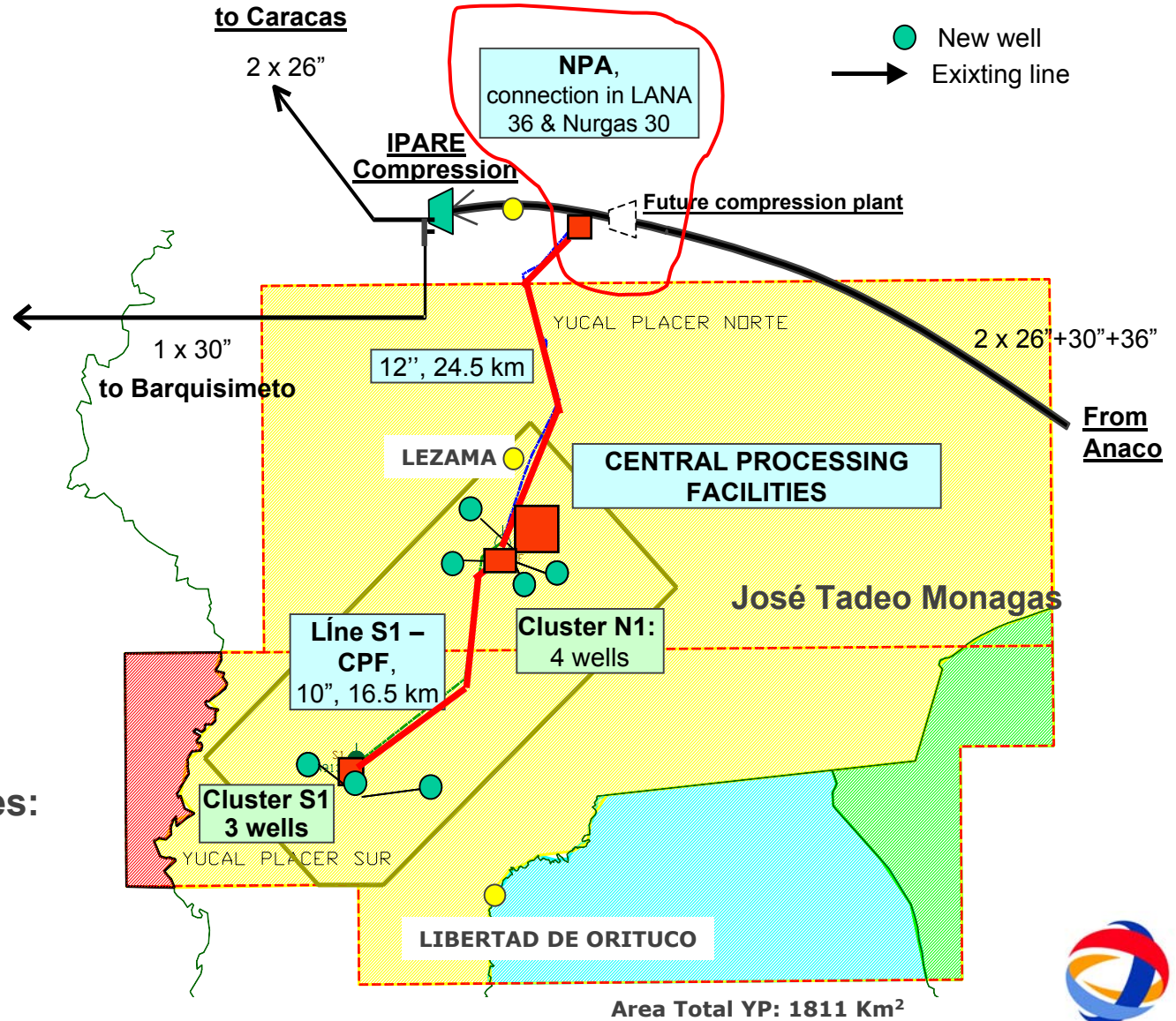
Execution Planning per phases

Phase EPS	2002	2003	2004	2005	2006	2007
Permitting	■					
Seismic 3D	■					
Drilling		■				
Engineering & Construction	■					
Start up (e)			■			
Phase 300*	2002	2003	2004	2005	2006	2007
Preliminary Studies			■			
Drilling					■	
Engineering & Construction				■		
Start up (e)						■

* subject to EPS results



EPS Project



- 3D Seismic: 330 km²
- Drilling: 7 wells
- Gas pipeline: 42 km
- Gas processing facilities: 100 Mcfd



Yucal Placer operations

Drilling



Yucal Placer operations

Construction side: lines and surface facilities



Planned start up early 2004 : Production of first gas 29 months after licence signing



Social investment & sustainable development

■ Important challenge for social environment

■ Respect for the natural environment and local culture

- Social, economic and institutional base line
- Identify the key players
- Establish relationships based on mutual confidence
- Build alliances with communities, NGO, authorities

■ Participation in economic and social development

- Participation & Development vs Assistance
- Dialogue, information, listening and discussions
- Promote multi-annual long term program of actions
- Aid in creating jobs not directly related to our activities
- Build alliances and develop a dialogue system to define projects in order to take actions in a sustainable manner



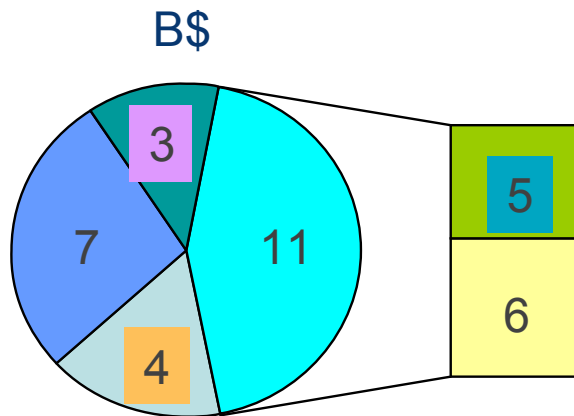
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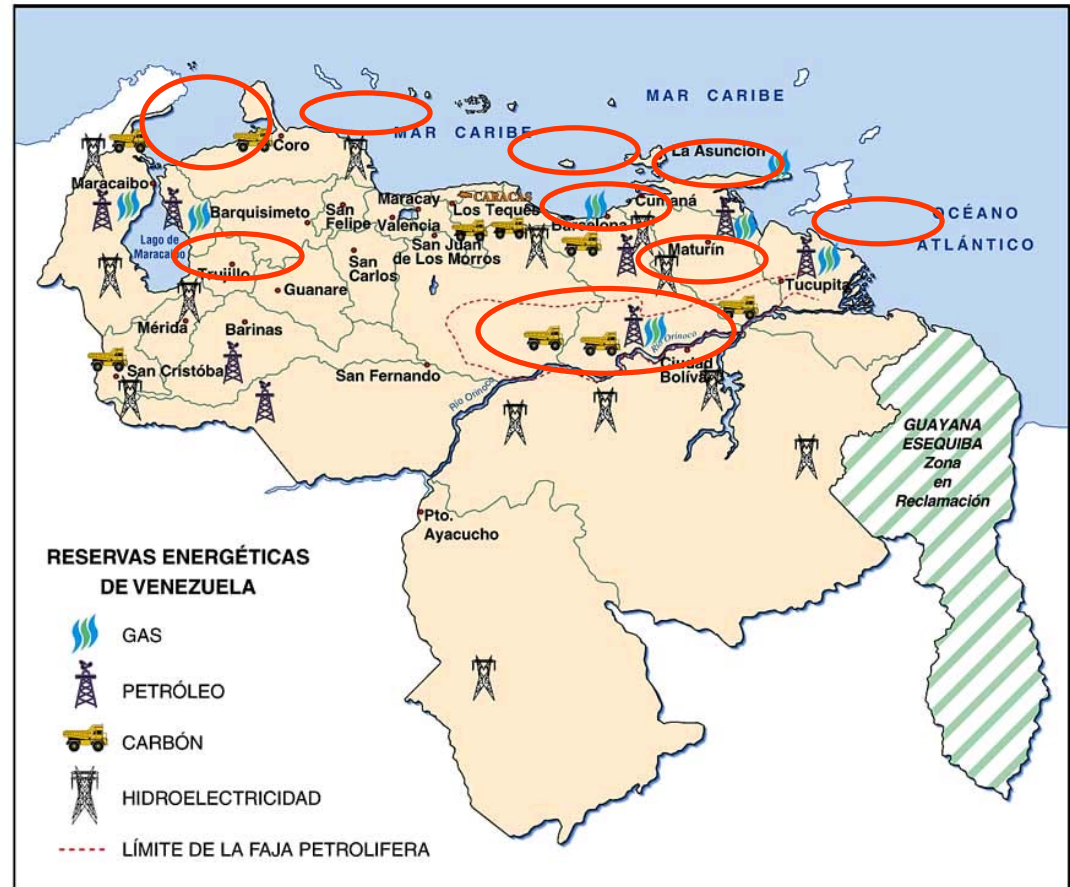
PDVSA Business Plan Opportunities

Investment budget with the private sector 2003-2008

Direct or in association with PDVSA:
25 B\$



- CONVENIOS OPERATIVOS
- FAJA DEL ORINOCO
- REFINACION & SUMINISTRO
- GAS NATURAL
- QUIMICOS Y OTROS



New opportunities: going forward

■ Total benefits from a privileged position...

- A long presence in Venezuela: since 1988...
- With in-depth knowledge of the various areas
- A long-standing relationship with PDVSA and MEM
- A track record of successful projects in Venezuela ...

■ Total will study all new opportunities

- Selecting the most attractive ones...
- With an adapted legal framework,
 - Satisfying MEM and CVP requirements
 - Guaranterring security of investment

